THE STATE OF OHIO,)
) SS: THOMAS J. POKORNY, J.
COUNTY OF CUYAHOGA.)

IN THE COURT OF COMMON PLEAS

Doc. 293

ANDREW VARCHO, et al.,)
)
Plaintiffs,)
)
) Case No. 116717
v.)
)
WILLIAM MAST, M.D.,)
)
Defendant.)

- - -

Deposition of WILLIAM MAST, M.D., taken by the the Plaintiffs as if upon cross-examination before Lorraine J. Klodnick, a Registered Professional Reporter and Notary Public within and for the State of Ohio, at the offices of Jacobson, Maynard, Tuschman & Kalur Co., LPA, 100 Erieview Plaza, Cleveland, Ohio, on Wednesday, the 24th of February, 1988, commencing at 2:37 p.m., pursuant to notice and agreement of counsel.

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APPEARANCES:

Kaufman & Cumberland, by:
Frank DeSantis, Esq.,

On behalf of the Plaintiffs.

Jacobson, Maynard, Tuschman & Kalur Co., LPA, by:
Michael Hudak, Esq.,

On behalf of the Defendant.

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STIPULATIONS

It is stipulated by and between counsel for the respective parties that this deposition may be taken in stenotypy by Lorraine J. Klodnick; that her stenotype notes may be subsequently transcribed in the absence of the witness; that the reading and signing of the deposition by the witness were expressly waived; and that all requirements of the Ohio Rules of Civil Procedure with regard to notice ***of*** time and place of taking this deposition are waived.

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WILLIAM MAST, M.D.,

a Defendant herein, called by the Plaintiffs for the purpose of cross-examination, as provided by the Ohio Rules of Civil Procedure, being by me first duly sworn, as hereinafter certified, deposes and says as follows:

CROSS-EXAMINATION

BY MR. DeSANTIS:

Q. Doctor, my name is Frank DeSantis and I represent the plaintiff in this case. I'm going to ask you a series of questions. I'm sure you probably have been through this before, but if at any time I'm not understandable or I'm not trained in medicine so if I say something that's unintelligible or incorrect, please straighten me out or ask me to repeat the question, I'll try to make it understandable. If you don't make any corrections, I'll assume you understand the question.

A. Very good.

Q. Could you state your name, please?

A. William Mast.

Q. Your profession?

A. I'm an orthopedic surgeon.

Q. You specialize in orthopedic surgery?

A. Yes, sir.

Q. Are you board certified?

A. Yes, sir.

Q. Where do you currently have hospital privileges?

A. Hillcrest Hospital. I'm on consulting staff at Euclid General, and at Huron Road, and I'm an associate clinical professor of orthopedics *at* Case Western Reserve.

Q. Okay. Could you briefly relate your educational background?

A. Beginning with college?

Q. Yes, please.

A. I graduated fron Colgate University in 1954. E graduated from the University of Rochester School of Medicine in 1958. In 1959 to 1959, I was an intern in internal medicine at University Hospitals of Cleveland. Fron 1959 to 1960, I was a first year resident in internal medicine at University Hospitals of Cleveland. From 1960 to '61, I was a first year resident in surgery at University Hospitals of Cleveland and Cleveland VA Hospital, and fron 1961 to 1964 I was an orthopedic resident at University Hospitals of Cleveland. From 1964 to September of 1968, I was on the full time teaching staff of University Hospitals of Cleveland. From 1968 I went out into private practice.

Q. You've been practicing your specialty since 1968?

A. Yes, sir.

Q. And generally, what courses did you teach while at University and presently?

A. It was training, conferences, surgery, in the operating room.

Q. Okay.

A. The conferences of all aspects of orthopedic surgery.

Q. Okay. And have you published any articles or texts?

A. I published articles, yes.

Q. I don't want to have you list them if there are an abundance of them.

A. I can tell you the topics.

Q. Please.

A. The Effect of Cortisone on Intra-articular Cartilage of Arthritic Joints; Problems of Shoulder Disease1; Tendon Transfers in Quadriplegic Individuals to Improve Hand Function. Basically, that's it.

Q. Any articles in the area of surgery on the spine, or in particular the lumbar area?

A. No, I haven't.

Okay. And you are licensed to practice in

Ohic?

A. Yes, sir.

Q. Have you ever had your license to practice revoked?

A. No, sir.

Q. Have you ever had your privilege to practice at any hospital revoked?

A. No, sir.

Q. In your professional capacity, you treated an individual by the name of Andrew Varcho, is that correct?

A. Yes, sir.

Q. When did you first treat Mr. Varcho?

A. I first treated Mr. Varcho in June of 1978.

Q. What was that for?

A. For symptoms *of* degenerative arthritis of the knees and left shoulder.

Q. Did you operate on him at that time?

A. No, I did not operate on Mr. Varcho until October of 1978.

Q. What was the nature ***of*** that surgery?

A. He had bowing deformity *of* the left knee as a result of arthritis and I performed a tibial osteotomy, divided the tibia in an attempt to straighten.

Q. Okay. And did you treat Mr. Varcho on any

other occasions prior to the spine surgery?

A. Yes. Several times in the office in the late '70s. In October of 1980, he had an osteotomy, again, of the tibia, on the right leg, for the deformity and arthritis. And again, during 1980 and '81, I followed him with respect to those symptoms.

Q. Okay.

A. In 1982, I performed arthroscopy of the right knee because of increasing symptoms of degenerative arthritis.

Q. Okay. Any other surgeries prior to that?

A. In October of 1982, he underwent a total knee arthroplasty of the right knee. And then again followed him in the office periodically until he was admitted to the hospital in September of 1984.

Q. Okay. When did you first see Mr. Varcho with respect to his problems with his spine?

A. Well, it may have begun in June of 1984. He was complaining of more and more pain, general weakness of the upper and lower extremities, particularly weakness in the right greater than left lower extremity. He had marked weakness in his hand musculature, and complained -- complained of numbness and tingling in the feet. I was concerned he had either a demyelinating disease of the central nervous system, that he had a

muscular dystrophy type of disease. And his internist is Dr. Robrock, and what I did was to call Dr. Robrock and told him my concern and asked him to go ahead and evaluate as he saw fit.

Q. And when you saw him in June of '84, he was complaining of the symptoms that you've articulated. Were those complaints to you?

A To me in the office

Q. He was seeing you with respect to the problems you treated him with before or --

A No. He just came in with these complaints. I had treated him for years and he just said, This is going on, and I was struck by the fact that he had upper and lower extremity complaints of significant concern. I had no idea exactly what it was. I said that I would call Dr. Robrock, and I did.

Q. When was the next time you saw Mr. Varcho?

A. I saw him next in the hospital in September of 1984

Q Okay Now in someone refer r Varcho to you at that time with respect to this problem?

A. Dr. Mucker a neurologis and Dr. Robrock his internist asked me to see him A m logram had been performed which had indicated that most a block at the level of L3

Q. Okay. Did you examime Mr. Varcho at that time?

A. Yes.

Q. Do you have any notes of your first --

A. No notes of the hospital.

Q. There were notes taken, but they would be in the hospital records?

A. Yes, sir.

Q. Do you remember the date of that examination?

A. No, sir.

Q. You would have taken a history at that time?

A. Yes, sir. And it was a continuation of what Mr. Varcho had told me three months prior when it was much worse, his symptoms were much worse.

Q. What further symptoins did he --

A. Increasing pain in both lower extremities, numbness in his legs and feet.

Q. Anything else?

A. No. Historically, no, sir.

Q. Did you receive any information from either Dr. Tucker or Dr. Robrock at this time?

A. We talked about it and I went over his x-rays with Dr. Tucker and with the radiologist.

Q. Was anything else beside the myelogram done

at that time?

A. I do not believe so, sir.

MR. DeSANTIS: Okay. Mark this.

(Plaintiff's Deposition Exhibit 1 marked for identification)

Q. (BY MR. DeSANTIS) I've handed you what's bee marked as Exhibit 1. I wonder if you could identify that?

A. It is a report from Hillcrest Hospital, x-ray, August 28, 1984, amipaquelar myelogram.

Q. And would you have reviewed this report at the time that you saw Mr. Varcho in September of 1984?

A. Yes, sir.

Q. With respect to the symptoms you indicated earlier that Mr. Varcho expressed to you in September of '84, the increasing pain in both lower extremities and numbness in the legs and feet, what significance did those symptoms have to you at that time with respect to his condition?

A. Combined with the myelogram and my conference with Dr. Tucker and Robrock and Dr. Foxman, the radiologist who performed the myelogram, I thought they were quite consistent with the x-ray findings of almost a complete block.

Q. Did you make a diagnosis at that time?

A. Yes, I did.

Q. What was that diagnosis?

A. Felt that he had marked spondylosis and al stenosis.

Q. Did you make a recommendation for treatment at that time?

A. Because he had had increasing pain, and it was progressively severe since I had seen him three months previously I felt he would be best served by a surgical laminectomy exploratory laminectomy of the spine.

Q Dr Mast could you define for me what a laminectomy is?

A Yes a laminectomy means different things to different people Can I have a piece of paper?

MR DeSANTIS: I have another exhibit I was going to mark Let me do that may be that will facilitate things I only have an overview.

(Plaintiff's Deposition Exhibit 2 was marked for identification.)

Q. (BY MR. DeSANTIS) Handing you what's been marked as Exhibit 2, I ask you -- you've already partially identified it.

A. It's a cervical vertebrae. Outline of a cervical vertebrae, which is not really a lumbar

vertebrae.

