The State of Ohio,)
) ss:
County of Cuyahoga.)

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IN THE COURT OF COMMON PLEAS

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PAUL CASTNER, et al.,)
)
Plaintiffs,)
)
-vs-) Case No. 365116
) Judge Kenneth Callahan
R&J TRUCKING, et al.,)
)
Defendants.)

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Videotaped deposition of MICHAEL W. KEITH, M.D., a witness herein, called by the plaintiffs as if upon direct examination under the statute, and taken before Suzanne Lamparter, Court Reporter and Notary Public within and for the State of Ohio, pursuant to the agreement of counsel, and pursuant to the further stipulations of counsel herein contained, on Tuesday, the 23rd day of May, 2000, at 5:00 p.m., at Metrohealth Medical Center, 2500 Metrohealth Drive, City of Cleveland, County of Cuyahoga and the State of Ohio.

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APPEARANCES:

On behalf of the Plaintiffs:

Nurenberg, Plevin,
Heller & McCarthy Co., L.P.A., by:
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(216) 621-2300

On behalf of Defendant R&J Trucking:

Ulmer & Berne, L.L.P., by:
CASH H. MISCHKA, ESQ.
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On behalf of Defendant BFI:

Baker & Hostetler, L.L.P., by:
MARY M. BITTENCE, ESQ.
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1900 East Ninth Street
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Also Present:

David Tackla, Videographer

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(Whereupon, Plaintiffs' Exhibit Nos. 1 through 4 were marked for identification at this time.)

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OBJECTIONS

- - - - -

ATTORNEY	PAGE-LINE
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Mr. Mischka	60-10

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PROCEEDINGS

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MR. PARIS: On a serious note, I want to ask defense counsel whether they will waive any defects in notice, service of the notice of deposition. Will you do that?

MS. BITTENCE: Sure. I don't think there were any.

MR. PARIS: I don't think there were either.

MR. MISCHKA: Yes.

MR. PARIS: I will also ask you whether you will waive the filing requirement of the deposition, the one-day filing requirement, in the event that it gets lost between my office and the courthouse.

MS. BITTENCE: So long as we can have that agreement on any of the depositions.

MR. PARIS: For both sides.

Will you waive the requirement that I file the videotape and allow me to keep it and bring it down to trial so it doesn't get

lost down at the courthouse?

MS. BITTENCE: My only concern about that, David, is if there are objections it has to be filed enough in advance to allow the court to rule on the objections.

MR. PARIS: I'm just saying about the videotape.

MR. MISCHKA: As long as you file a transcript. I don't have an objection as long as you file a transcript.

MR. PARIS: As a practical matter, we know that most of the judges rule on objections ten minutes before trial.

MS. BITTENCE: Sure.

MR. MISCHKA: But some attorneys don't get a transcript and they just go ahead with the video. That's what I'm concerned about.

MR. PARIS: No, we'll have the transcript.

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MICHAEL W. KEITH, M.D., a witness herein, being of lawful age, having been first duly sworn according to law, deposes and says as follows:

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DIRECT EXAMINATION

BY MR. PARIS:

Q Doctor, will you please state your full name for the jury?

A My name is Michael Warren Keith, M.D.

Q And what is your professional address?

A 2500 Metrohealth Drive, Cleveland, Ohio 44109.

Q And you are a medical doctor?

A That's correct.

Q And when were you licensed to practice medicine in Ohio?

A 1973.

Q And are you licensed in any other states?

A Yes, I'm licensed in Pennsylvania and I have privileges in Indiana, California, Australia, several other places.

Q Do you have a specialty?

A Yes, I specialize in orthopedic surgery and specifically surgery of the hand.

Q And can you tell us what orthopedic surgery is?

A Orthopedic surgery is the specialty involving nerves, muscles, bones and joints. The diseases are treated by surgical and conservative means, medication, exercise.

Q And since you're going to be expressing opinions as an expert in this case will you tell us a little bit about your credentials, your education, background, and training that allows you to do so?

A Yes. I have bachelor's degree from Case Western Reserve, a medical degree from Ohio State University, I received training in general surgery at Yale New Haven Medical Center, I completed an orthopedic residency at Case Western Reserve University and then a hand fellowship in Philadelphia at Thomas Jefferson.

I'm currently a professor of orthopedics and biomedical engineering at Case Western Reserve.

I've been on the faculty of University Hospitals, Metrohealth Medical Center, Southwest General Hospital since 1979 and currently practice a very specialized practice in

hand surgery.
Q All right. You're board certified?
A I've been board certified since 1981 and I have a certificate of added qualification in surgery of the hand.
Q Can you name some of the medical organizations and societies to which you belong?
A I belong to all the major orthopedic societies, including the honorary and the research groups such as the American Orthopedic Association, the American Academy of Orthopedic Surgery, the American Society for Surgery of the Hand, Society for Neuroscience, and many others.
Q I take it you have published articles in your field of expertise?
A Yes, I have. I've published a number of articles regarding injuries, especially severe neurologic injuries.
Q And have you participated in writing any chapters in any medical books, things of that nature?
A At this stage I've published about a dozen book chapters.
Q And with which hospitals in our community do you have staff and courtesy privileges?

A I have privileges at the Veteran's Administration, University Hospitals, Southwest General, Metrohealth Medical Center, and then other practice arrangements with all the other hospitals.
Q And tell us a little bit about your teaching. You teach medicine, do you?
A I teach orthopedic surgery and biomedical engineering.
Q At the medical school here in town?
A That's right.
Q All right. And you're involved in teaching residents here at the hospital?
A I teach residents, fellows, graduate students, and undergraduate students, and medical students from other medical centers.
Q You're involved in teaching almost every day?
A Yes.
Q Would you tell us, Doctor, in your professional capacity you had occasion to see Paul Castner?
A Yes. I evaluated Mr. Paul Castner in October of 1999 as a second opinion regarding the outcome in this case.

