NEUROLOGY ASSESSMENT REPORT

REFERRAL SOURCE:	Lacey Macdonald Primmum Insurance Company 6940 Mumford Road, Suite 301, Halifax, Nova Scotia, B3L 0B7
NAME:	Ms. Judy Foran
DATE OF BIRTH:	January 21, 1958
CLAIM NUMBER:	022739235
DATE OF LOSS:	November 27, 2016
ASSESSMENT DATE:	August 01, 2017
ASSESSOR:	David King, B.Sc., MD, FRCPC Neurologist
ISSUANCE DATE:	August 11, 2017
BENEFIT(S) ADDRESSED:	Caregiver Benefits; Medical and Rehabilitation Benefits

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NEUROLOGIST

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Examinee	**Ms. Judy Foran**
Date of Birth	**21 October 1958**
Date of Loss	**27 November 2016**
Your File No.	**022739235**
Date of Consultation	**1 August 2017**
Date of Report	**4 August 2017**

Dear:

Thank you for the opportunity of seeing Mrs. Foran in consultation.

DECLARATION

See Appendix A.

MEDICAL QUALIFICATIONS

I am a duly licensed physician in the province of Nova Scotia. I am a licensurate of the Medical Council of Canada. I am a graduate of a recognized Canadian residency program in Neurology. I am a Fellow of the Royal College of Physicians and Surgeons of Canada and hold a specialty degree in Neurology under the auspices of this college since 1975. I am a member of the Canadian Neurologic Society, American Academy of Neurology, the International Movement Disorder Society, and the International Headache Society. I am an Assistant Professor of Medicine at Dalhousie University and a consultant in a number of hospitals in the Halifax area.

In my practice I see general neurology, and do sub-specialty work in movement disorders and publish largely in this field. About 30% of my current practice is involved with medicolegal cases, in which I see claimants for plaintiff and defence as well as for disability purposes. The distribution of plaintiff versus defence cases is about equal.

I have been qualified a number of times as an expert witness in the Supreme Courts of Nova Scotia, Newfoundland and Labrador, New Brunswick, Alberta and Prince Edward Island for both the defence and the plaintiff.

SCOPE OF NEUROLOGY

Neurology is that medical discipline that deals with the assessment, diagnosis and treatment of diseases of the nervous system.

The cardinal manifestations of neurologic disease include disorders of cognition, consciousness, affect, personality, energy, the special senses, mobility, autonomic function, pain and other disorders of somatic sensation.

The major categories of neurologic disease include disturbances of spinal fluid flow and production; neoplastic and paraneoplastic disease; infections; vascular disease; trauma; demyelinative diseases such as multiple sclerosis; metabolic and nutritional diseases; toxic diseases; developmental diseases; and degenerative diseases.

Anatomically Neurology is concerned with the brain, spinal cord, peripheral nerves and muscles.

There is an overlap between Neurology and other specialties given that patients present with complaints not specific disease entities. Problems are often shared with Neurosurgery, Orthopaedics, Psychiatry, Psychology and Physiatry.

INTRODUCTION AND EXAMINATION PARAMETERS

When I introduced myself to Mrs. Foran I explained that I would be sending a detailed report to you but not discussing the results of the examination with her. I pointed out that an IME is not for the purpose of providing treatment though I would make recommendations concerning treatment if it seemed appropriate. Any management, however, would be in the hands of her family and treating physicians.

I explained that during the course of the examination, it might not be possible to avoid some discomfort but I would try to keep it to a minimum and that I would stop if the examination were intolerable. I suggested that there would be nothing embarrassing about the examination.

MEDICAL AND LEGAL DOCUMENTS REVIEWED

Number	Document
1.	Cannabinoid Medical Clinic request.
2.	Dr. Nathan Urquhart.
3.	Dr. Justin Paletz.
4.	Dr. Renee Lutwick.
5.	Dr. Julie Doyon.

6.	Dr. Roslyn Mullins.
7.	Dr. Peter Smith.
8.	2 March 2017 X-ray right shoulder.
9.	28 November 2016 CT of extremities
10.	27 November 2016 X-ray right shoulder.
11.	CBC and biochemistry.
12.	6 September 2012 X-ray Lumbar spine
13.	Dr. Franklyn Vincent.

TIME SPENT WITH CLAIMANT

Activity	Date/Time	Duration in Hours
Interview: I interviewed the examinee and dictated the narrative as the examinee spoke so that any misunderstandings could be corrected.	1 August 2017	3.5
Examination: I performed a full medical examination with particular attention to the areas of complaint and to the nervous system.	1 August 2017	0.5
Total		4

SOURCE DOCUMENTS

Number	Document	Status
1.	History Questionnaire	Attached
2.	Electronic dictation	Erased after transcription
3.	Pain Diagram	Attached
4.	Examination Notes	Attached

PEOPLE PRESENT AT CONSULTATION

Number	Person
1.	Mrs. Judy Foran, Examinee
2.	Mr. Larry Foran, Husband of Examinee
3.	Ms. Deborah Cavicchi, My Administrative Assistant

STRUCTURE OF THE REPORT

My opinion is derived from the History, Physical Examination and the Collateral Information provided.

I recorded the claimant's history as Mrs. Foran gave it.

In the **Conclusion,** the data will be analysed into **Relevant Medical Diagnoses**. It should be appreciated that medical diagnosis is based on subjective and objective data. There are definitive investigations in reference to only certain conditions. Discrepant opinions may legitimately occur, particularly when decisions must be based on subjective data. I have included a **Certainty of Diagnosis** based on ISD Data Dictionary. The criteria are covered in the following table.

Definite	No realistic alternative exists
Probable	There are alternative diagnoses but they are less likely than the probable diagnosis
Possible	There are sufficient criteria to suggest the diagnosis but the diagnosis needs confirmation
Questionable	There is an outside possibility that this diagnosis could be correct but it requires confirmation

From the medicolegal perspective I see my obligation as providing an objective assessment that allows evidence-based diagnosis. A proper medical diagnosis requires an anatomic location, a pathology and an etiology. When any of the three are lacking the degree of certainty becomes less.

Suggestions are made for further **Investigation** and **Management**.

Based on impairments an analysis of **Functional Impairments** will be given with the parameters defined below. It should be understood that, in general, physicians can establish impairments with some degree of certainty but not always disability.

The most commonly cited definitions are those provided by the World Health Organization (1980) in The International Classification of Impairments, Disabilities, and Handicaps:

Impairment: any loss or abnormality of psychological, physiological or anatomical structure or function.

Disability: any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being.

Handicap: a disadvantage for a given individual that limits or prevents the fulfilment of a role that is normal secondary to a disability.

As traditionally used, impairment refers to a problem with a structure or organ of the body; disability is a functional limitation with regard to a particular activity; and handicap refers to a disadvantage in filling a role in life relative to a peer group.

Additional definitions apply to the concepts of medical restriction and activity tolerance or subjective limitations.

Medical Restriction: this is a restriction placed on the performance of a physical task or activity when the physician is of the opinion that there is a significant risk of tissue damage or loss of tissue integrity should the individual perform or function at that level of activity. This determination is made from the medical diagnoses and established impairments.

Subjective Limitations: this relates entirely to the individual's willingness and choice to continue with an activity that is fatiguing or uncomfortable. This limitation is not necessarily based on underlying impairment or risk of injury. This tolerance is not a scientifically measurable or verifiable concept.