Q. Okay. How would it differ from a lumbar vertebrae?

A. Lumbar vertebrae, the body is much bigger, there are pedicles that come out from the body like this and then the facet joints ars here and here.

Q. For the record, the here and here are the --

A. I will mark this. These are the pedicles, these are facet joints and a facet joint is -- it's just like a regular cartilage joint with movement, has its own articular cartilage, its own joint fluid here. And then the lamina comes up like this, joins in the midline and then has a spinous process that comes off here. This -- and this is very crude, but it's a critical difference between an overview of a cervical vertebrae versus a lumbar vertebrae.

Q. I understand.

A. These are the pedicles here. Now, a laminectomy, and let me draw now -- this is an axial view. Mow, a view from behind or a dorsal view, I'm no artist.

Q. I understand.

A. This is a view of two lumbar vertebras seen from behind.

Q. Okay.

A. This is the spinous process, this is the lamina, this is the facet joint. This in between the lamina is the liagmentum flavum or the yellow ligament. Now, before I tell you what a laminectomy is, let me tell you if you want -- where Mr. Varcho had his problems or where arthritis develops in the spine because arthritis, when someone says arthritis, you don't get arthritis of bones, you only get arthritis in the presence of true synovial joints. The arthritic process begins at the facet joint. And actually is -- it's a painful condition with the deterioration, degeneration of the articular cartilage here and here.

In addition to that, reactive bone is formed. The body in an attempt to heal or whatever, whichever etiologic argument you want to give, begins to enlarge the masses that form this canal so the canal actually becomes narrowed in its diameter, both from front to back and side to side.

A laminectomy, when I -- and when orthopedic surgeons do laminectomies, what we do, we excise part of the tips of the spinous process, not the whole thing, and we remove the liagmentum flavum here, excise that, and we remove part of the lamina of the adjacent vertebrae for whatever we're doing. If you completely excise the facet joints and the lamina, you have effectively destabilized

the spine because the spine then is left with only the weak ligaments, front and back, to sustain this superimposed body.

So what one does is to remove, in the affected area that you're doing the laminectomy, the ligamentum flavum, the adjacent, and it could be held -- excise as much of this as you need to. You go down and when you get down there, you're looking at the dura, and in the low lumbar region, you're looking at dura, You mobilize the dura and find the nerve root peeling off underneath here, and you unroof the bone overlying the nerve root.

Q. Okay. Let me ask one question from that explanation. When you say you excise as much of the lamina as you need to, how do you determine how much you need to excise?

A. That's a good question. What I do is to excise as much as I need to to see the nerve root, but not trying to destabilize the spine. In other words, trying not to get into the facet joints. I remove the osteophytes that are adjacent around it, but I don't -- I try not to do anything to the facet joints. Now, the reason that that's -- when *you* say what **is** a laminectomy, it's a good question because what this really is is a laminotomy.

Q. That was going to be my next question.

A. This is really a laminotomy, but it's always -- it's one of the times in medicine when I say laminectomy -- I've said laminectomy for my entire professional career. It's really a laminotomy.

Q. Okay.

A. But I've never dictated it as such. And even I had to -- in the orthopedic literature, they talk about laminectomies. What they really mean are laminotomies, and I don't know why.

Q. Is there such a thing as a laminectomy as distinguished from what you just described as a laminotomy? Is there a procedure that someone might identify as a laminectomy that differs from what you've explained and categorized as a laminotomy?

A. I believe so, sir.

Q. What would that be?

A. If you do indeed completely take out the posterior elements, and that is a complete laminectomy, but I would describe that as excision of the posterior elements because you're not only taking out the lamina, you're taking out the spinous process, and if you take out the lamina, you're also taking out the facet joint. So when you do that, to me, as an orthopedist, and it's basically structural, I'm tuned, I think, of it, that to me is destabilized as an orthopedist. It's a complete

total laminectomy or it's an excision of the posterior elements. But that's exactly -- your point is well taken. What I say and what orthopedic surgeons are going to say, I'm going to do a laminectomy for this, we do laminotomies.

The neurosurgeons that I have scrubbed with and recently doing posterior approach for a laminectomy, the neurosurgeon asks that I do fusion on each either side of the spine. He said, I'm doing a laminectomy. His laminectomy was a laminotomy, but it depends. And so a real definition of terms as an art, basically, yes, what we do and what
we have always done is a laminotomy.

Q. Let me ask you this. In your opinion, when would you want to do what might precisely -- or I don't want to use precisely, but what you might call -- rather than say laminectomy, why don't we say an excision of the posterior elements?

A. I wouldn't excise the posterior elements under circumstances when one has had failure of -- if I do a laminectomy for disk or for degenerative arthritis and it doesn't work, then I go back in and say, okay, I would excise the posterior elements, and I get involved in that as an orthopedist because I occasionally am called upon to perform fusions at the same time.

Q. Okay. Why would it not work? Why would a laminotomy not work?

A. Two reasons. One is the formation of scar tissue, which in that region is properly referred to as adhesions. The other reason is that there is -- arthritis is an ongoing degenerative process. As long as the articular cartilage is degenerating and deteriorating, you will get bony proliferation. As these facet joints continue to move, you may get bony proliferation. The tolerance in this region are very close. An eighth of an inch, quarter of an inch can mean a difference between not much pain and agonizing pains. It's very close tolerances.

And what one does when one does a laminectomy is to unroof and decompress the nerve roots and try to do it without destabilizing the spine, which is going to give you possibly, potentially more problems. This is a situation in which it's really an art and not a science and I can say that, well, we'll do this and it's going to be better.

Nobody really knows because you can't -- it's not a pure mathematical thing. I can say, we're going to do this and do it, and the patient may do fine, may not do fine. This is the problem. And then when one says, Okay, that hasn't worked, we're going to unroof

everything, they may do fine for six months, six years and then begin to get into trouble. And then it may -- if they do, it could be as a result of displacement of the bones. If they settle and ride like continental shelves moving one on another slowly, they may kink the whole dura, make it twist, make it in the side view. If one is supposed to be on top of another and it begins to move a little bit, and this can happen in months, it can happen in years, then they begin to get a bend or a tilt in the dye column with the myelogram, then they begin to get pain.

Q. What you're just describing is what could occur if you excise the posterior elements?

A. Yes.

MR. HUDAK: Let me interrupt here for one minute, Mr. DeSantis, so I'm clear on this. We're still talking about a general surgical procedure and not a specific patient, is that correct?

MR. DeSANTIS: You bet. Yes, sir. Thank you. Could you read back the question and the answer? I'm not sure I heard it.

(Record read.)

Q. (BY MR. DeSANTIS) Let me ask this. The reason you do a laminotomy is to relieve the compression?

A. Yes, sir, to relieve pain.

Q. What is a foraminotomy?

A. Foraminotomy is really a condition which varies very little from a laminectomy, a laainotomy. It's when having made windows in the adjacent lamina, one identifies the nerve root and then unroofs the nerve root with the punch or Kerrison rongeur so the back of the nerve as it exits from the spinal canal to the outside so that the nerve root is decompressed so that the roof is off at the back of the nerve.

Q. Okay. What is a facetectomy?

A. Facetectomy is to excise these facet joints here, It's part of the removal of the posterior elements.

Q. Okay.

A. And would imply that you are doing total laminectomy, which includes the facet joints, the lamina and the spinous process.

Q. Okay. When one uses the term decompressive laminectomy, in your mind, would that differ at all from what you've just described as a laminotomy?

A. This is what I would call decompressive laminotomy, to be more accurate.

Q. Okay. Could you tell me what you mean by

spinal stenosis?

A. Spinal stenosis is this condition, if you again look at the axial view of my elaboration of the vertebrae.

Q. That appears on the upper portion of Exhibit 2, for the record?

A. Yes, sir. This is the facet joint. This is the bony process arising from the body which is referred to as the pedicle and the lamina is the roof on top. Spinal stenosis is a condition in which as the cartilage of the facet joint begins to degenerate, just like any synovial joint whether it's the knee joint or the finger joint, you begin to get hypertrophy of bone adjacent to the facet joint. And it doesn't make any difference where it is except when it begins to encroach on the nerve, then you begin to get pressure on the nerve and symptoms. It's an insidious, initially insidious and very slowly progressive thing.

Q. Okay.

A. But spinal stenosis is also referred to as lumbar, for example, lumbar spondylosis. It refers primarily to a degenerative process of the spine.

Q. Is nerve root compression the same as spinal stenosis?

A. Nerve root compression implies that the

osteophytes, these bony masses which have been produced as a result of the degenerative process on the facet joint, it implies that these bony masses impinge upon the nerve root itself --

Q. Okay.

A. -- and produces symptoms. That's implied or at least inferred by aost of us that when that occurs then you have symptoms.

Q. What about the symptoms you would expect from someone with spinal stenosis?

A. It depends. It is usually not clear cut dermatome pattern because it is diffuse in the lumbar spine and the degree of compression of the nerve root may vary from level to level and from time to time depending on reactive swelling around the nerve root and a host of factors. One thing that occurs usually is pain, paresthesia, which is numbness and tingling. The pain, as I say, does not really follow a dermatome pattern necessarily because this is usually a diffuse disease.

Q. When you say symptoms of pain and paresthesia, in any particular location?

A. That's why I say it can vary. It can be thigh, can be calf, can be front and back side, could be feet. Paresthesia can be in the legs. It really, you

know, it's really difficult to try to say it's at this level or this level.