Q All right. Can you tell us what history you obtained from him?
A Mr. Castner, at the time of my examination, was 37 years old and he was a left-handed truck driver who was injured in a fall and treated by other physicians on September 16, 1997.
At the time of his injury he couldn't describe exactly what his injuries were himself because they were all internal to the arm, but he knew that he had a severely damaged wrist.
Q And in connection with that evaluation did my office send you a copy of his medical records?
A Yes. I received medical records which included a summary by his treating physician, Dr. McCue, operative notes, and office notes.
Q All right. And you had an opportunity to review those materials as well?
A Yes, 1 have.
Q Can you tell us a little bit about the complaints that Paul expressed to you?
A At the time I had seen him he had completed treatment, both surgery, rehabilitation, and exercise, and the interval between the time of his injuries, September 1997, and October 1999 is approximately two years.

At two years he was complaining of pain, weakness, and limited range of motion of the wrist. This is his left wrist and he's left handed.

Q Okay. If we can, I'd like to help the jury understand what happened to this man.

A Uh-huh.

Q And if we can start early on when he fell, can you tell us about the injuries and whatever you want to use, a model to help demonstrate that or any X-rays to help demonstrate that, just let us know. We'll stop, we'll go off the record with the videographer and get set up.

A All right. For the purposes of assisting the jury I'm referring to the records of the original treating physician since I didn't treat him at the time.

And the medical history that was given to the surgical team when he was first examined was that he had fallen six feet from a wall onto a concrete landing. So it's a fall from a great ieight. It's his whole body weight going onto his left wrist. This represents the energy that had to be expended in the injury itself.

When he was seen at the Solon Medical

Center emergency room they took X-rays and they noted that the bones of the wrist were disorganized or out of position. There was an attempt immediately to try and put the bones back into place by manipulating those various bones. And 1/11 describe those in a second. They then applied a splint to protect the wrist further.

They noted at the time the man had fallen on his arm that his hand was numb and they were concerned that this numbness was due to pressure on a nerve. The numbness, according to the record, improved after that initial reduction. Some of the X-rays and some of the other documentation which we have occurred after those initial attempts.

So I'll now go on to describe some of the parts of the hand and wrist that will be important to see on X-ray.

MR. PARIS: Okay. Let's go off the record one moment, please.

THE VIDEOGRAPHER: Off the record.

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(Whereupon, discussion was held off the record at this time.)

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THE VIDEOGRAPHER: Back on the record.
BY MR. PARIS:
Q Doctor, we have a model. Is that an anatomically correct model of the hand?
A Yes. This is an anatomically correct model of the hand, wrist, and the forearm bones. This is the left hand of the replica of the human skeleton.

In this particular model I want to show you the large bone here called the radius, the smaller bone called the ulna, these are obviously the fingers, and in between those two is the wrist. You can see some metal attachments and wires that hold the bones in place in order to make the model hold together.

The bones that are most important for you to recognize are the scaphoid, the lunate, the triquetrum, and the capitate. Scaphoid, lunate, triquetrum and capitate. They form the bones in the center of the wrist.

The scaphoid, lunate, and triquetrum are part of the proximal row. That is the row that is closest to the body, therefore it's called proximal.

The other parts of the wrist, the other

bones of the wrist are called the distal row. This is the radius and this is the styloid of the radius. During normal alignment, the wrist touches the radius and that allows movement as I'm showing here, movement up and down, and then rotation of the wrist back and forth.

In this particular case on the X-ray, which is not as well seen as this model, there is a fracture involving the radial styloid.

And then in this model we see wires holding all the bones together in alignment. In life there are ligaments or parts of fibrous tissue which hold all of these bones together and are invisible on X-ray. So that on the X-ray we'll see the outline of the bones, the relationship with each other, and the relationship to the radius.

In this particular injury which Mr. Castner sustained when he fell, he put the weight of the body on the hand and then everything collapsed together. In the collapse when he fell from the height, the ligaments between the bones tore. When he was seen in the emergency room they attempted to line them back up by putting them in a splint, but that alignment was imperfect. It

was for this reason that the patient was referred for specialty care.

I'll now show the same X-rays.

Q All right. Thank you, Doctor.

MR. PARIS: Let's go off the record.

THE VIDEOGRAPHER: Off the record.

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(Whereupon, discussion was held off the record at this time.)

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THE VIDEOGRAPHER: Back on the record.

BY MR. PARIS:

Q Doctor, we have an X-ray which is marked as Exhibit 1. When was that film taken and where?

A This X-ray was taken at St. Thomas Medical Center on September 16, 1997. It's an X-ray in which the hand is seen on the side view and the top view, like this and like this, and the white line you see on the outside is the splint that was applied in order to protect the arm during transportation.

As I mentioned before, the doctors were concerned that the alignment was imperfect and that this splint alone would not represent

lefinitive management.

What can be seen on this splint is a foreshortening of the alignment between the proximal and distal rows and a widening of spaces between bones. The widening of spaces indicates that the ligaments are disrupted and the foreshortening of the arm is an indication of the amount of laxity or lax state of those bones. They can't support themselves and they can't be supported by a protective splint. Other treatment's needed.

3 So as a result of that imperfect alignment, what had to be done?

A The patient was referred to a specialist, Dr. McCue, who is an expert in correcting these sorts of disorders, and he performed an operation in which there was an incision made and the alignment of the bones was restored, including fixation with screws, wires, and these small anchors which are used to hold the ligaments together.

In the best of circumstances these ligaments then heal themselves and become more rigid and the alignment is preserved. In the worst of cases where the ligament healing is

imperfect, further subsidence occurs at a later date and in that case other treatment's required.
Q Can you describe what we're seeing there and the injuries, specifically the injuries that that hardware was used to repair?
A Each one of these wires or screws has a specific function. This screw, for example, holds down the fragment of the radial styloid. This wire keeps it from rotating. These wires keep these bones in alignment and these anchors tie the various ligaments to one another.
Q Okay. So in his -- in his -- he fractured the radius, the styloid radius?
A Radial styloid.
Q And he had dislocations of some of the carpal bones?
A Yes, We surmise from the alignments that we saw in the operative note that it includes the scaphoid, lunate, and triquetrum.
Q And in addition to that he had ruptures of the ligaments that held those carpal bones together?
A Correct.
Q Did you see any notation about any hematoma around the median nerve?

