Highland
Musculo·Skeletal
Associates, Inc.

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RE: Robert E. Lucas

Dear Mr. Calandra:

I evaluated Robert Lucas in my office on November 21, 1997 for the purpose of an independent medical evaluation. Throughout the history and physical he was accompanied by his wife, Mary. As you are aware, he has a somewhat complex medical history concerning a number of injuries and a longstanding low back problem. Instead of discussing this with the most recent accident first, in order to more clearly convey the significance of the past medical history, I will discuss this in chronological order.

Mr. Lucas has had a problem with his back and legs for many years. In the early 1990's he was cared for and treated by Dr. William Bohl, an orthopaedic surgeon, affiliated with Lutheran Medical Center. Dr. Bohl was following him for a significant instability problem in his back known as a spondylolisthesis. He had constant low back pain and bilateral sciatic-type leg pain since approximately 1989, the right leg was worse than the left. He had undergone a number of nerve blocks in January of 1992 without any relief. It was felt that because of his age this may be a vascular abnormality but a vascular evaluation failed to show any abnormalities in the lower extremity circulation. He also underwent EMGs and nerve conduction studies which were abnormal, as well as an MRI scan. Because of a failure to improve his first surgery was planned and performed at the Lutheran Medical Center on

November 19, 1992. He had a Grade II (between 25-50%) isthmic spondylolisthesis at the L5-S1 level with sciatica. Dr. Bohl performed a two-level laminectomy and foraminotomy, as well as a right iliac bone graft fusion. The bone graft apparently healed without consequence. He was followed by Dr. Bohl with diminishing problems and actual complete relief of his low back pain. The last time he saw Dr. Bohl for this first series of back problems was in early May of 1993.

In early 1994 he sustained his first back injury and a recurrence of his back problems. This occurred while he was employed by PPG Industries as a laboratory technician. He apparently slipped and fell, and injured his low back. The pain was in his left sacroiliac region with some increasing leg pain. He initially saw Dr. Bohl for this injury on or about March 18, 1994. He followed with Dr. Bohl through the end of the month with noted worsening of his back pain.

He was subsequently referred to Dr. John **A.** Davis, Jr., a spinal orthopaedic surgeon affiliated with, initially, University Hospitals of Cleveland, and now MetroHealth Medical Center. His initial evaluation was on July 6, 1994. The chief complaint was low back pain. This had been increasing over the past four months. There was a sudden onset of left upper buttock pain without radiation into his leg initially. He was treated by Dr. Schutte, a physician at work, who prescribed physical therapy, hot packs, exercises, as well as a steroid injection. He was also placed on Naprosyn for a period time without any significant relief in his symptoms. He notes that once the first spinal surgery had healed that he was doing actually quite well until this slip at work. From that point on he has been symptomatic.

An MRI scan apparently was repeated of his lumbar spine on June 28, 1994. This revealed some mild bulging on the right L5 and S1 nerve roots. There appeared to be a recurrence of his stenosis (narrowing) on the basis of bony overgrowth. **A** repeat CT myelogram was performed and this did not show any neurological compression. It was suspected that he may have had a pseudarthrosis (false fusion) of his previous fusion mass. **A** radionucleotide bone scan was abnormal in the low lumbar region. Subsequently tomograms were ordered to fully assess the fusion mass. These were carried out on September 7, 1994 and showed evidence of the remote fusion of the L4-5 with a greater fusion bone on the right than the left. There appeared to be a pseudarthrosis bilaterally, that is the original surgery had never completely fused. It

was felt on a return evaluation that further surgery was necessary and **Dr.** Davis' first surgery was on October 25, 1994. According to the medical records this involved a re-posterior fusion with a diagnosis of pseudarthrosis and lumbar canal stenosis, apparently aggravated by the work related incident. Surgery was performed as an L3 to L5 wide decompressive laminectomy with an L3 to S1 fusion without instrumentation. A left anterior iliac bone graft was used. He was then fitted in a TLSO (thoracolumbosacral orthosis) and followed up with Dr. Davis as an outpatient.

The early results of the second surgery seemed to decrease his leg pain, as well as some of his low back pain. His wound was clean and dry, and he continued to improve. He was followed on a fairly regular basis in late November 1994 and early January of 1995. Physical therapy was recommended at that point in time. Through the early months of 1995 his general function gradually seemed to improve. He was able to sit better than he could before surgery but he still fatigued fairly rapidly. X-rays showed further fusion of the mass at the operative site. Low back pain continued and was felt to be "mainly muscular" according to the patient. He continued to remain symptomatic throughout the summer months of 1995.

On September 27, 1995, approximately one month before the motor vehicular accident, he seemed to be doing fairly well although he still had some buttock pain, as well as posterior thigh pain. The legs felt strong on a subjective basis and he did whatever he wanted although "he does pay for it the next day with pain". Physical exam showed good flexion and extension without significant pain and the lower extremities appeared to look normal. An epidural steroid injection was suggested but is was not carried out.

