DISTRICT OF COLUMBIA COURT OF APPEALS

No. 05-CV-651

JOSEPH M. GIORDANO,
APPELLANT,

v.

VIVIA E. SHERWOOD,
APPELLEE.

Appeal from the Superior Court
of the District of Columbia
(CA3439-00)

(Hon. Mary A. Gooden Terrell, Trial Judge)

(Argued March 21, 2007 Decided April 2, 2009)

Andrew H. Baida, with whom *Steven A. Hamilton* and *Karen S. Karlin* were on the brief, for appellant.

Martin Trpis for appellee.

Before REID and FISHER, *Associate Judges*, and TERRY, *Senior Judge*.

FISHER, *Associate Judge*: In this medical malpractice case, the jury awarded appellee Vivia Sherwood approximately $600,000 in damages. Dr. Joseph Giordano appeals, asserting that he was entitled to judgment as a matter of law or, alternatively, that he should be granted a new trial because the court excluded important impeaching evidence. We agree that Dr. Giordano was entitled to judgment as a matter of law and do not reach the second issue.

I. The Factual and Procedural Background

In August 1996, appellant Vivia Sherwood, who was in her mid-thirties at the time, was playing a game of tag at a church retreat in Pennsylvania. "And during the time that I was running, I stopped and I heard pop and fell to the ground." She had injured her right knee. An x-ray taken the next day disclosed a fracture at the rim of the kneecap, and various doctors attempted unsuccessfully to treat the pain that she complained about in her leg and foot. Eventually she consulted Dr. Giordano, a vascular surgeon. Based upon the symptoms she reported and his examination, Dr. Giordano concluded that Ms. Sherwood probably had reflex sympathetic dystrophy ("RSD"), a complex condition of the central nervous system that usually is associated with trauma or injury to bone or tissue, but results in pain out of proportion to the severity of the injury.[1] Because he considered that "a vascular surgeon for RSD is the person of last resort, and she wasn't there yet," Dr. Giordano recommended that Ms. Sherwood continue with nerve blocks and physical therapy, "the mainstay of conservative treatment."

When Ms. Sherwood returned seven months later, on April 21, 1997, Dr. Giordano noted that she continued to have "problems with pain, numbness, inability to move her leg[], and swelling." Despite "all the usual therapies, including multiple continuous epidural

[1] This condition is sometimes called "complex regional pain syndrome."

blocks" and physical therapy, her condition had worsened. After conducting a physical examination and studying the results of an arteriogram, he was "very alarmed" because Ms. Sherwood "not only doesn't have the normal [blood] pressure [at the ankle], she has no flow." Of all the patients with whom he had consulted concerning sympathetic dystrophy, Dr. Giordano "never saw anybody that had such bad flow as Ms. Sherwood." He feared that "if this continues, she was going to go on to gangrene, gangrenous changes of the [right] leg."

Based on the patient's symptoms, his examination, and consultation with Ms. Sherwood's other doctors, Dr. Giordano recommended a lumbar sympathectomy, a surgical procedure designed to increase blood flow to the leg. He advised Ms. Sherwood that the results of the surgery varied, that some people improve while others do not improve or even get worse, and that he could not predict how she would do. Dr. Giordano performed the right lumbar sympathectomy on April 29, 1997, and he dictated an operative report that same day.

The purpose of the surgery was to remove groups of nerve cells called ganglia from the sympathetic chain of nerves located "between the psoas [muscle] and the vertebrae."[2]

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[2] Dr. Bruce Fellows, Ms. Sherwood's expert witness, explained that "the sympathetic chain is about the size of a string and with little bumps on it where the ganglions are."

