

seizure free." Dr. Fogelson noted that Tracy was poorly coordinated and that he had marked disturbance with visual and motor function on the left side and that he exhibited violent temper outbursts.

{¶4} According to the medical testimony, the majority of epileptics have seizures only occasionally and these occasional seizures can be easily repressed with medication. Unfortunately, Tracy had intractable epilepsy and such seizures beget seizures. For many patients with intractable epilepsy, there is no treatment that will alleviate the condition. However, for others, surgical intervention may be used to eliminate or reduce the number or severity of the seizures. Because there is a zone of abnormal brain tissue that is involved in the seizure process, surgery does not eliminate the need for medication. It is probably not possible to remove all the neurons that may be abnormal. A person who has intractable epilepsy is a candidate to be evaluated for brain surgery.

{¶5} In December 1983, Dr. Rauh, a psychiatrist at Children's Hospital, diagnosed Tracy with mild to moderate depression with a severe seizure disorder. Tracy was doing very poorly in school receiving all Ds and one F on his grade card. Tracy was referred for psychiatric counseling. He was seen by Dr. Seligman who administered a number of neuropsychological tests as part of his initial psychiatric evaluation of Tracy. Tracy was described as frequently sad, moody, lazy and too attached to home. In 1984, an intelligence test determined that Tracy had a full scale IQ of 80.

The follow-up psychiatric conference focused on the wide discrepancy between the verbal and performance IQs. Tracy had never been able to work and had applied for disability benefits prior to surgery.

{¶6} Because Tracy's seizures increased in frequency and severity, and created problems with every aspect of his life, Tracy and his mother decided that Tracy would undergo evaluations regarding the possibility of epilepsy surgery at the University of Cincinnati Hospital (UCH). From June 5, 1989, until June 14, 1989, Tracy underwent a "Phase I" evaluation for epilepsy surgery at UCH. His epilepsy team included Michael Privitera, M.D., George Morris, M.D., Hwa-Shain Yeh, M.D., Edwin Barrett, Ph.D., and Diane Rigrish, Ph.D. Dr. Privitera, a board-certified neurologist with special training in epilepsy and electroencephalography (EEG), was Tracy's attending physician upon admission. Dr. Yeh, a board-certified neurosurgeon with training in epilepsy, was the neurosurgeon who was consulted during this admission. Dr. Yeh also had training in reading and interpreting EEGs. Neuropsychologists Dr. Edwin Barrett and Diane Rigrish were involved in the evaluation and recommendation as to Tracy's medical care. Dr. Barrett was Dr. Rigrish's supervisor.

{¶7} Dr. Privitera became Tracy's treating neurologist in March 1989. Prior to and during the Phase I evaluation, Dr. Privitera obtained Tracy's medical history and conducted physical examinations. He discussed with Tracy and his mother the ramifications of the seizures including the frequency, warnings, clinical symptoms, EEG and the fact that the seizures clustered. Dr. Privitera's working diagnosis was that Tracy had frontal lobe seizures. During Phase I evaluation, electrodes were placed on the surface of Tracy's scalp. Laboratory and radiological tests were conducted. Radiological tests included an MRI, psychometric or neuropsychological tests and video EEG that recorded Tracy's seizures.

{¶8} Dr. Privitera testified, and the court finds his testimony credible, that during Phase I, all the preliminary procedures that are typically performed were carried out on Tracy. This included neuropsychological testing, obtaining a history, video recording of the seizures, EEG recording during and between seizures, using both scalp and sphenoidal electrodes, and an MRI. Neuropsychological tests included the Minnesota Multiple Phase Inventory (MMPI) and the Wechesler Adult Intelligence (WAI). The MMPI was abnormal. The WAI established that Tracy had a full scale IQ of 98, a verbal IQ of 112, and a performance IQ of 81. The neuropsychological tests determined that Tracy had right hemisphere deficits and probably frontal lobe deficits. They found no evidence of left hemisphere dysfunction.

{¶9} All the data was collected, analyzed and discussed at an epilepsy conference on June 13, 1989. Drs. Yeh, Privitera and Morris were among the attendees at that conference. All attendees were of the opinion that there was sufficient information to justify proceeding to Phase II, the implantation of electrodes. Dr. Privitera's assessment was that Tracy's seizures probably originated in the right frontal lobe. Dr. Privitera and Dr. Yeh discussed the placement of intracranial electrodes. Dr. Privitera recommended the placement of a set of electrodes on the left temporal lobe, at Dr. Yeh's option.