Q. But it would be in the lower extremities?

A. Yes, in the lumbar spine. It's in the lower extremities.

Q. You wouldn't manifest a symptom in your back if you had lumbar compression?

A. I don't understand.

Q. Well, would there typically be any manifestation of pain and paresthesia in someone's back if he was suffering from a spinal stenosis in the lumbar area?

A. They would have back pain.

Q. Back pain?

A. Yes, sir. They would have back pain.

Q. Do you have an opinion as to what caused Mr. Varcho's spinal stenosis as of September of 1984?

A. I believed it was due to degenerative arthritis of the facet joints, progressive degenerative arthritis. In addition to that, as the -- it goes hand in glove with degenerative arthritis and degenerative disk disease so that as the cushions, the fibrocartilage cushions which separate the lumbar vertebrae deteriorate, the bones get closer together. As the bones get closer together, because the window or neuroforamen through

which the nerve exit is made up of adjacent vertebrae as they settle down, one closer to another, the window is going to be partially closed just as a result of settling, so that it is both a combination of degenerative arthritis of the facet joints and degenerative disk disease that allows the window, neuroforamen, to begin to partially close.

Q. Okay. Thank you. Now, prior to operating on Mr. Varcho, had you made a decision with respect to what type of operation you were going to perform?

A. Yes, sir.

Q. What was that?

A. I was going to do decompressive laminotomy and unroof the nerves, or foraminotomy.

Q. And did you prior to the operation know shat level you were going to do that?

A. I would start at the level of the block and work down.

Q. In this case level 3?

A. Yes. sir.

Q. Okay.

A. That's where most of the mischief was. But because -- it's really very difficult because he had symptoms of paresthesia in the feet and had to be some sort of involvment with the distal nerve roots either

at the level of L3 or at the level of L4 and 5.

Q. Okay. Would you describe generally what procedure, what operation you did do then in September of 1984 with Mr. Varcho?

A. What did I do?

MR. DeSANTIS: Why don't we mark the Report of Operation, that way you can refer to it if you feel a need.

(Plaintiff's Deposition Exhibit Nos. 4 & 5 were marked for identification)

Q. (BY MR. DeSANTIS) Just for the record, Doctor, could you identify what I've handed you and what has been marked as Exhibits 3 and 4 respective?

A. Exhibit 3 is Hillcrest Hospital report of operation on Andrew Varcho dated 9-4-84.

Q. And Exhibit 4?

A. Exhibit 4 is Hillcrest Hospital discharge summary dated from September 23rd to September 15th, his admission date.

Q. Is that your report of operation and your discharge summary?

A. Yes, sir.

Q. As dictated by you?

A. Yes, sir.

Q. And back to my question, could you

excised and then the adjacent spinous process between the sacrum and L5 and all the way up to L2 were excised, and then the liagmentum flavum on either side, one at a tine, was excised and then a laminotomy was performed. The nerve root was identified and followed out to decompress

it to -- and I did that successively or serially down the spine.

Q. Okay. Now, let me ask you this, Dr. Mast. Did you do anything at the L2 level that you can recall?

A. L3. I believe I did L3.

Q. That was the first level that you did any work, other than opening Mr. Varcho?

A. I did it to L2 it says here.

Q. Referring to the report?

A. It's about the middle of the operative note.

Q. To dissect --

A. To the sacrum and proximally to L2. And then carried in a proximal fashion up the left side. What I did was to go from L4, 3, 2 and then did the same thing from -- and I worked from below up,

Q. Okay. Did you do the same amount or did you -- was the procedure the same at all of the levels you worked on?

A. I tried to do the same, I'm not sure that I did, but I tried to do the same at all levels. My goal at each level wasn't so much symmetry as it was to try to unroof the nerve.

Q. Okay. And describe for me what you mean by unroof the nerve.

A. What I do is having made the window, this

'box-linewindow right here, and then moving the dura over, identifying the nerve root, and then with the punch or with the Kerrison rongeurs moving to the outside so that I have removed the roof off the nerve root and it lies in its bed.

Q. Why would you do that?

A. Because this is the foraminotomy, and this is what's narrow, but in order to try to reduce the pressure on the nerve, you can unroof it from the top and anything else that seems to be pushing on it, this I think gives them their best chance for pain relief.

Q. Okay. And this is maybe a product of my ignorance, but is that what you do to relieve the compression?

A. Yes. I relieve -- yes, sir.

Q. Do a foraminotomy?

A. Or unroofing. It's an attempt to decompress the nerve root here and do a laminotomy, which I always call a laminectomy.

Q. How do you know if the compression is -- how do you know if compression is relieved at that point?

A. I pass an instrument around the nerve underneath the dura to see if there's any extrinsic obstruction. If the nerve lies free in its bed and

isn't tented, then I'm content.

Q. What do you mean by tented?

A. Pull, like taught, if it lies loosely in its bed as opposed to being taught or if I pass the -- the instrument looks like -- it's called-- there are a number of them, but that's one that we use that is a delicate instrument that looks a little bit like a hoe, I guess, but it's used to slide along the nerve root to see if there's any obstruction, to see if you can pass through the instrument freely around the root and underneath, past this little skid underneath the nerve root, underneath it. You can feel up and down. And also in this way, to see if you can feel any obstruction. If you can, you try to remove it.

Q. Okay. And at the time you operated on Mr. Varcho, did you do that same procedure at all of the levels?

A. Yes, sir.

Q. That would be 2 through 5 inclusive?

A. Yes, sir.

Q. Did you feel any obstruction in any of those levels?

A. I didn't feel it. I didn't. As I went individually through them, I was content that they were -- that there were -- the nerves lay in their bed

gently without being under any tension, not being pulled. I did not feel any obstruction primarily along the undersurface of the dura and under surface of the nerve roots.

Q. Is there any other procedure that you're aware of to test whether the compression *is* relieved during this kind of a procedure?

A. No.

Q. Okay.

A. Not offhand.

Q. I think I asked this, but just to make sure, the type of procedure you did at each level was the same, you didn't do anything different at the L3 as opposed to L4?

A. I tried not to. Consciously, I tried to -- as I say, it wasn't so much that I tried to do the same, but that I really tried to identify the nerve root and unroof it, to decompress it as widely as I could without jeopardizing the stability.

Q. Okay. Do you recall whether in fact the amount of work you did at any level was different?

A. I don't recall. And I don't think I'd recall ten minutes afterwards because you're so intent at one level, when you work, you're totally oblivious, at least I am.

Q. Referring back to what's been marked as Exhibit 3, there's an underlined sentence, "A foraminotomy was then performed at this level." What does that refer to? What level does that refer to?

A. I think it's either type or something -- what I tried to do was foraminotomy at these levels, at the various levels.

Q. The next two lines down it says "After complete decompression had been identified as evidenced by easy passage of the dural elevator posteriorly and anterior to the dura along the posterior and anterior longitudinal ligament and easy passage of the dural elevator along the nerve roots, the wound was thoroughly irrigated." That's the procedure you described on the instrument with the instrument you drew on the back of Exhibit 2?

A. Yes, sir.

Q. Was there any other method by which you satisfied yourself that a complete decompression had been identified?

A. No, not according to my notes.

Q. Do you recall whether there were any intra-operative complications during the surgery?

A. There was a lot of bleeding. I don't know if that's a complication. It happens.

Q. Any reason for that that --

A. Very large epidural veins. Epidural veins have the structural integrity of wet tissue paper. Mr. Varcho is a very big man and just, you know, made it more arduous.

Q. What was Mr. Varcho's condition directly after surgery?

A. He did pretty well. He still -- he had some numbness in his feet and back pain, to a fairly severe degree.

Q. I meant directly after surgery was his condition stable and did you feel comfortable with the way he came through the surgery?

A. Yes, sir, I felt quite comfortable.

Q. Let me back up a second. At one point when you were describing the procedure, you mentioned a portion of the spinous process was removed. I meant to ask you whether that was done at all of the levels.

A. Yes, sir. Just enough for technical reasons, if for no other reason.

Q. Following this surgery, when was the next time you saw Mr. Varcho, directly after surgery?

A. In the recovery room.

Q. And his condition continued to be good, in your estimation?

A. Yes. It was good, number one, in that he had no direct complications as a result of the surgery. He had back pain which was severe, but on -- and numbness which was about the same, but in general, he was doing fairly well.

(Plaintiff's Deposition Exhibit No. 5 was marked for identification)

Q. (BY MR. DeSANTIS) I hand you what's been marked as Exhibit 5. I ask you to take a look at that.

A. Yes.

Q. Dr. Mast, these are a few of the records I pulled out of the Hillcrest Hospital records. What I'd like to do is determine whether any of the notes on these records are yours or if you reviewed any of these notes --

A. I did.

Q. -- throughout Mr. Varcho's stay, Okay. Is the signature on the right-hand side?

A. That's mine.

Q. It's like an M?

A. Yes, sir.

Q. You reviewed each of these entries?

A. Yes, sir.

Q. The first entry is, I believe, 9-4-84, is that correct?

A. Yes.

Q. And can you read that? First of all is that your handwriting?

A. Yes, sir.

Q. All right. Will you read that for us, please?

A. "Admitted decompressive laminectomy." I can't read the last two words. It's cut off. Previously in my discussion, risks and benefits and protractive recovery. Months to incomplete recovery and release from pain and lower extremities discussed." 9-4 is the operative note itself.

MR. HUDAK: In all fairness --

MR. DeSANTIS: I was going to make the same -- in all fairness to the doctor.