A Yes, that was noted and that would be expected with an injury of this magnitude.
Q And what is a hematoma?
A The word hematoma means a collection of blood. In this particular case we know from the initial record that the patient had numbness in the -- around the median nerve, which gives feeling to the thumb, index, long, and half of the ring finger. So that seeing a hematoma in the area where there had been the worst dislocation would be fully consistent.
Q And by the way, Doctor, is this a surgery that you're familiar with?
A Yes, I've performed this operation before.
Q Okay. Are there any more demonstrative exhibits that we can use to help the jury understand?
A Mr. Castner had the operative procedure and his ligaments in fact were weak. They did not heal to the degree that the patient or the surgeon were satisfied in the long run.

Mr. Castner had a second surgical procedure in which those damaged bones and the ligaments which were disrupted were removed. This is an operation called proximal row carpectomy.

It means that the proximal row of bones are removed. The word carpectomy means to remove a carpal bone. This operation is designed to allow the bones with the best surfaces to touch one another and is designed to preserve as much range of motion as is practical.

The alternative surgical procedure at this stage of management is to completely fuse the wrist by placing a metal plate across the wrist joint, removing all range of motion; flexion, extension, radial and ulnar deviation, all the movements of the wrist. That procedure would be chosen either by a person who wishes to have a very quick result or who has extreme pain or in which the joint surfaces are so badly damaged that this operation can't be performed.

In most cases of ligament disruption and bone disruption as we've seen, the patients and surgeons today would choose this procedure.

Q Okay. The proximal row carpectomy that you've just described and which is shown in Exhibit 3, that X-ray there, that's the removal of the three carpal bones --

A That's correct.

Q -- that were damaged?

A Scaphoid, lunate, and triquetrum.
Q Okay. And that was as a result of those three bones not being able to be aligned appropriately?
A A failure of alignment and a failure of healing of ligaments.
Q All right. We have one last film that was taken when you saw him in October of '99?
A Yes. This is the most recent X-ray taken in this case and it shows some further improvement and also some areas of concern.

The improvement is that the bone density is better. The patient's been using the wrist more. There is a diminished or narrowed joint space at the wrist which may indicate in the future that there's not a full amount of cartilage or supporting joint there.

There are also some bony fragments around the wrist which appear on the original X-rays and on these X-rays. They're a little more mature on this series. This could be a source of a problem in the future either as a loose body if it becomes impacted in the joint or they may be rough and irregular because they're not the smooth contours that the wrist expects of itself. But at

this stage the range of motion and his strength have been documented.

Q Okay.

MR. PARIS: Why don't we go off the record now?

THE VIDEOGRAPHER: Off the record.

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(Whereupon, discussion was held off the record at this time.)

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THE VIDEOGRAPHER: Back on the record.

BY MR. PARIS:

Q Before we get to your physical exam, as part of the medical history did you spend some time talking to Paul about his returning to work as a truck driver and the type of things that he does and has difficulty doing?

A Yes, I did. Specifically because this is an interval of two years we were interested in what he was able to achieve with this series of surgical procedures. He has a particularly demanding job. Because he's a truck driver he also has to do loading and unloading and he has to use the equipment that attaches to the truck itself. In my report I've listed some of these

specific activities.

He had difficulty with lifting 30 to 40 pounds over the course of his work day, specifically disengaging the trailer hitch, which requires disengaging a forceful handle and a locking device.

He had trouble with dangling his wrist and flexion, which is this position that I'm demonstrating. This is one of the extremes of range of motion. This is the other extreme that are permitted by the proximal row carpectomy procedure. It's at the extremes of range of motion in both directions that most patients do have their pain. They're usually comfortable in the mid range.

And the most difficult tool that he had to use was one called a pallet jack where he obviously lifts pallets up into the air while loading and unloading trucks, and this particular activity produced pain during the end of the day.

He described taking only aspirin as a pain medication and wearing a brace for the heavier work and for personal activities such as gardening.

He also notes that there has been a

limitation of range of motion, strength, and pain at the extremes of range of motion compared to his opposite arm obviously. And I introduced the word crepitation, which means a clicking or crackling sound or sensation which is often present in a severely damaged joint.

Q Did you get a personal history from him about his disabled daughter?

A He mentioned that he had responsibility for caring for a disabled daughter and that included lifting her and moving her, bathing her, something most of us don't have to do.

Q Did you perform a physical examination?

A Yes, I did.

Q Would you tell us about that?

A I examined objectively the range of motion that could be produced by my examination rather than just his range of motion and I examined it to the point of maximum pain and bony limitation, which shows 30 degrees of wrist flexion, which I'll show here. This is about 30 degrees. The normal range of motion would be more -- more like 60. And then wrist extension in his case was 40 degrees and a normal range would be even greater, 60 or 70 degrees. So he has about half

the normal range of motion in this particular plane.

In the other plane, which is side to side motion that I'm showing here called radial and ulnar deviation, he has approximately normal range of motion compared to a group of normal adults and compared to his opposite arm.

In assessing range of motion in rotation as I'm showing here there are two different words to remember, supination and pronation. And in each case there should be 90 degrees of each movement. He had 60 degrees of supination, which means he went to 60 degrees instead of 90 degrees. Otherwise his motion, the fingers, the other parts of the hand and the shoulder, were within normal limits.

I examined specifically for loss of sensation and the distribution of the median nerve, the nerve that originally had numbness where he had the hematoma and where he might have expected to have recovered at the end of two years. The pin prick sensation at this point was normal. He did not have any evidence of permanent nerve injury.

I also looked at the small muscles of

the hand which are governed or controlled by that same nerve and they showed no evidence of paralysis, atrophy, or other effects from the nerve injury.

His wounds were healed, both the volar and dorsal wounds that were created by the surgical procedures, and they were not a source of particular concern other than localized tenderness and numbness around the incision, both which would be expected.

I measured his grip strength at 30 kilograms on the left and 40 kilograms on the right. Both are low normal measurements -- I'm sorry. They're lower than normal measurements and are less than half of normal grip strength. So he could be much stronger than this for his age, being only 37, and in his dominant hand.