{¶10} After Phase I, Dr. Yeh met Tracy for the first time and discussed with him the option of proceeding to Phase II (implanting intracranial electrodes inside Tracy's skull and directly on the brain). Dr. Yeh was the attending physician for this admission.

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{¶11} On September 11, 1989, Dr. Yeh implanted intracranial electrodes inside Tracy's skull and directly on the brain. He followed Dr. Privitera's recommendations regarding electrode placement except that he chose not to place an electrode strip on the left temporal lobe. Dr. Yeh testified that there was no evidence of temporal lobe seizures to justify the placement of electrodes on the left temporal lobe. After the implantation procedure, Tracy was again admitted to the epilepsy monitoring unit where his seizures were recorded on video EEG and by both ictal and interictal EEGs. Dr. Morris was responsible for reviewing and analyzing the video and EEG in Phase II. He had completed his fellowship on June 30, 1989, and was the consulting neurologist.

{¶12} On September 18, 1989, after Phase II was completed, a conference was held by all members of the epilepsy team. In that conference, everyone opined that there was a "focus" localized in the right frontal lobe that was surgically resectable. The conference was composed of all members of the different subspecialties. Dr. Privitera and Dr. Yeh testified that after receiving all the information from the conference, the decision whether and how to proceed with the surgery was the responsibility of the surgeon.

{¶13} On September 21, 1989, Dr. Yeh performed a right anterior, intermediate and orbitofrontal corticectomy and partial anterior corpus callosotomy. The triangular section of brain tissue that was removed, designated as the frontal cortex, was sent to surgical pathology for analysis. The analysis revealed a "definite astrocytic gliosis," which is a special type of scarring that occurs in the brain in response to earlier injury. Tracy's immediate post-operative course was unremarkable and he was discharged on September 28, 1989, on anticonvulsant medication.

{¶14}After epilepsy surgery, the patient must continue to take therapeutic doses of several anticonvulsant medications for at least two years. If a patient has epilepsy surgery and is noncompliant such that the medication levels are sub-therapeutic, determining whether the surgery was successful is difficult. Surgery is designed to eliminate the predominate area of the epileptogenic tissue when possible or to confine the spread of electrical discharges so the seizures do not become generalized with alterations of consciousness and muscle tone. The goal of such surgery is to try to accomplish "good improvement." "Good improvement" may include total elimination of seizures or fewer and less severe seizures. The success rate for right frontal lobe epilepsy surgery is 50 to 60% for obtaining good improvement.

{¶15}After Tracy was discharged from the hospital on September 28, 1989, he was under the care of Dr. Privitera and Dr. Yeh. Although Tracy experienced the immediate effect of frontal lobe surgery and a partial corpus callosotomy, he remained seizure-free until January 1, 1990. He continued to be treated by Dr. Privitera until September 1990. During this period of time, the frequency of Tracy's seizures varied and Dr. Privitera prescribed various medications to achieve better control of the seizures. Also, from January 1990 until September 1990, Tracy received psychological counseling from Dr. Diane Rigrish. Dr. Rigrish made notes on Tracy's chart regarding each conference. Her note of April 19, 1990, states in part: "Admitted to being noncompliant with his medication due to 1) feels he should have no further need for meds since surgery; 2) lack of trust in medication; 3) feeling rebellious due to recurrence of sz[seizures], i.e. trying to control situation by not taking meds which gives him a false sense of control." Her May 9, 1990, notes state that Tracy "admitted to

thinking in extremes because to do otherwise would be boring." Additionally, blood drawn from Tracy during this period demonstrated sub-therapeutic levels of anticonvulsant medications.

{¶16}By October 1990, Tracy was no longer being treated by Dr. Privitera. Thereafter, other physicians prescribed various anticonvulsant medications to control his seizures. Unfortunately, many of these new medications caused severe adverse reactions.

{¶17}The medical records and testimony in this case establish that Tracy had multiple neuropsychological evaluations after his surgery. Tracy had neuropsychological testing in January 1990 by Diane Rigrish, Ph.D.; in May 1990 by Thomas E. McCann, Ed.D.; in September 1991 by Michael Harting, Ph.D., and in February 1993 by Michael Howard, Ph.D. Neuropsychological tests assess the capacity of the brain to function.