MR. HUDAK: This copy is not a good copy And it appears to not be centered on the page to where the right-hand margin appears to be cut off.

MR. DeSANTIS: Let me represent for the record it's a very good copy of the copy I have, but it is not a good copy.

A. Next note is the operative -- brief operative note I did immediately afterwards, just says operation decompressive laminectomy, L2 to L5, anesthesia general and Pennsylvania tracheal, surgery

marks tolerated well EBL three units replace two units.

Q And the remainder of the notes on these pages?

A. These are physical therapy and the notes made -- I made this one, the sutures were removed. Robrock has note of his blood pressure.

Q. Let me interrupt you for a second. Which one did you make, the 9-12?

A. I countersigned the 9-12. We just removed his sutures.

Q. Okay. Page three of this exhibit? Was there something on page two?

A. No, sir.

Q. On page three of this exhibit, I believe the entry is Dr. Tucker's, is that correct?

A. Yes, sir.

Q. There is a signature -- your signature does appear on his page and that date on the left-hand side, it appears to be 8-9-84, is that correct?

A. Looks to me like it.

Q. Would that -- is that a correct date? Do you have any recollection of that? That would have been prior to the surgery.

MR. HUDAK: If you know, Doctor.

A. I don't know, sir.

Q. Okay. Now, the entry by Dr. Tucker, I believe, says that the "Patient fearful that the same" -- is that symptoms -- "present today as they were prior to surgery. Actually there has been continuing improvement." Is that accurate?

A. That looks like what he writes to me too.

Q. Is that your recollection of Mr. Varcho's symptoms at that time?

A. Yes, sir.

Q. How many times would you have seen Mr. Varcho in the hospital?

A. I saw him, I think, every day.

Q. What was Mr. Varcho's condition at discharge?

A. He was ambulating well, complained of paresthesia in his feet and I thought had increasing pain in his leg.

Q. He did complain of pain in his legs?

A. Paresthesia. Really, to my recollection, I don't think the he ever totally regressed.

Q. But just for clarification, he did complain of pain in his legs and paresthesia both?

A. Yes.

Q. When did you next see Mr. Varcho after he

left the hospital?

A. A week later on the 22nd of September.

Q. Do you have any notes of that?

A. Just my notes said progressive improvement, numbness in toes the same, moderately severe low back pain.

Q. Can I take a look at that?

A. Yeah.

Q. Where were you referring?

A. (Indicating).

Q. Did you take any action at that time or make any recommendations?

A. No. I thought that he was improving slowly and asked to see him in six weeks.

Q. When was the next time you saw Mr. Varcho?

A. November 5, 1984.

Q. And what was his -- do you have notes of that?

A. Yes, sir.

Q. What was his condition at that time?

A. Complained of some back gain, was sccasionally awakened with warmth in the back so that he sat up in bed. He complained of numbness in the left foot and calf and paresthesia in the calf, numbness and tingling in the calf. Lying on the right side, reduced

his symptoms. I was always concerned that he had had -- this may be partly vascular, but here I have a note that he said he has had three peripheral vascular checks, and has been evaluated from peripheral vascular disease standpoint.

Q. Did he indicate to you what the result of those tests were?

A. Well, I did obtain one of the results from the vascular laboratory that was done by Dr. Howard Pitluk.

Q. What was the date of that?

A. This was September of '83.

Q. What was the result of that test?

A. "Interpretation. The above findings would indicate a right superficial femoral occlusion with the possibility of right iliac artery stenosis, the left side, although not entirely normal, is intact. Patient should benefit from an exercise program. At this point, I would recommend nothing further unless symptoms become incapacitated."

Q. Did you obtain any information about any of the other tests that Mr. Varcho had at that time?

A. No, sir, I did not.

Q. Did you take any action or make any recommendations on November 5th --

A. No, sir.

Q. -- 1984? Did there come a time after the surgery when Mr. Varcho's condition deteriorated at all?

A. Well, in April, on April 29th, when I saw him in the office, he was complaining of leg pain, left greater than right.

Q. Let me interrupt for a minute. Was that the next time you saw him, Doctor?

A. No, sir.

Q. What would have been the next time?

A. Next time I saw him was January 14, 1985.

MR. DeSANTIS: Off the record.

(Discussion had off the record.)

Q. (BY MR. DeSANTIS) Dr. Mast, with your permission, I'd like to mark as an exhibit the last note that we referred to with respect to the visits by Mr. Varcho on September 22nd and November 5th.

(Plaintiff's Deposition Exhibit No. 6 was marked for identification)

Q. (BY MR. DeSANTIS) I'll hand you what has been marked as Exhibit No. 6, and ask you is that the page that you were referring to to reflect on your notes of Mr. Varcho's visits post surgery?

A. Yes, sir.

Q. In September of '84 and November of '84?

A. Yes, sir.

Q. And on the back of Exhibit 6, does that reflect your notes of a visit by Mr. Varcho in January of '85?

A. Yes, sir.

MR. DeSANTIS: Okay. Let me mark another exhibit before we go on with that exhibit.

(Plaintiff's Deposition Exhibit 7 was marked for identification)

Q. (BY MR. DeSANTIS) I'm going to hand you what's been marked as Exhibit 7. I ask you to take a look at that. Let me know when you've had an opportunity to read it.

Have you had an opportunity to look at it?

A. Yes, sir.

Q. This is a letter from Dr. Tucker to Dr. Robrock, both of whom are treating physicians for Mr. Varcho, is that correct?

A. Yes, sir.

Q. You were copied on this letter, so it reflects?

A. Yes, sir.

Q. Do you have any recollection of receiving this?

A. I don't have that in my charts.

Q. Okay. Do you have any recollection of any

conversations with Dr. Tucker about Mr. Varcho's condition in or around November of 1984?

A. Oh, yes.

Q. What would your recollection be?

A. This. And I --

Q. This indicating Exhibit No. 7?

A. Exhibit 7.

Q. Okay.

A. Yes, that he had -- he was having calf pain, but that Dr. Tucker gave him Elavil with good results. The pain is now in the lower part of -- closer to the knee in the thigh rather than the entire thigh. He was having, at that tine, severe pain in the low back.

Q. Are you referring now --

A. I'm referring to the notes -- I'm reading from my notes now.

Q. You're referring to Exhibit 6, the back page of your notes from the January visit of Mr. Varcho?

A. Yes, sir. He had severe pain in the low back at the base of the spine. Seemed to pass after he got up in four to six minutes. He was having less pain while mobilizing. About this time, I know that Dr. Tucker had spoken to me about the use of Elavil with good results. He was concerned that he had -- that Mr. Varcho

had another diagnosis, that something else was going on. It was really quite difficult and he thought that or may have been, as he indicates in this letter, that there was some other disease process going on.

Q. Okay. Did he indicate to you what the other disease process might be?

A. I knew that he was considering peripheral neuropathy due to diabetes, I don't know what it is and I don't know if he told me what truly clinically mononeuritis multiplex really means, But I do know that he was considering vascular etiology or another neurologic disease entity in addition to his preoperative diagnosis.

Q. Okay. Another question, what is Elavil?

A. Elavil, I think, I do not -- I personally do not use Elavil because I don't know enough about the drug to use it, and as an orthopedist, I don't feel comfortable using it and to initiate somebody on it. Elavil is a drug which is generally used to reduce pain. It's taken at night. It enhances the mood and seems to reduce pain. How it works, the pharmacology of it, I can't tell you.

Q. Did Mr. Varcho at this time either in his November or his January visits to you complain that his symptoms presently at that tine were the same as

they were prior to the surgery in September of '84?

A. He had similar symptoms, but I didn't get -- I never got the impression at this time that they were of the same severity.

Q. Okay. Did you give any thought to those symptoms being related to his lumbar area?

A. I thought they could be. But at that point in time, I didn't think he had -- I didn't think he was deteriorating. I thought that overall, over four months he was doing satisfactory,

Q. Okay. Does that mean he was doing better or he wasn't getting worse?

A. He wasn't getting worse, and in some regards he was better. He would get up and begin to move around, the pain would regress, for example, even I have a note of it lying on his right side tended to reduce his symptoms.

Q. Was there any other physical evidence of his getting better that you recall?

A. No, no, sir.

Q. Is there anything else reflected in your notes of January 14, 1985 with respect to Mr. Varcho's visit?

A. My last sentence is, "All in all, excellent thus far, less pain, mobilizing satisfactorily."

Q. What would -- what led you to conclude that overall it was excellent?

A. Well, I mean based on what he was hospital bound and bound four months ago, he was ambulating, doing fairly well. He still had leg pain. It was not -- he was not incapacitated. It had been reduced by Dr. Mucker with the use of Elavil. Whether there was another disease process or not, I don't know, but I thought all in all it was satisfactory based upon what he had at the time, the reason that we went in there.

Q. Okay. And when was the next time you saw Mr. Varcho after January 14th?

A. March 7th.

MR. DeSANTIS: Off the record.

(Discussion had off the record.)

A. March 7, 1985.

Q. And are you referring to a specific note in your file?

A. Yes.

MR. DeSANTIS: Why don't we mark that.

(Plaintiff's Deposition Exhibit No. 8 was marked for identification.)

Q. (BY MR. DeSANTIS) Handing you what I've been marked as Exhibit 8, asking you if you can identify that, please?

A. At this point, Mr. Varcho had increasing pain in his legs.

Q. Let me interrupt for a ninute, Coctor. For the record, could you identify what Exhibit 8 is and we'll get into the substance of the visit?