I reviewed the X-rays, including the new films which I obtained, and I have just shown those to the jury.

Q Let's talk a little bit about the films that you took.

A Uh-huh.

Q What did those films show?

A The films showed the appropriate changes in

the wrist that one would see after a properly done proximal row carpectomy. There are no technical problems with the surgical procedure or the management.

The retained chips of bone which we saw are within the margins of ligaments as they would have attached to those bones. They can with time get larger and they seem to be maturing in that way between the previous X-rays and the most recent X-rays. In that sense they're a bit larger.

The crepitation that I've described and he described to me could be a result of bones rubbing against the loose particles or they could also be on the joint surface. That would be a more ominous sign and I would have to put together the crepitation with the X-ray appearance and link those two.

Q In your opinion to a reasonable degree of medical probability is there evidence of post-traumatic changes, arthritic changes in that joint?

A Yes, there are.

Q And is that something that you would expect to see after an injury such as this?

A Yes, we would.
Q Okay. Let's talk a little bit, Doctor, about some opinions that you hold.
First of all, do you have an opinion to a reasonable degree of medical probability -- and all the opinions that I'm going to ask you today are -- I would like you to assume that they are based upon a reasonable degree of medical probability and/or certainly, okay?
A Yes, sir.
Q In your opinion, what were the injuries that Paul sustained in this accident?
A Mr. Castner sustained an injury to his left wrist in which he had dislocations of the proximal row of the left wrist and a contusion of the median nerve.
Q And in your opinion to a reasonable degree of medical probability were those injuries caused by his fall?
MR. MISCHKA: Objection.
MS. BITTENCE: Objection.
A In my opinion based on my review of the medical records those injuries were caused by the initial injury.
Q Let me rephrase the question since there are

objections.

Do you have an opinion to a reasonable degree of medical probability what was the cause of those injuries?

MR. MISCHKA: Objection.

MS. BITTENCE: Objection.

A I have an opinion.

Q What's your opinion?

A My opinion is that the injuries which we have seen and I've shown to the jury were caused by the fall.

Q Okay. In your -- do you have an opinion to a reasonable degree of medical probability as to whether the care and treatment that Paul received following his accident were reasonable and necessary by virtue of his injury?

A Yes, I have an opinion.

Q What's your opinion?

A My opinion is that all the medical care which I documented for the jury here was reasonable, appropriate, and well advised.

Q Let's talk a little bit about Paul's prognosis.

First of all, do you have an opinion to a reasonable degree of medical probability as to

what his prognosis is?

A Yes, I do.

Q And did you spend some time in your report discussing that?

A Yes, I did.

Q In your opinion to a reasonable degree of medical probability and/or certainty, what is Paul's prognosis?

MR. MISCHKA: Objection.

MS. BITTENCE: Objection.

A My opinion is that Mr. Castner is unlikely to recover normal strength, range of motion, or pain relief as a result of all the treatment that he's received because of the severity of the injury, and that this condition will continue on permanently into the future. It will not improve from where it is.

The limits of strength which we noted at about 30 kilograms of strength are considered a good result from a proximal row carpectomy. Therefore -- that is in terms of published results. So therefore I would not expect it statistically to improve.

I'm concerned with respect to the prognosis I discussed with him about the

durability of this particular reconstruction for a lifetime of heavy labor. Because he does not have a normal articulation, nor the number of bones within the wrist, nor the normal ligamentous strength, nor the normal range of motion to either manipulate objects, or absorb shock, or to evade injury, that these stand against him continuing on at the way he is now.

There's further evidence that the X-ray is very abnormal and that my concern would be that this will continue to worsen over time if he continues in heavy labor.

Q Is this the typical way that this injury progresses? Does it progressively deteriorate?

A It can. And it can and will if people continue to use their wrist in a heavy labor occupation.

We counsel -- and that's part of the prognosis here is we counsel the injured person against continued and sustained reinjury to a wrist which is already severely injured.

Q Of the history that he's a truck driver, requiring to manipulate wheels and to do the t pes of things that he's already described to you, do you consider that to be heavy manual work and

stressful on the wrist?

MS. BITTENCE: Objection.

A Yes. In my opinion the type of work which he described to me, including driving a truck, unloading, using a pallet jack, and securing loads is heavy labor and it's the type of heavy labor that would aggravate an already damaged wrist.

Q So let's assume for the moment that Paul continues on in his -- in the occupation that he's pursued for the past several years. Under those circumstances, in your opinion to a reasonable degree of medical certainty what will occur with his wrist --

MR. MISCHKA: Objection.

MS. BITTENCE: Objection.

Q -- at some point in the future?

A First of all, I would counsel him that he should continue wearing a brace as he was wearing when he came to see me for the first time and that this is good additional protection against injury. So he certainty would have to continue with the brace.

Secondly, he should make every effort to change his job so as to produce less injury to his left wrist. This might include using his right

wrist for activities that now he uses his left for. He might also want to consider doing work which is less physically demanding and he might have an opportunity to retrain or to limit the stress to his left wrist.

His job title doesn't necessarily have to change. He can continue being a truck driver. But the exact demands of the job itself have to change or his wrist will deteriorate.

Q And then what happens?

A Well, his options after time are for a natural stiffening to occur in the wrist because pain will limit range of motion or for a further surgical stiffening of the wrist called arthrodesis or fusion in which a metal plate is placed in the wrist to prevent motion.

If that operation were to be done or if the wrist were to stiffen naturally, then he would lose more range of motion. In either case he would likely have less pain because he would be using the range of motion less.

Persons who have choice about their occupation or their life would likely choose to make the wrist stiff by bracing, reduction of activity, or a surgical procedure.

Q What's the down side from a functional standpoint of having a stiff wrist?

When you talk about fusing the wrist, can you show us what he'll have?

A On the same model as I showed you before, if a metal plate were placed in this position it would limit the motion up and down obviously and side to side. He would still retain the rotational movements. So he would lose the 60 degrees of flexion and extension and the 45 degrees of radial and ulnar deviation which we currently measured.