{¶18}Three months after Dr. Howard's testing, Tracy was admitted to the Cleveland Clinic from May 23, 1993, until May 30, 1993, where he underwent video EEG monitoring with scalp electrodes. During this examination, two seizures were recorded. The first seizure started in the right hemisphere. The second seizure had a different clinical manifestation and had its onset in the left frontal-central region. There is nothing in the Cleveland Clinic record that documents seizure activity originating in the left temporal lobe.

{¶19}To establish a claim of medical malpractice, plaintiff must show the existence of a standard of care within the medical community, breach of that standard of care by defendant, and proximate cause between the medical negligence and the injury sustained. *Taylor v. McCullough-Hyde Mem. Hosp.* (1996), 116 Ohio App.3d 595; citing *Bruni v. Tatsumi* (1976), 46 Ohio St.2d 127. These elements must be established by expert testimony unless the

negligent conduct is so apparent as to be within the comprehension of laymen and requires only common knowledge and experience to understand and judge it. *Bruni*, supra, at 130.

{¶20}Plaintiffs presented expert testimony from three witnesses, namely, John Gates, M.D., Michael Howard, M.D. and Hwa-shain Yeh, M.D.

{¶21}Dr. Gates is board-certified in neurology and clinical neurophysiology. He is employed by the Minnesota Epilepsy Group, which is a group of physicians who specialize in the care and treatment of epilepsy. He agrees that the basic issue in the evaluation of patients for epilepsy surgery is to determine if the patient is medically intractable. He agrees with the team approach for the evaluation of a patient for epilepsy. In his opinion, it is the responsibility of the clinical neurophysiologist to give the surgeon a clear indication as to whether a patient is a resective candidate or not. The final resective line is often negotiated based upon the surgeon's concern about approaching the area or vascular supply. He also testified that determining the area of epileptogenic onset, where the surgeon starts, is the job of the clinical neurologist.

{¶22}Dr. Gates' opinion is that Dr. Privitera's Phase I conclusion was correct. However, Dr. Gates opined that the placement of electrodes during Phase II did not give sufficient electrode sentinel placement to determine whether Tracy was a resective candidate because Dr. Yeh did not place an electrode strip on the left temporal lobe. Dr. Gates opined that placement of electrodes on the left temporal lobe would have revealed that Tracy was not a good candidate for surgery. According to Dr. Gates, the decision to perform surgery was therefore not appropriate.

{¶23}Dr. Gates testified that in evaluating a patient for epilepsy surgery all of the information has to be taken into account including the neuropsychological testing, the EEG, and the clinical presentation during the seizure, which is also called the ictal semiology. Everything is evaluated in context. It is within the standard of care to look at all the factors to weigh every one to see if each fits or if each does not fit. In evaluating a patient for surgery, the physician looks for convergence of the information. The protocols that have been established are guidelines, but the standard of care requires that each factor has to be individualized for the patient and the physician uses his clinical judgment.

{¶24}Different parts of the brain do different things. The purpose of neuropsychological testing is to define an area of functional abnormality to correlate with the area of seizure onset. The neuropsychological testing assesses a number of different abilities such as verbal memory, visual memory, verbal abilities, foresight, judgment, planning, construction ability and the ability to solve various problems that are multi-stepped. One of the benefits of neuropsychological testing is that it establishes the pre-surgical baseline of the person's abilities.

{¶25}Dr. Gates also testified it would not be unusual to have deficits four months after surgery and that frontal lobe syndrome can be caused by medication. Furthermore, he testified that patients would have no problem from partial corpus callosotomies that are limited to the anterior two-thirds.

{¶26}The primary thrust of Dr. Gates' testimony is that Dr. Yeh performed the surgery without sufficient information regarding the focus of Tracy's intractable epilepsy. Dr. Gates therefore opines that the entire team was negligent including Dr. Privitera and Dr.

Morris because the possibility of Tracy being multi-focal was not ruled out in Phase II. Dr. Gates is aware of the fact that a federal jury returned a \$4,500,000 verdict against Dr. Yeh and in favor of plaintiffs. In a prior deposition, Dr. Gates stated that Drs. Privitera and Morris did not deviate from the standard of care. He acknowledged that after Dr. Yeh received the opinions of the multi-disciplinary team members, Dr. Yeh made the decision to proceed with the surgery and to personally obtain Tracy's consent.