A. This is Plaintiff's Deposition Exhibit 8. It reflects ny office visit with Mr. Varcho on March 7, 1985.

Q. Is there anything on the back of that exhibit?

A. Yes, sir.

Q. What is that?

A. On the back of this is my office visit with Mr. Varcho, April 29, 1985.

Q. Okay. Thank you. And back to the office visit on March 7, 1985.

A. At this point, Mr. Varcho was having increasing pain in his legs. He had increasing numbness in his toes and was generally at this point, I thought, deteriorating. I talked to Dr. Tucker. I thought that he had a neuropathy. We placed him on a short course *of* Dilantin and Thorazine.

Q. Okay. Let me ask a couple questions. First, what facts led you to conclude that he was jenerally deteriorating?

A. He said he was having increasingly severe

pain in his legs.

Q. Is that indicated on your notes?

A. Yes. "Has excellent strength but severe pain. Numbness all toes again."

Q. You mentioned that you talked to Tucker. What was the substance of your --

A. I called him because I was concerned that Mr. Varcho was having more pain. You know, I was looking for advice because we were concerned about other diseases, neurologic and other diseases. If he had any suggestions. And at that point we decided to go ahead and put him on Dilantin and Thorazine for a two-week period.

Q. What was the purpose of those drugs?

A. To reduce the pain.

Q. You mentioned the word neuropathy. What does that mean?

A. It's just a word that implies that he's having what I interpret as radicular pain, neurologic pain as opposed to, you know, bone pain or muscle pain.

Q. Okay. And when was the next time you saw Mr. Varcho?

A. We saw him the following month, April 29, 1985.

Q. Did you have any -- let me back up a

second. Did you have any contact with Mr. Varcho telephonically in between any of these visits, do you recall?

A. No, no, sir.

Q. Thank you. And what occurred on April 29, 1985?

A. April 29, 1985, I saw him in the office. He's complaining of leg pain, left greater than right. He was -- do you want me to read?

Q. Please, please,

A. He began doing more walking, developed numbness in his toes, sole of his foot and his legs with the sensation of cramping. Dr. Tucker felt that it was not neurological and he sent Mr. Varcho to Rose Wang, who is an acupuncturist for arthritis in the lower extremities, and he reported that the severe pain has regressed. And at that point in time he was engaged in acupuncture for the left greater than right leg pain.

My concern at this point, and I discussed this with Mr. Varcho, was that the leg pain I felt was either from a neurologic basis or a circulatory basis, and I felt that he would need hospitalization. And I recommended that and I recommended that he obtain a CAT scan --

Q. Okay.

A. -- as a start-up in the work-up.

Q. You mentioned that Dr. Tucker thought that Mr. Varcho's problems were not neurological. Did you have any discussions with Dr. Tucker about that subject at this time other than those you've already described?

A. At this visit?

Q. That or -- there or around there.

A. No, not that I can recall. Not -- I thought that this was likely neurological.

Q. I understand. I wondered if you knew --

A. Why he thought that?

Q. Yes.

A. No, sir, I do not know that.

Q. You also mentioned that he reported that the pain regressed. I presumed that you meant Mr. Varcho by that?

A. Yes, sir.

Q. Okay. You recommended Mr. Varcho for a CAT scan, is that correct?

A. CAT scan and hospitalization.

MR. DeSANTIS: Okay. Let's mark this as an exhibit.

(Plaintiff's Deposition Exhibit 9 was marked for identification)

Q. (BY MR. DeSANTIS) I'm going to hand you what's been marked as Exhibit 9. You have the original of Exhibit 9?

A. Yes, sir.

Q. Okay. Can you describe what Exhibit 9 is, please?

A. Exhibit 9 is a CAT scan done on Mr. Varcho at Sachs, Ross & Associates on May 5, 1985.

Q. And this was the CAT scan that you had recommended?

A. Yes, sir.

Q. I take it since you have the original of this report in your file, you had an opportunity to review the results of the CAT scan?

A. Yes, sir.

Q. What was the results of the CAT scan?

A. It's a long report.

Q. Just briefly summarizing, what conclusions did you draw as a result of reviewing that report?

A. That he had had posterior laminectomies, extensive hypertrophic osteoarthritic degenerative changes, narrowing of the transverse diameter of the spinal canal, narrowing of a portion of the central canal, a one centimeter by five millimeter ossicle within the left portion of the central canal, and moderate to

A. Yes, sir.

range at L5 level?

A. I'm not sure what you're referring to.

Q. Last lines of the marked-in portion.

A. Yes. The facets, the recesses, foramens are 4 to 5, which according to their gradings is moderate to severe. It says very heavy patient, see details, suboptimal.

Q. What does that mean to you?

A. The grading system?

Q. Yes.

A. Means that he has severe degenerative arthritis in his spine.

Q. Okay. Did you have an opinion at this time as to the possible cause of that condition?

A. As to the cause? I don't understand.

Q. Would that degenerative arthritis have caused compression?

A. Could have.

Q. And does this report indicate whether it did or did not?

A. No, it only indicates what they describe.

Q. Okay. Did you discuss the results of this test with Mr. Varcho?

A. I believe I did.

Q. Do you have any notes that indicate --

A. No.

Q. -- when you did?

A. I discussed them with Dr. Robrock and Dr. Tucker,

Q. Do you have any notes of --

A. No, I don't.

Q. Okay. Did you make any recommendations based on the result of this test?

A. Only the recommendation that I made when I saw him in the office on April 29th of '85, which was that I thought he should be hospitalized.

Q. What did you recommend occur while he was hospitalized?

A. Well, I thought we should have a myelogram and I think I thought he should have a vascular evaluation.

Q. Do you know whether in fact Mr. Varcho had a myelogram subsequently?

A. I believe he did have a myelogram subsequently.

(Plaintiff's Deposition Exhibit No. 10 was marked for identification)

Q. (BY MR. DeSANTIS) Handing you what's been marked as Exhibit 10, take a look at those, let me know when you've had an opportunity to review it

A Yes, sir.

Q Okay. Exhibit 10 includes several documents which reflect several tests that were conducted on Mr Warcho in August of 87, is that correct?

A Yes, sir.

Q In fact, they include a myelogram an aortogram and an MRI Is that accurate?

A And a discharge summary yes sir

Q Did you have an opportunity to review any of these, the results of any of these tests at that time to your recollection?

A. My recollection, I discussed them with Dr Tucker.

Q. Do you recall your conversations with Dr Tucker at this time?

A. I felt that -- my feeling was at that time that Mr. Varcho had extensive disease in the lumbar spine beginning now a little lower than the orig nal level. The MRI suggested that it was due to adhesions

or arachnoiditis. I thought that he should have neurosurgical evaluation.

Q. Okay. Now, when you say that your feeling was Mr. Varcho had extensive disease in the lumbar spine, are you referring to spinal stenosis?

A. Well, based on the MRI.

Q. What page are you looking at?

A. I don't know. It's a free page, sir.

Q. The number In the lower right-hand corner?

A. 00003.

Q. Okay,

A. It's from Hillcrest Hospital, a report, MRI of the luinbar spine. It *says,* "The patient has an identified block at L4-5, a myelography. The MRI study demonstrates a two-level abnormality of the lumbar spine. The L4-5 and the L5-S1 regions are severely compromized from what appears to be proliferative arachnoid tissue extending posterior to anterior. This proliferative tissue in effect is causing a severe spinal stenosis. I see no evidence of a recurrent disk protrusion, although the disk at L4 and L5 are degenerative."

Q. Okay, Now, you mention that the MRI indicated adhesions were the cause of the spinal stenosis, is that a fair representation of what your term was?

A. Yes. Based on the fact that Dr. Zelch who did

the MRI said it appears to be proliferative arachnoid tissue extending posterior to anterior, the proliferative tissue in effect causing a severe spinal stenosis.

Q. What is proliferative arachnoid tissue?

A. I would think of it, what I deduce it to be is a proliferation, an increase in the amount of arachnoid tissue that surrounds the dura at that level, just an increase in the mass of the dura. If the dural membranes are very thin and delicate, they are maybe a tenth of a millimeter thick, they're very delicate. Almost like delicate paper. When they are proliferated, thickened, they get very thick, as thick -- you have to measure it, but as thick as he describes as causing stenosis or blocking of the lumbar canal at that level. He, meaning Dr. Zelch who read the report.

Q. Okay. And this is a product of my ignorance, so forgive me. Are you saying that proliferative arachnoid tissue is scar tissue?

A. You can think of it as scar tissue, I believe, yes, sir.

Q. Does it only occur in a situation that would also produce scar tissue or --

A. It occurs in a situation which would produce scar tissue, I don't know that that's the only cause of it though.

Q. Can you think of any other --

A. Offhand, I can't think of any. But I really haven't thought of it.

Q. That tissue does not exist in and of itself in your lumbar area without some prior surgery then, is it safe to say?

A. I wouldn't say surgery. I would say injury, neoplasm, inflammation of any sort.

Q. Is it related at all to arthritis?

A. I do not believe so, but I'm not sure. I do not believe so,

Q. Okay. So that as a result of these tests, you were able to conclude there was compression in Mr. Varcho's spine at this time, is that correct?

A. Yes, sir.

Q. Okay. Is it your opinion that this condition did not exist at the time you completed your surgery in September of '84?

A. I do not believe it existed at that time, sir.

Q. And do you have an opinion as to the cause of the compression at L3 and L5 -- at the L3 through 5 levels at the time of these tests other than what we've discussed?

