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Attorneys for Appellant, Veronica Jazmin Castillo

IN THE SUPREME COURT OF THE STATE OF NEVADA

VERONICA JAZMIN CASTILLO, AN INDIVIDUAL,

Appellant,

vs.

ARMANDO PONS-DIAZ, AN INDIVIDUAL,

Respondent.

Supreme Court Case No. 82267

District Court Case No.A-19-789525-C

APPELLANT'S APPENDIX
VOLUME 1

Appellant VERONICA JAZMIN CASTILLO submits the following Appellant's Appendix in the Appeal from the Eighth Judicial District Court of the State of Nevada in and for the County of Clark, Department 4, the Honorable Nadia Krall

THOMAS A. LARMORE, ESQ.
Nevada Bar No. 7415
DESERT RIDGE LEGAL GROUP
3037East Warm Springs Road,Ste. 300
Las Vegas, Nevada 89120

Attorney for Appellant
Veronica Jazmin Castillo

Appellant VERONICA JAZMIN CASTILLO, by and through her counsel of record, Desert Ridge Legal Group, hereby submit its Appellant's Appendix in compliance with Nevada Rules of Appellate Procedure 30(b)(4).

INDEX/TABLE OF CONTENRS

The Appendix satisfies NRAP 30(c)(3) (2013), with each volume containing no more than 250 pages.

DATED: September 21st 2021.

/s/ Thomas A. Larmore

THOMAS A. LARMORE, ESQ.
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89120

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 21st day of September 2021, I served a true and complete copy of the foregoing **APPELLANT'S APPENDIX VOLUME 1** **addressed** to the parties below as follows:

[X] by placing a true and correct copy of the same to be deposited for mailing in the U.S. Mail, enclosed in a sealed envelope upon which first class postage was fully prepaid; and /or

[ ] via facsimile; and or

[ ] by hand delivery to parties listed below; and or

[X] by electronic service via E Flex through the Supreme Court of the State of Nevada.

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VERNON EVANS, ESQ.
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Email: service@ericblanklaw.com
Attorneys for Respondent

/s/ Jeri L. Roth
Desert Ridge Legal Group

EXHIBIT “1”

EXHIBIT “1”

EAC
PURDY ANDERSON STORM
MARK R. ANDERSON, ESQ.
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Attorney for Defendant,

DISTRICT COURT

CLARK COUNTY, NEVADA

ARMANO PONS-DIAZ, individually; Plaintiff, vs. VERONICA JAZMIN CASTILLO, individually, DOES I-X, and ROE COPORATIONS I-X, inclusive, Defendants.	CASE NO.: A-19-789525-C DEPT. NO.: IV

DEFENDANT'S INITIAL EARLY ARBITRATION CONFERENCE LIST OF WITNESSES AND PRODUCTION OF DOCUMENTS

COMES NOW Defendant, VERONICA JAZMIN CASTILLO by and through her attorney of record, MARK R. ANDERSON, ESQ., and submits her Initial Early Arbitration Conference List of Witnesses and Production of Documents:

A. Defendant's Production of Documents:

1. Property Damage Only Accident Report No: LVM17125001538;
2. Recorded Statement of Defendant;
3. Plaintiff's 2016 and 2017 Income Tax Returns;
4. Plaintiff's Employment Wage Loss Verification;
5. Plaintiff's Copart Auto Actions Receipt and Invoice;
6. Plaintiff's Autosource Market-Driven Valuation;

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7. Seventeen (17) scene color photographs of Plaintiff's and Defendant's vehicles.
8. Thirty-Four (34) color photographs of Plaintiff's 2014 Toyota Camry taken by Key Insurance Company;
9. Repair estimate for Plaintiff's 2014 Toyota Camry prepared by Key Insurance Company;
10. One (1) photograph of Plaintiff's 2014 Toyota Camry taken by State Farm;
11. Repair estimate for Plaintiff's 2014 Toyota Camry prepared by Caliber Collison;
12. Release of all Property Damage Claims from State Farm;
13. Medical billing and records from Meadows Chiropractic re: Armando Pons-Diaz;
14. Medical billing and records from Machuca Medicine re: Armando Pons-Diaz;
15. Medical billing and records from Shield Radiology Consultants re: Armando Pons-Diaz;
16. Key Insurance Company declarations pages for liability insurance policy of defendant in effect at the time of the date of loss;
17. *Guidelines for Chiropractic Quality Assurance and Practice Parameters* Proceedings of the Mercy Center Consensus Conference (1992: Burlingame, CA);
18. *Spine*, April 15, 1995 Supplement, Volume 20, Number 8S;
19. *Chiropractic Patient Management Guidelines*; Recommended by the Nevada Chiropractic Association;
20. Jury Verdict Summary and Comparison of Arbitration Awards and Jury Verdicts provided by The Trial Reporter of Nevada;
21. Affidavit from The Trial Reporter of Nevada.

B. Defendant's List of Witnesses:

1. VERONICA JAZMIN CASTILLO, Defendant
C/O PURDY ANDESRON STORM
3057 E. Warm Springs Road, Suite 400
Las Vegas, Nevada 89120

Ms. Castillo is expected to testify as to the facts and circumstances giving rise to this litigation.

///

2. ARMANDO PONS-DIAZ, Plaintiff
C/O ERIC BLANK INJURY LAWYERS
7860 W. Sahara Ave. Ste.110
Las Vegas, NV 89117

Mr. Pons-Diaz is expected to testify as to the facts and circumstances giving rise to this litigation.

3. Investigator Bells, ID No. 6542
Las Vegas Metropolitan Police Department
400 S. Martin L. King Blvd.
Las Vegas, NV 89106

Investigator Bells is expected to testify as to the facts and circumstances giving rise to the accident in question and his investigation of same.

4. PERSON(S) MOST KNOWLEDGEABLE and/or CUSTODIAN OF RECORDS
C/O CALIBER COLLISION
3131 Fremont
Las Vegas, NV 89104

This witness may be called to testify as to his opinion(s) regarding the property damage to plaintiffs' vehicle, and his opinion of the reasonableness of the charges therefore, any property damage estimate(s) he created; any repairs needed, the reasonable value of repair, parts and labor. He will testify about the reasonable time period for repairs to be conducted. He will testify regarding any photos he took or other persons took of the vehicles involved in the accident;

5. PERSON(S) MOST KNOWLEDGEABLE and/or CUSTODIAN OF RECORDS
C/O KEY INSURANCE COMPANY
PO BOX 2014
Shawnee Mission, KS 66201

This witness may be called to testify as to his opinion(s) regarding the property damage to plaintiffs' vehicle, and his opinion of the reasonableness of the charges therefore, any property damage estimate(s) he created; any repairs needed, the reasonable value of repair, parts and labor. He will testify about the reasonable time period for repairs to be conducted. He will testify regarding any photos he took or other persons took of the vehicles involved in the accident;

///

///

PURDY ANDERSON STORM
3057 E. Warm Springs Rd., Ste., 400
Las Vegas, Nevada 89120-3150
Tel. (702) 765-0976 * Fax (702) 765-0981

6. PERSON(S) MOST KNOWLEDGEABLE and/or CUSTODIAN OF RECORDS
C/O STATE FARM
PO BOX 52250
Phoenix, AZ 85072

This witness may be called to testify as to his opinion(s) regarding the property damage to plaintiffs' vehicle, and his opinion of the reasonableness of the charges therefore, any property damage estimate(s) he created; any repairs needed, the reasonable value of repair, parts and labor. He will testify about the reasonable time period for repairs to be conducted. He will testify regarding any photos he took or other persons took of the vehicles involved in the accident;

7. PERSON(S) MOST KNOWLEDGEABLE and/or CUSTODIAN OF RECORDS
C/O MEADOWS CHIROPRACTIC
3441 W. SAHARA AVE Suite C7
Las Vegas, NV 89102

This witness may be called to testify as to his/her opinion(s) regarding his/her treatment of Plaintiff(s), any injuries which were sustained by him/her as a cause of the subject accident, his/her opinion of the necessity of the medical treatment rendered to and received by Plaintiff(s), and his/her opinion of the reasonableness of the charges therefore.

8. PERSON(S) MOST KNOWLEDGEABLE and/or CUSTODIAN OF RECORDS
C/O MACHUCA MEDICINE
6110 Elton Ave
Las Vegas, NV 89107

This witness may be called to testify as to his/her opinion(s) regarding his/her treatment of Plaintiff(s), any injuries which were sustained by him/her as a cause of the subject accident, his/her opinion of the necessity of the medical treatment rendered to and received by Plaintiff(s), and his/her opinion of the reasonableness of the charges therefore.

9. PERSON(S) MOST KNOWLEDGEABLE and/or CUSTODIAN OF RECORDS
C/O SHIELD RADIOLOGY CONSULTANTS
5135 Camino Al Norte, Suite 100
N. Las Vegas, NV 89031

This witness may be called to testify as to his/her opinion(s) regarding his/her treatment of Plaintiff(s), any injuries which were sustained by him/her as a cause of the subject accident, his/her opinion of the necessity of the medical treatment rendered to and received by Plaintiff(s), and his/her opinion of the reasonableness of the charges therefore.

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10. A Medical and/or accident reconstructionist and/or biomechanical expert(s), expected to testify regarding the proximate cause of Plaintiff's injuries; the extent and severity of injuries; the necessary treatment of said injuries; reasonable and customary costs of treatment; the energy forces involved in the accident; the human reaction to the energy forces, and the likelihood of injury.

Defendant reserves the right to call all witnesses listed by the other parties, including, but not limited to, all of Plaintiffs' medical treatment providers.

Defendant reserves the right to call any rebuttal and/or impeachment witnesses after Plaintiffs' case is presented.

All witnesses listed by the Plaintiff and Defendant, and Defendant reserves the right to supplement this list if any other additional witnesses become known.

C. Suggested Plan of Discovery:

1. Deposition of all parties/witnesses.

2. All parties be allowed ten (10) requests to produce, ten (10) interrogatories, and ten (10) requests for admissions.

3. Plaintiff signs and delivers to Defendant the employment, medical, automobile insurance and health insurance authorizations previously provided to Plaintiff to allow Defendant to obtain pertinent records.

DATED this 6 day of NOVEMBER, 2019.

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CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 8th day of November, 2019, I served a true and complete copy of the foregoing, **DEFENDANT'S INITIAL EARLY ARBITRATION CONFERENCE LIST OF WITNESSES AND PRODUCTION OF DOCUMENTS,** addressed to the parties below, to be served as follows:

[ ] by placing a true and correct copy of the same to be deposited for mailing in the U.S. Mail, enclosed in a sealed envelope upon which first class postage was fully prepaid; and/or

[ ] via facsimile; and or

[ ] by hand delivery to the parties listed below; and or

[ ] by electronic service via WIZNET through the District Court.

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S. DENISE McCURRY , ESQ.
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Kelly@CawleyLaw.com
ARBITRATOR

Paralegal, PURDY ANDERSON STORM

EXHIBIT 1

AGENCY NAME	PROPERTY DAMAGE ONLY CRASH REPORT	EVENT / CRASH NUMBER:
LAS VEGAS METRO PD	Revised 01/2016	LVM171215001538

☒ Urban ☐ Rural	☐ Hit and Run ☐ Private Property	Crash Date	Time	Day	Beat / Sector	☒ County ☐ City
		12 / 15 / 2017	1030	FRI	P4	CLARK

Occurred On: ARVILLE ST ☐ Active School Zone

☒ At Intersection With ☐ Or_____ ☐ Feet ☐ MiRes ☐ Approximate / ☐ N ☐ S ☐ E ☐ W
Of Cross Street SPRING MOUNTAIN RD OR MM: _____

Work Zone	Type of Work Zone	Work Zone Area	Workers Present	Law Enforcement Present	Environment Backup Factors
☐ Yes ☒ No	☐ Lane Closure ☐ Intermittent/Moving Work ☐ Lane Shift/Crossover ☐ Other ☐ Work on Shoulder or Median	☐ Adv. Warning Area ☐ Transition Area ☐ Activity Area ☐ Termination Area	☐ Yes ☐ No	☐ 1) No ☐ 2) Officer Present ☐ 3) LE Vehicle Only Present	☐ Backup Prior Crash ☐ Backup Non Recurring Incident ☐ Backup Regular Congestion

Weather Conditions: ☒ Clear ☐ Cloudy ☐ Snow ☐ Rain ☐ Blowing Sand, Dirt, Soil ☐ Fog, Smog, Smoke, Ash ☐ Severe Crosswinds ☐ Sleet / Hail ☐ Blowing Snow ☐ Unknown ☐ Other

Crash Type: ☐ Head On ☐ Rear End ☐ Backing ☒ Angle ☐ Rear to Rear ☐ Rear to Side ☐ Sideswipe, Meeting ☐ Sideswipe, Overtaking ☐ Non-Collision ☐ Unknown

#: V1 ☒ At Fault	Direction of Travel: ☒ N ☐ S ☐ E ☐ W ☐ Unk. ARVILLE ST	Vehicle Action: ☒ Left Turn ☐ Right Turn ☐ U-Turn ☐ Parked ☐ Straight ☐ Backing ☐ Leaving Lane ☐ Enter Parked ☐ Wrong Way ☐ Stopped ☐ Driverless ☐ Passing ☐ Racing ☐ Lane Change ☐ Leaving ☐ Entering Lane ☐ Negotiating A Curve ☐ Unknown

Driver: (Last Name, First Name, Middle Name Suffix)	Street Address:
CASTILLO, VERONICA JAZMIN	6532 STARCREST DR

City:	State: ☒ NV	Zip Code:	☐ 1) Male ☒ 2) Female	DOB: / /	Phone Number:	OLN:	State: ☒ NV
LAS VEGAS	NV	89108			7029840614		NV

Seat Belt:	Airbag:	Airbag Switch:	Damaged Areas: ☒ Front ☐ Right Side ☐ Left Side ☐ Rear ☐ Right ☐ Right Rear ☐ Top ☐ Under Car- ☐ Left Front ☐ Left Rear ☐ Unknown ☐ Other:	Extent of Damage: ☒ Minor ☐ Moder- ☐ Major ☐ Total ☐ None ☐ Unk.
7	2			

Driver Factors:	Vehicle Factors:
☒ Apparently Normal ☐ Had Been Drinking ☐ Drug Involvement ☐ Apparently Fatigued/ Asleep ☐ Obstructed View ☐ Driver Ill / Injured ☐ Other Improper Driving ☐ Driver Inattention / Distracted: ☐ Physical Impairment ☐ Unknown	☒ Failed to Yield Right of way ☐ Disregard Control Device ☐ Exceeding Speed Limit ☐ Wrong way / Direction ☐ Mechanical Defects ☐ Drove left of Center ☐ Failed to Maintain ☐ Following Too Close ☐ Unsafe Lane Change ☐ Made Improper Turn ☐ Over Correct / Steering ☐ Other Improper ☐ Aggressive ☐ Careless / Reck-less ☐ Driverless Vehicle ☐ Unsafe Backing ☐ Hit and Run ☐ Rd. Defect ☐ Obj. Avoid. ☐ Unknown ☐ Other:

Vehicle Year:	Vehicle Make:	Vehicle Model:	Type:	Plate / Permit #:	State: ☒ NV	Exp. Date:	Vehicle Color:	VIN:
2003	ACURA	CL	2D	01H022	NV	3/8/2018	SIL	19UYA42603A010410

Registered Owner Name:	☒ Same as Driver	Street Address:	City:	State:	Zip Code:
CASTILLO, VERONICA JAZMIN		6532 STARCREST DR	LAS VEGAS	☒ NV NV	89108-2764

Insurance Company Name:	Policy Number:	Effective Date:	Expiration Date:	Company Address or Phone Number:
KEY INSURANCE	KNV4214124	12 / 5 / 2017	1 / 4 / 2018	702-889-1229

	Code #	Collision With Fixed Object	Most Harmful Event	Sequence of Events
1st	214	☐	☒	MOTOR VEHICLE IN TRANSPORT
2nd		☐	☐	
3rd		☐	☐	
4th		☐	☐	
5th		☐	☐	

Passengers

Vehicle #	Name (Last Name, First Name, Middle)	Address	Gender	DOB	Seat Belt	Airbag	Airbag Sw.
			☐ M ☐ F ☐ UNK.	/ /			
			☐ M ☐ F ☐ UNK.	/ /			
			☐ M ☐ F ☐ UNK.	/ /			

Description of Crash / Narrative

BODY CAMERA AVAILABLE.

V2 WAS TRAVELING S/B APPROACHING SPRING MTN IN T2. V1 WAS TRAVELING N/B ARVILLE APPROACHING SPRING MTN IN L1. THE DRIVER OF V1 STATED THAT SHE SAW V2 HAD HIS TURN SIGNAL ON SO SHE ATTEMPTED TO MAKE A LEFT TURN ONTO W/B SPRING MTN. THE FRONT OF V1 THEN COLLIDED WITH THE LEFT FRONT OF V2. THE DRIVER OF V2 STATED HE WAS ORIGINALLY IN T1 AND CHANGED LANES PRIOR TO THE INTERSECTION THAT PUT HIM IN T2.

Accident Field Sketch

Indicate North

A.I.C. 32 N/S AND 10 E/W

Investigation Complete	Statements	Date Notified	Time Notified	Arrival Date	Arrival Time	Elapsed Time	Page
☒ Yes ☐ No	☐ Yes ☒ No # 0	12/ 15 /2017	1032	12/ 15 / 2017	1046	00:14	1 OF 3

AGENCY NAME	PROPERTY DAMAGE ONLY CRASH REPORT	EVENT / CRASH NUMBER:
LAS VEGAS METRO PD	Revised 01/2016	LVM171215001538

#:	Direction of Travel	Vehicle Action				
V2	☐ N ☒ S ☐ E ☐ W ☐ Unk.	☒ Straight	☐ Left Turn	☐ Enter Parked	☐ Passing	☐ Entering Lane
☐ At Fault	ARVILLE ST	☐ Backing	☐ Right Turn	☐ Wrong Way	☐ Racing	☐ Negotiating A Curve
		☐ Leaving Lane	☐ U-Turn	☐ Stopped	☐ Lane Change	☐ Unknown
			☐ Parked	☐ Driverless Veh.	☐ Leaving Parked	

Driver: (Last Name, First Name, Middle Name Suffix)	Street Address:
PONS-DIAZ, ARMANDO	4600 SIRIUS AVE Apt# J151

City:	State:	Zip Code:		DOB:	Phone Number:	OLN:	State:
LAS VEGAS	☒ NV NV	89102	☒ 1) Male ☐ 2) Female	/ /	7025426449		☒ NV NV

Seat Belt:	Airbag:	Airbag Switch:	Damaged Areas					Extent of Damage			
7	2		☒ Front	☐ Left Side	☐ Right Rear	☒ Left Front	☐ Other:	☐ Minor	☐ Major	☐ None	
			☐ Right Side	☐ Rear	☐ Top	☐ Left Rear		☒ Moderate	☐ Total	☐ Unk.	
				☐ Right Front	☐ Under Carriage	☐ Unknown					

Driver Factors				Vehicle Factors							
☒ Apparently Normal	☐ Obstructed View	☐ Exceeding Speed Limit	☐ Following Too Close	☐ Aggressive	☐ Hit and Run	☐ Failed to Yield Right of way	☐ Wrong way / Direction	☐ Unsafe Lane Change	☐ Careless / Reckless	☐ Rd. Defect	
☐ Had Been Drinking	☐ Driver Ill / Injured	☐ Mechanical Defects	☐ Made Improper Turn	☐ Driverless Vehicle	☐ Obj. Avoid.	☐ Disregard Control Device	☐ Drove left of Center	☐ Over Correct / Steering	☐ Unsafe Backing	☐ Unknown	
☐ Drug Involvement	☐ Other Improper Driving	☐ Too Fast for Conditions	☐ Failed to Maintain Lane	☐ Other Improper Driving	☐ Ran Off Road	☐ Other:					
☐ Apparently Fatigued/ Asleep	☐ Driver Inattention / Distracted:										
	☐ Physical Impairment										
	☐ Unknown										

Vehicle Year:	Vehicle Make:	Vehicle Model:	Type:	Plate / Permit #:	State:	Exp. Date:	Vehicle Color:	VIN:
2014	TOYOTA	CAMRY	4D	50G225	☒ NV NV	3/9/2018	SIL	4T4BF1FK3ER442844

Registered Owner Name:	Street Address:	City:	State:	Zip Code:
☒ Same as Driver PONS-DIAZ, ARMANDO	4600 SIRIUS AVE APT J151	LAS VEGAS	☒ NV NV	89102-7173

Insurance Company Name:	Policy Number:	Effective Date:	Expiration Date:	Company Address or Phone Number:
STATE FARM	1273730B0828	8 / 8 / 2017	2 / 8 / 2018	1-800-782-8332

Code #	Collision With Fixed Object	Most Harmful Event	Sequence of Events					
1st 214	☐	☒	2nd	3rd	4th	5th		
MOTOR VEHICLE IN TRANSPORT								

Passengers

Vehicle #	Name (Last Name, First Name, Middle)	Address	Gender	DOB	Seat Belt	Airbag	Airbag Sw.
			☐ M ☐ F ☐ UNK.	/ /			
			☐ M ☐ F ☐ UNK.	/ /			
			☐ M ☐ F ☐ UNK.	/ /			

Witnesses

Name (Last Name, First Name, Middle)	Address	Phone Number

Primary Crash Causing Violation

Driver #	NRS / County Ordinance / Municipal Code		NRS / County Ordinance / Municipal Code	NOC #	Citation Number
V1	484B.307.7A	☐ Pending	FAIL TO YIELD ROW ON FLASHING YELLOW ARR	58775	LVM0346023
		☐ Pending			

Property Damage To Other Than Vehicle

Describe Property Damage:		
Owner's Name: ☐ Owner Notified	Owner's Address:	Phone Number:

Investigator(s)	ID Number	Date	Reviewed By	Date Reviewed	Page
Betts	6542	/ /	Stephen Kircher	12 / 19 / 2017	2 OF 3

*For Additional Passengers Use PDO Occupant/Witness Supplemental Sheet.

Event Number:	STATE OF NEVADA TRAFFIC ACCIDENT REPORT SCENE INFORMATION SHEET Revised 5/21/03	Accident Number: LVM171215001538 Agency Name: LAS VEGAS METRO PD

Description of Accident / Narrative Continuation

THERE WERE NO REPORTED INJURIES AT THE SCENE AND MEDICAL WAS REFUSED. BOTH VEHICLES MOVED APPROX. 5 FT AFTER IMPACT AND CAME TO REST IN THE INTERSECTION. THERE WAS NO SKID MARKS LEFT BY EITHER VEHICLE. THE DRIVER OF V1 IS AT FAULT FOR FAILING TO YIELD RIGHT OF WAY ON FLASHING YELLOW ARROW.

EXHIBIT 2

RECORDED STATEMENT OF VERONICA CASTILLO

I: Just let them ...

JR: Yeah let them know I'm Jill, I'm with Key Insurance and I'll take their claim.

I: Okay today was the loss.

JR: Okay around what time?

I: 11:15 today.

JR: Okay so we'll put 11:15 a.m. Now which vehicle was involved in the accident; was it the Acura?

VC: Si.

JR: And who was driving the vehicle, was it her?

I: Myself.

JR: Where's the damage on your car Veronica?

I: Front bumper.

JR: Is it driver's side or passenger's side or entire front?

VC: Front.

JR: All right whole thing?

I: The whole front end ... she just said the front end.

JR: Okay is it drivable and currently with her?

I: Yes.

JR: Where were the cross streets where it happened? Just the streets.

I: Okay so I understood Spring Mountain Road.

JR: Um hum.

VC: Arville.

JR: Arville.

VC: A-r ... uh huh.

JR: Si and can she give me an idea did we rear end somebody or was it a turning accident, just a basic idea of what happened.

I: I hit the side of another vehicle.

JR: Okay so were you turning or were they turning?

I: I was turning.

JR: You were turning okay so you were making a left turn?

VC: Correct.

I: Correct.

JR: Okay so we'll say all right was there any police report?

I: Yes.

JR: Let her know when she's ready.

I: Oh she did, she responded, she said yes.

JR: Okay. Oh okay who took the police report, Metro and what's the report number?

VC: Las Vegas Metro P.D.

JR: Okay I thought she went to go look for it and what's the report number; it should start with a 17.

VC: 171 ...

I: Okay 171215001538.

JR: Perfect, tell her to give me one moment.

I: Thank you.

JR: All right we'll do from insured via Spanish Yolanda. All right tell her one moment. Let her know we're going to move on to get information regarding the other vehicle involved and then we'll come back to what happened and the actual accident in a second.

I: Okay thank you.

JR: Okay now the ... what is the best phone number for her by the way? I want to confirm that we do have that.

I: All right that's 702-984-0614.

JR: Perfect now were there any passengers or injuries in her car?

VC: No.

I: No.

JR: Okay any passengers that she knows of in the other person's vehicle or injuries?

I: No passengers, no injuries.

JR: Okay now the vehicle that the other person was driving do you know the make, model? 2014 Toyota Camry?

I: Yes ma'am.

JR: And what color is it?

I: Aluminum.

JR: Aluminum okay. Was it drivable?

I: Yes.

JR: Okay and who was the owner of that car or who was on the insurance policy?

I: Okay Armando P-o-n-s and then D-i-a-z.

JR: So P-o-n-s Diaz is it hyphenated?

I: Yes.

VC: Yes.

JR: Okay so P-o-n-s, P as in Paul, o-n-s hyphen Diaz.

VC: Si so Armando Pons-Diaz.

I: Yes, yes z at the end.

JR: Okay and what is his address? If you have it or a phone number.

I: Give me one second I believe I have both.

JR: I understood that, yeah.

I: Okay.

JR: I hate it won't let me type and update at the same time, refreshing. So 4600?

I: Yes.

JR: Um hum. Serious Avenue?

VC: Uh huh.

JR: Is that S-e-r-i-o-u-s or S … or with a C? Can she spell the street for me?

VC: [Inaudible].

JR: Oh it is Serious okay. Oh S-i-r-u-s?

I: She said C-e-r-e-u-s.

JR: C-e-r?

I: e-u-s.

JR: Perfect.

I: Apartment J.

JR: J so Apartment J115?

I: 151.

JR: 151 and Las Vegas, Nevada?

VC: Si.

I: 89102.

JR: 89102 is there a phone number?

I: One second please.

JR: Um hum. You're a fantastic interpreter by the way.

I: Oh thank you.

JR: You're probably the best I've worked with since I've started here.

I: Well thank you.

JR: You're welcome. I mean it's really appreciated.

I: Oh thank you, that means a lot, thank you.

JR: Are you … do you … are you here … you're here right in Vegas or your in Kansas?

I: No ma'am I'm in Kansas.

JR: Oh man come work here. Come on please. Please. You're really awesome I really appreciate it.

I: Thank you, thank you.

JR: Where are you on here, what's your extension? Oh 6412?

I: Yes.

JR: I'm going to remember that, you owe me one.

I: 702 … that's wrong.

JR: 702. So I've got 702-542-6 …

I: 6449.

JR: Okay now is he also the driver as well?

I: Yes.

JR: Okay Uno Momento.

VC: Gracias.

JR: Okay so we'll put that over here and his vehicle was drivable where was the damage on his car?

I: Okay so yes the vehicle was drivable and the whole front bumper came off.

JR: Okay so it was your front bumper and his front bumper?

I: Yes.

JR: Okay who's his insurance carrier?

VC: It's State Farm.

JR: Okay and what's the policy number? As in boy? All right you lost me at the [inaudible].

I: Okay 28.

JR: Okay so is it 1273730B as in boy, 0828?

I: Correct.

JR: Okay is there a phone number on the policy number for them? I think it's like 324-0704 but I'm not sure. I can probably find that, I bet you I'm right.

I: The number that appears is 702-214-0899.

JR: I believe that's an agent office so I won't worry about that right now. Now the next … go ahead. But the policy number looks good so we'll look into that. If anybody calls you from that insurance carrier make sure that you take down their information and you can provide it to me any time.

I: What should I ask them?

JR: Don't worry about that, we'll take care of that. If they call you for a statement that's probably when you're … it's perfectly fine to provide them one or you can refer them to me. I'll ask you on the recording if we have permission to release it so it's really up to you. You can either refer them to me or you can discuss the claim with them.

I: Okay.

JR: Okay. Okay one second.

I: Thank you.

JR: All right now moving on to this you said there were no passengers, no injuries for either vehicle?

I: Correct.

JR: Okay so now what we're going to do is I'm going to say … I'm going to set you up for an estimator to come out and take a look at your car just to get some photos for our liability. I'll let them know that you're Spanish speaking and I'll also have them call ahead. Now the address that we're going to send them to is the one that we have on file so I want to make sure that this correct. What I have is 3625 South Decatur Blvd., Apartment 2108 is that correct?

I: Yes.

JR: Thank you so they'll call ahead and we'll set that up and take a look. What I want to go over now before we actually get into the statement and get the who, what, where and why of what happened is that there is no party collision coverages meaning no collision, no rental, no way for Key Insurance to fix the car, however, and you probably already know this by heart, if we are not liable we will hopefully submit to get State Farm to take care of the repairs and the rental or if they accept they will offer to do that. If we are at fault then we do have $10,000.00 property damage which will be used to take care of any damages where we are liable.

I: Okay, okay.

JR: Okay once we review all statements, your estimate, their estimate and review with State Farm we'll keep you updated.

VC: Okay.

JR: Okay next thing we're going to do is the recorded statement. It's a little redundant, it's date, time, injuries, passengers, we're going to repeat all that again.

VC: Okay.

I: Okay.

JR: All right now the next thing we're going to do … just give me one more minute to finish this up because it seems to be my notes are a little stuck so tell her to hang on one moment.

VC: Okay.

I: Okay.

JR: All right one more moment. Okay let me get the recorder set up and then we'll get it turned on. Okay this happened today she said at like 11:15 okay so this would be for insured Veronica okay 12:15 time she said was 11:15 a.m. I believe.

I: Yes 11:15.

JR: Okay this is Jill Roth speaking from Las Vegas, Nevada, we're speaking with Veronica Castillo concerning an accident that occurred on December 15, 2017 in Las Vegas, Nevada. Today's date is also the 15th at 11:15 a.m. and Veronica is this recording being made with your full knowledge and consent?

I: Yes.

JR: Okay around ... we understand that the loss occurred around 11:15 today is that correct?

I: Okay yes but correction, I'm reviewing the information and it actually says the accident occurred at 10:30.

JR: Oh okay so we'll do 10:30 a.m. Okay and what is your date of birth for the record?

I:

JR: Okay vehicle you were driving we have listed as the 2003 Acura.

I: Yes.

JR: And you mentioned the damage was the entire front bumper?

I: Yes.

JR: Okay. Alrighty and where were the cross streets or general area where the accident happened?

I: Arville and Spring Mountain Road.

JR: Okay you mentioned no passengers, no injuries for anybody involved?

I: No.

JR: I understand that there was a police report filed was anybody issued a ticket for the accident?

I: Yes.

JR: And were we cited for the accident?

I: Yes I received it.

JR: Okay and do you know what they cited you for? And what did they cite you for? Was it like failure to yield or left turn or something like that?

I: Okay I crossed into the intersection while yellow light.

JR: Okay that'd be a yielding. Okay on yellow. Alrighty and at the time of the accident were you using your vehicle for Uber, Lyft or any ride for hire?

I: No.

JR: Now we're going to go into what happened in the accident. Leading up to your turn what road are you traveling on? Are you traveling on Spring Mountain or Arville?

I: Arville.

JR: And you're in which lane of how many lanes?

I: Three lanes … three lanes, two to head straight and I'm in the left hand lane.

JR: There are two straight lanes, one left turning lane and she is in the left turning lane okay. Okay and you're looking to make a left turn onto what roadway?

VC: Spring Mountain.

JR: Okay.

I: Spring Mountain.

JR: And what color is your light?

I: Yellow.

JR: Now is it a flashing solid yellow or an arrow?

I: Intermediate yellow arrow.

JR: Okay so it's a flashing yellow and on approach to the intersection did she see any cars or what happened at this point?

I: Can I go ahead and explain or?

JR: Well let's get to this part first, so you're looking to make a left turn onto Arville or excuse me onto Spring Mountain from Arville, you're on a flashing yellow, go ahead and tell me what happened.

I: Okay the other vehicle had it's left … it's left turn signal on and then all of a sudden just drastically he merged into the other lane to head straight and that's how it occurred. Oh then and I'm sorry she did mention that there were no cars so had he turned left she would have been clear to make her left turn.

JR: Okay so we got to back up and get a little bit more information so you're looking to make … as you're approaching the intersection the other vehicle is on which roadway, are they on Arville heading towards you crossing Spring Mountain?

I: He's also on Arville on the opposite direction.

JR: Okay so he's looking to make a left to go the opposite direction on Spring Mountain, you're looking to make a left on Spring Mountain to go the other way?

I: Yes exactly. Had he not crossed over the accident wouldn't have occurred.

JR: Okay at the point of impact how far had you gotten into your turn? Were you just starting, half way through, all the way through?

I: Barely starting to turn.

JR: Okay. Okay at impact how far was he into the intersection? Barely, half way, almost all the way?

I: He had barely entered as well but as soon as I saw him enter I slammed on my brakes and that's why I hit the front bumper.

JR: And so our front bumper made contact with his front bumper?

I: Okay so my whole front bumper hit his left side bumper and that's what caused it to fall off.

JR: Okay did you hear a honk, alert, anything from the other party prior to the impact?

I: Nothing, no.

JR: Okay. All right now after the impact … oh just prior to his lane change what lane did he change into and what lane was he in when you two collided? So was it like in the left straight lane or was he in the right lane on Arville, which lane did he go into?

I: Well she says he started off in the left turn …

JR: Right.

I: The next right lane. The next [inaudible] right lane.

JR: Yeah so it's like the left straight lane or something. Okay got it now after the impact occurred what happened?

I: Oh we stayed of course … the vehicles stayed there and we exited the vehicle.

JR: Okay.

I: We exited the vehicle and the police came.

JR: When the police arrived did they take statements from both of you?

I: Yes.

JR: All right and then after they took the statements what happened then?

I: They gave me a document.

JR: Okay is there anything else she wants ... go ahead.

I: Okay so both vehicles were drivable, they drove away normal.

JR: Okay is there anything else you want to add, anything pertinent or important that maybe I've neglected to ask you?

I: No that's it.

JR: Okay and is it okay to share your statement and information with the other insurance if we need to?

I: Yes.

JR: Okay I'll go ahead and turn off the recording.

(I: = Interpreter)

EXHIBIT 3

Form 1040 — Department of the Treasury—Internal Revenue Service (99) U.S. Individual Income Tax Return 2016

OMB No. 1545-0074 | IRS Use Only—Do not write or staple in this space.

For the year Jan. 1-Dec. 31, 2016, or other tax year beginning , 2016, ending , 20 | See separate instructions.

Your first name and initial: ARMANDO	Last name: PONS DIAZ
If a joint return, spouse's first name and initial	Last name

Your social security number

Spouse's social security number

Home address (number and street). If you have a P.O. box, see instructions.: 4600 SIRIUS AVE — Apt. no.: J151

▲ Make sure the SSN(s) above and on line 6c are correct.

City, town or post office, state, and ZIP code. If you have a foreign address, also complete spaces below (see instructions).: LAS VEGAS NV 89102

Foreign country name | Foreign province/state/county | Foreign postal code

Presidential Election Campaign
Check here if you, or your spouse if filing jointly, want $3 to go to this fund. Checking a box below will not change your tax or refund. ☐ You ☐ Spouse

Filing Status

Check only one box.

1 ☐ Single
2 ☐ Married filing jointly (even if only one had income)
3 ☐ Married filing separately. Enter spouse's SSN above and full name here. ▶
4 ☒ Head of household (with qualifying person). (See instructions.) If the qualifying person is a child but not your dependent, enter this child's name here. ▶
5 ☐ Qualifying widow(er) with dependent child

Exemptions

6a ☒ **Yourself.** If someone can claim you as a dependent, **do not** check box 6a
b ☐ **Spouse**

Boxes checked on 6a and 6b: 1
No. of children on 6c who:
• lived with you: 01
• did not live with you due to divorce or separation (see instructions):
Dependents on 6c not entered above:
Add numbers on lines above ▶: 02

c **Dependents:**

(1) First name Last name	(2) Dependent's social security number	(3) Dependent's relationship to you	(4) ✓ if child under age 17 qualifying for child tax credit (see instructions)
			☐
			☐
			☐
			☐

If more than four dependents, see instructions and check here ▶ ☐

d Total number of exemptions claimed

Income

Attach Form(s) W-2 here. Also attach Forms W-2G and 1099-R if tax was withheld.

If you did not get a W-2, see instructions.

7	Wages, salaries, tips, etc. Attach Form(s) W-2	7	21,297
8a	**Taxable** interest. Attach Schedule B if required	8a	
b	**Tax-exempt** interest. **Do not** include on line 8a (8b)		
9a	Ordinary dividends. Attach Schedule B if required	9a	
b	Qualified dividends (9b)		
10	Taxable refunds, credits, or offsets of state and local income taxes	10	
11	Alimony received	11	
12	Business income or (loss). Attach Schedule C or C-EZ	12	(9,382)
13	Capital gain or (loss). Attach Schedule D if required. If not required, check here ▶ ☐	13	
14	Other gains or (losses). Attach Form 4797	14	
15a	IRA distributions (15a) b Taxable amount	15b	
16a	Pensions and annuities (16a) b Taxable amount	16b	
17	Rental real estate, royalties, partnerships, S corporations, trusts, etc. Attach Schedule E	17	
18	Farm income or (loss). Attach Schedule F	18	
19	Unemployment compensation	19	
20a	Social security benefits (20a) b Taxable amount	20b	
21	Other income. List type and amount	21	
22	Combine the amounts in the far right column for lines 7 through 21. This is your **total income** ▶	22	11,915

Adjusted Gross Income

23	Educator expenses (23)		
24	Certain business expenses of reservists, performing artists, and fee-basis government officials. Attach Form 2106 or 2106-EZ (24)		
25	Health savings account deduction. Attach Form 8889 (25)		
26	Moving expenses. Attach Form 3903 (26)		
27	Deductible part of self-employment tax. Attach Schedule SE (27)		
28	Self-employed SEP, SIMPLE, and qualified plans (28)		
29	Self-employed health insurance deduction (29)		
30	Penalty on early withdrawal of savings (30)		
31a	Alimony paid b Recipient's SSN ▶ (31a)		
32	IRA deduction (32)		
33	Student loan interest deduction (33)		
34	Tuition and fees. Attach Form 8917 (34)		
35	Domestic production activities deduction. Attach Form 8903 (35)		
36	Add lines 23 through 35	36	
37	Subtract line 36 from line 22. This is your **adjusted gross income** ▶	37	11,915

APP000028

ARMANDO PONS DIAZ

Tax and Credits	38	Amount from line 37 (adjusted gross income)		38	11,915
	39a	Check if: ☐ You were born before January 2, 1952, ☐ Blind. ☐ Spouse was born before Jan. 2, 1952, ☐ Blind. } Total boxes checked ▶ 39a ☐			
	b	If your spouse itemizes on a separate return or you were a dual-status alien, check here ▶ 39b ☐			
Standard Deduction for - • People who check any box on line 39a or 39b or who can be claimed as a dependent, see instructions. • All others: Single or Married filing separately, $6,300 Married filing jointly or Qualifying wider(er), $12,600 Head of household, $9,300	40	**Itemized deductions** (from Schedule A) **or** your **standard deduction** (see left margin)		40	9,300
	41	Subtract line 40 from line 38		41	2,615
	42	**Exemptions.** If line 38 is $155,650 or less, multiply $4,050 by the number on line 6d. Otherwise, see inst.		42	8,100
	43	**Taxable income.** Subtract line 42 from line 41. If line 42 is more than line 41, enter -0-		43	
	44	**Tax** (see instructions). Check if any from: a ☐ Form(s) 8814 b ☐ Form 4972 c ☐		44	
	45	**Alternative minimum tax** (see instructions). Attach Form 6251		45	
	46	Excess advance premium tax credit repayment. Attach Form 8962		46	
	47	Add lines 44, 45, and 46 ▶		47	
	48	Foreign tax credit. Attach Form 1116 if required	48		
	49	Credit for child and dependent care expenses. Attach Form 2441	49		
	50	Education credits from Form 8863, line 19	50		
	51	Retirement savings contributions credit. Attach Form 8880	51		
	52	Child tax credit. Attach Schedule 8812, if required	52		
	53	Residential energy credits. Attach Form 5695	53		
	54	Other credits from Form: a ☐ 3800 b ☐ 8801 c ☐	54		
	55	Add lines 48 through 54. These are your **total credits** ▶		55	
	56	Subtract line 55 from line 47. If line 55 is more than line 47, enter -0- ▶		56	
Other Taxes	57	Self-employment tax. Attach Schedule SE		57	
	58	Unreported social security and Medicare tax from Form: a ☐ 4137 b ☐ 8919		58	
	59	Additional tax on IRAs, other qualified retirement plans, etc. Attach Form 5329 if required		59	
	60a	Household employment taxes from Schedule H		60a	
	b	First-time homebuyer credit repayment. Attach Form 5405 if required		60b	
	61	Health care: individual responsibility (see instructions) Full year coverage ☒		61	
	62	Taxes from: a ☐ Form 8959 b ☐ Form 8960 c ☐ Instructions; enter code(s)		62	
	63	Add lines 56 through 62. This is your **total tax** ▶		63	
Payments	64	Federal income tax withheld from Forms W-2 and 1099	64 1,723		
If you have a qualifying child, attach Schedule EIC.	65	2016 estimated tax payments and amount applied from 2015 return	65		
	66a	**Earned income credit (EIC)**	66a 226		
	b	Nontaxable combat pay election 66b			
	67	Additional child tax credit. Attach Form 8812	67		
	68	American opportunity credit from Form 8863, line 8	68		
	69	Net premium tax credit. Attach Form 8962	69		
	70	Amount paid with request for extension to file	70		
	71	Excess social security and tier 1 RRTA tax withheld	71		
	72	Credit for federal tax on fuels. Attach Form 4136	72		
	73	Credits from Form: a ☐ 2439 b ☐ Reserved c ☐ 8885 d ☐	73		
	74	Add lines 64, 65, 66a, and 67 through 73. These are your **total payments** ▶		74	1,949
Refund	75	If line 74 is more than line 63, subtract line 63 from line 74. This is the amount you **overpaid**		75	1,949
	76a	Amount of line 75 you want **refunded to you.** If Form 8888 is attached, check here ▶ ☐		76a	1,949
Direct deposit? See instructions.	▶ b	Routing number ▶ c Type: ☒ Checking ☐ Savings			
	▶ d	Account number			
	77	Amount of line 75 you want **applied to your 2017 estimated tax** ▶ 77			
Amount You Owe	78	**Amount you owe.** Subtract line 74 from line 63. For details on how to pay, see instructions ▶		78	
	79	Estimated tax penalty (see instructions) 79			

Third Party Designee Do you want to allow another person to discuss this return with the IRS (see instructions)? ☐ Yes. Complete below. ☐ No

Designee's name ▶ Phone no. ▶ Personal Identification number (PIN) ▶

Sign Here Under penalties of perjury, I declare that I have examined this return and accompanying schedules and statements, and to the best of my knowledge and belief, they are true, correct, and complete. Declaration of preparer (other than taxpayer) is based on all information of which preparer has any knowledge.

Your signature	Date	Your occupation	Daytime phone number
		CDL DRIVER	702-542-6449
Spouse's signature. If a joint return, both must sign.	Date	Spouse's occupation	If the IRS sent you an Identity Protection PIN, enter it here (see inst.)

Joint return? See inst. Keep a copy for your records.

Paid preparer use only

Print/type preparer's name	Preparer's signature	Date	☐ Check if self-employed	PTIN

Firm's name ▶ BARRIEL TAX SERVICES Firm's EIN ▶ –

Firm's address ▶ 900 E DESERT INN RD LAS VEGAS NV 89109 Phone no. 702-862-0486

APP000029

SCHEDULE C (Form 1040)

Department of the Treasury Internal Revenue Service (99)

Profit or Loss From Business

(Sole Proprietorship)

▶ Information about Schedule C and its separate instructions is at www.irs.gov/schedulec.

▶ Attach to Form 1040, 1040NR, or 1041; partnerships generally must file Form 1065.

OMB No. 1545-0074

2016

Attachment Sequence No. **09**

Name of proprietor	Social security number (SSN)
ARMANDO PONS DIAZ	

A Principal business or profession, including product or service (see instructions): CDL DRIVER

B Enter code from instructions ▶

C Business name. If no separate business name, leave blank.: VELAZCO AND PONS TRUCKING

D Employer ID number (EIN), (see instr.)

E Business address (including suite or room no.) ▶ 4600 SIRIUS AVE

City, town or post office, state, and ZIP code: LAS VEGAS NV 89102

F Accounting method: (1) ☐ Cash (2) ☐ Accrual (3) ☒ Other (specify) ▶ CHECKS

G Did you "materially participate" in the operation of this business during 2016? If "No," see instructions for limit on losses ☒ Yes ☐ No

H If you started or acquired this business during 2016, check here ▶ ☐

I Did you make any payments in 2016 that would require you to file Form(s) 1099? (see instructions) ☐ Yes ☐ No

J If "Yes," did you or will you file required Forms 1099? ☐ Yes ☐ No

Part I Income

1	Gross receipts or sales. See instructions for line 1 and check the box if this income was reported to you on Form W-2 and the "Statutory employee" box on that form was checked ▶ ☐	1	52,325
2	Returns and allowances	2	
3	Subtract line 2 from line 1	3	52,325
4	Cost of goods sold (from line 42)	4	17,418
5	**Gross profit.** Subtract line 4 from line 3	5	34,907
6	Other income, including federal and state gasoline or fuel tax credit or refund (see instructions)	6	
7	**Gross income.** Add lines 5 and 6 ▶	7	34,907

Part II Expenses. Enter expenses for business use of your home **only** on line 30.

8	Advertising	8	236	18	Office expense (see instructions)	18	1,236
9	Car and truck expenses (see instructions)	9		19	Pension and profit-sharing plans	19	
10	Commissions and fees	10		20	Rent or lease (see instructions):		
11	Contract labor (see instructions)	11		a	Vehicles, machinery, and equipment	20a	
12	Depletion	12		b	Other business property	20b	
13	Depreciation and section 179 expense deduction (not included in Part III) (see instructions)	13	19,397	21	Repairs and maintenance	21	
14	Employee benefit programs (other than on line 19)	14		22	Supplies (not included in Part III)	22	857
15	Insurance (other than health)	15		23	Taxes and licenses	23	3,956
16	Interest:			24	Travel, meals, and entertainment:		
a	Mortgage (paid to banks, etc.)	16a		a	Travel	24a	
b	Other	16b		b	Deductible meals and entertainment (see instructions)	24b	9,316
17	Legal and professional services	17	1,236	25	Utilities	25	
				26	Wages (less employment credits)	26	
				27a	Other expenses (from line 48)	27a	8,055
				b	**Reserved for future use**	27b	
28	**Total expenses** before expenses for business use of home. Add lines 8 through 27a ▶					28	44,289
29	Tentative profit or (loss). Subtract line 28 from line 7					29	(9,382)
30	Expenses for business use of your home. Do not report these expenses elsewhere. Attach Form 8829 unless using the simplified method (see instructions). **Simplified method filers only:** enter the total square footage of: (a) your home: _____ and (b) the part of your home used for business: _____. Use the Simplified Method Worksheet in the instructions to figure the amount to enter on line 30					30	
31	**Net profit or (loss).** Subtract line 30 from line 29. • If a profit, enter on both **Form 1040, line 12** (or **Form 1040NR, line 13**) and on **Schedule SE, line 2.** (If you checked the box on line 1, see instructions). Estates and trusts, enter on **Form 1041, line 3.** • If a loss, you **must** go to line 32.					31	(9,382)
32	If you have a loss, check the box that describes your investment in this activity (see instructions). • If you checked 32a, enter the loss on both **Form 1040, line 12,** (or **Form 1040NR, line 13**) and on **Schedule SE, line 2.** (If you checked the box on line 1, see the line 31 instructions). Estates and trusts, enter on **Form 1041, line 3.** • If you checked 32b, you **must** attach **Form 6198.** Your loss may be limited.					32a ☒ All investment is at risk. 32b ☐ Some investment is not at risk.	

ARMANDO PONS DIAZ

Part III Cost of Goods Sold (see instructions)

33 Method(s) used to value closing inventory: a [X] Cost b [ ] Lower of cost or market c [ ] Other (attach explanation)

34 Was there any change in determining quantities, costs, or valuations between opening and closing inventory? If "Yes," attach explanation . . . [ ] Yes [X] No

35	Inventory at beginning of year. If different from last year's closing inventory, attach explanation	35	
36	Purchases less cost of items withdrawn for personal use	36	
37	Cost of labor. Do not include any amounts paid to yourself	37	
38	Materials and supplies	38	17,418
39	Other costs	39	
40	Add lines 35 through 39	40	17,418
41	Inventory at end of year	41	
42	**Cost of goods sold.** Subtract line 41 from line 40. Enter the result here and on line 4	42	17,418

Part IV Information on Your Vehicle. Complete this part **only** if you are claiming car or truck expenses on line 9 and are not required to file Form 4562 for this business. See the instructions for line 13 to find out if you must file Form 4562.

43 When did you place your vehicle in service for business purposes? (month, day, year) ▶ 01/01/2016

44 Of the total number of miles you drove your vehicle during 2016, enter the number of miles you used your vehicle for:

a Business _____ b Commuting (see instructions) _____ c Other _____

45 Was your vehicle available for personal use during off-duty hours? [ ] Yes [ ] No

46 Do you (or your spouse) have another vehicle available for personal use? [ ] Yes [ ] No

47a Do you have evidence to support your deduction? [ ] Yes [ ] No

b If "Yes," is the evidence written? [ ] Yes [ ] No

Part V Other Expenses. List below business expenses not included on lines 8-26 or line 30.

SHOWERS	4,569
CELL PHONE	1,236
LINNETS	123
SHOES	892
CLOTHIG	1,235

48 **Total other expenses.** Enter here and on line 27a . . . 48 8,055

APP000031

EIC Checklist

Taxpayer name(s) shown on return	Taxpayer's social security number
ARMANDO PONS DIAZ	

For the definitions of **Qualifying Child** and **Earned Income**, see **Pub. 596**.

Part I All Taxpayers

1	Enter preparer's name and PTIN ▶		
2	Is the taxpayer's filing status married filing separately?	☐ Yes	☒ No
	▶ If you checked **"Yes"** on line 2, **stop;** the taxpayer **cannot** take the EIC. Otherwise, continue.		
3	Does the taxpayer (and the taxpayer's spouse if filing jointly) have a social security number (SSN) that allows him or her to work and is valid for EIC purposes? See the instructions before answering	☒ Yes	☐ No
	▶ If you checked **"No"** on line 3, **stop;** the taxpayer **cannot** take the EIC. Otherwise, continue.		
4	Is the taxpayer (or the taxpayer's spouse if filing jointly) filing Form 2555 or 2555-EZ (relating to the exclusion of foreign earned income)?	☐ Yes	☒ No
	▶ If you checked **"Yes"** on line 4, **stop;** the taxpayer **cannot** take the EIC. Otherwise, continue.		
5a	Was the taxpayer (or the taxpayer's spouse) a nonresident alien for any part of 2016?	☐ Yes	☒ No
	▶ If you checked **"Yes"** on line 5a, go to line 5b. Otherwise, skip line 5b and go to line 6.		
b	Is the taxpayer's filing status married filing jointly?	☐ Yes	☐ No
	▶ If you checked **"Yes"** on line 5a and **"No"** on line 5b, **stop;** the taxpayer **cannot** take the EIC. Otherwise, continue.		
6	Is the taxpayer's **investment income** more than $3,400? See the instructions before answering.	☐ Yes	☒ No
	▶ If you checked **"Yes"** on line 6, **stop;** the taxpayer **cannot** take the EIC. Otherwise, continue.		
7	Could the taxpayer be a **qualifying child** of another person for 2016? If the taxpayer's filing status is married filing jointly, check **"No."** Otherwise, see instructions before answering	☐ Yes	☒ No
	▶ If you checked **"Yes"** on line 7, **stop;** the taxpayer **cannot** take the EIC. Otherwise, go to Part II or Part III, whichever applies.		

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ARMANDO PONS DIAZ

Part II Taxpayers With a Child

		Child 1	Child 2	Child 3
	Caution. If there is more than one child, complete lines 8 through 14 for one child before going to the next column.			
8	Child's name			
9	Is the child the taxpayer's son, daughter, stepchild, foster child, brother, sister, stepbrother, stepsister, half brother, half sister, or a descendant of any of them?	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
10	Was the child unmarried at the end of 2016? If the child was married at the end of 2016, see the instructions before answering	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
11	Did the child live with the taxpayer in the United States for over half of 2016? See the instructions before answering	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
12	Was the child (at the end of 2016)- • Under age 19 and younger than the taxpayer (or the taxpayer's spouse, if the taxpayer files jointly), • Under age 24, a student (defined in the instructions), and younger than the taxpayer (or the taxpayer's spouse, if the taxpayer files jointly), or • Any age and permanently and totally disabled? . . . . . ▶ If you checked **"Yes"** on lines 9, 10, 11, **and** 12, the child is the taxpayer's qualifying child; go to line 13a. If you checked **"No"** on line 9, 10, 11, **or** 12, the child is not the taxpayer's qualifying child; see the instructions for line 12.	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
13a	Do you or the taxpayer know of another person who could check **"Yes"** on lines 9, 10, 11, **and** 12 for the child? (If the only other person is the taxpayer's spouse, see the instructions before answering.) . . . . ▶ If you checked **"No"** on line 13a, go to line 14. Otherwise, go to line 13b.	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
b	Enter the child's relationship to the other person(s)			
c	Under the tiebreaker rules, is the child treated as the taxpayer's qualifying child? See the instructions before answering . . . . . ▶ If you checked **"Yes"** on line 13c, go to line 14. If you checked **"No,"** the taxpayer **cannot** take the EIC based on this child and cannot take the EIC for taxpayers who do not have a qualifying child. If there is more than one child, see the **Note** at the bottom of this page. If you checked **"Don't know,"** explain to the taxpayer that, under the tiebreaker rules, the taxpayer's EIC and other tax benefits may be disallowed. Then, if the taxpayer wants to take the EIC based on this child, complete lines 14 and 15. If not, and there are no other qualifying children, the taxpayer cannot take the EIC, including the EIC for taxpayers without a qualifying child; do not complete Part III. If there is more than one child, see the **Note** at the bottom of this page.	☐Yes ☐No ☐Don't know	☐Yes ☐No ☐Don't know	☐Yes ☐No ☐Don't know
14	Does the qualifying child have an SSN that allows him or her to work and is valid for EIC purposes? See the instructions before answering . . . . ▶ If you checked **"No"** on line 14, the taxpayer **cannot** take the EIC based on this child and cannot take the EIC available to taxpayers without a qualifying child. If there is more than one child, see the **Note** at the bottom of this page. If you checked **"Yes"** on line 14, continue.	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
15	Are the taxpayer's **earned income** and **adjusted gross income** each less than the limit that applies to the taxpayer for 2016? See instructions . . ▶ If you checked **"No"** on line 15, **stop;** the taxpayer **cannot** take the EIC. If you checked **"Yes"** on line 15, the taxpayer can take the EIC. Complete **Schedule EIC** and attach it to the taxpayer's return. If there are two or three qualifying children with valid SSNs, list them on Schedule EIC in the same order as they are listed here. If the taxpayer's EIC was reduced or disallowed for a year after 1996, see Pub. 596 to see if **Form 8862** must be filed. Go to line 20.			☐Yes ☐No

Note. If there is more than one child, complete lines 8 through 14 for the other child(ren) (but for no more than three qualifying children).

Part III Taxpayers Without a Qualifying Child

16	Was the taxpayer's main home, and the main home of the taxpayer's spouse if filing jointly, in the United States for more than half the year? (Military personnel on extended active duty outside the United States are considered to be living in the United States during that duty period.) See the instructions before answering.	☒ Yes ☐ No
	▶ If you checked **"No"** on line 16, **stop;** the taxpayer **cannot** take the EIC. Otherwise, continue.	
17	Was the taxpayer, or the taxpayer's spouse if filing jointly, at least age 25 but under age 65 at the end of 2016? See the instructions before answering	☒ Yes ☐ No
	▶ If you checked **"No"** on line 17, **stop;** the taxpayer **cannot** take the EIC. Otherwise, continue.	
18	Is the taxpayer eligible to be claimed as a dependent on anyone else's federal income tax return for 2016? If the taxpayer's filing status is married filing jointly, check **"No"**	☐ Yes ☒ No
	▶ If you checked **"Yes"** on line 18, **stop;** the taxpayer **cannot** take the EIC. Otherwise, continue.	
19	Are the taxpayer's **earned income** and **adjusted gross income** each less than the limit that applies to the taxpayer for 2016? See instructions	☒ Yes ☐ No
	▶ If you checked **"No"** on line 19, **stop;** the taxpayer **cannot** take the EIC. If you checked **"Yes"** on line 19, the taxpayer can take the EIC. If the taxpayer's EIC was reduced or disallowed for a year after 1996, see Pub. 596 to find out if **Form 8862** must be filed. Go to line 20.	