{¶27} Plaintiff called Michael Howard, Ph.D. as an expert witness. He has been board-certified by the American Board of Professional Neuropsychology since 1987. Neuropsychology is a subspecialty of clinical psychology responsible for the development of a series of various tests designed to measure the relationship between brain function and performance.

{¶28} Dr. Howard personally evaluated Tracy at the Rehabilitation Institute of New Orleans in February 1993. On April 8, 1993, Dr. Howard authored a 29 page neuropsychological evaluation report. He also wrote a "to whom it may concern" note in 1998 summarizing the opinions he had in 1993. At trial, he testified that these opinions about Tracy's deficits have not changed. However, he did explain that after receiving more information concerning Tracy's pre-injury functioning and his other post-injury neuropsychological evaluations that he then believed his initial interpretation of Tracy's test scores was probably wrong.

{¶29} Plaintiffs claim that Dr. Howard surprisingly changed his testimony after testifying on their behalf in the federal trial. However, the additional information defendant called to Dr. Howard's attention in the case sub judice was always available to plaintiffs.

{¶30}Dr. Howard testified:

{¶31}"He does have documented injury to the right frontal lobe of the brain all over his MRI. It's very obvious. Some of the deficits he showed are very consistent with that. Information I've got since then showed he had a pattern of deficits similar to that before he had the surgery. So, yes, they are consistent with that right frontal-lobe injury.

{¶32}"The caveat is that he did have a pattern that was reasonably similar to that before he was hurt, which may indicate he had right frontal-lobe injury or right hemisphere injury, long term, before the onset of the surgery. The testing scores were reasonably similar."

{¶33}Plaintiff also called Dr. Yeh as a witness. He testified that he was trained in epilepsy surgery at Montreal Neurologic Institute (MNI). He read and interpreted EEGs while at MNI, but he acknowledged that it is a neurologist who is specially trained to read the EEG and to provide the official interpretation.

{¶34}Dr. Yeh testified that after a team conference is held and everyone gives their opinions as to whether to proceed with surgery, the surgeon makes the final decision whether to proceed with surgery and to obtain the informed consent of the patient.

{¶35}Defendant called two expert witnesses, namely, Dr. Frank Sharbrough and Ilo Leppik, M.D.

{¶36}Dr. Sharbrough is board-certified in EEG and neurology. He joined the faculty at The Mayo Clinic in 1968 and has been a professor of neurology since 1985. Prior to January 1, 2002, he spent at least 50% of his time in the active practice of medicine. He has evaluated between eight hundred and one thousand patients for epilepsy surgery.

{¶37}Dr. Sharbrough reviewed all the medical records in Joint Exhibit 1, the video EEG, and all the ictal and interictal EEG tracings from Phase I and Phase II. He testified that the standard of care does not require the placement of either F3 and F4 electrodes in Phase I or for the neurologist to be present in the operating room when the intracranial electrodes are placed. He opined that there were no deviations from the standard of care by either Dr. Privitera or Dr. Morris and that nothing these doctors did or did not do caused any injury to Tracy. He testified that a surgeon cannot place electrodes over all portions of the brain. Clinically he found no evidence that Tracy had temporal lobe epilepsy in 1989 because all the seizures originated from the right side.

{¶38}Dr. Sharbrough also testified that a major gap between Tracy's verbal and performance IQ was noted as early as 1983. Therefore, Tracy had a significant problem in the right hemisphere a long time before his treatment at the University of Cincinnati. Dr. Sharbrough testified that based upon Tracy's 1983 neuropsychological test results, Tracy had returned to baseline by May 1990; that the September 1991 tests established that Tracy was still at his baseline. Dr. Sharbrough opined that after leaving Dr. Privitera's medical care, Tracy was adversely affected by his medications and medications were a major causative factor of his behavior problems, emotional outbursts and performance on the neuropsychological tests which were administered in February 1993 at the New Orleans Rehabilitation Institute.

{¶39}Dr. Sharbrough testified that the success rate for epilepsy surgery varies considerably. According to Sharbrough, it was not a violation of the standard of care in 1989 for Dr. Yeh to tell Tracy or Tracy's mother that there was a 60% chance of good

improvement. Dr. Sharbrough testified, "I couldn't conceive of any way in which the surgeon would not obtain their own informed consent. I couldn't see that happening."