Dr. Giordano described the surgery consistently with his operative report. After the abdomen was opened, the "peritoneum [a sac containing the viscera] was swept anteriorly until the psoas muscle was identified.[3] Dissection continued to identify the vena cava, psoas muscle and vertebral column. We dissected in the area until we located the sympathetic nerve plexus. We took the entire sympathetic nerve plexus from L2 through L5. We sent these to the pathologist to confirm the presence of ganglia. We had 4 ganglia in the reported specimen.[4] All bleeding was controlled. We used the Bovie and ligatures. We also used clips on some certain parts of the nerve to make sure that all the branches of the nerve were cut and ligated." The wound was closed, and Ms. Sherwood "left the operating room in good

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[3] Dr. William Rogers Flinn, an expert in vascular surgery, helpfully described the nature and location of the psoas muscle:

> [T]he psoas muscle originates from the lumbar vertebrae, which are your low back vertebrae, the bones of your spine in the lower back, comes off the side of those vertebral bodies on each side, on the right and left side, and it extends down to your hip bone. And the sympathetic chain lies on the anterior surface of the psoas muscle, over the top of the vertebral bodies, the bones of the spine. The other nerves, the femoral nerve . . . sciatic and obturator [nerves] originate from inside the spinal cord and come out behind the psoas muscle, underneath it, on the back side, if you will.

He emphasized that "the sympathetic chain is anterior, on the surface of the psoas and the other nerves come out behind, posterior, on the back side." "It varies from individual to individual, but [the psoas is] a very dense, thick muscle, about an inch, inch and a half thick, and even larger in robust, athletic individuals."

[4] The surgical pathology report, finalized on May 1, 1997, concluded that three of the biopsy samples consisted of "ganglion peripheral nerve" and two specimens were "peripheral nerve with few ganglionic elements."

condition."

The surgery was a success from a vascular point of view. Dr. Giordano explained that Ms. Sherwood "had a huge increase of blood flow in that leg." After the surgery, however, Ms. Sherwood experienced nausea, vomiting, and constipation for weeks. She complained of new pain in her groin, in her hip, and in her lower back. She also had difficulty lifting her right leg. An EMG[5] "reveal[ed] changes of acute partial denervation in muscles supplied by the femoral nerve, but also mid-lumbar paraspinal muscles, with lesser changes in obturator and sciatic innervated muscles."[6]

In May 2000, Ms. Sherwood filed this action accusing Dr. Giordano of negligence in performing the surgery. She claimed, in essence, that an injury to the femoral, sciatic, and/or obturator nerves occurred during the course of the sympathectomy and that, as a result, she suffered a new onset of pain in her right leg, hip, and back. Ms. Sherwood also claimed that she has been and will be unable to work due to the effects of narcotic medications she takes

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[5] "EMG" stands for electromyogram, a test which measures the electrical activity in muscles. A nerve conduction study measures how well and how fast the nerves can transmit electrical signals.

[6] As we will discuss in more detail below, the reference to "changes" in the EMG report is problematic because the EMG/nerve conduction study conducted before the surgery did not test the femoral, sciatic, or obturator nerves. Dr. Anderson testified "that we don't know whether the changes seen in May of '97 might not have been already there if the upper leg had been adequately tested [prior to the surgery]."

to control the pain. Following a twelve-day trial, the jury returned a verdict in Ms. Sherwood's favor, awarding her $330,253 in economic damages and $260,500 in damages for pain and suffering. Dr. Giordano filed a Motion for Judgment Notwithstanding the Verdict or, in the Alternative, for New Trial. The trial court denied the motion, and this appeal followed.

II. Standard of Review

"We review [a decision granting or denying] a motion for judgment as a matter of law by applying the same standard as the trial court." *Majeska v. District of Columbia*, 812 A.2d 948, 950 (D.C. 2002). "A trial court may grant a motion for judgment as a matter of law notwithstanding the verdict only if no reasonable juror, viewing the evidence in the light most favorable to the prevailing party, could have reached the verdict in that party's favor." *Liu v. Allen*, 894 A.2d 453, 459 n.10 (D.C. 2006). "When viewing the evidence, the court must take care to avoid weighing the evidence, passing on the credibility of witnesses or substituting its judgment for that of the jury. If it is possible to derive conflicting inferences from the evidence, the trial judge should allow the case to go to the jury." *McFarland v. George Washington University*, 935 A.2d 337, 355 (D.C. 2007) (internal quotation marks and citation omitted). "The jury, however, may not be allowed to engage in idle speculation. Speculation is not the province of a jury, for the courts of this jurisdiction have emphasized