Form **8867**

Department of the Treasury
Internal Revenue Service

Paid Preparer's Due Diligence Checklist

Earned Income Credit (EIC), Child Tax Credit (CTC), and American Opportunity Tax Credit (AOTC)

▶ **To be completed by preparer and filed with Form 1040, 1040A, 1040EZ, 1040NR, 1040SS, or 1040PR.**

▶ **Information about Form 8867 and its separate instructions is at www.irs.gov/form8867.**

OMB No. 1545-1629

2016

Attachment Sequence No. **70**

Taxpayer name(s) shown on return: ARMANDO PONS DIAZ

Taxpayer identification number:

Enter preparer's name and PTIN

Due Diligence Requirements

Please complete the appropriate column for all credits claimed on this return (check all that apply).	EIC	CTC/ACTC	AOTC
1 Did you complete the return based on information for tax year 2016 provided by the taxpayer or reasonably obtained by you?	[X] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No
2 Did you complete the applicable EIC and/or CTC/ACTC worksheets found in the Form 1040, 1040A, 1040EZ, or 1040NR instructions, and/or the AOTC worksheet found in the Form 8863 instructions, or your own worksheet(s) that provides the same information, and all related forms and schedules for each credit claimed?	[X] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No
3 Did you satisfy the knowledge requirement? Answer "Yes" only if you can answer "Yes" to both 3a and 3b. To meet the knowledge requirement, did you:	[X] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No
a Interview the taxpayer, ask adequate questions, and document the taxpayer's responses to determine that the taxpayer is eligible to claim the credit(s)?	[X] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No
b Review adequate information to determine that the taxpayer is eligible to claim the credit(s) and in what amount?	[X] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No
4 Did any information provided by the taxpayer, a third party, or reasonably known to you in connection with preparing the return appear to be incorrect, incomplete, or inconsistent? (If "Yes," answer questions 4a and 4b. If "No," go to question 5.)	[ ] Yes [X] No	[ ] Yes [ ] No	[ ] Yes [ ] No
a Did you make reasonable inquiries to determine the correct or complete information?	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No
b Did you document your inquiries? (Documentation should include the questions you asked, whom you asked, when you asked, the information that was provided, and the impact the information had on your preparation of the return.)	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No
5 Did you satisfy the record retention requirement? To meet the record retention requirement, did you keep a copy of any document(s) provided by the taxpayer that you relied on to determine eligibility or to compute the amount for the credit(s)?	[X] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No
In addition to your notes from the interview with the taxpayer, list those documents, if any, that you relied on. See STM 01			
6 Did you ask the taxpayer whether he/she could provide documentation to substantiate eligibility for and the amount of the credit(s) claimed on the return?	[X] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No
7 Did you ask the taxpayer if any of these credits were disallowed or reduced in a previous year? (If credits were disallowed or reduced, go to question 7a; if not, go to question 8.)	[X] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No
a Did you complete the required recertification form(s)?	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No
8 If the taxpayer is reporting self-employment income, did you ask adequate questions to prepare a complete and correct Form 1040, Schedule C?	[X] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No

ARMANDO PONS DIAZ
Form 8867 (2016) Page 2

Due Diligence Questions for Returns Claiming EIC (If the return does not claim EIC, go to question 10.)

	EIC	CTC/ACTC	AOTC
9a Did you explain to the taxpayer the rules about claiming the EIC when a child is the qualifying child of more than one person (tie-breaker rules), and have you determined that this taxpayer is, in fact, eligible to claim the EIC for the number of children for whom the EIC is claimed?	☒ Yes ☐ No		
b Did you explain to the taxpayer that he/she may not claim the EIC if the taxpayer has not lived with the child for over half the year, even if the taxpayer has supported the child?	☒ Yes ☐ No		

Due Diligence Questions for Returns Claiming CTC and/or additional CTC (If the return does not claim CTC or Additional CTC, go to question 11.)

10a Does the child reside with the taxpayer who is claiming the CTC/ACTC? (If "Yes," go to question 10c. If "No," answer question 10b.)		☐ Yes ☐ No	
b Did you ask if there is an active Form 8332, Release/Revocation of Claim to Exemption for Child by Custodial Parent, or a similar statement in place and, if applicable, did you attach it to the return?		☐ Yes ☐ No	
c Have you determined that the taxpayer has not released the claim to another person?		☐ Yes ☐ No	

Due Diligence Questions for Returns Claiming AOTC (If the return does not claim AOTC, go to Credit Eligibility Certification.)

11 Did the taxpayer provide substantiation such as a Form 1098-T and receipts for the qualified tuition and related expenses for the claimed AOTC?			☐ Yes ☐ No

▶ **You have complied with all due diligence requirements with respect to the credits claimed on the return of the taxpayer identified above if you:**

A. Complete this Form 8867 truthfully and accurately and complete the actions described in this checklist for all credits claimed;

B. Submit Form 8867 in the manner required;

C. Interview the taxpayer, ask adequate questions, document the taxpayer's responses on the return or in your notes, review adequate information to determine if the taxpayer is eligible to claim the credit(s) and in what amount(s); **and**

D. Keep all five of the following records for 3 years from the latest of the dates specified in the Form 8867 instructions under Document Retention.

1. A copy of Form 8867,
2. The applicable worksheet(s) or your own worksheet(s) for any credits claimed,
3. Copies of any taxpayer documents you may have relied upon to determine eligibility for and the amount of the credit(s),
4. A record of how, when, and from whom the information used to prepare this form and worksheet(s) was obtained, and
5. A record of any additional questions you may have asked to determine eligibility for and amount of the credits, and the taxpayer's answers.

▶ **If you have not complied with all due diligence requirements for all credits claimed, you may have to pay a $510 penalty for each credit for which you have failed to comply.**

Credit Eligibility Certification

12 Do you certify that all of the answers on this Form 8867 are, to the best of your knowledge, true, correct and complete?			☒ Yes ☐ No

ARMANDO PONS DIAZ

Line 5 - List of Documents for EIC and CTC/ACTC

A. Which documents below, if any, did you rely on to determine EIC/CTC/ACTC eligibility for the qualifying child(ren) on the return? Check all that apply. KEEP A COPY OF ANY DOCUMENTS YOU RELIED ON. If there is no qualifying child, check box a. If there is no disabled child, check box c.

Residency of Qualifying (Child(ren)

- [x] a No qualifying child
- [ ] b School records or statement
- [ ] c Landlord or property management statement
- [ ] d Health care provider statement
- [ ] e Medical records
- [ ] f Child care provider records
- [ ] g Placement agency statement
- [ ] h Social service records or statement
- [ ] i Place of worship statement
- [ ] j Indian tribal official statement
- [ ] k Employer statement
- [ ] l Other
- [ ] m Did not rely on documents, but made notes in file
- [ ] n Did not rely on any documents

Disability of Qualifying Child(ren)

- [x] o No disabled child
- [ ] p Doctor statement
- [ ] q Other health care provider statement
- [ ] r Social services agency or program statement
- [ ] s Other
- [ ] t Did not rely on documents, but made notes in file
- [ ] u Did not rely on any documents

B. If a Schedule C is included with this return, which documents or other information, if any, did you rely on to confirm the existence of the business and to figure the amount of Schedule C income and expenses reported on the return? Check all that apply. KEEP A COPY OF ANY DOCUMENTS YOU RELIED ON. If there is no Schedule C, check box a.

Documents or Other Information

- [ ] a No Schedule C
- [ ] b Business license
- [x] c Forms 1099
- [x] d Records of gross receipts provided by taxpayer
- [x] e Taxpayer summary of income
- [ ] f Records of expenses provided by taxpayer
- [x] g Taxpayer summary of expenses
- [ ] h Bank statements
- [ ] i Reconstruction of income and expenses
- [ ] j Other
- [ ] k Did not rely on documents, but made notes in file
- [ ] l Did not reply on any documents

Line 5 - List of Documents for AOTC

A. Which documents below, if any, did you rely on to determine AOTC eligibility for the qualifying education expenses? Check all that apply. KEEP A COPY OF ANY DOCUMENTS YOU RELIED ON. If there is no AOTC, check box a.

Documents or Other Information

- [x] a No American Opportunity Credit
- [ ] b Form 1098-T from college or university
- [ ] c Form 1099-Q for distributions
- [ ] d College or university bursar statement
- [ ] e Taxpayer summary of expenses
- [ ] f Other
- [ ] g Did not rely on documents, but made notes in file
- [ ] h Did not rely on any documents

6USEJW1

Form **4562**

Department of the Treasury
Internal Revenue Service (99)

Depreciation and Amortization
(Including Information on Listed Property)

▶ Attach to your tax return.
▶ Information about Form 4562 and its separate instructions is at www.irs.gov/form4562.

OMB No. 1545-0172

2016

Attachment Sequence No. **179**

Name(s) shown on return	Business or activity to which this form relates	Identifying number
ARMANDO PONS DIAZ	CDL DRIVER	

Part I Election To Expense Certain Property Under Section 179

Note: If you have any listed property, complete Part V before you complete Part I.

1	Maximum amount (see instructions)	1	500,000
2	Total cost of section 179 property placed in service (see instructions)	2	19,397
3	Threshold cost of section 179 property before reduction in limitation (see instructions)	3	2,010,000
4	Reduction in limitation. Subtract line 3 from line 2. If zero or less, enter -0-	4	
5	Dollar limitation for tax year. Subtract line 4 from line 1. If zero or less, enter -0-. If married filing separately, see instructions	5	500,000

6 (a) Description of property	(b) Cost (business use only)	(c) Elected cost
FRIGHLANDER	19,397	19,397

7	Listed property. Enter the amount from line 29	7	
8	Total elected cost of section 179 property. Add amounts in column (c), lines 6 and 7	8	19,397
9	Tentative deduction. Enter the **smaller** of line 5 or line 8	9	19,397
10	Carryover of disallowed deduction from line 13 of your 2015 Form 4562	10	
11	Business income limitation. Enter the smaller of business income (not less than zero) or line 5 (see instructions)	11	31,312
12	Section 179 expense deduction. Add lines 9 and 10, but do not enter more than line 11	12	19,397
13	Carryover of disallowed deduction to 2017. Add lines 9 and 10, less line 12 ▶	13	

Note: Do not use Part II or Part III below for listed property. Instead, use Part V.

Part II Special Depreciation Allowance and Other Depreciation (Don't include listed property.) (See instructions.)

14	Special depreciation allowance for qualified property (other than listed property) placed in service during the tax year (see instructions)	14	
15	Property subject to section 168(f)(1) election	15	
16	Other depreciation (including ACRS)	16	

Part III MACRS Depreciation (Don't include listed property.) (See instructions.)

Section A

17	MACRS deductions for assets placed in service in tax years beginning before 2016	17	
18	If you are electing to group any assets placed in service during the tax year into one or more general asset accounts, check here ▶ ☐		

Section B—Assets Placed in Service During 2016 Tax Year Using the General Depreciation System

(a) Classification of property	(b) Month and year placed in service	(c) Basis for depreciation (business/investment use only—see instructions)	(d) Recovery period	(e) Convention	(f) Method	(g) Depreciation deduction
19a 3-year property						
b 5-year property						
c 7-year property						
d 10-year property						
e 15-year property						
f 20-year property						
g 25-year property			25 yrs.		S/L	
h Residential rental property			27.5 yrs.	MM	S/L	
			27.5 yrs.	MM	S/L	
i Nonresidential real property			39 yrs.	MM	S/L	
				MM	S/L	

Section C—Assets Placed in Service During 2016 Tax Year Using the Alternative Depreciation System

20a Class life					S/L	
b 12-year			12 yrs.		S/L	
c 40-year			40 yrs.	MM	S/L	

Part IV Summary (See instructions.)

21	Listed property. Enter amount from line 28	21	
22	**Total.** Add amounts from line 12, lines 14 through 17, lines 19 and 20 in column (g), and line 21. Enter here and on the appropriate lines of your return. Partnerships and S corporations—see instructions	22	19,397
23	For assets shown above and placed in service during the current year, enter the portion of the basis attributable to section 263A costs	23	

ARMANDO PONS DIAZ

Part V Listed Property (Include automobiles, certain other vehicles, certain aircraft, certain computers, and property used for entertainment, recreation, or amusement.)

Note: For any vehicle for which you are using the standard mileage rate or deducting lease expense, complete **only** 24a, 24b, columns (a) through (c) of Section A, all of Section B, and Section C if applicable.

Section A—Depreciation and Other Information (Caution: See the instructions for limits for passenger automobiles.)

24a Do you have evidence to support the business/investment use claimed? ☐ Yes ☐ No **24b** If "Yes," is the evidence written? ☐ Yes ☐ No

(a) Type of property (list vehicles first)	(b) Date placed in service	(c) Business/ investment use percentage	(d) Cost or other basis	(e) Basis for depreciation (business/investment use only)	(f) Recovery period	(g) Method/ Convention	(h) Depreciation deduction	(i) Elected section 179 cost
25 Special depreciation allowance for qualified listed property placed in service during the tax year and used more than 50% in a qualified business use (see instructions)						**25**		
26 Property used more than 50% in a qualified business use:								
		%						
		%						
		%						
27 Property used 50% or less in a qualified business use:								
		%				S/L		
		%				S/L		
		%				S/L		
28 Add amounts in column (h), lines 25 through 27. Enter here and on line 21, page 1						**28**		
29 Add amounts in column (i), line 26. Enter here and on line 7, page 1							**29**	

Section B—Information on Use of Vehicles

Complete this section for vehicles used by a sole proprietor, partner, or other "more than 5% owner," or related person. If you provided vehicles to your employees, first answer the questions in Section C to see if you meet an exception to completing this section for those vehicles.

	(a) Vehicle 1		(b) Vehicle 2		(c) Vehicle 3		(d) Vehicle 4		(e) Vehicle 5		(f) Vehicle 6	
30 Total business/investment miles driven during the year (**do not** include commuting miles)												
31 Total commuting miles driven during the year												
32 Total other personal (noncommuting) miles driven												
33 Total miles driven during the year. Add lines 30 through 32												
	Yes	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**
34 Was the vehicle available for personal use during off-duty hours?												
35 Was the vehicle used primarily by a more than 5% owner or related person?												
36 Is another vehicle available for personal use?												

Section C—Questions for Employers Who Provide Vehicles for Use by Their Employees

Answer these questions to determine if you meet an exception to completing Section B for vehicles used by employees who **aren't** more than 5% owners or related persons (see instructions).

	Yes	**No**
37 Do you maintain a written policy statement that prohibits all personal use of vehicles, including commuting, by your employees?		
38 Do you maintain a written policy statement that prohibits personal use of vehicles, except commuting, by your employees? See the instructions for vehicles used by corporate officers, directors, or 1% or more owners		
39 Do you treat all use of vehicles by employees as personal use?		
40 Do you provide more than five vehicles to your employees, obtain information from your employees about the use of the vehicles, and retain the information received?		
41 Do you meet the requirements concerning qualified automobile demonstration use? (See instructions.)		

Note: If your answer to 37, 38, 39, 40, or 41 is "Yes," do not complete Section B for the covered vehicles.

Part VI Amortization

(a) Description of costs	(b) Date amortization begins	(c) Amortizable amount	(d) Code section	(e) Amortization period or percentage	(f) Amortization for this year
42 Amortization of costs that begins during your 2016 tax year (see instructions):					
43 Amortization of costs that began before your 2016 tax year				**43**	
44 **Total.** Add amounts in column (f). See the instructions for where to report				**44**	

Table of Additional Statements

ARMANDO PONS DIAZ

STM 01 - US FRM 8867 Line 5 - Documents

Documents

NO QUALIFYING CHILD
NO DISABLED CHILDREN
FORMS 1099
RECORDS OF GROSS RECEIPTS PROVIDED BY TA
TAXPAYER SUMMARY OF INCOME
TAXPAYER SUMMARY OF EXPENSES

Form **1040X** (Rev. January 2018)

Department of the Treasury—Internal Revenue Service

Amended U.S. Individual Income Tax Return

▶ Go to www.irs.gov/Form1040X for instructions and the latest information.

OMB No. 1545-0074

This return is for calendar year ☒ 2017 ☐ 2016 ☐ 2015 ☐ 2014
Other year. Enter one: calendar year or fiscal year (month and year ended):

Your first name and initial	Last name	Your social security number
ARMANDO	PONS DIAZ	
If a joint return, spouse's first name and initial	Last name	Spouse's social security number

Current home address (number and street). If you have a P.O. box, see instructions.	Apt. no.	Your phone number
4600 SIRIUS AVE	J151	702-542-6449

City, town or post office, state, and ZIP code. If you have a foreign address, also complete spaces below (see instructions).
LAS VEGAS NV 89102

Foreign country name	Foreign province/state/county	Foreign postal code

Amended return filing status. You **must** check one box even if you are not changing your filing status. **Caution.** In general, you can't change your filing status from a joint return to separate returns after the due date.

☐ Single
☐ Married filing jointly
☐ Married filing separately
☒ Head of household (If the qualifying person is a child but not your dependent, see instructions.)
☐ Qualifying widow(er)

Full-year coverage.
If all members of your household have full-year minimal essential health care coverage, check "Yes." Otherwise, check "No." See instructions.
☒ Yes ☐ No

Use Part III on the back to explain any changes

		A. Original amount or as previously adjusted (see instructions)	B. Net change—amount of increase or (decrease)—explain in Part III	C. Correct amount
Income and Deductions				
1 Adjusted gross income. If net operating loss (NOL) carryback is included, check here ▶ ☐	1	17,332	3,074	20,406
2 Itemized deductions or standard deduction	2	9,350		9,350
3 Subtract line 2 from line 1	3	7,982	3,074	11,056
4 Exemptions. **If changing, complete Part I on page 2 and enter the amount from line 29**	4	8,100		8,100
5 Taxable income. Subtract line 4 from line 3	5		2,956	2,956
Tax Liability				
6 Tax. Enter method(s) used to figure tax (see instructions): Table	6		296	296
7 Credits. If general business credit carryback is included, check here ▶ ☐	7			
8 Subtract line 7 from line 6. If the result is zero or less, enter -0-	8		296	296
9 Health care: individual responsibility (see instructions)	9			
10 Other taxes	10	423	467	890
11 Total tax. Add lines 8, 9, and 10	11	423	763	1,186
Payments				
12 Federal income tax withheld and excess social security and tier 1 RRTA tax withheld. (**If changing,** see instructions)	12	315		315
13 Estimated tax payments, including amount applied from prior year's return	13			
14 Earned income credit (EIC)	14			
15 Refundable credits from: ☐ Schedule 8812 Form(s) ☐ 2439 ☐ 4136 ☐ 8863 ☐ 8885 ☐ 8962 or ☐ other (specify):	15			
16 Total amount paid with request for extension of time to file, tax paid with original return, and additional tax paid after return was filed	16			108
17 Total payments. Add lines 12 through 15, column C, and line 16	17			423
Refund or Amount You Owe				
18 Overpayment, if any, as shown on original return or as previously adjusted by the IRS	18			
19 Subtract line 18 from line 17 (If less than zero, see instructions)	19			423
20 **Amount you owe.** If line 11, column C, is more than line 19, enter the difference	20			763
21 If line 11, column C, is less than line 19, enter the difference. This is the amount **overpaid** on this return	21			
22 Amount of line 21 you want **refunded to you**	22			
23 Amount of line 21 you want **applied to your (enter year):** **estimated tax**	23			

Complete and sign this form on Page 2.

ARMANDO PONS DIAZ

Part I Exemptions

Complete this part **only** if any information relating to exemptions has changed from what you reported on the return you are amending. This would include a change in the number of exemptions, either personal exemptions or dependents.

See Form 1040 or Form 1040A instructions and Form 1040X instructions.

			A. Original number of exemptions or amount reported or as previously adjusted	B. Net change	C. Correct number or amount
24	Yourself and spouse. **Caution.** If someone can claim you as a dependent, you can't claim an exemption for yourself	24			
25	Your dependent children who lived with you	25			
26	Your dependent children who didn't live with you due to divorce or separation	26			
27	Other dependents	27			
28	Total number of exemptions. Add lines 24 through 27	28			
29	Multiply the number of exemptions claimed on line 28 by the exemption amount shown in the instructions for line 29 for the year you are amending. Enter the result here and on line 4 on page 1 of this form	29			

30 List **ALL** dependents (children and others) claimed on this amended return. If more than 4 dependents, see instructions.

(a) First name Last name	(b) Dependent's social security number	(c) Dependent's relationship to you	(d) Check box if qualifying child for child tax credit (see instructions)
			☐
			☐
			☐
			☐

Part II Presidential Election Campaign Fund

Checking below won't increase your tax or reduce your refund.

☐ Check here if you didn't previously want $3 to go to the fund, but now do.

☐ Check here if this is a joint return and your spouse did not previously want $3 to go to the fund, but now does.

Part III Explanation of changes. In the space provided below, tell us why you are filing Form 1040X.

▶ Attach any supporting documents and new or changed forms and schedules.

SOLE PROPRIETORSHIP LLC HAVE TO FILE TOGETHER AS PERSONAL TAX

Remember to keep a copy of this form for your records.

Under penalties of perjury, I declare that I have filed an original return and that I have examined this amended return, including accompanying schedules and statements, and to the best of my knowledge and belief, this amended return is true, correct, and complete. Declaration of preparer (other than taxpayer) is based on all information about which the preparer has any knowledge.

Sign Here

▶ _____ Date _____ CDL DRIVER

Your signature Date Your occupation

▶ _____ Date _____

Spouse's signature. If a joint return, **both** must sign. Date Spouse's occupation

Paid Preparer Use Only

▶ _____ Date _____

Preparer's signature Date Firm's name (or yours if self-employed)

BLANCA GONZALEZ (RTRP)

Print/type preparer's name Firm's address and ZIP code

☐ Check if self-employed

PTIN Phone number EIN

AMENDED

Form 1040 U.S. Individual Income Tax Return 2017

Department of the Treasury—Internal Revenue Service (99) | OMB No. 1545-0074 | IRS Use Only—Do not write or staple in this space.

For the year Jan. 1-Dec. 31, 2017, or other tax year beginning , 2017, ending , 20 | See separate instructions.

Your first name and initial	Last name	Your social security number
ARMANDO	PONS DIAZ	
If a joint return, spouse's first name and initial	Last name	Spouse's social security number

Home address (number and street). If you have a P.O. box, see instructions. | Apt. no.
4600 SIRIUS AVE | J151

▲ Make sure the SSN(s) above and on line 6c are correct.

City, town or post office, state, and ZIP code. If you have a foreign address, also complete spaces below (see instructions).
LAS VEGAS NV 89102

Foreign country name | Foreign province/state/county | Foreign postal code

Presidential Election Campaign
Check here if you, or your spouse if filing jointly, want $3 to go to this fund. Checking a box below will not change your tax or refund. ☐ You ☐ Spouse

Filing Status

Check only one box.

1 ☐ Single
2 ☐ Married filing jointly (even if only one had income)
3 ☐ Married filing separately. Enter spouse's SSN above and full name here. ▶
4 ☒ Head of household (with qualifying person). (See instructions.) If the qualifying person is a child but not your dependent, enter this child's name here. ▶
5 ☐ Qualifying widow(er) (see instructions)

Exemptions

6a ☒ **Yourself.** If someone can claim you as a dependent, **do not** check box 6a
b ☐ **Spouse**

Boxes checked on 6a and 6b 1
No. of children on 6c who:
• lived with you 01
• did not live with you due to divorce or separation (see instructions)
Dependents on 6c not entered above
Add numbers on lines above ▶ 02

c **Dependents:**

(1) First name Last name	(2) Dependent's social security number	(3) Dependent's relationship to you	(4) ✓ if child under age 17 qualifying for child tax credit (see instructions)
			☐
			☐
			☐
			☐

If more than four dependents, see instructions and check here ▶ ☐

d Total number of exemptions claimed

Income

Attach Form(s) W-2 here. Also attach Forms W-2G and 1099-R if tax was withheld.

If you did not get a W-2, see instructions.

7	Wages, salaries, tips, etc. Attach Form(s) W-2	7	14,552
8a	**Taxable** interest. Attach Schedule B if required	8a	
b	**Tax-exempt** interest. **Do not** include on line 8a (8b)		
9a	Ordinary dividends. Attach Schedule B if required	9a	
b	Qualified dividends (9b)		
10	Taxable refunds, credits, or offsets of state and local income taxes	10	
11	Alimony received	11	
12	Business income or (loss). Attach Schedule C or C-EZ	12	6,299
13	Capital gain or (loss). Attach Schedule D if required. If not required, check here ▶ ☐	13	
14	Other gains or (losses). Attach Form 4797	14	
15a	IRA distributions (15a) b Taxable amount	15b	
16a	Pensions and annuities (16a) b Taxable amount	16b	
17	Rental real estate, royalties, partnerships, S corporations, trusts, etc. Attach Schedule E	17	
18	Farm income or (loss). Attach Schedule F	18	
19	Unemployment compensation	19	
20a	Social security benefits (20a) b Taxable amount	20b	
21	Other income. List type and amount	21	
22	Combine the amounts in the far right column for lines 7 through 21. This is your **total income** ▶	22	20,851

Adjusted Gross Income

23	Educator expenses	23	
24	Certain business expenses of reservists, performing artists, and fee-basis government officials. Attach Form 2106 or 2106-EZ	24	
25	Health savings account deduction. Attach Form 8889	25	
26	Moving expenses. Attach Form 3903	26	
27	Deductible part of self-employment tax. Attach Schedule SE	27	445
28	Self-employed SEP, SIMPLE, and qualified plans	28	
29	Self-employed health insurance deduction	29	
30	Penalty on early withdrawal of savings	30	
31a	Alimony paid b Recipient's SSN ▶	31a	
32	IRA deduction	32	
33	Student loan interest deduction	33	
34	Tuition and fees. Attach Form 8917	34	
35	Domestic production activities deduction. Attach Form 8903	35	
36	Add lines 23 through 35	36	445
37	Subtract line 36 from line 22. This is your **adjusted gross income** ▶	37	20,406

ARMANDO PONS DIAZ

Tax and Credits	38	Amount from line 37 (adjusted gross income)		38	20,406
	39a	Check if: ☐ You were born before January 2, 1953, ☐ Blind. ☐ Spouse was born before Jan. 2, 1953, ☐ Blind. } Total boxes checked ▶ 39a ☐			
	b	If your spouse itemizes on a separate return or you were a dual-status alien, check here ▶ 39b ☐			
Standard Deduction for - • People who check any box on line 39a or 39b or who can be claimed as a dependent, see instructions. • All others: Single or Married filing separately, $6,350 Married filing jointly or Qualifying wider(er), $12,700 Head of household, $9,350	40	**Itemized deductions** (from Schedule A) or your **standard deduction** (see left margin)		40	9,350
	41	Subtract line 40 from line 38		41	11,056
	42	**Exemptions.** If line 38 is $156,900 or less, multiply $4,050 by the number on line 6d. Otherwise, see inst.		42	8,100
	43	**Taxable income.** Subtract line 42 from line 41. If line 42 is more than line 41, enter -0-		43	2,956
	44	**Tax** (see instructions). Check if any from: a ☐ Form(s) 8814 b ☐ Form 4972 c ☐		44	296
	45	**Alternative minimum tax** (see instructions). Attach Form 6251		45	
	46	Excess advance premium tax credit repayment. Attach Form 8962		46	
	47	Add lines 44, 45, and 46 ▶		47	296
	48	Foreign tax credit. Attach Form 1116 if required	48		
	49	Credit for child and dependent care expenses. Attach Form 2441	49		
	50	Education credits from Form 8863, line 19	50		
	51	Retirement savings contributions credit. Attach Form 8880	51		
	52	Child tax credit. Attach Schedule 8812, if required	52		
	53	Residential energy credits. Attach Form 5695	53		
	54	Other credits from Form: a ☐ 3800 b ☐ 8801 c ☐	54		
	55	Add lines 48 through 54. These are your **total credits**		55	
	56	Subtract line 55 from line 47. If line 55 is more than line 47, enter -0- ▶		56	296
Other Taxes	57	Self-employment tax. Attach Schedule SE		57	890
	58	Unreported social security and Medicare tax from Form: a ☐ 4137 b ☐ 8919		58	
	59	Additional tax on IRAs, other qualified retirement plans, etc. Attach Form 5329 if required		59	
	60a	Household employment taxes from Schedule H		60a	
	b	First-time homebuyer credit repayment. Attach Form 5405 if required		60b	
	61	Health care: individual responsibility (see instructions) Full-year coverage ☒		61	
	62	Taxes from: a ☐ Form 8959 b ☐ Form 8960 c ☐ Instructions; enter code(s)		62	
	63	Add lines 56 through 62. This is your **total tax** ▶		63	1,186
Payments	64	Federal income tax withheld from Forms W-2 and 1099	64 315		
If you have a qualifying child, attach Schedule EIC.	65	2017 estimated tax payments and amount applied from 2016 return	65		
	66a	**Earned income credit (EIC)**	66a		
	b	Nontaxable combat pay election 66b			
	67	Additional child tax credit. Attach Form 8812	67		
	68	American opportunity credit from Form 8863, line 8	68		
	69	Net premium tax credit. Attach Form 8962	69		
	70	Amount paid with request for extension to file	70		
	71	Excess social security and tier 1 RRTA tax withheld	71		
	72	Credit for federal tax on fuels. Attach Form 4136	72		
	73	Credits from Form: a ☐ 2439 b ☐ Reserved c ☐ 8885 d ☐	73		
	74	Add lines 64, 65, 66a, and 67 through 73. These are your **total payments** ▶		74	315
Refund	75	If line 74 is more than line 63, subtract line 63 from line 74. This is the amount you **overpaid**		75	
	76a	Amount of line 75 you want **refunded to you**. If Form 8888 is attached, check here ▶ ☐		76a	
Direct deposit? See instructions.	▶ b	Routing number XXXXXXXXX ▶ c Type: ☐ Checking ☐ Savings			
	▶ d	Account number XXXXXXXXXXXXXXXXX			
	77	Amount of line 75 you want **applied to your 2018 estimated tax** ▶ 77			
Amount You Owe	78	**Amount you owe.** Subtract line 74 from line 63. For details on how to pay, see instructions ▶		78	871
	79	Estimated tax penalty (see instructions) 79			

Third Party Designee Do you want to allow another person to discuss this return with the IRS (see instructions)? ☐ Yes. Complete below. ☐ No

Designee's name ▶ Phone no. ▶ Personal identification number (PIN) ▶

Sign Here Under penalties of perjury, I declare that I have examined this return and accompanying schedules and statements, and to the best of my knowledge and belief, they are true, correct, and accurately list all amounts and sources of income I received during the tax year. Declaration of preparer (other than taxpayer) is based on all information of which preparer has any knowledge.

Joint return? See inst. Keep a copy for your records.

Your signature	Date	Your occupation	Daytime phone number
		CDL DRIVER	702-542-6449
Spouse's signature. If a joint return, both must sign.	Date	Spouse's occupation	If the IRS sent you an Identity Protection PIN, enter it here (see inst.)

Paid preparer use only

Print/type preparer's name	Preparer's signature	Date	PTIN
BLANCA GONZALEZ (RTRP)			☐ Check if self-employed

Firm's name ▶ BP MULTI EXPRESS Firm's EIN ▶

Firm's address ▶ 716 S 10TH ST LAS VEGAS NV 89101 Phone no. 702-613-9699

SCHEDULE C (Form 1040)

Department of the Treasury
Internal Revenue Service (99)

Profit or Loss From Business

(Sole Proprietorship)

▶ Go to www.irs.gov/ScheduleC for instructions and the latest information.

▶ Attach to Form 1040, 1040NR, or 1041; partnerships generally must file Form 1065.

OMB No. 1545-0074

2017

Attachment Sequence No. **09**

Name of proprietor	Social security number (SSN)
ARMANDO PONS DIAZ	

A Principal business or profession, including product or service (see instructions): CDL DRIVER

B Enter code from instructions ▶

C Business name. If no separate business name, leave blank.: VELAZCO AND PONS LLC

D Employer ID number (EIN), (see instr.)

E Business address (including suite or room no.) ▶ 4600 SIRIUS AVE

City, town or post office, state, and ZIP code: LAS VEGAS NV 89102

F Accounting method: (1) ☐ Cash (2) ☒ Accrual (3) ☐ Other (specify) ▶

G Did you "materially participate" in the operation of this business during 2017? If "No," see instructions for limit on losses ☒ Yes ☐ No

H If you started or acquired this business during 2017, check here ▶ ☐

I Did you make any payments in 2017 that would require you to file Form(s) 1099? (see instructions) ☐ Yes ☐ No

J If "Yes," did you or will you file required Forms 1099? ☐ Yes ☐ No

Part I Income

1	Gross receipts or sales. See instructions for line 1 and check the box if this income was reported to you on Form W-2 and the "Statutory employee" box on that form was checked ▶ ☐	1	28,935
2	Returns and allowances	2	
3	Subtract line 2 from line 1	3	28,935
4	Cost of goods sold (from line 42)	4	
5	**Gross profit.** Subtract line 4 from line 3	5	28,935
6	Other income, including federal and state gasoline or fuel tax credit or refund (see instructions)	6	
7	**Gross income.** Add lines 5 and 6 ▶	7	28,935

Part II Expenses. Enter expenses for business use of your home only on line 30.

8	Advertising	8		18	Office expense (see instructions)	18	236
9	Car and truck expenses (see instructions)	9		19	Pension and profit-sharing plans	19	
10	Commissions and fees	10		20	Rent or lease (see instructions):		
11	Contract labor (see instructions)	11		a	Vehicles, machinery, and equipment	20a	
12	Depletion	12		b	Other business property	20b	256
13	Depreciation and section 179 expense deduction (not included in Part III) (see instructions)	13	7,182	21	Repairs and maintenance	21	
				22	Supplies (not included in Part III)	22	512
				23	Taxes and licenses	23	1,254
14	Employee benefit programs (other than on line 19)	14		24	Travel, meals, and entertainment:		
15	Insurance (other than health)	15		a	Travel	24a	
16	Interest:			b	Deductible meals and entertainment (see instructions)	24b	9,892
a	Mortgage (paid to banks, etc.)	16a		25	Utilities	25	
b	Other	16b		26	Wages (less employment credits)	26	
17	Legal and professional services	17	1,000	27a	Other expenses (from line 48)	27a	9,320
				b	**Reserved for future use**	27b	

28	**Total expenses** before expenses for business use of home. Add lines 8 through 27a ▶	28	29,652
29	Tentative profit or (loss). Subtract line 28 from line 7	29	(717)
30	Expenses for business use of your home. Do not report these expenses elsewhere. Attach Form 8829 unless using the simplified method (see instructions). **Simplified method filers only:** enter the total square footage of: (a) your home: _____ and (b) the part of your home used for business: _____. Use the Simplified Method Worksheet in the instructions to figure the amount to enter on line 30	30	
31	**Net profit or (loss).** Subtract line 30 from line 29. • If a profit, enter on both **Form 1040, line 12** (or **Form 1040NR, line 13**) and on **Schedule SE, line 2.** (If you checked the box on line 1, see instructions). Estates and trusts, enter on **Form 1041, line 3.** • If a loss, you **must** go to line 32.	31	(717)

32 If you have a loss, check the box that describes your investment in this activity (see instructions).

• If you checked 32a, enter the loss on both **Form 1040, line 12,** (or **Form 1040NR, line 13**) and on **Schedule SE, line 2.** (If you checked the box on line 1, see the line 31 instructions). Estates and trusts, enter on **Form 1041, line 3.**

• If you checked 32b, you **must** attach **Form 6198.** Your loss may be limited.

32a ☒ All investment is at risk.
32b ☐ Some investment is not at risk.

ARMANDO PONS DIAZ

Part III Cost of Goods Sold (see instructions)

33 Method(s) used to value closing inventory: a ☐ Cost b ☐ Lower of cost or market c ☐ Other (attach explanation)

34 Was there any change in determining quantities, costs, or valuations between opening and closing inventory? If "Yes," attach explanation ☐ Yes ☐ No

35	Inventory at beginning of year. If different from last year's closing inventory, attach explanation	35	
36	Purchases less cost of items withdrawn for personal use	36	
37	Cost of labor. Do not include any amounts paid to yourself	37	
38	Materials and supplies	38	
39	Other costs	39	
40	Add lines 35 through 39	40	
41	Inventory at end of year	41	
42	**Cost of goods sold.** Subtract line 41 from line 40. Enter the result here and on line 4	42	

Part IV Information on Your Vehicle. Complete this part **only** if you are claiming car or truck expenses on line 9 and are not required to file Form 4562 for this business. See the instructions for line 13 to find out if you must file Form 4562.

43 When did you place your vehicle in service for business purposes? (month, day, year) ▶ _____

44 Of the total number of miles you drove your vehicle during 2017, enter the number of miles you used your vehicle for:

a Business _____ b Commuting (see instructions) _____ c Other _____

45 Was your vehicle available for personal use during off-duty hours? ☐ Yes ☐ No

46 Do you (or your spouse) have another vehicle available for personal use? ☐ Yes ☐ No

47a Do you have evidence to support your deduction? ☐ Yes ☐ No

b If "Yes," is the evidence written? ☐ Yes ☐ No

Part V Other Expenses. List below business expenses not included on lines 8-26 or line 30.

GPS	326
CLOTHING	1,245
SHOES	845
HAIR CUT	452
SHOWER	6,452

48	**Total other expenses.** Enter here and on line 27a	48	9,320

APP000046

SCHEDULE C (Form 1040)
Department of the Treasury
Internal Revenue Service (99)

Profit or Loss From Business
(Sole Proprietorship)

▶ Go to www.irs.gov/ScheduleC for instructions and the latest information.
▶ Attach to Form 1040, 1040NR, or 1041; partnerships generally must file Form 1065.

OMB No. 1545-0074
2017
Attachment Sequence No. **09**

Name of proprietor		Social security number (SSN)
ARMANDO PONS DIAZ		
A Principal business or profession, including product or service (see instructions)		B Enter code from instructions ▶
TRANSPORTATION		
C Business name. If no separate business name, leave blank.		D Employer ID number (EIN), (see instr.)
VELAZCO AND PONS TRUCKING LLC		

E Business address (including suite or room no.) ▶ 4600 SIRIUS AVE
City, town or post office, state, and ZIP code LAS VEGAS NV 89102

F Accounting method: (1) ☐ Cash (2) ☒ Accrual (3) ☐ Other (specify) ▶

G Did you "materially participate" in the operation of this business during 2017? If "No," see instructions for limit on losses ☒ Yes ☐ No

H If you started or acquired this business during 2017, check here ▶ ☐

I Did you make any payments in 2017 that would require you to file Form(s) 1099? (see instructions) ☒ Yes ☐ No

J If "Yes," did you or will you file required Forms 1099? ☒ Yes ☐ No

Part I Income

1	Gross receipts or sales. See instructions for line 1 and check the box if this income was reported to you on Form W-2 and the "Statutory employee" box on that form was checked ▶ ☐	1	149,078
2	Returns and allowances	2	
3	Subtract line 2 from line 1	3	149,078
4	Cost of goods sold (from line 42)	4	
5	**Gross profit.** Subtract line 4 from line 3	5	149,078
6	Other income, including federal and state gasoline or fuel tax credit or refund (see instructions)	6	
7	**Gross income.** Add lines 5 and 6 ▶	7	149,078

Part II Expenses. Enter expenses for business use of your home **only** on line 30.

8	Advertising	8	326	18	Office expense (see instructions)	18	7,304
9	Car and truck expenses (see instructions)	9		19	Pension and profit-sharing plans	19	
10	Commissions and fees	10	16,928	20	Rent or lease (see instructions):		
11	Contract labor (see instructions)	11		a	Vehicles, machinery, and equipment	20a	5,874
12	Depletion	12		b	Other business property	20b	
13	Depreciation and section 179 expense deduction (not included in Part III) (see instructions)	13		21	Repairs and maintenance	21	28,141
14	Employee benefit programs (other than on line 19)	14		22	Supplies (not included in Part III)	22	7,845
15	Insurance (other than health)	15		23	Taxes and licenses	23	3,659
16	Interest:			24	Travel, meals, and entertainment:		
a	Mortgage (paid to banks, etc.)	16a		a	Travel	24a	563
b	Other	16b		b	Deductible meals and entertainment (see instructions)	24b	2,837
17	Legal and professional services	17	1,500	25	Utilities	25	
				26	Wages (less employment credits)	26	
				27a	Other expenses (from line 48)	27a	67,085
				b	**Reserved for future use**	27b	

28	**Total expenses** before expenses for business use of home. Add lines 8 through 27a ▶	28	142,062
29	Tentative profit or (loss). Subtract line 28 from line 7	29	7,016
30	Expenses for business use of your home. Do not report these expenses elsewhere. Attach Form 8829 unless using the simplified method (see instructions). **Simplified method filers only:** enter the total square footage of: (a) your home: _____ and (b) the part of your home used for business: _____. Use the Simplified Method Worksheet in the instructions to figure the amount to enter on line 30	30	
31	**Net profit or (loss).** Subtract line 30 from line 29. • If a profit, enter on both **Form 1040, line 12** (or **Form 1040NR, line 13**) and on **Schedule SE, line 2.** (If you checked the box on line 1, see instructions). Estates and trusts, enter on **Form 1041, line 3.** • If a loss, you **must** go to line 32.	31	7,016
32	If you have a loss, check the box that describes your investment in this activity (see instructions). • If you checked 32a, enter the loss on both **Form 1040, line 12,** (or **Form 1040NR, line 13**) and on **Schedule SE, line 2.** (If you checked the box on line 1, see the line 31 instructions). Estates and trusts, enter on **Form 1041, line 3.** • If you checked 32b, you **must** attach **Form 6198.** Your loss may be limited.	32a ☐ All investment is at risk. 32b ☐ Some investment is not at risk.	

ARMANDO PONS DIAZ

Part III Cost of Goods Sold (see instructions)

33 Method(s) used to value closing inventory: a ☐ Cost b ☐ Lower of cost or market c ☐ Other (attach explanation)

34 Was there any change in determining quantities, costs, or valuations between opening and closing inventory? If "Yes," attach explanation ☐ Yes ☐ No

35	Inventory at beginning of year. If different from last year's closing inventory, attach explanation	35	
36	Purchases less cost of items withdrawn for personal use	36	
37	Cost of labor. Do not include any amounts paid to yourself	37	
38	Materials and supplies	38	
39	Other costs	39	
40	Add lines 35 through 39	40	
41	Inventory at end of year	41	
42	**Cost of goods sold.** Subtract line 41 from line 40. Enter the result here and on line 4	42	

Part IV Information on Your Vehicle. Complete this part **only** if you are claiming car or truck expenses on line 9 and are not required to file Form 4562 for this business. See the instructions for line 13 to find out if you must file Form 4562.

43 When did you place your vehicle in service for business purposes? (month, day, year) ▶ _____

44 Of the total number of miles you drove your vehicle during 2017, enter the number of miles you used your vehicle for:

a Business _____ b Commuting (see instructions) _____ c Other _____

45 Was your vehicle available for personal use during off-duty hours? ☐ Yes ☐ No

46 Do you (or your spouse) have another vehicle available for personal use? ☐ Yes ☐ No

47a Do you have evidence to support your deduction? ☐ Yes ☐ No

b If "Yes," is the evidence written? ☐ Yes ☐ No

Part V Other Expenses. List below business expenses not included on lines 8-26 or line 30.

CARD WASH	478
PARKING	3,305
SALARIES	27,930
SCALE	87
DIESEL	35,161
UPS	124

48 **Total other expenses.** Enter here and on line 27a 48 67,085

APP000048

SCHEDULE SE (Form 1040)

Department of the Treasury
Internal Revenue Service (99)

Self-Employment Tax

▶ Go to www.irs.gov/ScheduleSE for instructions and the latest information.
▶ Attach to Form 1040 or Form 1040NR.

OMB No. 1545-0074

2017

Attachment Sequence No. **17**

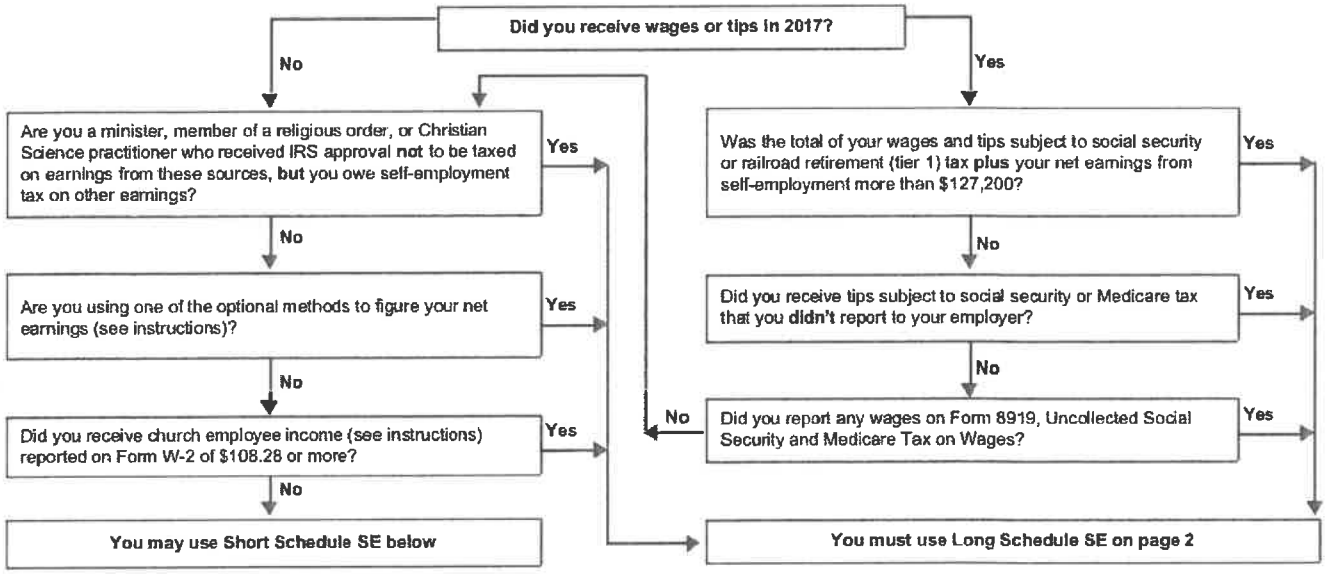
Name of person with **self-employment** income (as shown on Form 1040 or Form 1040NR)
ARMANDO PONS DIAZ

Social security number of person with **self-employment** income ▶

Before you begin: To determine if you must file Schedule SE, see the instructions.

May I Use Short Schedule SE or Must I Use Long Schedule SE?

Note. Use this flowchart **only if** you must file Schedule SE. If unsure, see Who Must File Schedule SE in the instructions.



Section A - Short Schedule SE. Caution. Read above to see if you can use Short Schedule SE.

1a	Net farm profit or (loss) from Schedule F, line 34, and farm partnerships, Schedule K-1 (Form 1065), box 14, code A	1a	
b	If you received social security retirement or disability benefits, enter the amount of Conservation Reserve Program payments included on Schedule F, line 4b, or listed on Schedule K-1 (Form 1065), box 20, code Z	1b	( )
2	Net profit or (loss) from Schedule C, line 31; Schedule C-EZ, line 3; Schedule K-1 (Form 1065), box 14, code A (other than farming); and Schedule K-1 (Form 1065-B), box 9, code J1. Ministers and members of religious orders, see instructions for types of income to report on this line. See instructions for other income to report	2	6,299
3	Combine lines 1a, 1b, and 2	3	6,299
4	Multiply line 3 by 92.35% (0.9235). If less than $400, you don't owe self-employment tax; **don't** file this schedule unless you have an amount on line 1b ▶	4	5,817
	Note. If line 4 is less than $400 due to Conservation Reserve Program payments on line 1b, see instructions.		
5	**Self-employment tax.** If the amount on line 4 is: • $127,200 or less, multiply line 4 by 15.3% (0.153). Enter the result here and on **Form 1040, line 57**, or **Form 1040NR, line 55** • More than $127,200, multiply line 4 by 2.9% (0.029). Then, add $15,772.80 to the result. Enter the total here and on **Form 1040, line 57**, or **Form 1040NR, line 55**	5	890
6	**Deduction for one-half of self-employment tax.** Multiply line 5 by 50% (0.50). Enter the result here and on **Form 1040, line 27**, or **Form 1040NR, line 27**	6	445

Form **4562**

Department of the Treasury
Internal Revenue Service (99)

Depreciation and Amortization
(Including Information on Listed Property)

▶ Attach to your tax return.
▶ Go to www.irs.gov/Form4562 for instructions and the latest information.

OMB No. 1545-0172

2017

Attachment Sequence No. **179**

Name(s) shown on return	Business or activity to which this form relates	Identifying number
ARMANDO PONS DIAZ	CDL DRIVER	

Part I Election To Expense Certain Property Under Section 179

Note: If you have any listed property, complete Part V before you complete Part I.

1	Maximum amount (see instructions)	1	510,000
2	Total cost of section 179 property placed in service (see instructions)	2	7,182
3	Threshold cost of section 179 property before reduction in limitation (see instructions)	3	2,030,000
4	Reduction in limitation. Subtract line 3 from line 2. If zero or less, enter -0-	4	
5	Dollar limitation for tax year. Subtract line 4 from line 1. If zero or less, enter -0-. If married filing separately, see instructions	5	510,000

6 (a) Description of property	(b) Cost (business use only)	(c) Elected cost
TOYOTA CAMRY	21,548	7,182

7	Listed property. Enter the amount from line 29	7	
8	Total elected cost of section 179 property. Add amounts in column (c), lines 6 and 7	8	7,182
9	Tentative deduction. Enter the **smaller** of line 5 or line 8	9	7,182
10	Carryover of disallowed deduction from line 13 of your 2016 Form 4562	10	
11	Business income limitation. Enter the smaller of business income (not less than zero) or line 5 (see instructions)	11	28,033
12	Section 179 expense deduction. Add lines 9 and 10, but don't enter more than line 11	12	7,182
13	Carryover of disallowed deduction to 2018. Add lines 9 and 10, less line 12 ▶	13	

Note: Don't use Part II or Part III below for listed property. Instead, use Part V.

Part II Special Depreciation Allowance and Other Depreciation (Don't include listed property.) (See instructions.)

14	Special depreciation allowance for qualified property (other than listed property) placed in service during the tax year (see instructions)	14	
15	Property subject to section 168(f)(1) election	15	
16	Other depreciation (including ACRS)	16	

Part III MACRS Depreciation (Don't include listed property.) (See instructions.)

Section A

17	MACRS deductions for assets placed in service in tax years beginning before 2017	17	
18	If you are electing to group any assets placed in service during the tax year into one or more general asset accounts, check here ▶ ☐		

Section B—Assets Placed in Service During 2017 Tax Year Using the General Depreciation System

(a) Classification of property	(b) Month and year placed in service	(c) Basis for depreciation (business/investment use only—see instructions)	(d) Recovery period	(e) Convention	(f) Method	(g) Depreciation deduction
19a 3-year property						
b 5-year property						
c 7-year property						
d 10-year property						
e 15-year property						
f 20-year property						
g 25-year property			25 yrs.		S/L	
h Residential rental property			27.5 yrs.	MM	S/L	
			27.5 yrs.	MM	S/L	
i Nonresidential real property			39 yrs.	MM	S/L	
				MM	S/L	

Section C—Assets Placed in Service During 2017 Tax Year Using the Alternative Depreciation System

20a	Class life				S/L	
b	12-year			12 yrs.	S/L	
c	40-year			40 yrs.	MM	S/L

Part IV Summary (See instructions.)

21	Listed property. Enter amount from line 28	21	
22	**Total.** Add amounts from line 12, lines 14 through 17, lines 19 and 20 in column (g), and line 21. Enter here and on the appropriate lines of your return. Partnerships and S corporations—see instructions	22	7,182
23	For assets shown above and placed in service during the current year, enter the portion of the basis attributable to section 263A costs	23	

ARMANDO PONS DIAZ

Form 4562 (2017) Page 2

Part V Listed Property (Include automobiles, certain other vehicles, certain aircraft, certain computers, and property used for entertainment, recreation, or amusement.)

Note: For any vehicle for which you are using the standard mileage rate or deducting lease expense, complete **only** 24a, 24b, columns (a) through (c) of Section A, all of Section B, and Section C if applicable.

Section A—Depreciation and Other Information (Caution: See the instructions for limits for passenger automobiles.)

24a Do you have evidence to support the business/investment use claimed? ☐ Yes ☐ No **24b** If "Yes," is the evidence written? ☐ Yes ☐ No

(a) Type of property (list vehicles first)	(b) Date placed in service	(c) Business/ investment use percentage	(d) Cost or other basis	(e) Basis for depreciation (business/investment use only)	(f) Recovery period	(g) Method/ Convention	(h) Depreciation deduction	(i) Elected section 179 cost
25 Special depreciation allowance for qualified listed property placed in service during the tax year and used more than 50% in a qualified business use (see instructions) .						**25**		
26 Property used more than 50% in a qualified business use:								
		%						
		%						
		%						
27 Property used 50% or less in a qualified business use:								
		%				S/L		
		%				S/L		
		%				S/L		
28 Add amounts in column (h), lines 25 through 27. Enter here and on line 21, page 1 .						**28**		
29 Add amounts in column (i), line 26. Enter here and on line 7, page 1							**29**	

Section B—Information on Use of Vehicles

Complete this section for vehicles used by a sole proprietor, partner, or other "more than 5% owner," or related person. If you provided vehicles to your employees, first answer the questions in Section C to see if you meet an exception to completing this section for those vehicles.

	(a) Vehicle 1		(b) Vehicle 2		(c) Vehicle 3		(d) Vehicle 4		(e) Vehicle 5		(f) Vehicle 6	
30 Total business/investment miles driven during the year (**don't** include commuting miles) .												
31 Total commuting miles driven during the year												
32 Total other personal (noncommuting) miles driven												
33 Total miles driven during the year. Add lines 30 through 32												
	Yes	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**
34 Was the vehicle available for personal use during off-duty hours?												
35 Was the vehicle used primarily by a more than 5% owner or related person? . .												
36 Is another vehicle available for personal use?												

Section C—Questions for Employers Who Provide Vehicles for Use by Their Employees

Answer these questions to determine if you meet an exception to completing Section B for vehicles used by employees who **aren't** more than 5% owners or related persons (see instructions).

	Yes	**No**
37 Do you maintain a written policy statement that prohibits all personal use of vehicles, including commuting, by your employees?		
38 Do you maintain a written policy statement that prohibits personal use of vehicles, except commuting, by your employees? See the instructions for vehicles used by corporate officers, directors, or 1% or more owners . .		
39 Do you treat all use of vehicles by employees as personal use?		
40 Do you provide more than five vehicles to your employees, obtain information from your employees about the use of the vehicles, and retain the information received?		
41 Do you meet the requirements concerning qualified automobile demonstration use? (See instructions.) . . .		
Note: If your answer to 37, 38, 39, 40, or 41 is "Yes," don't complete Section B for the covered vehicles.		

Part VI Amortization

(a) Description of costs	(b) Date amortization begins	(c) Amortizable amount	(d) Code section	(e) Amortization period or percentage	(f) Amortization for this year
42 Amortization of costs that begins during your 2017 tax year (see instructions):					
43 Amortization of costs that began before your 2017 tax year				**43**	
44 **Total.** Add amounts in column (f). See the instructions for where to report				**44**	

EXHIBIT 4

EMPLOYMENT / WAGE LOSS VERFICATION

TO: Velazco & Pons Trucking

Re: Employee :Armando Pons
Date of Loss :12/15/2017
Date of Birth :
Social Security# :
Court Case No. :

Dates of Employment	From: 6/2016 To: Present
Position	Owner operator Driver
Full-time or part-time	Full Time
Rate of pay from ---------- to present	
Days/hours absent due to subject accident on 24 days	
Total amount of wages lost due to accident $1400 per day	
Work limitations after accident No	
Comments	

SUBSCRIBED and SWORN to before me this ____day of _____, 2017.

NOTARY PUBLIC in and for said
Clark County, State of Nevada

Print Name: Cristhian Pons

Title: Dispacher

Telephone: 702-542-7519

Signature: CPH

EXHIBIT 5

COPART AUTO AUCTIONS
4810 N. LAMB BLVD
LAS VEGAS, NV 89115
PHONE (702) 638-9300
TAX ID# 680380454

Date 1/17/18

Visit us at www.copart.com
All Amounts are in USD
*** OWNER RETAINED ***

*** OWNER RETAINED ***

Copart Lot# 51367697 57 NV - LAS VEGAS
Loss Date 12/15/17
Called in 12/21/17
P/U Cleared 12/29/17
Pickup Date 1/02/18
Original Title
Trans Title
Sale Document
Loss Type COLLISION
Description 14 TOYT CAMRY L SILVR
Vehicle ID# 4T4BF1FK3ER442844
License#/ST 580225 NV
Mileage 21,624
Pickup From CALIBER COLLISION CENTER
3131 FREMONT ST
LAS VEGAS, NV 89104
(702) 641-4190

KEY9 PIP100A
GEORGE SHERMAN
KEY INSURANCE
P.O. BOX 2014
SHAWNEE MISSION, KS 66201

Claim# KILV103302
Policy#
Loss Code
Reference#
Insured VERONICA CASTILLO
Owner ARMANDO PONS

ADVANCE CHARGES PAID BY COPART

TOTAL ADVANCE CHARGES	.00	

COPART SERVICE CHARGES

POOLING CHARGE	125.00	
TOW IN	70.00	Zone 02
MISCELLANEOUS CHARGE	50.00	SET OUT FEE
TOTAL COPART SERVICE CHARGES	245.00	
TOTAL DUE COPART	245.00	
PAYMENTS APPLIED	245.00CR	
NET DUE COPART	.00	

PAYMENTS APPLIED DETAIL
CHECK #12327 RECEIVED 01/17/18 245.00CR

<LAAI TOW 21972381#59602188 TOWDOCR>
Stock#:21972524 Shop Receipt

AS119T1 | COPART | Date 1/17/18
057 NV - LAS VEGAS | Outstanding Work Orders | Time 9:30:03
Page 1

Lot# 51367697 X 14 TOYT CAMRY L SILVR | OWNER RETAINED-TO BE CLOSED
Seller KEY9 KEY INSURANCE | SHAWNEE MISSION, KS (800)255-
Assignd 12/21/17 | Yard Row P040 Auction 00/00/00
Loss Type COLLISION

14 TOYT CAMRY L SILVR
51367697 WWork Order

Task | Completion Date | Completed By

OWNER RETAIN ** PRIORITY **
Comment: None

Office:

1. Review Service Order Notes to ensure all seller requests are met. Add additional Service Orders if needed.
2. Collect payment from owner (for vehicles picked up by owner only).