A best analysis is given of **Medical Prognosis**, which is substantiated by the literature, when possible, and/or by my personal experience.

I carefully considered the opinions of other consultants and discussed these in the **Conclusion**.

It should be appreciated that a Medicolegal Report is different from a Medical Consultation.

I have used tables as much as possible to facilitate the reading of the report. I have structured the report to be comprehensive and to include negatives as well as positives to allow for the analysis of further data and to answer questions frequently asked in a medicolegal setting.

MEDICAL HISTORY

Preamble

I have been asked to provide a neurologic opinion concerning Ms. Judy Foran, who was involved in an accident on the 27 November 2016.

Pre-Accident Status

Prior to the accident Mrs. Foran was independent in self care. She was fully capable of managing her household responsibilities. She was working in the real estate business, full time, for the last 20 years. Mrs. Foran was able to socialize normally and was involved in a vigorous and regular work-out routine.

She said that she had been involved in an accident prior and had some back issues, but core strengthening and a rigorous activity schedule resolved her back issues, for all practical purposes and for five years prior to this accident she had been in no difficulties at all and had no limitations as far as her back was concerned.

Accident Details

She said the accident took place in Dartmouth.

She was putting on OPEN HOUSE sign on the median for a property. She said that a car had stopped, signalled her to go. She suggested that he go, but he stayed there and she began to cross. There were no other cars on the inside lane. Another car, approaching rapidly, from behind, swerved around the vehicle that had stopped to let her pass, and struck her in the cross walk. She said that she had turned to face the oncoming car. She had an umbrella in one hand and she raised her hand, thinking that the driver would see her, but he struck her and kept on going about 30 feet beyond the collision scene.

The driver's daughter kept on yelling, "You hit her! You hit her! Stop!"

She said she found herself lying in the road. She says her body vibrated. She was panicky about getting run over. Her legs were still in the main road. She struggled to get up. The gentleman, who had stopped for her, got out of his vehicle, went to her aid and told her not to get up. He said, "Wait for the ambulance".

She said to herself that this advice, probably, was inappropriate. She was freezing. She had generalized tremor. She couldn't get over the fact that the driver had struck her. She knew there was something wrong with her right arm. She managed to get to her feet, either with assistance or without, she cannot say at this point. She said her car was parked with the motor still running. She had just gone to place the sign and then she had intended to place a second. She said, as she approached the condo, where she was intending to sell property, the daughter of the man who had struck her came running up to her and said, "Oh My God! Oh My God!"

The gentleman in the red car who had stopped for her initially, picked up her phone and the young woman called 911. The telephone was broken, but they were able to get the call through. The gentleman who had struck her came over to her but said nothing.

She called her husband, Larry, and explained to him what had happened. Mrs. Foran was very upset at this point in time. The man who had been driving the red car, asked her to come to his vehicle to sit and stay warm until the ambulance arrived. The ambulance arrived. She said

someone had to turn off her vehicle. She was worried about her signage.

When the ambulance arrived they recognized that her right arm was limp and they wanted to take her coat off. Mrs. Foran refused because she was too cold. She was taken by ambulance to the Dartmouth General Hospital. The accident happened around 1400 hours.

She probably arrived at the Dartmouth General around 1430 or so. She had considerable pain in her upper arm. They x-rayed her right shoulder. They also x-rayed her right ankle. She kept on complaining of pain in the left leg. She said no one checked that. Eventually, her leg was checked by her husband, and she had significant bruising and road abrasions on the left leg.

After a review of the x-rays they explained to her she was going to need surgery on that right shoulder. The orthopaedic surgeon had seen her that night. The decision was made to operate, but that was going to be the next day and they discharged her.

Clinical Course

She went to the hospital the next day to have the surgery done, but she was delayed because they had to deal with some other emergency and she stayed there all day, until about 9:30 at night, and her surgery could not be done until the next night. It was explained to her that this was going to be day-surgery and would take about an hour and a half.

When they did the surgery they found it took four hours. It required at least four screws and wiring. Following the surgery, she spent some time in the Recovery Room and at about midnight, or shortly thereafter, she was awakened and discharged from hospital in the wee hours of the morning in a johnny shirt into the cold with very limited instructions as to what they were to do, post-operatively. She was in agony. She couldn't lie flat. Both of her legs, by this time were bruised. She could barely get up to get to the bathroom.

She was told to call her insurance company to get help at home, but they indicated that the responsibility was the other insurance company. She said that she spent a week at home, without any assistance. Her husband did his best but he was working. She has one child living in Toronto and a daughter who has her own family responsibilities. She said that she was unable to cook. She couldn't feed herself. She couldn't dress herself.

She said that eventually, approximately a week after the trauma, she saw an occupational therapist who arranged to get some in-home help for her. She said, even when she got help, the help was inadequate for her needs. She needed someone to help her cook, help her clean, take care of her and she had only three hours a day only of home care, with no one to do the meals. She said that she couldn't even get assistance to help her change her dressing.

She went to see her family doctor, to help her change the dressing and it took the doctor a considerable period of time to do it. Mrs. Foran said to herself, "How on earth could I possibly have done this with one hand?"

She said she was given morphine for a few days, but she was concerned about addiction. They

then prescribed a series of drugs for her, none of which gave her any measurable pain relief or allowed her to sleep.

In December 2016, she was eventually started in a physiotherapy program. The program was started at three times per week. Her pain continued. The physiotherapist said that she needed to get more pain relief. She needed more analgesics. She still wasn't sleeping. She said that she started to take Tylenol and Aleve before attending physiotherapy. She was hopeful that she could get a modicum of pain relief so physiotherapy could exercise her properly. She said that the medications were ineffective. She says she had more pain. She says the pain was still primarily confined to the right shoulder. She said her arm was virtually immobile at the shoulder.

She was back and forth between her family physician and Dr. Urquhart, her orthopaedic surgeon, and different medications were prescribed for sleep and pain. None of these were effective.

In January 2017, her physiotherapist began to recognize signs of complex regional pain syndrome. Though this problem was recognized in January, the family doctor continued to prescribe medications for pain and sleep but these were ineffective. There may have been some early swelling of her hand in January. She said the pain she was having in her right shoulder, at this point, was excruciating.

By the middle of March, they decided that they actually had to treat her complex regional pain syndrome. Dr. Urquhart prescribed two medications for her complex regional pain syndrome. He prescribed Lyrica and nortriptyline. She was concerned about taking both medications, at the same time, so she started on the nortriptyline. She said that within 48 hours of starting that she began to notice some improvement in her shoulder pain. Dr. Urquhart felt that the bone problem was healing.

She said, despite the advent of nortriptyline, she had an episode in which she was again immobile because of the severity of the pain in the right shoulder. She called her orthopaedic surgeon's office and he sent over a requisition for an x-ray on her shoulder. This was taken at the Dickson Centre. There was no change in her shoulder. He phoned her back to tell her it was the complex regional pain syndrome that was occasioning her severe pain.

She saw her family physician and her hand was swollen. She couldn't understand why. Eventually, when she learned that she had complex regional pain syndrome, she made enquiries, and obtained information about the disorder.

The Pain Clinic was contacted and she was told that she was going to have to wait up to 22 months before being attended to. She was on her way to the Mayo Clinic when she got a phone call within a week from the local Pain Clinic. Dr. Clark was attending.