Q Why wouldn't somebody just opt to have that done now and eliminate the pain? What's the down side of doing that --

MS. BITTENCE: Objection.

MR. MISCHKA: Objection.

Q -- from your experience as an orthopedic surgeon?

MS. BITTENCE: Objection.

A The reason we do not counsel patients to have an wrist arthrodesis for the first operation for management is that they often will change jobs, for instance to the service sector, and in the service sector they require greater range of

motion with less force, so that that is one of the main reasons we don't argue for that early.

The other reason is that for reasons of self care it's possible to perform more activities of daily living, brushing your teeth, combing your hair, toilet activities, if you have some mobility in the wrist. So in terms of maintaining a life without disability it's better to have some range of motion.

We also believe that patients should take advantage of lesser procedures before they go on to major operations. The wrist fusion is the last operation that one would do. It can't be taken down or converted backwards, so it's a final decision. So that's the reason we counsel patients in this order.

Q Have you completed your discussion of the permanency of this injury and the sources of disability that this injury has caused to Paul?

A Yes, I have.

MR. PARIS: Off the record,

THE VIDEOGRAPHER: Off the record.

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(Whereupon, discussion was held off the record at this time.)

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THE VIDEOGRAPHER: Back on the record.

BY MR. PARIS:

Q Paul missed some time from work after his fall. I want you to assume that he missed -- went on to the light duty within about a week of the accident, but then lost about a week after his first surgery and lost about a month or two after his second surgery.

In your opinion to a reasonable degree of medical probability was that time off from work reasonable and necessary?

MS. BITTENCE: Objection.

A In my opinion that period of time off of work was reasonable and necessary after these operations.

Q Is it your opinion for a 37 year old man such as Paul that at some point in the future he's going to have further disability with that wrist?

MS. BITTENCE: Objection.

MR. MISCHKA: Objection.

A It's my opinion that he will suffer additional disability. What I can't say is precisely when it will happen and which choices he will make in the future, natural stiffness versus

surgical stiffness.

Q Now I need to discuss with you the surgical stiffness option.

First of all, do you have an opinion to a reasonable degree of medical certainty as to the cost of such surgeries --

MR. MISCHKA: Objection.

A Yes.

MS. BITTENCE: Objection.

Q -- in today's dollars?

A I can give you an estimate. It won't be exact.

Q Sure.

A It's in the range of $5,000.

Q And how much time off from work and rehab does that entail?

A With respect to the left wrist, he would not be able to use it for a period of about three months because that's how long the fusion or arthrodesis takes. He would additionally require some time for re-education or rehabilitation of the use of his hand. So I would estimate that a period of between three and six months where he wouldn't have the final use of his hand.

Q And the only question in your mind is when

this is going to happen? You can't predict that?
A I cannot --
MS. BITTENCE: Objection.
A I cannot predict.
Q Okay.
MR. PARIS: Thank you, Doctor. I have nothing further.
MR. MISCHKA: Go off the record.
THE VIDEOGRAPHER: Off the record.
- - - - -
(Whereupon, discussion was held off the record at this time.)
- - - - -
THE VIDEOGRAPHER: Back on the record.
- - - - -
CROSS-EXAMINATION
BY MS. BITTENCE:
Q Doctor, my name is Mary Bittence. I represent BFI in this matter.
I note from the chart that's in the front of your records for Mr. Castner that Mr. Castner was referred to you by Ellen McCarthy; is that correct?
A I believe so.
Q And Ellen McCarthy is an attorney with

Nurenberg Plevin, the same office Mr. Paris is with?

A That's correct.

Q And did the Nurenberg Plevin office also pay for the visit on October 1, '99, that's noted in the chart on the front of that, at the same place?

A I believe they did.

Q Did -- was October 1 of '99 the only time that you saw Mr. Castner?

A That's correct.

Q On that report it says, "Date of exam, 10/1/99, GR." What does the GR stand for?

A Green Road.

Q So that's where he would have seen you?

A That's the office where he was examined.

Q Do you know Dr. McCue?

A Yes, I do.

Q Did you talk with him at all about Yr. Castner?

A I did not.

Q Do you know when Mr. Castner last saw 3r. McCue?

A I do not.

Q What is the last date of treatment that you saw in the --

A I'll have to refer --
Q -- records that were sent to you?
A I'll have to refer to the records.
Q That's fine.
A The last office record that I have is from 2/4/99.
Q When you received the medical records for Mr. Castner was it your understanding that these were the complete medical records for him?
A Yes. I'm not so sure I had all these medical records on the date that I examined the patient. In other words, that I obtained some of the medical history from him. That's why, for example, there's a brief notation regarding his mechanism of injury.
Q Did you have these medical records at the time that you rendered your report on --
A Yes.
Q The report, if I'm correct, was also rendered on October 1, '99; is that correct?
A Right.
Q So you issued your report on the same day that you saw Mr. Castner?
A I believe I did everything on the same day, but I don't -- we might be able to figure out when

I received these.
Q So you may have received the medical records after you wrote your report?
A I don't remember ever having done that. I remember having created the narrative, some of the information.
The date of the -- the date of the -- the date of the report and the date it was dictated was the same. You're asking me to recall.
Q I thought you had just said a moment ago that you might not have had all of the medical records at the time that you saw Mr. Castner.
A I'll be explicit. I don't remember.
Q So you may not have had the medical records that you saw Mr. Castner?
A Yes.
Q And since that's the same day as your report, you may also not have had them when you issued your report?
A I'm not going to be able to say what I may or may not have done because I didn't put anything in this report that tells me exactly that. So I'm afraid I just can't answer that question.
Q Okay. So you may or may not have had the

medical records when you issued your report?
A Yeah, I guess that's --
Q Fair enough?
A It's one or the other.
Q Right. On the -- I'm sorry. On the February '99 date that Dr. McCue saw Mr. Castner, is it fair to say that he noted that X-rays showed a satisfactory alignment of the left wrist following that carpectomy you referred to?
A I will -- I'll recheck that.
What you're asking me is to see if I can find what he said?
Q Correct. If you can find the February '99 --
A Sure.
Okay. February 4, 1999.
Q Correct.
A X-rays, left wrist, dated 2/4/99, showed satisfactory alignment of the left wrist.
Q Correct.
A Yes.
Q And on that exam Dr. McCue found that he had 40 percent of flexion and extension of the left wrist; is that correct?
A Well, he described -- the actual notation in

here is 40 with a small circle halfway up the zero. It's not a percent sign. It could have been a degree sign. So it's closer -- what's on this piece of paper is closer to a degree sign, but not a superscript, than a percent sign which --

Q I'm sorry. I actually meant degree when I said it. I misspoke.