Yard:

3. Review Service Order Notes to ensure all seller requests are met.
4. Pull vehicle from Row listed above.
5. Take new digital photos in proper sequence.
6. If vehicle is being owner retained to an owner the yard must follow the below steps:
   A. Remove all markings and lot label from the windshield. Place lot label in the shred bin.
   B. Rinse vehicle off, removing any dirt/dust that might have accumulated on the vehicle.
   C. If your yard is not allowed to use water to rinse down vehicles, you must still remove any/all markings from the windows.
7. Obtain signature and printed name of person picking up vehicle (for vehicles picked up only):
   Signature X [signature] Name: JANINE CROSBY 4047
8. If unable to complete all seller requests, write what you were unable to do and why here: _____

Office:

9. Review Service Order Notes to ensure all seller requests are met. Add additional Service Orders if needed.
10. Review any notes from yard staff to see if any seller requests could not be met.
11. If additional notes were written by yard staff enter in Lot Notes, if owner signature scan with "W" barcode. If no notes or signatures, shred the Service Order when all steps are completed.
12. If we were not able review vehicle imag able to at the time General Manager bef
13. If unable to complete all seller requests you were unable to do and why in Lot Notes.
14. Upload new digital images of vehicle.
15. Enter Lot Left Yard date to reflect the date the vehicle left the yard.
    NOTE: If Owner Retain is cancelled, notify yard to return vehicle to storage and complete Undo Owner retain in CAS.

AGM or GM

<IAAI TOW 21972381#59602188 TOWDOC/R>
Stock#21572524 Shop Receipt

APP000056

COPART AUTO AUCTIONS
4810 N. LAMB BLVD
LAS VEGAS, NV 89115
PHONE (702) 638-9300
TAX ID# 680360454

Date 1/17/18

Visit us at www.copart.com
All Amounts are in USD
*** OWNER RETAINED ***

*** OWNER RETAINED ***

Copart Lot# 51367697 57 NV = LAS VEGAS
Loss Date 12/15/17
Called In 12/21/17
P/U Cleared 12/29/17
Pickup Date 1/02/18
Original Title
Trans Title
Sale Document
Loss Type COLLISION
Description 14 TOYT CAMRY L SILVR
Vehicle ID# 4T4BF1FK3ER442844
License#/ST 50G225 NV
Mileage 21,624
Pickup From CALIBER COLLISION CENTER
3131 FREMONT ST
LAS VEGAS, NV 89104
(702) 641-4190

KEY9 PIP100A
GEORGE SHERMAN
KEY INSURANCE
P.O. BOX 2014
SHAWNEE MISSION, KS 66201

Claim# KILV103302
Policy#
Loss Code
Reference#
Insured VERONICA CASTILLO
Owner ARMANDO PONS

ADVANCE CHARGES PAID BY COPART

TOTAL ADVANCE CHARGES	.00	
COPART SERVICE CHARGES		
POOLING CHARGE	125.00	
TOW IN	70.00	Zone 02
MISCELLANEOUS CHARGE	50.00	SET OUT FEE
TOTAL COPART SERVICE CHARGES	245.00	
TOTAL DUE COPART	245.00	
PAYMENTS APPLIED	245.00CR	
NET DUE COPART	.00	

PAYMENTS APPLIED DETAIL
CHECK #12329 RECEIVED 01/17/18 245.00CR

<IAAI TOW 21972381#59602188 TOWDOCR>
Stock#:21572524 Shop Receipt

3393

INSURANCE AUTO AUCTIONS

SPLIT REMITTANCE:
DATE: 03/19/2018

Insurance Auto Auctions, Inc.
Attn: Settlement Group
Two Westbrook Corporate Center Suite 500
Westchester, IL 60154
Phone: (708) 492-7000
Fax: (708) 492-7078
E-mail:

Remittance Payable To:
State Farm Insurance - ACH Funnel
PO Box 20019
Murfreesboro, TN 37129
Attn: Salvage Dept

Salvage Information

IAA Stock #:	000-21572524
IAA Branch:	Las Vegas
Fed. Tax I.D.	954455113
Handler:	EDI EDI
Adjuster:	SF TL E CA Team
Insured:	ARMANDO PONS DIAZ
Owner:	ARMANDO PONS DIAZ
Claim #:	282377J71
Policy #:	
Vehicle:	2014 TOYOTA CAMRY
Damage:	Front end/
VIN:	4T4BF1FK3ER442844
ACV:	$14,599.00
NICB Date:	3/19/2018

Account of Sale		% ACV
Sales	$6,000.00	41.10

Payment Amount	$6,000.00

Buyer Information
Ecumex Body Shop
77 Haby Dr
San Antonio, TX 78212
Resale Certificate # : 3-20426-1033-0 (NV)

Elapsed Days Analysis

Date of Event:	Date	Days
Loss	12/15/2017	--
Assigned	1/10/2018	27
Released	1/16/2018	7
Pickup	1/17/2018	2
Title Rec'd	2/20/2018	35
Sale Doc. Rec'd	3/2/2018	11
Auction Date	3/16/2018	15
Buyer Payment	N/A	0
Remittance	3/19/2018	4
Elapsed Total Days:		95

3393

INSURANCE AUTO AUCTIONS

Insurance Auto Auctions, Inc.
Attn: Settlement Group
Two Westbrook Corporate Center Suite 500
Westchester, IL 60154
Phone: (708) 492-7000
Fax: (708) 492-7078
E-mail:

SPLIT DEFICIT INVOICE: S1169614405

INVOICE DATE: 03/19/2018

Payment Due Date : 4/3/2018

Invoice To:
State Farm Insurance - ACH Funnel
PO Box 20019
Murfreesboro, TN 37129
Attn: Salvage Dept

Salvage Information

IAA Stock #:	000-21572524
IAA Branch:	Las Vegas
Fed. Tax I.D.	954455113
Handler:	EDI EDI
Adjuster:	SF TL E CA Team
Insured:	ARMANDO PONS DIAZ
Owner:	ARMANDO PONS DIAZ
Claim #:	282377J71
Policy #:	
Vehicle:	2014 TOYOTA CAMRY
Damage:	Front end/
VIN:	4T4BF1FK3ER442844
ACV:	$14,599.00
NICB Date:	3/19/2018

IAA Charges		% ACV
Consignment Flat Fee	$71.00	0.49
State/Local Transfer Fee	$11.00	0.08
Total of IAA Charges	$82.00	0.56

Outside Charges Advanced by IAA		% ACV
Advance Tow	$245.00	1.68
Total of Outside Charges	$245.00	1.68

Amount Due to IAA	**$327.00**	2.24 %

For proper credit, include invoice number : **S1169614405** and stock number : **000-21572524** on your payment check.

Buyer Information
Ecumex Body Shop
77 Haby Dr
San Antonio, TX 78212
Resale Certificate # : 3-20426-1033-0 (NV)

Elapsed Days Analysis

Date of Event:	Date	Days
Loss	12/15/2017	–
Assigned	1/10/2018	27
Released	1/16/2018	7
Pickup	1/17/2018	2
Title Rec'd	2/20/2018	35
Sale Doc. Rec'd	3/2/2018	11
Auction Date	3/16/2018	15
Buyer Payment	N/A	0
Invoice	3/19/2018	4
Elapsed Total Days:		95

EXHIBIT 6

AudaExplore **Autosource**

Market-Driven Valuation™

Administrative Data

Devon Kelley
Key Insurance Co.
Overland Park Branch
8595 College Blvd.
Overland Park KS 66201

Claimant: Pons Diaz, Armando
Insured: Castillo, Veronica
Claim: KILV103302
Loss Date: 12/15/2017
Loss Type: Liability
Policy
Other

VINSOURCE Analysis

VIN: 4T4BF1FK3ER442844
Decodes as: 2014 Toyota Camry LE 4D Sedan
Accuracy: Decodes Correctly
History: No activity was reported

Valuation Detail

	Typical Vehicle	Your Vehicle	Adjustment
Vehicle Base Price	Las Vegas Market		**$13,155**
Odometer	53,790 Mi(Typical)	21,624 Mi(Actual)	1,770
Body Condition	Minor Damage	Prior Damage	-145
Ext Trim Condition	Good	Prior Damage	-90

Market Driven Value **$14,690**

General Sales Tax 8.250% $1,211.93
Net Adjusted Market Value $15,901.93

Vehicle Description

VIN: 4T4BF1FK3ER442844

2014 Toyota Camry LE 4D Sedan
21,624 Miles Actual
4cyl Gasoline 2.5 DOHC
6-Speed Automatic

Interior	Air Conditioning	Cruise Control	Center Console
	Bucket Seats	Intermittent Wipers	Lighted Entry System
	Overhead Console	Power Door Locks	Power Windows
	Split Folding Rear Seat	Velour/Cloth Seats	Tachometer

	Trip Computer	Tire Pressure Monitor	Tilt & Telescopic Steer
Exterior	Rear Window Defroster	Chrome Grille	Keyless Entry System
	Power Mirrors	Rem Trunk-L/Gate Release	Tinted Glass
	Steel Wheels		
Mechanical	Power Brakes	Power Steering	Stability Cntrl Suspensn
Safety	Auto Headlamp Control	Dual Airbags	Anti-Lock Brakes
	Daytime Running Lights	Head Airbags	Halogen Headlights
	Knee Air Bags	2nd Row Head Airbags	Rear Side Airbags
	Side Airbags	Traction Control System	
Entertainment	IPOD Control	1st Row LCD Monitor(s)	MP3 Decoder
	AM/FM CD Player	Strg Wheel Radio Control	USB Audio Input(s)
	Wireless Phone Connect	Wireless Audio Streaming	

Trim Levels	2014.5 L, L, *LE, 2014.5 LE, SE, 2014.5 SE, XLE, 2014.5 SE Sport, SE Sport, 2014.5 XLE, 2014.5 SE V6, SE V6, XLE V6, 2014.5 XLE V6	* Indicates your trim level

A detailed description of your vehicle was provided to Autosource by a trained appraiser. Contact Key Insurance Co. if revisions are necessary.

Vehicle Condition

Seats	Good
Carpets	Good
Int Trim	Good
Glass	Good
Headliner	Good
Body	Prior Damage: $145
Paint	Minor Wear
Ext Trim	Prior Damage: $90
Engine	Well Maintained
Transmission	Well Maintained
Front Tires	Good
Rear Tires	Good

Valuation Notes

- **Loss vehicle description was provided by Key Insurance Co.**
- **Adjustments of Special Note**
  - Loss vehicle was reported to have:
    - **$145** in prior damage on **Body** described as **Prior Damage.**
    - **$90** in prior damage on **Ext Trim** described as **Prior Damage.**
  - An odometer adjustment of 5.50 cents per mile/kilometer has been applied. This adjustment is based on the vehicle year, vehicle category and market area. Odometer adjustments are capped at 40% of the vehicle's starting value.
  - Typical miles for this 2014 Toyota Camry in Nevada is 53,790.
  - No special adjustments were made for this vehicle.
  - All values are in U.S. dollars.

- **Autosource Valuation Process**
  - Over 5,000,000 vehicles are entered weekly into the database used for researching this value. This database includes dealer inspected, dealer inventory, dealer advertised; phone verified and advertised private party vehicles.
  - The originating search area for this valuation was Las Vegas, Nevada.
- **Other Adjustments or Comments**
  - The tax was calculated based on a date of loss of 12/15/2017 using zip 89102, in Las Vegas, Clark County, Nevada. The city may vary from search area to reflect correct tax location.

Recall Bulletins

Nat'l. Highway Traffic Safety Admin (US) has issued a total of 2 recall bulletins that may apply to this vehicle.

NHTSA ID Number	14V576000
Date Issued	09/19/14
Quantity Affected	15,872
Defect	Toyota Motor Engineering and Manufacturing (Toyota) is recalling certain model year 2014 Toyota Avalon, Camry, Sienna, and Highlander and model year 2015 Lexus RX350 vehicles. Fuel may leak from the one of the fuel delivery pipes in the engine compartment. A fuel leak in the presence of an ignition source increases the risk of a fire.
Remedy	Toyota will notify owners, and dealers will replace any of the suspect fuel delivery pipes free of charge. The recall is expected to begin during November 2014. Owners may contact Toyota customer service at 1-800-331-4331.

NHTSA ID Number	14V715000
Date Issued	11/07/14
Quantity Affected	5,650
Defect	Toyota Motor Engineering and Manufacturing (Toyota) is recalling certain model year 2014 Toyota Camry, Camry HV, Avalon, and Avalon HV vehicles equipped with 16-inch and 17-inch rims. In the affected vehicles, the left-side front suspension lower arm may have been incorrectly manufactured. As a result, the left side lower arm may not have enough clamping surface area for one of the bolts that secures the lower arm to the lower ball joint. Because of the insufficient clamping force, the lower arm may separate from the ball joint, increasing the risk of a crash.
Remedy	Toyota will notify owners, and dealers will replace the left side lower arm, free of charge. The recall began on December 12, 2014. Owners may contact Toyota customer service at 1-800-331-4331.

Original Equipment Guide

Engine Options	
* 4 Cylinder 2.5 DOHC Engine	STD
4 Cylinder 2.5 PZEV Engine	$0

Other Optional Equipment	
* Anti-Lock Brakes	STD
All-Weather Mats (Floor)	$200
Bodyside Moldings	$209
* Chrome Grille	STD
* Center Console	STD
* Dual Airbags	STD
Electronic Compass	
Fog Lights	$299
* Head Airbags	STD

Transmission Options	
* 6-Speed Automatic	STD

Convenience Options	
* Air Conditioning	STD
Automatic Dimming Mirror	
* Auto Headlamp Control	STD
Cargo/Trunk Mat	
* Cruise Control	STD
Cargo/Trunk Net	$49
* Rear Window Defroster	STD
* Daytime Running Lights	STD
Floor Mats	

*	Halogen Headlights	STD
*	Intermittent Wipers	STD
*	Knee Air Bags	STD
*	Keyless Entry System	STD
*	1st Row LCD Monitor(s)	STD
*	Lighted Entry System	STD
	Night Vision System	$199
*	Overhead Console	STD
	Paint Protective Film	$395
	Privacy Glass	$399
*	2nd Row Head Airbags	STD
*	Rear Side Airbags	STD
*	Side Airbags	STD
*	Stability Cntrl Suspensn	STD
	Rear Spoiler	$159
	Stripe(s)	$99
	Sunroof Wind Deflector	$159
*	Tachometer	STD
*	Trip Computer	STD
*	Traction Control System	STD
*	Tinted Glass	STD
	Wheel Locks	$67
*	Wireless Phone Connect	STD
*	Wireless Audio Streaming	STD

Wheel Options

Aluminum/Alloy Wheels	$899
BBS Wheels	$1,799
* Steel Wheels	STD

Roof Options

Power Moonroof	

Garage Door Opener	
Illuminated Visor Mirror	
Mud/Splash Guards	$149
Reverse Sensing System	$299
* Rem Trunk-L/Gate Release	STD
Rear View Camera	$699
Smoker's Package	$26
* Strg Wheel Radio Control	STD
* Tire Pressure Monitor	STD
* Tilt & Telescopic Steer	STD

Power Accessories

Power Drivers Seat	$440
* Power Brakes	STD
* Power Door Locks	STD
* Power Mirrors	STD
* Power Steering	STD
* Power Windows	STD

Radio/Phone/Alarm Options

Alarm System	$359
* AM/FM CD Player	STD
* IPOD Control	STD
* MP3 Decoder	STD
* USB Audio Input(s)	STD

Seat Options

* Bucket Seats	STD
Heated Front Seats	$329
Leather Seats	$1,599
* Split Folding Rear Seat	STD
* Velour/Cloth Seats	STD

Option Packages

16 In 5-Spoke Alloy Whls	$499	
Appearance Package	$2,799	Includes BBS Wheels, Cargo/Trunk Mat, Floor Mats, Rear Spoiler, Floor Mat Package, Paint Protection Film, LED Daytime Running Lamps
Cargo Tote	$49	
Door Edge Guard(s)	$109	
Door Sill Enhancements	$199	
Door Sill Protectors	$249	
Elite Package	$699	Includes Exterior Paint Sealant, Interior Protector, VIN Glass Etch, Roadside Assistance, Rental Car Assistance, Emergency Towing
Emergency Assistance Kit	$59	
First-Aid Kit	$29	
Floor Mat Package	$225	Includes Cargo/Trunk Mat, Floor Mats
HomeLink Univ. Transmit.	$329	Includes Automatic Dimming Mirror, Electronic Compass, Garage Door Opener
Illuminated Door Sills	$299	Includes Door Sill Enhancements
Moonroof Package	$915	Includes Illuminated Visor Mirror, Power Moonroof

Plus Package	$699	Includes Exterior Paint Sealant, Interior Protector, VIN Glass Etch, Roadside Assistance, Rental Car Assistance, Emergency Towing
Preferred Accessory Pkg 2	$343	Includes Cargo/Trunk Mat, Cargo/Trunk Net, Floor Mats, Floor Mat Package, Rear Bumper Applique
Preferred Accessory Pkg.	$203	Includes Cargo/Trunk Mat, Cargo/Trunk Net, Floor Mats, Floor Mat Package, First-Aid Kit
Protection Package	$403	Includes Cargo/Trunk Mat, Floor Mats, Floor Mat Package, Rear Bumper Applique, Door Edge Guard(s)
Rear Bumper Applique	$69	
Rear Bumper Protector	$99	
Select Package	$639	Includes Exterior Paint Sealant, Interior Protector, VIN Glass Etch, Roadside Assistance, Rental Car Assistance
Vehicle Shield Package	$379	Includes Sealant Cleaner, Fabric Guard, Rental Car Assistance

Base retail price	$23,490
Loss Vehicle manufacturer's suggested retail price as reported	$23,490

Editions available for the same body style (in order of original cost, increasing): 2014.5 L, L, *LE, 2014.5 LE, SE, 2014.5 SE, XLE, 2014.5 SE Sport, SE Sport, 2014.5 XLE, 2014.5 SE V6, SE V6, XLE V6, 2014.5 XLE V6

* Indicates loss vehicle equipment.

Comparable Vehicle Details

The Autosource database contains inspected dealer inventories, dealer advertisements, phone verified vehicles, and private party advertisements from thousands of sources including automotive publications, newspapers and Web sites. Autosource uses vehicles comparable in year, make and model within the specified market area, expanding as necessary, to determine the loss vehicle's local market value. This valuation includes a representative sample of the vehicles used to calculate the typical starting price.

The market search originated from Zip Code 89102, as determined by the vehicle owner's principally garaged area. Autosource located 64, 2014 Toyota Camry vehicles which were used to determine the typical vehicle price. Adjustments have been made to the comparable vehicles for value differences in vehicle description as indicated in the "Veh Adj" field. The sum of the 64 comparable vehicles is $897,114 for an average price of $14,017.

The asking or actual sale price is displayed for each vehicle. If a vehicle has been sold, the sold price is displayed with an (S) indicator. The selling price may be substantially less than the asking price. In the case of this 2014 Toyota Camry, the difference between the asking price and selling price is generally 7%. This selling price adjustment has been applied to the typical price. Additional adjustments have been made to the typical vehicle price taking into consideration the loss vehicle's odometer, equipment and condition. All adjustments are vehicle specific and reflect driving habits and condition for the vehicle's market. An odometer adjustment of 5.50 cents per mile/kilometer has been applied.

Taking into consideration the vehicle specifics, the fair market value is $14,690.

The following comparables represent a sample of the vehicles used to calculate the Vehicle Base Price. The complete list of vehicles is available upon request. These vehicles have been recently offered for sale in the market place.

1 **2014 Toyota Camry LE 2WD 4D Sedan** **4T1BF1FK5EU384651** **$11,066**

Stock# B7488. 70,307 Miles. 6-Speed Automatic, Moonroof Package, Anti-Lock Brakes, Air Conditioning, Auto Headlamp Control, Alarm System, Bucket Seats, Cruise Control, AM/FM CD Player, Chrome Grille, Center Console, Dual Airbags, Rear Window Defroster, Daytime Running Lights, Head Airbags, Halogen Headlights, Intermittent Wipers, IPOD Control, Illuminated Visor Mirror, Knee Air Bags, Keyless Entry System, 1st Row LCD Monitor(s), Lighted Entry System, Leather Seats, MP3 Decoder, Overhead Console, Power Brakes, Power Door Locks, Power Mirrors, Power Moonroof, Power Steering, Power Windows, 2nd Row Head Airbags, Rear Side Airbags, Rem Trunk-L/Gate Release, Side Airbags, Stability Cntrl Suspensn, Split Folding Rear Seat, Steel Wheels, Strg Wheel Radio Control, Tachometer, Trip Computer, Traction Control System, Tinted Glass, Tire Pressure Monitor, Tilt & Telescopic Steer, USB Audio Input(s), Wireless Phone Connect, Wireless Audio Streaming, Spare Wheel.

Offered for sale by Baja Auto Sales in Las Vegas, NV, (702) 870-0009. Vehicle information by Cars.com on 12/18/17.

The advertised price of $11,899 was adjusted to account for typical negotiation ($ -833).

2 **2014 Toyota Camry SE 2WD 4D Sedan** **4T1BF1FK3EU731877** **$10,912**

Stock# MJ194A. 74,304 Miles. 4 Cylinder 2.5 DOHC Engine, Automatic Transmission, SE Package, Touchscreen Media System, Auxiliary Audio Input, Auto Headlamp Control, Air Conditioning, Dual Airbags, Alarm System, Anti-Lock Brakes, Cruise Control, Center Console, Rear Window Defroster, Daytime Running Lights, Fog Lights, Sport Seats, Head Airbags, Halogen Headlights, Intermittent Wipers, IPOD Control, Illuminated Visor Mirror, Knee Air Bags, Keyless Entry System, 1st Row LCD Monitor(s), LED Brake Lights, Lighted Entry System, Heated Power Mirrors, MP3 Decoder, Navigation System, Overhead Console, Power Brakes, Power Door Locks, Privacy Glass, Power Steering, Power Windows, AM/FM CD Player, 2nd Row Head Airbags, Rear Side Airbags, Split Folding Rear Seat, Rem Trunk-L/Gate Release, Rear View Camera, Side Airbags, Stability Cntrl Suspensn, Velour/Cloth Seats, Rear Spoiler, Sport Suspension, Strg Wheel Radio Control, Leather Steering Wheel, Tachometer, Trip Computer, Traction Control System, Tinted Glass, Tire Pressure Monitor, Tilt & Telescopic Steer, USB Audio Input(s), Aluminum/Alloy Wheels, Wireless Phone Connect, Wireless Audio Streaming, Center Armrest, Original Owner of Vehicle, outside temperature display, Under Warranty.

Offered for sale by Cardinaleway Mazda - Las Vegas in Las Vegas, NV, (702) 637-9504. Vehicle information by *Leading Internet Auto Site on 12/11/17.

The advertised price of $12,988 was adjusted to account for differences in vehicle description ($ -1,255) and typical negotiation ($ -821).

3 **2014 Toyota Camry SE 2WD 4D Sedan** **4T1BF1FK4EU305289** **$11,755**

Stock# H23607A. 43,689 Miles. 6-Speed Automatic, Moonroof Package, SE Package, Touchscreen Media System, Auxiliary Audio Input, Anti-Lock Brakes, Air Conditioning, Auto Headlamp Control, Aluminum/Alloy Wheels, Cruise Control, AM/FM CD Player, Center Console, Dual Airbags, Rear Window Defroster, Heated Power Mirrors, Daytime Running Lights, Fog Lights, Head Airbags, Halogen Headlights, Intermittent Wipers, IPOD Control, Illuminated Visor Mirror, Knee Air Bags, Keyless Entry System, 1st Row LCD Monitor(s), LED Brake Lights, Lighted Entry System, Leather Steering Wheel, MP3 Decoder, Overhead Console, Power Brakes, Power Door Locks, Power Moonroof, Privacy Glass, Power Steering, Power Windows, 2nd Row Head Airbags, Rear Side Airbags, Rem Trunk-L/Gate Release, Rear View Camera, Side Airbags, Stability Cntrl Suspensn, Split Folding Rear Seat, Rear Spoiler, Sport Seats, Sport Suspension, Strg Wheel Radio Control, Tachometer, Trip Computer, Traction Control System, Tinted Glass, Tire Pressure Monitor, Tilt & Telescopic Steer, USB Audio Input(s), Velour/Cloth Seats, Wireless Phone Connect, Wireless Audio Streaming, Audio System, Blue Tooth Communications, Vehicle Stability Control, Side Curtain Airbags.

Offered for sale by Towbin Dodge in Las Vegas, NV, (702) 313-3571. Vehicle information by *Leading Internet Auto Site on 10/02/17.

The advertised price of $13,895 was adjusted to account for differences in vehicle description ($ -1,255) and typical negotiation ($ -885).

4 **2014 Toyota Camry SE 2WD 4D Sedan** **4T1BF1FK5EU398419** **$12,304**

Stock# EU398419. 49,709 Miles. 6-Speed Automatic, Moonroof Package, SE Package, Touchscreen Media System, Auxiliary Audio Input, Anti-Lock Brakes, Air Conditioning, Auto Headlamp Control, Aluminum/Alloy Wheels, Cruise Control, AM/FM CD Player, Center Console, Dual Airbags, Rear Window Defroster, Heated Power Mirrors, Daytime Running Lights, Fog Lights, Head Airbags, Halogen Headlights, Intermittent Wipers, IPOD Control, Illuminated Visor Mirror, Knee Air Bags, Keyless Entry System, 1st Row LCD Monitor(s), LED Brake Lights, Lighted Entry System, Leather Steering Wheel, Leather Seats, MP3 Decoder, Overhead Console, Power Brakes, Power Door Locks, Power Moonroof, Privacy Glass, Power Steering, Power Windows, 2nd Row Head Airbags, Rear Side Airbags, Rem Trunk-L/Gate Release, Rear View Camera, Side Airbags, Stability Cntrl Suspensn, Split Folding Rear Seat, Rear Spoiler, Sport Seats, Sport Suspension, Strg Wheel Radio Control, Tachometer, Trip Computer, Traction Control System, Tinted Glass, Tire Pressure Monitor, Tilt & Telescopic Steer, USB Audio Input(s), Wireless Phone Connect, Wireless Audio Streaming, Bluetooth Connectivity, Child Safety Locks.

Offered for sale by Desert Toyota & Scion in Las Vegas, NV, (702) 571-4111. Vehicle information by Cars.com on 11/13/17.

The advertised price of $14,485 was adjusted to account for differences in vehicle description ($ -1,255) and typical negotiation ($ -926).

5 **2014 Toyota Camry SE 2WD 4D Sedan** **4T1BF1FK5EU743545** **$13,344**

Stock# 15014514. 72,909 Miles. 4 Cylinder 2.5 DOHC Engine, Automatic Transmission, SE Package, Touchscreen Media System, Auxiliary Audio Input, Auto Headlamp Control, Air Conditioning, Dual Airbags, Anti-Lock Brakes, Cruise Control, Center Console, Rear Window Defroster, Daytime Running Lights, Fog Lights, Sport Seats, Head Airbags, Halogen Headlights, Intermittent Wipers, IPOD Control, Illuminated Visor Mirror, Knee Air Bags, Keyless Entry System, 1st Row LCD Monitor(s), LED Brake Lights, Lighted Entry System, Heated Power Mirrors, MP3 Decoder, Overhead Console, Power Brakes, Power Door Locks, Privacy Glass, Power Steering, Power Windows, AM/FM CD Player, 2nd Row Head Airbags, Rear Side Airbags, Split Folding Rear Seat, Rem Trunk-L/Gate Release, Rear View Camera, Side Airbags, Stability Cntrl Suspensn, Velour/Cloth Seats, Rear Spoiler, Sport Suspension, Strg Wheel Radio Control, Leather Steering Wheel, Tachometer, Trip Computer, Traction Control System, Tinted Glass, Tire Pressure Monitor, Tilt & Telescopic Steer, USB Audio Input(s), Aluminum/Alloy Wheels, Wireless Phone Connect, Wireless Audio Streaming, Blue Tooth Communications, Wireless Phone Connectivity, Audio System, Shift Knob.

Offered for sale by CarMax in Las Vegas, NV, (702) 284-5257. CarMax is a "haggle free" dealer. Vehicle information by Edmunds.com on 12/19/17.

The advertised price of $14,599 was adjusted to account for differences in vehicle description ($ -1,255).

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6 **2014 Toyota Camry 2WD 4D Sedan** **4T1BF1FK7EU796229** **$13,620**

Stock# 796229. 25,014 Miles. 4 Cylinder 2.5 Engine, Automatic Transmission, Air Conditioning, Dual Airbags, Anti-Lock Brakes, Cruise Control, Center Console, Rear Window Defroster, Daytime Running Lights, Head Airbags, Intermittent Wipers, Keyless Entry System, 1st Row LCD Monitor(s), Lighted Entry System, MP3 Decoder, Power Brakes, Power Door Locks, Power Windows, AM/FM CD Player, 2nd Row Head Airbags, Split Folding Rear Seat, Rem Trunk-L/Gate Release, Side Airbags, Strg Wheel Radio Control, Tachometer, Traction Control System, Tinted Glass, Tire Pressure Monitor, Tilt & Telescopic Steer, Wireless Phone Connect, Wireless Audio Streaming, Original Owner of Vehicle.

Offered for sale by Vegas Motorcars in Las Vegas, NV, (702) 490-5500. Vehicle information by "Leading Internet Auto Site on 10/16/17.

The advertised price of $15,900 was adjusted to account for differences in vehicle description ($ -1,255) and typical negotiation ($ -1,025).

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7 **2014 Toyota Camry 2WD 4D Sedan** **4T4BF1FK1ER438520** **$13,711**

Stock# 15273323. 24,980 Miles. 4 Cylinder 2.5 Engine, Automatic Transmission, Air Conditioning, Dual Airbags, Anti-Lock Brakes, Cruise Control, Center Console, Rear Window Defroster, Daytime Running Lights, Bucket Seats, Head Airbags, Intermittent Wipers, Keyless Entry System, 1st Row LCD Monitor(s), Lighted Entry System, Power Mirrors, MP3 Decoder, Power Brakes, Power Door Locks, Power Steering, Power Windows, AM/FM CD Player, 2nd Row Head Airbags, Split Folding Rear Seat, Rem Trunk-L/Gate Release, Side Airbags, Velour/Cloth Seats, Strg Wheel Radio Control, Tachometer, Traction Control System, Tinted Glass, Tire Pressure Monitor, Tilt & Telescopic Steer, Steel Wheels, Wireless Phone Connect, Wireless Audio Streaming, Blue Tooth Communications, Wireless Phone Connectivity, Audio System, Shift Knob, Center Armrest.

Offered for sale by Dealer in Las Vegas, NV, (725) 201-6561. Vehicle information by Edmunds.com on 12/19/17.

The advertised price of $15,998 was adjusted to account for differences in vehicle description ($ -1,255) and typical negotiation ($ -1,032).

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8 **2014 Toyota Camry SE 2WD 4D Sedan** **4T1BF1FK6EU809908** **$14,270**

Stock# 15230235. 27,715 Miles. 6-Speed Automatic, Moonroof Package, SE Package, Touchscreen Media System, Auxiliary Audio Input, Anti-Lock Brakes, Air Conditioning, Auto Headlamp Control, Aluminum/Alloy Wheels, Cruise Control, AM/FM CD Player, Center Console, Dual Airbags, Rear Window Defroster, Heated Power Mirrors, Daytime Running Lights, Fog Lights, Head Airbags, Halogen Headlights, Intermittent Wipers, IPOD Control, Illuminated Visor Mirror, Knee Air Bags, Keyless Entry System, 1st Row LCD Monitor(s), LED Brake Lights, Lighted Entry System, Leather Steering Wheel, MP3 Decoder, Overhead Console, Power Brakes, Power Door Locks, Power Moonroof, Privacy Glass, Power Steering, Power Windows, 2nd Row Head Airbags, Rear Side Airbags, Rem Trunk-L/Gate Release, Rear View Camera, Side Airbags, Stability Cntrl Suspensn, Split Folding Rear Seat, Rear Spoiler, Sport Seats, Sport Suspension, Strg Wheel Radio Control, Tachometer, Trip Computer, Traction Control System, Tinted Glass, Tire Pressure Monitor, Tilt & Telescopic Steer, USB Audio Input(s), Velour/Cloth Seats, Wireless Phone Connect, Wireless Audio Streaming, Bluetooth Connectivity, Child Safety Locks.

Offered for sale by Dealer in Las Vegas, NV, (725) 201-6561. Vehicle information by Cars.com on 11/20/17.

The advertised price of $16,599 was adjusted to account for differences in vehicle description ($ -1,255) and typical negotiation ($ -1,074).

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9 **2014 Toyota Camry LE 2WD 4D Sedan** **4T4BF1FK4ER358077** **$15,541**

Stock# A2915C. 35,907 Miles. 6-Speed Automatic, Moonroof Package, Anti-Lock Brakes, Air Conditioning, Auto Headlamp Control, Bucket Seats, Cruise Control, AM/FM CD Player, Chrome Grille, Center Console, Dual Airbags, Rear Window Defroster, Daytime Running Lights, Head Airbags, Halogen Headlights, Intermittent Wipers, IPOD Control, Illuminated Visor Mirror, Knee Air Bags, Keyless Entry System, 1st Row LCD Monitor(s), Lighted Entry System, MP3 Decoder, Overhead Console, Power Brakes, Power Door Locks, Power Mirrors, Power Moonroof, Privacy Glass, Power Steering, Power Windows, 2nd Row Head Airbags, Rear Side Airbags, Rem Trunk-L/Gate Release, Rear View Camera, Side Airbags, Stability Cntrl Suspensn, Split Folding Rear Seat, Steel Wheels, Strg Wheel Radio Control, Tachometer, Trip Computer, Traction Control System, Tinted Glass, Tire Pressure Monitor, Tilt & Telescopic Steer, USB Audio Input(s), Velour/Cloth Seats, Wireless Phone Connect, Wireless Audio Streaming, Blue Tooth Communications, Wireless Phone Connectivity, Audio System, Shift Knob, Center Armrest.

Offered for sale by Findlay Acura in Las Vegas, NV, (702) 982-4100. Vehicle information by Edmunds.com on 12/12/17.

The advertised price of $16,711 was adjusted to account for typical negotiation ($ -1,170).

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10 **2014 Toyota Camry L 2WD 4D Sedan** **4T1BF1FK5EU394001** **$18,288**

Stock# A15773, 52,145 Miles, 6-Speed Automatic, Anti-Lock Brakes, Air Conditioning, Bucket Seats, Cruise Control, AM/FM CD Player, Chrome Grille, Compact Spare Tire, Center Console, Dual Airbags, Rear Window Defroster, Daytime Running Lights, Elect. Stability Control, Head Airbags, Halogen Headlights, Intermittent Wipers, IPOD Control, Knee Air Bags, Keyless Entry System, 1st Row LCD Monitor(s), Lighted Entry System, MP3 Decoder, Overhead Console, Power Brakes, Power Door Locks, Power Mirrors, Power Steering, Power Windows, 2nd Row Head Airbags, Rear Side Airbags, Rem Trunk-L/Gate Release, Side Airbags, Stability Cntrl Suspensn, Split Folding Rear Seat, Steel Wheels, Strg Wheel Radio Control, Tachometer, Traction Control System, Tinted Glass, Tire Pressure Monitor, Tilt & Telescopic Steer, USB Audio Input(s), Velour/Cloth Seats, Wireless Phone Connect, Wireless Audio Streaming, Blue Tooth Communications.

Offered for sale by Low Book Sales Of Las Vegas in Henderson, NV, (702) 569-2666. Vehicle information by *Leading Internet Auto Site on 12/18/17.

The advertised price of $18,999 was adjusted to account for differences in vehicle description ($665) and typical negotiation ($ -1,376).

Vehicle Locator Service

After your claim is settled, Autosource provides free assistance in locating your next vehicle. You can call us Monday through Friday, between 8:00 AM and 5:00 PM, Pacific time at (800)351-3133, ext 7428. Our specialists will work with you to find a new or used vehicle in your area.

About Your Valuation

This report contains proprietary information of Audatex and third parties and shall not be disclosed to any third party (other than the insured or claimant) without Audatex's prior written consent. If you are the insured or claimant and have questions regarding the description of your vehicle, please contact the insurance company that is handling your claim. Information within VINsource/NICB is provided solely to identify potential duplicative claims activity. User agrees to use such information solely for lawful purposes.

Tax rates contained herein are based on general sales tax data provided by Vertex Inc. Excise, use, registration, licensing and other taxes and fees that may be applicable are not included. Audatex makes no representations or warranties concerning the applicability or accuracy of such tax data.

Report Generated by Audatex, a Solera Company

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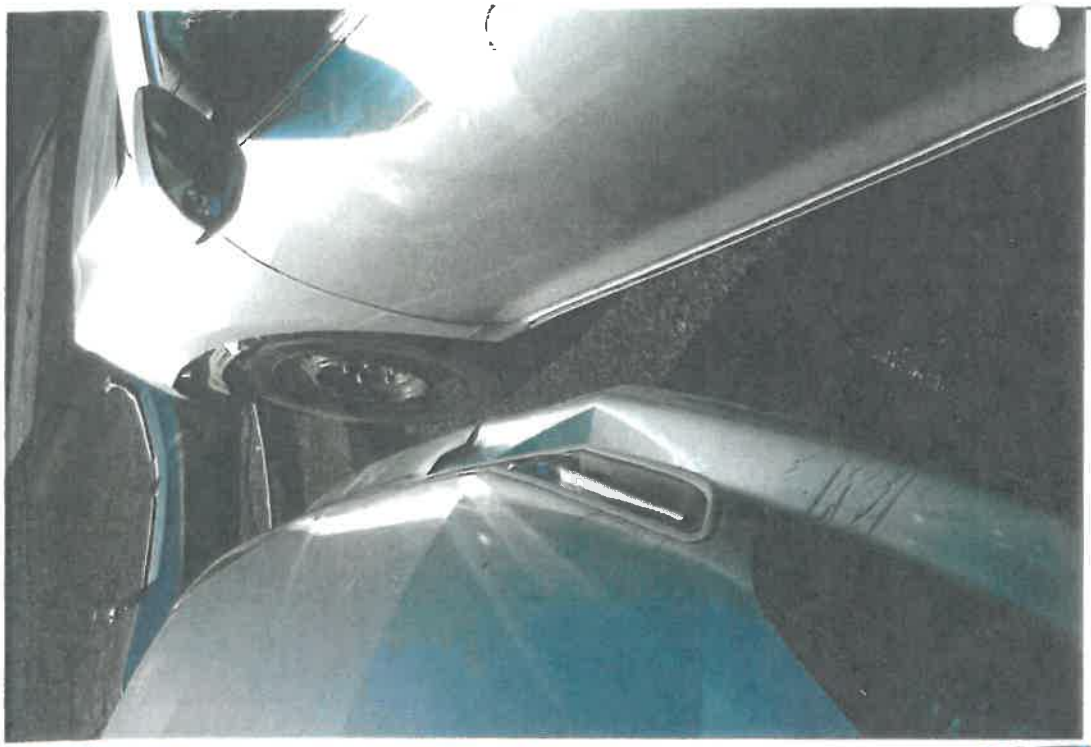
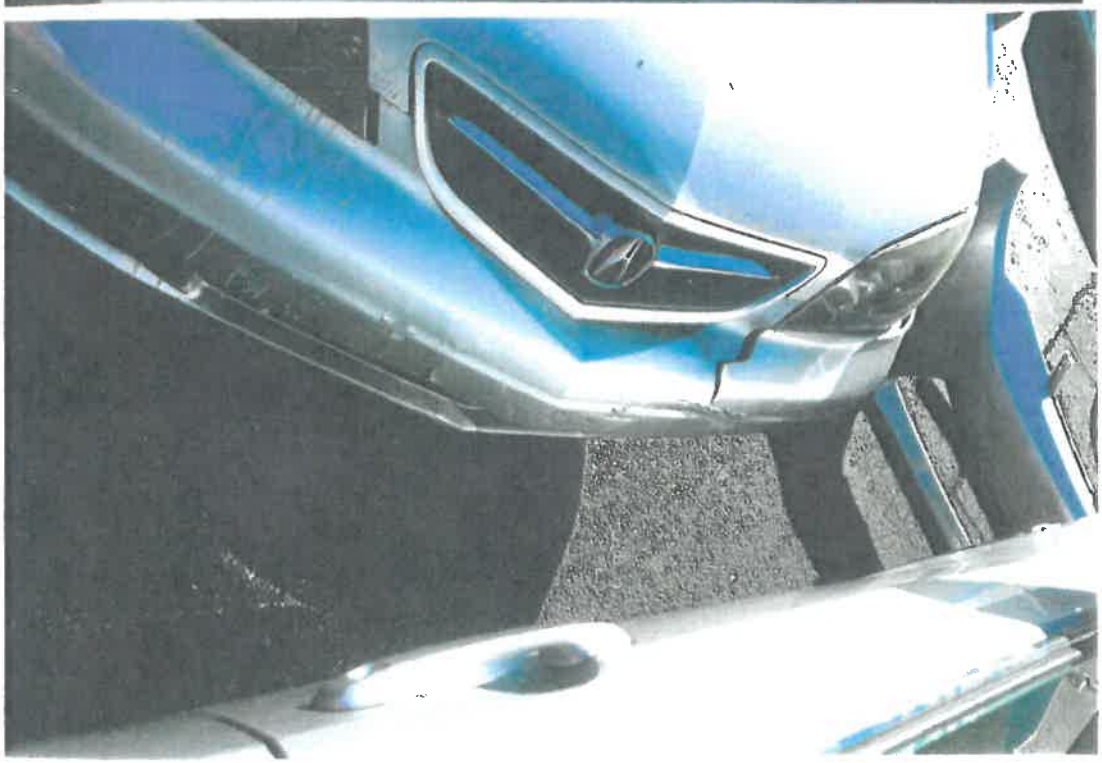
EXHIBIT 7



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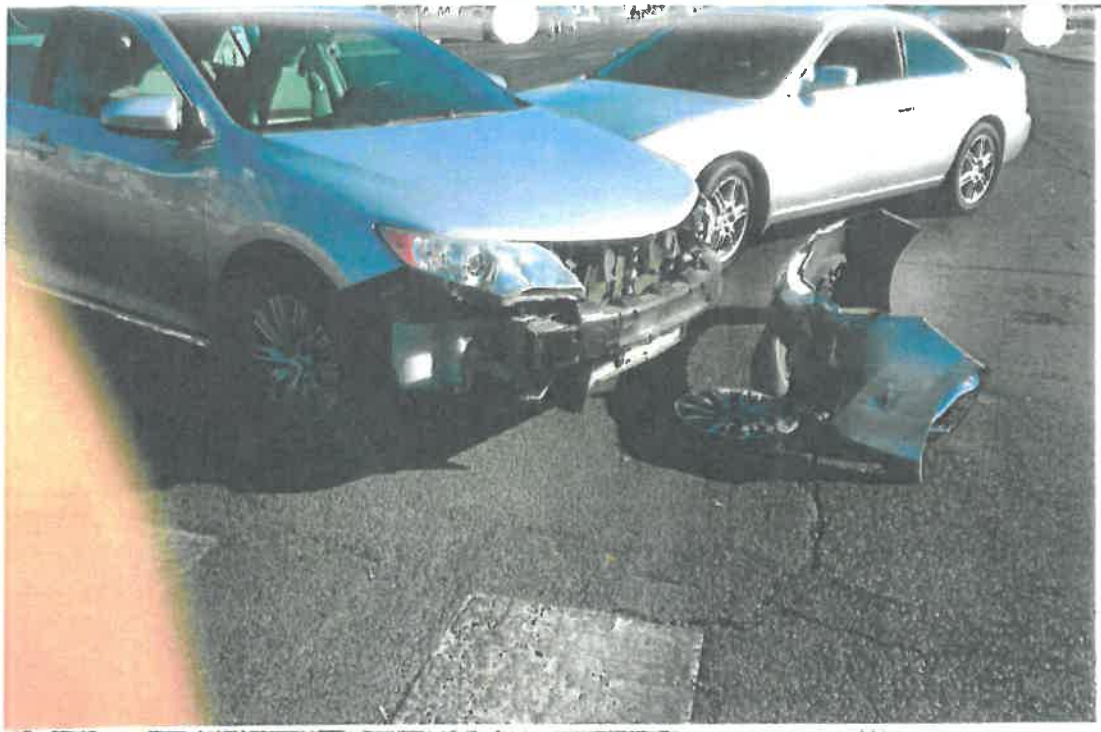

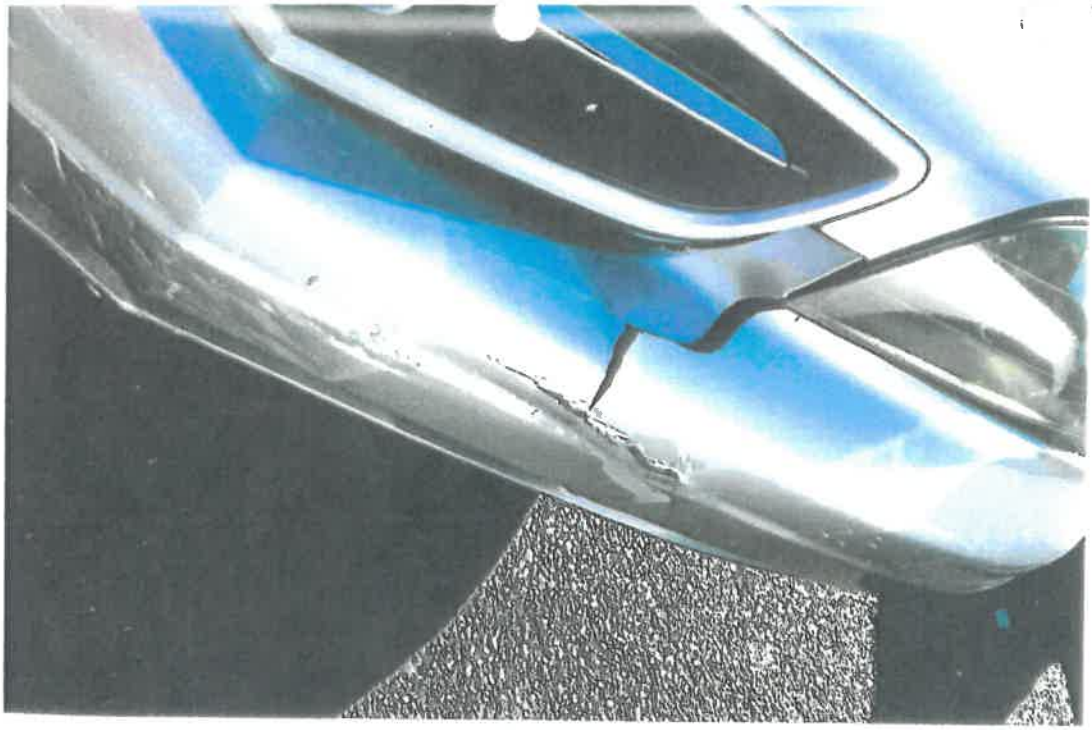


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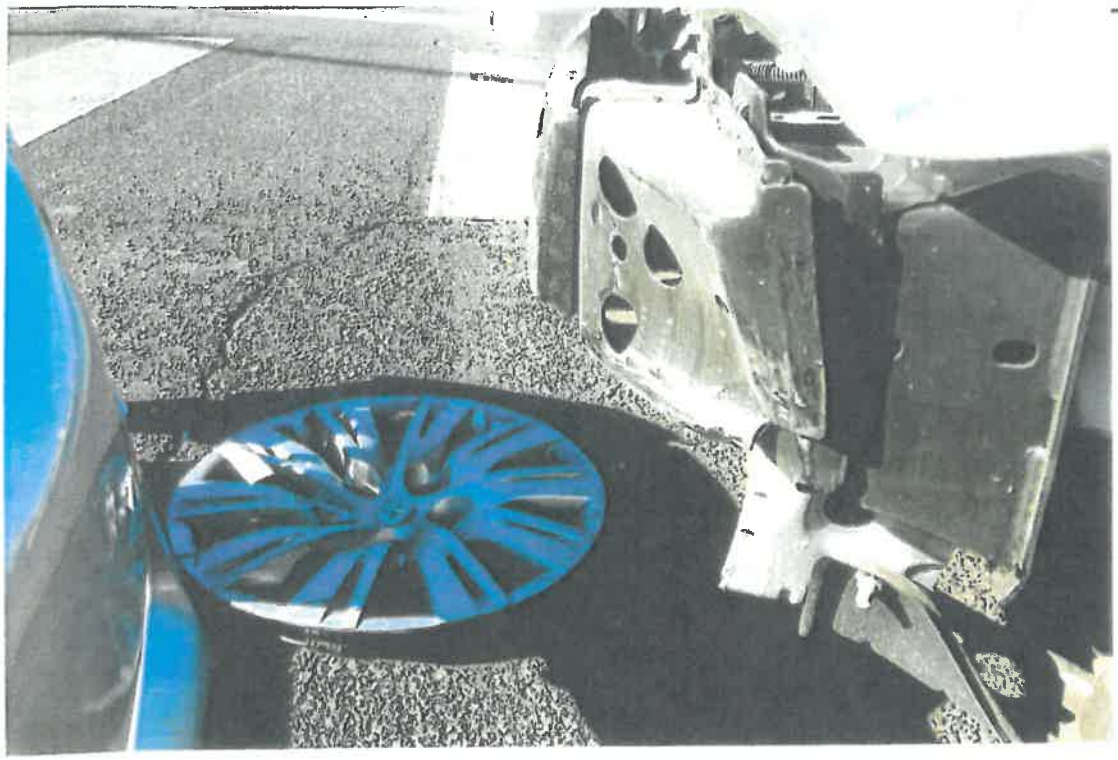