The skin in her right hand became shiny. The hand was swollen, it became hot and red. She says, along with this, her feet were ice cold. She had a generalized sensitivity to cold. Even when she was being bathed by the nursing staff, she found that she had to get her upper body covered because of the coldness before they could wash her lower extremities.

Dr. Clark felt that she should increase her nortriptyline. Dr. Clark felt, subsequently, that she

should start on the Lyrica, as well. She had significant emotional problems by this time, she was frustrated with her circumstances, she was still in pain. She was phobic about crossing the street. She was worried about her grandson crossing the street. She couldn't tolerate the cold, it made her RSD worse. She said her muscles were in spasm and she noticed a lump in her neck on the right side. She was getting headaches.

They decided to introduce massage therapy. She said that she got some benefits from massage therapy.

She said that eventually she was sent to psychology. The psychologist worked with her and is still working with her. She finds that beneficial as well. She says particularly problematic, during this time, was her inability to interact and look after her grandson with whom she had a close relationship prior to the accident. She had been extremely close to her grandson. She said that her grandson was used to staying over with them and she couldn't do that because she was unable to dress him for school in the morning or help him get dressed and ready for school. He was upset by this.

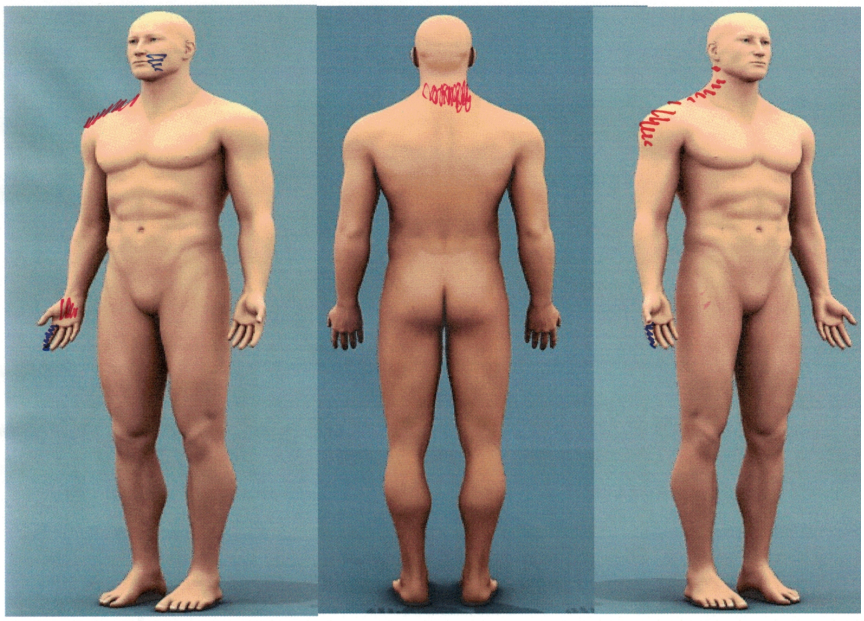
It wasn't until the end of March or early April that she was able to have her grandson stay over. The psychologist helped her through her feelings of guilt towards her grandson.

She was attending the Pain Clinic every six weeks or so.

She also had a course of clinical hypotherapy and still receives this. It seems to be helping her to some extent with her pain and sleep.

The plan is to continue physiotherapy and massage therapy. She is continuing with clinical hypotherapy. The Pain Clinic intends to shift her from nortriptyline to CBD oil.

Pain Diagram



Red indicates Pain	Blue indicates Numbness

Current Status

She continues to have pain, though it is not to quite the degree of severity that it was before. The on-going pain syndrome involves her neck and the right shoulder area. There has been some recent twitching in her face and some pain and spasm in the muscles in her neck.

On the nortriptyline she is sleeping better.

She has quite a significant sensitivity to weather changes. Cold makes her worse. She has on-going colour changes in her hand and she remains sensitive to cold.

She has significant limits in using her right arm. She has on-going weakness in her hand. She has a tendency to drop things from her hands and she has recently begun to notice some thickening of the tendons in the palm of her hand, with nodularity.

Functional Capacity	
Self Care	She still cannot wash or dry her hair. She says she needs her husband's help to get in and out of a sweater. She says she has difficulty with coats. She says she cannot wear a bra. She cannot do up shoe laces. She cannot do up necklaces. She says that it takes her longer, but she can put on her makeup. She tries to do things, but she has trouble cutting her food. She says there is some variability in hand function. She is still tending to drop things from her hand.
Care of Others	She says her grandson is now coming over, but she isn't doing as much for him as she did previously. They have no pets.
Housework	She said she can put laundry in, and she can take out the wet laundry with her left hand, but she cannot iron. Her husband has to cut the root vegetables. She says she tries, but has difficulty opening cans and jars. Her husband usually ends up doing it. She cannot lift heavy frying pans or roasting pans.
Home Maintenance	She says she has no responsibility for lawn care or gardens. She said, if it is light garbage, with her left hand, she could take it out.
Mobility	She has no problem with her walking. She cannot run. If she did any running she would have to support her right shoulder. She says it is very difficult for her to handle heavy glass doors to get into banks and pharmacies. She tends to use the handicap push. She could crouch. She says she can turn her head. She says that she has not really tried to walk on rough ground.
Medical Devices	She is not using any medical devices.
Driving	She said that, a couple of months ago, she just started to drive. She uses her left hand for major turns. She says she doesn't have to shift gears as she has an electronic gear shift, in the form of a small round wheel. She says when she is uncomfortable she will avoid driving.

Shopping	She says that she cannot carry things the way she used to. She uses her left hand preferentially. There was a time when she was totally incapable of using her right hand.
Money Management	Not a problem.
Computer Competence	She says that she can use a stylus on her I-Pad. She can use her index finger on her right hand on the keyboard. She says in her usual work the use of a computer is necessary on a regular basis.
Leisure and Social Activities	Her leisure activities have been significantly curtailed. She said that they used to entertain frequently and she cannot have dinner parties, now. She said, recently, was the first time she has been able to host a barbeque, but really she couldn't do very much in preparation for it. She had a girl help her. She used to play pickle ball, and she worked out daily but she hasn't been able to return to either of those activities. She says there have been many times that she has been unable to go out to dinner because the cold temperature aggravated her arm problem. She recently had to cancel a Mother's Day outing because of the cold aggravating her pain.
Intimacy	For a long while this impacted intimacy between she and her husband.
Religious Life	This has significantly impacted her religious life. She was unable to attend church as she wished to. She did a lot of volunteer work at the church but is unable to do it at the moment.
Travelling	Since her accident she has been able to get away once for three days to New York to visit her son.
Work	She hasn't been able to return to work. She is making appointments for her husband, who is also in the real estate business, but she cannot put out signs as she needs to; the signs are too heavy. She cannot do data entry on the computer. She said she had to turn down two large condo projects, in the spring, because she was unable to do the work.

Typical Day	She says she spends a lot of her time with medical appointments. She said it also takes her longer to get ready. She still needs some help at home, but she can do some light things around the house. She can fold laundry and towels. She can do some dusting. She can load the dishwasher.