the distinction between the logical deduction and mere conjecture." *Majeska*, 812 A.2d at 950 (quoting *Jones v. Safeway Stores, Inc*., 314 A.2d 459, 460-61 (D.C. 1974)).

III. The Claim of Negligence

"In a medical malpractice case, the plaintiff has the burden of proving the applicable standard of care, a deviation from that standard by the defendant, and a causal relationship between that deviation and the plaintiff's injury." *Derzavis v. Bepko*, 766 A.2d 514, 519 (D.C. 2000).[7] "Due to the 'great variety of infections and complications which, despite all precautions and skill, sometimes follow accepted and standard medical treatment,' an inference of negligence in a malpractice suit cannot be based solely on the fact that an adverse result follows treatment." *Quin v. George Washington University*, 407 A.2d 580, 583 (D.C. 1979) (quoting *Quick v. Thurston*, 110 U.S. App. D.C. 169, 172-73, 290 F.2d 360, 363-64 (1961)). "There must be a basis in the record or in common experience to warrant the inference." *Quin*, 407 A.2d at 583.

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[7] Of course, this statement of the elements of proof assumes that the defendant owes the plaintiff a duty of care. "The foundation of modern negligence law is the existence of a duty owed by the defendant to the plaintiff. Negligence is a breach of duty; if there is no duty, there can be no breach, and hence no negligence." *N.O.L. v. District of Columbia*, 674 A.2d 498, 499 n.2 (D.C. 1996). *Accord*, *Youssef v. 3636 Corp*., 777 A.2d 787, 792 (D.C. 2001) ("[A] defendant is liable to a plaintiff for negligence only when the defendant owes the plaintiff some duty of care.") In a case like this, where a surgeon operates on a patient, there is no dispute that he owes her a duty of care.

"The 'purpose of expert testimony is to avoid jury findings based on mere conjecture or speculation.'" *Nwaneri v. Sandidge*, 931 A.2d 466, 470 (D.C. 2007) (quoting *Washington v. Washington Hospital Center*, 579 A.2d 177, 181 (D.C. 1990)). Thus, "[t]he sufficiency of the foundation for [expert] opinions should be measured with this purpose in mind." *Washington*, 579 A.2d at 181. "An expert witness opinion must be based on fact or adequate data. . . . While absolute certainty is not required, opinion evidence that is conjectural or speculative is not permitted." *Sponaugle v. Pre-Term, Inc.*, 411 A.2d 366, 367 (D.C. 1980). "Expert testimony may be excluded when the expert is unable to show a reliable basis for [his] theory." *Haidak v. Corso*, 841 A.2d 316, 327 (D.C. 2004).

A. The Standard of Care

Ms. Sherwood called Dr. Bruce Fellows, a vascular surgeon, as her expert witness. He had not examined Ms. Sherwood. Having reviewed medical records and deposition testimony, however, he opined "that some standard had been breached to cause that neurological dysfunction. . . . [I]t would appear that untoward events happened." At one point the doctor stated that "what [those events] were specifically is only a matter of conjecture." To be fair, however, he meant "I was not there. Nobody else in this courtroom was there." Figuring out what happened therefore was a matter of drawing inferences.

Dr. Fellows testified that he did not see how injury to the sciatic, obturator, or femoral nerves "could occur [during the surgery] other than with some kind of negligence."[8] He conceded, however, "that what was reflected in the operative report was within the standard of care." Although many details were not provided in the report, "whatever is embodied in that report is appropriate." In other words, Dr. Fellows agreed that "if you look at this operative report it would appear that the sympathectomy procedure which [Dr. Giordano] performed on April 29th met the appropriate standard of care . . . ."