He found 40 degrees flexion, extension; is that correct?

A That's the best we can -- I think we can say that's probably what he intended.

Q And he found full pronation and supination; is that correct?

A Yes.

Q And I think you mentioned in your physical examination when you were describing it that the radial deviation of 15 and the ulnar deviation of 30 that you found was within the normal range; is that correct?

A I wrote down -- I wrote down the numbers in the document and I expressed an opinion that those were close to normal ranges of motion.

Q Right. Right. You also mentioned I thought that the -- when you did the grip strength on the

right hand and had 45 kilograms --
A I didn't document a grip strength.
Q I think you did, Doctor.
Grip strength was measured at 30 kilograms on the left --
A Yes.
Q -- and 45 on right?
A I didn't testify regarding it, but you're right. It's in my report.
Q What is a normal grip strength?
A Probably about twice that.
Q So 90 is a normal grip strength?
A No, I wouldn't say that. A person could be up in the 60 kilogram grip range who's a heavy manual laborer and that would be a fairly strong person, a vigorously strong person.
Q What did you just mean a moment ago about double that when we were talking about 45?
A No, I was talking about 30. Doubling that would be 60.
Q I'm looking at the right wrist.
A Yeah.
Q Okay. So 60 --
A I'm probably stronger than this man.
Q But 60 kilograms is about a normal grip

strength?
A Yeah, that's reasonable.
Q So he's lower in grip strength in both the left and the right?
A Yeah, but remember normal is a broad range of sizes. The actual mean and standard deviation varies hugely for the population. So when we speak about what's normal, the closest we have of normal for an individual is his opposite uninjured limb and we would ordinarily estimate that the dominant arm would be about 25 percent stronger than the non-dominant arm. So whatever those numbers come out to be, he should be 25 percent stronger than 45 kilograms on his left, you know, approximately 25 percent stronger than that. I'd guess that would be about 60. You know what I'm saying?
Q Is that true of all people --
A Yes.
Q -- across the board?
A Dominant arms --
Q Always that the dominant arm --
A Dominant arms are always stronger than non-dominant arms and after injuries the recovery is usually not to the level of the non-dominant

arm. This is not an atypical recovery pattern at all.

Q If Mr. Castner were to be just a truck driver as opposed to lifting the pallets and the other things that you noted, just driving a truck, would he be able to maintain without the problems that you mentioned would come on with the heavy manual labor?

A I think we have to be very, very careful about generalizing about the word truck driver. For example neither I, nor he, nor his employer may have control over things like manual transmissions, power steering, height of climbing to the cab. These are -- these are the real things that surgeons have to deal with when approving a person to go to a job title.

If this man has to climb a ladder on a semi truck, because it's high he'll have trouble because of the weakness in his wrist. So he may not be able to get into the cab to drive.

If we talk about a truck being a pickup truck that's more like a car with power steering and power brakes, then he'll have no difficulty driving safely and licensing himself to drive a small car or cab -- I'm sorry -- a small car or

truck-like vehicle. It's in the context of those other kinds of trucks that people cannot fulfill the requirements of the job.

Q So does it make no difference then if he would just be a truck driver? I'm talking about a semi, not a small pickup truck, but drop the pallets and the hitches, those kinds of things, and just drove the truck. It wouldn't matter either way whether he keeps doing the pallets and the other work?

A I want to be very careful in the way I answer this because there are many things that can fall out of a testimony regarding this. I just want the jury and you to understand that if I say he can't be a truck driver in this testimony, that may cost him his job as a truck driver. And if I say he can do all the truck driving in the world, that that allows him to do things which I don't think he can handle. Some trucks are too big. They are too hard to turn.

If we want to put this in the context maybe of just the truck he drives, because I've never examined the truck or the ergonomic requirements on that particular truck, I think I could come to a much fairer answer. And I want to

answer your question fairly --
Q All I want to know --
A -- but I don't want to generalize.
Q All I want to know is would it -- in your opinion you mentioned some deterioration you believe he will have if he continues in this job, correct?
A Yes.
Q If he dropped the part of the job that dealt with lifting the 30 to 40 pounds and disengaging the trailer hitch, would there be less deterioration over time?
A Yes, there would.
Q And if in fact he decided to completely change jobs and not do manual labor, then there would be even less deterioration, correct?
A That is correct.
Q When Dr. McCue released -- or saw Mr. Castner in August of 1998 he noted that he could continue with unrestricted activities. Did you note that when you had looked through this packet?
A Yes, I can comment upon that now.
Q Okay.
A That was earlier in 1998. That was in

August of 1998. At that time, for example, he had 45 degrees of flexion, extension, motion was not painful. He does have some pain with moderate activities such as trying to throw a ball. He had been working as a truck driver, gaining strength in his left hand; mild swelling of left wrist, improved since the last visit. X-rays the same. And then plan, continued unrestricted activities.

And then the subsequent examination he had lost some range of motion, he had synovitis, he had -- he had other symptoms.

So, you know, at one point he said yes, continue with unrestricted activities and he doesn't make a similar judgment in February of '99.

Q He doesn't say anything about restricting his movements, though, does he, in February of '99?

A No, there's no negative comment about it. He's told to use wrist splints --

Q And ice?

A -- and ice.

Q And also the patient, Mr. Castner, declined non-steroidal anti-inflammatory drugs for pain, didn't he, according to this notation?