MEDICATIONS

Drug	Frequency	Start Date	Purpose
Nortriptyline 10mg	3	March 2017	Complex regional pain syndrome

ALLERGIES AND SENSITIVITIES

Food	Drug	Inhalant	Contact
None	None	None	None

PAST HISTORY

Time Frame	Medical Problem
General	Irritable bowel syndrome with constipation.
2003	She began to get pain in her legs which continued for some years.
2012	She had a motor vehicle accident, this resulted in low back pain, with pain radiating into her legs. She had a polyp removed from her bowel.
2013	She had pain in her neck and back which radiated to her legs. This was attributed to degenerative lumbar disc disease. She strengthened her core muscles and the activities associated with that gave rise to relief of her back and leg pains.

2014	She was diagnosed as having anxiety and claustrophobia. That turned out to be due to menopause. In March she had a medial epicondylitis. That responded to physiotherapy over a couple of weeks. In June she saw her family physician for varicose veins. In October she was seen by Dr. Justin Paletz for left ring finger PIP joint dislocation which happened when she was moving a casserole disc in the fridge. By 30th October, after its reduction, she seemed to be doing very well.

PERSONAL HISTORY

Item	Details
Place of Birth	Miramachi, New Brunswick.
Childhood	She grew up in Miramachi. She got along well with her family. She has one brother and five sisters. Her father was a self-employed business entrepreneur. Her mother was a homemaker.
Education	She completed Grade 12 in 1976. She went to NSCC and did sales and marketing.
Employment History	She worked for Revlon for a number of years. She took the real estate course after that, and has been in real estate for over 20 years.
Personality	She would describe herself as a caring person. She enjoys helping people. She is perfectionistic. She likes things done properly. She enjoys cooking. She enjoys music. Her husband tells me she is a kind and forgiving person. She said that she does have a sense of gratitude that she is still alive, because when she saw the car coming she thought that her life had ended.
Handedness	Right.
Native Language	English.
Other Languages	None.
Social Circumstances	She lives with her husband in a two-storey home: a townhouse. She does not have any responsibilities for gardens or lawn maintenance.
Marital Status	Married.

Children	Two: one son and one daughter.
Tobacco	None.
Alcohol	She has an occasional glass of wine.
Caffeine	She has a cup of tea per day.
Diet	She is on no special diet.
Elicit Drugs	She does not use any elicit drugs.
Exercise Program	She does some walking. She used to do arduous training and workouts but she cannot do those now. She said that she would like to continue with her personal trainer, because she felt he was doing her some good.
Hobbies and Interests	She spends her days largely going to medical appointments.
Volunteer Organizations	She was doing volunteer work at the church, serving Communion and organizing people for collections.
Psychosocial Problems	She said there have been no recent deaths in the family. Her major problems are financial in reference to her not being able to work. Sometimes her husband has been placed under a lot of stress because of her current difficulties.

FAMILY HISTORY

Family Member	Illnesses
Father	He was a diabetic.
Mother	She had multiple sclerosis.
Brothers	One. He is in good health.
Sisters	Four. They are in good health.
Children	Two. They are in good health.
Other Family Members	There are no other significant diseases in the family.

SYSTEM REVIEW		
System	**Areas**	**Status**
Overall	**Outlook**	She said she tends to be an optimist.
Sleeping	**Quality**	On her medication, she is now sleeping, but she wasn't before. She never had insomnia prior to this accident.
	Nightmares	None.
	Disturbances	She doesn't snore.
Daytime Alertness	**Sudden Drowsiness**	None.
	Excessive Drowsiness	None.
Loss of Consciousness	**Syncope**	Sometimes her medication makes her a little dizzy.
	Seizure	None.
Attention	**Quality**	She can watch a movie from beginning to end. She can read a newspaper. She can engage in conversation.
Mood	**Anxiety**	She says her anxiety has improved.
	Depression	She says she has to work hard, but she is not going into depression like she was, but every now and then she has moments of depression when she becomes frustrated with her current circumstances and her inability to get back to her normal life.
	Irritability	She is frustrated about her condition so she is occasionally irritable.
Memory	**Short Term Memory**	Fine.
	Long Term Memory	Fine.
Special Senses	**Smell**	Fine.
	Taste	Fine.
	Hearing	Fine.

	Sight	Fine.
Communication	**Speech**	Fine.
	Reading	Fine.
	Telephone	Fine.
	Computer	She has problems using a keyboard with her right hand.
	Writing	Sometimes she has trouble with her handwriting because she is right-handed. Some parts of the day she is better than others.
Gastrointestinal Function	**Appetite**	Fine.
	Dry Mouth	Yes, the medication tends to do that.
	Chewing	No problem.
	Swallowing	No problem.
	Globus hystericus	None.
	Heartburn	None.
	Chronic stomach pain	None.
	"Butterflies"	None.
	Gas	None.
	Bowel Function	Constipated with her current medication.
	Blood in the Stool	None.
Respiratory Function	**Breathing**	No problem.
Cardiovascular Function	**Chest Pain**	None.
	Palpitations	None.
	Light headedness	Yes, which she attributes to her medication.
	Ankle Swelling	None.
Genitourinary Function	**Voiding Difficulties**	None.

	Urinary Frequency	She doesn't get up at night to use the bathroom.
Musculoskeletal Function	**Pain Tolerance**	High.
	Chronic neck pain	No.
	Chronic back pain	No.
	Scalp Tightness	No.
	Muscle Twitching	She gets some muscle twitching recently on the left side of her face.
Hematologic Function	**Bleeding Diathesis**	None.
Dermatologic Function	**Rashes**	None.
	Sweaty Palms	No.
	Sweating all Over	Not normally.
Metabolic Function	**Weight**	133 lbs. Not much change.
	Chronic Fatigue	No
	Energy	Her energy is usually high, she says she is still energetic and wants to do things, but cannot.
Ruminations About the Accident if Relevant	**Reliving the Accident**	Not now.
	Nightmares about the Accident	None.
	Startle Reaction	None.
	Anxiety under circumstances similar to the accident	Yes, though this is being helped by her psychologist and her occupational therapist.
Miscellaneous	**Any Other Complaints**	None
Understanding of Medical Condition	**Nature**	She understands that she has a complex regional pain syndrome.

	Treatment	She is not aware of any treatment she should have, but feels that they should have recognized her CRPS sooner.

QUESTIONNAIRES

Pain Disability Index		
Rating from 0-10, where O = No limitation and 10 = Maximum Limitation		
Number	**Domain**	**Score**
1.	**Family and Home Responsibilities**	7
2.	**Recreation**	9
3.	**Social Activity**	8
4.	**Occupation**	10
5.	**Sexual Behaviour**	4
6.	**Self-Care**	2
7.	**Life-Support Activities**	0
	TOTAL	40
	Percentage	57
	0- No Disability	
	1-20%: Minimal	
	21-40%: Mild	
	41-60%: Moderate	✔
	61-80%: Severe	
	81-100%: Very severe	

PDQ
Pain Disability Questionnaire after the AMA Guides to Permanent Impairment. Mark 0-10, where 0 is no interference and 10 is a 100% interference.