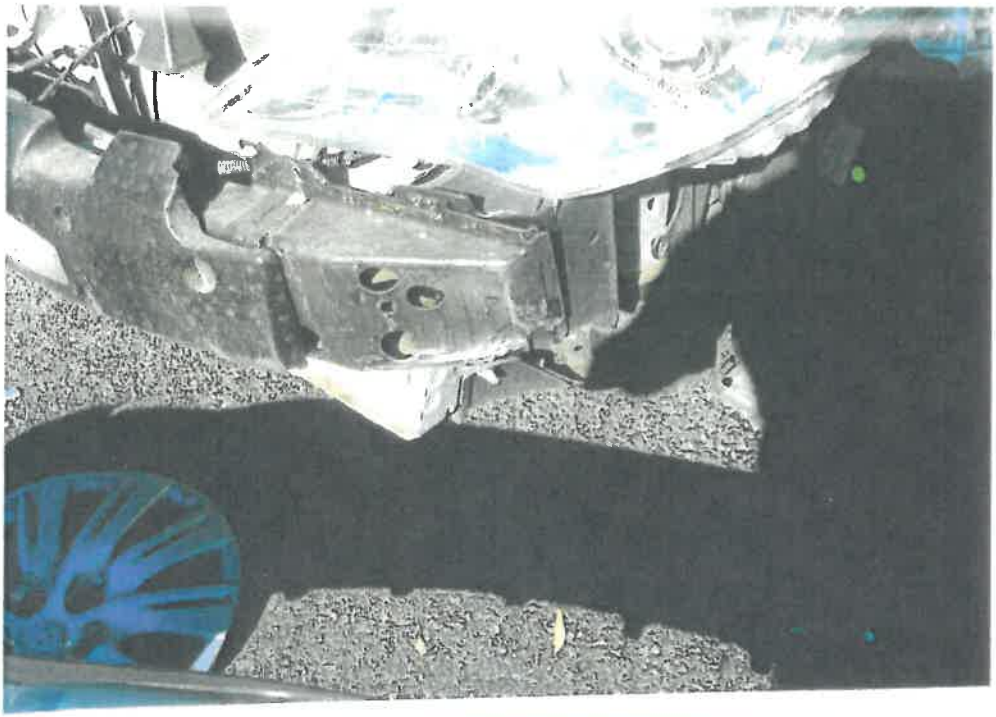

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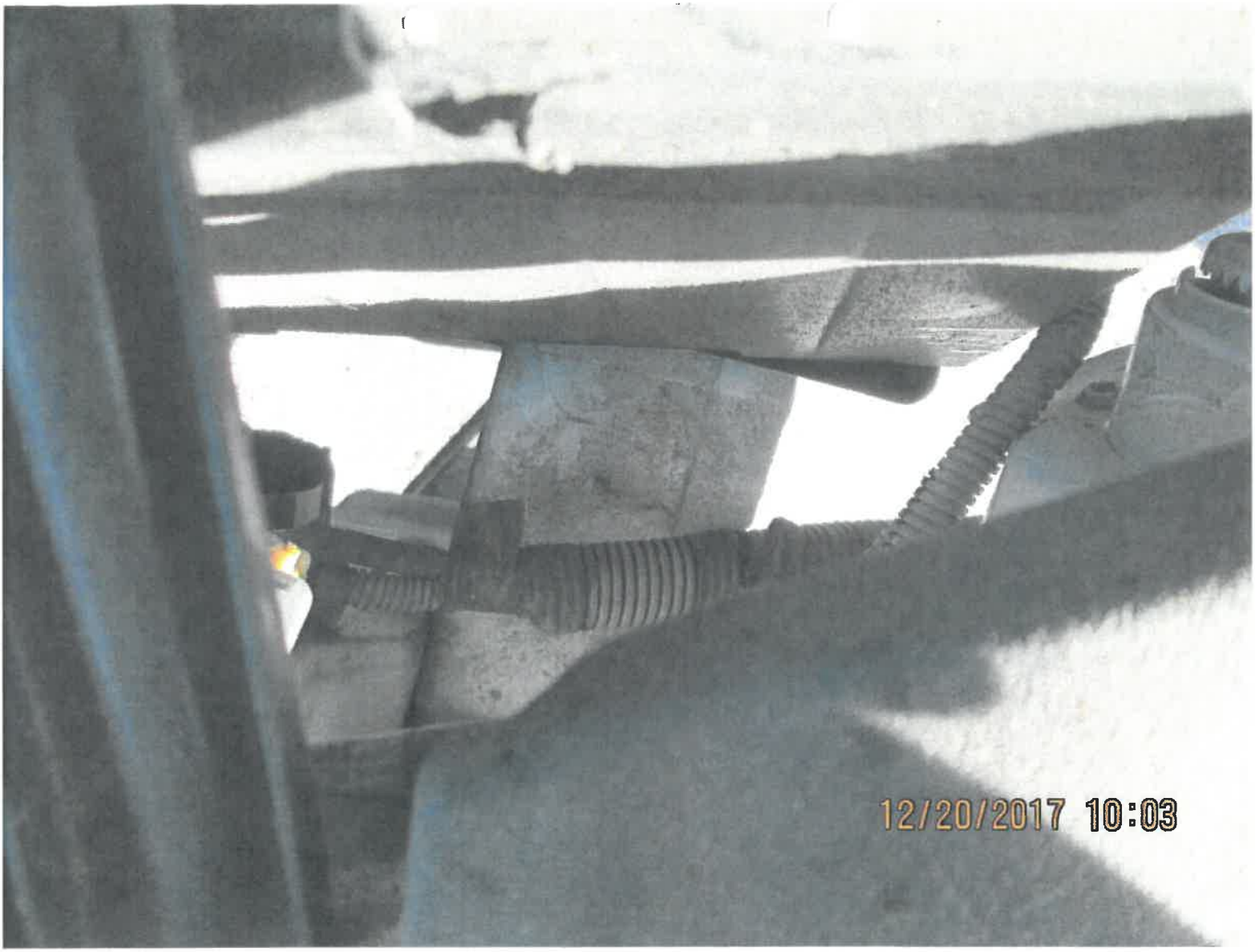
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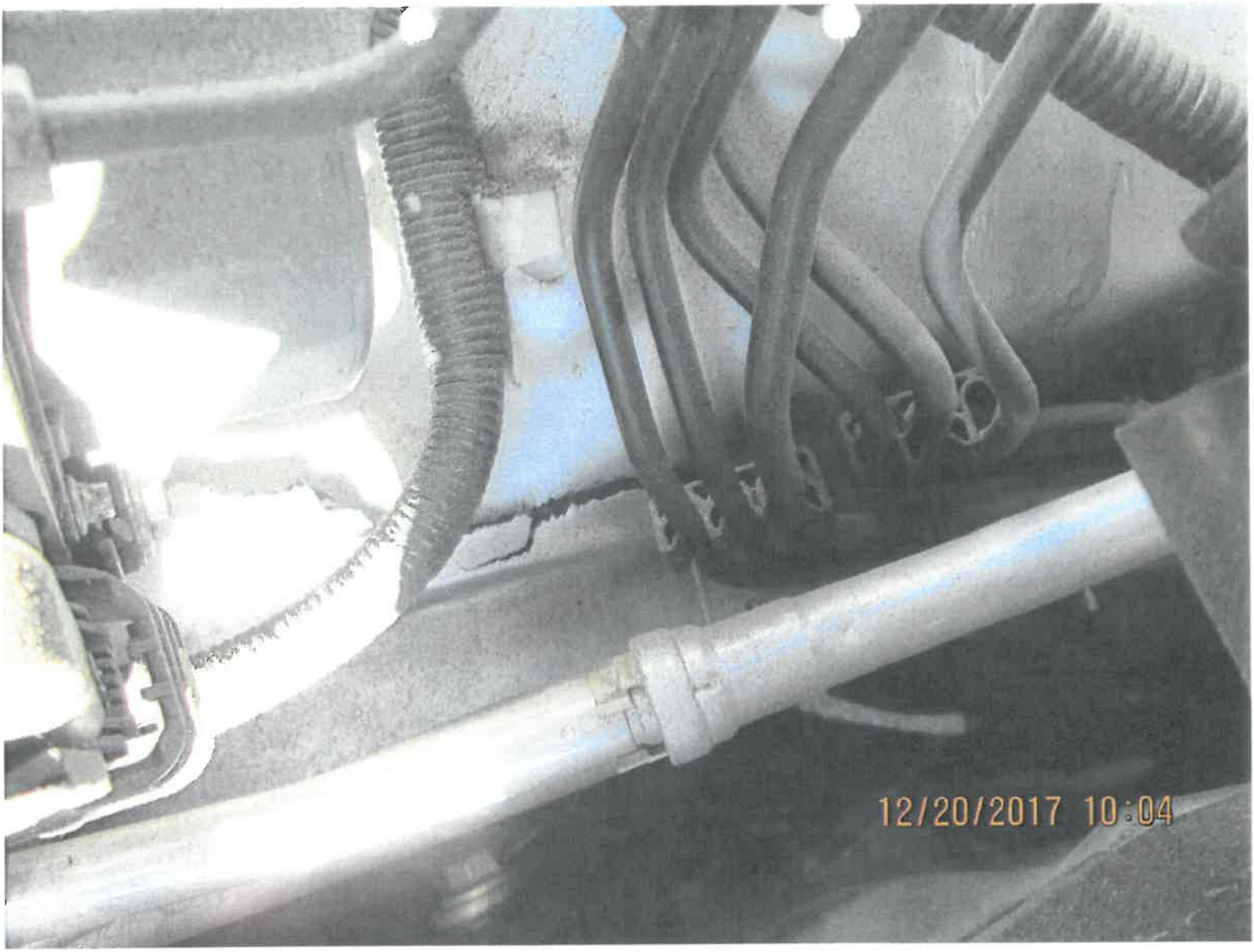
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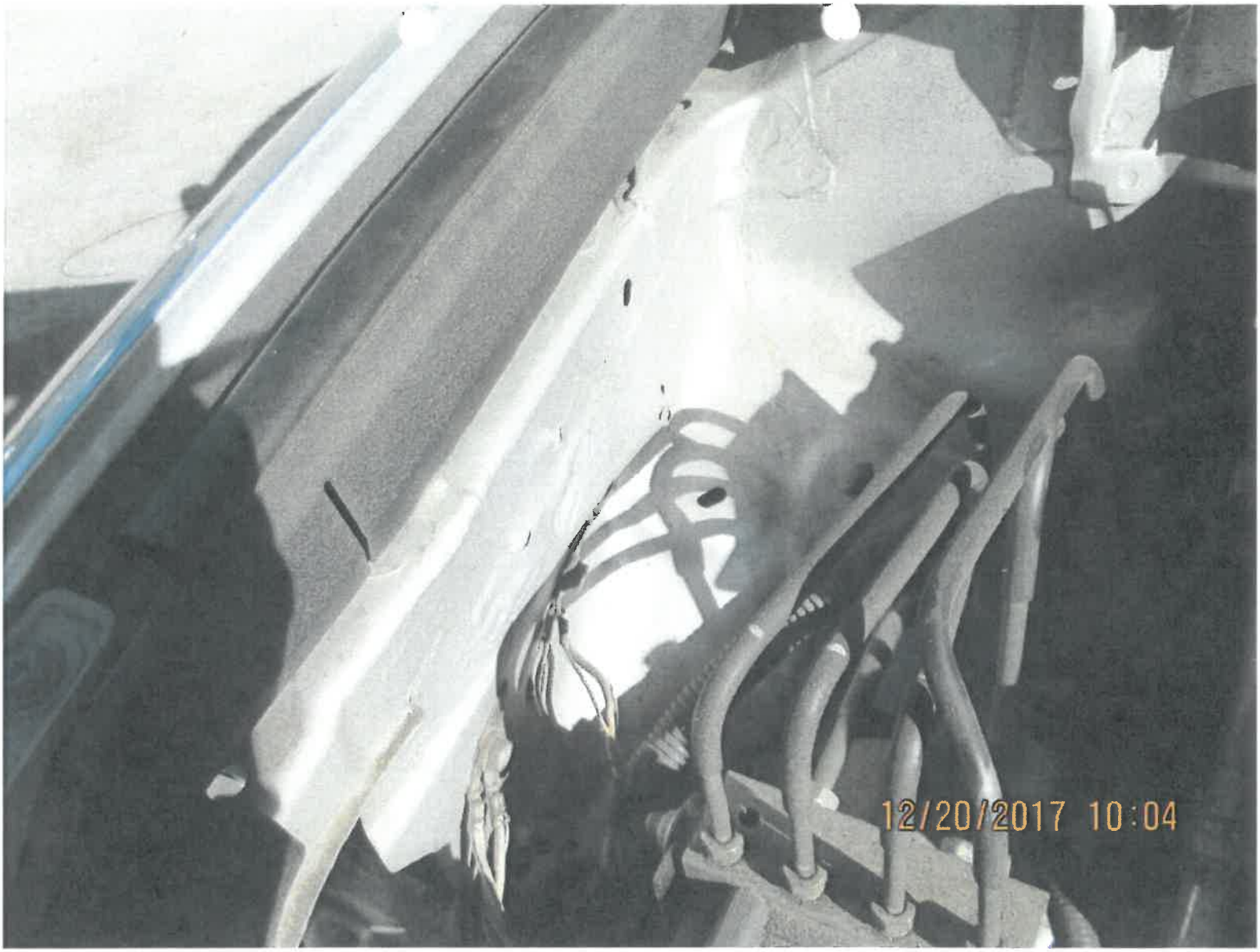
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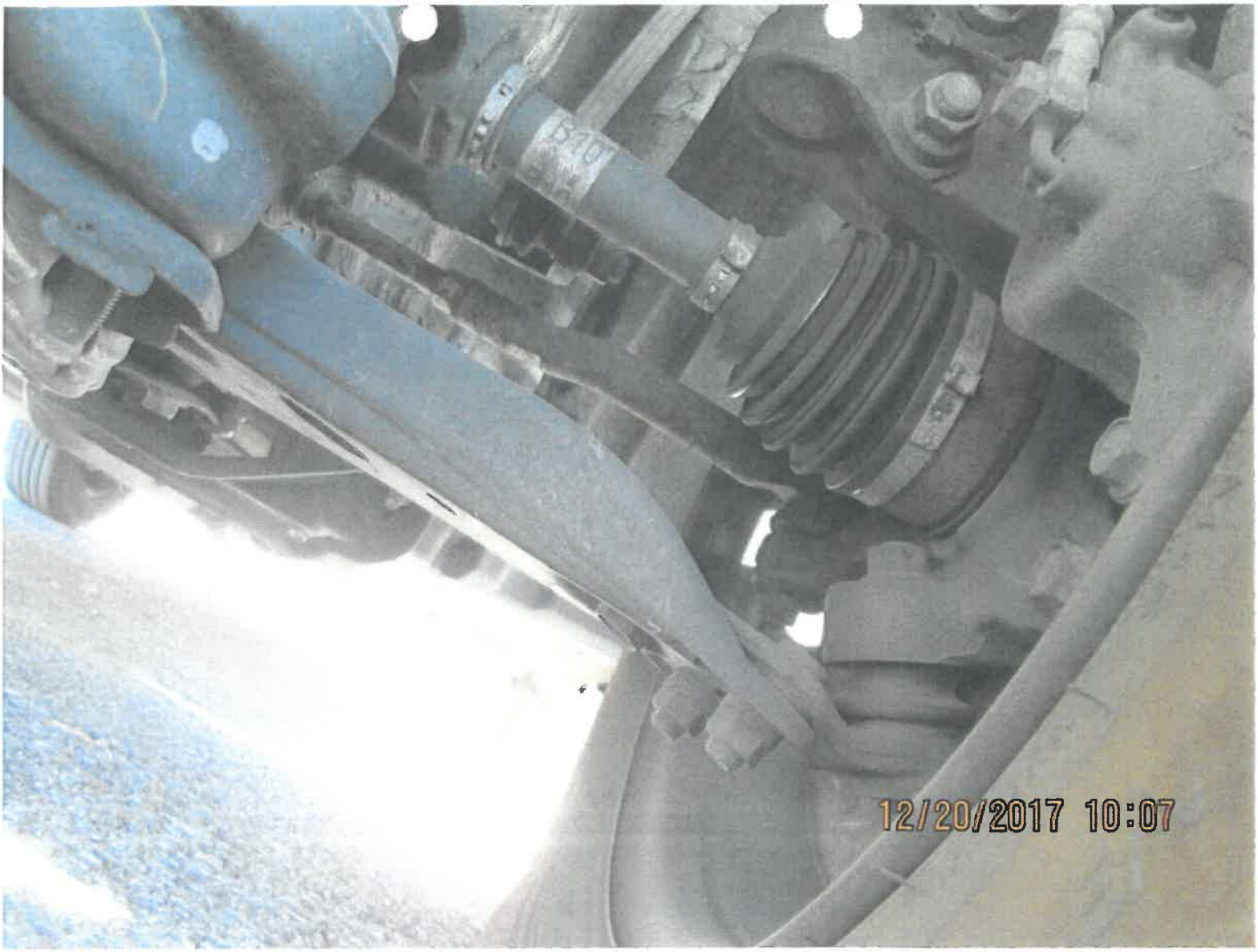
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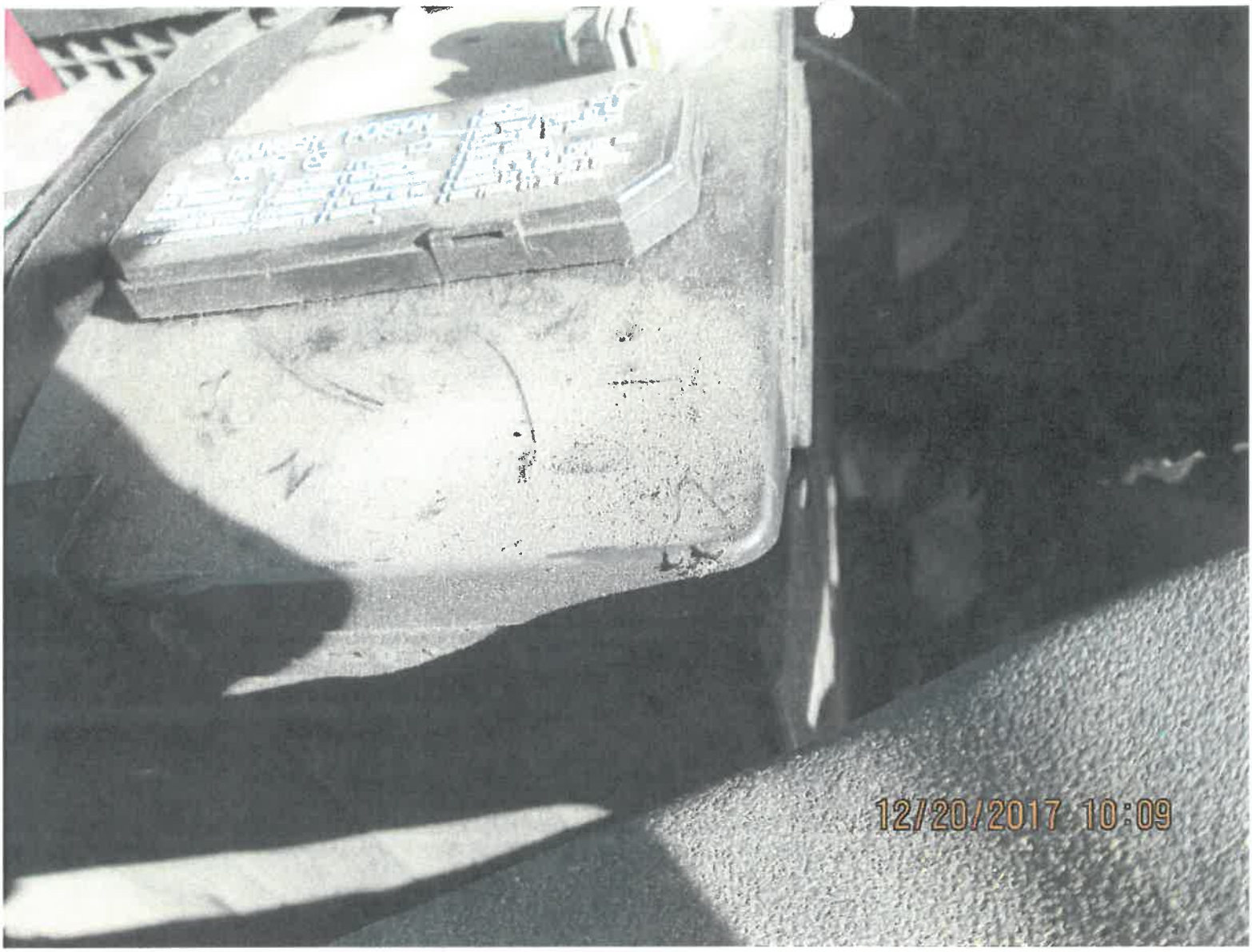
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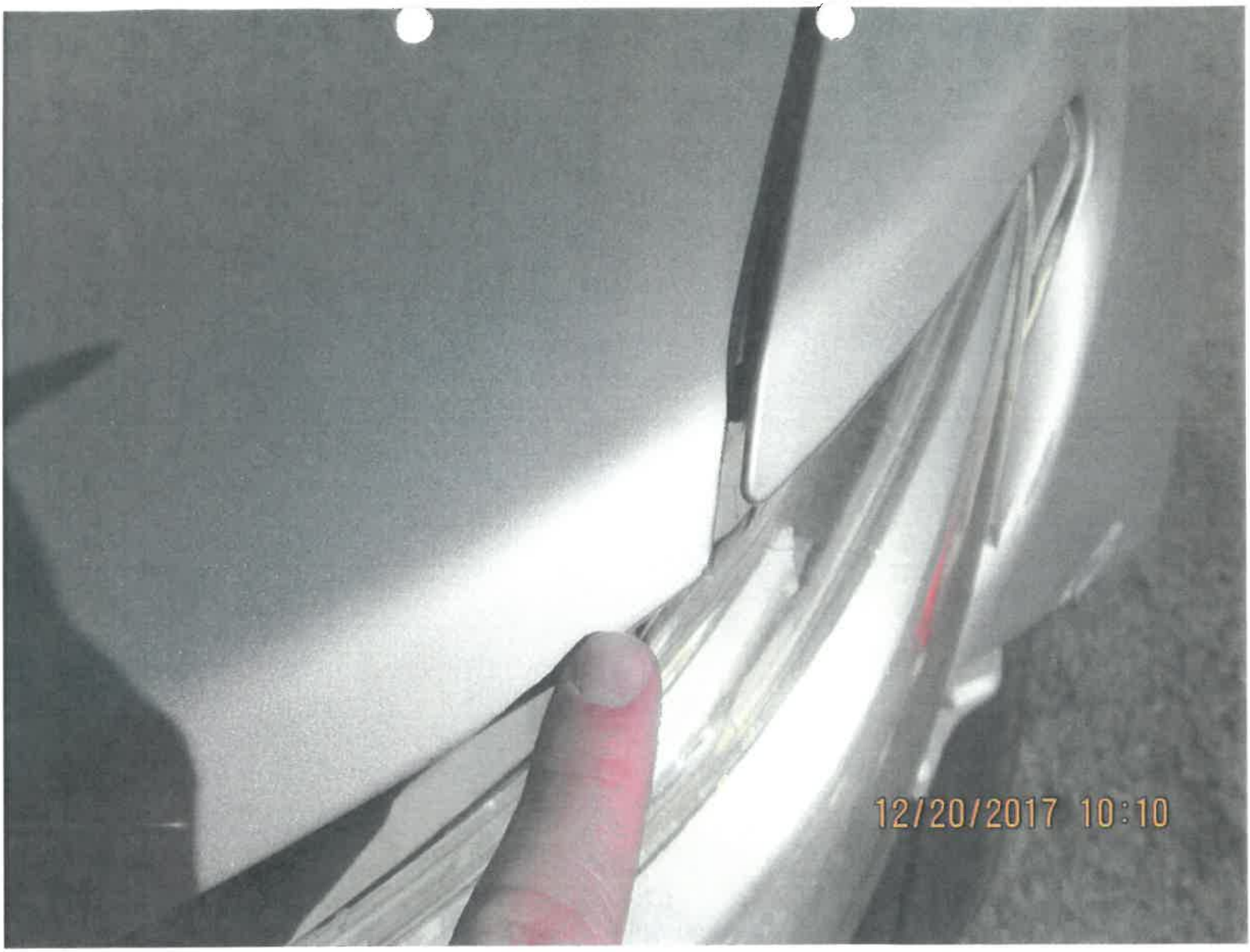
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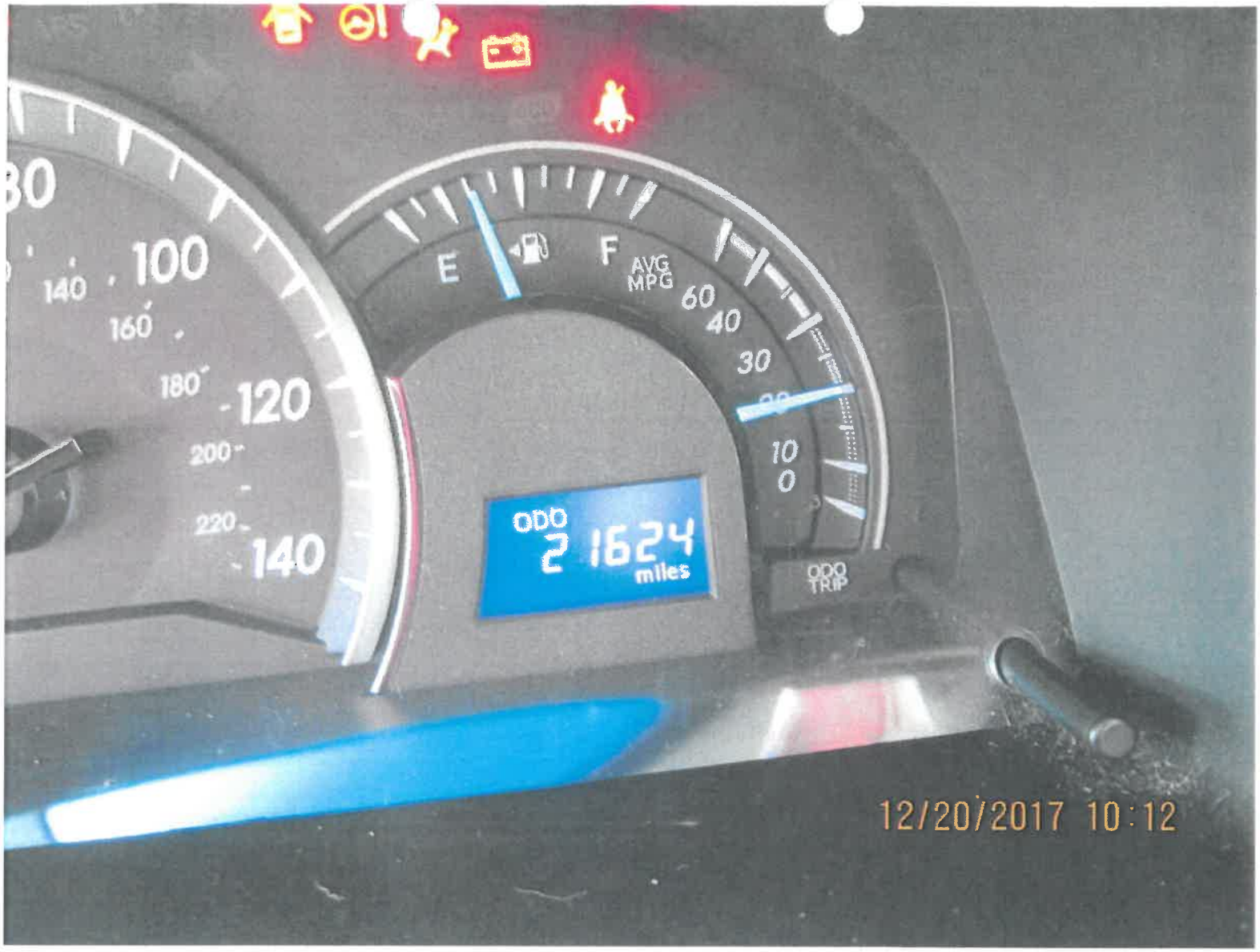
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EXHIBIT 9

KEY INSURANCE COMPANY
P.O. BOX 2014
SHAWNEE MISSION, KS 66201

***** ESTIMATE *****

12/20/2017 01:10 PM

Owner

Owner: Armando Pons Diaz

Control Information

Claim # : KILV103302
Loss Date/Time: 12/15/2017

Ins. Company: Key Insurance
Address: PO Box 2014
City State Zip: Mission, KS 66201

Insured: Veronica Castillo

Claimant: Armando Pons Diaz

Claim Rep: Jill Roth
Address:

Insured Policy # :
Loss Type: Liability

Work/Day: (866)867-3636
FAX:

Work/Day: (877)539-4672x7210

Inspection

Inspection Date: 12/20/2017
Inspection Location: Caliber Collision
City State Zip: Las Vegas, NV 89104
Primary Impact: Left Front Corner

Appraiser Name: Devon Kelley
Address: 3199 E Warm Springs Rd Suite 200
City State Zip: Las Vegas, NV 89120
Email: dkelley@keyinsco.com

Inspection Type: Field
Contact:
FAX:
Secondary Impact:

Appraiser License # :
Work/Day: (702)807-3158
FAX: (913)327-3783

Repairer

Target Complete Date/Time:

Days To Repair: 0*

Remarks

********** TOTAL LOSS

Vehicle

2014 Toyota Camry LE 4 DR Sedan
4cyl Gasoline 2.5 DOHC
6-Speed Automatic

Lic.Plate: 50G225
Lic Expire:

Lic State: NV
VIN: 4T4BF1FK3ER442844

APP000115

Prod Date:		**Mileage:**	21,624
Veh Insp# :		**Mileage Type:**	Actual
Condition:		**Code:**	Y1773B
Ext. Color:	Silver	**Int. Color:**	
Ext. Refinish:	Two-Stage	**Int. Refinish:**	

Options

1st Row LCD Monitor(s)	2nd Row Head Airbags	AM/FM CD Player
Air Conditioning	Anti-Lock Brakes	Auto Headlamp Control
Bucket Seats	Center Console	Chrome Grille
Cruise Control	Daytime Running Lights	Dual Airbags
Halogen Headlights	Head Airbags	IPOD Control
Intermittent Wipers	Keyless Entry System	Knee Air Bags
Lighted Entry System	MP3 Decoder	Overhead Console
Power Brakes	Power Door Locks	Power Mirrors
Power Steering	Power Windows	Rear Side Airbags
Rear Window Defroster	Rem Trunk-L/Gate Release	Side Airbags
Split Folding Rear Seat	Stability Cntrl Suspensn	Steel Wheels
Strg Wheel Radio Control	Tachometer	Tilt & Telescopic Steer
Tinted Glass	Tire Pressure Monitor	Traction Control System
Trip Computer	USB Audio Input(s)	Velour/Cloth Seats
Wireless Audio Streaming	Wireless Phone Connect	

Damages

Line	Op	Guide	MC	Description	MFR.Part No.	Price	ADJ%	B%	Hours	R
Front Bumper										
1	EP	6		Cover,Front Bumper	QUAL. REPL. PRT. RPT	$137.00			0.6	SM
2	L	6	13	Cover,Front Bumper	Refinish				3.7	RF
					2.6 Surface					
					0.6 Two-stage setup					
					0.5 Two-stage					
3	EP	5		Reinf,Front Bumper	QUAL. REPL. PRT. RPT	$133.00			INC	SM
4	EP	13		Grille,Frt Bmpr Cvr	QUAL. REPL. PRT. RPT	$47.00			INC	SM
5	EP	456		Filler,Front Bumper LT	QUAL. REPL. PRT. RPT	$24.00			INC	SM
6	EP	457		Filler,Front Bumper RT	QUAL. REPL. PRT. RPT	$24.00			INC	SM
7	EP	7		Absorber,Front Bumper	QUAL. REPL. PRT. RPT	$50.00			INC	SM
8	EP	69		Brkt,Front Bumper Mtg LT	QUAL. REPL. PRT. RPT	$21.00			INC	SM
Front End Panel And Lamps										
9	EP	28		Grille Assembly	QUAL. REPL. PRT. RPT	$224.00			INC	SM
10		52		W/Strip,Grille Upper	Replace OEM	INC				SM
11		359		Emblem,Grille	Replace OEM	INC				SM
12	PC	41		Headlamp Assy,Halogen LT	Replace PXN Reconditioned	$183.75			INC	SM
13	PC	42		Headlamp Assy,Halogen RT	Replace PXN Reconditioned	$183.75			INC	SM
14	N	662		Headlamps Aim	Additional Labor				0.4	SM
Radiator Support										
15	EP	73	07	Panel Assembly,Rad Sup	QUAL. REPL. PRT. RPT	$252.00			12.7	SM
16	L	73		Panel Assembly,Rad Sup	Refinish				1.5	RF
					1.5 Surface					
Cooling And Air Conditioning										
17	N	651		A/C Evac Rechrg & Rcvr	Additional Labor				1.8	ME
Front Body And Windshield										
18	EP	103		Fender,Front LT	QUAL. REPL. PRT. RPT	$125.00			0.4	SM

APP000116

19	L	103		Fender,Front LT	Refinish 2.2 Surface 0.5 Edge 0.4 Two-stage		3.1	RF
20	EP	250		Brkt,Front Fender LT	QUAL. REPL. PRT. RPT	$26.00	0.1	SM
Front Body Interior Sheetmetal								
21	E	1188	01	Battery LT	0054427F60710	$123.12	INC	SM
22	E	118	07	Pnl,Inr Fender Front LT	5371206080	$83.96	1.6	SM
23	L	118		Pnl,Inr Fender Front LT	Refinish 0.3 Surface		0.3	RF
24	E	119	07	Pnl,Inr Fender Front RT	5371106120	$83.96	1.6	SM
25	L	119		Pnl,Inr Fender Front RT	Refinish 0.3 Surface		0.3	RF
26	EP	152		Skirt,Inner Fender LT	QUAL. REPL. PRT. RPT	$23.00	INC	SM
27	EP	153		Skirt,Inner Fender RT	QUAL. REPL. PRT. RPT	$23.00	INC	SM
28	E	115	07	Side Member Assembly LT	5710206212	$1,545.60	11.1	SM
29	L	115		Side Member Assembly LT	Refinish 1.2 Surface		1.2	RF
30	E	116	07	Side Member Assembly RT	5710106171	$1,504.83	10.8	SM
31	L	116		Side Member Assembly RT	Refinish 1.2 Surface		1.2	RF
Front Suspension								
32	E	663		Ball Joint,Lower Arm LT	4334009170	$65.62	0.9	ME
33	E	653	49	Arm,Lower Control L/F	4806906150	$192.66	2.2	ME
Manual Entries								
34	SB	M03		Flex Additive	Sublet Repair	$4.00*		RF
35	N	M18		Set-Up And Measure	Additional Labor		2.0*	FR
36	I	M32		Unibody-Realignment-L Frt	Repair		2.0*	FR
37	I	M33		Unibody-Realignment-Rtfrt	Repair		2.0*	FR
38	EC	M60		Hazardous Waste Removal	QUALITY REPL. PART	$3.50*		SM
39	SB			Front End Alignment	Sublet Repair	$69.95*		SM*

39 Items

MC	Message
01	CALL DEALER FOR EXACT PART # / PRICE
07	STRUCTURAL PART AS IDENTIFIED BY I-CAR
13	INCLUDES 0.6 HOURS FIRST PANEL TWO-STAGE ALLOWANCE
49	UNPRINTED ALTERNATE PARTS COMPARE

Estimate Total & Entries

Gross Parts		$3,599.75	
Other Parts		$1,480.00	
Paint & Materials	11.3 Hours @ $30.00	$339.00	
Parts & Material Total			$5,418.75
Tax on Parts & Material	@ 8.250%		$447.05

Labor	Rate	Replace Hrs	Repair Hrs	Total Hrs	
Sheet Metal (SM)	$44.00	38.9	0.4	39.3	$1,729.20
Mech/Elec (ME)	$90.00	3.1	1.8	4.9	$441.00
Frame (FR)	$55.00		6.0	6.0	$330.00
Refinish (RF)	$44.00	11.3		11.3	$497.20

Labor Total	61.5 Hours		$2,997.40
Sublet Repairs		$73.95	
Gross Total			**$8,937.15**

APP000117

Net Total **$8,937.15 TOTAL LOSS**

Alternate Parts Y/16/15/00/01/00 CUM 16/15/00/01/00 Zip Code: 89110 Las Vegas
Recycled Parts Y/16/0 Zip Code: 89101
Rate Name Default

Audatex Estimating 8.0.414 ES 12/20/2017 01:24 PM REL 8.0.414 DT 12/01/2017 DB 12/15/2017

1.5 HRS WERE ADDED TO THIS ESTIMATE BASED ON AUDATEX'S TWO-STAGE REFINISH FORMULA.

THIS APPRAISAL IS NOT AN AUTHORIZATION TO REPAIR, REPAIRS MUST BE AUTHORIZED
BY OWNER. NO SUPPLEMENTS UNLESS APPROVED BY INSURANCE COMPANY REPRESENTATIVE.
PAYMENT COLLECTION IS THE REPAIRER'S RESPONSIBILITY.
THIS ESTIMATE HAS BEEN PREPARED BASED ON THE USE OF ONE OR MORE AFTERMARKET
PARTS SUPPLIED BY A SOURCE OTHER THAN THE MANUFACTURER OF YOUR MOTOR VEHICLE.
WARRANTIES APPLICABLE TO THESE PARTS ARE PROVIDED BY THE PARTS MANUFACTURER OR
DISTRIBUTOR RATHER THAN THE MANUFACTURER OF YOUR VEHICLE.

THIS ESTIMATE IS BASED ON THE USE OF BODY PARTS FOR YOUR MOTOR VEHICLE WHICH WE'RE NOT MANUFACTURED FOR OR BY THE ORIGINAL MANUFACTURER OF THE MOTOR VEHICLE. ANY WARRANTIES PROVIDED FOR THESE BODY PARTS ARE PROVIDED BY THE MANUFACTURER OR DISTRIBUTOR OF THESE PARTS, NOT BY THE MANUFACTURER OF YOUR MOTOR VEHICLE. PLEASE CONTACT YOUR INSURER TO DETERMINE YOUR RIGHTS REGARDING THE USE OF SUCH BODY PARTS.

AS USED IN THIS SECTION, BODY PART MEANS A SHEET METAL, PLASTIC, OR COMPOSITE PART OF A MOTOR VEHICLE WHICH IS NON-MECHANICAL AND USED TO REPLACE A PART ON THE EXTERIOR OF A MOTOR VEHICLE. THE TERM INCLUDES THE INNER AND OUTER PANELS OF A MOTOR VEHICLE.

Op Codes

* = User-Entered Value	^ = Labor Matches System Assigned Rates	E = Replace OEM
NG = Replace NAGS	EC = QUALITY REPL. PART	OE = Replace PXN OE Srpls
UE = Replace OE Surplus	ET = Partial Replace Labor	EP = QUAL. REPL. PRT. RPT
EU = LIKE KIND & QUAL.PRT	TE = Partial Replace Price	PM = Replace PXN Reman/Rebit
UM = Replace Reman/Rebuilt	L = Refinish	PC = Replace PXN Reconditioned
UC = Replace Reconditioned	TT = Two-Tone	SB = Sublet Repair
N = Additional Labor	BR = Blend Refinish	I = Repair
IT = Partial Repair	CG = Chipguard	RI = R & I Assembly
P = Check	AA = Appearance Allowance	RP = Related Prior Damage

APP000118

APP000119

***** Unrelated Prior Damage Page *****

Administrative

Owner: Armando Pons Diaz
Claim # : KILV103302
Loss Date/Time: 12/15/2017
Inspection Date: 12/20/2017
Vehicle: 2014 Toyota Camry LE 4 DR Sedan
4cyl Gasoline 2.5 DOHC
6-Speed Automatic

Damages

Line	Op	Guide	MC	Description	MFR.Part No.	Price	ADJ%	B%	Hours	R
Wheels										
1	PC	910		Cover,Front Wheel RT	Replace PXN Reconditioned	$45.00				SM
2	PC	912		Cover,Rear Wheel RT	Replace PXN Reconditioned	$45.00				SM
Roof										
3	I	341		Panel,Roof	Repair				1.5*	SM
4	L	341		Panel,Roof	Refinish				1.8*	RF
4	Items									

Estimate Total & Entries

Other Parts		$90.00	
Paint & Materials	1.8 Hours @ $30.00	$54.00	
Parts & Material Total			$144.00

Labor	Rate	Replace Hrs	Repair Hrs	Total Hrs	
Sheet Metal (SM)	$44.00		1.5	1.5	$66.00
Mech/Elec (ME)	$90.00				
Frame (FR)	$55.00				
Refinish (RF)	$44.00	1.8		1.8	$79.20

Labor Total	3.3 Hours	$145.20
Unrelated Prior Damage Gross Total (excludes taxes)		$289.20

These damages are unrelated to the stated loss incident. The stated costs are representative only and may differ based upon such factors as the involved incident facts, completion of the damages estimate and/or actual repair.

APP000120

Summary Sheet

Admin Information

Insured:	Castillo	Veronica	Claim # :	KILV103302
Claimant:	Pons Diaz	Armando	Insured Policy # :	
Claim Rep:	Roth	Jill	File # :	
Appraiser:	Kelley	Devon		
Inspection Location:	Caliber Collision	☐ Repairable	☐ Agreed on Price	
Repair Facility:		☐ Owner Choice of Repairer	☐ Vehicle Driveable	
Appraiser Estimate:	$0.00	☐ Estimate Copy to Owner	☐ Rental Assisted	
Repairer Estimate:	$0.00	☐ Estimate Copy to Repairer	☐ Owner Letter Issued	
Net Estimate Amount:	$8,937.15	☐ Excess Letter		

Parts Information

☒ Alternate Parts Applicable	☒ Recycled Real Steel Applicable	☐ QRP Pamphlet
☒ Alternate Parts Search	☒ Recycled Real Steel Search	☐ LKQ Pamphlet
☒ Alternate Parts Available	☒ Recycled Real Steel Available	

Recycled Part Supplier Called

Supplier 1:		Contact:	
Supplier 2:		Contact:	
Supplier 3:		Contact:	

Details

☐ Apply Appearance Allowance	☐ Apply Betterment
☐ Apply Related Prior Damage	☐ Apply Less Other Charges

Repair Days: 0 — Start Repair Date/Time:

☐ Rental Vehicle — Rental Agency:

Rental Days: — Start Rental Date/Time:

☐ Temporary Repairs Applicable — Amount: $0.00

☒ Supplement Possible — Amount: $0.00

☐ Draft Issued — Amount: $0.00 — Draft Number:

☐ Supplement Draft Issued — ☐ Supplement Letter — Supplement Draft Number

Total Loss Information

☒ Total Loss	☒ Unrelated Prior Damages
☒ Claim Rep Notified	Notified Date/Time:
☐ Permission to Move Vehicle	Permission From:
☐ Salvage Vehicle Moved	Pickup Request Date/Time:

Salvage Location:	Caliber Collision	Stock Number:		Salvage Opinion:	$5,535.00
Towing Amount:	$0.00	Storage Amount:	$0.00	Daily Storage Rate:	$0.00

Comments

Left front impact. The whole front end is swayed to the right. This vehicle has had work done on the frame rails and the aprons before. I ran the Carfax to check if it was a prior salvage vehicle, but it just had structural damage noted. NADA: $15400.

EXHIBIT 10

EXHIBIT 11

CALIBER - LAS VEGAS - DOWNTOWN

RESTORING THE RHYTHM OF YOUR LIFE
3131 FREMONT, LAS VEGAS, NV 89104
Phone: (702) 641-4190
FAX: (702) 431-0157

Workfile ID: 921ac90a
Federal ID: 45-3244035
State EPA: CESQG

Estimate of Record

RO Number: 203007292

Written By: Edgar Mejia, 12/28/2017 2:29:35 PM
Adjuster: Express Spanish Team, (855) 341-8184 Business

Insured:	PONS DIAZ, ARMANDO	Policy #:		Claim #:	28-2377-J7101
Type of Loss:	Collision	Date of Loss:	12/15/2017 8:30 AM	Days to Repair:	0
Point of Impact:	12 Front				

Owner:
PONS DIAZ, ARMANDO
4600 SIRIUS AVE APT J151
LAS VEGAS, NV 89102
(702) 542-6449 Cell

Inspection Location:
RESIDENCE - ARMANDO PONS DIAZ
4600 SIRIUS AVE APT J151
LAS VEGAS, NV 89102-7173
Other
(702) 542-6449 Day

Insurance Company:
STATE FARM INSURANCE COMPANIES

VEHICLE

2014 TOYO Camry LE Automatic 4D SED 4-2.5L Gasoline Sequential MPI Silver/1F7

VIN:	4T4BF1FK3ER442844	Interior Color:	Gray	Mileage In:	21,624	Vehicle Out:	12/29/2017
License:	50G225	Exterior Color:	Silver/1F7	Mileage Out:			
State:	NV	Production Date:	9/2014	Condition:		Job #:	

TRANSMISSION
Automatic Transmission
Traction Control
SEATS
Power Driver Seat
Bucket Seats
Cloth Seats
Lumbar Adjustment
STEERING
Power Steering
Tilt Wheel
Telescopic Wheel
Steering Wheel Controls
BRAKES
Power Brakes
4 Wheel Disc Brakes
Anti-Lock Brakes (4)
ROOF
Electric Glass Sunroof
GLASS
Tinted Glass
Rear Defogger
Power Windows
WHEELS
Hub Caps
RADIO
AM Radio
FM Radio
Stereo
Search/Seek
CD Player
INTERIOR
Power Locks
Power Trunk/Tailgate
Air Conditioning
Cruise Control
Driver Air Bag
Passenger Air Bag
Front Side Impact Air Bags
Rear Side Impact Air Bags
Console/Storage
Intermittent Wipers
EXTERIOR
Power Mirrors
Dual Mirrors
Spoiler
Fog Lamps
Keyless Entry
PAINT
Clear Coat Paint

Estimate of Record

RO Number: 203007292

2014 TOYO Camry LE Automatic 4D SED 4-2.5L Gasoline Sequential MPI Silver/1F7

Line		Oper	Description	Part Number	Qty	Extended Price $		Labor	Paint
1	**FRONT BUMPER & GRILLE**								
2			O/H front bumper					2.4	
3	** <>	Repl	Opt OEM Bumper cover	GEU3310C-10000	1	243.35		Incl.	2.6
4			Add for Clear Coat						1.0
5	*		Add for fog lamps					0.0	
6	*	Repl	RCY Grille 4DR,LE lower, center, Hybrid +25%	~170040011	1	66.25		Incl.	
7	**	Repl	Opt OEM RT Hole cover L, LE models	GEU3310C-160X2	1	36.07		Incl.	
8		Repl	LT Hole cover L, LE models	5212806260	1	42.44		Incl.	
9	**	Repl	Opt OEM License bracket	GEU3310C-73900	1	51.71		0.2	
10		Repl	Grille assy	5310106560	1	304.64		Incl.	
11	**FENDER**								
12	*	Repl	RCY Fender L, +25%	~167945029	1	196.25		1.7	2.0
13			Overlap Major Non-Adj. Panel						-0.2
14			Add for Clear Coat						0.4
15			Add for Edging						0.5
16	*	Repl	RCY Inner Fender Liner L, LH, non-hybrid, L +25%	~169058206	1	50.00		Incl.	
17	**	Repl	Opt OEM LT Apron assy	GEU3310C-43005	1	400.48	s	6.0	1.5
18		Repl	RT Rail assy (HSS)	5710106171	1	1,504.83	s	10.5	1.4
19			Overlap Major Non-Adj. Panel						-0.2
20	**	Repl	Opt OEM LT Rail assy (HSS)	GEU3310C-23101	1	1,313.76	s	10.5	1.4
21			Overlap Major Non-Adj. Panel						-0.2
22			Deduct for Overlap					-3.5	
23	**ENGINE / TRANSAXLE**								
24		Repl	R&I engine/trans assy	NONE	1		m	11.4 M	
25	**WHEELS**								
26	*	Repl	RCY Wheel 16x6-1/2, (steel) +25%	~150897652	1	81.25	m	0.3	
27	**TIRES**								
28		Repl	MICH P205/65R16 Energy Saver AS BW 94S	DT00428300MI	1	198.16		0.3	
				SUBTOTALS		**4,489.19**		**39.8**	**10.2**

RO Number: 203007292

2014 TOYO Camry LE Automatic 4D SED 4-2.5L Gasoline Sequential MPI Silver/1F7

ESTIMATE TOTALS

Category	Basis		Rate	Cost $
Parts				4,489.19
Parts Discount	$ 2,050.07		-5.0 %	-102.50
Body Labor	28.4 hrs	@	$ 41.37 /hr	1,174.91
Paint Labor	10.2 hrs	@	$ 41.37 /hr	421.97
Mechanical Labor	11.4 hrs	@	$ 75.00 /hr	855.00
Paint Supplies	10.2 hrs	@	$ 27.00 /hr	275.40
Subtotal				7,113.97
Sales Tax	$ 4,662.09	@	8.2500 %	384.62
Grand Total				**7,498.59**
Deductible				500.00
CUSTOMER PAY				**500.00**
INSURANCE PAY				**6,998.59**

For more information regarding State Farm's promise of satisfaction relating to new non-original equipment manufacturer (non-OEM) and recycled parts, please visit: http://st8.fm/7X4 or QR code.

Register online to check the status of your claim and stay connected with State Farm®. To register, go to http://www.statefarm.com/ and select Check the Status of a Claim. If you are already registered, thank you!

RO Number: 203007292

2014 TOYO Camry LE Automatic 4D SED 4-2.5L Gasoline Sequential MPI Silver/1F7

==========

Caliber Collision is the industry leader in quality collision repair. Since day one, our highest purpose has been to get people just like you back on the road as quickly as possible and fully restored to the rhythm of your life. You can be sure we do everything possible to ensure your complete satisfaction including:

Personalized, high quality service from the largest collision repair company in the U.S.
Consistently ranked among the highest customer satisfaction scores in the industry.
Approved by every major insurance company in the U.S.
Expedited car rental and towing services to get you back on the road again in no time.
Repair work backed by a written, lifetime warranty honored at every location.
24/7/365 customer service to answer questions and put your mind at ease.

This is a preliminary estimate based on visible damage. There may be additional repairs needed once the vehicle is taken apart by our I-CAR Gold Class technicians to identify any additional damage.

If an insurance company has written an estimate for you, please provide us with a copy. Properly endorsed insurance company checks are welcome as payment for the repair of your vehicle. Caliber Collision gladly accepts all major credit cards, debit cards, cashier's and traveler's checks. See your Caliber Collision center for details on acceptance of personal checks.

Before leaving your vehicle with us, please remove all important personal and valuable items from your vehicle. Caliber Collision is not responsible for belongings left in your vehicle.

Please let us know how we can be of further assistance, and when we can schedule an appointment for your vehicle to be repaired.

Caliber Collision - Restoring The Rhythm Of Your Life®

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RO Number: 203007292

2014 TOYO Camry LE Automatic 4D SED 4-2.5L Gasoline Sequential MPI Silver/1F7

Estimate based on MOTOR CRASH ESTIMATING GUIDE and potentially other third party sources of data. Unless otherwise noted, (a) all items are derived from the Guide ARM8524, CCC Data Date 11/8/2017, and potentially other third party sources of data; and (b) the parts presented are OEM-parts manufactured by the vehicles Original Equipment Manufacturer. OEM parts are available at OE/Vehicle dealerships. OPT OEM (Optional OEM) or ALT OEM (Alternative OEM) parts are OEM parts that may be provided by or through alternate sources other than the OEM vehicle dealerships. OPT OEM or ALT OEM parts may reflect some specific, special, or unique pricing or discount. OPT OEM or ALT OEM parts may include "Blemished" parts provided by OEM's through OEM vehicle dealerships. Asterisk (*) or Double Asterisk (**) indicates that the parts and/or labor data provided by third party sources of data may have been modified or may have come from an alternate data source. Tilde sign (~) items indicate MOTOR Not-Included Labor operations. The symbol (<>) indicates the refinish operation WILL NOT be performed as a separate procedure from the other panels in the estimate. Non-Original Equipment Manufacturer aftermarket parts are described as Non OEM, A/M or NAGS. Used parts are described as LKQ, RCY, or USED. Reconditioned parts are described as Recond. Recored parts are described as Recore. NAGS Part Numbers and Benchmark Prices are provided by National Auto Glass Specifications. Labor operation times listed on the line with the NAGS information are MOTOR suggested labor operation times. NAGS labor operation times are not included. Pound sign (#) items indicate manual entries.

Some 2017 vehicles contain minor changes from the previous year. For those vehicles, prior to receiving updated data from the vehicle manufacturer, labor and parts data from the previous year may be used. The CCC ONE estimator has a list of applicable vehicles. Parts numbers and prices should be confirmed with the local dealership.

The following is a list of additional abbreviations or symbols that may be used to describe work to be done or parts to be repaired or replaced:

SYMBOLS FOLLOWING PART PRICE:
m=MOTOR Mechanical component. s=MOTOR Structural component. T=Miscellaneous Taxed charge category. X=Miscellaneous Non-Taxed charge category.

SYMBOLS FOLLOWING LABOR:
D=Diagnostic labor category. E=Electrical labor category. F=Frame labor category. G=Glass labor category. M=Mechanical labor category. S=Structural labor category. (numbers) 1 through 4=User Defined Labor Categories.

OTHER SYMBOLS AND ABBREVIATIONS:
Adj.=Adjacent. Algn.=Align. ALU=Aluminum. A/M=Aftermarket part. Blnd=Blend. BOR=Boron steel. CAPA=Certified Automotive Parts Association. D&R=Disconnect and Reconnect. HSS=High Strength Steel. HYD=Hydroformed Steel. Incl.=Included. LKQ=Like Kind and Quality. LT=Left. MAG=Magnesium. Non-Adj.=Non Adjacent. NSF=NSF International Certified Part. O/H=Overhaul. Qty=Quantity. Refn=Refinish. Repl=Replace. R&I=Remove and Install. R&R=Remove and Replace. Rpr=Repair. RT=Right. SAS=Sandwiched Steel. Sect=Section. Subl=Sublet. UHS=Ultra High Strength Steel. N=Note(s) associated with the estimate line.

CCC ONE Estimating - A product of CCC Information Services Inc.

The following is a list of abbreviations that may be used in CCC ONE Estimating that are not part of the MOTOR CRASH ESTIMATING GUIDE:
BAR=Bureau of Automotive Repair. EPA=Environmental Protection Agency. NHTSA= National Highway Transportation and Safety Administration. PDR=Paintless Dent Repair. VIN=Vehicle Identification Number.

RO Number: 203007292

2014 TOYO Camry LE Automatic 4D SED 4-2.5L Gasoline Sequential MPI Silver/1F7

NON-ORIGINAL EQUIPMENT REPLACEMENT PARTS INFORMATION

Whenever ** appears next to the description of a part which is to be replaced, this means:

THIS ESTIMATE IS BASED ON THE USE OF BODY PARTS FOR YOUR MOTOR VEHICLE WHICH WERE NOT MANUFACTURED FOR OR BY THE ORIGINAL MANUFACTURER OF THE MOTOR VEHICLE. ANY WARRANTIES PROVIDED FOR THESE BODY PARTS ARE PROVIDED BY THE MANUFACTURER OR DISTRIBUTOR OF THESE PARTS, NOT BY THE MANUFACTURER OF YOUR MOTOR VEHICLE. PLEASE CONTACT YOUR INSURER TO DETERMINE YOUR RIGHTS REGARDING THE USE OF SUCH BODY PARTS.

RO Number: 203007292

2014 TOYO Camry LE Automatic 4D SED 4-2.5L Gasoline Sequential MPI Silver/1F7

PARTS SUPPLIER LIST

Line	Supplier	Description	Price
3	Platinum Auto Trends 14434 Best Ave. Santa Fe Springs CA 90670 (562) 229-7691	#GEU3310C-10000 Opt OEM Bumper cover	$ 243.35
6	LKQ Keystone Nevada #1725 3370 East Lone Mountain Rd. North Las Vegas NV 89081 (702) 789-4028	#~170040011 RCY Grille 4DR,LE lower, center, Hybrid +25%	$ 66.25
7	Platinum Auto Trends 14434 Best Ave. Santa Fe Springs CA 90670 (562) 229-7691	#GEU3310C-160X2 Opt OEM RT Hole cover L, LE models	$ 36.07
8	Toyota of Las Vegas 3255 E Sahara Ave Las Vegas NV 89104 (702) 457-9510	#5212806260 LT Hole cover L, LE models	$ 42.44
9	Platinum Auto Trends 14434 Best Ave. Santa Fe Springs CA 90670 (562) 229-7691	#GEU3310C-73900 Opt OEM License bracket	$ 51.71
10	Toyota of Las Vegas 3255 E Sahara Ave Las Vegas NV 89104 (702) 457-9510	#5310106560 Grille assy	$ 304.64
12	LKQ Keystone Nevada #1725 3370 East Lone Mountain Rd. North Las Vegas NV 89081 (702) 789-4028	#~167945029 RCY Fender L. +25%	$ 196.25
16	LKQ Keystone Nevada #1725 3370 East Lone Mountain Rd. North Las Vegas NV 89081 (702) 789-4028	#~169058206 RCY Inner Fender Liner L, LH, non-hybrid, L +25%	$ 50.00
17	Platinum Auto Trends 14434 Best Ave. Santa Fe Springs CA 90670 (562) 229-7691	#GEU3310C-43005 Opt OEM LT Apron assy	$ 400.48

Estimate of Record

RO Number: 203007292

2014 TOYO Camry LE Automatic 4D SED 4-2.5L Gasoline Sequential MPI Silver/1F7

18	Toyota of Las Vegas 3255 E Sahara Ave Las Vegas NV 89104 (702) 457-9510	#5710106171 RT Rail assy (HSS)	$ 1,504.83
20	Platinum Auto Trends 14434 Best Ave. Santa Fe Springs CA 90670 (562) 229-7691	#GEU3310C-23101 Opt OEM LT Rail assy (HSS)	$ 1,313.76
26	LKQ Keystone Nevada #1725 3370 East Lone Mountain Rd. North Las Vegas NV 89081 (702) 789-4028	#~150897652 RCY Wheel 16x6-1/2, (steel) +25%	$ 81.25
28	Toyota of Las Vegas 3255 E Sahara Ave Las Vegas NV 89104 (702) 457-9510	#DT00428300MI MICH P205/65R16 Energy Saver AS BW 94S	$ 198.16

EXHIBIT 12

28. 2377. 371

Release of all Property Damage Claims
Claim No: KILV103302

KNOW ALL MEN BY THESE PRESENTS:

That the Undersigned, being of lawful age, for the sole consideration of Ten Thousand Dollars and Zero Cents (**$10,000**) to the undersigned (payment will be forthcoming) is hereby acknowledged, do/does hereby and for my/our/its heirs, executors, administrators, successors and assigns release, acquit and forever discharge **Mrs Veronica Castillo, Med James, Inc./Key Insurance**, his, her, their, or its agents, servants, successors, heirs, executors, administrators, and all other persons, firms, corporations, associations, or partnerships of and from any and all property claims, actions, causes of action, demands, rights, damages, costs, loss of service, expenses and compensation whatsoever, which the undersigned now has/have or which may hereafter accrue on account of or in any way growing out of any and all known and unknown, foreseen and unforeseen property damage and the consequences thereof resulting or to result from the accident, casualty or event which occurred on or about, **12/15/2017 at or near Spring Mountain Rd. in Las Vegas, Nevada.**

It is understood and agreed that this settlement is the compromise of a doubtful and disputed claim and that the payment made is not to be construed as an admission of liability on the part of the party or parties hereby released, and that said releases deny liability therefore and intend merely to avoid litigation and be at their peace.

The undersigned further declare(s) and represent(s) that no promise, inducement or agreement not herein expressed has been made to the undersigned, and that this release contains the entire agreement between the parties hereto, and that the terms of this Release are contractual and not a mere recital.

THE UNDERSIGNED HAS READ THE FOREGOING RELEASE AND FULLY UNDERSTANDS IT.

Signed, sealed and delivered this 26th day of April, 2018

CAUTION: READ BEFORE SIGNING BELOW

_____ _____ LS
Witness — State Farm Authorized Representative

_____ _____ LS
Witness — Spouse (if applicable) –printed name & signature

_____ _____ LS
Witness

STATE OF TN

COUNTY OF Rutherford

On the 4th day of May, 2018, before me personally appeared Josephine Matthews

To me known to be the person(s) named herein and who executed to foregoing she

Acknowledged to me that she voluntary executed the same.

My term expires 10-17 .2021 Libby Parsley
Notary Public

LIBBY PARSLEY STATE OF TENNESSEE NOTARY PUBLIC RUTHERFORD COUNTY

EXHIBIT 13

Meadows Chiropractic
3441 W Sahara Ave Suite C7
Las Vegas, NV 89102
702-220-9191
ID#: 88-0457811
Andrew Mitchell D C NPI#: 1174737480
Monday March 26, 2018

Patient : Armando Pons-Diaz
Itemized Statement: 12/18/2017 - 03/26/2018
DOB :
Onset date : 12/15/2017

Mail to:
Armando Pons-Diaz
4600 Sirius Ave #J151
Las Vegas, NV 89102

Attorney
Eric Blank
7860 W Sahara Ave
Suite 110
Las Vegas NV 89117

Employer

Current Diagnosis
S13.4XXA Sprain of ligaments of cervical spine, initial encounte
S23.3XXA Sprain of ligaments of thoracic spine, initial encounte
M99.01 Segmental and somatic dysfunction of cervical region
M99.02 Segmental and somatic dysfunction of thoracic region
M54.2 Cervicalgia
M54.6 Pain in thoracic spine

Date	Description	Amount
12/18/17	97010 Cryotherapy/Hydroculator	$ 25.00
12/18/17	97014 Muscle Stim	$ 35.00
12/18/17	97140 59 MFR/STM	$ 40.00
12/18/17	E0230 Ice Pack	$ 25.00
12/18/17	99203 N P Intermediate Exam	$ 175.00
12/19/17	97010 Cryotherapy/Hydroculator	$ 25.00
12/19/17	97014 Muscle Stim	$ 35.00
12/19/17	97140 59 MFR/STM	$ 40.00
12/20/17	97010 Cryotherapy/Hydroculator	$ 25.00
12/20/17	97014 Muscle Stim	$ 35.00
12/20/17	97140 59 MFR/STM	$ 40.00
12/22/17	97010 Cryotherapy/Hydroculator	$ 25.00
12/22/17	97014 Muscle Stim	$ 35.00
12/22/17	97140 59 MFR/STM	$ 40.00
12/22/17	97012 Intersegmental Traction	$ 35.00
01/04/18	97010 Cryotherapy/Hydroculator	$ 25.00
01/04/18	97014 Muscle Stim	$ 35.00
01/04/18	97140 59 MFR/STM	$ 40.00
01/04/18	97012 Intersegmental Traction	$ 35.00
01/04/18	72052 Cervical 5 View	$ 155.00
01/08/18	97010 Cryotherapy/Hydroculator	$ 25.00
01/08/18	97014 Muscle Stim	$ 35.00
01/08/18	97012 Intersegmental Traction	$ 35.00
01/08/18	98940 Adjustment 1-2 Regions	$ 50.00
01/09/18	97010 Cryotherapy/Hydroculator	$ 25.00
01/09/18	97014 Muscle Stim	$ 35.00
01/09/18	97012 Intersegmental Traction	$ 35.00
01/09/18	98940 Adjustment 1-2 Regions	$ 50.00
01/12/18	97010 Cryotherapy/Hydroculator	$ 25.00
01/12/18	97014 Muscle Stim	$ 35.00
01/12/18	97012 Intersegmental Traction	$ 35.00
01/12/18	98940 Adjustment 1-2 Regions	$ 50.00
01/18/18	97010 Cryotherapy/Hydroculator	$ 25.00
01/18/18	97014 Muscle Stim	$ 35.00
01/18/18	97012 Intersegmental Traction	$ 35.00
01/18/18	98940 Adjustment 1-2 Regions	$ 50.00
01/18/18	99213 25 E P Intermediate Exam	$ 115.00
01/18/18	99080 Initial Narrative Report	$ 250.00

Date	Description	Amount
01/19/18	97010 Cryotherapy/Hydroculator	$ 25.00
01/19/18	97014 Muscle Stim	$ 35.00
01/19/18	97012 Intersegmental Traction	$ 35.00
01/19/18	98940 Adjustment 1-2 Regions	$ 50.00
01/24/18	97010 Cryotherapy/Hydroculator	$ 25.00
01/24/18	97014 Muscle Stim	$ 35.00
01/24/18	97012 Intersegmental Traction	$ 35.00
01/24/18	98940 Adjustment 1-2 Regions	$ 50.00
01/29/18	97010 Cryotherapy/Hydroculator	$ 25.00
01/29/18	97014 Muscle Stim	$ 35.00
01/29/18	97012 Intersegmental Traction	$ 35.00
01/29/18	98940 Adjustment 1-2 Regions	$ 50.00
01/30/18	97010 Cryotherapy/Hydroculator	$ 25.00
01/30/18	97014 Muscle Stim	$ 35.00
01/30/18	97012 Intersegmental Traction	$ 35.00
01/30/18	98940 Adjustment 1-2 Regions	$ 50.00
02/01/18	97010 Cryotherapy/Hydroculator	$ 25.00
02/01/18	97014 Muscle Stim	$ 35.00
02/01/18	97012 Intersegmental Traction	$ 35.00
02/01/18	98940 Adjustment 1-2 Regions	$ 50.00
02/07/18	97010 Cryotherapy/Hydroculator	$ 25.00
02/07/18	97014 Muscle Stim	$ 35.00
02/07/18	97012 Intersegmental Traction	$ 35.00
02/07/18	98940 Adjustment 1-2 Regions	$ 50.00
02/09/18	97010 Cryotherapy/Hydroculator	$ 25.00
02/09/18	97014 Muscle Stim	$ 35.00
02/09/18	97012 Intersegmental Traction	$ 35.00
02/09/18	98940 Adjustment 1-2 Regions	$ 50.00
02/13/18	97010 Cryotherapy/Hydroculator	$ 25.00
02/13/18	97014 Muscle Stim	$ 35.00
02/13/18	97012 Intersegmental Traction	$ 35.00
02/13/18	98940 Adjustment 1-2 Regions	$ 50.00
02/14/18	97010 Cryotherapy/Hydroculator	$ 25.00
02/14/18	97014 Muscle Stim	$ 35.00
02/14/18	97012 Intersegmental Traction	$ 35.00
02/14/18	98940 Adjustment 1-2 Regions	$ 50.00
02/21/18	97010 Cryotherapy/Hydroculator	$ 25.00
02/21/18	97014 Muscle Stim	$ 35.00
02/21/18	97012 Intersegmental Traction	$ 35.00
02/21/18	98940 Adjustment 1-2 Regions	$ 50.00
02/21/18	99213 25 E P Intermediate Exam	$ 115.00
02/22/18	97010 Cryotherapy/Hydroculator	$ 25.00
02/22/18	97014 Muscle Stim	$ 35.00
02/22/18	97012 Intersegmental Traction	$ 35.00
02/22/18	98940 Adjustment 1-2 Regions	$ 50.00
03/01/18	97010 Cryotherapy/Hydroculator	$ 25.00
03/01/18	97014 Muscle Stim	$ 35.00
03/01/18	97012 Intersegmental Traction	$ 35.00
03/01/18	98940 Adjustment 1-2 Regions	$ 50.00
03/05/18	97010 Cryotherapy/Hydroculator	$ 25.00
03/05/18	97014 Muscle Stim	$ 35.00
03/05/18	97012 Intersegmental Traction	$ 35.00
03/05/18	98940 Adjustment 1-2 Regions	$ 50.00
03/06/18	97010 Cryotherapy/Hydroculator	$ 25.00
03/06/18	97014 Muscle Stim	$ 35.00
03/06/18	97012 Intersegmental Traction	$ 35.00
03/06/18	98940 Adjustment 1-2 Regions	$ 50.00
03/06/18	99080 Narrative Report	$ 500.00

Total Sales Tax	: $ 0.00
Total Late Charges	: $ 0.00
Total Interest Charges	: $ 0.00
Patients-Cash Rcvd	: $ 0.00
Patients-Chks Rcvd	: $ 0.00
Patients-Crdt Crd	: $ 0.00
Payer Payments	: $ 0.00
Total Charges	: $ 4515.00
Total Received	: $ 0.00
Total Adjustment	: $ 0.00
Balance (based on search)	: $ 4515.00

Andrew Mitchell, D.C. & Jason Chong, D.C.
Meadows Chiropractic
3441 W. Sahara, Suite C-7
Las Vegas, NV 89102
Phone: (702) - 220 - 9191 Fax: (702) - 220 - 9292

3/23/2018

Eric Blank Law Offices
8960 W. Tropicana Ave.
Suite 300
Las Vegas, NV 89147

Patient #:
Date of Loss: 12/15/2017
Our patient: Armando Pons-Diaz

To Whom It May Concern;

Mr. Pons-Diaz presented himself to Meadows Chiropractic for evaluation of injuries sustained in an automobile accident on the said date above. Mr. Pons-Diaz was the driver of the vehicle. It was a front driver side impact collision. Mr. Pons-Diaz was wearing his seatbelt. All injuries stated below are a result of the said auto accident.