MOTOR VEHICULAR ACCIDENT HISTORY: On October 20,1995 he was the driver of a small Ford Ranger pickup truck with his wife, Mary, in the front seat. They were on Pearl Road in Brunswick, Ohio. They were in the line of traffic, approximately eight cars in front of them. He claimed to have been rearended at "45 miles per hour". The force of the impact forced them into the car in front of them. He did not have any medical attention that day but notified Dr. Davis' office on October 23, 1995. He was initially evaluated on October 25, 1995, approximately five days after the accident. He stated he told Dr. Davis he was rearended at about 35 miles per hour and had mostly neck pain at that time. There was a full range of

motion although there was some tenderness in the mid portion of the neck. No neurological deficits were noted. X-rays were done of his neck and his back. There were no abnormalities although there was a suggestion of some C5-6 disc disease subsequently. His lumbar spine showed no evidence of fracture of spondylolisthesis. It was initially felt this was a cervical whiplash injury and physical therapy was suggested.

He did not see Dr. Davis again until mid-January of 1996. During this time period he went through some physical therapy at the Southwest General Hospital. This was mostly for his neck. He was treated on a fairly regular basis through the bulk of mid to early November of 1995. By November 15, 1995, his neck pain decreased significantly and physical therapy was discontinued. The plaintiff stated at the time of my evaluation that this was because of increasing low back, but this is clearly not documented in the medical records.

By mid-January of 1996 he had back and some leg pain which "he never had before": Flexion and extension of the spine were limited due to low back pain. There was good muscle strength. There was some tightness in his hamstrings. Most of the pain seemed to be over the sacroiliac joints and it was felt that possibly an Injection in this area may be of some use. These were done on January 24, 1996 and did not show any improvement. The pain may have lasted about a week. Consultation was suggested and carried out with Dr. Jack Wilber, another orthopaedic surgeon. He felt that no further evaluations were necessary.

Because of continuing symptoms a lumbar myelogram and post-myelogram CT scan were performed. There seemed to be evidence of a pseudarthrosis bilaterally at the L3 and L5 level on the right and the L3 level on the left. The scan clearly showed that although initially it was felt that the fusion mass had fused solidly from the 1994 surgery, it in fact had not. Follow-up examination was on July 17, 1996. It was decided that because of the pseudarthrosis, but no evidence of nerve root compression or arachnoiditis (inflammation of the meninges or spinal cord coating), that he be placed in a lumbosacral corset and given some additional medications. It was not felt needed to see him again until September of 1996. There was still some persistent neck pain at that point in time. He did discuss with Mr. Lucas about doing an instrumented spinal fusion which, as you are aware, ultimately was carried out.

His most recent surgery was done on February **4,** 1997. This was in the form of a transabdominal anterior lumbar spinal approach and an anterior discectomy at the L4-5 and 5-1 level with an anterior fusion from L4-5 through S1. This included the pseudarthrosis levels as previously discussed. The surgery went quite well and ultimately he was discharged on February 11, 1997. He unfortunately developed a small bowel obstruction and was hospitalized from February 14, 1997 to February 18, 1997 at the Southwest General Hospital.

He has been recovering from his most recent spinal surgery. There was clearly, by the history presented and by the medical records, never a period of time since the work-related incident that he was entirely pain free. According to the medical records, the most recent evaluation by Dr. Davis available in mid-July of 1997, he continued to have some back pain. The leg pain was improving. They discussed the possibility of him returning back to work although it **was** not a definitive clear option at that point in time. The overall strength of his legs was improved. There is still some residual soreness in his low back region. He has recently seen Dr. Davis. Apparently his back is "healing just fine". No further surgery was contemplated. It remains Dr. Davis' opinion that the motor vehicular accident "aggravated his nerves significantly". He does not present a formal opinion as to the effect on the pseudarthrosis which was left from his 1994 surgery. There was no opinion fiom Dr. Davis in reference to his pre-motor vehicular accident discomfort or that this may, in fact, may also have been coming from his pseudarthrosis.

CURRENT STATUS: He continues to take almost the same medication he was taking prior to the motor vehicular accident. This is a muscle relaxant, Skelaxin 400 mg per day, as well as Tylenol #3. He previously was taking Darvocet. He also takes over-the-counter Tylenol PM. New x-rays were recently taken of his neck. He still has continuing aching pain in his neck and a somewhat unusual sensation in his right hand. He feels that most of his hand is numb, somewhat more on the thumb side. This did not follow a singular cervical root level.

In reference to his low **back,** he continues to have an achy stiffness. It is almost like it was prior to the car accident. It has not reached that level subjectively as of yet. He still has some intermittent discomfort in his legs, usually both of his legs. It occasionally radiates below his knees and into his calves and sometimes his foot.

The bulk of the pain is in his low back region with associated stiffness. He does not wear a brace on a routine basis.

EMPLOYMENT HISTORY: As noted above, he was employed as a lab technician for PPG Industries. He never did return to work after his second (1994) surgery.