Does your pain interfere with your normal work inside and outside the home?	9
Does your pain interfere with personal care?	4
Does your pain interfere with your traveling?	7
Does your pain affect your ability to sit or stand?	0
Does your pain affect your ability to lift overhead, grab objects or reach for things?	10
Does your pain affect your ability to lift objects off the floor, bend, stoop or squat?	5
Does your pain affect your ability to walk or run?	5
Has your income declined since your pain began?	10
Do you have to take pain medication every day to control your pain?	10
Does your pain force you to see doctors much more often than before your pain began?	10
Does your pain interfere with your ability to see the people who are important to you as much is you would like?	6
Does your pain interfere with recreational activities and hobbies that are important to you?	8
Do you need help from your family and friends to complete everyday tasks?	9
Do you now feel more depressed, tense or anxious than before your pain began?	5
Are there emotional problems caused by your pain that interfere with your family, social and work activities?	7
Sum	105
None	
Mild 1-70	
Moderate 71-100	
Severe 101-130	✔
Extreme 131-150	

Tampa Scale of Kinesiophobia	
Questions	**Score 0-4**
I am afraid that I might injure myself if I exercise.	4
If I were to try to overcome it, my pain would increase.	4
My body is telling me I have something dangerously wrong.	4
My pain would probably not be relieved if I were to exercise.	2
People are taking my medical condition seriously enough.	4
My accident has put my body at risk for the rest of my life.	4
Pain always means I have injured my body.	4
Because something aggravates my pain it means it is dangerous.	3
I am afraid that I might injure myself accidentally.	4
Simply being careful that I do not make any unnecessary movements is the safest thing I can do to prevent my pain from worsening.	0
I wouldn't have this much pain if there weren't something potentially dangerous going on in my body.	4
My condition is very painful, so I would not be better off if I were physically active.	0
Pain lets me know when to stop exercising so that I don't injure myself.	4
It's really not safe for a person with condition like mine to be physically active.	0
I can't do all the things normal people do because it's too easy for me to get injured.	3

Because my condition is causing me a lot of pain, I think it's actually dangerous.	2	
No one should have to exercise when they are in pain.	0	
	46	
Raw scores above 37 are considered indicative of a significant psychologic component to the pain.	She has a moderate fear of activity aggravating her pain syndrome.	
Subclinical	<23	
Mild	23-32	
Moderate	33-50	✔
Severe	51-68	

GAD-7 Anxiety	
Over the last two weeks, how often have you been bothered by the following symptoms? Not at all = 0. Several days=1. More than half the days=2. Nearly every day=3	
Feeling nervous, anxious or on edge	0
Not being able to sleep	1
Not being able to control worrying or being able to concentrate	0
Being so restless that it's hard to sit still	0
Becoming easily annoyed or irritable	0
Feeling afraid is if something awful might happen	0
Physical symptoms such as palpitations, butterflies in the stomach, excessive diarrhea, sweating	0
Sum	1
Minimal Anxiety 0-4	✔
Mild Anxiety 5-9	
Moderate Anxiety 10-14	

Severe Anxiety 15-21	

PHQ-9		
Over the last two weeks, How often have you been bothered By any of the following problems? Not at all equals zero. Several days equals one. More than half the days equals two. Nearly every day equals three.		
Little interest or pleasure in doing things.	0	
Feeling down, depressed or hopeless.	0	
Feeling tired or having little energy.	0	
Poor appetite or overeating	0	
Feeling bad about yourself: That you're a failure or you have let yourself or your family down.	0	
Trouble concentrating on things, such as reading the newspaper or watching television	0	
Moving or speaking so slowly that other people could've noticed. Or being so fidgety a restless that you've been moving around a lot more than usual	0	
Thoughts that you would be better off dead or hurting yourself	0	
	0	
Normal 0-4	✔	
Minimal 5-9		
Major depression, mild severity 10-14		
Major depression, moderate severity 15-19		
Major depression, severe 20+		
How much does your depression Interfere with your personal life, domestic activities, leisure activities and work	Not at all	
	Somewhat	

	Significantly	
	Extremely	

Catastrophizing Scale				
Number	**Question**	**Score 0-4, where 4 is all the time**		
1.	I worry all the time about whether the pain will end.	2		
2.	I feel I can't go on.	0		
3.	It's terrible and I think it's never going to get any better.	4		
4.	It's awful and I feel that it overwhelms me.	0		
5.	I feel I can't stand it anymore.	0		
6.	I become afraid that the pain will get worse.	4		
7.	I keep thinking of other painful events.	0		
8.	I anxiously want the pain to go away.	2		
9.	I can't seem to keep it out of my mind.	0		
10.	I keep thinking about how much it hurts.	0		
11.	I keep thinking about how badly I want the pain to stop.	0		
12.	There's nothing I can do to reduce the intensity of the pain.	0		
13.	I wonder whether something serious may happen.	0		
	Total	12	Cut-Off 75 Percentile	30
	Rumination	2	Cut-Off 75 Percentile	11

	Magnification	4	Cut-Off 75 Percentile	5
	Helplessness	6	Cut-Off 75 Percentile	13
	These results suggest that she is not magnifying, ruminating or feeling helpless about the pain.			

IEQ		
When injuries happen, they can have profound effects on our lives. This scale was designed to assess how your injury has affected your life. Listed below are twelve statements describing different thoughts and feelings that you may experience when you think about your injury. Using the following scale, please indicate how frequently you experience these thoughts and feelings when you think about your injury.		
0 – never 1 – rarely 2 – sometimes 3 – often 4 – all the time		
Number	**Question**	**Response**
1.	Most people don't understand how severe my condition is.	4
2.	My life will never be the same.	4
3.	I am suffering because of someone else's negligence.	4
4.	No one should have to live this way.	3
5.	I just want to have my life back.	4
6.	I feel that this has affected me in a permanent way.	3
7.	It all seems so unfair.	4
8.	I worry that my condition is not being taken seriously.	2
9.	Nothing will ever make up for all that I have gone through.	2
10.	I feel as if I have been robbed of something very precious.	2
11.	I am troubled by fears that I may never achieve my dreams.	4
12.	I can't believe this has happened to me.	4
13.	**Sum**	40

	Scores > 29 are at the 75th percentile and indicate a clinically relevant perception of injustice.	**She has a relevant sense of injustice.**
	Research at the University Centre for Research on Pain and Disability indicates that a total IEQ score of 30 represents clinically relevant level of perceived injustice. A total IEQ score of 30 corresponds to the 75th percentile of the distribution of IEQ scores in clinic samples of chronic pain patients. It is important to consider that perceptions on injustice are not merely mental constructions of the injured individual but might emerge from a reality that is characterized by some degree of injustice. Aspects of the work environment, such as unsafe working conditions, that have contributed to injury should be considered as potential targets of intervention as much as the individual's perceptions of injustice.	