Date of Birth:
Gender: Male

First Treatment: 12/18/2017

Medical Specials: $4,515.00

INITIAL COMPLAINTS

1. Neck pain
2. Thoracic pain
3. Muscle pain
4. Headache
5. Dizziness
6. Sleeping difficulty
7. Fatigue/Malaise
8. Anxiety/Nervousness

INJURIES

1. Neck and Back Injuries
2. Nonallopathic lesion cervical
3. Nonallopathic lesion thoracic
4. Sprains and strains of Cervical
5. Sprains and strains of Thoracic
6. Cervicalgia
7. Thoracicalagia
8. Driver

The following is a summary of the ICD10 Injury Codes:
M54.2, M99.01, S13.4xxA, M54.6, M99.02, S23.3xxA, M54.5, V43.52xA

The following is a summary of the CPT Treatment Codes:
98940 (A1), 97010, 97014, 97140, 97112, 97012, 97035, 97110

NECK AND BACK INJURIES

Treatments: 23
Prognosis: Complaints/treatment recommended
Provider: Andrew Mitchell
Last Chart Date: 3/6/2018

History of Complaints	Physician	Last Date Noted
Range of Motion	Andrew Mitchell	3/6/2018
Spasms	Andrew Mitchell	3/6/2018
Headaches	Andrew Mitchell	3/6/2018
Dizziness	Andrew Mitchell	3/6/2018
Sleep Disturbance	Andrew Mitchell	3/6/2018
Anxiety/Depression	Andrew Mitchell	3/6/2018

Treatments	Physician	Last Date Noted
Chiropractic Manipulation	Andrew Mitchell	3/6/2018
Elec. Stimulation (unattended)	Andrew Mitchell	3/6/2018
Hot or Cold packs	Andrew Mitchell	3/6/2018
Mechanical Traction	Andrew Mitchell	3/6/2018
Myofacial Release	Andrew Mitchell	3/6/2018
Neuromuscular reeducation	Andrew Mitchell	3/6/2018
Therapeutic Exercises	Andrew Mitchell	3/6/2018
Ultrasound	Andrew Mitchell	3/6/2018

Therapies	Physician	Last Date Noted	Duration
Exercise Rehabilitation	Andrew Mitchell	3/6/2018	Prolonged
Bed Rest	Andrew Mitchell	3/6/2018	Short-Term

Testings	Physician	Last Date Noted	Test Result
X-Ray	Andrew Mitchell	1/4/2018	Positive

OTHER INJURIES

Nonallopathic lesion cervical

Injury Type: Sprain/Strain

Duration: 4 to 6 months
Prognosis: Complaints/treatment recommended
Physician: Andrew Mitchell
Last Date Noted: 3/6/2018

History of Complaints	Physician	Last Date Noted
Range of Motion	Andrew Mitchell	3/6/2018
Spasms	Andrew Mitchell	3/6/2018
Headaches	Andrew Mitchell	3/6/2018
Dizziness	Andrew Mitchell	3/6/2018
Sleep Disturbance	Andrew Mitchell	3/6/2018
Anxiety/Depression	Andrew Mitchell	3/6/2018

Treatments	Physician	Last Date Noted
Chiropractic Manipulation	Andrew Mitchell	3/6/2018
Elec. Stimulation (unattended)	Andrew Mitchell	3/6/2018
Hot or Cold packs	Andrew Mitchell	3/6/2018
Mechanical Traction	Andrew Mitchell	3/6/2018
Myofacial Release	Andrew Mitchell	3/6/2018
Neuromuscular reeducation	Andrew Mitchell	3/6/2018
Therapeutic Exercises	Andrew Mitchell	3/6/2018
Ultrasound	Andrew Mitchell	3/6/2018

Therapies	Physician	Last Date Noted	Duration
Exercise Rehabilitation	Andrew Mitchell	3/6/2018	Prolonged
Bed Rest	Andrew Mitchell	3/6/2018	Short-Term

Testings	Physician	Last Date Noted	Test Result
X-Ray	Andrew Mitchell	1/4/2018	Positive

Nonallopathic lesion thoracic

Injury Type: Sprain/Strain
Duration: 4 to 6 months
Prognosis: Complaints/treatment recommended
Physician: Andrew Mitchell
Last Date Noted: 3/6/2018

History of Complaints	Physician	Last Date Noted
Range of Motion	Andrew Mitchell	3/6/2018
Spasms	Andrew Mitchell	3/6/2018
Headaches	Andrew Mitchell	3/6/2018
Dizziness	Andrew Mitchell	3/6/2018
Sleep Disturbance	Andrew Mitchell	3/6/2018
Anxiety/Depression	Andrew Mitchell	3/6/2018

Treatments	Physician	Last Date Noted
Chiropractic Manipulation	Andrew Mitchell	3/6/2018
Elec. Stimulation (unattended)	Andrew Mitchell	3/6/2018
Hot or Cold packs	Andrew Mitchell	3/6/2018
Mechanical Traction	Andrew Mitchell	3/6/2018
Myofacial Release	Andrew Mitchell	3/6/2018
Neuromuscular reeducation	Andrew Mitchell	3/6/2018
Therapeutic Exercises	Andrew Mitchell	3/6/2018
Ultrasound	Andrew Mitchell	3/6/2018

Therapies	Physician	Last Date Noted	Duration
Exercise Rehabilitation	Andrew Mitchell	3/6/2018	Prolonged
Bed Rest	Andrew Mitchell	3/6/2018	Short-Term

Testings	Physician	Last Date Noted	Test Result
X-Ray	Andrew Mitchell	1/4/2018	Positive

Sprains and strains of Cervical

Injury Type: Sprain/Strain
Duration: 4 to 6 months
Prognosis: Complaints/treatment recommended
Physician: Andrew Mitchell
Last Date Noted: 3/6/2018

History of Complaints	Physician	Last Date Noted
Range of Motion	Andrew Mitchell	3/6/2018
Spasms	Andrew Mitchell	3/6/2018
Headaches	Andrew Mitchell	3/6/2018
Dizziness	Andrew Mitchell	3/6/2018
Sleep Disturbance	Andrew Mitchell	3/6/2018
Anxiety/Depression	Andrew Mitchell	3/6/2018

Treatments	Physician	Last Date Noted
Chiropractic Manipulation	Andrew Mitchell	3/6/2018
Elec. Stimulation (unattended)	Andrew Mitchell	3/6/2018
Hot or Cold packs	Andrew Mitchell	3/6/2018
Mechanical Traction	Andrew Mitchell	3/6/2018
Myofacial Release	Andrew Mitchell	3/6/2018
Neuromuscular reeducation	Andrew Mitchell	3/6/2018
Therapeutic Exercises	Andrew Mitchell	3/6/2018
Ultrasound	Andrew Mitchell	3/6/2018

Therapies	Physician	Last Date Noted	Duration
Exercise Rehabilitation	Andrew Mitchell	3/6/2018	Prolonged
Bed Rest	Andrew Mitchell	3/6/2018	Short-Term

Testings	Physician	Last Date Noted	Test Result
X-Ray	Andrew Mitchell	1/4/2018	Positive

Sprains and strains of Thoracic

Injury Type: Sprain/Strain
Duration: 4 to 6 months
Prognosis: Complaints/treatment recommended
Physician: Andrew Mitchell
Last Date Noted: 3/6/2018

History of Complaints	Physician	Last Date Noted
Range of Motion	Andrew Mitchell	3/6/2018
Spasms	Andrew Mitchell	3/6/2018
Headaches	Andrew Mitchell	3/6/2018
Dizziness	Andrew Mitchell	3/6/2018
Sleep Disturbance	Andrew Mitchell	3/6/2018
Anxiety/Depression	Andrew Mitchell	3/6/2018

Treatments	Physician	Last Date Noted
Chiropractic Manipulation	Andrew Mitchell	3/6/2018
Elec. Stimulation (unattended)	Andrew Mitchell	3/6/2018
Hot or Cold packs	Andrew Mitchell	3/6/2018
Mechanical Traction	Andrew Mitchell	3/6/2018
Myofacial Release	Andrew Mitchell	3/6/2018
Neuromuscular reeducation	Andrew Mitchell	3/6/2018
Therapeutic Exercises	Andrew Mitchell	3/6/2018
Ultrasound	Andrew Mitchell	3/6/2018

Therapies	Physician	Last Date Noted	Duration
Exercise Rehabilitation	Andrew Mitchell	3/6/2018	Prolonged
Bed Rest	Andrew Mitchell	3/6/2018	Short-Term

Testings	Physician	Last Date Noted	Test Result
X-Ray	Andrew Mitchell	1/4/2018	Positive

Cervicalgia

Injury Type: Sprain/Strain
Duration: 4 to 6 months
Prognosis: Complaints/treatment recommended
Physician: Andrew Mitchell
Last Date Noted: 3/6/2018

History of Complaints	Physician	Last Date Noted
Range of Motion	Andrew Mitchell	3/6/2018
Spasms	Andrew Mitchell	3/6/2018
Headaches	Andrew Mitchell	3/6/2018
Dizziness	Andrew Mitchell	3/6/2018
Sleep Disturbance	Andrew Mitchell	3/6/2018
Anxiety/Depression	Andrew Mitchell	3/6/2018

Treatments	Physician	Last Date Noted
Chiropractic Manipulation	Andrew Mitchell	3/6/2018
Elec. Stimulation (unattended)	Andrew Mitchell	3/6/2018
Hot or Cold packs	Andrew Mitchell	3/6/2018
Mechanical Traction	Andrew Mitchell	3/6/2018
Myofacial Release	Andrew Mitchell	3/6/2018
Neuromuscular reeducation	Andrew Mitchell	3/6/2018
Therapeutic Exercises	Andrew Mitchell	3/6/2018
Ultrasound	Andrew Mitchell	3/6/2018

Therapies	Physician	Last Date Noted	Duration
Exercise Rehabilitation	Andrew Mitchell	3/6/2018	Prolonged
Bed Rest	Andrew Mitchell	3/6/2018	Short-Term

Testings	Physician	Last Date Noted	Test Result
X-Ray	Andrew Mitchell	1/4/2018	Positive

Thoracicalagia

Injury Type: Sprain/Strain
Duration: 4 to 6 months
Prognosis: Complaints/treatment recommended
Physician: Andrew Mitchell

Last Date Noted: 3/6/2018

History of Complaints	Physician	Last Date Noted
Range of Motion	Andrew Mitchell	3/6/2018
Spasms	Andrew Mitchell	3/6/2018
Headaches	Andrew Mitchell	3/6/2018
Dizziness	Andrew Mitchell	3/6/2018
Sleep Disturbance	Andrew Mitchell	3/6/2018
Anxiety/Depression	Andrew Mitchell	3/6/2018

Treatments	Physician	Last Date Noted
Chiropractic Manipulation	Andrew Mitchell	3/6/2018
Elec. Stimulation (unattended)	Andrew Mitchell	3/6/2018
Hot or Cold packs	Andrew Mitchell	3/6/2018
Mechanical Traction	Andrew Mitchell	3/6/2018
Myofacial Release	Andrew Mitchell	3/6/2018
Neuromuscular reeducation	Andrew Mitchell	3/6/2018
Therapeutic Exercises	Andrew Mitchell	3/6/2018
Ultrasound	Andrew Mitchell	3/6/2018

Therapies	Physician	Last Date Noted	Duration
Exercise Rehabilitation	Andrew Mitchell	3/6/2018	Prolonged
Bed Rest	Andrew Mitchell	3/6/2018	Short-Term

Testings	Physician	Last Date Noted	Test Result
X-Ray	Andrew Mitchell	1/4/2018	Positive

Driver

Injury Type:
Duration:
Prognosis:
Physician: Andrew Mitchell
Last Date Noted: 3/6/2018

History of Complaints	Physician	Last Date Noted
Range of Motion	Andrew Mitchell	3/6/2018
Spasms	Andrew Mitchell	3/6/2018
Headaches	Andrew Mitchell	3/6/2018
Dizziness	Andrew Mitchell	3/6/2018
Sleep Disturbance	Andrew Mitchell	3/6/2018
Anxiety/Depression	Andrew Mitchell	3/6/2018

Treatments	Physician	Last Date Noted
Chiropractic Manipulation	Andrew Mitchell	3/6/2018
Elec. Stimulation (unattended)	Andrew Mitchell	3/6/2018
Hot or Cold packs	Andrew Mitchell	3/6/2018
Mechanical Traction	Andrew Mitchell	3/6/2018
Myofacial Release	Andrew Mitchell	3/6/2018
Neuromuscular reeducation	Andrew Mitchell	3/6/2018
Therapeutic Exercises	Andrew Mitchell	3/6/2018
Ultrasound	Andrew Mitchell	3/6/2018

Therapies	Physician	Last Date Noted	Duration
Exercise Rehabilitation	Andrew Mitchell	3/6/2018	Prolonged
Bed Rest	Andrew Mitchell	3/6/2018	Short-Term

Testings	Physician	Last Date Noted	Test Result
X-Ray	Andrew Mitchell	3/6/2018	Positive

CURRENT MEDICAL EXPENSES

Name	Amount	Type
Andrew Mitchell, DC	$4,515.00	Physician
Jason Chong, DC		Physician
Total Physician Expenses	$4,515.00	

Name	Amount	Type
Ice Pack		Medical Supply
Total Medical Supplies Expenses		

EXPENSE SUMMARY

Physician Expenses	$4,515.00
Medical Supplies	$0.00
Travel Expenses	$0.00
Income Loss	$0.00
Future Medical	$0.00
Future Income Loss	$0.00
Total Expenses	$4,515.00

REFERRAL

1. Dr. Strehlow — x-ray review
2. Dr. Coppel — Pain Management

THERAPIES

Croft Guidelines for the Treatment of CAD Injuries was used to determine the frequency and duration as well as future therapy for this patient.

Grade	daily	3x/wk	2x/wk	1x/wk	1x/mo
I	1wk	1-2wk	2-3wk	<4wk	a
II	1wk	<4wk	<4wk	<4wk	<4wk
III	1-2wk	<10wk	<10wk	<10wk	<6mo
IV	2-3wk	<16wk	<12wk	<20wk	b
V	Surgical stabilization necessary; chiropractic care is post-surgical				

a – possible follow up at 1 month
b – may require permanent monthly treatment

Grade	Clinical Presentation
I	**Minimal**: no limitation of motion, ligamentous injury or neurological findings
II	**Slight**: limitation of motion; no ligamentous or neurological findings
III	**Moderate**: limitation of motion; some ligamentous injury; neurological findings may be present
IV	**Moderate to severe**: limitation of motion; ligamentous instability; neurological findings present; fracture of disc derangement
V	**Severe**: requires surgical management

This patient has been co-managed by both Dr. Mitchell and Dr. Chong for the injuries that resulted from the said accident. If you have any questions regarding this patient, please do not hesitate to contact us.

Sincerely,

Andrew Mitchell, D.C. & Jason Chong, D.C.

Meadows Chiropractic
3441 W. Sahara, Suite C-7 Las Vegas, Nevada 89102 Phone: 702.220.9191 Facsimile: 702.220.9292

January 18, 2018

RE: Armando Pons-Diaz
DOI: December 15, 2017

INITIAL NARRATIVE REPORT

Armando Pons-Diaz presented himself to Meadows Chiropractic for examination on December 18, 2017. The following is an initial report of this case.

HISTORY

The patient states that on the above cited date he was involved in a motor vehicle accident.

PHYSICAL EXAMINATION

The usual orthopedic, neurological, and chiropractic tests were performed to determine his diagnosis (see initial exam form).

INITIAL DIAGNOSIS

1. Cervical s/s S13.4xxA
2. Thoracic s/s S23.3xxA

TREATMENT

Croft Guidelines for the Treatment of CAD Injuries was used to determine the frequency and duration as well as future therapy for this patient.

Grade	daily	3x/wk	2x/wk	1x/wk	1x/mo
I	1wk	1-2wk	2-3wk	<4wk	a
II	1wk	<4wk	<4wk	<4wk	<4wk
III	1-2wk	<10wk	<10wk	<10wk	<6mo
IV	2-3wk	<16wk	<12wk	<20wk	b
V	Surgical stabilization necessary; chiropractic care is post-surgical				

a – possible follow up at 1 month
b – may require permanent monthly treatment

Grade	Clinical Presentation
I	**Minimal**: no limitation of motion, ligamentous injury or neurological findings
II	**Slight**: limitation of motion; no ligamentous or neurological findings
III	**Moderate**: limitation of motion; some ligamentous injury; neurological findings may be present
IV	**Moderate to severe**: limitation of motion; ligamentous instability; neurological findings present; fracture of disc derangement
V	**Severe**: requires surgical management

If you have any questions, please feel free to contact this office

Sincerely,

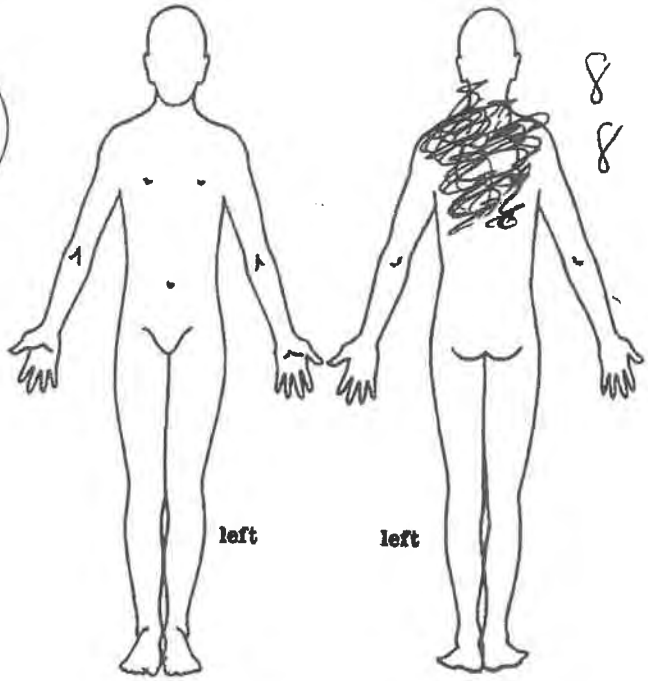
Andrew Mitchell, D.C.
JSC

DOI: 12/15/17

1ST Accident

OTHER SYMPTOMS

- [x] Range of Motion
- [ ] Muscle spasm
- [x] headache
- [x] Dizziness
- [ ] Tinnitus (L / R)
- [x] Sleep difficulty/disturbance
- [x] Fatigue/Malaise
- [ ] Blurred vision
- [x] Anxiety/nervousness
- [ ] Depression
- [ ] Vomiting / nausea
- [ ] Jaw pain (TMJ)
- [ ] LOC



8
8

All complaints due to stated injury: (Y) / N

If no: _____

X-ray: C/S: 3v, F/E, Obl. PMZ

L/S: 2v, 3v, F/E, Obl. _____

1/4/18 T/S: 2v Other: _____

Home therapy:

Ice: 12/18/17 daily : _____ / wk for 2 wks

Stretch: _____ daily : _____ / wk for _____ wks

Decrease activity/exertion 4 wks

Bed rest (at least 2 more hours of sleep) 4 wks

Theraband _____

Other supports: _____

REFERRALS/REPORTS

	Provider	Date referred	Date seen	Notes
GP	Coppel (12/18/17) Meds as Rx'd			
Imaging	MRI C/S, (1.8.18)			
Orthopedist				
Pain Mgmt				
Neurology				
Other	Machines			

PATIENT: Pons-Diaz, Armando DATE: DEC 18 2017 D.C.

NECK AND BACK

Height _____ Weight _____ Age 41 (M) F Ethnicity _____
Blood Pressure _____/_____ Pulse _____bpm Dom. Hand R / L

RANGE OF MOTION

	CERVICAL	LUMBAR
Flexion	___/65 Pain | 0 1 2 3 4 |	___/90 Pain | 0 1 2 3 4 |
Extension:	___/50 Pain | 0 1 2 3 4 |	___/35 Pain | 0 1 2 3 4 |
Rt. Lat. Flex:	___/40 Pain | 0 1 2 3 4 |	___/40 Pain | 0 1 2 3 4 |
Lt. Lat. Flex:	___/40 Pain | 0 1 2 3 4 |	___/40 Pain | 0 1 2 3 4 |
Rt. Rotation:	___/80 Pain | 0 1 2 3 4 |	___/20 Pain | 0 1 2 3 4 |
Lt. Rotation:	___/80 Pain | 0 1 2 3 4 |	___/20 Pain | 0 1 2 3 4 |

DTR (Wexler)	| R / L |
Biceps (C5)	| 2 / 2 |
Brachioradialis(C6)	| 2 / 2 |
Triceps (C7)	| 2 / 2 |
Patellar (L2,3,4)	| ___/___ |
Achilles (S1)	| ___/___ |

PATIENT SEATED

O'Donohues': + / -
Distraction: + / -
Shoulder Dep.: (-) R / L, Rad R / L
Foraminal Comp.: (-) R / L, Rad R / L

PATIENT SUPINE

Soto Hall's: + / - [Cer, Thor, Lum]
Laseque's: (-) R / L, Rad R / L
Braggard's: (-) R / L
Patrick's: (-) R / L

OTHER

George's: + / -
Valsalva: + / - / NI
Dejerines Triad: + / - / NI

PATIENT PRONE

Nachlas: (-) R / L
Hibb's: (-) R / L
Yeoman's: (-) R / L

PATIENT STANDING

Kemp's: (-) R / L (local), Rad R / L
Minor's Sign: + / -

Gait: Even : Irregular : Favoring [R / L]
Posture: Good : Fair : Antalgic _____

*Pain on (P)*alpation: Muscle *(S)*pasm:

Cervical	(P : S)	Lumbar	(P : S)
Upper-Thoracic	(P : S)	Lumbosacral	(P : S)
Mid-Thoracic	(P : S)	Sacroiliac	(P : S)
Lower-Thoracic	(P : S)		

Malingering:

Burns' Bench + / -
Hoover's + / -

MUSCLE TEST (Van Allen's)

[NI]	|R / L|	[NI]	|R / L|
Deltoid (C5)	| 5 / 5 |	Quads (L2-L4)	| ___/___ |
Wrist Ext. (C6)	| ___/___ |	Tib. Ant. (L3-L4)	| ___/___ |
Wrist Flex. (C7)	| ___/___ |	Ext. Big Toe (L4-L5)	| ___/___ |
Interossious (C8/T1)	| ___/___ |	Foot Eversion (L5-S1)	| ___/___ |

DERMATOMES

[NI]	|R / L|	[NI]	|R / L|
C5	| ___/___ |	L2	| ___/___ |
C6	| ___/___ |	L3	| ___/___ |
C7	| ___/___ |	L4	| ___/___ |
C8	| ___/___ |	L5	| ___/___ |
T1	| ___/___ |	S1	| ___/___ |

When did pain begin? Day of / Next day _____

Any pain prior to the accident? Y / N _____

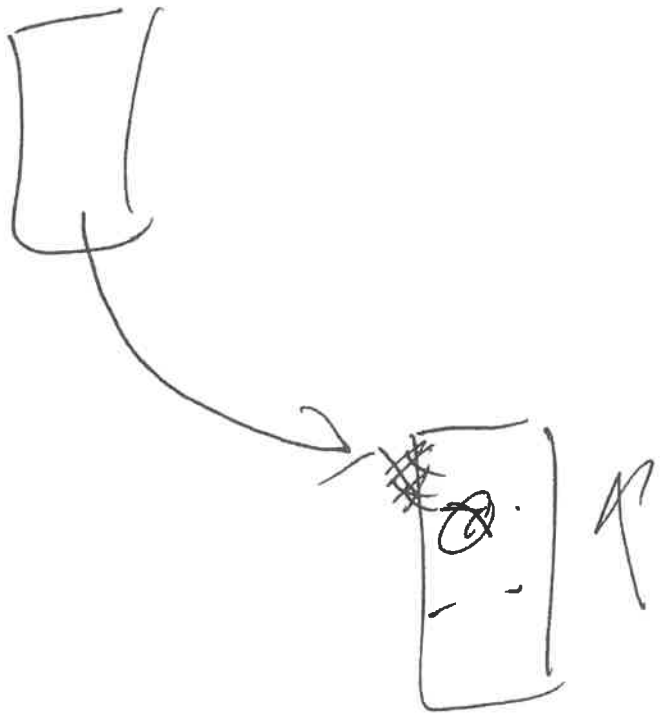
Remarks: _____

PATIENT: Pons-Diaz, Armando DATE: DEC 18 2017 D.C. _____

MECHANISM OF INJURY

Driver / Passenger
SB: Y / N
AB: Y / N
H/T: L / R
B/T: L / R
SW: L / R
PR: Y / N
Tx: Y / N

ER: Y / N
Where: _____
Ambulance/private vehicle: _____
x-ray, CT/MRI, meds, other



Did you expect the collision: Y / N

DEC 18 2017

PATIENT: _ Pons-Diaz, Armando _____ **D.C.:** _____

Diagnosis

Cervical			FIRST DATE	LAST DATE	PROGNOSIS
☑	*723.1*	*Cervicalgia*	12/18/17		
☑	*739.1*	***Nonallopathic lesion***			
☑	*847.0*	***Cervical S/S [1]***			
☐	*728.4*	***Ligament laxity***			
☐	*723.4*	*Radiculitis c/s [2]*			
☐	*722.0*	*Disc displacement*			
	○	Levels:			

Thoracic					
☑	*724.1*	*Thoracicalgia*			
☑	*739.2*	***Nonallopathic lesion***			
☑	*847.1*	***Thoracic S/S [1]***			
☐	*722.11*	*Disc displacement*			
	○	Levels:			

Lumbar					
☐	*724.2*	*Lumbago*			
☐	*739.3*	***Nonallopathic lesion***			
☐	*847.2*	***Lumbar S/S [1]***			
☐	*846.0*	*Lumbosacral S/S [1]*			
☐	*724.4*	*Radiculitis L/S [2]*			
☐	**728.4**	**Ligament laxity**			
☐	*722.10*	*Disc displacement*			
	○	Levels:			

Sacroiliac		
☐	*739.4*	*Nonallopathic lesion*
☐	*846.9*	*Sacroiliac S/S [1]*

Extremity S/S		
☐	840.9	**Shoulder [1]**
☐	*719.41*	*Arthralgia (shoulder)*
☐	841.9	**Elbow [1]**
☐	*719.43*	*Arthralgia (elbow)*
☐	842.00	**Wrist [1]**
☐	*719.44*	*Arthralgia (wrist)*
☐	842.10	**Hand [1]**
☐	843.9	**Hip [1]**
☐	*719.45*	*Arthralgia (hip)*
☐	844.9	**Knee [1]**
☐	*719.46*	*Arthralgia (knee)*
☐	845.00	**Ankle [1]**
☐	*719.47*	*Arthralgia (ankle)*
☐	845.10	**Foot [1]**
☐	*739.7*	***Nonallopathic lesions (upper)***
☐	*739.6*	***Nonallopathic lesions (lower)***

DEC 18 2017

Patient: Pons-Diaz, Armando

General Complaints

☐		*Range of Motion*
☐	*728.85*	*Spasm of muscle*
☐	*784.0*	*Headache*
☐	*780.4*	*Dizziness and giddiness*
☐	*780.5*	*Sleep disturbance*
☐	*780.7*	*Fatigue and malaise*
☐	*368*	*Visual Disturbance*
☐	*388.30*	*Tinnitus (unspecified)*
☐	*307.81*	*Tension headache*
☐	*728.87*	*Muscle weakness*
☐	*308.0*	*Anxiety and panic*
☐	*848.1*	*Jaw*
☐	*850*	*Concussion*

Chest/Ribs

☐	*786.50*	*Chest pain*
☐	*848.3*	*Rib S/S*
☐	*922.1*	***Chest contusion***
☐	*922.2*	***Abdominal contusion***

Contusion

☐	*922.1*	*Chest*
☐	*922.2*	*Abdomen*
☐	*922.31*	*Back*
☐	*923.0*	*Shoulder and upper arm*
☐	*923.1*	*Elbow and forearm*
☐	*923.2*	*Wrist and hand*
☐	*924.0*	*Hip and thigh*
☐	*924.1*	*Knee and lower leg*
☐	*924.2*	*Ankle and foot*

☐	*E812.0*	*Driver*
☐	*E812.1*	*Passenger*
☐	*E814.7*	*Pedestrian*

Other

DEC 18 2017

Patient: Pons-Diaz, Armando

RISK FACTORS FOR ACUTE INJURY

- [x] Driver
- [ ] Female
- [x] Increased age
- [ ] Rear impacts
- [ ] Head rotated at impact
- [x] Non-awareness of impact
- [ ] Thin or weak neck
- [x] Use of seat belts/shoulder harness
- [ ] Tall patients
- [ ] Female weighing less than 130 lbs.
- [ ] History of neck injury
- [ ] History of CAD injury
- [ ] Leaning forward/slumped body position
- [ ] Other car had more mass

RISK FACTOR FOR CHRONIC INJURY

- [x] Driver
- [ ] Female
- [x] Increased age
- [ ] Rear impact
- [ ] Head rotated at impact
- [x] Non-awareness of impact
- [ ] Thin or weak neck
- [x] High initial pain intensity
- [x] More area of initial symptoms
- [x] Headache
- [x] Muscle pain
- [x] Immediate/early onset of symptoms
- [x] Initial findings of limited ROM
- [x] Initial upper back pain
- [x] Initial back pain
- [x] Initial sleep disturbance or fatigue
- [ ] Disturbed vision
- [ ] Radiating symptoms to extremities
- [ ] Loss or reversal of cervical lordosis
- [ ] Foraminal stenosis
- [ ] Ligamentous instability

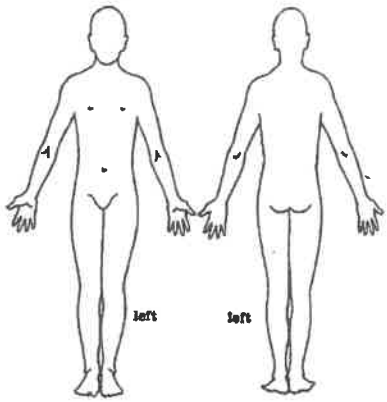
Note:

Patient: _ Pons-Diaz, Armando -

DEC 18 2017

SUB: N/C NOTE: Pt came in today a New NMA 3/13/18. Pt has New SX of B. ∴ we are closing this chart. **DATE:** MAR 1 3 2018 **D.C.** A

OBJ: N/C



TX: ADJ: C : T : L : LS : SI Other: _____

MFR MS Ice US _____

NMRE MS Heat IST (T : Ch) Paraffin

Exercises: Stretch _____ W1 : W2 : W3 T N
Wheel _____ Theraband _____

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

SUB: N/C **DATE:** **D.C.**

OBJ: N/C

TX: ADJ: C : T : L : LS : SI Other: _____

MFR MS Ice US _____

NMRE MS Heat IST (T : Ch) Paraffin

Exercises: Stretch _____ W1 : W2 : W3 T N
Wheel _____ Theraband _____

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

SUB: N/C **DATE:** **D.C.**

OBJ: N/C

TX: ADJ: C : T : L : LS : SI Other: _____

MFR MS Ice US _____

NMRE MS Heat IST (T : Ch) Paraffin

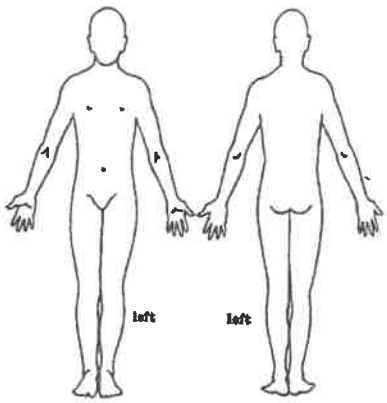
Exercises: Stretch _____ W1 : W2 : W3 T N
Wheel _____ Theraband _____

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

PATIENT: Pons-Diaz, Armando

SUB: N/C _____ DATE: MAR 0 1 2018 D.C. 20

OBJ: N/C _____



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MFR MS Ice US _____

NMRE MS Heat IST (T : Ch) Paraffin

Exercises: Stretch _____ W1 : W2 : W3 T N
Wheel _____ Theraband _____

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

SUB: N/C _____ DATE: MAR 0 5 2018 D.C. 4

OBJ: N/C _____

TX: ADJ: C : T : L : LS : SI Other: _____

MFR MS Ice US _____

NMRE MS Heat IST (T : Ch) Paraffin

Exercises: Stretch _____ W1 : W2 : W3 T N
Wheel _____ Theraband _____

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

SUB: N/C _____ DATE: MAR 0 6 [illegible] D.C. 4

OBJ: N/C _____

TX: ADJ: C : T L : LS : SI Other: _____

MFR MS Ice US _____

NMRE MS Heat IST (T : Ch) Paraffin

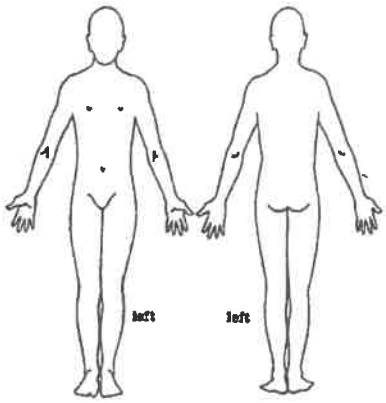
Exercises: Stretch _____ W1 : W2 : W3 T N
Wheel _____ Theraband _____

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

PATIENT: Pons-Diaz, Armando

SUB: N/C [illegible] DATE: FEB 1 4 2018 D.C. [illegible]

OBJ: N/C [illegible]



TX: ADJ: C : T L : LS : SI Other: _____

MFR MS Ice US _____

NMRE MS Heat IST (T : Ch) Paraffin

Exercises: Stretch _____ W1 : W2 : W3 T N
Wheel _____ Theraband _____

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

SUB: N/C _____ DATE: FEB 2 1 2018 D.C. [illegible]

Re-eval

OBJ: N/C _____

(EEP3)

TX: ADJ: C : T L : LS : SI Other: _____

MFR MS Ice US _____

NMRE MS Heat IST (T : Ch) Paraffin

Exercises: Stretch _____ W1 : W2 : W3 T N
Wheel _____ Theraband _____

Plan: 5X : 4X : 3X : 2X 1X / wk N/C

SUB: N/C [illegible] DATE: FEB 2 2 20[illegible] D.C. [illegible]

OBJ: N/C [illegible]

TX: ADJ: C : T L : LS : SI Other: _____

MFR MS Ice US _____

NMRE MS Heat IST (T : Ch) Paraffin

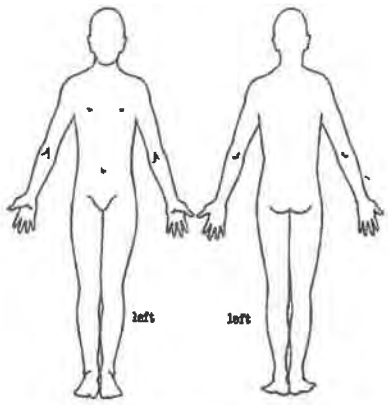
Exercises: Stretch _____ W1 : W2 : W3 T N
Wheel _____ Theraband _____

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

PATIENT: Pons-Diaz, Armando

SUB: N/C _____ DATE: FEB 0 7 2018 D.C. _____

OBJ: N/C _____



TX: ADJ: C : T : L : LS : SI Other: _____

MFR MS Ice US _____

NMRE MS Heat IST (T : Ch) Paraffin

Exercises: Stretch _____ W1 : W2 : W3 T N
Wheel _____ Theraband _____

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

SUB: N/C _____ DATE: FEB 0 9 2018 D.C. _____

OBJ: N/C _____

TX: ADJ: C : T : L : LS : SI Other: _____

MFR MS Ice US _____

NMRE MS Heat IST (T : Ch) Paraffin

Exercises: Stretch _____ W1 : W2 : W3 T N
Wheel _____ Theraband _____

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

SUB: N/C _____ DATE: FEB 1 3 2018 D.C. _____

OBJ: N/C _____

TX: ADJ: C : T : L : LS : SI Other: _____

MFR MS Ice US _____

NMRE MS Heat IST (T : Ch) Paraffin

Exercises: Stretch _____ W1 : W2 : W3 T N
Wheel _____ Theraband _____

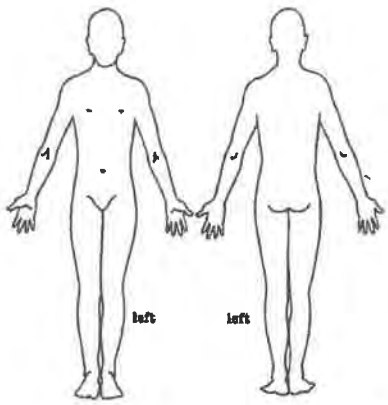
Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

Pons-Diaz, Armando

PATIENT: _____

SUB: N/C _____ DATE: JAN 2 9 2018 D.C. A

OBJ: N/C _____



TX: ADJ: C : T : L : LS : SI Other: _____

MFR MS Ice US _____

NMRE MS Heat IST (T : Ch) Paraffin

Exercises: Stretch _____ W1 : W2 : W3 T N
Wheel _____ Theraband _____

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

SUB: N/C _____ DATE: JAN 3 0 2018 D.C. A

OBJ: N/C _____

TX: ADJ: C : T : L : LS : SI Other: _____

MFR MS Ice US _____

NMRE MS Heat IST (T : Ch) Paraffin

Exercises: Stretch _____ W1 : W2 : W3 T N
Wheel _____ Theraband _____

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

SUB: N/C _____ DATE: FEB 0 1 2018 D.C. JC

OBJ: N/C _____

TX: ADJ: C : T : L : LS : SI Other: _____

MFR MS Ice US _____

NMRE ~~MS~~ Heat ~~IST~~ (T Ch) Paraffin

Exercises: Stretch _____ W1 : W2 : W3 T N
Wheel _____ Theraband _____

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

PATIENT: Pons-Diaz, Armando

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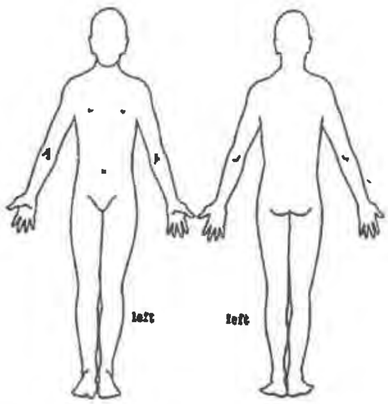
OBJ: N/C [illegible handwriting]



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MFR MS Ice US

NMRE MS Heat IST (T : Ch) Paraffin

Exercises: Stretch Wheel W1 : W2 : W3 T N Theraband

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

SUB: N/C [illegible handwriting] DATE: JAN 2 4 2018 D.C. [illegible initials]

OBJ: N/C [illegible handwriting]

TX: ADJ: C : T : L : LS : SI Other:

MFR MS Ice US

NMRE MS Heat IST (T : Ch) Paraffin

Exercises: Stretch Wheel W1 : W2 : W3 T N Theraband

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

SUB: N/C DATE: ~~JAN 2 6 2018~~ D.C.

OBJ: N/C

[illegible initials]

TX: ADJ: C : T : L : LS : SI Other:

MFR MS Ice US

NMRE MS Heat IST (T : Ch) Paraffin

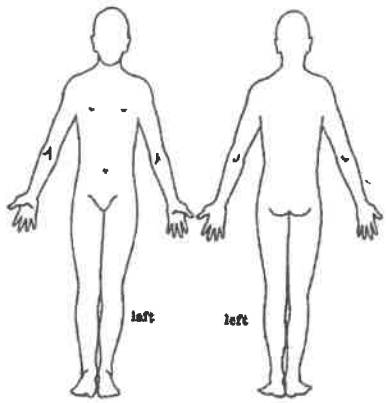
Exercises: Stretch Wheel W1 : W2 : W3 T N Theraband

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

PATIENT: Pons-Diaz, Armando

SUB: N/C DATE: JAN 0 9 2018 D.C.

OBJ: N/C



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MFR MS Ice US

NMRE MS Heat IST (T : Ch) Paraffin

Exercises: Stretch Wheel W1 : W2 : W3 T N Theraband

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

SUB: N/C DATE: JAN 1 2 2018 D.C.

OBJ: N/C

TX: ADJ: C : T : L : LS : SI Other:

MFR MS Ice US

NMRE MS Heat IST (T : Ch) Paraffin

Exercises: Stretch Wheel W1 : W2 : W3 T N Theraband

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

SUB: N/C DATE: JAN 1 8 2018 D.C.

OBJ: N/C Re-Eval

TX: ADJ: C : T : L : LS : SI Other:

MFR MS Ice US

NMRE MS Heat IST (T : Ch) Paraffin

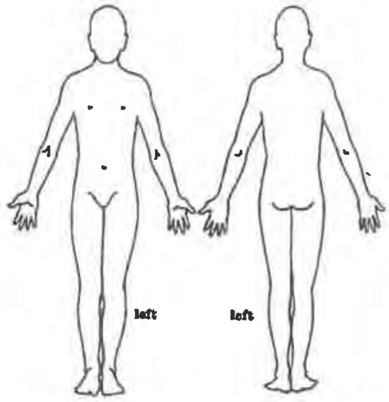
Exercises: Stretch Wheel W1 : W2 : W3 T N Theraband

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

PATIENT: Pons-Diaz, Armando

SUB: N/C DATE: DEC 2 2 2017 D.C.

OBJ: N/C



TX: ADJ: C : T : L : LS : SI Other:

MFR MS Ice US

NMRE MS Heat IST (T : Ch) Paraffin

Exercises: Stretch Wheel W1 : W2 : W3 T N Theraband

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

SUB: N/C DATE: JAN 0 4 2018 D.C.

OBJ: N/C

X 5c

TX: ADJ: C : T : L : LS : SI Other:

MFR MS Ice US

NMRE MS Heat IST (T : Ch) Paraffin

Exercises: Stretch Wheel W1 : W2 : W3 T N Theraband

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

SUB: N/C Consult DATE: JAN 0 8 2018 D.C.

OBJ: N/C CMT

TX: ADJ: C : T : L : LS : SI Other:

MFR MS Ice US

NMRE MS Heat IST (T : Ch) Paraffin

Exercises: Stretch Wheel W1 : W2 : W3 T N Theraband

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

PATIENT: Pons-Diaz, Armando

SUB: N/C DATE: DEC 18 2017 D.C.

OBJ: N/C

TX: ADJ: C : T : L : LS : SI Other:

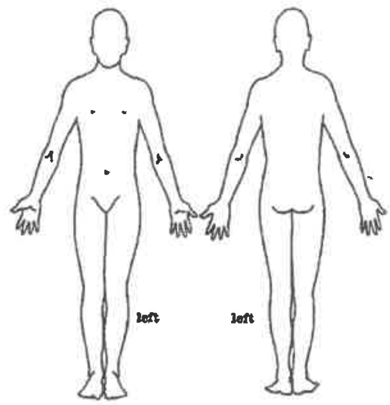
MFR MS Ice US

NMRE MS Heat IST (T : Ch) Paraffin

Exercises: Stretch W1 : W2 : W3 T N

Wheel Theraband

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C



SUB: N/C DATE: DEC 19 2017 D.C.

OBJ: N/C

TX: ADJ: C : T : L : LS : SI Other:

MFR MS Ice US

NMRE MS Heat IST (T : Ch) Paraffin

Exercises: Stretch W1 : W2 : W3 T N

Wheel Theraband

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

SUB: N/C DATE: DEC 20 2017 D.C.

OBJ: N/C

TX: ADJ: C : T : L : LS : SI Other:

MFR MS Ice US

NMRE MS Heat IST (T : Ch) Paraffin

Exercises: Stretch W1 : W2 : W3 T N

Wheel Theraband

Plan: 5X : 4X : 3X : 2X : 1X / wk N/C

PATIENT: Pons-Diaz, Armando

RE-EVALUATION

D.C.: Dr. [illegible] DATE: 1.18.18

[ROM]	CERVICAL	LUMBAR
Flexion	___/65 [0 1 2 3 4]	___/90 [0 1 2 3 4]
Extension:	___/50 [0 1 2 3 4]	___/35 [0 1 2 3 4]
Rt. Lat. Flex.:	___/40 [0 1 2 3 4]	___/40 [0 1 2 3 4]
Lt. Lat. Flex.:	___/40 [0 1 2 3 4]	___/40 [0 1 2 3 4]
Rt. Rotation:	___/80 [0 1 2 3 4]	___/20 [0 1 2 3 4]
Lt. Rotation:	___/80 [0 1 2 3 4]	___/20 [0 1 2 3 4]

Palpation elicited tenderness: Muscle Spasms were present:

Cervical	(P:S)	Lumbar	(P:S)
Upper-Thoracic	(P:S)	Lumbosacral	(P:S)
Mid-Thoracic	(P:S)	Sacroiliac	(P:S)
Lower-Thoracic	(P:S)		

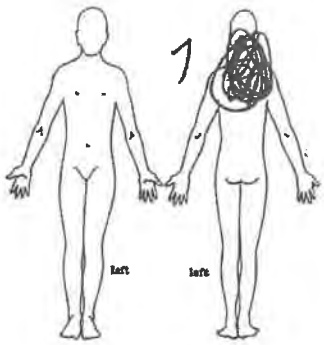
PATIENT SEATED
- O'Donohues': +/-
- Distraction: +/-
- Shoulder Dep.: (-) R/L, Rad R/L
- Foraminal Comp.: (-) R/L, Rad R/L

PATIENT PRONE
- Nachlas: (-) R/L
- Hibb's: (-) R/L
- Yeoman's: (-) R/L

PATIENT SUPINE
- Soto Hall's: +/- [Cer, Thor, Lum]
- Laseque's: (-) R/L, Rad R/L
- Braggard's: (-) R/L
- Patrick's: (-) R/L

PATIENT STANDING
- Kemp's: (-) R/L (local), Rad R/L
- Minor's Sign: +/-

OTHER
- George's: +/-
- Valsalva: +/-/NI
- Dejerines Triad: +/-/NI



Remarks: [illegible]

RE-EVALUATION

D.C.: Dr. [illegible] DATE: 2/21/18

[ROM]	CERVICAL	LUMBAR
Flexion	___/65 [0 1 2 3 4]	___/90 [0 1 2 3 4]
Extension:	___/50 [0 1 2 3 4]	___/35 [0 1 2 3 4]
Rt. Lat. Flex.:	___/40 [0 1 2 3 4]	___/40 [0 1 2 3 4]
Lt. Lat. Flex.:	___/40 [0 1 2 3 4]	___/40 [0 1 2 3 4]
Rt. Rotation:	___/80 [0 1 2 3 4]	___/20 [0 1 2 3 4]
Lt. Rotation:	___/80 [0 1 2 3 4]	___/20 [0 1 2 3 4]

Palpation elicited tenderness: Muscle Spasms were present:

Cervical	(P:S)	Lumbar	(P:S)
Upper-Thoracic	(P:S)	Lumbosacral	(P:S)
Mid-Thoracic	(P:S)	Sacroiliac	(P:S)
Lower-Thoracic	(P:S)		

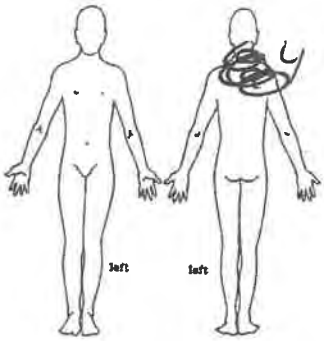
PATIENT SEATED
- O'Donohues': +/-
- Distraction: +/-
- Shoulder Dep.: (-) R/L, Rad R/L
- Foraminal Comp.: (-) R/L, Rad R/L

PATIENT PRONE
- Nachlas: (-) R/L
- Hibb's: (-) R/L
- Yeoman's: (-) R/L

PATIENT SUPINE
- Soto Hall's: +/- [Cer, Thor, Lum]
- Laseque's: (-) R/L, Rad R/L
- Braggard's: (-) R/L
- Patrick's: (-) R/L

PATIENT STANDING
- Kemp's: (-) R/L (local), Rad R/L
- Minor's Sign: +/-

OTHER
- George's: +/-
- Valsalva: +/-/NI
- Dejerines Triad: +/-/NI



Remarks: [illegible]

FINAL EVALUATION

D.C.: _____ DATE: _____

[ROM]	CERVICAL	LUMBAR
Flexion	___/65 [0 1 2 3 4]	___/90 [0 1 2 3 4]
Extension:	___/50 [0 1 2 3 4]	___/35 [0 1 2 3 4]
Rt. Lat. Flex.:	___/40 [0 1 2 3 4]	___/40 [0 1 2 3 4]
Lt. Lat. Flex.:	___/40 [0 1 2 3 4]	___/40 [0 1 2 3 4]
Rt. Rotation:	___/80 [0 1 2 3 4]	___/20 [0 1 2 3 4]
Lt. Rotation:	___/80 [0 1 2 3 4]	___/20 [0 1 2 3 4]

Palpation elicited tenderness: Muscle Spasms were present:

Cervical	(P:S)	Lumbar	(P:S)
Upper-Thoracic	(P:S)	Lumbosacral	(P:S)
Mid-Thoracic	(P:S)	Sacroiliac	(P:S)
Lower-Thoracic	(P:S)		

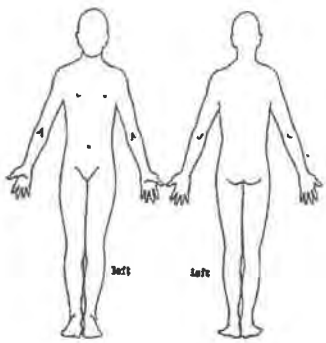
PATIENT SEATED
- O'Donohues': +/-
- Distraction: +/-
- Shoulder Dep.: (-) R/L, Rad R/L
- Foraminal Comp.: (-) R/L, Rad R/L

PATIENT PRONE
- Nachlas: (-) R/L
- Hibb's: (-) R/L
- Yeoman's: (-) R/L

PATIENT SUPINE
- Soto Hall's: +/- [Cer, Thor, Lum]
- Laseque's: (-) R/L, Rad R/L
- Braggard's: (-) R/L
- Patrick's: (-) R/L

PATIENT STANDING
- Kemp's: (-) R/L (local), Rad R/L
- Minor's Sign: +/-

OTHER
- Valsalva: +/-/NI
- Dejerines Triad: +/-/NI



Remarks: _____

PROGNOSIS: _____ **FUTURE THERAPY:** _____

PATIENT: Pons-Diaz, Armando

DEC 18 2017

INFORMACION DEL PACIENTE

Fecha: 12-18-17

Favor de marcar el tipo de servicio desiado:
☐ Alivio de dolor solamente ☐ Correccion duradera y prevencion

Nombre Armando Pons

Tel de casa ( ) **cellular** (702) 542-6449

Domicilio 4600 Sirius **Apt.** I-151 **Ciudad** Las Vegas **Estado** NV

Zona postal 89102 **Edad** 41 **Fecha de nacimiento**

Numero de Seguro Social: **Estado civil** C S V D

Ocupación Driver Truck **Compañía** Velazco and Pons trucking

Dirección del Empleo 4600 Sirius ave apt I-151 89102 Las Vegas NV

Numero de Teléfono de su Trabajo 702-542-6449

En caso de emergencia llamar a: Nombre Cristhian **Tel** 702-542-7519

Ha recibido alguna vez cuidado de quiropractico? ___Si ___X___No

Fecha que síntomas aparecieron

Circule todos los síntomas que a notado relacionado con este problema o accidente:

☐ Dolor de Cuello	☐ Dolor abajo de las Piernas	☐ Mareos	☐ Respiracion Corta
☐ Tension de Cuello	☐ Dolor Entre los Hombros	☐ Cabeza Pesada	
		☐ Cabeza Lijera	☐ Perdida de equilibrio
☐ Dolor de Espalda	☐ Dedo(s) entumecidos		☐ Sonido de Oidos
☐ Tension de Espalda	☐ Dedo(s) del(os) pie(s) entumecidos	☐ Nerviosismo	
		☐ Confusion	☐ Tension
☐ Dolor de Espalda Inferior			☐ Depresión
	☐ Hormiguero de Pie(s)	☐ Sudor Frio	☐ Desmayos
☐ Tension de Espalda Inferior	☐ Hormiguero de Braso(s)	☐ Desorientado	☐ Fatiga
			☐ Molestia de Ojos
☐ Dolor abajo de los Brasos	☐ Arrebato Muscular		☐ Vision Borrosa
	☐ Dolor de Cabeza	☐ Dolor de Pecho	

Otro:

Fecha de su último chequeo fisico

A tenido sirugias? ___Si ___X___**No (incluir fechas de Enfermedades Serias)**

Dislocación y/o Fracturas (incluir fechas)

Actualmente tiene usted alguna condición o enfermedad seria? ___Si ___X___**No**

Si es asi, Describa

Que medicamento o drogas esta tomando? Advil

Tiene algun tipo de Alergias? No

Fuma? ___Si ___X___**No**

Tiene Seguro Medico? ____**Si** __X__**No**

Si es asi, nombre de compañia de aseguranza primaria:_____

Nombre de aseguranza secundaria, si alguna:_____

Si relacionado con un accidente automovilístico, anote el nombre de la compañia de seguro de su auto: State Farm

Ha hecho un reclamo con su compañia de seguro de auto? Si hecho, anote el número del reclamo: NO

Nombre de Agencia de su seguro de auto o liquidador y numero de telefono:_____

_____

¿Su seguro de automóvil cubre gastos medicos? X **Si** ____**No**

Nombre de abogado: Eric Blank

AUTORIZACIÓN Y LANZAMIENTO DE EXPEDIENTES: Entiendo que es politica de la oficina colectar cargos mientras que se rinden a menos que otras medidas se tomen por adelantado.