PHYSICAL EXAMINATION revealed a pleasant 66 year old male who did not appear in any great distress, He tended to both sit and stand during the evaluation. His ability to walk was normal. I could not detect any lower extremity weakness or any limp.

Examination of his cervical spine revealed a claim of tenderness, primarily in the right trapezius muscle. There was some limitation of motion but he had maintained over 85 to 90% of his motion in forward flexion, extension, side bending, and rotation. Protraction, retraction, and elevation of the scapulae were performed normally. There was no observable atrophy in the neck, upper back, or periscapular muscles.

Examination of both shoulders revealed full ranges of motion in forward flexion, extension, abduction, internal and external rotation. The elbows, wrists, and small joints of the hand examined normally. A detailed neurologic evaluation revealed diminished sensation in his right upper extremity in the C6, C7, and C8 nerve root levels. There was, however, no atrophy noted on circumferential measurements at the axillary, midarm, forearm or wrist level. A negative Tinel and Phalen sign was noted. No intrinsic muscular atrophy was noted in his hand. There was no objective cause found for his subjective complaint of numbness in his right hand only below the wrist. This appeared to be in somewhat of a "stocking glove" description.

Examination of his lumbar spine and pelvic area revealed a well-healed scar posteriorly compatible with his two surgeries. There were healed right posterior and left anterior iliac donor sites. There were two healed abdominal incisions, one from his back fusion surgery, the second from an additional surgical procedure in the past.

Range of motion of his lumbar spine was somewhat diminished. He could bend forward to touch just below his knee level. Hyperextension was also limited by about

20 to 30% of predicted normal. Lateral bending and rotation, however, were performed normally. No spasm, dysmetria, muscular guarding, or increased muscle tone was noted. The diminished motion appeared to be due to the fusion mass. There was no change in his lumbar lordosis compatible with the solid fusion through all these maneuvers. His straight leg raising in the sitting position was performed to 90 degrees. There was a full range of motion of both hips and knees. Neurologic exam of both lower extremities revealed the hypoactive reflexes but symmetrically bilaterally. No distinct sensory or motor changes were noted. He appeared to have good proportional lower extremity strength.

IMPRESSION: Status post multiple operative procedures on his lumbar spine. Degenerative disc disease with spondylolisthesis of the lumbar spine. Aggravation of a preexisting pseudarthrosis related to the 1994 injury. Lumbar and cervical strain related to the motor vehicular accident of October 20, 1995. Aggravation of probable symptomatic pseudarthrosis of the lumbar spine.

DISCUSSION: I have had the opportunity to review a number of medical records. These included records from Lutheran Hospital and Dr. Bohl, records from the Southwest General Hospital, MetroHealth Medical Center, and Family Physician Associates (Dr. Ludwig), as well as records from Dr. John Davis.

After careful questioning of the patient's history and physical limitations, as well as after a careful physical examination and review of medical records, I have come to some conclusions concerning his ongoing level of physical impairment.

As I attempted to outline above, his low back history is rather complex. He was clearly asymptomatic and doing quite well and working without difficulty prior to the early 1994 work accident. It was felt that a previously unrecognized pseudarthrosis was aggravated, as well as some further lumbar canal stenosis. A surgical fusion done by Dr. Davis seemed to anatomically correct the pseudarthrosis that was left from the 1992 surgery.

It is clear, however, that a pseudarthrosis continued after the 1994 surgery. There is no question that Mr. Davis was symptomatic up to within in a month of the motor vehicular accident in question. The accident seemed to, at least initially, been a

minor lumbar strain or sprain, but mostly a cervical spinal soft tissue injury. The initial care and treatment was solely for his cervical spine. It is my medical opinion, within a reasonable degree of medical certainty, had the low back been severely injured that there would have been more immediate rather significant discomfort in his lumbar spipe. In my opinion, the accident may have aggravated a preexisting pseudarthrosis (false fusion) left from the 1994 surgery. It is my opinion, however, within a reasonable degree of medical certainty, that some of the pre-accident complaints may have also stemmed from this phenomena. There is no question subjectively over the following 16 months, to early 1997, his low back problem worsened. It was certainly a combination of factors which lead to the February 1997 surgery. On the basis of my review, which is somewhat based on the history presented in the chart, was probably 60% related subjectively to the motor vehicular accident and 40% to the previously unresolved work-related accident.

The long-term prognosis remains guarded generally. This gentleman has had three major surgical procedures on his lumbar spine. He has not been pain free since the work-related accident in 1994. He remains somewhat symptomatic although decreasing. I have no explanation for his ongoing hand symptoms on the basis of this examination. Perhaps another course of active physical therapy on both his neck and low back with some conditioning exercises would be of some benefit. It is doubtful that he will ever be totally pain free due to the complexity of his medical condition and his multiply operated spine. His current condition is related only in part to the motor vehicular accident of October 20, 1995.

Sincerely,

Robert C. Corn, M.D., F.A.C.S.

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