SSEQ			
Number	**Do you agree with these statements**	**0-Not all 5-Completely Agree**	**Weighted Score**
1.	I always feel ill.	0	0
2.	When I have physical complaints, I always worry whether they will ever end.	0	0
3.	When I go to see a doctor, I feel as though my concerns are not really understood.	0	0
4.	The doctors never do the tests that are necessary to diagnose my problem.	0	0
5.	While I have physical complaints, I always have to think about them.	0	0
6.	I have always been physically weak and sensitive.	0	0
7.	I have always felt as though doctors think that my health-related problems are exaggerated.	0	0
8.	When I notice physical complaints, I always think they are or could be signs of serious disease.	0	0

9.	I always doubt that the diagnoses given to me by doctors are correct.	0	0
10.	I always worry that something is not right with my health.	0	0
11.	When I feel ill and doctors do not find anything, I always believe that something is nevertheless seriously wrong with my health.	0	0
12.	I have visited my doctor more than 12 times a year, before my current problem,	0	0
13.	Because of my physical complaints, I always try to spare certain body parts or go easy on them to avoid strain.	5	2.5
14.	I always feel desperate because of my physical complaints.	2	1.64
15.	I have always been worried because I was impaired due to my physical complaints.	0	0
16.	I have always felt the need to research my condition because I do not get an adequate medical explanation.	0	0
	Scores >30 indicate a somatoform disorder with a sensitivity of 65% and a specificity of 60%.		4.14

Somatization is one of the most common issues in health care services, associated with substantial functional impairment and health care utilization. Somatoform symptoms often account for sick leave and are characterized by long duration and medically unexplained symptoms. The most frequently reported symptoms are fatigue, low energy, sleeping trouble, and pain (back pain, headaches, abdominal pain, and chest pain). Medically unexplained symptoms are one of the key features of somatoform disorders. Although they are currently treated as both categorical (in terms of the diagnosis of somatoform disorders) and dimensional (in terms of quantitative measures of somatization/somatic symptom reporting), little is known about the empirical latent structure of medically unexplained symptoms. Accordingly to recent study results, the latent structure of somatization/somatic symptom reporting as assessed by the PHQ-15 is dimensional in both primary care and student samples.

Estimated prevalence rates of undifferentiated somatoform disorders vary between 8.6%-25.6% in primary care, depending on the chosen screening instrument and whether pain is taken into account or not. Recent reported data on somatoform symptom clusters in the general population are still scarce. Wittchen and colleagues (2011) reported in their systematic review a 12-month prevalence of somatoform disorders of 6.3% in the EU with little evidence for considerable cultural or country variation.

INVESTIGATIONS

Date	Investigation
27 November 2016	X-ray of the right shoulder. There was a fracture through the greater tuberosity which is minimally comminuted. The glenohumeral and acromioclavicular joints are maintained.
27 November 2016	CT extremities. There was a comminuted fracture involving the greater tuberosity of the right humerus. The fracture fragments involved the attachments of the supra and infra spinatus tendons. Incidental note is made of degenerative changes in the lower cervical spine and upper thoracic spine. There was an 8 mm hypodense lesion in the right lobe of the thyroid.
27 November 2016	X-ray of the right tibia fibula. No fractures identified.
2 March 2017	X-ray right shoulder. On-going sclerosis along the healing undisplaced avulsion fracture of the humeral tuberosity.

STATUS AT THE TIME OF EXAMINATION	
Pain Level (0-10)	4
Fatigue Level (0-10)	0
Anxiety Level (0-10)	0
Last Sedative Medication or Analgesic	None today.
Comparison to Usual State	The examination represents Mrs. Foran in her usual state.

PHYSICAL EXAMINATION	
Overall Impression	
Observations	Mrs. Foran was a well-developed, well-nourished person appearing her stated age. The examinee was in no acute distress. Mrs. Foran appeared reasonably comfortable throughout the interview. The claimant's perception of pain, fatigue and anxiety is commensurate with the examiner's.

Mental Status	
Domain	**Observation**
Level of Consciousness	The examinee was alert.
Attention and Concentration	The examinee was attentive throughout the interview. There was no bradyphrenia. There was no preoccupation. The examinee was not distracted. There were no signs of apathy or disinterest.
Speech and Language	There was no hesitancy in speech. Speech was fluent. There were no errors of syntax. The examinee used no paraphasias. There was no word searching. There was no dysarthria. There was no dysphonia. There was no dysprosody. The examinee followed directions. There was no anomia.

Memory	Mrs. Foran was able to recount the history without reference to notes. The past history and the work history were given without difficulty.
Emotional Reactions and Thought Content	The examinee was appropriate. The examinee did not appear depressed or particularly anxious. There was no blunting of emotion.
Visuospatial Function	There was no evidence of neglect. The examinee attended both sides of the room. There was no right-left confusion.
Higher Motor Function	The examinee shook hands appropriately. There was no obvious impairment in routine hand use. All the fasteners were secured. Nails were clean and neatly trimmed. Writing was intact. There was no evidence of motor impersistence.
Executive Functions	The examinee gave an organized history. The examinee seemed to understand the reason for the referral. The examinee had preserved insight. There was no perseveration in answering questions. The examinee was neatly and cleanly dressed for the season. The examinee understood instructions easily.
Behavioural Observations	Mrs. Foran behaved appropriately. The examinee established rapport easily with the examiner. The examinee was co-operative. Social judgement seemed intact.

Cranial Nerves	
Olfaction	Normal by history.
Vision	The examinee could see with each eye. There was no visual extinction. Visual fields were full to confrontation.
Ocular Motility	The examinee could move the eyes in all the cardinal directions. No nystagmus was present.
Pupillary Responses	The pupils were equal and responsive to light and accommodation. Pupillary size = 4 mm.
Fundi	The fundi were clear. There was no papilloedema. There were no haemorrhages or exudates. There were no pigmentary abnormalities in the retina.
Facial Movement	There was normal eye closure and grimace.
Facial Sensation	Normal in all three divisions of the trigeminal nerve. Corneal reflexes were intact.

Hearing	Hearing was normal to conversation and there were no complaints. There was no auditory extinction.
Jaw Movements	Opening and closing strength were normal. Chewing was normal. Jaw movement was painless.
Tongue and Palate Movements	The tongue was not wasted. There were no fasciculations. It moved normally. There were no abnormal movements.
Neck Movements	Strength normal. No wasting in the sternocleidomastoid or trapezius muscles.

Motor Examination	
Upper Extremities	The left arm had normal tone, strength and bulk. I did not see any wasting in the right arm. I could not test strength adequately because of left arm pain.
Trunk	There were no abnormal movements.
Lower Extremities	Tone, bulk, strength and coordination were normal. There were no abnormal movements

Sensory Examination	
Light Touch	Intact
Pin Prick	Intact
Temperature	Intact
Vibration	Intact
Proprioception	Intact
Extinction/Neglect	Not present

Reflexes		
Jaw	Normal	
Primitive	None	
	Right	**Left**
Biceps	Normal	Normal

Triceps	Normal	Normal
Brachioradialis	Normal	Normal
Patellar	Normal	Normal
Achilles'	Normal	Normal
Plantar	Down going	Down going

Gait and Station	
Gait	Normal with normal arm swing. There was no limp. The claimant was using no aids to walk.
Station	Normal
Tandem Walking	Normal
Heel and Toe Walking	Normal
Rombergism	None
Rising from a Chair	Normal
Rising from a Crouch	Normal
Rolling over on the Couch	Normal
Sitting Duration by Observation (hrs)	3

Measured Parameters	
Weight (lbs)	134
Height (inches)	65
Body Mass Index (Normal = 20-25 kg/m^2)	22.3
Blood Pressure (mm Hg)	120/65
Pulse (bpm)	63

General Physical	
Head and ENT Examination	No abnormality.

Cardiovascular Examination	No murmurs. Radial pulses were synchronous. Posterior tibial pulses were normal.
Respiratory Examination	Chest was clear to auscultation. There was no central or peripheral cyanosis. There was no clubbing.
Abdominal Examination	The liver was of normal size. The spleen was not enlarged. There were no masses appreciated. There were no abdominal bruits and the bowel sounds were normal.
Integumentary Examination	Unremarkable.