A Well, I'm not sure why he declined them and I'm not sure what they would have been prescribed for. It's more likely they would have been prescribed for the synovitis.
Q All I asked is according to this notation he declined them, didn't he, Mr. Castner?
A The statement is, "He declined NSAIDS, but will take aspirin PRN."
Q Right. As needed, correct?
A PRN means as needed.
Q So he declined the NSAIDS --
A Right.
Q -- but he would take the aspirin as needed?
A Yes.
Q And he was just put on the splint and ice, correct? Those were the treatments, splint, ice, and aspirin as needed?
A Correct.
Q When you saw him in October of '99 all he was taking for pain at that time was aspirin as needed, correct?
A That's correct.
Q And wear his brace occasionally you noted?
A That's correct.
Q If a person had no use of their wrist at

all, what would their percentage of disability be?
A I'd have to look it up.
Q Is that a published guideline?
A Yes, AMA 4th Guide of Impairment would be the appropriate resource.
Q I'm sorry, what would be?
A The AMA -- it's stated in the last paragraph of my note. The 4th Edition of the AMA Guide, which is what we use to determine percentage of impairment. There is a figure for -- in this case it would be based on lost range of motion.
Q Do you know when Mr. Castner got the job that he currently has?
A I do not.
Q You were aware that he's been working at the same position for almost two-and-a-half years?
A I'm not aware of his exact work history.
Q And that was two-and-a-half years after the accident, but you're not aware of that?
A When I examined Mr. Castner it wasn't necessarily to answer that question and therefore I didn't do an assessment of his work habits, so I didn't have a complete chronology of it.
Q When you did the physical examination you have a supination number noted there. Do you have

a pronation number?
A No, I found the pronation to be -- you may assume that if I didn't list a pronation number that it was normal. I'm listing deficits rather than all the rest being normal.
Q Although when you listed the radial deviation and ulnar deviation those were also within normal, right?
A Yes, but they're more critical to the wrist because they're entirely dependent upon the anatomy of the wrist. The pronation and supination are dependent upon joints that are outside the injury scope here.

For example, you have to have an intact joint at the elbow in order to have pronation and supination. It's entirely possible that his pronation and supination could have been normal.
Q As far as you can tell from looking at the past medical records from Dr. McCue, Dr. McCue never recommended that Mr. Castner have the fusion operation; is that correct?
A That's correct.

MS. BITTENCE: I don't have anything further.

MR. MISCHKA: Off the record.

THE VIDEOGRAPHER: Off the record.

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(Whereupon, discussion was held off the record at this time.)

- - - - -

THE VIDEOGRAPHER: Back on the record.

- - - - -

CROSS-EXAMINATION

BY MR. MISCHKA:

Q Hi, Doctor. My name is Cash Mischka. I represent R&J Trucking and I just have a very few short follow-up questions, all right?

Just so I understand, you were not Mr. Castner's primary treating physician for his injuries; is that true?

A That's correct.

Q And you did not perform surgery on Mr. Castner; is that right?

A That's correct.

Q In fact you had no involvement with Mr. Castner's return-to-work limitations, did you?

A That's correct.

Q And you made no recommendations to Mr. Castner himself regarding his ability to work in the future; isn't that true?

A That's not true. He and I did discuss this.
Q You had a conversation with him in which you advised him as to his ability to work in the future?
A We talked -- I talked to him about the implications of his injury and what my examination found. I did not counsel him directly on what to do or not to do.
Q All right. So you basically told him this is what condition you have, this is how you should take care of it in the future, but you didn't talk about work restrictions or anything like that?
A Absolutely not. That wasn't my job.
Q Did you advise him that from this point forward he should continue to wear this wrist splint?
A No, I didn't.
Q Okay.
A I mean I want to answer your question fairly. I did not require the patient or advise him as his medical treating physician to wear a splint because that's a definition of a restriction, a work restriction, and has to carr the force of medical opinion and written documentation and enforcement. It would have been

something that would have been enforceable had I told him that. So I specifically did not advise him that he had to do something. I approved of the notion of wearing a wrist splint and that's as far as it went.

Q All right.

A Okay.

Q Now when you saw him, Mr. Castner's scars were well healed?

A Yes.

Q He had no keloids or large formations on his scars; is that right?

A No, not particularly.

Q And there was no sensory disturbance with his wrist other than in the scar region itself?

A Well, I have to be careful about what I say about sensory disturbance.

Q We talked about numbness earlier. There wasn't any sort of numbness other than around the scar itself?

A Okay. You're right. I made a point of saying that there was not numbness within the distribution of the nerve that had been previously damaged, but there was evidence of recovery.

Q I believe you also said there was no

evidence of permanent nerve injury that you found?
A Right, but I was referring to the median nerve, which is the most prominent portion of his prior injury.
Q But as for the median nerve, the most prominent nerve involved in his injury itself, there was no permanent damage that you're aware of?
A That's correct.
Q And there was no paralysis or atrophy I believe you also stated?
A That's correct.
Q And the wounds were also healed and not a real source of concern for Mr. Castner in your opinion, other than a minor irritation?
A Okay. When we do the exams we have to document, you know, every little bit of tenderness. If it's there, we mention it. If there was some there I mentioned it. But if you're asking me to give an opinion regarding its contribution to the function of his wrist, the scar tenderness is not a major contributor.
Q Now just for my edification and maybe for the jury since everyone's talking about grip strength, I don't think there's ever been a real

definition about what grip strength is really designed to measure. From my understanding it's to ascertain how an individual can actually lift something on a full grip; is that right?

A There are standard tests of the function of the fingers and the muscles that close them, and that particular activity is called grip.

Q Is that designed so that when an individual grips something that they can lift something of a particular weight?

A No, there's a device that's made that fits in the hand and then when someone creates a grip at presumably his maximum effort at a certain size, which is -- in this particular case it's the Jaymar Company's dynamometer, position three, average male-sized hand, the peak of the torque curve for grip strength. It does not have any implications in itself about the ability to lift, orient the hand, be free of pain, or anything else. It's merely an impairment measurement of the force that's generated.

The interpretation of whether one can lift is called functional capacity and the lack of that is called disability, and whether one can translate force into motion, steering, latching or

unlatching, basketball, whatever, is an entirely different type of opinion.