A. No. Based on this MRI evaluation, I believe

it to be as stated in the MRI report, proliferative of arachnoid tissue.

Q. Okay. Let me ask you this, Dr. Mast. What is scar tissue?

A. When any soft tissue in the body heals itself, it does not heal itself with the original tissue together. Any soft tissue heals by scar. Scar tissue is, and I'm only speaking as a clinical orthopedist, not as a biochemist, scar tissue is simply collagen fibers that the body proliferates to connect soft tissue.

In the body, only one form of tissue that I'm aware of heals without scar tissue, that heals with its original tissue, and that's bone. Bone heals bone to bone. If it heals by scar tissue, it's called a nonunion and doesn't heal. But bone, to my knowledge, is the only tissue that heals with its own tissue, Every other soft tissue in the body, whether it's skin, mucosa, anything, does not heal with the original tissue. Whenever you cut yourself enough, scar tissue forms and joins the soft tissue together. So that this is my feeling of what scar tissue is.

Q. Okay. Is there any way to avoid -- strike that. Is there any way to reduce the amount of scar tissue that may occur when you do a particular -- well, let's isolate it to this particular procedure. Let me

make it an even more focused question. Is there any way to minimize the amount of scar tissue that occurs as a result of the type of procedure that you performed on Mr. Varcho in September of '84?

A. To my knowledge, the only way to do it are it involves general principles of surgery, delicate handling of the tissue, avoid as much traumas you can. Basically that's it.

Q. Would there be any reason why there might be more scar tissue at one of the levels that you did a foraminotomy or laminotomy on Mr. Varcho, as opposed to another level?

A. To my knowledge, no, sir.

Q. So you would expect there to be about the same amount of scar tissue, all things being considered, I mean, if you did the same amount of work at each level, there would be about the same scar tissue?

A. I wouldn't even say that. It's really my experience, really unpredictable. I can't tell where or who or when it's going to develop scar tissue, in this condition. I really can't. If you use -- you know, we're guided by the Principles of Surgery. Some people will form it at one level as opposed to another level in the spine and you don't know why. I can't tell you why. I have no -- I don't know that I ever think it would be

the same or that he would what get it at all.

Q. How long would you expect it to take for scar tissue to create a problem such as you indicate is illustrated by Exhibit 10?

A. That is also variable. In my experience, I've seen It occur within a month of surgery and I've seen it occur in 14 years. I don't know why it occurred in either case. I truly don't. I must point out that its occurrence doesn't necessarily mean it's symptomatic. And this is the problem.

Q. Okay. What do you mean by that?

A. I mean, because you have arachnoiditis or proliferation of scar -- proliferation of arachnoid tissue does not necessarily mean it's going to be symptomatic. I don't believe that you can say, because of this, therefore this.

Q. Okay. But you feel in Mr. Varcho's case it did recreate a compression in his lumbar area?

MR. HUDAK: What created it?

MR. DeSANTIS: Scar tissue,

A. Proliferation of arachnoid tissue, to use Dr. Zelch's term, this was my feeling, I felt it strong enough that he should see a neurosurgeon.

Q. Let me ask you this question. Today do you have the same feeling about what caused Mr. Varcho's

compression of Mr. Varcho's spine in August of 1985, what was causing that compression?

MR. HUDAR: I'll have an objection on that.

A. I don't understand.

MR. HUDAK: Hold on. Based on the hindsight nature of the question --

MR. DeSANTIS: Okay. I understand.

MR. HUDAK: -- you can answer.

A. I don't think I can answer it. I'm not sure I really understand.

Q. Do you have any different opinion? You've testified at that time you felt that the proliferation of the arachnoid tissue was causing the compression and creating some problems from Mr. Varcho and you wanted him to go on from there. Today, in hindsight, do you have any different opinion about what caused that compression?

MR. HUDAK: Objection.

A. I'd have to look at the report of the neurosurgeon who operated on him before I could answer that.

Q. And that would be Dr. Collis?

A. Yes, sir. So I can't answer it.

Q. All right, That's fine. You are aware

that Dr. Collis operated on Mr. Varcho then in 1985?

A. Yes, sir.

(Plaintiff's Deposition Exhibit No. 11 was marked for identification)

Q. (BY MR. DeSANTIS) Handing you what's been marked as Exhibit 11.

A. Yes, sir.

Q. This is a letter from Dr. Collis to Dr. Robrock and you were copied on this letter. Do you recall receiving a copy of this letter?

A. I do, sir.

Q. Before I ask any questions about this letter, did you have an opportunity to review Dr. Collis' deposition transcript from this case?

A. I looked at it, yes, sir.

Q. In this letter, Dr. Collis indicates that Mr. Varcho needs an extensive and wide decompressive lumbar laminectomy. What does that mean to you with the qualifiers extensive and wide? Does that mean anything different than what you and I have talked about with respect to Exhibit 2?

A. What I infer from it, and I didn't ask Dr. Collis, but what I inferred was that he was going to do a laminectomy, a complete laminectomy, and excision of the facet joints. That would include facet joints,

lamina and spinous processes.

Q. Based on your contacts with Mr. Varcho in August of -- strike that. Did you have any contact with Mr. Varcho in August of '85? Did you see him while he was in the hospital?

A. I saw him while he was in the hospital, yes, sir.

Q. Do you have any notes of that?

A. No. I just saw him and reitterated what I had felt in April.

Q. Based on any communications you had with Mr. Varcho and your review of the results of the CAT scan snd myelogram and MRI, did you agree with Dr. Collis that Mr. Varcho needed an extensive and wide decompressive lumbar laminectomy?

A. I did, sir.

Q. Okay. Let me ask you this, Dr. Mast. Why would the proliferative arachnoid tissue create a problem that would necessitate the total laminectomy as opposed to a less intrusive procedure?

A. The proliferative arachnoid tissue is dense .nd relatively unyielding and produces compression of the spinal nerves, much the way bone or disk or anything else would produce compression.

Q. Could it be removed without excising the

posterior elements?

A. Could the proliferative arachnoid tissue be renoved without excising the posterior elements?

Q. Yes.

A. Not to my knowledge.

Q. Okay. Why?

A. That's out of my field and I can only give you how I as an orthopedic surgeon would answer, but you really need a neurosurgeon to tell you why. My feeling is that you can't get to it unless you take off -- unless you completely -- you've got this arachnoid tissue is surrounded by bone. You're going to have to take off either the anterior elements or the posterior elements to get to it.

Q. Okay. Referring to Exhibit 2, and recognize, Dr. Mast, that you're talking to someone who is medically ignorant. I'm trying to understand this concept.

A. I understand.

Q. When you drew your diagram here at the bottom of Exhibit 2 and you showed your laminotomy procedure, would the scar tissue occur in that area where you did your laminotomy?

A. I don't know.

Q. Okay. When you say you don't know, you

don't know if it occurred with Mr. Varcho in that area or generally speaking you don't know if it would be limited to that area?

A. I don't know if it occurred in Mr. Varcho in this area.

Q. Let me ask you this. Where would you expect it to occur?

A. I would expect it to occur in the area where he had the laminotomy,

Q. Okay.

A. However, the MRI indicates it's diffuse and generalized up and down the lower part of the lumbar spinal canal.

Q. What does diffuse and generalized mean?

A. Extends from L4 to L5, or L4 to the sacrum. Based on what Dr. Zelch reported, it is based on what Dr. Zelch, the L4-5 and L5-S1 regions are severely compromized from what appears to be proliferative arachnoid tissue. This is, in effect, causing severe spinal stenosis. What that implies to me is that it extends from L4 to S1 as a cylinder or as at least an irregular cylinder, a mass of tissue.

Q. And that mass would be -- if you could point on Exhibit 2 or somehow indicate on Exhibit 2 where that mass would be located? Would it help if I gave you a

red pen?

A. Might help a little. If I can just for the purposes of -- translate this to this, at this level --

Q. Let me just for the record, when you say translate this, you mean move --

A. I mean translate my --

Q Make the big picture the small picture we have on the left-hand side about the middle of the page of Exhibit 2?

A. Yes. This is the body of the vertebrae. These are the pedicles.

Q. Okay.

A. The lamina. This is the spinous process. This is the spinal canal. Now, inside the spinal canal, is the dura. And it is part of the arachnoid. It's delicate, but it's pretty tough. And it has the spinal fluid in it, and it has the nerves. Much like a telephone cable. They are bathed in fluid. They're surrounded by the delicate meninges which form the arachnoid.

Now, if you visualize proliferation of arachnoid tissue, I think of the arachnoid tissue as infiltrating this whole area like this. If you already have some compromize from arthritis and that sort of thing, the arachnoid tissue will be Compressing, locking

almost from within the nerve roots that are present causing pain. And then you have on top of it compromized or narrowed spinal canal from arthritis which was reported in the CAT scan.

Q. Okay. is that complete your answer?

A. Do you want to know, I forgot the question.

Q. I believe I asked you where the --

A. Where It occurred? And so if I had operated here, made the laminotomy here, gone in, worked, the nerve root that is exiting at this level is outside the dura, moving to the outside here, would be entrapped and compressed by the proliferated arachnoid tissue. Then although I would have expected, and you would think if I operated here that the proliferated tissue should be at this level, that in point of fact based upon what Dr. Zelch read the MRI, it was diffusely through the dura extending from L4 to the sacrum.