{¶40}Dr. Ilo E. Leppik, M.D. is a neurologist who has been board-certified in neurology and clinical neuropsychology since the 1970s. He reviewed all the medical records in Joint Exhibit 1 and the video EEGs. He opined that Drs. Privitera and Morris met the standard of care by correctly identifying the right frontal lobe as the origin of Tracy's seizures; that a regional onset is an appropriate indication for performing frontal lobe surgery.

{¶41}Dr. Leppik testified:

{¶42}"Q. Do neuropsychological tests measure the capacity of the brain to function?

{¶43}"A. Yes, they do. And the most value - and the reason we do psychological tests and why they're so important in disability evaluations, et cetera, is that what the neuropsychological test battery does it tells you what the brain is capable of.

{¶44}"***

{¶45}"A. I think it was quite interesting that the preoperative neuropsychological test results were quite impressive, to me, because he showed that 30-plus point split, favoring the left side.

{¶46}"***

{¶47}"So that was impressive and led me to believe that, indeed, this is a right-sided epileptogenic area, because the damage is there. The ability to do those things that side of the brain should normally do weren't being done well."

{¶48}Dr. Leppik also testified that the significance of Tracy's returning to baseline is that it illustrates the fact that Tracy already had right frontal deficits prior to surgery; that the

removal of part of the brain did not damage any of the other areas of the brain that were working normally before the surgery; and, that those areas continued to work after surgery.

{¶49}Dr. Leppik also testified:

{¶50}"Q. Doctor, if a neurologist recommends that there be bilateral placement over the frontal area and the temporal area and the surgeon chooses not to place electrodes over the left temporal area, whose decision is that?

{¶51}"A. That's really the neurosurgeon's decision. He is in the operating room. He's seeing what the brain is doing. And the very first rule is do no harm to the patient. ***"

{¶52}Dr. Leppik testified that any person with intractable epilepsy should at least go through Phase I to see if he or she is a possible candidate for surgery. He opined that Tracy improved after the surgery because he had been experiencing an average of two or three generalized tonic-clonic seizures prior to surgery and that, after surgery, Tracy had no generalized tonic-clonic seizures until January 1, and that he admitted he was not taking his prescribed medication. Furthermore, he opined that the surgery may have acted like an emergency brake to stop the downhill course in September, but it was not powerful enough to block the onset of seizures triggered by other areas of the brain that had been previously damaged.

{¶53}Dr. Privitera testified that at the end of Phase II he felt that there was regional seizure onset in the right frontal lobe in an area that was safe to resect and that is the criteria used to determine whether or not to proceed with surgery. Dr. Privitera testified that the decision whether to proceed with the surgery is made by the surgeon. He testified that he provided

background information but he did not obtain the patient's informed consent because he was not the surgeon. Furthermore, Dr. Privitera quoted his testimony from the federal case wherein he testified that the ultimate responsibility before the cut is made rests with Dr. Yeh.

{¶54} Dr. Morris testified:

{¶55} "Q. Now, you watched the videotape of - of Dr. Gates' deposition here in the courtroom today, correct?"

{¶56} "A. Correct."

{¶57} "Q. And you heard Dr. Gates testify that you had indicated in your report that the focus was not identified: therefore, surgery should not be performed in this case. Do you recall that testimony?"

{¶58} "A. Correct."

{¶59} "Q. Is that your testimony to this court, based upon your evaluation - based upon your report?"

{¶60} "A. As I said earlier, and I would say over and over again, my report has been misrepresented many times, and that this patient's seizures began regionally over the right frontal lobe and that a surgical intervention, based upon that, was, I think, very successful - would have been very successful done by Dr. Yeh. And I think there were mitigating factors that may have limited its success, including some of the things that happened after the surgery. But - that I think that the location of his seizures was accurately identified by the video monitoring."

{¶61} Dr. Yeh testified that he takes the information from the multi-disciplinary epilepsy team and then decides what to do. Because he is the surgeon, he is responsible for obtaining Tracy's informed consent. He testified that he did obtain Tracy's

informed consent on September 21, 1989, before the epilepsy surgery. Based upon Dr. Yeh's testimony, the court finds that the surgeon was solely responsible to obtain the informed consent of Tracy and to explain the benefits and risks of the surgery to the patient before obtaining the patient's informed consent.

{¶62}After considering all the evidence, exhibits, and evaluating the credibility of all the witnesses, including the expert witnesses, the court finds that plaintiffs have failed to prove, by a preponderance of the evidence, either their claim for medical negligence or their claim in tort based on a lack of informed consent.

FRED J. SHOEMAKER
Judge

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