Entiendo que si los cargos para los servicios son cubiertos por el seguro, esta oficina mandará la cuenta a mi compañía de seguro y acordará aguardar pago y aceptara la asignación de pago mientras la políza este en efecto o hasta que esta oficina eliga. Autorizo por este medio el pago de beneficios de seguro ser pagado directamente al quiropractico o a la oficina del quiropractico. ENTIENDO Y CONVENGO QUE LAS POLIZAS DE SEGURO DE SALUD Y DE ACCIDENTE DE AUTOMÓVIL SON UN ARREGLO ENTRE MI PORTADOR DE SEGURO Y DE MI MISMO Y QUE SOY RESPONSABLE DE CUALESQUIERA Y DE TODAS LAS CARGOS RENDIDOS EN MI FAVOR. Esta oficina preparará cualquier informe necesario o formas para asistirme en la fabricación de colecciones de la compañía de seguros y cualquier cantidad autorizada para ser pagada directamente a esta oficina será acreditada a mi cuenta sobre recibo. Sin embargo, esta oficina no entrara en un conflicto con su compañía de seguros sobre su demanda. También entiendo que si suspendo o termino mi cuidado en esta oficina, cualquier balance sin pagar de servicios rendidos será inmediatamente debido y pagadero.

Permito que esta oficina endorse cualquier remesa co-publicada para el transporte del crédito a mi cuenta.

Si esta cuenta es asignada a colección y/o demanda, los gastos e interés de la colección, y/o los honorarios del abogado, y/o los gastos de la corte es agregada a la cantidad total debida.

Aviso: No todos los pacientes requieren radiografías para determinar o verificar el diagnostico, tipo de tratamiento y longitud del tratamiento; si su examinación requiere análisis radiografico, la siguiente poliza prevalece: El honorario pagado para radiografías es para el análisis solamente. Las radiografias son la propiedad de esta oficina.

Firma de Paciente: _____ **Fecha:** 12-18-17

Nombre Escrito: Armando Pons

Firma de Guardian o Tutor: _____ **Fecha:**_____

Nombre Escrito:_____

QUESTIONARIO PERSONAL DE LESIONES

Nombre del Paciente: Armando Pons **Fecha:** 12-18-17

Fecha del accidente: 12-15-17 **Hora del accidente:** _____ **am / pm**

Marca de su vehiculo: ~~Acura~~ toyota **Año:** 2014 **Modelo:** XL Camry

Marca del otro vehiculo: Acura **Año:** 2003 **Modelo:** _____

Al tiempo del accidente, su vehiculo estaba: **Moviendo/Parado**

¿Se dio cuenta cuando se aproximaba el accidente? **SI/NO**

¿El accidente fue de sorpresa? **SI/NO**

¿En donde estaba sentado en el vehiculo? **Manejador/Pasajero:**

En frente/Atras (Derecho/En medio/ Izquierda)

Numero de personas en su vehiculo: 1

¿En que calle estaba? Arville

¿La policia fue notificada? **SI/NO** **¿Vinieron al lugar del accidente?** **SI/NO**

¿Hay reporte de policia? **SI/NO**

Desde que occurio el accidente, sus sintomas han: Mejorado/Peor/Igual

Estuvo Inconciente? **SI /NO** **¿Por cuanto tiempo?** _____

¿Fue al hospital? **SI/NO**

Si fue, nombre del hospital? _____

¿Como llego al hospital? **Ambulancia/Vehiculo Privado**

Le tomaron radiografias en el hospital? **SI/NO**

¿Ha sido tratado por otro doctor desde que paso el accidente? **SI/NO**

Nombre del doctor, direccion y numero de telefono: _____

_____

_____

¿Al tiempo del accidente, su cuerpo estaba mirando para enfrente? **SI/NO**

Si no, como esta voltiado su cuerpo? _____

¿Su cabeza estaba para enfrente? **SI/NO**

Si no, como estaba voltiada su cabeza? _____

¿Tenia puesto el cinturon de seguridad? SI/NO

Acual cinturon? De cintura _____el de los hombros_____, o de los dos X

¿Salio la bolsa de aire? SI/NO

¿Su asiento tiene respaldo para la cabeza? SI/NO Que tan alto:Arriba/En medio/Abajo de la cabeza

¿Alguna parte de su cuerpo pego contra el vehiculo? SI/NO

Describa en donde: Techo del auto

¿Esta reciviendo otro tipo de tratamiento para otras heridas o enfermedades? SI/NO

Por favor describa en detalle:_____

_____

_____

Ha tenido otro accidente antes de este? SI/NO

Si asi fue, por favor describa, fecha, tipo de accidente, y otras heridas sustenidas:

_____

_____

_____

_____

Por favor mencione alguna otra informacion :_____

_____

_____

_____

***Firma del Paciente:**_____ **Fecha:** 12-18-17

Nombre Escrito: Armando Pons

Firma del padre o guardian:_____ **Fecha:**_____

Nombre Escrito:_____

Inicial del doctor:_____

EXHIBIT 14

MACHUCA MEDICINE
1501 S. EASTERN AVE, LV NV 89104
ROGELIO MACHUCA , M.D.
702-778-7614 FAX 778-7615

Statement Date	Page
4/3/2018	1

ACCT#

ARMANDO PONS

DOB **TAX ID #**

Case Description: PI

12/20/2017	**COMPREHENSIVE CONSULT 99244**	**$500.00**
2/14/2018	**OFFICE/PATIENT VISIT 99214**	**$250.00**

FINAL BILLS AND RECORDS

Z04.1 INJURIES SUSTAINED IN PI
INITIAL/LIEN SENT AT START OF TX
PLEASE REQUEST FINAL BILLS AND RECORDS WHEN READY FOR DEMAND

Total Charges	Total Payments	Total Adjustments	Balance Due
$750.00	$0.00	$0.00	**$750.00**

PATIENT
ARMANDO PONS
DOB
AGE 41 yrs
SEX Male
PRN

FACILITY
MACHUCA FAMILY MEDICINE AT JONES
T (702) 906-2976
F (702) 906-2977
6110 Elton Ave
Las Vegas, NV 89107

ENCOUNTER
Office Visit
NOTE TYPE SOAP Note
SEEN BY Maria Machuca APRN
DATE 12/20/2017
AGE AT DOS 41 yrs
Not signed

Chief complaint

atty; eric blank
chiro; meadows chiro
doi: 12/15/17 (Appt time: 2:15 PM) (Arrival time: 2:02 PM)

new auto

Vitals for this encounter

	12/20/17 2:21 PM
Height	67 in
Weight	231 lb
Temperature	96.90 °F
Pulse	81 bpm
Respiratory rate	16 bpm
O2 Saturation	93 %
BMI	36.18
Blood pressure	134/80 mmHg

SUBJECTIVE

41 year old male with no significant past medical history presents as a restrained driver of a vehicle status post motor vehicle accident. Patient states the vehicle he was riding in was T-boned. He is currently complaining of neck pain, bilateral trapezius pain, upper back pain. He states that the pain has been stable and constant, 8/10. Date of accident was 12/15/17..
REVIEW OF SYSTEMS:. General: No fever or chills. Head: No headaches, no vertigo. Eyes: Normal vision, no diplopia, no tearing, no pain. Chest: No dyspnea, no wheezing, no hemoptysis, no cough. Heart: No chest pains, no palpitations, no syncope, no orthopnea. Abdomen: No change in appetite, no dysphagia, no abdominal pains, no bowel habit changes, no emesis, no melena. Neurologic: no tremor, no seizures, no changes in mentation, no ataxia.

OBJECTIVE

GENERAL: Normotensive, well nourished male sitting on exam table.

HEENT: NC AT EOMI Tenderness with palpation along the cervical area which radiates down into the bilateral trapezius muscle. No erythema in the pharynx.

LUNGS: CTAB No wheezes or crackles no pain with respirations.

CHEST: No pain with palpation.

HEART: S1 S2 No murmurs, rubs or gallops.

ABDOMEN: Soft non tender non distended with positive bowel sounds.

MUSCULOSKELETAL: Hyper-tonicity along the thoracic area. Para-spinous pain along the thoracic area. Patient is complaining of thoracic pain and stiffness with flexion and extension..

ASSESSMENT

CERVICAL SPRAIN/STRAIN. (S13.4XX) CERVICAL PAIN. (M54.2). BILATERAL TRAPEZIUS SPRAIN/STRAIN.(S46.819X). THORACIC SPRAIN/STRAIN. (S23.3XX) THORACIC PAIN. (M54.6). ENCOUNTER FOR EXAMINATION AND OBSERVATION FOLLOWING MOTOR VEHICLE ACCIDENT. (Z04.1).

PLAN

1.- Follow-up and evaluate progress in 2 weeks.
2.- Conservative rehabilitation for 12-15 weeks to include passive and active therapy, along with Physiotherapy and chiropractic modalities.
3.- May be a candidate for trigger point injections if not responsive to a course of conservative therapy.
4.- May need orthopedic evaluation if not responding to above.
5.- May need pain management consultation if pain is not controlled as outlined above.
6.- Medications: I have prescribed the patient a muscle relaxer Flexeril 10 mg 1 tab PO TID as needed for spasms #100 and an anti-inflammatory Ibuprofen 800 mg 1 tab PO TID as needed for pain #100.

It is in my opinion to a reasonable degree of medical probability the injuries that I diagnosed and treated the patient for were caused by the accident of 12/15/17.

Maria Machuca, DNP, APRN-BC.

Medications attached to this encounter:

Cyclobenzaprine HCl 10 MG Oral Tablet Sig: Take 1 tablet (10 mg) by mouth 3 times per day as needed

Ibuprofen 800 MG Oral Tablet Sig: Take 1 tablet (800 mg) by mouth 3 times per day with food or milk

PATIENT		FACILITY	ENCOUNTER	
ARMANDO PONS		MACHUCA FAMILY MEDICINE AT JONES	Office Visit	
DOB		T (702) 906-2976	NOTE TYPE	SOAP Note
AGE	41 yrs	F (702) 906-2977	SEEN BY	Maria Machuca APRN
SEX	Male	6110 Elton Ave	DATE	02/14/2018
PRN		Las Vegas, NV 89107	AGE AT DOS	41 yrs
			Not signed	

Chief complaint

(Appt time: 1:15 PM) (Arrival time: 12:40 PM)

auto f/u

Vitals for this encounter

	02/14/18 1:07 PM
Height	67 in
Weight	237 lb
Temperature	98.30 °F
Pulse	82 bpm
Respiratory rate	18 bpm
O2 Saturation	97 %
BMI	37.12
Blood pressure	118/74 mmHg

SUBJECTIVE

41 year old male is here for follow up status post motor vehicle accident. He reports decreased pain in his neck and back. He states that pain is about 5-6/10. He states that pain medication does help alleviate the pain. He continues with chiropractor for therapy which does help.
REVIEW OF SYSTEMS:. General: No fever or chills. Head: No headaches, no vertigo. Eyes: Normal vision, no diplopia, no tearing, no pain. Chest: No dyspnea, no wheezing, no hemoptysis, no cough. Heart: No chest pains, no palpitations, no syncope, no orthopnea. Abdomen: No change in appetite, no dysphagia, no abdominal pains, no bowel habit changes, no emesis, no melena. Neurologic: no tremor, no seizures, no changes in mentation, no ataxia.

OBJECTIVE

GENERAL: Normotensive, well nourished male sitting on exam table..
HEENT: NC AT EOMI Tenderness with palpation along the cervical area which radiates down into the bilateral trapezius muscle. No erythema in the pharynx..
LUNGS: CTAB No wheezes or crackles no pain with respirations.
CHEST: No pain with palpation..
HEART: S1 S2 No murmurs, rubs or gallops..
ABDOMEN: Soft non tender non distended with positive bowel sounds.
MUSCULOSKELETAL: Hyper-tonicity along the thoracic area. Para-spinous tenderness along the thoracic area.

ASSESSMENT

CERVICAL SPRAIN/STRAIN. (S13.4XX) CERVICAL PAIN. (M54.2). BILATERAL TRAPEZIUS SPRAIN/STRAIN.(S46.819X). THORACIC SPRAIN/STRAIN. (S23.3XX) THORACIC PAIN. (M54.6). ENCOUNTER FOR EXAMINATION AND OBSERVATION FOLLOWING MOTOR VEHICLE ACCIDENT. (Z04.1).

PLAN

Patient to continue pain medication as needed for pain.
Patient to continue therapy with chiropractor.
Patient to follow up for evaluation in 4 weeks.

Maria Machuca, DNP, APRN

MACHUCA MEDICINE DISPENSARY

ROGELIO MACHUCA MD
1501 S. Eastern Ave.
Las Vegas, NV 89104

4/3/2018

Pharmacy Bill

PATIENT ARMANDO PONS
DOB

ACCT #

Date		Amount
12/20/2017	CYCLOBENZAPHINE HCL 10 ML QTY 90	$155.00
12/20/2017	IBUPROFEN 800MG QTY 90	$180.00

FINAL BALANCE

$0.00	$0.00	$335.00

Tax ID:45-2550366
P:(702)788-0584

Rogelio Machuca M.D. Family Medicine
F:(702)875:4165

EXHIBIT 15

Shield
Radiology Consultants Report

Toll Free 1-800-330-0772
Facsimile (435) 674-2588
info@shieldradiology.com

PATIENT NAME : Pons-Diaz, Armando
AGE / DOB / SEX : ' Male
REPORT NUMBER : PO-0118-5227

DATE OF EXAM : 01-04-2018
DATE OF REPORT : 01-12-2018

REFERRING OFFICE : The Physicians @ Meadows Chiropractic
3441 W. Sahara Ave., Suite C7 Las Vegas, NV 89102

INDICATIONS: A patient history of "Motor Vehicle Accident" was submitted.
Digital images are submitted for evaluation.

TECHNIQUE: (5) CERVICAL SPINE: APOM, APLC, LAT NEUTRAL, LAT FLEXION & EXTENSION VIEWS.
The 'Penning Method' demonstrates grossly unremarkable intersegmental mobility. The cervical vertebral body heights are maintained. The dens & atlantoaxial joint spaces are intact. There are bony proliferative changes & intercallary bones noted along the vertebral body margins of the mid and lower cervical spine. As visualized, the regional soft tissues are radiographically unremarkable.

IMPRESSIONS :
1. Mild spondylosis deformans of the mid and lower cervical spine.

POSTURAL / BIOMECHANICAL ADAPTATION :
A. The Angle of the Cervical Curve indicates a decrease in the normally anticipated cervical lordosis.
B. The Cervical Gravity Line indicates anterior weight bearing of the head and cervical spine.
C. There is a right lateral listing of the cervical spine.

RECOMMENDATIONS / COMMENTS :
1. The impressions in this report are based upon the radiographic findings, as visualized; conservative care should be correlated with the patient's current clinical status, with follow-up diagnostic imaging as warranted.
2. The postural / biomechanical adaptations as noted above may be the result of a recent traumatic event; correlation is recommended between these adaptations and the clinical evaluation of ligamentous stability and muscle tonicity.

Ammon Strehlow, DC, DACBR
Ammon Strehlow, DC, DACBR
Diplomate, American Chiropractic Board of Radiology

JAN 17 2018

Shield
Radiology Consultants Requisition

Toll Free 1-800-330-0772
Facsimile (435) 674-2588
info@shieldradiology.com

PATIENT INFORMATION & MEDICAL HISTORY

☑MVA ☐Acute Injury ☐Insidious Onset ☐Other
☐Malignancies ☐Surgeries ☐Congenital Anomalies

Armando Pons
Patient Name (please print clearly) ☐ Female ☑ Male

4600 Sirius ave apt J-151
Patient's Home Address

Las Vegas NV 89102
City, State, Zip Code

Social Security Number

702-542-6449
Home Phone Number

Patient Date of Birth

12-15-17
Date of Injury

BILLING INFORMATION

☐Attorney ☐Insurance ☐Patient ☐Referring Physician
See Attached Paperwork ☐Past Medical History ☐Billing

Law Offices Of Eric Blank
7860 W. Sahara Ave., Ste. 110
Las Vegas, NV 89117
P: (702)222-2115 / F: (702)227-0615
City, State, Zip Code

Insurance Policy Number

Accident Claim Number

Name of Adjuster

Adjuster's Phone Number

INFORMED CONSENT: I understand and agree that the services of Strehlow Radiology Consulting, LLC, dba Shield Radiology Consulting ("SRC"), are being used to provide a secondary review and interpretation of my x-rays or other advanced imaging study for the purpose of determining the extent of any damage, diagnose and/or to determine the best course of treatment. I understand that there is a separate fee for this service and that all costs for services may be billed by SRC. In accordance with the Medicare Act, this is to advise you that this is a non-covered service.

RELEASE OF INFORMATION: I hereby authorize the SRC to obtain from, and to furnish to, my physician, attorney, and/or insurance carrier a full report of my case history, medical records, examination results, diagnosis, and prognosis as they relate to my accident, claim, treatment or illness.

DOCTORS LIEN: I hereby expressly grant to SRC a lien on any settlement, claims, judgments, verdicts or proceeds whatsoever arising from my accident or illness. I further expressly instruct, authorize and direct my attorney and insurance carrier to pay directly SRC at Shield Radiology Consulting, LLC, 144 W. Brigham Rd., Suite 8B-5 - St. George, UT 84790 all sums due and owing SRC for the services rendered to me or on my behalf, and to withhold such sums from any settlement, claim, judgment, verdict as are necessary to pay the same. I UNDERSTAND THAT I AM DIRECTLY RESPONSIBLE TO SRC FOR ALL CHIROPRACTIC OR RADIOLOGY BILLS SUBMITTED BY SRC FOR SERVICES RENDERED TO ME OR ON MY BEHALF, and that this agreement is made solely for SRC's protection and to insure payment. I expressly acknowledge and agree that payments for services to SRC are not contingent on any recovery, settlement, claim, judgment, or verdict being recovered by me. I understand and agree that this agreement shall be binding upon any substitute counsel retained by me and that I will promptly notify SRC of any change in counsel/attorney or changes in my home address.

SIGNATURES & COPIES: I hereby authorize SRC as my attorney-in-fact for the purposes of signing any two-party checks received by SRC any time payment is made in the form of a two-party check or when dual signatures are required for payment of services from an insurance company or third party payer. I do hereby warrant and agree that a photocopy or facsimile of this document will be as valid & binding on all parties involved as the original document.

Patient Signature or Guardian Signature Date

Meadows Chiropractic (702) 220-9191
Referring Physician or Office

Being the Attorney of record or an authorized representative for the above named patient does hereby acknowledge this lien and does agree to honor the same to protect adequately Shield Radiology.

Attorney Signature or Authorized Representative

Nombre: Pons-Diaz, Armando Fecha: JAN 1 2 2018

¿En Que A Cambiado Su Vida Diaria?

Para que podamos entender de mejor manera sus necesidades para recuperarse, por favor indique cualquier dificultad que tenga en su vida diaria a causa de sus lesiones.

Hogar

- [x] Limpieza
- [ ] Cocinar
- [x] Jardineria
- [ ] Lavar Dientes
- [ ] Peinarse
- [ ] Bañarse
- [ ] Subir Escaleras
- [ ] Bajar Escaleras
- [ ] Otros:

Trabajo

- [ ] Sentarse (15 min)
- [ ] Pararse (15 min)
- [x] Alzar, Levantar (10 lbs.)
- [x] Empujar (25 lbs.)
- [x] Dificultades en general (Explicar) Dolor en el cuello cuando lo giro a la izquierda
- [ ] Otros:

Familia

- [ ] Jugar con niños
- [ ] Salida Familiar

JAN 1 2 2018

(CONTINÚA EN LA PÁGINA POSTERIOR)

☐ Relaciones Sexuales
☐ Otros: _____

Pasatiempos

☑ Ejercicios
☐ Golf
☐ Bicicleta
☐ Boliche
☐ Bailar
☐ Compras
☐ Soccer
☐ Otros: Yo no juego nada de eso

Otros

☑ Miedo cuando Maneja
☐ Concentrarse
☐ Recordar
☐ Conversar
☐ Resolver Problemas
☐ Anormalidad Emocional (explicar) _____
☐ Otros: _____

Esta lista es solo un ejemplo, porfavor anote cualquier otra actividad afectada por sus lesiones.

1500

HEALTH INSURANCE CLAIM FORM

APPROVED BY NATIONAL UNIFORM CLAIM COMMITTEE (NUCC) 02/12

7860 W SAHARA AVE 110
LAS VEGAS NV 89117

PICA

1. MEDICARE / MEDICAID / TRICARE / CHAMPVA / GROUP HEALTH PLAN / FECA BLK LUNG / OTHER	1a. INSURED'S I.D. NUMBER (For Program in Item 1)
(Medicare #) (Medicaid #) (Sponsor's SSN) (Member ID#) [X] (SSN or ID) (SSN) (ID)	
2. PATIENT'S NAME (Last Name, First Name, Middle Initial) PONS-DIAZ, ARMANDO	3. PATIENT'S BIRTH DATE MM DD YY / SEX M [X] F [ ] 4. INSURED'S NAME (Last Name, First Name, Middle Initial) PONS-DIAZ, ARMANDO
5. PATIENT'S ADDRESS (No., Street) 4600 SIRIUS AVE APT J 151	6. PATIENT RELATIONSHIP TO INSURED Self [X] Spouse [ ] Child [ ] Other [ ] 7. INSURED'S ADDRESS (No., Street) 4600 SIRIUS AVE APT J 151
CITY: Las Vegas / STATE: NV	8. RESERVED FOR NUCC USE CITY: Las Vegas / STATE: NV
ZIP CODE: 89102 / TELEPHONE (Include Area Code)	ZIP CODE: 89102 / TELEPHONE (Include Area Code)
9. OTHER INSURED'S NAME (Last Name, First Name, Middle Initial)	10. IS PATIENT'S CONDITION RELATED TO: 11. INSURED'S POLICY GROUP OR FECA NUMBER
a. OTHER INSURED'S POLICY OR GROUP NUMBER	a. EMPLOYMENT? (Current or Previous) [ ] YES [X] NO a. INSURED'S DATE OF BIRTH MM DD YY / SEX M [X] F [ ]
b. RESERVED FOR NUCC USE	b. AUTO ACCIDENT? [X] YES [ ] NO PLACE (State) NV b. OTHER CLAIM ID (Designated by NUCC)
c. RESERVED FOR NUCC USE	c. OTHER ACCIDENT? [ ] YES [X] NO c. INSURANCE PLAN NAME OR PROGRAM NAME ERIC BLANK ESQ
d. INSURANCE PLAN NAME OR PROGRAM NAME	10d. CLAIM CODES (Designated by NUCC) d. IS THERE ANOTHER HEALTH BENEFIT PLAN? [ ] YES [X] NO If yes, complete items 9, 9a, and 9d.
READ BACK OF FORM BEFORE COMPLETING & SIGNING THIS FORM 12. PATIENT'S OR AUTHORIZED PERSON'S SIGNATURE I authorize the release of any medical or other information necessary to process this claim. I also request payment of government benefits either to myself or to the party who accepts assignment below. SIGNED Signature on file DATE 01 24 2018	13. INSURED'S OR AUTHORIZED PERSON'S SIGNATURE I authorize payment of medical benefits to the undersigned physician or supplier for services described below. SIGNED Signature on file
14. DATE OF CURRENT ILLNESS, INJURY, or PREGNANCY (LMP) MM DD YY QUAL. 15. OTHER DATE QUAL. 439 MM 12 DD 15 YY 2017	16. DATES PATIENT UNABLE TO WORK IN CURRENT OCCUPATION MM DD YY FROM TO MM DD YY
17. NAME OF REFERRING PHYSICIAN OR OTHER SOURCE DN 17a. 17b. NPI	18. HOSPITALIZATION DATES RELATED TO CURRENT SERVICES MM DD YY FROM TO MM DD YY
19. ADDITIONAL CLAIM INFORMATION (Designated by NUCC) ZZDC DACBR	20. OUTSIDE LAB? [ ] YES [X] NO $ CHARGES
21. DIAGNOSIS OR NATURE OF ILLNESS OR INJURY. (Relate A-L, to service line below (24E)) ICD Ind. 0 A. S134XXA B. C. D. E. F. G. H. I. J. K. L.	22. RESUBMISSION CODE ORIGINAL REF. NO. 23. PRIOR AUTHORIZATION NUMBER

24. A. DATE(S) OF SERVICE From MM DD YY To MM DD YY	B. PLACE OF SERVICE	C. EMG	D. PROCEDURES, SERVICES, OR SUPPLIES (Explain Unusual Circumstances) CPT/HCPCS	MODIFIER	E. DIAGNOSIS POINTER	F. $ CHARGES	G. DAYS OR UNITS	H. EPSDT Family Plan	I. ID. QUAL.	J. RENDERING PROVIDER ID. #
01 12 2018 01 12 2018	11	N	72050	26	A	75 00	1		NPI	
									NPI	
									NPI	
									NPI	
									NPI	
									NPI	

25. FEDERAL TAX I.D. NUMBER SSN EIN	26. PATIENT'S ACCOUNT NO.	27. ACCEPT ASSIGNMENT? (For govt. claims, see back) [X] YES [ ] NO	28. TOTAL CHARGE $ 75 00	29. AMOUNT PAID $ 0 00	30. Rsvd for NUCC Use
[X]					

31. SIGNATURE OF PHYSICIAN OR SUPPLIER INCLUDING DEGREES OR CREDENTIALS (I certify that the statements on the reverse apply to this bill and are made a part thereof.)	32. SERVICE FACILITY LOCATION INFORMATION	33. BILLING PROVIDER INFO & PH # 800 330 0772
Ammon G Strehlow DC DACBR 01 24 2018 SIGNED DATE	Shield Radiology Consultants 168 North 100 East Ste 102 ST GEORGE UT 84770 a. b.	Shield Radiology Consultants 5135 Camino Al Norte RD Ste 100 N Las Vegas NV 89031 a. b.

NUCC Instruction Manual available at: www.nucc.org PLEASE PRINT OR TYPE APPROVED OMB-0938-1197 FORM 1500 (02-12)

APP000180

Shield
Radiology Consultants Report

Toll Free 1-800-330-0772
Facsimile (435) 674-2588
info@shieldradiology.com

PATIENT NAME : Pons-Diaz, Armando
AGE / DOB / SEX : Male
REPORT NUMBER : PO-0118-5227

DATE OF EXAM : 01-04-2018
DATE OF REPORT : 01-12-2018

REFERRING OFFICE : The Physicians @ Meadows Chiropractic
3441 W. Sahara Ave., Suite C7 Las Vegas, NV 89102

INDICATIONS: A patient history of "Motor Vehicle Accident" was submitted.
Digital images are submitted for evaluation.

TECHNIQUE: (5) CERVICAL SPINE: APOM, APLC, LAT NEUTRAL, LAT FLEXION & EXTENSION VIEWS.
The 'Penning Method' demonstrates grossly unremarkable intersegmental mobility. The cervical vertebral body heights are maintained. The dens & atlantoaxial joint spaces are intact. There are bony proliferative changes & intercallary bones noted along the vertebral body margins of the mid and lower cervical spine. As visualized, the regional soft tissues are radiographically unremarkable.

IMPRESSIONS :
1. Mild spondylosis deformans of the mid and lower cervical spine.

POSTURAL / BIOMECHANICAL ADAPTATION :
A. The Angle of the Cervical Curve indicates a decrease in the normally anticipated cervical lordosis.
B. The Cervical Gravity Line indicates anterior weight bearing of the head and cervical spine.
C. There is a right lateral listing of the cervical spine.

RECOMMENDATIONS / COMMENTS :
1. The impressions in this report are based upon the radiographic findings, as visualized; conservative care should be correlated with the patient's current clinical status, with follow-up diagnostic imaging as warranted.
2. The postural / biomechanical adaptations as noted above may be the result of a recent traumatic event; correlation is recommended between these adaptations and the clinical evaluation of ligamentous stability and muscle tonicity.

Ammon Strehlow, DC, DACBR
Diplomate, American Chiropractic Board of Radiology

EXHIBIT 16

INSURANCE COMPANY
P.O. Box 2014
Shawnee Mission, KS 66201-1014

POLICY NUMBER: KNV4214124 - 11.0

PERSONAL AUTOMOBILE RENEWAL DECLARATIONS

This is not a Bill

Producer: 7656
HANSEN & HANSEN AGENCY INC
633 N DECATUR BLVD STE K
LAS VEGAS, NV 89107-1911
702-889-1229

POLICY PERIOD FROM: 12/5/2017
TO: 1/4/2018 12:01 A.M.

This policy period begins the later of:
1.) the time the application, renewal, or endorsement for the insurance is executed on the first day of this policy period; or
2.) 12:01 A.M. standard time at the address of the insured stated herein on the first day of this policy period.

Policy Contract:
PA-0127(07-09)

Endorsement Forms :
NV-PPA-20(02-09),NDE-27(11-05)

Named Insured:
Veronica Castillo
6532 Starcrest Dr
Las Vegas, NV 89108

Garaging Address (if different from above):

In consideration of the payment of the premium and in reliance upon the declarations stated herein and upon the statements contained in the application for this policy, which application is made a part hereof by reference, and subject to the limit of liability, exclusions, conditions and other terms of this policy, the Company agrees to afford insurance with respect to such and so many of the following coverages as are indicated by specific charge or charges.

	Full Name	Type	Age-Sex-Mar. St.	Surcharged	SR-22	Rated	Driver Points
1	Mrs Veronica Castillo	Named Insured	35-F-Married	N	N	Y	0
2	Mr Moises Castillo	Excluded Driver	36-M-Married	N	N	N	0

	Year	Manufacturer	Model	Vin Number	Symbol	Surcharged
1	2003	Acura	3.2CL TYPE S	19UYA42603A010410	19	N

		Veh. 1	Veh. 2	Veh. 3	Veh. 4	Veh. 5
Bodily Injury Liability	$ 15,000 Each Person \ $ 30,000 Each Accident	**$53.00**	**N/A**	**N/A**	**N/A**	**N/A**
Property Damage Liability	$ 10,000 Each Accident	**$23.00**	**N/A**	**N/A**	**N/A**	**N/A**
Uninsured Motorist	Rejected	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Medical Payments	Rejected	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
		Invoice Fee and SR22 Fee (If Applicable)				**$6.00**
		Total Policy Premium				**$82.00**

The Following Discounts Apply to this Policy: Accident Free Renewal

Authorized Agent: Scott Mylchreest

Insureds Copy

EXHIBIT 17-21

Guidelines for Chiropractic Quality Assurance and Practice Parameters

Proceedings of the Mercy Center Consensus Conference

Scott Haldeman
David Chapman-Smith
Donald M. Petersen, Jr.

AN ASPEN PUBLICATION

Guidelines for Chiropractic Quality Assurance and Practice Parameters

Proceedings of the Mercy Center Consensus Conference

Edited by

Scott Haldeman, DC, MD, PhD
Commission Chairman

David Chapman-Smith, LLB
Commission Counsel

Donald M. Petersen, Jr., BS
Commission Secretary

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92-26844
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The authors have made every effort to ensure the accuracy of the information herein, particularly with regard to drug selection and dose. However, appropriate information sources should be consulted, especially for new or unfamiliar drugs or procedures. It is the responsibility of every practitioner to evaluate the appropriateness of a particular opinion in the context of actual clinical situations and with due consideration to new developments. Authors, editors, and the publisher cannot be held responsible for any typographical or other errors found in this book.

Editorial Services: Ruth Bloom

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Guidelines for Chiropractic Quality Assurance and Practice Parameters

Proceedings of a Consensus Conference
Conference Commissioned by the Congress of Chiropractic State Associations
Held at the Mercy Conference Center
Burlingame, California, USA
January 25-30, 1992

Edited by

Scott Haldeman, DC, MD, PhD
Commission Chairman

David Chapman-Smith, LLB
Commission Counsel

Donald M. Petersen, Jr., BS
Commission Secretary

GENERAL DISCLAIMER

This document contains guidelines or parameters for the practice of chiropractic developed by a commission of thirty-five (35) chiropractors established by the Congress of Chiropractic State Associations (COCSA). It provides part of an ongoing effort by the chiropractic profession to provide practitioners with improved guidelines for practice.

These guidelines, which may need to be modified, are intended to be flexible. They are not standards of care. Adherence to them is voluntary. The Commission understands that alternative practices are possible and may be preferable under certain clinical conditions. The ultimate judgment regarding the propriety of any specific procedure must be made by the practitioner in light of the individual circumstances presented by each patient.

It is not the purpose of this document, which is advisory in nature, to take precedence over any federal, state or local statute, rule, regulation or ordinance which may affect chiropractic practice, or over a rating or determination previously made by judicial or administrative proceeding.

This document may provide some assistance to third party payers in the evaluation of care, but is not by itself a proper basis for evaluation. Many factors must be considered in determining clinical or medical necessity. Further, guidelines require constant re-evaluation as additional scientific and clinical information becomes available.

This document does not necessarily reflect the consensus of all members of COCSA, nor is it intended to be an official policy statement of COCSA.

DISCLAIMER ON USE OF EXTRACT

Disclaimer to be used when quoting an extract or part only of these proceedings:

The reader is warned that the following is an extract or part only of a major publication suggesting guidelines for the practice of chiropractic.

Any part of the publication is likely to be confusing and/or misinterpreted unless read in the context of the full document, which includes detailed commentary, definitions, and explanation of rating systems used.

It is recommended that you obtain a copy of the full publication.

EFFECTIVE DATE

It is anticipated that those wishing to incorporate these guidelines in their practices would be aware of them and have had an opportunity to adopt them by July 1, 1993.

PROFESSIONAL TITLE

The use of professional title is governed by law and individual preference, and varies according to jurisdiction. Common titles used for the general practice of chiropractic include "chiropractor," "chiropractic physician," and "doctor of chiropractic."

Throughout this document, for reasons of uniformity and clarity, the word "practitioner" is used. This has the additional benefit of being inclusive, and denoting chiropractic and medical practitioners where the context requires.

Specialties exist in chiropractic in areas such as orthopedics, radiology, and sports chiropractic. Specialist practitioners are given their common and usual titles (e.g., chiropractic radiologist).

Conference for the Establishment of Guidelines for Chiropractic Quality Assurance and Standards of Practice

Mercy Center • San Francisco, California • January 25-30, 1992

A united effort by the chiropractic profession to establish its own practice guidelines, using accepted consensus methods.

Principal Sponsoring Agencies

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P.O. Box 5070
Huntington Beach,
California 92615
Tel: (714) 536-6557
Fax: (714) 536-1482

July 1, 1992

Robert Dark, D.C.
President
Congress of Chiropractic State Associations
1996-1998 "D" Street
San Bernardino, CA 92401 U.S.A.

Dear Dr. Dark:

We are pleased to submit the final recommendations of the Commission for the Establishment of Guidelines for Chiropractic Quality Assurance and Practice Parameters.

In keeping with the Commission's mandate, the Guidelines have been developed pursuant to a formal consensus process, and by a representative group comprising 35 members of the chiropractic profession.

Respectfully submitted,

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Table of Contents

The dissemination of the *Guidelines for Chiropractic Quality Assurance and Practice Parameters* to every member of the chiropractic profession has been made possible by the generous donations of:

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The above companies and institutions have all made substantial contributions to help defray the costs of dissemination of this important document to every licensed doctor of chiropractic within the United States. These contributors deserve our thanks and support for their dedication to the chiropractic profession. Distribution to all U.S. chiropractors without charge would not have otherwise been possible. The contributions are not, however, considered an endorsement nor have any of the above contributors passed upon the accuracy or adequacy of these practice guidelines.

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For distribution of the Guidelines to all members of the chiropractic profession

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Chairman's Preface

Scott Haldeman, DC, MD, PhD

When the suggestion was made that a national consensus conference should be convened by the chiropractic profession, my first reaction was that this might be impossible. The divisions within the profession seemed to be large, and prior attempts to achieve agreement on how chiropractic should be practiced had often led to bitter argument which often became personal.

Although I agreed that national consensus on practice guidelines was essential for the advancement of chiropractic, initially I felt that the effort would be a waste of time and energy. The first indication that it might be possible was the positive response from leaders of the major associations to questions on the need for such a meeting. It then became evident that a consensus conference would only succeed if convened by a neutral sponsoring agency and governed by a completely independent Steering Committee. The sponsoring of a commission by the Congress of Chiropractic State Associations and the terms of that commission were the factors which allowed for the initial consensus protocol. Without COCSA the process would not have even begun.

COCSA, however, did not have the capacity to finance the conference and did not have the political influence to give the commission the prestige necessary to draw the quality of participants which a national consensus process required. The co-sponsorship of the commission by virtually every major association and agency within the chiropractic profession answered these needs, and removed any doubt that a conference was going to take place. It also greatly increased the importance of the commission as well as its visibility. It was the sponsoring of the commission that ensured the widespread involvement and input of the profession in the consensus process.

The primary decisions dealing with the consensus process and methods were the responsibility of the Steering Committee. The demands of the commission became the priority of each of the committee members for almost two years. The credit or criticism of the consensus process itself can be given to the Steering Committee. These individuals, with their understanding of the profession and of the mechanisms of gaining consensus, were responsible for the organization of the commission.

The hard work, however, was done by the 35 commission members. For over a year they were required to write and repeatedly read and correct the different drafts of the consensus document. They were asked to consult with authorities and prominent individuals in the profession and debate with each other to reach consensus. The captains had the responsibility of ensuring that all points of view were accurately included in the final document. Finally, the commission members had to debate and reach consensus at the Mercy Conference. This entailed four 16-hour days of high pressure concentration. In the final analysis all of the final document, as the consensus process requires, is the agreed views of these 35 chiropractors.

Special thanks must be given to the five wonderful staff members who assisted both before and after the conference but especially during the meeting itself. Their tremendous energy and skill was necessary for the repeated updating of the consensus document. Through their efforts the members of the commission were able to walk away from the conference with a completed text.

The commission has completed its task and has now disbanded. It can be said with confidence that this is the greatest consensus that has ever been achieved by the chiropractic profession. The document represents the best effort possible by a representative cross-section of the profession. Like any consensus process, there will and should be further discussion on many of the specific recommendations. There needs to be additional consensus conferences and meetings in the future. It is unlikely in the near future, however, that the resources and support that this first commission was able to generate will be repeated.

One important point made clear from this commission is that the chiropractic profession, given the right conditions, can reach a high degree of agreement on methods of practice. It has been a privilege to be part of this commission. As chairman, I offer this document to the chiropractic profession and request that the recommendations of this commission be endorsed as reasonable guidelines for chiropractic quality assurance and practice parameters.

Secretary's Report

Donald M. Petersen, Jr., BS, HCD(hc)

Never before in the history of the chiropractic profession has an event enjoyed such widespread support. From the initial commissioning by the Congress of Chiropractic State Associations (representing 42 state associations), to the industry sponsors, almost every branch of the chiropractic profession has supported and participated in the development of these proceedings.

Reviewing the list of organizations which sponsored the conference, it is clear that the academic, clinical, political (on both a national and state level), and regulatory sectors of the profession were well represented. The industry sponsors include some of the most respected companies supplying and supporting the chiropractic profession.

In a profession that hasn't yet accomplished substantial unity in any other way, unity by consensus on practice parameters was an impressive achievement. Even though the 35 members of the conference were from the full spectrum of chiropractic backgrounds they all had one thing in common: they were licensed chiropractic practitioners. This common bond was reflected in every opinion stated or position taken; in every deliberation the chiropractic profession came first.

This undertaking was far more ambitious than most thought wise. But it was driven by a frank understanding of what is being demanded by the political and economic environments that are shaping the future of the profession in the 1990s. The demands placed upon the committee captains, members, consultants, council, chairman, and staff were great, but in all cases the participants were more than equal to the task.

The entire process, from the initial discussion phase through to completion of the proceedings, required more than three years of work. The entire effort was funded for only $50,000. Each sponsor contributed $2,500. With the exception of staff time and very modest honorariums for the committee captains, all participants volunteered their time and talents. A conservative estimate of the market cost for development of such guidelines is at least $500,000. The difference was the dedication of those who gave of themselves to make it happen.

The majority of the funds collected was used to pay for travel and lodging for the conference at the Mercy Center. This site was chosen because its retreat atmosphere was the most conducive to the long hours and effort required to produce these proceedings. All staff time was donated with the exception of the six days of the conference, for which the staff members were paid on a nominal basis, despite working more than 80 hours in that time.

There are many, many individuals throughout the chiropractic profession who made the event possible. Most of these have already been recognized at the beginning of this text. Obviously, without their commitment and vision, this conference would not have occurred.

In addition, there were five staff members who put forth exceptional effort to facilitate the smooth progress of the conference. Their dedication was exemplary, and shows the commitment many non-chiropractors have to the chiropractic profession. Each of them volunteered for the job and worked long hours at the side of the captains and their committees. The Commission would like to extend its special thanks to them:

Arlene Basilico
Debra da Silva
Doreen McIntyre
Anne O'Brien
Debi Pugliese

There should also be recognition for three observers who provided practical support to the Commission during the conference. Special thanks to:

Dr. Herb Vear
Karl Krantz
Thomas Bergman.

After the conference the editors were greatly assisted by Drs. Silvano Mior and Howard Vernon. The Commission and the editors wish to thank them.

One of the most important tasks involved in the development of practice guidelines is distribution to the field. The dis-

tribution of these proceedings is another example of the spirit of selflessness that has surrounded this effort. The industry that serves the chiropractic profession, having recognized the importance of these guidelines to the practitioner, has financed the distribution of the proceedings to every member of the chiropractic profession in the United States.

It is impossible at this point to predict the exact impact that these proceedings will have. The effects will certainly be far reaching; to some extent incalculable. The knowledge that this first effort at establishing national guidelines for practice provides a major step toward addressing the needs of the patient and assuring the quality and acceptance of chiropractic health care services is most reassuring. As the call for explicit standards of practice within health care increases, the public will know that the chiropractic profession respects and will continue to meet that call.

The Agency for Health Care Policy and Research and the Development of Clinical Practice Guidelines:

The Importance of the Consensus Process in the Development of National Health Policy

Hervé Guillain, MD, MPH
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The Agency for Health Care Policy and Research (AHCPR) was established by Congress in December 1989 as the successor to the National Center for Health Care Technology Assessment. AHCPR is one of eight agencies of the U.S. Public Health Service within the Department of Health and Human Services.

The mission of the Agency is to enhance the quality, appropriateness, and effectiveness of health care services as well as to improve access to these services.

The Agency pursues a variety of activities that fall under the following categories:

1. Developing a broad base of scientific research, methods and databases.
2. Demonstrating and evaluating new ways to organize, finance and direct health care services.
3. Assessing technologies being considered for reimbursement by federally-funded programs.
4. Facilitating the development of clinical practice guidelines and measurements of quality care.
5. Promoting the utilization of research findings and practice guidelines through a systematic effort of information dissemination.

These activities are carried out with the active involvement of health care providers, professional groups, and consumer organizations.

The Congressional legislation creating AHCPR also established within the Agency the Office of the Forum for Quality and Effectiveness in Health Care ("the Forum"). This Forum is responsible for facilitating the development, review and updating of clinically relevant guidelines, as well as standards of quality, performance measures, and medical review criteria. Guidelines are defined as:

Systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances.

In selecting guideline topics a variety of factors are taken into consideration, including:

1. High risks or potentially large benefits for large numbers of persons.
2. Wide variations among different treatment options and outcomes.
3. Costly services and procedures.
4. Evaluation data that are readily available or that can be readily developed.

As of April 1992, the following topics have been selected by AHCPR for guideline development:

- Management of Functional Impairment Due to Cataract in the Adult
- Diagnosis and Treatment of Benign Prostatic Hyperplasia
- Acute Pain Management: Operative or Medical Procedures and Trauma
- Management of Cancer-Related Pain
- Diagnosis and Treatment of Depressed Outpatients in Primary Care Settings
- Sickle Cell Disease
- Prediction, Prevention and Early Intervention of Pressure Ulcers
- Treatment of Stage Two and Greater Pressure Ulcers

Note: The opinions expressed in this article are solely those of the author and do not necessarily reflect those of the Agency for Health Care Policy and Research or the U.S. Public Health Service.

- Urinary Incontinence in Adults
- HIV Positive Asymptomatic Patients: Evaluation and Early Intervention
- Low Back Problems
- Development of Quality Determinants of Mammography
- Screening for Alzheimer's and Related Dementia
- Diagnosis and Treatment of Otitis Media in Children
- Diagnosis and Treatment of Heart Failure Secondary to Coronary Vascular Disease
- Post Stroke Rehabilitation

ESTABLISHING GUIDELINES

The Congressional legislation describes two mechanisms to promote the establishment of guidelines: (1) by convening panels of experts and health care consumers, and (2) by contracting with public and nonprofit private organizations. After electing to utilize the panel process for the initial set of guidelines, the Forum has issued Requests for Proposals (RFPs) and awarded several contracts on a competitive basis.

For each guideline topic, a panel of private-sector experts is convened, either by the Forum or the contractor. The selection of the panel chairperson and members is an important step in the guideline development process. Through a notice published in the Federal Register, nominations are sought from a broad range of interested individuals and organizations, including medical physicians representing specialty and general practices, nurses, allied health professionals and other health care practitioners as well as consumers with experience or information pertinent to the guideline being developed. At least one consumer representative sits on every guideline panel sponsored by AHCPR.

Whatever the mechanism through which guidelines are established, the foundation of the methodological approach to their development must be explicitness and scientific evidence. In the guideline development process, all available scientific evidence must be considered and the consequences of diagnostic or therapeutic alternatives weighed. This requires an extensive literature search followed by the critical review of all the relevant publications. To the extent possible, recommendations made in the guidelines should be based on the results of well designed studies. Evidence tables and methods such as meta-analysis are used to synthesize scientific information. All significant outcomes (especially those important to patients), benefits and harms are assessed.

In this process, some interventions may turn out to be much less or much more effective than generally recognized and conclusions may fly in the face of conventional medical thinking. But it should be remembered that the purpose of guidelines is to improve the quality and effectiveness of health care, not to codify the current practice of health care providers.

Only when scientific evidence is not available can subjective judgments be applied to make specific recommendations. In this case, a formal consensus method such as the Delphi technique may be used.

Whether based on science or opinion, each statement included in the guideline must be explicit, i.e., methods, rationale and assumptions must be clearly explained.

ATTRIBUTES OF GUIDELINES

In addition to explicitness, the Institute of Medicine of the National Academy of Science has developed seven other attributes of practice guidelines to provide guidance for their establishment and evaluation:

Validity: Practice guidelines are valid if, when followed, they lead to the expected improvement in health outcomes. Clearly, it is essential to assess the impact a guideline has in order to determine its validity.

Reliability/reproducibility: This attribute refers both to the development and implementation of guidelines. Practice guidelines are reproducible and reliable if (1) given the same evidence and methods for guideline development, another set of experts produces the same statements, and (2) given the same clinical circumstances, the guidelines are interpreted and applied consistently by practitioners or other appropriate health care providers.

The assessment of the reliability/reproducibility of guidelines necessitates additional resources. It can be done by conducting studies in which two or more adequately selected panels establish guidelines on the same topic and two or more health care providers use the same guideline under the same clinical circumstances.

Clinical applicability: Practice guidelines should be as inclusive of appropriately defined patient populations as evidence and expert judgment permit, and they should explicitly state the populations to which statements apply.

Clinical flexibility: Practice guidelines should identify the specifically known or generally expected exceptions to their recommendations. Unless they have both clinical applicability and flexibility guidelines will be criticized for promoting "cookbook medicine."

Clarity: Practice guidelines should use unambiguous language, define terms precisely, and use logical, easy-to-follow modes of presentation.

In many instances graphics, flow charts and algorithms help users better understand the content of a guideline.

Multidisciplinary process: Practice guidelines should be developed by a process that includes the participation by representatives of key affected groups.

This issue is addressed not only through the careful selection of panel members, but also the Open Forum and the peer and pilot review described below.

Scheduled review: Practice guidelines should include statements about when they should be reviewed to determine whether revisions are warranted, given new clinical evidence or changing professional consensus.

As a result, the Forum is implementing a mechanism for updating guidelines after their initial release.

While developing a guideline, each panel holds a hearing session called "Open Forum." This session is announced in the Federal Register and every individual interested in providing oral or written testimony relevant to the guideline is invited to do so.

Once drafted, guidelines undergo peer and pilot review. They are sent to external experts for review and comments. They are also sent to practitioners who are asked to apply the draft guidelines and make suggestions to improve their usability.

DISSEMINATION OF GUIDELINES

When a guideline is completed, it is released in different formats, including:

Guideline report: This is the technical version that contains all the recommendations with complete supporting materials, including background information, methodology, literature review, scientific evidence tables, discussion, and a comprehensive bibliography. It serves as the source document for other guideline versions, and it is of particular interest to researchers, educators, professional organizations, and similar audiences.

Clinical practice guideline: This is the provider version that presents the specific statements and recommendations that constitute the actual guideline with brief supporting documentation and pertinent references for use as a desk reference for clinical decision-making in the care of patients.

Quick reference guide: This is the shortest of the provider versions of the guideline and serves as a companion to and a memory jogger for the Clinical Practice Guideline. It provides summary points of prevention, diagnosis, and treatment/management for ready reference on a day-to-day basis.

Patient's guide: This is the consumer version that features those aspects of the actual guideline that are the necessary knowledge base for the patient to be an active partner in care, especially where patients' preferences are involved, and a self-advocate for quality treatment. This booklet may be distributed directly to consumers or by clinicians to their patients when discussing and evaluating treatment options. In addition to the English version, a Spanish version is produced that reflects the same content but uses language and reading level appropriate to Hispanic populations.

To disseminate guidelines, a multi-pronged approach is used to reach target audiences. Health care providers and consumer organizations are encouraged to send the guidelines to their members and constituents. Print and electronic media are used to announce the formation of panels and the release of new guidelines, and to reinforce messages over time to facilitate adoption by the various users. AHCPR is also working jointly with the National Library of Medicine to make guidelines available through medical libraries and indexing services.

EVALUATION OF GUIDELINES

Finally, assisting health care providers and consumers in making decisions is not the same as evaluating practice. The former is done through practice guidelines, the latter through other instruments defined by the Institute of Medicine as follows:

Medical review criteria: Systematically developed statements that can be used to assess the appropriateness of specific health care decisions, services and outcomes.

Standards of quality: Authoritative statements of: (1) minimum levels of performance or results; or (2) excellent levels of performance or results; or (3) the range of acceptable performance or results.

Performance measures (provisional definition): Methods or instruments to estimate or monitor the extent to which the actions of a health care practitioner or provider conform to practice guidelines, medical review criteria, or standards of quality.

Since principles for translating guidelines into evaluation instruments are needed, the Forum has recently convened a work group to develop methods for deriving practice evaluation tools from recommendations made in the guidelines.

CONCLUSION

In conclusion, the establishment of clinical practice guidelines is a challenging task. It requires the careful selection of panel chairs and members; the involvement of content experts, consumers and methodologists; the participation of academicians and practitioners in the peer and pilot review process; the collaboration of communication specialists to disseminate the final products and make them acceptable and useful to health care providers and patients; and a comprehensive evaluation of the impact of guidelines after their release and implementation. The potential benefits that can be derived from such a major effort are considerable, particularly in terms of quality and effectiveness of health care. Furthermore, the development of guidelines will help identify the areas where scientific evidence is missing and outcomes research is needed.

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To order guideline products or to obtain further information on their availability, call the AHCPR Clearinghouse toll-free at 1-800-358-9295, or write to:

Center for Research Dissemination and Liaison
AHCPR Clearinghouse
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The Evolution and Mechanics of a Consensus Process

Paul Shekelle, MD, MPH
Rand Corporation

All of health care is being scrutinized. Providers are being asked to produce evidence that the care they deliver is effective. Variations in the medical care received by similar patients in differing geographic areas, or between the same patient seeing different providers in the same city, or even between the same patient seeing the same provider at two different points in time, have demonstrated that not all the health care delivered is appropriate. Part of the problem is that doctors often times don't know what is effective and what isn't, and are frequently left to make decisions based on anecdotal reports or limited clinical experience. Our task is to improve the capacity for providers to make informed decisions.

Chiropractic is no different from other health care professions in this respect. Large geographic variations in the intensity of chiropractic care delivered to those who seek care have been documented, even between areas only 90 miles apart. When the clinical faculty of one prominent chiropractic college were asked to estimate the effectiveness of a common chiropractic treatment on a representative patient with low-back pain in terms of a particularly important patient outcome, the estimates of the probability of the outcome ranged from 5% to 90%. Leading chiropractic clinicians and researchers from around the country had trouble agreeing on whether spinal manipulation was appropriate for certain types of patients with low-back pain. Clearly, the chiropractic profession is not immune to the questions of appropriateness and cost-effectiveness that face allopathic health care.

We would like to base our decisions about these matters on scientific demonstrations of benefit to patients, preferably in the form of well-conducted randomized controlled trials. "Benefit to patients" means outcomes that matter to patients. For patients with back pain, this means outcomes such as relief of pain and ability to resume usual activities. It does not mean outcomes such as improvement in straight-leg raising, or the appearance of lumbosacral radiographs, or the findings on palpation examination of the spine. For many tests and procedures, these data simply don't exist, either for allopathic care or chiropractic care. In the absence of such data, though, we may still provide some guidance to the clinician about the approach to common clinical conditions. The people assembled for this conference represent leading chiropractic clinicians and researchers, and their studied consideration of the issues in front of them may produce statements that reflect the consensus of chiropractic clinical judgment at this time.

In the deliberations that follow, the panel participants should be guided by the following principles when considering a test or procedure:

1. Is there any scientific data to support a conclusion about the use of this test or procedure, and what is the strength of that data?
2. In the absence of conclusive scientific data, is there a consensus of clinical opinion about the use of this test or procedure, and what is the magnitude of that consensus?

The reader of this document will want to know:

"Where recommendations are different from my current practice, why am I to believe this document is right?"

This gets to the question of validity of the statements made. Statements based on conclusive scientific evidence are more likely to be valid than statements based on weak clinical consensus, and the reader must be able to distinguish between the two. Each clinically important statement should be identified with the information that supports it: conclusive scientific evidence; some scientific evidence and true consensus of clinical judgment; weak or no scientific evidence but still true consensus of clinical judgment; less than true consensus of clinical judgment; disagreement.

Lastly, after the deliberations are through, the participants should be able to prioritize the needs of new clinical research. The first priority will be those areas of clinical importance which have true consensus of clinical judgment but no scientific data to support them, and those areas where there is frank disagreement among groups of clinicians as to the appropriate way to proceed. It is through efforts like these that the quality of health care, and the chiropractic profession, can continually improve.

History of the Commission

INTRODUCTION

Chiropractic is approaching its official centennial in 1995. The past decade has been the most challenging in the short history of this profession. Chiropractic is recognized and licensed in every state and province in North America, as well as many jurisdictions in Europe, Australia, New Zealand, Africa and the Middle East. There is increasing interest in chiropractic in multiple other countries in Europe, Africa, Asia, South and Central America, as well as numerous smaller countries where access to highly sophisticated and expensive medical and surgical treatment is limited.

This acceptance of chiropractic as a legitimate health care profession has occurred in part through an increasing emphasis on research by professional organizations and colleges. Research foundations have been formed in the United States, Canada, and Australia which have collected and spent millions of dollars funding research scholarships and research centers, as well as funding numerous specific proposals over the past two decades.

In the United States and Canada, chiropractic has been included in Medicare, most private insurance programs, workers' compensation, and personal injury reimbursement systems. Increasing numbers of health maintenance organizations (HMOs), preferred provider organizations (PPOs), and other managed health care systems are including chiropractic in their consideration of services and costs. An increasing number of research papers comparing the costs of chiropractic care in well-selected groups of patients have led to the conclusion that chiropractic may well be the most cost effective method of treatment for certain types of conditions. The new level of recognition of chiropractic has led to a search for quality assurance measures and practice parameters to better determine the exact nature of chiropractic practice.

The 1980s saw a growing acknowledgement by the major chiropractic associations that uniform standards would have to be developed within the chiropractic profession. Government agencies were in the process of determining the role of each of the health care professions in such programs as Medicare, workers' compensation, no-fault automobile insurance, and other managed health care delivery systems. At the same time, private insurance companies were increasing their control over the costs of health care. While negotiating with various agencies, chiropractic organizations were repeatedly told that only one standard of chiropractic practice would be tolerated. It became obvious that if the profession did not develop practice parameters itself then rules governing the practice of chiropractic would be imposed by these agencies without chiropractic input.

The acceptance of chiropractic also had the effect of forcing greater responsibility on the profession to improve the overall quality of care given by individual chiropractors. A rapid increase in the number of malpractice suits against chiropractors demanded expert opinion on the basis by which chiropractic standards should be judged. The lack of well-defined practice guidelines has contributed to a proliferation of chiropractic "experts" and texts that, more often than not, are contradictory.

By the end of the 1980s the need for a consensus within the chiropractic profession on guidelines for practice and quality assurance had become critical. The general crisis in health care costs in North America had resulted in an overhaul of Medicare and other health insurance programs. The cost of malpractice was approaching that of the non-surgical medical specialties. Attempts to unify the chiropractic profession under one national association had failed. Each of the chiropractic associations, however, acknowledged the necessity for a forum to discuss and develop standards. Statements supporting a national consensus conference on guidelines for practice were made by the presidents of the four national associations. The following excerpts from letters serve as examples of the support by the professional organizations:

> "The board of the Congress of Chiropractic State Associations enthusiastically endorses your concept of a chiropractic summit meeting." Brad M. Hayes, DC, President COCSA, April 1989.