(Plaintiff's Deposition Exhibit No. 12 was marked for identification)

Q. (BY MR. DeSANTIS) I'm going to hand you what's been marked as Exhibit 12. Dr. Mast, Exhibit 12 is Dr. Collis' report of operation from his surgery on October 30, 1985. My question is after having an opportunity to review this, is the procedure that Dr.

Collis describes here at the L4-L5 level what you consider or what you explained to be a deconpressive laminectomy *as* opposed to a laminotomy?

A. I believe so. The reason I'm pausing is I thought I saw a note that he took out the -- yes, the superior facets. Yes, I believe so. To the best of my knowledge, reading this, yes, sir, it is. I did not talk with Dr. Collis about this. He only called my office after the surgery *to* report that Mr. Varcho had --

Q. And in his report about midway through the bottom paragraph, he mentions that the spinous processes of L4 and L5 were excised?

A. Yes.

Q. Is that normally a part of the laminectomy procedure?

A. Any procedure?

Q. A --

A. A wide?

Q. A wide.

A. Oh, yes. As I say, that includes the spinous process, the lamina and the facet joints, the whole -- that constitutes part of the posterior elements. I had excised the tips of the spinous process.

Q. At all levels?

A. At the levels that I worked, yes, sir. He

started at the facet joints and based on what he said, he worked in. Then opened the dura. But yes, sir, it would be the facet joints, the superior facet joints, the lamina and the spinous process.

Q. Do you recall if you removed the spinous process at L3?

A. Yes, I'm sure I took the tip of it.

Q. The reason I asked, he makes a point of mentioning the L4-L5. I just wondered if it had already been removed at L3 or if he didn't need to remove it at L3?

A. I had removed the tip, Probably just as much as I'd done right down the line.

Q. Okay. You may have already answered this. But let me ask it again. What is your opinion as to why -- first of all, you've already testified that you agreed with Dr. Collis that an extensive decompressive laminectomy was necessary at this tine. Why was it necessary at this time as opposed to at the time you did the surgery on Mr. Varcho in September of '84?

A. You mean why was the laminotomy performed as opposed to a wide excision of everything?

Q. Yes.

A. My feeling is that removal of the posterior elements, which includes the facet joints, the lamina

and the spinous process, at multiple levels, has the potential for seriously destabilizing the spine and causing problems as a result of spinal instability. And to my knowledge, and I work closely with neurosurgeons at Hillcrest Hospital where I do most of my work, radical excision of the posterior elements is deferred unless it has to be done, unless a failure of less radical approach occurs, because as I say, the problem is if you get absolute decompression by removal of the posterior elements, you will get recurrent nerve root compression as a result of spinal instability. And if that occurs, -- and another reason is that people do generally well with removal of the offending bone and decompression of the nerve by a foraminotomy rather than subjecting them initially to a wide radical decompressive laminectomy.

MR. DeSANTIS: Off the record.

(Discussion was had off the record.)

(Plaintiff's Deposition Exhibit 13 through 21 were marked for identification.)

Q. (BY MR. DeSANTIS) We've selected nine x-rays to look at on the view box. They were selected totally at random and I want to ask you some questions about them. Feel free to refer to any other x-rays. We can pull out different ones if you don't feel that

these are representative of the questions that we're talking about or the points you want to make. I just selected these nine at random for representative purpose only, not because they're peculiar in any way that I can recognize.

A. I understand. Why don't we put the first one which has been marked as Exhibit 13. Now, Dr. Mast, can you identify, is it indicated at all on that sheet the date of the x-ray?

A. Looks like 8-28-84.

Q. That would have been prior to your surgery on Mr. Varcho?

A. Yes.

Q. Could you describe what that x-ray displays?

A. This is a lateral x-ray of the lower half of the dorsal spine and the lumbar spine during the process of a myelogram.

Q. Okay.

A. You can see that the amipaque or radiopaque dye fills the canal in the lower thoracic region and comes down to the indented, at the body of L3 and L4 and there's a cut-off at about L3-4 of the amipaque column. One thing that is also apparent is that there is in this x-ray a forward shift of the body of L4. It's a shift to the anterior position which indicates what is

referred to as pseudospondylolisthesis, which means that one vertebral body has shifted forward on another, It implies in this case that it is due not to structural defect but rather to a degenerative process in the spine, and that's why it's called pseudospondylolisthesis. There are also spurs on the vertebral bodies.

Q. What significance did those spurs have?

A. They imply degenerative changes.

Q. What kind of degenerative changes?

A. Arthritic condition, degenerative changes. Reactive bone that's formed on the vertebral bodies is part and parcel of degenerative disk disease that has occurred.

Q. Would that cause compression?

A. Would what cause compression?

Q. The bone spurs that you indicated.

A. These spurs here would cause no problem because they're anterior, they're pointing into the abdomen.

Q. Okay.

A. It's just worth noting, that's all.

Q. Okay. As a result of looking at that x-ray, can you identify anything that would suggest spinal stenosis visibly?

A. Well, I always go over these x-rays and the

CAM scan with the radiologist To me it is suggestive of spinal stenosis but I would as I say, I would -- special studies CAM sca = MRI s and myelograms I always go over them with the radiologist I don t feel -- I feel comfortable talking to them and getting their views from a radiologic point of vi w. So it very suggestive of lumbar spinal stenosis

Q. What about it is suggestive of lumbar spinal stenosis?

A To me.

Q I understand.

A Is the narrow dye column that is present here Although this is not a view taken for the facet joints, one gets the impression that this region, that the facet joints are hypertrophied that they re thickened

Q And is that a spinal stenosis, could it have been created --

A. It's consistent with spinal stenosis.

Q. That is a spinal stenosis that is created by osteoarthritis condition?

A I believe so sir and degenerative disk disease.

Q. Okay What do you mean by degenerative disk disease?

A. If these are the blocks of bone that are stacked one on top of another, this dark radiolucent space between them is the disk and it is composed of in the central region, a gelatinous substance surrounded by fibrocartilagenous rings much like rings of a tree. These are the shock absorbers of the spine.

With degeneration of the disk, which is initiated by its loss of water content, the cushion becomes less high, the bones actually come down closer. This is what I mean by degenerative disk disease. As they come down, the facet joints that also telescope on one another, it's just a general shortening of the spine.

Q. Okay. Is there anything else of significance that you can observe with respect to Exhibit 13 as it relates to Mr. Varcho's condition?

A. I don't believe so, sir.

Q. Okay. Thank you. Dr. Mast, we've put Exhibit 14 in the --

A. This is also an x-ray dated 8-28-84. It is a lateral x-ray of a lumbar spine in the course of a myelogram.

Q. Okay. Can you describe what it displays?

A. This is the pointing to the right side of the film is the abdominal contents, calcified aorta.

This is the back of the spine. These are blocks of bone or vertebral bodies. This is -- these are the posterior elements here. This is the dye column, the amipaque dye column. And it's flowing. It's injected above, it's flowing down, it begins to stop at about the level of L3. The displacement, the forward displacement of the lumbar vertebrae is again seen here as are the osteophytes.

Q. Okay. And once again, is there anything displayed by that x-ray that suggests to you spinal stenosis?

A. Again, just what I'd indicated on the first x-ray.

Q. The narrowing of the canal?

A. The apparent narrowing of the canal. Without a radiologist, or I should say without the radiologist who did this study, to tell me whether the patient was supine or erect when it was taken, it's hard to make any real comments about spinal stenosis, and so I have to infer it on presumption, which I wouldn't want to do -- I would never do, you know, I would never do this, do a surgical procedure without reviewing the myelogram with the radiologist because I have to know what the position was, whether the patient was supine, whether it was five minutes or ten minutes into the procedure,

the ease of the procedure and this sort of thing.

Q. Okay. In this particular case, did you have an opportunity to review the x-rays with the radiologist?

A. I did before the surgery.

Q. Okay. And do you recall at all the nature of that?

A. Only that I needed it as a guide -- I need to talk to them to get their input from a radiologic point of view exactly where I go, what I should do and, you know, for them to tell me, Yes, the block is here, we've got trouble here, there's a spur here. I need them to tell me that, And I give them input. Well, this doesn't look like much. It's an interchange, It's a give and take between two people in different specialties.

Q. Do you have any notes of those kinds of conversations?

A. No. It's all verbal, all done usually the afternoon that they do the myelogram, I go down, go over it with them because even though they dictate a report, it's just a report. I mean, if they say, Oh, yeah, I remember it was difficult here, you know, something, they can give it to you fresh and it's the freshness, the timeliness that enables you to be able to say, Well, I'll do this or I won't do this. It's just more information.

Q. Okay. Good. Thank you. Let's put up 15.

A. This is Andrew Varcho. Now we know for sure it's his name, Andrew Varcho, Plaintiff's Exhibit 15, 8-20-85. This is, again, an x-ray, lateral x-ray of the lumbar spine in the course of a myelogram. The film is oriented the way the others were oriented. This is the front or anterior.

Q. The right side?

A. To the right side, right side of the view box. Let me qualify that. It's not really a true lateral, it's a bit of an oblique. The aorta, great vessels are seen here heavily calcified. This is the third lumbar, fourth lumbar, fifth lumbar vertebral bodies which are marked by the radiologist as 3, 4 and 5.

Again, you see the anterior osteophytes projecting. You again see the forward displacement of this vertebral body L4 compared with L5. Coming down here you see the dye column, the amipaque dye column coming down and beginning to thin out and block at about the level of L4 here. Again, qualifications about spinal stenosis and everything, I can look at it and say, it looks like it. I would really like to go over it with the radiologist.

Okay. What about it looks like it?