Musculoskeletal Examination	
Neck Examination	There was no torticollis. There was no anterior head carriage. There was no muscle spasm. There was no paravertebral muscle tenderness. There was no spine tenderness.
	There was a normal range of motion of the neck.
Thorax Examination	The dorsal curve was well preserved. There was no scoliosis.
Lumbar Examination	Standing posture was normal. There was a normal lordotic curve.
Shoulder Examination	There was a restricted range of motion of the right shoulder.
Arm Examination	There was no swelling, discolouration, dyshidrosis or trophic changes in the arms or hands. There was no callus on either hand. There was some nodularity to the tendons in the right hand. There was slightly increased sweating in the right hand. There was no allodynia.
Leg Examination	There was no swelling, discolouration, dyshidrosis or trophic changes in the legs or feet.

STATUS AT THE END OF THE EXAMINATION

Pain Level (0-10)	4
Fatigue Level (0-10)	0

Anxiety Level (0-10)	0
Other Symptoms	0
Medication During Examination	0
Impression of Examination	Mrs. Foran felt that there was nothing that could have been done to make the examination easier.
Observations	The claimant's perception of pain, fatigue and anxiety is commensurate with the examiner's.

REVIEW OF MEDICAL DOCUMENTS

Dr. Nathan Urquhart, orthopaedic surgeon, indicated that she had a right shoulder fracture, which was repaired, but she had a great deal of anxiety.

She was seen by Dr. Michael Ross, psychologist, who felt, on the 31st of January 2017, that she had an adjustment disorder with depression and anxiety. She had driving related phobia and a phobia of walking on the street.

On the 12th of April 2017 Dr. Alexander Clark, Department of Anaesthesia, expressed the opinion that she had a complex regional pain syndrome involving the right hand. There were indications of improvement.

Her family physician expressed an opinion on the 13th of May 2017 and indicated that she had sustained a fracture through the greater tuberosity of the right humerus which was minimally comminuted when she was hit by a car as a pedestrian on the 27th of November 2016. This required internal fixation. She had a complex regional pain syndrome involving her right hand.

On 1 June 2017 Ms. Yolanda Pinedo, physiotherapist, felt that she had made good progress with physiotherapy for her shoulder but her complex regional pain syndrome remained symptomatic.

CONCLUSION

Discussion

Mrs. Foran sustained a right shoulder fracture in the accident of 27 November 2016. She required a surgical repair and has been left with residual pain in the right shoulder.

Her course was complicated by the development of a complex regional pain syndrome. This disorder is characterized by pain, swelling, limited range of motion, vasomotor instability, and skin changes. It frequently follows a fracture. The consensus definition of complex regional pain

syndrome is a pain that is seemingly disproportionate in time or degree to the usual course of any known trauma or other lesion. The pain is regional, not in a specific nerve territory or dermatome and usually has a distal predominance and is associated with abnormal sensory, motor, pseudo-motor, vasomotor and/or tropic changes. The syndrome shows variable progression over time.

The form known as Type 1 corresponds to patients without evidence of peripheral nerve injury and represents about 90% of clinical presentations.

Some investigators have recognized, rather than Type 1 and Type 2, a warm complex regional pain syndrome, which is distinguished by increased skin temperature at the onset of symptoms, with redness, suggesting an inflammatory type and a cold complex regional pain syndrome, characterized by decrease in skin temperature at the onset of symptoms.

There are a number of proposed mechanisms including classic inflammation of an auto-immune type, neurogenic inflammation and mal-adaptive changes in pain perception at the level of the central nervous system. A number of studies have suggested that patients with complex regional pain syndrome have significant increases in pro-inflammatory cytokines in effected tissue as well as in plasma and cerebrospinal fluid. Among the mechanism proposed for a persistent pain and allodynia that are a hallmark of the complex regional pain syndrome is the release of inflammatory mediators and pain producing peptides by peripheral nerves. She no longer shows any of the allodynia or the trophic changes or pseudo-motor changes that she had originally.

Another possible explanation for pain and allodynia in complex regional pain syndrome involves central sensitization, whereby increased activity in nociceptive afferents due to peripheral noxious stimuli, tissue damage, leads to increased synaptic transmission in somato-sensory neurons in the dorsal horn of the spinal cord. The possible role of central nervous system is based on studies suggesting cortical re-organization in sensory and motor regions of the brain.

The condition is more common in women with a female to male ratio of 2:1, and in some instances, 4:1. The incidence is highest in post-menopausal women.

She seems to have improved significantly and has not moved on to the second stage, characterized by soft tissue edema, thickening of the skin and articular soft tissues with muscle wasting and the development of brawny skin.

There is no gold standard for confirming the diagnosis. There are certain tests that are useful in making the diagnosis, particularly, three-phase bone scan which shows increased radio tracer uptake in joints distant from the trauma site. Plain films of the hand showing spotty bone de-calcification in her right hand would be highly suggestive.

The Budapest Criteria are usually used to establish the diagnosis. Without going into the full diagnostic criteria required, she has demonstrated continuing pain which is disproportionate to her clinical syndrome. She reports temperature asymmetry and skin colour changes. There has been documentation of her edema of the right hand. She has significant decreased range of motion and motor dysfunction in terms of occasional tremor that she describes. On physical examination there are limited abnormalities at this point in time. She has evidence of decreased range of motion of the limb and some evidence of sweating changes.

I considered the diagnosis of thoracic outlet with her but there was no evidence of that on physical examination. Raynaud phenomena can be exaggerated by cold temperatures and emotional stress, but this is unilateral and that is usually a bilateral diagnosis and she doesn't really have all the features.

She was extremely emotional in response to her original injury which raised the possibility of a conversion disorder but the swelling in her hand was documented and her description of her symptoms is consistent and I didn't feel that a diagnosis of conversion disorder was tenable.

The questionnaires suggested that she had a moderate to severe pain syndrome which would be consistent with complex regional pain syndrome. The Tampa Scale suggested some psychogenic elements. She has significant fear of movement but she seems overall well motivated to exercise and carry out the activities as directed by physiotherapy.

At this juncture, possibly because of the interventions of psychology and occupational therapy, she is no longer showing any significant anxiety or depression. She does not appear to be magnifying, ruminating or feeling helpless about her pain. She does have a strong sense of injustice. Part of this is due to what she perceives to be the carelessness of the driver that struck her and she has been concerned about what she perceives to be a denial of treatment.

Given her strong sense of injustice, I did consider the possibility of fictitious disorder for secondary gain. She has been fully cooperative with all of the testing and treatment that she has been offered. She seems well motivated to engage in exercise. Her symptoms stem directly from the fracture and are a well known complication of the fractures. There is nothing vague about her descriptions. Her complaints are perfectly anatomical. Her history is throughout consistent and she shows no evidence of exaggerating her complaints.

