Failure to Monitor Oxygen Level During Surgery Results in Permanent Blindness

Mary and John Smith (not their real names) enjoyed a quiet life in Florida. John had retired from his work at a service organization, and Mary was continuing her work as an associate pastor at her church, a job that was truly a labor of love. Together, over 35 years of a happy marriage, they had raised three children who were now adults getting married, having children, and doing well themselves. The Smiths were an exemplary, humble couple who looked forward to enjoying the rest of their lives together.

In June 2003, Mary was admitted to X Medical Center for elective back surgery. It was an ordinary, scheduled procedure that was expected to take three to five hours. Instead, it took 11 hours, two to three times as long as planned. When Mary woke up from the surgery, she was totally and permanently blind. No treatment could give Mary her vision back. She will never see again.

For the first seven hours of surgery, Mary's anesthesia care was handled by an unlicensed, unsupervised provider undergoing on-the-job training. He failed to perform or monitor any of the tests that would have revealed the inadequate blood pressure and anemia.

The defendants' negligence caused posterior ischemic optic neuropathy (PION) – the death of the optic nerve due to poor blood and oxygen delivery – which blinded Mary. PION has been known in medicine for many, many years. In fact, by the 1990's, blindness resulting from spine surgery had become such a problem that the American Society of Anesthesiologists began a database to track patients who had become blind while having non-eye surgery. The vast majority of the cases of blindness occurred after lengthy spinal surgery.

Many factors work together to cause PION. Blood loss during surgery causes anemia, a reduction in the red blood cells that carry oxygen to the optic nerve. Thus, anemia results in less oxygen delivery to the optic nerve during surgery. In many surgeries, including spine surgery, the surgical team lowers the patient's blood pressure during surgery. Lowering the patient's blood pressure too far – failing to maintain a safe and acceptable level of blood pressure – results in a low blood flow to the optic nerve. Combining low blood pressure and anemia (low blood flow and decreased oxygen-carrying capacity in the blood) results in a lack of oxygen delivery to the optic nerve. If the optic nerve does not receive an adequate amount of oxygen for long enough, the optic nerve dies. Leaving a patient in the face-down position for a long time results in swelling of facial and orbital tissue. The increased tissue pressure in, around, and behind the eyes restricts blood flow to the optic nerve. Coupling long operating time with anemia and low blood pressure places the optic nerve at risk for PION. For this reason, the most prevalent factor in ischemic optic neuropathy is a long operating time, where the patient is subjected to a face-down, prone position for long periods of time, with the blood pressure lowered and a decreased red blood cell count.

The human body has an incredible ability to overcome ischemic insults that occur naturally or even when caused by medical care. But when Mary Smith was subjected to 11 hours of these insults with few, if any, efforts on the part of medical personnel to avoid or minimize her body's distress, the result was total blindness.

There was no question or dispute in this case that Mary suffered a lack of blood and oxygen flow to her optic nerves during her 11-hour ordeal. The real dispute in the case was whether Mary's blindness could have been prevented, because the defendants claimed that the cause of PION is a "mystery."

It was clear, however, that the choices made by Mary's health care providers while she was unconscious caused Mary's PION. During the back surgery, X Medical Center personnel chose to maintain Mary's blood pressure 27% - 30% below her normal blood pressure, and allowed her blood pressure to drop 34% below her normal blood pressure for extended periods of time. The X Medical Center personnel chose to obtain just one arterial blood gas during the entire surgery, which showed that Mary was acidotic – another sign of inadequate oxygen delivery. Her health care providers chose not to correct it. X Medical Center personnel also chose to ignore Mary's decreased urine output during the lengthy surgery – another sign of inadequate oxygen delivery. Her health care providers chose not to correct it. Eight hours into the surgery, medical personnel obtained the first and only hematocrit test on Mary to measure the percentage of red cells in Mary's