"I am enthusiastic about the idea of interested parties coming together and discussing, in a constructive fashion, the needs of the profession and our patients." Kenneth L. Luedtke, DC, FICC, President ACA, April 1989.

"We agree that a meeting of the organizational leaders of the profession would be constructive and that professional facilitators should be utilized at such a conference." Fred H. Barge, DC, Ph.C., President ICA, April 1989.

"We are in agreement with a summit conference which encourages communication between the factions in chiropractic." Douglas Gates, DC, President and Joseph Donofrio, DC, Chairman FSCO, April 1989.

PRIOR GUIDELINES CONFERENCES

A number of conferences and workshops were held in 1989 and 1990 in an attempt to define priorities for the chiropractic profession and to develop a consensus on practice parameters. In August 1989, the American Chiropractic Association convened a "Think Tank" in Chicago which brought together a number of prominent academic and politically active individuals within the profession. A professional facilitator was able to help the participants at this workshop develop a consensus on the priorities of the profession. One of the major goals and objectives for the profession was "to identify, adopt, and implement standards of practice maximizing quality of care." At this workshop, it was pointed out that the federal government was requiring that each health profession have established guidelines for practice within two years.

The California Chiropractic Association and the Consortium for Chiropractic Research established a joint committee in 1987 with the view to researching, understanding, and making recommendations on standards of care in chiropractic. A number of other state associations convened conferences or established task forces on quality of care issues. A meeting was held in Seattle on March 2-3, 1990, sponsored by the ACA Council on Technique, the Washington Chiropractic Association and the Consortium for Chiropractic Research to investigate the consensus process, to evaluate techniques, and to set agendas for further investigation.

At the same time standards of practice were developed in a number of states such as California, Georgia and Ohio. The Canadian Chiropractic Association established a committee to develop practice guidelines which would assist in negotiations on new legislation being planned in different provinces. At the same time the Chiropractors Association of Australia had developed a Committee on Chiropractic Clinical Practice and was investigating standards in other countries. It became clear, however, that varying standards in different states or regions was not the ideal situation. A national, or preferably a North American or international, standard was by far the most desirable situation.

In 1989 and early 1990, intensive informal discussions were taking place throughout the country on the various mechanisms which were available to develop national guidelines. The RAND Corporation was commissioned to evaluate the appropriateness of spinal manipulation for low-back pain and to develop specific indications and contraindications for chiropractic care. By using the consensus process and literature review developed by the RAND panel, it was demonstrated that, given the right situation, a group of chiropractors could reach a high level of consensus on the indications for spinal manipulation. It was even possible to gain consensus when chiropractors and medical specialists and scientists were placed on the same panel.

Although the RAND project proved valuable in developing a list of categories of low-back pain which are most likely to respond to chiropractic care, it did not address many larger issues of chiropractic practice and quality assurance. It became clear that the only way a wide consensus could be achieved was to bring together varied and representative points of view, clinical practice methods, and philosophies. This could only occur if a neutral forum could be found, one which was not dominated by any association, school of thought or geographical region. It was also of fundamental importance that such a forum represented the practicing chiropractor as strongly as academic and scientific members of the profession.

THE COMMISSION

On February 16, 1990, after considerable discussion, the Congress of Chiropractic State Associations (COCSA) agreed to commission an independent steering committee to convene a workshop on chiropractic quality assurance. The letter of commission provided:

"The Board of Directors and the delegates to the Congress of Chiropractic State Associations unanimously agreed to the following:

1. To commission your committee to convene a workshop on chiropractic quality assurance with the express purpose of developing a consensus of chiropractic opinion and providing a document outlining recommendations on this issue.
2. To permit the committee to independently develop a list of participants in the workshop which should include individuals with academic, scientific, clinical and political knowledge and reputation.
3. Not to directly interfere or attempt to influence the program or the published proceedings of the workshop. However, this recognizes that at least one representative from COCSA will be invited to participate in the workshop.
4. That the published document will list COCSA as a primary sponsor of the workshop.

5. That the committee may approach other professional organizations, academic institutions, and corporations as co-sponsors of the workshop and solicit funds for sponsorship."

The function of the Steering Committee was thus to establish a consensus group of participants and a procedure for them to follow that would lead to a meeting at which guidelines or standards for quality assurance in chiropractic practice throughout North America would be agreed upon and recommended. The Steering Committee included:

Scott Haldeman, DC, MD, PhD, Chairman/Editor
David Chapman-Smith, Esq., Counsel/Editor
Donald Petersen, Jr., BS, Secretary/Editor
Alan Adams, DC, MS
Gerard W. Clum, DC
Daniel T. Hansen, DC
William Meeker, DC, MPH
Reed Phillips, DC, PhD
John J. Triano, DC, MA

Committee members were chosen on the basis of their understanding of the consensus process, their representation of different points of view, and their ability to encourage the most appropriate members of the profession to participate in the Commission—the body that would represent the profession in the actual work of establishing guidelines.

The Steering Committee met on three occasions during 1990 and had a number of conference calls as it developed the process. Discussion was held with professional facilitators. Intense discussion and consultation took place with multiple individuals within chiropractic colleges, state and national organizations, and the practicing profession.

SPONSORSHIP OF THE CONFERENCE

A primary concern of the Steering Committee was that the Commission not be considered under the excessive influence of any one organization or group within the profession. This required that the Commission be sponsored by the widest possible spectrum of organizations and agencies. This, in turn, required that the sponsorship fee be kept low enough to allow smaller organizations to participate. The final fee decided upon was $2,500 per sponsor, with all organizations and agencies to be given an equal level of sponsorship.

Industries which provided products and services to the chiropractic profession were then approached to sponsor the Commission at the same level as the professional organizations and agencies.

Twenty sponsors came forward, 10 from industry and 10 professional organizations and agencies. This gave the Commission a budget of $50,000 to develop a consensus document on chiropractic quality assurance and parameters of practice.

The following is a list of the sponsors:

CHIROPRACTIC ORGANIZATIONS AND AGENCIES
Congress of State Chiropractic Associations
American Chiropractic Association
International Chiropractors Association
Canadian Chiropractic Association
Federation of Chiropractic Licensing Boards
Foundation for Chiropractic Education and Research
Association of Chiropractic Colleges
Southeastern Chiropractic Federation
Texas Chiropractic Association
National Upper Cervical Chiropractic Association

INDUSTRIAL SPONSORS
Activator Methods
The Chiropractic Report
Foot Levelers, Inc.
Leander Technologies
Motion Palpation Institute
National Chiropractic Mutual Insurance Company
Nutri-West
OUM Group, Inc.
Superfeet
Worldwide Chiropractic Placement Service

THE PROCESS OF CONSENSUS DEVELOPMENT

The Steering Committee spent approximately six months developing the list of potential participants for the Commission. Extensive consultation was held with members of different chiropractic organizations throughout North America. The initial 30 invitees were supplemented with five additional members later in the process, when certain areas of the profession were considered to be under-represented. On February 10, 1991, the members of the Commission were formally invited to participate in the consensus development process. All members, as with Steering Committee members, volunteered their time without compensation. The final distribution of the Commission was as follows:

1. TOTAL NUMBER: 35 members, all graduate chiropractors.
2. PRIVATE PRACTICE: 23 members from 14 states and provinces: Arizona, California, Florida, Illinois, Michigan, New York, North Carolina, Ohio, Ontario, Pennsylvania, Saskatchewan, Texas, Washington, and Wisconsin.
3. COLLEGES: 24 members with some college affiliations; 8 full-time, 12 with some research experience. The following colleges were represented: Canadian Memorial Chiropractic College, Life Chiropractic College West, Logan College of Chiropractic, Los Angeles College of Chiropractic, National College of Chiropractic, Northwestern College of Chiropractic, Palmer College

of Chiropractic, Palmer College of Chiropractic West, Southern California College of Chiropractic, and Texas Chiropractic College.

4. ASSOCIATIONS: 18 members, either currently or in the past, held senior offices in national, state or other associations. The following associations were represented: American Chiropractic Association, Canadian Chiropractic Association, International Chiropractors' Association, Federation of Chiropractic Licensing Boards, Congress of Chiropractic State Associations, National Chiropractic Mutual Insurance Company, National Institute of Chiropractic Research, American Chiropractic College of Radiology, Straight Chiropractic Academic Standards Association, Association of Chiropractic Colleges, various state associations and licensing examining boards.

PREPARATION OF THE GUIDELINES

The guidelines took over a year to develop and the process was designed to have the greatest amount of professional input that was possible. At the same time no formal input was allowed from any association or special interest group. It was necessary to produce multiple drafts of the guidelines, each of which was to be the subject of debate and discussion at different levels.

1. Initial Literature Review and Topic Development

Development of guidelines was divided into 15 chapters based on the classic patient-doctor contact. Committees were chosen for each chapter, each with a captain or chairman. Captains were instructed to develop consensus statements on their topic and describe how a practicing practitioner should evaluate and/or manage patients. Purposes of guidelines were to: a) Protect patients; b) Provide defined defensible practice parameters which could be followed by practitioners as a general rule; c) Provide guidelines as opposed to imposing rigid standards, by which outside agencies could judge the practice of individual practitioners.

The captains were instructed to conduct a literature search and complete an outline by May 3, 1991. The captains then met with the Steering Committee in Toronto at the World Chiropractic Congress in May 1991, to review and obtain input on their chapters. The final format for the guidelines document was developed and discussed.

2. The First Draft—Input from Consultants

The captains were now given three months to complete the first draft of the guidelines on their topics. They were instructed to seek consultants to assist them in this process. No limit to the number or type of consultants was established. Consultants could be from colleges, state or national associations, those in general chiropractic practice or from other professions. The deadline for the first draft was August 1, 1991.

3. Expert Review

The captains were then instructed to submit the completed first draft to at least two experts to ensure accuracy of the literature review and the rationale for the various recommendations. Following this they were required to complete a second draft of the guidelines, incorporating the suggestions of the experts where appropriate. The second drafts were supposed to follow similar formats and include specific guideline recommendations. Where specific difficulties were encountered, the Steering Committee was available for consultation. Deadline for the second draft was October 1, 1991.

4. Review by the Topic Committee

Each second draft chapter or topic was referred to seven appointed members of the Commission for critical review. The captain was to begin the consensus process by mail, telephone or direct meetings with members of the committee. An amended literature review, and definitions and an introduction were included in the third draft. Discussion of the assessment criteria for the chapter and specific recommendations on guidelines took place. At this time the first minority opinions were to be written into chapters. The committee had the opportunity to invite input from consultants to ensure full discussion of the topic. A list of all members of the Commission was published in a number of major national chiropractic publications. Any correspondence received at the secretariat was referred to the committee discussing the topic. Deadline for the third draft was December 24, 1991.

5. Review by the Entire Commission

The third draft of all the chapters was sent to all 35 members of the Commission, who reviewed the entire document with special emphasis on the recommendations. This was the final opportunity for input by members of the profession other than the Commission. It was suggested that any serious disagreement with the formal recommendations be drafted as a minority report for consideration at the conference. In this way, before attending the workshop meeting at the Mercy Center, the entire document was reviewed by all participants. The stage was set.

THE MERCY CONSENSUS CONFERENCE

The climax of the consensus process to develop the guidelines was held in a workshop retreat at the Mercy Conference Center in Burlingame, California, on January 25-30, 1992. This center was picked because of its seclusion, facilities and lack of distractions. The participants were supported by an

outstanding administrative unit with appropriate computer equipment and a staff of five with superior word processing and editorial skills. They ensured that all proposals were promptly available for debate and that decisions made during the meeting were included in the guidelines. This entailed 16-20 hours of work each day, and allowed the final document to be complete except for final editing by the end of the meeting.

The conference was opened with presentations by Herve Guillain, MD, from the federal Agency for Health Care Policy and Research (AHCPR) who discussed "the importance of the Consensus Process in the Development of National Health Policy," and Paul Shekelle, MD, MPH, one of the primary investigators of the RAND Study. His presentation was "The Evolution and Mechanics of a Consensus Process." This helped to set the stage for the actual work of reaching a consensus on the multiple recommendations which had been proposed.

1. The Committee Deliberations

On each of the first three days of the conference the Commission members were divided into five committees of seven members under the chairmanship of the captain initially responsible for developing the chapter. After three days, at five chapters a day, all topics had been reviewed.

The committees deliberated for at least three hours each morning, and were directed to reach a consensus on the chapter being discussed. Any two members of the committee could propose a minority opinion. The committee was to vote on each recommendation. A vote of four members or more constituted a majority position. A vote of two or three members constituted a minority opinion. The final recommendations and changes to the chapter were then inserted by the captain assisted by the staff member assigned to that committee.

2. The General Session

The general session each afternoon was conducted in a round table format. The Commission members had reviewed the third draft of each chapter in advance. The committee captains were asked to present only the changes that had been made in the committee session. These were all duplicated on overhead transparencies. Each recommendation was taken in order and voted on by the Commission members. If there was any dissenting vote, the recommendation was opened to amendment. Only formal amendments were accepted and had to be supported by five members of the Commission for further discussion. Each amendment was then voted on and a majority of the members (18) was necessary for changes to the recommendation to be included as part of the majority opinion. Any amendment which was not accepted by the majority could then be submitted at any time during the conference by 25 percent (nine members) of the Commission.

No chapter was closed until the final discussion on the fourth day when each chapter was summarized and a table of all recommendations was presented to the Commission. The members were then asked to vote that the chapter, with all recommendations as amended and any minority opinions, accurately reflected the consensus of the Commission on that chapter. All chapters were unanimously accepted by the Commission. The final draft recommendations or guidelines in each chapter as accepted had to be signed off by the committee captains as being accurate.

When all debate was complete, all chapters had been closed by unanimous vote, and all captains had signed off on their chapters, the conference was adjourned.

PUBLICATION OF THE CONSENSUS DOCUMENT

Extensive deliberations took place within the Steering Committee and with corporate sponsors and national associations concerning the publication of the consensus document. Inexpensive publication and widespread distribution were known to be essential to the overall impact and success of the venture. Funding was not available to the Steering Committee for publication. At the Mercy Conference it was decided to form an independent publication committee to arrange for publication. It was elected on the last day of the conference. The Steering Committee ceased to exist on the last day of the consensus workshop or conference, having completed its commission.

It was recommended that the Publication Committee submit the final consensus document to the various chiropractic organizations for discussion and possibly endorsement. On April 11th, 1992, the Federation of Chiropractic Licensing Boards expressly endorsed the recommendations of this Commission at its annual meeting, thus making this the first officially sanctioned chiropractic consensus process. The actual wording of the endorsement has been included at the end of this document. The work of this Commission is currently being considered by a number of other official bodies and associations.

Introduction and Guide to Use of These Guidelines

A. INTRODUCTION

The majority of standard treatments provided by all health providers for all disorders, whether these disorders be minor or life-threatening, have not been validated by formal scientific methodology. Only about 15 percent of medical interventions are supported by valid evidence and many have never been assessed at all.[1,2]

These facts, together with the unacceptable variations in practice and cost of health care, explain why the public and governments are now insisting that there be better guidelines for practice. To ensure that improved national guidelines for each health care specialty were developed without delay, the U.S. federal government established the Agency for Health Care Policy and Research in December 1989. At the time the message was clear—either the health professions developed their own guidelines or third parties would impose them.

These guidelines, developed according to established consensus methods, are the initial response of the chiropractic profession.

B. FORMAT

These guidelines appear in topic chapters under the following headings:

History and Physical Examination
Diagnostic Imaging
Instrumentation
Clinical Laboratory
Record Keeping and Patient Consents
Clinical Impression
Modes of Care
Frequency and Duration of Care
Reassessment
Outcome Assessment
Collaborative Care
Contraindications and Complications
Preventive/Maintenance Care and Public Health
Professional Development

Each chapter is organized according to the same outline, namely:

I. Overview
II. Definitions
III. List of Subtopics
IV. Literature Review
V. Assessment Criteria
VI. Recommendations
VII. Comments, Summary or Conclusion
VIII. References
IX. Minority Opinions

The "Recommendations" (Part VI) in each chapter are the guidelines. Subjects covered by guidelines in each chapter are indicated in the "List of Subtopics" (Part III).

For easy reference all recommendations are numbered sequentially, and repeated in summary form in tables at the end of the publication.

C. ASSESSMENT CRITERIA—RATINGS SYSTEMS

Part V of each chapter lists the "Assessment Criteria" or ratings system(s) used to evaluate each recommendation. The key to comprehending the new chiropractic guidelines lies in understanding the ratings systems.

Developing appropriate ratings was a major challenge because the technique of ratings is still evolving and the guidelines cover a broad territory, the whole practice of chiropractic. Ratings for one aspect (e.g., when it is appropriate to use plain film x-rays or a given treatment approach—i.e., technical matters) are not suitable for other aspects of practice

(e.g., what records should be kept or when patient consents are required—i.e., procedural matters).

Two basic systems were adopted and appear in Figures 1 and 2. Some chapters use System I, some System II, and others both systems. To identify which system(s) is/are used in a given chapter look at Part V (Assessment Criteria) in that chapter.

Procedure Ratings (System I)

This system is suited to scientific/technical areas of practice.

1. Procedures are judged, in descending order of approval, established, promising, equivocal, investigational, doubtful and inappropriate. See Figure 1 for definitions.
2. The first three ratings (established, promising, and equivocal) are all positive. Procedures with any of these ratings are approved for use and reimbursement in clinical practice.

The remaining three ratings (investigational, doubtful, and inappropriate) are negative. A procedure currently rated "investigational" has the potential to be raised to an acceptable level and a positive rating on the basis of future clinical and scientific evidence.

A specific procedure may have more than one current rating depending upon the circumstances in which it is used—see examples below.

3. As noted in Figure 1, the rating chosen for a procedure is linked to the quality of evidence in support of utilization of that procedure.

The following examples illustrate how the rating should be interpreted.

a. In Chapter 2, on Diagnostic Imaging, Recommendations 2.8.1 and 2.8.2 deal with stress radiographs. The value of their use is rated as *established* in the assessment of degenerative, traumatic or post-surgical instabilities, but *equivocal* for other conditions and circumstances.

Both are positive recommendations. In the first case there is Class I evidence in support (i.e., controlled clinical trials—for full definition of Class I evidence see Figure 1). This quality of evidence justifies the rating *established*. The strength of this rating is Type A.

In the second case there can only be a rating of *equivocal* because, as Recommendation 2.8.2 indicates, there is no Class I evidence. Most evidence is Class III. This has led to a Type C positive recommendation—which is *equivocal*.

Figure 1 Procedure Ratings (System I)

Established: Accepted as appropriate by the practicing chiropractic community for the given indication in the specified patient population.

Promising: Given current knowledge, this appears to be appropriate for the given indication in the specified patient population. As more experience and long-term follow-up are accumulated, this interim rating will change. This connotes provisional acceptance, but permits a greater role for the current level of clinical use.

Equivocal: Current knowledge exists to support a given indication in a specified patient population, though value can neither be confirmed nor denied. As more evidence and experience accumulates this rating will change. Expert opinion recognizes a need for caution in general application.

Investigational: Evidence is insufficient to determine appropriateness. Further study is warranted. Use for a given indication in a specified patient population should be confined to research protocols. As more experience and evidence accumulates, this rating will change.

Doubtful: Given current knowledge, this appears to be inappropriate for the given indication in the specified patient population. As more experience and long-term follow-up are accumulated, this interim rating will change.

Inappropriate: Regarded by the practicing chiropractic community as unacceptable for the given indication in the specified patient population.

Quality of Evidence

Class I: Evidence provided by one or more well-designed controlled clinical trials; or well-designed experimental studies that address reliability, validity, positive predictive value, discriminability, sensitivity, and specificity.

Class II: Evidence provided by one or more well-designed controlled observational clinical studies, such as case-control, cohort studies, etc.; or clinically relevant basic science studies that address reliability, validity, positive predictive value, discriminability, sensitivity, and specificity; and published in refereed journals.

Class III: Evidence provided by expert opinion, descriptive studies or case reports.

Strength of Recommendation Ratings

Type A: Strong positive recommendation. Based on Class I evidence or overwhelming Class II evidence when circumstances preclude randomized clinical trials.

Type B: Positive recommendation based on Class II evidence.

Type C: Positive recommendation based on strong consensus of Class III evidence.

Type D: Negative recommendation based on inconclusive or conflicting Class II evidence.

Type E: Negative recommendation based on evidence of ineffectiveness or lack of efficacy based on Class I or Class II evidence.

b. There must be one or more controlled trials (Class I evidence) for a Type A rating of *established*. Other forms of studies (Class II evidence) or clinical experience, expert opinion and case reports (Class III) may be a perfectly adequate basis for a positive recommendation, but the strength of that recommendation can only be Type B (*promising*) or Type C (*equivocal*).

c. For completeness every recommendation or guideline should have both a rating (e.g., *equivocal*) and a strength (e.g., Type C).

Strength of rating is included in two chapters only, Instrumentation (Chapter 3) and Frequency and Duration of Care (Chapter 8). In the latter, for example, Recommendation 8.4.1. includes guidelines for adjustive procedures for acute, uncomplicated, low-back disorders. Here the rating is *established*, but it is not presented in the same manner as the other example given above. There is reference to the rating of *established* and the class of evidence in support, but the fact ultimately highlighted is strength of recommendation—which is Type A.

Procedure Ratings (System II)

This system is suited to procedural/administrative aspects of practice. Accordingly it is used in chapters such as History and Physical Examination (Chapter 1), Record Keeping and Patient Consents (Chapter 5) and Collaborative Care (Chapter 11). Again, one can discover which rating system is being used by looking at Part V (Assessment Criteria) of each chapter.

1. Rating levels are necessary, recommended, discretionary and unnecessary.
2. Rating is once again linked to quality of evidence—see Figure 2 for details.

Special Rating System for Complications

A special third rating system has been developed for the unique area of potential complications of high-velocity thrust procedures. See Part V (Assessment Criteria), Chapter 12. The basic rating is the level of contraindication, which may be:

- No contraindication
- Relative contraindication: "high-velocity thrust procedures may be used with appropriate care and/or modification"
- Relative to absolute contraindication: "careful clinical judgment dictates whether contraindication is relative or absolute with each specific patient"
- Absolute contraindication

The recommended level of contraindication appears as a short paragraph in each recommendation and is supported by specific evidence. For example Recommendation 12.1.2, which relates to high-velocity thrusts in the presence of sub-acute or chronic ankylosing spondylitis, reads:

12.1.2 Sub-acute and/or chronic ankylosing spondylitis and other chronic arthropathies in which there are no signs of ligamentous laxity, anatomic subluxation or ankylosis are *not contraindications* to high-velocity thrust procedures applied to the area of pathology.
Risk-of-Complication Rating:
Severity: Minimal
Condition Rating: Type I, II
Quality of Evidence: Class II, III

Figure 2 Procedure Ratings (System II)

Necessary: Strong positive recommendation based on Class I evidence, or overwhelming Class II evidence when circumstances reflect compromise of patient safety.

Recommended: Positive recommendation based on consensus of Class II and/or strong Class III evidence.

Discretionary: Positive recommendation based on strong consensus of Class III evidence.

Unnecessary: Negative recommendation based on inconclusive or conflicting Class II, III evidence.

Quality of Evidence

The following categories of evidence are used to support the ratings:

Class I: A. Evidence of clinical utility from controlled studies published in refereed journals.
B. Binding or strongly persuasive legal authority such as legislation or case law.

Class II: A. Evidence of clinical utility from the significant results of uncontrolled studies in refereed journals.
B. Evidence provided by recommendations from published expert legal opinion or persuasive case law.

Class III: A. Evidence of clinical utility provided by opinions of experts, anecdote and/or by convention.
B. Expert legal opinion.

What this means is:

1. The conditions mentioned are not contraindications to high-velocity thrust procedures.
2. The severity of potential complications is not high—for definitions of minimal, moderate, and high-level severity of complication see Part V, Assessment Criteria, paragraph B.
3. On the basis of the severity rating just given and probability or likelihood of harm, there is now a "condition rating" of Type I—for definitions of Type I, Type II and Type III conditions ratings see Part V, paragraph A.
4. Finally, there is a rating for quality of evidence—for definitions of Class I, Class II and Class III evidence see Part V, paragraph D.

Chapter 12 lists the various potential complications of high-thrust procedures under categories of:

Articular Derangements
Bone Weakening and Destructive Disorders
Circulatory and Cardiovascular Disorders
Neurological Disorders

D. THE RECOMMENDATIONS IN CONTEXT

Individual recommendations or guidelines must be read in context. Thus:

1. Each chapter has a section entitled "Definitions" (Part II). It is often important to consult this section to understand the recommendations.

For example under Modes of Care (Chapter 7) high-velocity thrust procedures are rated *established* for neuromusculoskeletal disorders (Recommendation 7.1.2). The question might be raised whether this includes respiratory or digestive dysfunctions assessed as having a somatovisceral component. In chiropractic practice the basis for management is the presence of subluxation or spinal dysfunction, and such disorders can be seen as neuromusculoskeletal.

In this context the answer is no—see the definition (Part II—end): For the purposes of this chapter the term "neuromusculoskeletal" excludes internal organ dysfunctions.

2. The rest of the chapter may modify a particular recommendation. The overview (Part I in each chapter) often does. In addition, other recommendations often qualify a given recommendation.

Under Chapter 8 on Frequency and Duration of Care, for example:

a. Recommendation 8.4.1 suggests a guideline for management of patients with acute, uncomplicated disorders—four weeks of manual procedures, two weeks of two different approaches, with continuing care only if there is "significant" documented improvement.
b. The determination whether this recommendation applies to patients with neck pain and headache as well as low-back pain may only become apparent on reading comments in the overview (Part I, paragraph 3). It does.
c. The number of treatments recommended per week appears in Recommendations 8.2.1 and 8.5.1, i.e., 3-5 per week during the first two weeks, depending upon the individual patient, then decreasing in frequency.
d. The answer to whether four weeks of treatment is an absolute time within which there must be significant documented improvement is found in the Overview (Part I), and Recommendation 8.1.1. which provides for some of the factors that modify the guideline and treatment plan—e.g., severe pain, previous episodes, or pre-existing conditions.
e. In summary, Recommendation 8.4.1 can only be understood when read in context, and together with other recommendations.

Properly understood, these recommendations do not give a "cookbook" approach to duration of care or number of treatments. The guidelines on these matters may be modified by multiple factors, including pre-existing conditions, re-injury or failure to comply with other aspects of management. The facts may explain why the guideline is exceeded and the care still considered appropriate in an individual case.

Individual chiropractic practice should conform with the guidelines in general, and document reasons for continuing with manual procedures in the absence of anticipated improvement in specific cases. A problem arises only when the management of a specific case is outside the guidelines with no apparent reason.

E. CONSENSUS LEVELS

Next to each recommendation or guideline there appears a level of consensus on a scale of 1-5. This defines the level of agreement for that recommendation as voted by the 35 members of the consensus panel at the Mercy Center meeting. Consensus levels adopted were:

Level 1 (Full agreement)—over 85% (more than 30 votes out of 35)
Level 2 (Consensus)—70-85% (25-29 votes)
Level 3 (Majority/Minority Opinions)—51-69% (i.e. a majority)
Level 4 (Multiple Minority Opinions)—26-50%
Level 5 (No Consensus)—no agreement by more than 25%

The great majority of recommendations received Level 1 consensus or full agreement. In the few cases where there was Level 3 consensus a minority opinion is noted in the recommendations and there is a cross-reference to the minority opinion which appears at the end of the chapter (Part IX).

The meeting produced an extremely high level of consensus. Most recommendations received Level 1 consensus, a few received Level 2 and Level 3, none received Level 4 or Level 5.

F. PROFESSIONAL TITLE

The use of professional title is governed by law and individual preference, and varies according to jurisdiction. Common titles used for the general practice of chiropractic include "chiropractor," "chiropractic physician," and "doctor of chiropractic."

Throughout this document, for reasons of uniformity and clarity, the word "practitioner" is used. This has the additional benefit of being inclusive, and denoting chiropractic and medical practitioners where the context requires.

Specialties exist in chiropractic, in areas such as orthopedics, radiology, and sports chiropractic. Specialist practitioners are given their common and usual titles (e.g., chiropractic radiologist).

G. CONCLUSION—HOW TO FIND A GUIDELINE

It is suggested that the following process be followed:

1. Consider which chapter will cover the guideline topic in question. (e.g., adequate patient identification in office records will be found in Chapter 5 on Recordkeeping and Patient Consents).
2. Consult Part III (List of Subtopics) of the relevant chapter. This gives a breakdown of the guideline topics in that chapter. (In Chapter 5, patient identification appears under Part III, paragraph A).
3. Turn to Part VI of the chapter, which lists the recommendations or guidelines, and consult the relevant guidelines. (Paragraph 3, which includes Guidelines 5.1.4 to 5.1.6., deals with patient identification).
4. Read the guidelines carefully. Guideline 5.4.1 rates the clear identification of the patient as *necessary*, but does not mean or say that every element listed is necessary. Identifying information "may" include all of the elements listed.
5. Check other recommendations in case they modify the guidelines. (Here Recommendation 5.1.5 is that it is *necessary* to include both sex and occupation, and Recommendation 5.1.6 lists other elements that might be recorded but that are rated *discretionary*).
6. Refer to other parts of the chapter, especially the overview (Part I) and the Definitions (Part II). (In the example being considered, patient identification, there are no introductory statements which modify the recommendation. However, a disclaimer at the beginning of Part VI is relevant and notes that all guidelines on patient records and consents "may necessarily be superseded by statutory law" in a specific jurisdiction.)

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1. Smith R (1991) *Where is the Wisdom: The Poverty of Medical Evidence*, BMJ 303:798-799. Quoting David Eddy MD. Professor of Health Policy and Management, Duke University, NC.
2. Rachlis M and Kushner C (1989) *Second Opinion. What's Wrong with Canada's Health Care System and How to Fix It*, Collins, Toronto.

1

History and Physical Examination

Chapter Outline

I. OVERVIEW

The main objective in practice is to find a solution to the patient's problem. To accomplish this goal the nature and cause of the problem must be known before appropriate management can be instituted.

Initially, this requires data collection and interpretation. The patient interview represents an important opportunity to obtain the information necessary to make a correct diagnosis. A careful examination is then necessary to verify that diagnosis. Responses to pertinent historical queries suggest how the examination should be planned, what course it should take, and what areas may require special consideration. Several methods of examination are known to exist. From the choices made during the examination a management plan is finally formulated.

It is the initial patient contact that establishes the nature of the doctor/patient relationship and determines the degree of confidence and trust involved in case management.

II. DEFINITIONS

Consultation: Any combination of history taking, physical examination, and explanation and discussion of the clinical findings and prognosis. A consultation can also be the service provided by a practitioner whose opinion or advice regarding evaluation and/or management of a specific problem is requested by another practitioner or other appropriate source.

Diagnosis: A decision regarding the nature of the patient's complaint; the act or act of identifying a disease or condition from its signs and symptoms.

Examination: Those varied procedures performed by the practitioner necessary to determine a working diagnosis. The goal of the examination is not to attain diagnostic certainty but rather to reduce the level of uncertainty sufficient to make optimal recommendations for care.

Gold Standard Test: An accepted reference test or procedure used to define the true state of the patient's health.

History: The patient's account of the clinical problem(s) given in response to the practitioner's questions.

Neurologic Examination: Most commonly refers to evaluating deep tendon reflexes, sensation and muscle strength.

Provocative Testing: Those tests or procedures that are performed to elicit physical or physiological expressions of a given disorder.

Sensitivity: The likelihood of a positive test result in a person with a disorder (also true-positive rate or TPR).

Specificity: The ability to correctly identify negative test results among subjects who truly do not have a specific disorder.

Vascular Examination: Most commonly refers to auscultation and palpation of appropriate blood vessels.

III. LIST OF SUBTOPICS

A. History
   1. General considerations
   2. Components

B. Examination Procedures
   1. Generally
   2. In presence of head complaints
   3. Neck and adjacent structures
   4. Thoracic complaints and/or chest complaints
   5. Lower back and adjacent structures
   6. Extremity complaints
   7. Independent chiropractic examinations

IV. LITERATURE REVIEW

Specific literature on the appropriate history and examination techniques for the chiropractic practitioner can be found in numerous texts. The reader is directed to those texts listed in the bibliography for detailed description of such techniques. The intent of this chapter is not to serve as a teaching tool. Rather, the purpose is to assist in establishing guidelines related to acceptable history techniques to be used by the practitioner.

Many journals published for the chiropractic profession, including the *Journal of Manipulative and Physiological Therapeutics*, *Chiropractic Technique*, and *Chiropractic Sports Medicine*, provide articles on the appropriateness of various examination procedures, but there is little information on history taking procedures. The articles range from describing the measurement of lumbar range of motion to objectively measuring the strength of the biceps muscle. These articles often reflect only one individual's perspective, and in some instances have associated economic ramifications. These considerations increase our need for objective information gained from well-designed research projects.

The history-taking procedure has been considered the most clinically sophisticated and complex task used by health care providers.[2] Its purpose is to provide the clinician with one or more diagnostic impressions. These are then confirmed or altered following the judicious selection of additional tests — and it can be noted in the literature that this process does indeed occur.[1-3] One study determined that a sample group of practitioners determined their first hypothesis regarding the diagnosis of a random sample of patients an average of 28 seconds after hearing the chief complaint. The correct hypothesis (which was identified in 75% of these cases) was found on average within the first six minutes of a half-hour work-up.[2] Much of the information that will lead a clinician to a manage-

ment plan, then, is gained very early in the doctor/patient interaction.

Sandler [44] also emphasized the importance of the history. He found that the percentage of diagnostic completion was as high as 73% after the history and physical examination alone. He suggested that further tests were often unnecessary and costly. Cutler[18] stated that 70%-90% of diagnoses are derived from the history alone. The art and skill of the doctor in the history-taking process includes the ability 1) to obtain an appropriate description of the patient's complaints; 2) to elicit data vital to the case that may not have been volunteered; and 3) to know that the patient does not have clinically relevant factors that are left unmentioned.[21]

These skills can be diminished in a number of ways. Previous experience, while of great value, may result in the clinician prejudging a patient's condition, coming to a conclusion too quickly. This may result in unnecessary testing procedures in order to determine that the hypothesis made during the history is incorrect, or may result in an appropriate confirmatory test not being used and the patient being treated inappropriately. Further, the meaning of words used by the patient may not be the same as that of the practitioner. "Night pain," for example, may signify a pain when resting in bed which has high sensitivity (greater than 0.90) for the detection of malignancy; [1] or it might mean that the patient wakes up whenever he/she rolls over and that the movement irritates an inflamed facet. A practitioner's arbitrary use of professional jargon, and the assumption that the patient understands it, can lead to further confusion. All of the above are further complicated when the first language of the clinician is not the same as that of the patient. It is perhaps for these reasons that the accuracy of patient histories has been questioned, [14, 33] and significant variability noted.[19]

Mishler et al.[29] state that there are three parameters involved in the interview process: attentiveness, facilitation and collaboration. Attentiveness is defined as the degree to which the practitioner takes the patient's concerns seriously. Facilitation is the encouragement given by the clinician to allow patients to tell their own stories in their own words, and collaboration is the degree to which patients are considered partners in the process by which they receive care.

The biologic/diagnostic sciences, then, are aids to the decision-making process. This process, however, must take place within the social context of our society. As a result a social interactive component must be recognized and taken into account in order to make appropriate choices during the physical examination and any additional testing procedures.

There are several examination styles that are currently recognized. Not all of them are practical in a clinical setting: One is the exhaustive approach, with the completion of a comprehensive series of all tests that may significantly contribute to determining the diagnosis. A study by Durbridge,[18] performed in a hospital setting, showed that exhaustive testing produced no improvement in mortality rate, morbidity, duration of monitoring, disability, medical opinions of the patient's progress or length of stay.

Another style, the one generally used to obtain the history and perform the physical examination, is the hypothetic-deductive approach.[16, 47] This consists of generating one hypothesis after hearing the patient's chief complaint(s), or several possible working hypotheses. The practitioner then attempts to gather historical and physical information to either support or refute the potential working hypotheses. The goal is to narrow the number of working hypotheses to one.

The physical examination, while apparently objective, is no less riddled with social issues than the history. It has been noted that the assessment of the observer,[31] instructions given to the patient, and sincerity of response are important. When, for example, an almost 30% difference is found in the sensitivity of a test such as sensory loss used to help diagnose a herniated lumbar nucleus pulposis for two different samples,[3] it is difficult to know if the difference lies in the test itself or in the doctor-patient relationship. The more motivated patients are, the more likely they are to fairly represent their maximum capacity on a physical performance test.[25, 48, 49] The less anxious patients are, the more likely they are to reach forward despite their pain.

The literature is sorely lacking with respect to controlled randomized clinical trials directed at measuring reliability and validity of specific history taking procedures. A thorough review of practitioner reliability studies performed by Koran[30] did not include any studies relating to history taking. Earlier studies, in which practitioners interviewed different samples of patients drawn from one population, found considerable disagreement in symptom prevalence rates.[19]

Although there are many studies of examination techniques, high quality randomized trials do not exist. Koran's review[30] revealed very poor reliability amongst medical physicians regarding agreement greater than chance in the examination of many components of the cardiovascular, gastrointestinal and respiratory systems. Chiropractic studies of examination techniques often omit an accurate description of the inherent properties of a test including reliability and validity, or fail to comment on the utility of the diagnostic procedure in relation to the therapeutic impact and patient outcome. Further, a gold standard of diagnosis is not often available for many of the conditions treated by the chiropractic profession. Thus tests of sensitivity and specificity may be open to bias.

Cooperman et al.[13] attempted to assess intertester and intratester reliability and validity of Lachman's test in determining the integrity of the anterior cruciate ligament (ACL). They found the test judgments had limited reliability. They were more reliable for predicting absence of ACL injury than the presence of ACL injury.

Another study analyzing a sample of patients with objectively determined anterior cruciate ligament tear or chondral damage found patients were not correctly diagnosed using a battery of usual orthopedic tests. Under anesthesia, however, Lachman's test proved to be highly sensitive and specific. This suggests that even in the face of well-performed maneuvers, compensatory defense reactions from soft tissue may prevent stressing the targeted tissues in the manner necessary for adequate diagnosis.[33]

Mierau et al.[37] determined that the correlation between straight leg raising (SLR) and low-back pain may be poor when evaluating children and adolescents, with the exception of male adolescents with a history of low-back pain. When evaluating various populations it has been observed that ipsilateral SLR is a highly sensitive indicator (72%-97%) of lumbar disc herniation, and contralateral SLR is highly specific for the same condition (88%-100%).[11]

A study performed by physical therapists attempting to measure lumbar lordosis with a flexible ruler showed poor intertester reliability with slightly increased intratester reliability.[38] Similar studies done within the chiropractic profession to measure intersegmental range of motion show similar poor intertester reliability.[39] Furthermore, out of eight conservative evaluations of lumbar segmental abnormality (including palpating for pain, assessing temperature differentials, active and passive motion palpation, muscle tension and misalignment palpation), the subjective finding (of pain) was found to be the most reliable.

Brunarski[8] evaluated two physical measurements, plumbline analysis and lateral bending dynamic roentgenograms. These two measures demonstrated greater predictive value and accuracy in differentiating patients with myofascial pain from asymptomatic patients than sacroiliac motion palpation and straight leg raising. This information is of limited clinical use because myofascial pain is poorly defined.

The Quebec Task Force on Spinal Disorders[41] concluded that, with few exceptions, there were currently no objective procedures which usefully diagnosed any type of spinal pain of less than seven weeks duration. It is noted that there were no chiropractic representatives on this Task Force, and that palpation findings and other subtle forms of evaluation may not have been considered.

LeBoeuf [32] evaluated eight different orthopedic tests and found that only one (heel to buttock test) had predictive value for low-back pain. Orthopedic tests that appeared to strain several adjacent anatomical structures were commonly positive. This may indicate that these tests have poor discriminative ability.

Three common cervical orthopedic tests used to determine the presence of cervical disc disease were evaluated as they related to radicular, neurologic and radiologic signs. Neck compression, axial manual traction and shoulder abduction tests were found to be highly specific for radicular pain, neurologic and radiologic signs. Despite their low sensitivity, these tests were deemed valuable in the clinical examination of a patient with neck and arm pain.[31] In the presence of a negative finding from an accepted test, a practitioner needs to recognize that many tests have low sensitivity.

In conclusion, much of the basis of history taking and performing a physical examination stems from clinical experience rather than scientific data. As clinicians we must remain flexible in our approach to the patient, and recognize consultative procedures that may assist in establishing an effective working diagnosis.

V. ASSESSMENT CRITERIA

Note: Two rating systems are employed in this chapter because of the diverse subject matter.

Procedure Ratings (System I)

Established: Accepted as appropriate by the practicing chiropractic community for the given indication in the specified patient population.

Promising: Given current knowledge, this appears to be appropriate for the given indication in the specified patient population. As more evidence and experience accumulates this interim rating will change. This connotes provisional acceptance, but permits a greater role for the current level of clinical use.

Equivocal: Current knowledge exists to support a given indication in a specified patient population, though value can neither be confirmed nor denied. As more evidence and experience accumulates this interim rating will change. Expert opinion recognizes a need for caution in general application.

Investigational: Evidence is insufficient to determine appropriateness. Further study is warranted. Use for a given indication in a specified patient population should be confined to research protocols. As more evidence and experience accumulates this interim rating will change.

Doubtful: Given current knowledge, this appears to be inappropriate for the given indication in the specified patient population. As more evidence and experience accumulates this interim rating will change.

Inappropriate: Regarded by the practicing chiropractic community as unacceptable for the given indication in the specified patient population.

Quality of Evidence

The following categories of evidence are used to support the ratings.

Class I:

Evidence provided by one or more well-designed controlled clinical trials; or well designed experimental studies that address reliability, validity, positive predictive value, discriminability, sensitivity, or specificity.

Class II:

Evidence provided by one or more well-designed uncontrolled, observational clinical studies, such as case control, cohort studies, etc.; or clinically relevant basic science studies that address reliability, validity, positive predictive value, discriminability, sensitivity, specificity; and published in refereed journals.

Class III:
Evidence provided by expert opinion, descriptive studies or case reports.

Suggested Strength of Recommendations Ratings

Type A. Strong positive recommendation. Based on Class I evidence or overwhelming Class II evidence when circumstances preclude randomized clinical trials.

Type B. Positive recommendation based on Class II evidence.

Type C. Positive recommendation based on strong consensus of Class III evidence.

Type D. Negative recommendation based on inconclusive or conflicting Class II evidence.

Type E. Negative recommendation based on evidence of ineffectiveness or lack of efficacy based on Class I or Class II evidence.

Procedure Ratings (System II)

Necessary: Strong positive recommendation based on Class I evidence, or overwhelming Class II evidence when circumstances reflect compromise of patient safety.

Recommended: Positive recommendation based on consensus of Class II and/or strong Class III evidence.

Discretionary: Positive recommendation based on strong consensus of Class III evidence.

Unnecessary: Negative recommendation based on inconclusive or conflicting Class II, III evidence.

Quality of Evidence

The following categories of evidence are used to support the ratings.

Class I:
A. Evidence of clinical utility from controlled studies published in refereed journals.
B. Binding or strongly persuasive legal authority such as legislation or case law.

Class II:
A. Evidence of clinical utility from the significant results of uncontrolled studies in refereed journals.
B. Evidence provided by recommendation from published expert legal opinion or persuasive case law.

Class III:
A. Evidence of clinical utility provided by opinions of experts, anecdote and/or by convention.
B. Expert legal opinion.

VI. RECOMMENDATIONS

A. History

1. The process by which one determines the diagnosis should be adequately recorded and interpretable.

1.1.1 Rating: Necessary
Evidence: Class II, III
Consensus Level: 1
(For detailed recommendations see Chapter 5)

2. The history plays a critical role in the diagnostic process. A well performed history will appropriately identify the region to be examined and the extent of the condition.

1.1.2 Rating: Established
Evidence: Class I, II, III
Consensus Level: 1

3. The components of the history may include any or all of the following, dependent on the presentation of the patient and the judgment of the practitioner.
   a. Data on identity, including age and sex
   b. Chief complaint (problem list)
   c. History of present complaint
      - history of trauma
      - description of chief complaint(s)
      - quality/character
      - intensity
      - frequency
      - location and radiation
      - onset
      - duration
      - palliative and provocative factors
   d. Family history
   e. Past health history
      - general state of health
      - prior illness
      - surgical history
      - previous injuries, i.e., MVA, workers' comp.
      - past hospitalizations
      - previous treatment and diagnostic tests
      - medications
      - allergies
   f. Psycho-social history
      - occupation
      - activities
      - recreational activities
      - exercise
   g. Social history
      - marital status
      - level of education
      - social habits
   h. Review of systems
      - musculoskeletal
      - cardiovascular

respiratory
gastrointestinal
genitourinal
central nervous system
eye, ear, nose and throat
endocrine
peripheral vascular disease
psychiatric

1.1.3 Rating: Necessary
Evidence: Class I, II, III
Consensus Level: 1

B. Examination

1. Practitioners may use any or all diagnostic procedures pertinent to the physical examination, however sophisticated, dependent on individual training and the legal statutory framework within which they work.

1.2.1 Rating: Necessary
Evidence: Class II, III
Consensus Level: 1

2. Examination procedures regardless of chief complaint(s) may include:
   a. Evaluation of blood pressure and pulse rate
   b. Recording of height and weight
   c. Record of temperature in the presence of pertinent subjective complaints

1.2.2 Rating: Recommended
Evidence: Class III
Consensus Level: 1

3. In the presence of head complaints evaluation may include examination of the neck and adjacent structures as well as appropriate vascular and cranial nerve testing.

1.2.3 Rating: Established
Evidence: Class II, III
Consensus Level: 1

4. In the presence of reported or observed changes in cognition, coordination, special sensory function or recent head trauma, it is necessary to perform a neurologic evaluation or obtain a more extensive neurologic/vascular workup in a timely fashion.

1.2.4 Rating: Established
Evidence: Class II, III
Consensus Level: 1

5. Examination of the neck and adjacent structures may include:
   a. Inspection and observation to include postural presentation of the region
   b. Regional palpation
   c. Range of motion including active and/or passive movement
   d. Muscle strength
   e. Provocative maneuvers which might include compression and stretching
   f. Neurologic examination
   g. Vascular examination

as is safe and effective in diagnosing the patient.

1.2.5 Rating: Established
Evidence: Class II, III
Consensus Level: 1

6. Examination procedures for thoracic and/or chest complaints may include:
   a. Inspection and observation to include postural presentation of the region
   b. Regional palpation
   c. Auscultation of the chest in the presence of pertinent subjective complaints to be performed by the practitioner or appropriate specialist
   d. Auscultation of heart sounds in the presence of pertinent subjective complaints to be performed by the practitioner or appropriate specialist
   e. Auscultation and palpation of the abdomen
   f. Range of motion including passive and/or active movements
   g. Muscle strength
   h. Provocative maneuvers which may include compression and stretching
   i. Neurologic examination

as is safe and effective in diagnosing the patient.

1.2.6 Rating: Established
Evidence: Class II, III
Consensus Level: 1

7. Examination procedures for lower back and adjacent structures may include:
   a. Inspection and observation to include postural presentation of the region
   b. Regional palpation
   c. Evaluation of the abdominal aorta to include palpation and auscultation in the presence of pertinent subjective and objective findings
   d. Evaluation of the abdominal/pelvic viscera to include palpation and/or auscultation in the presence of pertinent subjective complaints
   e. Range of motion including passive and/or active movements
   f. Muscle strength
   g. Provocative maneuvers which may include compression and stretching
   h. Neurologic examination
   i. Vascular examination
   j. Recording the circumference of the involved extremity in the presence of pertinent subjective complaints

as is safe and effective in diagnosing the patient.

1.2.7 Rating: Established
Evidence: Class I, II, III
Consensus Level: 1

8. Examination procedures for extremity complaints may include:
   a. Vascular examination
   b. Neurologic examination
   c. Regional palpation
   d. Range of motion including passive and/or active movements
   e. Provocative maneuvers which may include compression and stretching.
   f. Recording the circumference measurements of the involved extremity in the presence of pertinent subjective complaints.

as is safe and effective in diagnosing the patient.

1.2.8 Rating: Established
Evidence: Class I, II, III
Consensus Level: 1

9. Independent chiropractic examinations (ICE) should be performed in accordance with the recommendations put forth in this chapter.

1.2.9 Rating: Recommended
Evidence: Class II
Consensus Level: 1

VII. COMMENTS, SUMMARY OR CONCLUSION

None.

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IX. MINORITY OPINIONS

None.

2

Diagnostic Imaging

Chapter Outline

I. OVERVIEW

The fundamental purpose of diagnostic imaging is to gain information to aid diagnosis, prognosis and therapy. Studies are performed to confirm or contribute to the clinical picture. Each study requires the informed consent of the patient and appropriate documentation.

Diagnostic imaging is a field which has undergone revolutionary changes because of the explosion of advanced imaging technology. The rapid advancement of technology and information means that it is not possible to write static guidelines regarding diagnostic imaging.

Diagnostic imaging, especially plain film radiography, continues to be a mainstay in the assessment of chiropractic patients. This document presents current knowledge regarding the proper utilization of diagnostic imaging in the assessment of chiropractic patients. An overview of diagnostic imaging in regards to education, services, patient selection, imaging modalities and recommendations is presented. It is beyond the scope of this paper to discuss all available radiology services.

II. DEFINITIONS

A. Personnel

Radiologic Technologist or Radiographer: A person educated and trained to perform appropriate diagnostic studies under published guidelines in a safe and reasonable manner. The technologist or radiographer does not practice independently but performs studies by referral under the direction of a licensed practitioner.

General Chiropractic Practitioner: A practitioner licensed to practice diagnostic radiology and educated in radiation protection, standards of quality, clinical indications for radiography and interpretation.

Radiologist: A licensed practitioner certified by a recognized national certification board in the specialty of diagnostic imaging. Trained chiropractic radiologists typically have over 6,000 hours of education during their post-professional training.

B. Services

Technical Component: That portion of radiology services that includes providing the facilities, equipment, resources, personnel, supplies and support needed to perform and produce the diagnostic study.

Professional Component: Represents the services performed by a licensed practitioner to interpret each study and to document the diagnostic conclusions of the study in a formal written radiology report. The practitioner may assign any right or claim to the professional component service if, upon prior agreement, all duties of interpretation, diagnosis and reporting are relegated to a radiologist. When the primary professional component is performed by a radiologist it is not considered as a second opinion.

Second Opinion or Consultation: Is requested in circumstances when a practitioner or radiologist feels more input in the case is in the best interest of the patient.

C. Other

Diagnostic Significance: Information has diagnostic significance if it results in a change of diagnosis. (This does not necessarily imply a change in therapy.)

Spinal Instability: Interruption of the anatomic elements resulting in abnormal or excessive motion which may or may not carry the risk of neurologic injury.

Therapeutic Significance: Information has therapeutic significance if it indicates a need for a change in therapy.

III. LIST OF SUBTOPICS

A. Sequence of Services
B. Patient Selection Procedures
C. Radiographic Interpretation and Reporting
D. Legal Issues in Radiography
E. Radiation Technology and Protection
F. Plain Film Radiographs
G. Full Spine Radiography
H. Stress Radiography
I. Videofluoroscopy
J. Plain Film Contrast Studies
K. Computed Tomography
L. Magnetic Resonance Imaging
M. Radionuclide Bone Scanning
N. Diagnostic Ultrasound

IV. LITERATURE REVIEW

A. Selection Procedures

Diagnostic imaging procedures are diverse and span a wide spectrum ranging from traditional plain film radiographs to complex computer generated images. Plain film x-rays should not be acquired unless the results could reasonably affect treatment (Seelentag,1989; Wyatt, 1987). Overutilization may be the result of inexperience, habit, peer pressure, patient education or reassurance, and fear of litigation (Deyo, 1987).

1. Diagnostic efficacy. Effectiveness can be measured and varies with each type of imaging (Baddley, 1984). Efficacy can be assessed at three levels: diagnostic, therapeutic and prognostic (Lusted, 1977). Imaging studies are useful when

they reduce diagnostic uncertainty. Imaging also contributes to management decisions for prognosis and plan of therapy. (Baddley, 1984).

2. Accuracy and clinical certainty. An important feature in selection of diagnostic studies is accuracy. A test must be selected on the basis of its ability to discriminate between those patients who have the disease in question and those who do not.

3. Decision making for patient selection. The selection of patients for radiographic examination is based on the following guidelines:

a. Need for radiographic examination should be based on history and physical examination findings.
b. Potential diagnostic benefits must be weighed against the risks of ionizing radiation.
c. The purposes of radiographic examination are to assist the practitioner in diagnosis of pathology, identify contraindications to chiropractic care, identify bone and joint morphology, and acquire postural, kinematic and biomechanical information.
d. Routine radiography of patients as a screening procedure is inappropriate.
(Sinclair, 1988; Maurer, 1988; Ontario Gvt. Publ., 1987; Mootz; Kovach, 1983; Vernon, 1982; Aspegren, 1987)

4. Additional selection considerations

a. Non-responsive patient. It is not appropriate to image patients simply because of clinical uncertainty or prior negative results (Kemp, 1984; Mjoen, 1990). The entire clinical picture needs to be re-evaluated.
b. Progressive pathology. In cases of progressive pathology re-examination may be important to evaluate progression and the effect of treatment. Frequency of re-examination depends on the nature of the disease.
c. Discharge examination. There is little documented need to image patients prior to release from care. Exceptions are the utilization of a diagnostic imaging test to establish disability or permanency of an abnormality where this is helpful in determining the disposition of a claim.
d. Frequent re-examination. The need for frequent diagnostic images for purely biomechanical analysis is not well documented.
e. Health policy. Medicare requirements mandate that radiographs be obtained in every case regardless of clinical opinion. This is contrary to appropriate imaging selection and practice. Routine radiographs acquired as a pre-employment screen have been thought to be of diagnostic or prognostic value with respect to the potential for development of occupational back pain (Diveley, 1956). More recently this belief has come under severe criticism due to the extremely low diagnostic yield, unproven predictive value and prohibitive cost (Wyatt, 1987; Joseph et al., 1986; Eisenberg et al., 1979).
f. Therapeutic indications. In some circumstances, although the clinical picture may not indicate a need for diagnostic imaging, it is required because of the therapy being considered by the practitioner. This may be contraindicated with certain clinically silent conditions that may be apparent on radiographic examination (Yochum, 1987).

B. Interpretation and Reporting of Diagnostic Studies

1. Components. The professional component of an imaging study may be performed by the general chiropractic practitioner or a specialist chiropractic practitioner with advanced training in radiology. This decision is based upon practitioner preference, liability considerations, availability of services and other issues. An interpretation of the imaging study must be included as part of the patient's permanent record. Performing the professional component of an imaging study by the practitioner is not mandated, and may be relegated to the radiologist. It must be performed by one or the other in each case. This decision is based on preference of practice, liability consideratons, availability of services and other issues.

2. Content of report. The necessary components of a formal written radiology report include patient identification, location where studies were performed, study dates, types of studies, radiographic findings, diagnostic impressions, and signature with professional qualifications. Other components may include recommendations for follow-up studies and comments on further clinical patient evaluation (Taylor, 1990). Unique radiology reports are generated for each study. The use of check-list forms is not supported.

3. Function. The main function of the radiological report, an important part of the patient record, is to document the findings of the imaging study. It forms only part of the clinical picture however and is not the sole determinant of management. Comment in reports suggesting or directing patient management is generally inappropriate. The treating practitioner integrates other information from clinical history, physical examination, and the other diagnostic procedures to form a complete clinical impression.

Yochum (1987) lists five other functions and reasons for recording radiographic findings in a written report: 1) medicolegal circumstances; 2) allowing comparison with prior or subsequent exams; 3) providing a reference if radiographs are lost or not available for review; 4) communication with other health practitioners; 5) expediting care by providing a resume of important indications and contraindications for therapy.

4. Timing. A radiology report should convey the findings of the diagnostic study to the treating practitioner in a timely manner and the radiologist has a duty to ensure such commu-

nication. In appropriate circumstances the general chiropractic practitioner may institute the initial treatment plan based on patient history and physical findings prior to obtaining the formal written radiology report.

C. Regulations and Professional Responsibilities

Legislation governing chiropractic practice provides that radiography is to be used solely for diagnostic purposes. The laws and regulations governing the use of diagnostic radiology are established by individual state radiation protection authorities. The U.S. National Council on Radiation Protection (1975, 1987) has established recommendations for the safe and effective use of diagnostic radiology. Those who operate chiropractic radiographic facilities should implement the NCRP recommendations.

1. Diagnostic procedures and instruments. Those typically allowed for use in chiropractic practice include plain films, fluoroscopy, tomography, thermography, ultrasound, nuclear medicine imaging, computed tomography, digital radiography, and magnetic resonance imaging.

2. Legal and ethical issues. Practitioners should be aware that it is not only unethical but also illegal in most states for any health professional to receive financial compensation (kick-back payments) for ordering studies. Ownership, limited partnerships, and stock purchase are ethical ways to have financial investment in imaging facilities or centers. Any offer or advertising of free x-rays to actual or potential patients shall be accompanied by the statement "if necessary". Any facility utilizing two or more fee schedules for their services is engaging in unethical and potentially illegal activity. Services should be billed at the same rate whether payment is direct or by a third party. No out-of-pocket expense (NOOPE) billing schemes are unethical and generally illegal.

3. Clinical responsibility. Individuals or institutions are responsible to the level of service provided. Adequate technology is the responsibility of the facility and personnel providing the technical services. Radiologic diagnosis is the responsibility of the general chiropractic practitioner or the specialist chiropractic practitioner with advanced training in radiology. Chiropractic practitioners performing duties in general practice may not be held responsible at the level of the specialist in radiology.