Relevant Diagnoses			
Number	**Diagnosis**	**Certainty**	**Causation**
1.	Fractured tuberosity of the right humerus	Definite	MVA
2.	Complex regional pain syndrome, right arm	Probable	Fracture

Certainty of Diagnosis	
Definite	No realistic alternative exists
Probable	There are alternative diagnoses but they are less likely than the probable diagnosis
Possible	There are sufficient criteria to suggest the diagnosis but the diagnosis needs confirmation
Questionable	There is an outside possibility that this diagnosis could be correct but it requires confirmation

Functional Limitations	
Domain	**Limitations Supported By Impairments**
Self Care	She had some limitations in self care which seemed to improve significantly though she still has some limitations given the difficulties that she has using her right shoulder and hand, which is confirmed on physical examination.
Household Responsibilities	Her household responsibilities have been significantly restricted, consistent with her dominant arm being impaired.
Working and Studying	She hasn't been able to return to work. She has just returned to driving. She would have some difficulty putting up signs, difficulty using her right hand for computer data entry and writing which would make it extremely difficult for her to do her job as a real estate agent.
Socializing	Socializing has been curtailed though this seems to be improving at the moment and she is able to interact better as pain and sleep have improved.
Leisure Activity	Her leisure activities have still been restricted, she was always physically active and hasn't been able to do so. She is desirous of having a personal trainer in order to improve her activity tolerance.

Suggested Investigations	
Number	**Investigation**
1.	I don’t see any reason to do additional studies. If there was a need for some confirmation, a three-phase bone scan and x-rays of both hands could be done. She has certainly done better on her tricyclic.

Suggested Management	
Number	**Management**
1.	I believe that she should continue with her physiotherapy program for mobilization of the hand and shoulder. Some of this clearly could be done as a home program with periodic physiotherapy supervision.
2.	I think she should have a personal trainer, at least to start her on a program so that we increase her endorphins which are likely to be helpful in this setting.

3.	I think the psychological intervention has been helpful as she no longer shows any signs of depression or anxiety. This is helpful in the resolution of complex regional pain syndrome.
4.	The nortriptyline seems to be helpful for her and it is one of the standard treatments used for this condition. I think she should bring the medication up to tolerance. She needs to have some strong reassurance that this drug is safe, even in the longer term. The function of the drug is to give her pain control while exercise is applied to her shoulder and hand.
5.	I didn't see any reason for sympathetic block or trigger point injections.
6.	I think the fact that she has to work and use the limb is important in regaining the use of the limb and she is already showing evidence of improvement.
7.	There are other approaches to the problem which are more theoretical and specialized. She seems to be making reasonable progress at this time and I would continue this current program.
8.	If her program of exercise produced further pain, and increasing the nortriptyline isn't completely effective, then supplementing this with Lyrica would seem appropriate. CBD oil has no evidence basis, but clinical experience suggests it can be of value in pain management. It has to be kept in focus that the object of treatment is the maintenance of activity in the right arm. If pain control is adequate on the nortriptyline for her to exercise the right arm, I would not change her current pain management.
9.	Lidocaine creme can be used to supplement these regimes if she is still having discomfort.

Medical Prognosis		
Number	**Diagnosis**	**Prognosis**
1.	Right arm fracture	Defer to orthopaedics
2.	Complex regional pain syndrome	She is making good progress. There would be reasons to be optimstic though it is difficult to supply accurate figures.

Answers to Specific Questions	
Number	**Questions and Answers**
1.	Current diagnosis and prognosis?

	Comminuted fracture of the right humeral tuberosity. Complex regional pain syndrome in the right arm.
2.	What are the objective and subjective findings?
	She has on-going problems with pain in her right shoulder and hand. There has been swelling of the hand with changes in temperature and sweating. These have improved. She has significant limitations of motion at the right shoulder and limitations of motion of the right hand with some nodular changes in the tendons of the right hand.
3.	Do the objective findings correlate with the subjective reports? Please explain.
	The objective findings correlate with subjective reports. It would appear that her complex regional pain syndrome was more significant prior to the use of nortriptyline and her exercise program.
4.	Are all current symptoms directly related to the injuries sustained in the motor vehicle accident?
	All of her current symptoms are directly related to the injuries sustained in the motor vehicle accident.
5.	Are there further medical diagnostic assessments or further interventions suggested at this point?
	There are some optional testing that could be done to confirm the diagnosis, but in view of the fact she is responding to treatment for complex regional pain syndrome, I think these would be redundant at this time.
6.	Treatment recommendations, including: Duration, frequency and expected progress and/or discharge date.
	Please see treatment recommendations, above, under *Suggested Management*.
7.	Has maximum medical recovery been achieved? If not, please identify what further progress is anticipated.
	Maximum medical recovery has not yet been obtained and further progress is anticipated.
8.	Any input, insights you have regarding the insured ability to return to work.
	She doesn't show an ability to return to work at this time because of the dysfunction of her right arm. Exercise is felt to be the main management tool with mobilization of the arm and hand. This is supported by the medications, above. Introduction of the activities that she needs for her work might be appropriate, such as keyboard use to her tolerance and increased writing. All of these should be encouraged. She seems enthusiastic to return to work and I didn't get the impression that she would wish to do otherwise. If possible, an exercise program built around a graduated return to work might be considered.

SUMMARY	
Date of Accident	November 27, 2016
Type of Accident	Car/pedestrian accident.
Management to Date	Occupational therapy, physiotherapy, nortriptyline, hypnotherapy.
Current Status	She remains symptomatic with shoulder and arm pain, but improved.
Diagnoses	Right humeral fracture
	Right complex regional pain syndrome
Suggested Investigations	None at this point.
Suggested Management	Increasing activity of the right arm. Generalized increase in exercise. Maintenance of Nortriptyline, supplemented with other drugs should there be pain breakthrough with increased exercise. A consideration of a graduated return to work program.
Functional Limitations	These relate to dysfunction in her right arm which affects her ability to do her housework, return to work as a real estate agent, engage in active physical activities which she did for leisure and to socialize though that is improving.
Medical Prognosis	Difficult to quantify though she is improving. Further improvement is expected.
Work Prognosis	Possible with further improvements that she will be able to return to her previous job.

The opinions expressed in this report are those of the evaluator and are based on the documents available, the history as reported by Mrs. Foran and the physical examination. I am, of course, dependent on the veracity of the history. The opinions are independent of the referral source and are based on reasonable medical probability. Additional information could alter my opinions.

I trust this makes my current opinions sufficiently clear.

Sincerely,

David B. King, BSc, MD, FRCPC

djc

APPENDIX A – ASSESSOR'S CREDENTIALS

DAVID KING B.SC, MD, FRCPC
Neurologist

Dr. David King is a duly licensed physician in the province of Nova Scotia. He is a licensurate of the Medical Council of Canada. He is a graduate of a recognized Canadian residency program in Neurology. Dr. King is a Fellow of the Royal College of Physicians and Surgeons of Canada and hold a specialty degree in Neurology under the auspices of this college since 1975. He is a member of the Canadian Neurologic Society, American Academy of Neurology, the International Movement Disorder Society, and the International Headache Society. He is an Assistant Professor of Medicine at Dalhousie University and a consultant in a number of hospitals in the Halifax area.

In his practice Dr. King sees general neurology, and does sub-specialty work in movement disorders and publishes largely in this field. About 30% of his current practice is involved with medicolegal cases, in which he sees claimants for plaintiff and defence as well as for disability purposes. The distribution of plaintiff versus defence cases is about equal.

Dr. King has been qualified a number of times as an expert witness in the Supreme Courts of Nova Scotia, Newfoundland and Labrador, New Brunswick, Alberta and Prince Edward Island for both the defense and the plaintiff.