A. The relative narrowness of the column. It certainly could be consistent with proliferative arachnoid tissue as Dr. Zelch described in the MRI which was done at this time also.

Q. Is there anything that you can identify on the x-ray that is indicative of the proliferative arachnoid tissue?

A. No, sir.

Q. So it's not visible?

A. No. It's consistent with, but you cannot visualize it.

Q. Is scar tissue visible in x-ray situation?

A. Not plane x-ray. Okay. This is an x-ray, Plaintiff's Exhibit 16. Andrew Varcho, August 20, 1985. It is an overexposed view of the lumbar spine. An AP or taken from the front. I have placed the marker just with the left side with the L on our left side so that it is -- we are looking at the patient from the back to the front,. You can see the wings of the pelvis or ilium here. See the sacrum in place. This is the fifth lumbar vertebra. There's the fourth lumbar vertebra. Third and second. You also notice a tilting of the spine. We call it a left curvature. It's tilting. Convex to the left curving up.

Sticking out from the vertebral bodies of L4

and 5 are again osteophytes seen on either side which are consistent with degenerative disk disease. It's overexposed enough, I can't -- these look like the facet joints. But it's not a good x-ray. Basically that's all. There's a lot of stool in the intestine which tends also to cloud things. But other than that, I can't comment further.

Q. Okay. There's no visible indications of spinal stenosis on that particular sheet?

A. I don't see any, sir.

Q. Okay.

A, This is Plaintiff's Exhibit 17. This is Andrew Varcho dated May 7, 1985. This is a CAT scan, These are reproductions of the CAT scan done at Sachs & Ross. This is CAT scan taken in the sagittal plane and it is a one-to-one magnification.

MR. HUDAK: Excuse me. Does the same question hold for this film as the other films?

MR. DeSANTIS: I'm sorry, does what?

MR. HUDAK: What question are you putting to the doctor?

MR. DeSANTIS: I'm sorry.

Q. (BY MR. DeSANTIS) Why don't you describe what this --

MR. HUDAK: You that carry forward for

all of the films?

MR. DeSANTIS: Please.

A. This is an x-ray on a one-to-one that is no magnification, no diminution, one-to-one reproduction of an x-ray of the lumbar spine taken in the sagittal plane. By sagittal plane, I mean it's a slice, front to back. it's a slice down the middle. These slices are taken much like you would slice a loaf of bread at about two millimeters of thickness, just run right through on the computer.

I can't tell you -- this x-ray, all CAT scans of the spine and all MRI's of anything, I need help with from the radiologist because there are bone windows and soft tissue windows. There are spot films that excentuate bone and eliminate soft tissue and vice versa. This looks like a bone window. I cannot tell what level it is. I just can't. I can point out structures that I can identify. These are vertebral bodies. This is the disk space between the vertebral bodies, this black. This gray area in here is the spinal canal.

This view on the pictures on the right shows the posterior elements. I believe, but I can't be sure that this and this, These little gray spots here and this and this represent neuroforamina, windows for the nerves. Here again in this lower left-hand side they look like

neuroforamen also which look reasonably open.

This is another view and I think it's near the edge, outer edge of the spinal canal so that the spine, these are the bodies of the spine, this white projection here and here, I believe, are the pedicles coming up and these are the neuroforamen. You know, honestly, I can't tell you. It doesn't look normal, but I can't tell you to the extent that it's pathologic because I just -- I don't know where we are in this series of sagittal cuts.

Q. Let me interrupt you for a second. Would the report give you any assistance?

A. These -- no.

Okay.

A. These are keyed. According to what slice it is. I can't tell you --

MR. HUDAK: Doctor, if you cannot answer the question any further extent, it's permissible to so state.

A. I just can't. I can't break the code.

Q. I appreciate that. Okay. Why don't we go to the next.

A. This is Exhibit 18, this is the, again, the CAT scan was performed May 7, 1955. These are the axial views. These are the ones that cut parallel to the ground when you're standing. I can tell a little

bit more on this view than I can on any of the others. I'm not sure, however, of the level, but I can point out. This is an area where a laminotomy, laminectomy was performed here because it's open.

Q. We're referring to the upper right-hand corner?

A. Upper right-hand corner. You can see part of the posterior elements remaining, the facet joints, which show bone hypertrophy and narrowing of the facet joint. There is a level wherever I see facet joints in this axial -- in these axial views, I see degenerative arthritis with some bone proliferation around the facet joints.

Q. Would that cause compression?

A. It could.

Q. Okay.

A. It could not.

Q. And let me ask you this, Doctor. Can you identify visibly scar tissue on this pictures?

A. No, sir.

Q. How about proliferative arachnoid tissue?

A. No, sir.

Q. Okay. There is anything else significant on .hat picture with respect to Mr. Varcho's condition on hat date?

MR. HUDAK: To the best of your knowledge.

A. To the best of my knowledge, no, sir.

Q. Okay.

A. This is Plaintiff's Exhibit 19. May 7, 1985. Radiologic imaging. This is an oblique x-ray of the lumbar spine. These x-rays, oblique x-rays are taken to get a better look at the facet joints than plane x-rays. This is labeled right and the x-ray is on my right hand. These are the wing of the pelvis here. These gray lines, vertical gray lines you see are the facet joints. You can follow them all the way down, but as you do, you see that the gray line is narrower and the bone mass, that is to say the whiteness around them, seeps to be increased. And I would say that this represents degenerative arthritis of the facet joints in the low lumbar spine.

Q. Okay. Once again, which may cause compression?

A. From this -- based on this x-ray, you can't say that. All you can say at the most is that this is degenerative arthritis.

Q. Okay. How about scar tissue again, is there any visible signs of scar tissue?

A. You can't see that on a plane x-ray.

Q. And the same with proliferative arachnoid tissues?

A. Yes, sir.

Q. Okay.

A. This is Exhibit No. 20. This is taken May 7, 1985. This is an oblique view of the lumbar spine. It -- I've oriented it so that the x-ray labeling marked right is to my right side. This again is an x-ray taken to demonstrate the facet joints. Again, the facet joint is the little gray line here. If you follow the facet joint down, as you get into the low lumbar region, you begin to lose it. You see it a little bit, but it's very difficult. And there can be two reasons for this. One, is that the plane of the facet joint is not symmetrical, that it's turned a little bit, which is not uncommon, so you wouldn't see it at all.

The second reason is that there is -- and I think there is significant degenerative arthritis occurring in the facet joints themselves.

Again, the only conclusion I can make based on looking at this x-ray is that I believe there is evidence of degenerative arthritis of the facet joints, degenerative disk disease, which we usually call spondylosis, degenerative arthritis of the lumbar spine.

Q. Would those conditions have existed in

September of '84?

A. I would venture to say that an x-ray taken five years ago would have been quite similar to this, so the answer is yes, sir.

Q. Okay. And once again, is there any scar tissue visible in this or proliferative arachnoid tissue?

A. No, sir.

Q. Okay.

A. This is Exhibit 21. Andrew Varcho. CAT scan of May 7, 1985. This represents the axial cuts when you're standing cuts parallel to the ground through the spine. Based on the densities, this looks Like, I'm no expert, this looks like the soft tissue window. You can see nicely muscle masses here and these Look like muscle groups around the spine.

I can point out that this dense white kind of like an inverted horseshoe area represents the vertebral body. This is the spinal canal. You see the opening here where the laminotomy was performed. Here again, here's the vertebral body. Here's the spinal canal. The facet joints in the bone, density I don't see well because it's white and that's why I think this may be the soft -- what radiologists refer to as the soft tissue window.

These are cuts, and I cannot tell the level. I can't tell you -- I can't break the code. But these are cuts progressing through a vertebra and you can see the open laminectomy here, the posterior elements intact, there's an area where again the bone was removed here, and here are the posterior elements. This looks in the regions that I can see the facet joint like degenerative arthritis and bony proliferation around the facet joints.

MR. DeSANTIS: Okay. Can we go off the record.

(Discussion was had off the record.)

MR. DeSANTIS: Doctor, I don't have any other questions at this time. I appreciate your patience. I presume you're not going to waive signature?

MR. HUDAK: Correct, we will not waive signature.

(Concluded at 5:20 p.m.)

I have read the foregoing transcript from page 1 to page 83 and note the following corrections:

PAGE:	LINE:	CORRECTIOM:	REASON:

WILLIAM MAST, M.D.

Subscribed and sworn to before me this day of , 1988.

Notary Public

My Commission Expires:

THE STATE OF OHIO,)
) SS: CERTIFICATE
COUNTY OF CUYAHOGA.)

I, Lorraine J. Klodnick, a Notary Public within and for the State of Ohio, duly commissioned and qualified, do hereby certify that WILLIAM **MAST, M.D.** was by me, before the giving of his deposition, first duly sworn to testify the truth, the whole truth and nothing but the truth; that the deposition as above set forth was reduced to writing by me by means of Stenotypy and was subsequently transcribed into typewriting by means *of* computer-aided transcription under my direction; that said deposition was taken at the time and place aforesaid pursuant to notice and sgreement of counsel; and that I am not a relative or attorney of either party or otherwise interested in the event *of* this action.

IN WITNESS WHEREOF, I hereunto set my hand and seal **of** office at Cleveland, Ohio, this 29th day of February, **1988.**

Lorraine J. Klodnick. RPR. CM. Notary Publi
Within and for the State *of* Ohio
540 Terminal Tower
Cleveland, Ohio 44113

My Commission Expires: June 23, 1992