Ms. Sherwood therefore assumed the burden of establishing, through direct or circumstantial evidence, that Dr. Giordano made mistakes not reflected in the medical records. Dr. Fellows identified three possible ways in which Dr. Giordano *might have* negligently injured the sciatic, obturator, or femoral nerves while performing the sympathectomy: (1) by local pulling or traction; (2) by devascularization (cutting off the

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[8] Plaintiff's counsel asked Dr. Fellows the key hypothetical question:

> Q . . . Assuming that there was no injury to the sciatic, obturator or femoral nerve prior to the sympathectomy, given that there is injury demonstrated following the sympathectomy, do you have an opinion to a reasonable degree of medical certainty as to whether or not the outcome of the injury to these nerves could have occurred in the absence of negligence by Dr. Giordano in the performance of the surgery?
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> A I don't see how. I don't see how it could occur other than with some kind of negligence.

blood supply to the nerves); or (3) by dissecting too far down into the area where the nerve trunks are located, either by coming into the back of the psoas muscle or by coming down along the *rami communicantes* structures[9] to the point where they attach to the nerve trunks.

Dr. Giordano asserts that Ms. Sherwood faltered at the outset – that she did not establish the standard of care. Although we agree that her expert approached this question in an atypical manner, we are not persuaded by this argument. Dr. Fellows did not set out to describe how a doctor would have performed the operation from start to finish while adhering to the standard of care. Rather, as summarized above, he stated three possible ways in which the nerves could have been injured during the surgery. According to his testimony, doing any or all of these three things would be a breach of the standard of care.

Dr. Fellows elaborated that when accessing the sympathetic chain, "you have to work your way through those [nerves and blood vessels] delicately and with deliberation" to avoid damaging them. He explained that if a surgeon gets "too far inside away from the ganglion," it could result in damage to the nerve trunks. Dr. Fellows indicated that "there would be no reason [for Dr. Giordano] to get down there." Under the circumstances of this case, and viewing this evidence in the light most favorable to Ms. Sherwood, the testimony we have

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[9] The *rami communicantes* are thin strands of nerve tissue that connect the sympathetic chain to the nerve trunks. Dr. Giordano described the *rami* as being "like angel hair pasta. That's what size they are. Very flimsy."

described was an adequate statement of the standard of care. *Cf. Snyder v. George Washington University*, 890 A.2d 237, 245 (D.C. 2006) (expert's testimony about standard of care was "not by any means a model of clarity," but, viewed in the light most favorable to the plaintiff, it was adequate); *Levy v. Schnabel Foundation Co*., 584 A.2d 1251, 1252, 1255 (D.C. 1991) (characterizing "the proof of the standard of care as rather unorthodox," but concluding that it "was sufficient, albeit barely so").[10]

B. Breach and Causation

The much more difficult question is whether the evidence allowed the jury reasonably to conclude that Dr. Giordano injured Ms. Sherwood by deviating from the standard of care. To meet these elements of proof, appellee primarily relies upon the testimony of Dr. Fellows, her expert witness, and upon some x-rays taken on the eve of trial.

1. The Expert Opinion

Dr. Fellows "inferred" (his term) that the surgery had caused Ms. Sherwood's neurological dysfunction, and he explained that certain missteps could have led to that result

[10] Dr. Fellows is board-certified in general surgery and vascular surgery, having taken nationally-administered examinations. He testified that he was familiar with the "standards of medical care in the performance of sympathectomies" and that those standards are "the same in Maryland and Delaware and Pennsylvania and Washington, D.C."

– if they in fact occurred. However, he agreed that, when performing a sympathectomy, "you don't even normally go in the area where the femoral or sciatic or obturator nerves are involved[.]" He also acknowledged that "there's no indication from the operative report that Dr. Giordano went into or came close to any of those areas . . . ."