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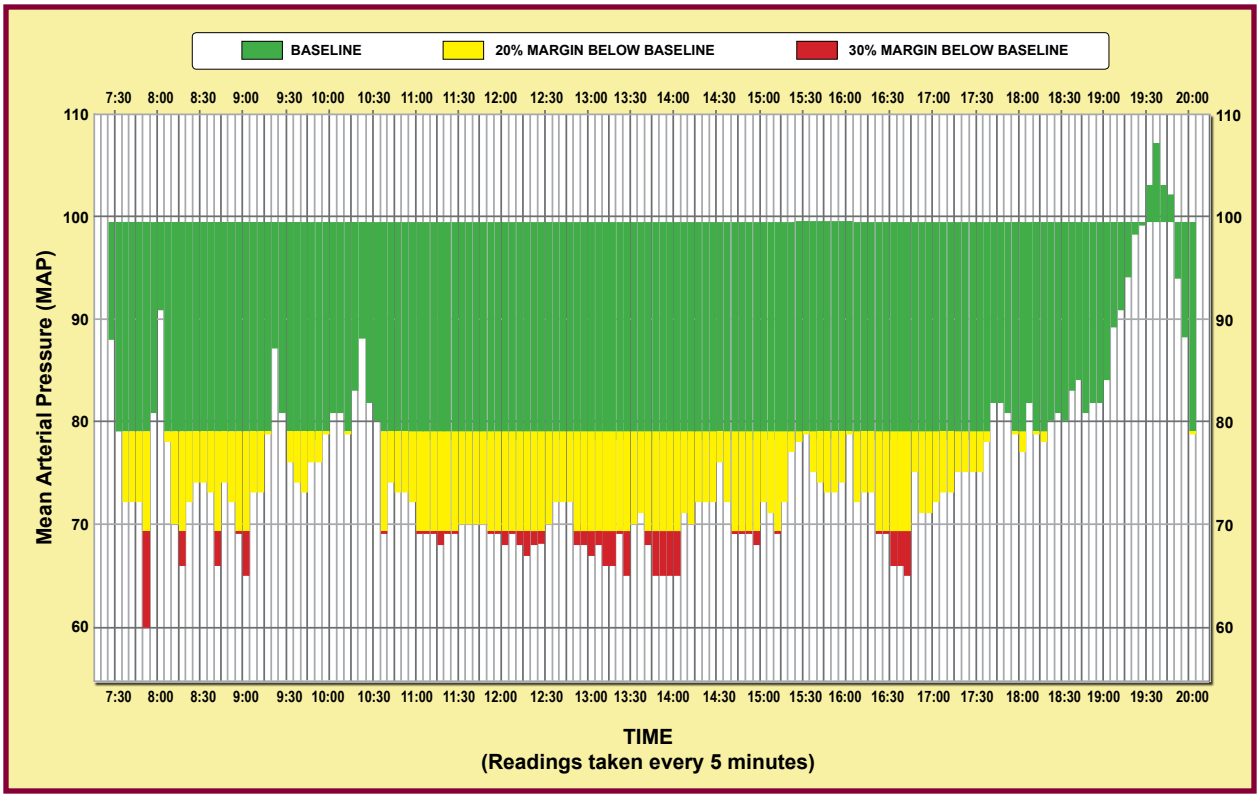

blood – an indicator of whether the blood has sufficient oxygen-carrying capacity. This test indicated profound anemia, an inadequate oxygen-carrying capacity. Mary's health care providers chose not to correct it. Finally, X Medical Center personnel grossly underestimated Mary's blood loss during the surgery, and failed to transfuse additional blood to replace what she had lost.

Departures from the standards of medical care were both institutional and individual in nature. X Medical Center allowed a revolving door of five different anesthesia care providers to treat Mary during the surgery, such that the only continuity of care was the continuity of substandard care. For the first seven hours of surgery, Mary's anesthesia care was handled by an unlicensed, unsupervised provider undergoing on-the-job training. He failed to perform or monitor any of the tests that would have revealed the inadequate blood pressure and anemia. He did not know what conditions to look for, how to look for them, or even why he should be looking for them.

Mary's back surgeon could not provide any credible explanation why a three to five hour surgery took 11 hours. He indicated that Mary had significant "scarring" in her spine, but Mary had never undergone spinal surgery before or had any kind of back trauma in her life. There was no scarring, and the preoperative radiology studies

(Above: Mean Arterial Pressure chart.) Health care providers kept her blood pressure dangerously low (yellow and red) during the lengthy back surgery, which resulted in permanent total blindness.

proved it. Adding insult to injury, even after more than four years had passed since Mary was blinded during the scheduled back surgery, none of Mary's health care providers had ever reported Mary's case to medical literature, or even to the American Society of Anesthesia's database that was created specifically for cases like Mary's. Instead, they chose to do nothing and to pretend it never happened.

The Smiths, however, could not pretend it had never happened. Mary and John sought representation from SDSBS attorneys **Chris Searcy**, **Jim Gustafson**, and Howard Coker, an outside attorney. A negligence claim was filed against the medical center and the medical personnel involved in Mary's surgery. Just before trial, the case was settled for a confidential amount. ■

Total and permanent blindness was caused by the failure of medical personnel to monitor the patient's blood pressure, blood oxygen, and other vital signs during an 11 hour surgery that ordinarily takes three to five hours. No explanation was ever given for the departure from ordinary standards of care.