Q Well, did you ask Mr. Castner during your examination to lift various objects of various weights?

A No, I did not.

Q Okay. Are you aware that Mr. Castner had broken his left arm earlier, earlier in life?

A I don't recall that at this point.

Q Did you inquire or did he volunteer that information regarding that earlier injury?

A It's not on my records or to my recollection.

MR. MISCHKA: Thank you. Nothing further.

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REDIRECT EXAMINATION

BY MR. PARIS:

Q Doctor, David Paris again, and I only have a few more questions.

If you track the range of motion documented in Dr. McCue's records through to your exam, starting in August of '98 Paul's flexion and extension of his wrist goes from 45 degrees in August of '98, to 40 degrees in February of '99,

to 30 degrees in October of '99 when you saw him?
A Yes.
Q What does that indicate to you?
A Well, the trend of the measurements by two different examiners is toward diminished range of motion. The measurements would be more accurate if they were done by the same examiner with the same equipment over regular intervals. But the trend is toward less range of motion.
Q And likewise with the supination, in February of '99 Dr. McCue notes full supination, and that's again turning the palm up?
A Palm up.
Q When -- ten months later when you examined him you note 60 degrees of supination?
A That's correct.
Q That would be a reduction by a full third of normal?
A That would be correct. If the measurements were done by both of us in the same consistent way, yes.
Q Okay. Does that also show a pattern that Paul's getting worse over that time?
MS. BITTENCE: Objection.
Q In your opinion to a reasonable degree of

medical responsibility what does that indicate to you?

MS. BITTENCE: Objection.

MR. MISCHKA: Objection.

A The opinion that I have is that from the measurements made by two examiners, the figures are getting smaller. He's got less range of motion between these various examinations.

Q There's a reference in Dr. McCue's February 1999 office visit to the painful swelling in his left hand, the synovitis that he diagnosed, and attributing it to what he calls white knuckle driving in bad weather. Is that something that -- what do you understand white knuckle driving to mean in the context of his occupation?

MS. BITTENCE: Objection.

MR. MISCHKA: Objection. It's referring to material not prepared by this physician.

MR. PARIS: I know.

A Well, I will agree that I didn't interview the patient and I don't know exactly what he was referring to since it's in quotation marks. It may have been a quotation.

But white knuckle refers to tight

gripping and the whiteness of the knuckles that occurs. But I'm sure that this is an opinion that expresses heavy driving in bad weather. That's as far as I can go with it.

MR. MISCHKA: Move to strike.

Q Is that something from your understanding that Paul's occupation requires him to do from time to time?

MS. BITTENCE: Objection.

MR. MISCHKA: Objection.

A I really can't comment on -- on what the ergonomic requirements were at the time of this question posed to him by Dr. McCue.

Q From the standpoint of the recommendation of fusion, is that, from your experience, something that you typically take a wait-and-see attitude over time?

A I'm very conservative as are most physicians about doing a wrist arthrodesis except in the case of extreme pain. When extreme pain is present we recommend it much more readily.

And in this particular case extreme pain does not appear to be documented and present, however he's only 37. We have a long time to look at this problem together before the physicians and

patient decide what to do. So we have a lifetime to look at it.

MR. PARIS: Thank you very much, Doctor.

MR. MISCHKA: Off the record

THE VIDEOGRAPHER: Off the record.

- - - - -

(Whereupon, discussion was held off the record at this time.)

- - - - -

THE VIDEOGRAPHER: Back on the record.

- - - - -

RECROSS-EXAMINATION

BY MS. BITTENCE:

Q Doctor, it's Mary Bittence again. I just have one quick follow-up question.

In response to some questions just now by Mr. Paris on the range of motion, is it fair to say that the differences in measurement between your testing and Dr. McCue's testing could also be a difference in the way that the two of you test, that doctors don't always have the same number even if they see the patient on the same day?

A There is always an inter-examiner error that could be quantified. I have no way of quantifying

what the inter-examiner error is between the two methods used.

MS. BITTENCE: Thank you, Doctor. That's all.

MR. PARIS: Thank you, Doctor. Nothing further.

MR. MISCHKA: Nothing further.

MR. PARIS: Let's go off the record.

THE VIDEOGRAPHER: Off the record.

- - - - -

(Whereupon, discussion was held off the record at this time.)

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THE WITNESS: I will waive the right to review all of this stuff.

THE VIDEOGRAPHER: Thank you very much.

- - - - -

(Whereupon, deposition concluded at 6:04 p.m. and signature was waived.)

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CERTIFICATE

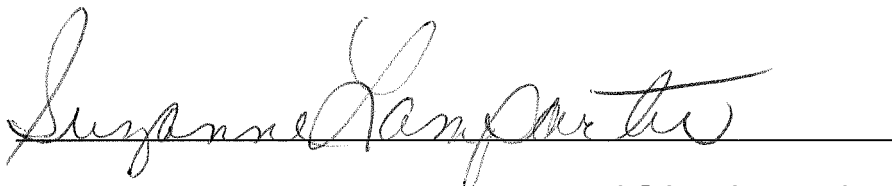
The State of Ohio,)
) SS:
County of Cuyahoga.)

I, Suzanne Lamparter, a Notary Public within and for the State of Ohio, duly commissioned and qualified, do hereby certify that the within-named witness, MICHAEL W. KEITH, M.D., was by me first duly sworn to testify the truth, the whole truth, and nothing but the truth in the cause aforesaid; that the testimony then given by the above-referenced witness was by me reduced to stenotype in the presence of said witness, afterward transcribed, and that the foregoing is a true and correct transcription of the testimony so given by the above-referenced witness.

I do further certify that this deposition was taken at the time and place in the foregoing caption specified and was completed without adjournment.

I do further certify that I am not a relative, counsel, or attorney of either party, or otherwise interested in the event of this action.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal of office at Cleveland, Ohio, on this 30th day of May, A.D., 2000.



Suzanne Lamparter, Notary Public in and for the State of Ohio.

My commission expires November 30, 2002.

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