Dr. Fellows also agreed that, if "Dr. Giordano did the operation exactly the way it was described in his operative report and did not go into the area by way of retraction or anything else, didn't come close to it . . . , the results of the EMG and the complaints by Ms. Sherwood would then have to be based logically on some other explanation." One would then have to look to other specialties, such as neurology, for an explanation. Dr. Fellows acknowledged that he "would have to defer to the opinions of a neurologist"; he did not hold himself out as an expert in the field of neurology. He agreed, moreover, that RSD "is a disease process, it's an insidious process that is not and never has been well understood by the medical profession[.]" Nevertheless, in his view, "[t]he disease state, RSD, did not cause the dysfunction identified on the EMG nerve conduction study."

Dr. Fellows' opinion was based upon his conclusion that, after surgery, Ms. Sherwood "had the new onset of a problem involving the nerves to her upper part of her leg that had not been defined prior to surgery. And I inferred that some standard had been breached to cause that neurological dysfunction." "But the expert may not base such an opinion merely on 'a

proximate temporal association' between a medical procedure and an injury." *Derzavis*, 766 A.2d at 522 (quoting *Lasley v. Georgetown University*, 688 A.2d 1381, 1387 (D.C. 1997)). "In a medically complicated case such as this, contemporaneity between a medical procedure and an injury is too weak a foundation upon which to infer causation." *Lasley*, 688 A.2d at 1387.

Moreover, it is far from clear that a new problem affecting Ms. Sherwood's upper leg arose *after*, let alone as a result of, the surgery. As mentioned above, a post-surgery EMG provided objective evidence that *something* had injured nerves affecting her upper leg. Dr. Fellows acknowledged, however, that the pre-surgery EMG/nerve conduction study "was directed primarily to the lower leg. It was not directed to the upper leg." See note 6, *supra*. "Now, that's a problem[,]" he admitted, "because everybody now is comparing a little bit apples to oranges . . . ." He resolved that problem in his own mind by making certain assumptions about "our personalities":

> We, in the medical field, have different personalities for each different specialty that we enter. The neurologists are the most careful people, do detailed exams and order more exams than most other specialists.
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> By inference if that neurologist who saw her did not order on that extremity examination in the upper leg, I have to feel 99 percent confident that either something that was there was so trivial that the specialist couldn't even identify it or it wasn't there at all.

This sort of pop-psychology does not come close to supporting Dr. Fellows' inference (or assumption – see note 8, *supra*) that the nerves were free of injury before the surgery. Indeed, there was a great deal of conflicting evidence on that question.

2. Inference Versus Speculation

Both at trial and on appeal, Ms. Sherwood's lawyer insisted that he was not relying on the doctrine of *res ipsa loquitur.* (The jury was not instructed on that legal theory.) Instead, he cites cases from Maryland for the proposition that expert witnesses may draw inferences from the facts. In *Meda v. Brown*, 569 A.2d 202 (Md. 1990), as here, the plaintiff did not rely upon the doctrine of *res ipsa loquitur*, and neither of her expert witnesses "could testify as to the precise act of negligence that caused injury to Mrs. Brown's ulnar nerve." *Id.* at 205. Nevertheless, the court held that "the testimony was sufficient to support the inferential conclusion of negligence drawn by the plaintiff's experts." *Id*. at 203. The Maryland Court of Appeals did not ignore the distinction between inference and speculation, however. It explained that the expert witnesses had relied "on a combination of direct and circumstantial evidence. The doctors recited in detail the physical facts they considered, and the medical facts they added to the equation to reach the conclusion they did. The facts had support in the record, and the reasoning employed was based upon logic rather than

speculation or conjecture." *Id.* at 207; *see also Tucker v. University Specialty Hospital*, 887 A.2d 74, 84 (Md. Ct. Spec. App. 2005) ("The expert testimony, which was based upon reasonable inferences drawn from the available evidence, was sufficient to establish that the hospital was not entitled to judgment in its favor as a matter of law.").[11]