4. Patient consent. Each patient should be informed in advance of the need and nature of radiographic examinations to be performed, and any significant potential risks or contraindications. Consent should be obtained in the case of minors. This should be from a parent or legal guardian.

D. Standards of Billing

Standard Current Procedural Terminology codes for reimbursement of radiology services are technical fee, professional fee, global fee (combined technical and professional), and level of office service for practitioner involvement. Radiology procedures, or groups of procedures are billed in an available single, comprehensive CPT-4 code. Body areas are billed as a series or study. Billing of individual views when more than one view is obtained is considered unbundling. Manipulation of reimbursement codes to gain higher reimbursement (e.g., performing partial studies on various office visits to allow code gaming) by any professional providing radiology services is inappropriate.

E. Plain Film Radiography

1. Radiation technology and radiation protection
   a. Technique factor selection (Maurer, 1989; Mootz, 1989; Sherman, 1982; Curry et al., 1990; Bushong, 1984; Yochum, 1987; Moilanen et al., 1983; Jaeger, 1988). Practitioners should have the following goals for each radiographic examination:
      - Patient exposure to radiation on the ALARA ("As Low as Reasonably Achievable") principle;
      - Images with quality "As High as Reasonably Achievable" (AHARA);
      - Proper procedures to ensure minimum need for repeat studies.

      i) Technique Charts. Chiropractic radiographic installations make use of accurate technique charts or other reliable methods of calculating exposure factors. These charts vary for each installation because of variances in tube current and voltage output in each location.

      ii) kV Selection (Yochum, 1987; Jaeger, 1988). Technique selection is based on a fixed optimum kV basis. This procedure is best suited for use with rare-earth intensifying screens. These are sensitive to a specific kV range and requirements for specific degrees of penetration based on body part thickness and density. Selection of optimum kV is based on the body part being radiographed. Tube current and/or time (mAs) is altered according to body part thickness. Table 1 provides optimum kV values as a range—rather than a fixed value to accommodate voltage output variances from one installation to another.

      iii) mAs Selection. The mAs signifies the quantity of x-ray photons emitted from the x-ray tube and affects radiographic density. The mAs is calculated as the product of tube current (milli-amperage [mA]) and time (seconds-[s]) according to the formula mAs = mA × s. The amount of mAs required is calculated for each exposure and is easily determined by referring to a standardized technique chart or calculating device. Thicker and denser body regions typically re-

quire more mAs than thinner and less dense body regions. Selection of minimum exposure times with adequate milli-amperage helps avoid patient motion. In certain cases the heat capacity of the tube may be exceeded using the maximum milli-amperage available. In these cases lower mA values and longer exposure times are more appropriate to protect the tube.

iv) Focal-Film Distance Selection. Most radiograph procedures use a 40" (Yochum, 1987; Jaeger, 1988) or 48" (Gray et al., 1981) focal-film distance (FFD). The main exceptions are chest, full-spine, and some cervical spine radiographs which typically use a 72" FFD. There is growing interest in the use of FFDs at 72" or 80" to reduce patient skin exposure (Sherman, 1982). 84" provides similar advantages for full spine radiography (Aikenhead, 1989). Increased FFD requires a corresponding increase in mAs according to the Inverse Square Law. Use of long FFD is encouraged in facilities with adequate capacity of x-ray generator, x-ray tube and control and the appropriate grid focal range.

b. Radiographic quality assurance (Sherman, 1981; Gray, 1983). Proper maintenance and use of all radiographic equipment significantly contributes to image quality. A prescribed diagnostic and maintenance schedule helps achieve this goal. Table 2 outlines appropriate procedures and intervals of performance.

c. Radiographic equipment specifications (Sherman, 1981; Gray, 1983, Samuel, 1985). Many chiropractic radiographic installations are equipped with single-phase, fully rectified x-ray units. Three-phase x-ray units provide superior results with less patient radiation exposure. The cost of three-phase equipment however is often prohibitive for a low-volume radiographic installation.

The relatively new technology of medium-frequency x-ray generators holds promise as a more affordable alternative to three phase technology. Most medium-frequency units (Siemens, Gendex, Bennett) have the dual advantage of reducing patient exposure as well as the capacity to "plug-in" to standard 120V electrical outlets without any special electrical modifications. Some authors (Hildebrandt, 1981) have recommended a minimum x-ray generator-control capacity of 300 mA/125kV. There is no scientific evidence to support this recommendation. Some radiographic generators of less capacity, such as 200 mA/100 kV, are capable of producing excellent quality radiographs. The major concern about lower capacity x-ray units is the possibility of long exposure time leading to excessive patient motion. This may cause a frequency of repeat studies which is unacceptable. The use of patient immobilization devices, such as compression bands, is recommended in these cases.

i) Gonad shields (NCRP#39, 1974; Mootz, 1989; Sherman, 1981; Bushong, 1984; Curry et al., 1990; Moilanen et al., 1983; Jaeger, 1988; Aikenhead et al., 1989; Hildenbrandt, 1981; Gyll, 1988). Male and female reproductive organs are especially sensitive to ionizing radiation. Lead shields covering the ovaries and testicles should be used in most examinations of the pelvic region in patients with reproductive potential. The only exception is where shields will obscure an area of diagnostic interest. (See Table 5).

ii) Intensifying screen/film combinations (Sherman, 1981; Curry et al., 1990; Bushong, 1984; Aikenhead et al., 1989; Picus et al., 1984; Skukas, 1980; Cohen et al., 1984). The most significant recent advance in reducing ionizing radiation is the rare earth intensifying screen. All practitioners with radiographic installations should consider the use of rare-earth screens. Suggested film-screen speed combinations are provided in Table 3. It is essential that the spectral sensitivity of the radiographic film matches that of the intensifying screens used (e.g., orthochromatic screens must be used with orthochromatic [green sensitive] film while blue-emitting screens must be used with blue-sensitive film). Very fast film-screen combinations may reduce patient radiation exposure. The direct increase of film graininess and quantum mottle with increasing speeds results in a drastic loss of radiographic definition. The use of film-screen speeds of 800-1200 is insufficient for identifying subtle changes in bone and joint architecture. Use of 800-1200 film-screen combinations is acceptable in full spine radiography for assessing biomechanical relationships (such as Cobb's angle and Risser's sign). Slower speed systems are used in cases where subtle changes are suspected and higher detail is necessary. Extremity radiography uses screens and films that demonstrate high detail.

iii) Collimator (Sherman, 1981; Curry et al., 1990; Bushong, 1984; Yochum, 1987). Chiropractic practice generally employs adequate vertical and horizontal beam limitation (collimation) on all radiographs. Certain jurisdictions require the use of semi-automatic or automatic collimation devices.

iv) Cassettes (Sherman, 1981; Gray, 1983; Herman et al., 1987; Hufton et al., 1987; Russell, 1985). Adequate film-screen contact and film protection from white light are dependent on good

quality cassettes. Routine testing of cassettes for light leaks is advisable. Defective cassettes should be repaired or replaced. Conventional cassette fronts are made of aluminum. Newer materials such as carbon-fiber and Kevlar are now in use. These materials attenuate less x-ray, are lighter, and result in reduction of patient radiation, especially at lower (50-70) kV levels. Improvements should be considered when purchasing new cassettes.

v) Grids (Sherman, 1981; Curry et al., 1990; Bushong, 1984). The radiographic grid absorbs scattered radiation after it leaves the patient and before it reaches the image receptor. A grid ratio of 12:1 is ideal for spine radiography up to 100 kV. Grid ratios of 8:1 and 10:1, while resulting in less radiation exposure than 12:1, do not provide adequate scatter radiation absorption in radiography using kV of greater than 100. A moving bucky is usually not necessary for the newer grids which are manufactured with greater than 100 lines per inch. Chiropractic facilities employ focal film distances which reflect the focal length of the grid. Non-grid techniques are preferable for the thinner extremities.

vi) Patient immobilization (Sherman, 1981). Many practitioners take weight-bearing (standing) radiographs which have the dual advantage of providing diagnostic as well as postural or biomechanical information. When radiographing thicker body parts such as the lumbar spine it is sometimes impossible to reduce exposure times sufficiently to avoid patient motion. Recumbent radiography and compression devices are two methods of patient immobilization. The disadvantage of placing the patient in the recumbent position on a radiographic table is decreased accuracy in assessing posture or biomechanical relationships. Compression devices made of a wide band of radiolucent, flexible, naugahyde material are effective in immobilizing patients. These bands, fitted with a ratchet-type tightening device, can be used with upright or recumbent radiography. The compression device not only immobilizes patients during the exposure but also compresses the soft tissues, reducing patient thickness which allows less radiation exposure. Use of such bands may affect patient posture.

vii) Processing and darkroom (Ontario Ministry of Health, 1987; Sherman, 1981; Curry et al., 1990; Bushong, 1984; Gray, 1983). The darkroom and processing equipment, manual or automatic, are monitored and serviced on a regular basis. Modern automatic processors are designed to process large numbers of films (over 50 films daily). Oxidation of the developer chemistry solution occurs over time. Excessive oxidation of the developer solution results in a visible decrease in film optical density. In these circumstances increased patient exposure to compensate for underdevelopment and maintain optimum density is not acceptable. The useful life of automatic developer solution is typically a maximum of one month. Solutions should be disposed of in accordance with environmental protection recommendations, not poured down the drain.

viii) Filtration (NCRP #33,1975;39,1987; Sherman, 1981; Shrimpton et al., 1988; Merkin, 1982; Buehler, 1985; Kohn et al., 1988; Gatterman, 1985; Johnson, 1981; Burgess, 1981; Gray and Stears, 1983). Minimum total filtration represents the sum of inherent filtration within the tube and added filtration outside the tube port. Chiropractic radiographic installations must comply with the NCRP#33 recommendations for total filtration. Minimum requirements are listed in Table 4. Additional filtration is often used to further decrease patient exposure. Acceptable filtration materials for this purpose include aluminum, copper, gadolinium, erbium, yttrium, and niobi.

Density-equalizing filtration (DEF) is used when radiographing body parts with unequal densities. Such filtration is typically used with thoracic spine or full-spine projections. DEF is typically composed of aluminum, copper, and/or lead. The filters are positioned in the primary beam between the collimator and patient. DEF, easily attached to most collimators, provides the dual advantage of reducing radiation and enhancing radiographic quality.

ix) Full-spine radiography patient protection (Ontario Ministry of Health, 1987; Aikenhead et al., 1989; Hildebrandt, 1980; Merkin, 1982; Gatterman, 1985; Gray, 1983; Field, 1981; Gonstead, 1977; Drummond et al., 1983; Manninen et al., 1988; Kling et al., 1992; Butler et al., 1986; Daniel et al., 1985; Frank et al., 1983; De Smet et al., 1981; Heilstrom et al., 1983; Boice et al., 1979; Adrian et al., 1980; Fearon et al., 1988 Nykolation et al., 1986). The chiropractic profession has established procedures to ensure reduction of patient exposure and optimal film quality in full-spine radiography. These procedures are listed in Table 5.

d. Other issues.

i) Radiography and pregnancy (Howe, 1985; Mossman, 1982). Genetic and somatic damage to the embryo following radiation exposure dur-

ing the first trimester of pregnancy is well documented. The following precautions should be taken:

- Appropriate patient selection, determination of the most appropriate examinations, and the proper number of films consistent with diagnostic objectives.
- Explanation of the degree of risk if the person is or may be pregnant.
- Completion and signature of standard forms by every pre-menopausal patient prior to radiographic examination of the pelvic region. Forms must include an express inquiry about the patient's pregnancy status.

ii) Office staff (NCRP #39, 1975; NCPR #91,1987; Maurer, 1989). All chiropractic radiographic facilities should comply with recommendations for protection of radiation workers and occasional radiation workers from ionizing radiation as outlined in NCRP report #91. Precautions must also be taken to ensure that non-radiation workers are fully protected at all times. Practitioners may use thermo-luminescent dosimeters (TLD) to monitor radiation exposure levels.

2. Plain film studies
   a. Availability. Most chiropractic facilities have in-house radiographic equipment which allows quick and efficient acquisition of needed studies. A wide variety of technology is available to the field practitioner.
   b. Indications and advantages. The plain film radiograph is considered an adequate first step in the evaluation of degenerative and inflammatory joint disease, fracture, infection and neoplasm. Deyo and Diehl (1986) found plain film radiography to be 90% sensitive to these conditions when therapeutically significant. Certain other conditions, evident on plain films, particularly transitional segment and tropism, have a role in the development of back complaints (Cox, 1989; Miller, 1982; Giles, 1981; Giles, 1981). Evaluation of biomechanical relationships continues to be an important reason to acquire radiographs. Prediction of developing pain, the duration, location and severity of symptoms, and presence of complicating factors cannot be reliably ascertained from the radiograph alone. The decision to use plain film radiography must follow history and clinical examination, and be justified by clinical findings.
   c. Radiographic series. Sufficient radiographic evaluation of an area requires (1) clear views of relevant anatomy, (2) special views of special structures and (3) at least two films at right angles to appreciate three dimensions. (Wyatt, 1987; Gehwhiler, 1983; Hall F, 1983; Scavone, 1981). Some consider oblique views important in the evaluation of low- back pain (Howe, 1976). However the majority of published research is to the contrary, and finds the diagnostic utility of this view to be low for therapeutically significant conditions (Hall et al., 1990; Rhen et al., 1980; Schultz et al., 1990). The routine use of the lateral lumbosacral spot view has been criticized for poor diagnostic yield (Scavone, 1981; Eisenberg et al., 1979).
   d. Disadvantages. Plain film radiography has some inherent limitations. Soft tissue disorders, central nervous disease and abnormalities of the pelvis and abdomen are frequently not apparent on plain film until late in their course. Neither are abnormalities of the bone marrow, reproductive organs and other tissues. There is no completely safe level of radiation exposure. Mensuration and other geometric assessments have been criticized for their lack of intra- and inter-examiner reliability, and lack of association to patient complaints (Phillips, 1986; Phillips, 1975; Rozeboom, 1983; Sigler, 1985; Meeker, 1985; Wyatt, 1987). This low reliability and validity is ascribed to inherent variability in structure, geometric distortion and positional error (Davis, 1983; Rupert, 1980; Schram, 1981 & 1982; Meeker, 1985; Howe, 1972; Nash, 1969; Saraste et al., 1985; Zengle; Cypress, 1983).

      Correlation of patient complaints of mechanical pain and objective findings on the plain film radiograph remains unreliable. (Hanssen et al., 1985; Frymoyer, 1984; Fullenlove, 1957; Sarasta et al., 1985; LaRocca, 1970; Rockey et al., 1978; Wyatt, 1987; Meeker, 1985; Deyo, 1986; Kelen et al., 1986; Gehwiler, 1983). Despite this, mensuration and postural analysis continue to be a significant part of the overall assessment of chiropractic patients (Jackson et al., 1989).

3. Full spine radiography
   a. Availability. Standing radiographs of the full spine, exposed on a 14" x 36" film, remain an important diagnostic tool in chiropractic practice. With proper patient selection and technical detail, full-spine radiography is safe and effecive. Criticism for excessive radiation exposure and overuse is warranted when factual. Various technical improvements have resulted from continuing research.
   b. Indications and advantages. Patient selection for full-spine radiography is based upon similar criteria to other imaging procedures. Particular indications for frontal (A-P and P-A) full-spine radiographs are:
      - Scoliosis evaluation where appropriate following clinical assessment.
      - Evaluation of complex biomechanical or postural disorders.
      - Evaluation of multi-level spinal complaints as a result of biomechanical compensations.

c. Disadvantages. Full-spine imaging procedures that are promising, but have yet to gain widespread use because of practical considerations including prohibitive cost, are:
   - Large-screen image intensifier photofluorography (Manninen, 1988);
   - Digital radiography (Kling, 1990) and digitizing procedures;
   - Segmented-field radiography (Daniel, 1985);
   - Ultra long focal film distance (10 feet or more) with air-gap, non-grid technique.

d. Contraindications and complications. The following are not acceptable reasons for using full-spine radiography:
   - Routine evaluation or screening of patients;
   - Routine re-evaluation of biomechanical or postural disorders other than scoliosis;
   - Replacement for sectional radiography.

   The use of split-screen or gradient screen cassettes is unacceptable because of unnecessary radiation exposure and/or inferior film quality.

4. Stress studies

a. Availability. Stress views are frequently used in chiropractic practice for the purpose of evaluating spinal instability and joint dysfunction. They are films acquired as the patient holds a posture at end-range of a motion, and the purpose is to view joint structures in that position. This gives information regarding the integrity of soft tissues surrounding the bones.

b. Indications and advantages. Dupuis et al. (1985) commented on the need of a quick and readily available method to evaluate spinal motion. Consistency of positioning, accuracy in measurement and satisfactory technique in performing stress views were listed as obstacles which have not been overcome outside the laboratory. Stress radiographs of the cervical spine in the initial evaluation of the post-traumatic neck allow adequate detection of integrity of the retaining fibers and to rule out late post-traumatic instability. Lateral bending and flexion/extension views of the lumbar spine are reported by some to be reliable for the detection of motion segment laxity (Dupuis et al., 1985). This study admitted that the sensitivity, specificity and validity of stress views was unproven. Some descriptive articles suggest significant clinical utility of stress films in the assessment of spinal pain syndromes (Grice, 1979; Begg, 1949; Weitz, 1981; Farfan, 1984). Speiser et al. (1989, 1990) advocated multiple stress radiographs to determine the direction and duration of lateral bending and flexion/extension exercise to improve spinal posture. The therapeutic significance of using radiography in this instance is not documented appropriately.

c. Disadvantages. Haas et al. (1990), in a controlled study utilizing three examiners (radiology residents), felt that the use of stress radiographs in clinical practice should be questioned. Phillips et al. (1990) concluded that there was poor correlation between the radiographs and clinical findings, rendering this a questionable technique in the evaluation of low-back pain patients. Dvorak et al. (1991) determined stress views of the low-back served only to reliably demonstrate reduction in motion, which added little to the clinical management or diagnostic picture. They concluded that stress views for mechanical back pain patients were not warranted. They further concluded that stress views were of limited diagnostic value and of no therapeutic significance. Currently the weight of published opinion supports this view (Weisel, 1991; Roberts et al., 1978; Haas et al., 1990; Nachemson, 1985; Phillips et al., 1990).

d. Contraindications and complications. Judicious use of stress radiography will avoid iatrogenic injury. Where obvious osseous or ligamentous abnormalities exist (e.g., dislocation and/or fracture on non-stress studies) stress studies are inappropriate.

e. Patient outcome and therapeutic significance. The literature clearly states that clinically significant information cannot be obtained from these studies alone. Stress radiographs are safe and can be effective in obtaining therapeutically significant information in defined circumstances.

F. Videofluoroscopy

1. Availability. Equipment. For clinical utility, exposure to the patient must be kept as low as reasonably achievable (ALARA) (NCRP #91, 1987). Breen et al. (1989) were able to reduce dosage in each plane (sagittal and coronal) to less than the same assessment with plain films. This is not universally achieved, however, as patient exposure levels vary from system to system.

2. Effectiveness. Videofluoroscopy may be valuable for evaluating the quality of spinal motion. It is unique in this respect since, unlike stress views, it not only provides a view of total excursion, but also how the segments arrived there. Unfortunately, quantification of motion is only possible with digitization. Digitization is not considered possible outside the laboratory at this time (Breen,1991).

3. Disadvantages. Quantification can only be done with real time fluoroscopy using a digitizer (Breen et al., 1988; Cholewicki et al., 1991). Quantification of normal has not been adequately defined. Breen et al. (1989) in a study with digital VF on a single asymptomatic subject noted that "intersegmental coronal plane rotation was not always regular, and if this phenomenon is common, similar degrees of irregularity

in symptomatic subjects cannot be regarded as pathological." Bell (1990) purports that VF is an established reliable method of evaluating spinal mechanics. While joint motion can be observed, drawing conclusions about the normalcy or abnormality of that motion appears to be unreliable and has not been evaluated for clinical correlation. Antos et al. (1990) evaluated the inter-examiner reliability of videofluoroscopy in the detection of cervical "fixations" and achieved substantial agreement, but this requires confirmation in future studies. Jones (1967) concluded that the total degree of instability or the combination of instability and restricted motion are no better depicted by cineradiography than by plain roentgenogram if adequate flexion/extension views are obtained. It would appear that for the purpose of visualizing real-time spinal motion, VF is excellent but as one attempts to quantify that motion, issues of reliability become problematical (Howe, 1976; Breen, 1989). In addition, standardized training and protocols in the use of VF are still lacking.

4. Contraindications and complications. Radiation dosage and unreliability are two major factors of concern.

5. Patient outcome and therapeutic significance. Following an extensive literature review, the Quebec Task Force on Spinal Disorders (1987) asserted that the usefulness of VF as a diagnostic procedure to evaluate presumed radicular compression, confirmed spinal stenosis, and symptomatic patients at six months or more post-surgery has been demonstrated by non-randomized controlled trials. The same Task Force concluded that there was no scientific validity to the use of VF for chronic pain syndromes, localized spinal pain, pain radiating into the extremities with or without neurologic signs, or post surgery up to six months. In addition, the role of VF remains undisputed in interventional radiology and in the evaluation of gastrointestinal, myelographic and other studies requiring the injection of contrast material. The literature does not speak strongly for spinal videofluoroscopy as a technique for clinical use at this time.

G. Plain Film Contrast Exams

1. Myelography
   a. Availability and cost effectiveness. Myelography is effectively used for demonstrating the subarachnoid space, spinal cord and nerve roots sheaths. However it is more costly and more invasive than CT or MRI, which can be performed on an out-patient basis. (Resnick,1988; Boulay et al., 1990).
   b. Indications and advantages. Conventional myelography has few indications today. It is used on a very limited basis in the evaluation of cervical spine radiculopathy when the CT and/or the MRI findings are ambiguous (Resnick,1988). In most instances lack of availability of CT or MRI is the only rationale for ordering myelography rather than CT or MRI. Myelography still has usefulness in the evaluation of torn meningeal coverings of the nerve roots, or frank nerve root avulsion injuries in the post-traumatic circumstance. Some surgeons prefer myelography over MRI. Metallic surgical implants, patient size, and claustrophobia sometimes preclude the use of MRI or CT as well.
   c. Disadvantages. MRI has more diagnostic accuracy than myelography and is better able to visualize the internal matrix of the disc, the bone marrow, the spinal cord and the surrounding soft tissues. CT also clearly outlines soft-tissue/fat planes allowing for gross visualization of the thecal sac. It also provides superior detail of the bony elements and articulations (Boulay et al., 1990; Hesselink, 1988).
   d. Contraindications and complications. Many complications are possible as a result of insertion of a needle into the subarachnoid space. In addition, hypersensitivity reaction to the contrast media is well documented. "Spinal headache" following the procedure is infamous and experienced by most patients.
   e. Patient outcome and therapeutic significance. Acceptable diagnostic accuracy with reasonable cost are reasons that myelography has survived the imaging technology explosion. Real-time visualization of the anatomy is another reason that this modality remains viable in diagnostic imaging.

2. Conventional arthrography
   a. Availability. This modality is widely available on an outpatient basis at most imaging centers and hospitals with fluoroscopy.
   b. Costs and effectiveness. Arthrography is an adequately sensitive and specific modality for the assessment of intra-articular derangements. Arthrography is less expensive than sectional imaging techniques, but is considerably more invasive.
   c. Indications and advantages. Current literature regards arthrography and digital subtraction arthrography as the procedures of choice for the assessment of ligamentous disruption or instability in the wrist (Gundry et al., 1990; Koenig et al., 1986; Weiss et al., 1986; Belsole et al., 1990; Wilson et al., 1991). MRI appears to be useful for evaluating the ligaments of the wrist but it is difficult to interpret because of the small size of the ligaments and the varied signal intensities within them. A thorough knowledge of the anatomy and various tissue signal intensities is required (Gundry et al., 1991; Barry et al., 1991). Intra-articular loose bodies and osteochondral fractures are sometimes best demonstrated by arthrography, particularly in the ankle and elbow. Arthrography of the temporomandibular joint is reportedly very accurate for disc perforations and internal derangements. However, less invasive imaging modalities such as tomography and/or MRI are generally considered prior to

arthrography. All three studies have their strengths and weaknesses in assessing the TMJ (Rao et al., 1990; Schellhas, 1989; Nance, 1990).

d. Disadvantages. The diagnostic accuracy and the non-invasive pain-free nature of MRI outweighs the cost-effectiveness and invasiveness of arthrography of the knee and shoulder. MRI is now considered the study of choice for the evaluation of internal derangements and general assessments of the knee and shoulder (Dalinka et al., 1989; Habibian et al., 1989; Morrison, 1990).

e. Contraindications and complications. The same generic complications for this invasive technique exist as for myelography.

f. Patient outcome and therapeutic significance. Conventional arthrography remains a valuable study for the assessment of articular defects, loose bodies, ligamentous (or joint capsules) and/or tendinous integrity of most extra-axial joints. Less invasive imaging modalities have replaced arthrography as a routine procedure except in the wrist where it is still considered the procedure of choice for assessing ligamentous integrity (Dalinka,1990). Consultation with a radiologist is crucial in deciding upon the correct imaging modality for each given circumstance.

3. Barium contrast examinations of the gastrointestinal tract

a. Availability. Barium contrast examinations are still considered the initial imaging modality of choice for the evaluation of the gastrointestinal tract and are conducted in most radiologic centers.

b. Cost and effectiveness. These examinations are an inexpensive method of evaluating the morphology and course of the viscera. In addition, they are an adequately sensitive modality for the assessment of mucosal disease of the GI tract and have the advantage of real-time visualization of the functional anatomy.

c. Indications and advantages. Barium contrast examinations are the cornerstone for assessment of the gastrointestinal tract (Putman, 1988). Controversy exists concerning single versus double contrast studies, but the prevailing opinion is that smaller lesions of the colon such as aphthous ulcers and small polyps can be detected better with the double contrast method (Juhl, 1987). Radioisotope and CT scans, endoscopy, sigmoidoscopy and colonoscopy are secondary imaging modalities used to complement contrast studies. All of these modalities are more costly than contrast examinations, the latter three yielding a higher risk of complication (Gelfand, 1991).

d. Disadvantages. Ionizing radiation dosage to the organs and gonads is comparatively high.

e. Contraindications and complications. Reactions to the contrast media are extremely rare. However, recent publications report that anaphylactic reactions can occur from the latex bulbs used to hold enema tubes in place. Perforations as a result of overzealous per rectum introductions of contrast or air are a recognized, albeit rare, complication.

f. Patient outcome and therapeutic significance. As an initial evaluation, barium studies are adequately sensitive and specific. They can provide unique and important information.

H. Computed Tomography

1. Availability. CT is an important modality utilized in the imaging of various systems within the body, including the neuromusculoskeletal system and the abdomen. It is a proven non-invasive method of evaluating the spine and spinal cord and is widely available.

2. Costs and effectiveness. CT is one of the best modalities available for the assessment of spinal, musculoskeletal, central nervous, visceral and thoracic pathologies. It is an established part of any sectional imaging protocol, and has replaced conventional tomography as the sectional imaging modality of choice for musculoskeletal abnormalities. It is more expensive than most plain film techniques, but provides enhanced tissue contrast, better detail, and less radiation dose in most instances.

3. Indications and advantages. CT is an excellent imaging modality for the spine (Sartoris, 1989; Dalinka et al., 1990; Genant, 1981; Mirvis et al., 1989), particularly in patients with low-back pain or sciatica to demonstrate facet joint abnormalities, infection or suspected infection, radiculopathy and/or signs of nerve root irritation, chronic mechanical and neurogenic back pain, severe bony hypertrophy, neoplasm, various rheumatologic diseases, complex congenital anomalies and dysplasia including spinal stenosis, recurrent disc disease, and metabolic disease. Indications for use of CT following spinal trauma include: suggestion of vertebral fracture on plain film x-rays, further evaluation of an evident fracture or dislocation, disparity between the plain film x-rays and neurological symptoms, and inadequate imaging of the lower cervical spine vertebrae with plain film radiography. There is a higher percentage of positive findings on CT scans when there are signs and symptoms indicating possible cervical spine or cord injury.

CT is also a good adjunctive imaging modality for appendicular trauma. It is particularly valuable in the diagnosis and evaluation of hip and sternoclavicular trauma (Sartoris, 1989; Dalinka et al., 1990; Sartoris, 1988,1987). It has been suggested that CT is the modality of choice for evaluating occult fractures of the acetabulum and femoral head and to identify any intra-articular fragments. CT is an excellent modality to image sacral and sacroiliac joint fractures, and surpasses plain film radiography in this regard. It is useful in assessing the intra-articular extension of fractures in and about joints, frac-

tures in complex anatomical areas such as the foot/ankle and hand/wrist, and is the modality of choice for evaluation of acute post-traumatic intracranial hemorrhage (Taveras, 1990).

Imaging of the spinal cord and thecal sac can be done with CT, often with a contrast agent introduced into the subarachnoid space. CT myelography can differentiate epidural from intradural lesions. Most intramedullary lesions can be distinguished from intradural extramedullary lesions as well.

Computed tomography has a secondary role in the evaluation of both osseous and soft tissue neoplasms. The major indications for CT in patients with neoplasms of bone or soft tissue include defining the extent of the neoplasm, aiding in selection of biopsy sites, surgical planning, and evaluating response to therapy. CT is most useful when the plain films do not adequately characterize the lesion or when there is uncertainty after magnetic resonance imaging. CT is best for evaluation of fine periosteal reaction, tumor mineralization, and cortical integrity. It is recommended that CT or MRI imaging of solitary neoplasms be obtained before biopsy (Sundaram et al., 1990). CT is also valuable in the diagnosis of arthritis (Kaye, 1990; Sartoris, 1987; Sartoris Part II, 1988; Resnick, 1988; Moss, 1983).

While CT is not a screening modality, some have suggested that CT is the most widely available and most effective non-invasive technique for demonstrating discogenic and bone-related pain (Pelz, 1989). In comparative studies, CT and MRI compare favorably; however, most describe the superiority of CT in the evaluation of osseous detail.

4. Disadvantages. CT plays a small role in the imaging of primary joint diseases and should be considered a complementary approach to rheumatologic disease as compared to other imaging modalities. It is most useful in areas of complex anatomy or areas which are difficult to evaluate with plain film x-ray such as the spine.

5. Contraindications and complications. CT should be used in conjunction with plain film in the spine and other areas of the body (Dalinka et al., 1990; Sartoris, 1989). In general, regardless of what system of the body is being imaged, the plain film exam or other screening type procedures such as scintigraphy should precede computed tomography.

6. Patient outcome and therapeutic significance. CT is relatively non-invasive (unless used with contrast medium), has excellent spatial and contrast resolution, and the ability to evaluate both osseous and soft tissue structures during a single examination.

I. Magnetic Resonance Imaging (MRI)

1. Availability. MRI systems have not proliferated as rapidly as CT in the same time period for technical and financial reasons. To date there are about 2,000 MRI units operating worldwide, 1,200 of these located within the United States. Except for Japan, most countries have very limited access to MRI scanners (Hillman, 1986; Rothschild et al., 1990).

2. Costs and effectiveness. Estimating the cost of performing a scan is very complicated, and ranges widely depending on financing and patient volume. The average technical cost is around $250, but cost can be much higher (Milliren, 1989). The full cost of a scan depends on technical costs, the type of scan, location, professional fees and profit margins. An MRI scan without contrast can cost between $500 and $1,500. Use of contrast can increase this charge significantly (Benness, 1991; Milliren, 1989). Comparison studies with MRI and plain film myelography indicate that MRI is less expensive to perform. The most important element of the increased cost of myelography is the need to admit the patient to the hospital overnight (du Boulay et al.,1990). Boden et al. (1990) estimate that with knee trauma patients MRI would not be a cost-effective procedure compared to arthroscopy if more than 78% of the patients referred for MRI proceeded to have an arthroscopy.

3. Indications and advantages. MRI is best suited for stable, cooperative patients. It also lacks significant streak or beam hardening artifacts from thick bone or metallic surgical implants, structures that can severely degrade the CT image (Council on Scientific Affairs, 1989; Dalinka et al., 1990; Hillman, 1986; Hinshaw, 1989). In the head and brain, MRI is considered superior to CT in evaluating the temporal lobes, posterior fossa, cranio-cervical junction, paranasal sinuses, and nasopharynx. It is considered superior or equal to CT with contrast in evaluating many inflammatory or demyelinating disorders, cases in which detailed anatomic assessment is necessary, most vascular disorders, the extent and distribution of disease, and in locating pathology (Benness,1991; Deck et al., 1989; Hinshaw, 1989; Levy et al., 1990; Milliren, 1989; Wallace, 1991).

In the spine, there is still considerable controversy over whether CT or MRI is the better initial imaging modality. While MRI and CT (with or without myelography) are of relatively equal sensitivity in evaluating herniated disc, many authors consider MRI the modality of choice because it is less expensive and invasive and does not expose the patient to ionizing radiation. Other advantages of MRI over CT in general include direct multiplanar imaging, easily obtainable images of the entire spine, excellent tissue contrast, and the ability to detect myelopathies of the cord (Carmody et al., 1989; Jackson et al., 1989; Kormano, 1989; Lee, 1990). MRI has been found to be as sensitive and specific as plain film myelography in evaluating cord compression, but with increased sensitivity in finding bony changes. It is usually better tolerated by the patient and is non-invasive (Carmody et al., 1989). MRI with intravenous contrast (GD-DPTA) is very helpful at differentiating epidural scar from recurrent or residual disc material in the post-operative patient. Scar will enhance diffusely within 15 minutes, while disc may show minimal enhancement after 30 minutes (Kormano, 1989; Lee, 1990).

With regard to the musculoskeletal system, MRI has been found to be of value in staging bone and soft tissue tumors, evaluation of normal and diseased menisci and ligaments of the knee, early detection of articular cartilage damage, determining a specific arthritic diagnosis, evaluating for tendinitis, differentiating septic joints from cellulitis from osteomyelitis, demonstrating the soft tissue and marrow effects of trauma, and evaluating most conditions of the TMJ (Council on Scientific Affairs, 1989; Dalinka et al., 1990; Hinshaw, 1989; Kaye, 1990). MRI is considered more sensitive than scintigraphy for detecting stress fractures, and gives better anatomic detail. It is also considered the most sensitive imaging modality for diagnosing avascular necrosis (Council on Scientific Affairs, 1989). Visceral evaluation is limited. Some authors suggest that MRI is an excellent means for evaluating pelvic mass lesions (Hinshaw, 1989), but the cost and availability of the procedure won't allow MRI to be competitive with other established procedures.

4. Disadvantages. MRI is not considered cost-effective for routine use in many body areas. It cannot compete with scintigraphy in whole body evaluation for suspected bone metastasis. The high cost of MRI contrast exams and limited availability will limit the role it will play in determining disease activity in arthritis.

It is not competitive with mammography in evaluation of the breast, nor ultrasound in evaluation of the prostate (Council on Scientific Affairs, 1989; Frank et al., 1990; Jackson et al., 1990; Kaye, 1990; Milliren, 1989). In general, MRI is nonspecific in differentiating benign from malignant lesions in most body areas, and in distinguishing between specific disease processes in the brain (Council on Scientific Affairs, 1989; Dalinka et al., 1990; Levy et al., 1990; Rothschild et al., 1990). MRI is not considered as sensitive as CT in the evaluation of osteoarthritis of the TMJ, acute cranial trauma (fractures and acute hemorrhage), and the skull base and temporal bones (if bone windows are used). It is also considered inferior to CT in assessing acute strokes, calcification in brain lesions, meningiomas, and most forms of epilepsy (Benness, 1991; Council on Scientific Affairs, 1989; Milliren, 1989; Wallace, 1991).

Many insurance carriers won't cover MRI of the lumbar spine for suspected disc herniation. There is more difficulty differentiating herniated disc from posterior osteophyte in the cervical spine with MRI. Evaluation of facet joint disease is less efficient with MRI than CT. For the trauma patient CT and plain film radiography are the mainstay, especially in the acute phase (Kormano, 1989; Lee, 1990).

5. Contraindications and complications. Because of the magnetic fields generated by this procedure, there are contraindications for having an MRI scan. These include cochlear implants, metallic foreign bodies in the eye, ferromagnetic heart valves, intracranial aneurysm clips, IUDs with metallic loops, permanent TENS units, and some pacemakers. Additionally, because of the confined space in the scanner, patients with claustrophobia are not good candidates for this exam (Council on Scientific Affairs, 1989; DeLuca, 1990). It is still recommended that pregnant women forgo this procedure unless absolutely necessary, not because of any known complications, but because of the uncertainty of its effects. There has been no evidence to suggest that significant heating of metallic implants occurs during this procedure, and accordingly most orthopedic implants (joint replacements, etc.) are not a contraindication. These implants do cause focal image degradation (Dalinka et al., 1990; Deluca, 1990). While most authors indicate that there are no known detrimental side effects to this procedure, it is still relatively new. One suggested complication is the potential for hearing loss after an exam performed on a high field strength scanner, secondary to the excessive noise of the machine during the exam (Rothschild et al., 1990).

6. Patient outcome and therapeutic significance. Boden et al. (1990) in their study of 63 asymptomatic cervical spine patients emphasized the danger of predicting therapeutic decisions on diagnostic tests without precisely matching those findings with clinical signs and symptoms. The increased sensitivity of MRI does not alone justify the addition of an expensive diagnostic test. The availability of the modality will also greatly affect its usage. To insist on an MRI because it is the best modality when it is not readily available is unrealistic. Additionally, if diagnostic imaging is to be performed, conventional radiography is almost invariably the initial procedure of choice.

J. Radionuclide Scanning

1. Availability. Nuclear medicine scanning (e.g., bone scanning) is a highly effective imaging modality in the assessment of structure and function of many organ systems. The technique is based upon biochemistry or, more accurately, organ metabolism. The increased or decreased uptake of the radiopharmaceutical allows the doctor to visualize areas of abnormal metabolism. Technetium-99m phosphate is the primary radiopharmaceutical used in skeletal radionuclide scanning (SRC). (Many other radionuclides, such as radioisotopes of thallium and indium, are used to image non-skeletal organs.) SRC is available at most imaging centers.

2. Costs and effectiveness. SRC is highly sensitive but often non-specific (Kognon et al., 1983). The radionuclide scan allows the doctor to evaluate large areas of the body with relatively low radiation dose to the patient. In fact, radionuclide scanning is the most useful screening test for evaluating the entire skeleton for pathology (Frank et al., 1983).

3. Indications and advantages. SRC is actually a measure of the metabolic activity of bone and may detect lesions when plain film radiographic studies are negative. Technetium's short half-life makes it useful for diagnostic radiology. Gallium-67 is the preferred radiopharmaceutical for imaging suspected infection or lymphoma. Gallium-67 is unsatisfactory for almost all other bone disorders (Alazraki et al., 1985;

Kognon et al., 1984). SRC is the most commonly used imaging technique for the staging and evaluation of bone metastasis. Magnetic resonance imaging has greater sensitivity in detecting focal disease, but SRC is the most useful screening test for the entire skeleton (Frank et al., 1983). Degenerative joint disease, fractures, and infection can all produce an abnormal bone scan. Scintigraphic studies permit the early detection of stress injuries to bone when plain film radiographs are negative, and SRC is therefore the study of choice if clinical findings suggest a stress fracture (Pennell et al., 1985). Osteomyelitis and septic arthritis may be diagnosed only by scintigraphic studies in their early stages. In cases where infection is clinically suspected and a technetium-99m scan is equivocal or negative, a gallium-67 scan should be performed.

Radionuclide scanning is also commonly used for extra-skeletal organ systems. The most common organ and organ systems imaged are the cardiopulmonary system, the gastrointestinal system, and the genitourinary system. This imaging modality has many advantages over other modalities. These include 1) function of the organ or organ systems can be evaluated; 2) contrast material is not needed; 3) low radiation dose to the patient; 4) fairly low cost; 5) prior patient preparation is not required; and 6) sequential studies of other organ systems can be performed easily (Stine, 1988). Indications for extra-skeletal radionuclide scanning include but are not limited to the following: 1) assessment of organ function; 2) evaluation of organs in trauma; 3) diagnosis of infection within organs; 4) evaluation for congenital anomalies; and 5) evaluation for malignancy (Velchik, 1985).

4. Disadvantages. Radionuclide scanning is a sensitive but not a specific imaging technique for detection of malignant tumors because other conditions, some benign in nature, can result in positive tests (Frank et al., 1983).

5. Contraindications and complications. The most important contraindication is that radionuclide scanning should not be performed on the pregnant patient.

6. Patient outcome and therapeutic significance. Skeletal radionuclide scanning is a very sensitive, cost effective method of evaluating the metabolic activity of a single region of the skeleton, or in evaluating the activity of a known lesion. It also serves as a screening modality for the detection of skeletal metastasis.

K. Diagnostic Ultrasound (Ultrasonography)

1. Availability. Ultrasonography is a widely used diagnostic imaging procedure which employs the use of sound waves transmitted into the body, and then received back as echoes to a receiver. It is the most commonly used imaging procedure in the female genitourinary tract. More recently ultrasonography has been used to evaluate the musculoskeletal system.

2. Costs and effectiveness. This non-invasive modality is a highly effective and inexpensive tool to evaluate the soft tissues of the body. Real-time visualization of the anatomy allows even more accurate evaluation of an area.

3. Indications and advantages. Primary use is for the gastrointestinal and genitourinary tracts. Diagnostic ultrasound is also an established modality in the assessment of obstetric and gynecologic conditions. The advantages of ultrasonography include: 1) it is non-invasive; 2) absence of ionizing radiation; 3) relatively low cost; 4) it is a fast procedure; 5) as it is non-destructive to tissues, frequent examinations of the same region can be performed without tissue damage; 6) it does not require contrast material; and 7) it does not depend on the function of an organ to visualize the anatomy (Terenzi, 1990; Stine et al., 1988).

a. Ultrasound of the abdumen. Ultrasonography is the most commonly employed diagnostic procedure of the abdomen. In the abdomen it is primarily used to evaluate solid organs, to differentiate masses from cysts, and to evaluate the patient for intra-abdominal calcification. Ultrasound is the imaging method of choice in the investigation of gallbladder disease, and the method of choice in the assessment of bile duct obstruction or dilatation (Lindsell, 1990). Ultrasound can help to correctly identify the origin of a focal mass which allows expeditious acquisition of additional diagnostic studies (Carroll, 1989). In the genitourinary system ultrasound plays a key role in the diagnosis of tumors and cysts of the kidneys, bladder, prostate, and intrascrotal structures (Stine, 1988). In patients with palpable pelvic masses, ultrasonography has demonstrated superiority to retroperitoneal pneumography, barium enemas, and intravenous pyelography (O'Brien et al., 1984). Ultrasonography is very useful for evaluation of a patient for genitourinary infections and intraluminal calcification. Ultrasonography is an extremely sensitive modality for diagnosing hydronephrosis (Coleman, 1985). If renal failure is suspected clinically, ultrasonography should be the initial exam because it shows the anatomy better than an intravenous pyelogram given the poor function of the kidney (Coleman, 1985). It is a commonly used modality for patients with ureteral calculi who have renal failure or are allergic to the intravenous pyelogram contrast media (Stine et al., 1988). It may be useful in the early diagnosis of bladder carcinoma and it is sometimes helpful in determining benign versus malignant nodules in the prostate (Rifkin, 1985).

b. Musculoskeletal ultrasound. Ultrasonography of the musculoskeletal system is a relatively new and controversial technique. The consensus of opinion is that it is best used to evaluate muscles, tendons, ligaments, and bursae. It is a reliable means for diagnos-

ing intramuscular and muscular boundary lesions (Van Holsbeeck, 1991). It is a very useful diagnostic tool to evaluate soft tissue trauma of the shoulder (Lind et al., 1989). It is a commonly used procedure to evaluate for tears of the rotator cuff. Real-time ultrasonography with static ultrasonography is diagnostically as sensitive and specific as arthrography in the diagnosis of rotator cuff tears (Drakeford et al., 1990). It is, however, more accurate in detecting full thickness tears than in detecting thin, incomplete tears. Ultrasound is also now being used to detect osteomyelitis. It is used to visualize the inflammatory fluid underneath the periosteum (Kaplan et al., 1990).

4. Disadvantages. The main disadvantage of ultrasonography is that it is a difficult modality to perform and requires highly qualified doctors to interpret (Kaplan). Other disadvantages are that it requires the patient to have a full bladder and that bowel gas may interfere with the image (Stine et al., 1988).

5. Contraindications and complications. Because ultrasound employs only sonic waves, there are no direct complications or contraindications to the study. However, since skin contact is mandatory for the study, patients with severe skin conditions or burns may not be able to receive this study.

6. Patient outcome and therapeutic significance. Diagnostic ultrasound currently has definite utility only in the evaluation of intra-abdominal and pelvic abnormalities. However, recently developed musculoskeletal applications show promise, especially in evaluation of musculoligamentous abnormalities.

L. Utilization Review

Decisions on appropriateness of imaging services remain the prerogative of the primary practitioner. A radiologist who provides a service at the request of the primary practitioner is responsible and subject to review, for the service quality and cost but not the decision to utilize these services.

Any requirement for demonstrated radiological abnormality or clinical proof of diagnosis to substantiate claims for radiological services is inappropriate. It would be inconsistent with the proven and proper uses of diagnostic imaging for the detection of suspected disease or injury and evaluation of treatment. Denial of claims because the exam findings prove to be "negative" is a marked disservice to the provision of good patient care. Such exams are expressly obtained for the purposes of excluding or confirming a variety of abnormalities.

Incomplete and/or suboptimal plain film studies may occur for a variety of reasons, including poor patient cooperation, the habitus of the patient, and technical factors.

Careful patient selection by the practitioner and open consultation with specialists will prevent inappropriate examinations. A variety of advanced imaging modalities are available, and consultation with experts is bound to have a positive impact on the overall patient management.

V. ASSESSMENT CRITERIA

Procedure Ratings (System I)

Established: Accepted as appropriate by the practicing chiropractic community for the given indication in the specified patient population.

Promising: Given current knowledge, this technology appears to be appropriate for the given indication in the specified patient population. As more evidence and experience accumulate this interim rating will change. This connotes provisional acceptance, but permits a greater role for the level of current clinical use.

Equivocal: Current knowledge exists to support a given indication in a specified patient population, though value can neither be confirmed nor denied. As more evidence and experience accumulates this interim rating will change. Expert opinion recognizes a need for caution in general application.

Investigational: Evidence is insufficient to determine appropriateness. Further study is warranted. Use for a given indication in a specified patient population should be confined largely to research protocols. As more evidence and experience accumulates this interim rating will change.

Doubtful: Given current knowledge, this appears to be inappropriate for the given indication in the specified patient population. As more evidence and experience accumulate this interim rating will change.

Inappropriate: Regarded by the practicing chiropractic community as unacceptable for the given indication in the specified patient population.

Quality of Evidence:

The following categories of evidence are used to support the rating.

Class I:
Evidence provided by one or more well designed controlled clinical trials; or well designed experimental studies that address reliability, validity, positive predictive value, discriminability, sensitivity, and specificity.

Class II:
Evidence provided by one or more well designed uncontrolled, observational clinical studies such as case control, cohort studies, etc.; or clinically relevant basic science studies that address reliability, validity, positive predictive value, discriminability, sensitivity, and specificity; and published in refereed journals.

Class III:
Evidence provided by expert opinion, descriptive studies or case reports.

Suggested Strength of Recommendations Ratings

Type A. Strong positive recommendation. Based on Class I evidence or overwhelming Class II evidence when circumstances preclude randomized clinical trials.

Type B. Positive recommendation based on Class II evidence.

Type C. Positive recommendation based on strong consensus of Class III evidence.

Type D. Negative recommendation based on inconclusive or conflicting Class II evidence.

Type E. Negative recommendation based on evidence of ineffectiveness or lack of efficacy based on Class I or Class II evidence.

VI. RECOMMENDATIONS

A. Sequence of Services

The practitioner, in most instances, is the person that initiates a radiographic study. The study is performed by the technologist or qualified person in a safe environment in a manner consistent with published guidelines regarding quality and performance. It is the standard of care that all studies are viewed for interpretation by the practitioner or radiologist to obtain the maximum level of diagnosis which is achievable based on the type of study performed. Standard and customary billing procedures are followed.

2.1.1 Rating: Established
Evidence: Class III
Consensus Level: 1

B. Patient Selection Procedures

The decision on whether or not to use diagnostic imaging studies is made following a carefully performed history, physical and regional evaluation, and consideration of cost/benefit/radiation exposure ratios. It is based on sound clinical reasoning and the likelihood that significant information can be obtained from the study in regards to diagnosis, prognosis and therapy. The decision remains solely the domain of the examining (primary) practitioner.

2.2.1 Rating: Established
Evidence: Class I, II, III
Consensus Level: 1

Comment: It is difficult to weigh the impact of the political, litigious, and social climate on the perceived need of many practitioners to have prior radiographic evidence of the area to be manipulated. This issue needs further study before firm conclusions about the prophylactic acquisition of radiographs can be made.

C. Radiographic Interpretation and Reporting

Imaging studies are performed primarily to contribute to a diagnostic impression. Interpretation of each imaging study should be documented in the patient's permanent record.

2.3.1 Rating: Established
Evidence: Class II, III
Consensus Level: 1

D. Legal Issues in Radiography

Federal regulations (Public Law 97-35 sec. 978) state that radiography, as applied to chiropractic practice, is used for diagnostic purposes only, and not for radio-therapeutic purposes. The National Council on Radiation Protection has established recommendations for the safe and effective use of radiography. It is the responsibility of every practitioner to be informed of and abide by all relevant legal requirements.

2.4.1 Rating: Established
Evidence: Class III
Consensus Level: 1

E. Radiation Technology and Protection

Practitioners should keep the radiation exposure of patients as low as reasonably achievable. This includes use of modern equipment and techniques as outlined in the literature review section of this document. A suboptimal radiograph should be repeated. The decision on whether or not to expose a patient to radiation is only valid before the series is ordered. Once committed to the acquisition of a series, the practitioner is obligated to produce high quality radiographs.

2.5.1 Rating: Established
Evidence: Class I, II, III
Consensus Level: 1

F. Plain Film Radiographs

The plain film radiograph is considered an adequate first step in the evaluation of degenerative and inflammatory joint disease, fracture, infection and neoplasm. Not every patient with these conditions will require radiography for diagnosis. Orthogonal views are a necessary minimum for visualizing

any body area. Additional views are used as appropriate to demonstrate conditions which could exist given the findings of the clinical diagnosis.

2.6.1 Rating: Established
Evidence: Class I, II, III
Consensus Level: 1

For postural and biomechanical assessment.

2.6.2 Rating: Promising
Evidence: Class II, III
Consensus Level: 1

G. Full Spine Radiography

For scoliosis evaluation where indicated by clinical examination.

2.7.1 Rating: Established
Evidence: Class I, II, III
Consensus Level: 1

For evaluation of complex biomechanical or postural disorders and the evaluation of multi-level spinal complaints as a result of biomechanical compensation.

2.7.2 Rating: Promising
Evidence: Class II, III
Consensus Level: 1

H. Stress Radiography

Stress views are often of value in the assessment of degenerative, traumatic or post-surgical instabilities with the exception of those that carry the risk of neurologic injury. They provide unique diagnostic information.

2.8.1 Rating: Established
Evidence: Class I, II, III
Consensus Level: 1

For other conditions and circumstances.

2.8.2 Rating: Equivocal
Evidence: Class II, III
Consensus Level: 1

I. Videofluoroscopy (cinefluoroscopy)

For kinematic and other biomechanical purposes.

2.9.1 Rating: Promising
Evidence: Class II, III
Consensus Level: 1

Comment: The authors of the Quebec Task Force (1987) have outlined the limited use criteria which currently appear valid.

For instability of the wrist and contrast studies.

2.9.2 Rating: Established
Evidence: Class I, II, III
Consensus Level: 1

J. Plain Film Contrast Studies

Provide valuable unique information in special circumstances. These studies should only be performed by a radiologist.

2.10.1 Rating: Established
Evidence: Class I, II, III
Consensus Level: 1

K. Computed Tomography

Valuable in the assessment of most musculoskeletal conditions requiring sectional imaging. Of particular utility in the evaluation of complex fractures in flat bones or the posterior arch of any spinal level. Adequately sensitive and specific for the evaluation of complicated degenerative conditions and herniated nucleus pulposus of the lumbar spine. Ordered only in the presence of specific clinical indications.

2.11.1 Rating: Established
Evidence: Class I, II, III
Consensus Level: 1

L. Magnetic Resonance Imaging

The study of choice in the pre-operative evaluation of many internal derangements of articulations, and the evaluation of many central nervous system disorders. Comparisons between CT and MRI have shown similar sensitivity. Limited spatial resolution capabilities and cost are drawbacks. Ordered only in the presence of specific clinical indications.

2.12.1 Rating: Established
Evidence: Class I, II, III
Consensus Level: 1

M. Radionuclide Bone Scanning

Has an established role in the evaluation of bone disease. Adequately sensitive, put poorly specific. Ordered only in the presence of specific historical and diagnostic information.

2.13.1 Rating: Established
Evidence: Class I, II, III
Consensus Level: 1

N. Diagnostic Ultrasound

Utility and accuracy in the evaluation of musculoskeletal conditions remains limited, but diagnostic ultrasound has promise as a non-invasive, inexpensive alternative to MRI and arthrography. An established modality for evaluation of many intra-abdominal and pelvic organs.

2.14.1 Rating: Established
Evidence: Class I, II, III
Consensus Level: 1

VII. COMMENTS, SUMMARY OR CONCLUSION

Imaging has been and continues to be essential in the evaluation of chiropractic patients. It is important to consider the deleterious effects and cost of imaging prior to acquiring a study. The critical issue is *need* for the study. The practitioner considering imaging, from plain film to MRI, must consider this question: "Will the results of this study have an impact on the treatment I propose to deliver?" If this question is asked and answered objectively in every case, there will be proper acquisition of imaging studies. This is particularly true of plain films.

There are many components to each diagnostic study. There is the potential of a variety of individuals to be involved in performing radiology studies. Each individual is responsible for the services they provide in terms of appropriateness, quality and billing for services. It is prudent for the practitioner to consider the value of second opinions and other specialist services as the field of imaging has become increasingly complex.

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IX. MINORITY OPINIONS

None.

X. TABLES

Table 1

Projection/Area	Optimum kV Range	
	Single-Phase	*Three-Phase*
Cervical Spine	70-80	60-70
Thoracic Spine	75-85	65-75
Lumbar Spine		
A-P/P-A	80-90	75-85
Oblique	80-90	75-85
Lateral	90-100	85-95
Chest		
Grid	110-125	100-120
Air Gap	90-110	65-100
Ribs	50-70	50-60
Hips	75-85	70-80
Knee	55-65	50-60
Ankle	55-65	50-60
Foot	55-85	50-60
Shoulder	65-75	60-85
Elbow	50-60	50-60
Wrist/Hand	50-60	50-60
Skull	80-90	70-80
Full-Spine (PA)	90-100	80-90

Table 2

Daily:

- Clean processor rollers and crossover racks
- Check processor chemical levels
- Check processor replenisher levels
- Compare sensitometer strips with master

Weekly:

- Check developer temperature
- Compare exposure step-wedge with master
- Inspect processor for leaks, noises, broken parts
- Check darkroom for light leaks

Monthly:

- Check processor replenishment rates
- Replace fresh water filter (if present)
- Replace fixer and developer in processor
- Thorough processor cleaning
- Detailed examination of processor components
- Examine intensifying screens
- Lubricate processor
- Check darkroom for light leaks
- Retake film analysis

Every Six Months:

Processor:

- Major cleaning and lubrication
- Drain cleaning solution
- Major sensitometry: film speed and contrast

Image Receptors:

- Check film/screen combination speeds
- Clean all screens (replace if necessary)
- Check film/screen contact

Generating Apparatus:

- Grid alignment and servicing
- mA/mAs linearity
- kV reproducibility
- Timer accuracy
- Collimator alignment
- mR/mAs output
- Half-Value layer
- Focal spot resolution
- kV accuracy

Other:

- Take x-ray of shields/aprons to detect leaks
- Detailed re-take analysis
- Fine-tune technique chart if necessary
- Calibrate generator and control components

Table 3

Area of Examination	*Film-Screen Speed Range*
Extremities	100-200
Chest	200-400
Spine (sectional views)	400-800
Full spine (14 x 36)	600-1200

Table 4

Operating kVp	*Minimum Total Filter (Inherent plus added)*
Below 50 kVp	0.5 mm Aluminum
50-70 kVp	1.5 mm Aluminum
Above 70 kVp	2.5 mm Aluminum

Table 5 Technical Factors for the Production of Quality Radiographs

a) Collimation. Maximum collimation of the primary beam is used to expose only necessary areas and to exclude the eyes, breasts, and gonads whenever possible.

b) Filtration. Density equalizing filtration is used to minimize excess exposure to thinner body parts.

c) Lead Shielding. The breasts and gonads (male and female) are adequately protected with lead shields whenever possible.

d) P-A Projection. The posteroanterior projection is employed whenever possible to further reduce radiation exposure to the breast, eye, and thyroid.

e) Rare-earth Screens. Rare-earth screens with matching film of the same spectral sensitivity and in the 600-1200 speed category is used.

f) Focal-Film Distance. FFDs of greater than or equal to 72" are used.

g) High kV. Exposures frequently greater than 90kV are used to reduce radiation exposure.

h) Adequate Grid. Use of a 12:1 grid allows higher kV values to be employed and is optimal for scatter absorption in the 90-100 kV range. However, a 10:1 grid is acceptable.

i) Technical Details. Careful attention to radiographic and darkroom procedures is employed to minimize retake examinations.

3

Instrumentation

Chapter Outline