"[T]he law does not require proof of negligence to a certainty," *Rich v. District of Columbia*, 410 A.2d 528, 532 (D.C. 1979) (reversing grant of judgment notwithstanding the verdict), and we do not quarrel with the proposition that experts, like juries, may draw appropriate inferences from the evidence. *See District of Columbia v. Zukerberg*, 880 A.2d 276, 282 (D.C. 2005) (plaintiff's evidence, including expert testimony, "supports a reasonable inference that the position of the fulcrum was the cause of Jacob's fall"); *Rich*, 410 A.2d at 533 ("Appellant need only have adduced evidence from which a jury reasonably could infer that one of the holes in the brick sidewalk was the cause of her fall."). But the

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[11] The distinction between inferential reasoning and the doctrine of *res ipsa loquitur* is elusive, and it is important to recognize a significant difference between Maryland law and the law of the District of Columbia. "[*R*]*es ipsa loquitur* – as recognized in Maryland – is simply not available in cases that are of such a complex nature that they require expert testimony." *Tucker v. University Specialty Hospital*, 887 A.2d 74, 80 (Md. Ct. Spec. App. 2005). In the District of Columbia, by contrast, we generally require the plaintiff to produce expert testimony to lay the foundation for invoking *res ipsa loquitur* in a medical malpractice case. *See Quin v. George Washington University*, 407 A.2d 580, 583 (D.C. 1979); *Harris v. Cafritz Memorial Hospital*, 364 A.2d 135, 137 (D.C. 1976) ("As a basis for invoking the doctrine of *res ipsa loquitur* in this type of situation, the plaintiff must at least present some expert opinion that the event will not usually occur if due care is used."). We need not sort out the nuances of these different approaches, but it appears the distinction is largely one of semantics.

expert's "opinion must be based on fact or adequate data[,]" *Sponaugle*, 411 A.2d at 367, and we see no reason to abandon our holdings that neither the jury nor an expert witness may rely upon speculation or conjecture. *See, e.g.*, *Majeska*, 812 A.2d at 950 (jury); *Washington*, 579 A.2d at 181 (expert); *see also Garby v. George Washington University Hospital*, 886 A.2d 510, 516 (D.C. 2005) (upholding grant of judgment as a matter of law; "Dr. Cavanaugh's testimony . . . failed to support an inference beyond conjecture . . . ."); *Gregory v. Greater Southeast Community Hospital Corp.*, 697 A.2d 1221, 1221 (D.C. 1997) (agreeing with trial court's conclusion that "the expert's opinion on causation lacked an adequate foundation as a matter of law [and] uphold[ing] the grant of a directed verdict in favor of the defendants"); *Talley v. Varma*, 689 A.2d 547, 553 (D.C. 1997) ("Taken as a whole, [the expert's] testimony did not establish the requisite degree of likelihood that any negligence by Varma caused Talley's injury."); *Twyman v. Johnson*, 655 A.2d 850, 853-54 (D.C. 1995) (expert "had no foundation on which to conclude that this defect actually caused the accident"; issue of causation properly taken from the jury "when a finding that defects in the stairs had substantially contributed to the accident would have rested upon surmise").

The soundness of the inference drawn by an expert witness must be measured against the legal standard for proving causation, and "[t]he 'more likely than not' standard is firmly embedded in our law." *Grant v. American National Red Cross*, 745 A.2d 316, 319 (D.C. 2000); *see Psychiatric Institute of Washington v. Allen*, 509 A.2d 619, 624 (D.C. 1986) ("The

expert need only state an opinion, based on a reasonable degree of medical certainty, that the defendant's negligence is more likely than anything else to have been the cause (or a cause) of the plaintiff's injuries."); *cf. Quin*, 407 A.2d at 585 ("When plaintiff relies on circumstantial evidence to establish causation as an element of res ipsa loquitur, the evidence must make plaintiff's theory reasonably probable, not merely possible, and more probable than any other theory based on the evidence.").

3. The Expert Opinion in Context

Because we are not permitted to weigh the evidence or to judge the credibility of the witnesses, we will not dwell at length on the medical evidence in Dr. Giordano's favor. Nevertheless, in this procedural context, we must "review all of the evidence in the record." *Reeves v. Sanderson Plumbing Products, Inc*., 530 U.S. 133, 150 (2000). Moreover, "[t]he opponent of the motion [for judgment as a matter of law] must be given the benefit of every reasonable inference from the evidence, but not inferences based on guess or speculation." *Furline v. Morrison*, 953 A.2d 344, 351 (D.C. 2008) (internal quotation marks, editing, and citations omitted). It thus is important to acknowledge that Dr. Fellows' inference of negligence was challenged by many witnesses.

For example, Dr. Frank Anderson, the only neurologist to testify at trial, had examined

Ms. Sherwood in addition to reviewing her medical records. In his expert opinion, "the ongoing problem of RSD was causing the changes long before the surgery." Furthermore, Ms. Sherwood "suffer[ed] an exacerbation of her reflex sympathetic dystrophy as a normal consequence of having surgery that was necessary to save her leg." He also concluded that she was "exaggerating her right leg problems." In his opinion, nothing in Dr. Giordano's surgical "technique, in his approach to doing the sympathectomy would have caused any injury . . . to her nerves, to her femoral, obturator, or sciatic nerve." Dr. Peter Moskovitz, Ms. Sherwood's treating orthopedic surgeon and the author of a book on RSD, opined that "there is no reasonable possibility" that Dr. Giordano had damaged the nerve roots. "You've got to literally dig through [the psoas] muscle to get to the somatic nerve. It doesn't happen." In his opinion, Ms. Sherwood's post-operative symptoms "were due to an exacerbation of her reflex sympathetic dystrophy."

There certainly was no direct evidence that Dr. Giordano committed any of the mistakes that Dr. Fellows hypothesized. Contrary to Ms. Sherwood's suggestion, the pathology report in no way supports a conclusion that Dr. Giordano had been operating on the "back side" of the psoas muscle. See note 3, *supra*. The small amount of blood loss, and the short duration of the procedure, indicated that this had been a standard, uncomplicated operation. When asked whether he had clipped the femoral or sciatic or obturator nerves, Dr. Giordano replied, "No. I didn't even see them in the operation." He testified that he had

no contact with the femoral, obturator, or sciatic nerves. Moreover, retraction would have had no impact on those nerves – "that's in the back. The retraction is in the front." See note 3, *supra*. In retrospect, Dr. Giordano thought that Ms. Sherwood "probably had, as I told her she could have, . . . a worsening of the RSD, and maybe the exacerbation that everybody has talked about after this kind of surgery."

4. The X-rays

This would be quite a different case if Dr. Fellows' opinion were supported by objective evidence that Dr. Giordano actually entered the area where the nerve roots are located. Attempting to demonstrate that this happened, Ms. Sherwood presented two x-rays taken on the eve of trial which, according to her counsel, showed a surgical clip "in the area where Dr. Giordano testified he never entered or operated during the sympathectomy surgery, *i.e.*, in the neuro-foramen or 'area of the spinal nerve roots.'" However, Ms. Sherwood did not present a radiologist to interpret those x-rays for the jury. (Dr. Fellows did not explain those x-rays in his testimony, nor did he rely upon them in forming his opinion.) Ironically, therefore, this aspect of Ms. Sherwood's case depends upon the testimony of Dr. Giordano.

Ms. Sherwood asserts that Dr. Giordano conceded that an object visible in one of the x-rays was a surgical clip. We think a fair reading of his testimony demonstrates that he did

not do so. But even if the jury might have thought that he made such a concession, Dr. Giordano did not testify that the object was in the forbidden area, and neither did anyone else.[12]

Initially, when asked, "Do you see a clip right here?" Dr. Giordano replied, "Yes." Later, however, he said, "I'm not even sure if that's a clip. . . . I don't see a clip. I don't see that as a clip . . . ." Ms. Sherwood's gloss on this exchange is that "[t]he recantation of Dr. Giordano's testimony that the object . . . was a clip, took place immediately after being shown an x-ray that likely would have guaranteed a finding of liability . . . if his initial testimony remained unchanged." According to appellee, the jury could have made a credibility assessment that "Dr. Giordano's initial testimony [that the object was a clip] [was] more credible than his later recantation."

Even if the jury properly could have concluded from this testimony that the object was a surgical clip, appellee has glossed over a more fundamental point. No one testified that the object was located in the neuro-foramen or the "nerve canal." Ms. Sherwood did not call a radiologist to interpret the x-rays, and the jurors were not competent to do so – neither are

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[12] Ms. Sherwood does not suggest that it was improper to leave clips of this type in her body after the surgery or that they caused her injuries. Rather, she argues that the location of the alleged clip demonstrates that Dr. Giordano had invaded the neuro-foramen despite his testimony to the contrary.

we. Without the aid of a radiologist, Ms. Sherwood's counsel sought to extract an admission from Dr. Giordano. Counsel asked, "Wouldn't that be . . . in the nerve roots area?" but Dr. Giordano replied, "No, I don't think so." He pointed out that the x-ray offered a lateral view "[a]nd when you're looking across, you can't say that's in the nerve canal. . . . [T]here's no nerve clipped in the canal. I wasn't anywhere near that." Counsel then showed him an x-ray taken from another point of view and asked, "Wouldn't that be, given the two views, in the canal?" Dr. Giordano replied, "No, no, no. It's not in the canal." "So I don't see a clip. I don't see that as a clip, but it certainly was not in the canal. . . . So there's no clip there as far as I can tell. There's no clip in the canal. I wasn't even close to the canal." Thus, the x-rays, and Dr. Giordano's testimony about them, fail to make up for the shortcomings in Dr. Fellows' testimony.

C. Dr. Giordano Is Entitled to Judgment as a Matter of Law

It often is difficult to discern, and it likely is impossible to define, the boundary that separates the realm of permissible inference from that of forbidden speculation. On this record, however, we conclude that Dr. Fellows relied on too much speculation and failed to heed our admonition that "an inference of negligence in a malpractice suit cannot be based solely on the fact that an adverse result follows treatment." *Quin*, 407 A.2d at 583. Furthermore, an "expert may not base [his] opinion [on the issue of causation] merely on a

proximate temporal association between a medical procedure and an injury." *Derzavis*, 766 A.2d at 522 (internal quotation marks and citation omitted). "In a medically complicated case such as this, contemporaneity between a medical procedure and an injury is too weak a foundation upon which to infer causation." *Lasley*, 688 A.2d at 1387. The x-rays and other medical evidence did not remove Ms. Sherwood's allegations from the realm of speculation and conjecture. Dr. Giordano therefore is entitled to judgment as a matter of law. *See Garby*, 886 A.2d at 512 (upholding grant of judgment as a matter of law; "[W]e agree with the trial judge that the evidence was insufficient to support a reasonable inference by a jury that the alleged negligence of the defendants proximately caused Mr. Garby's death."); *Derzavis*, 766 A.2d at 516 (upholding trial court decision setting aside verdict in plaintiff's favor and granting doctor judgment as a matter of law); *id.* at 521-22 (rejecting plaintiff's argument that "the jury could permissibly infer that her injury, because it was contemporaneous with the Pap smear, resulted from negligence on the part of Dr. Bepko").

IV. Conclusion

For the reasons summarized above, the judgment in favor of Ms. Sherwood is reversed, and this case is remanded to the Superior Court with instructions to enter judgment for Dr. Giordano.

So ordered.