Med League

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Medical Legal News

A free newsletter from Patricia Iyer, MSN RN LNCC
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Who we are...

Since 1989, Med League Support Services, Inc. has aided attorneys in 38 states. We perform these services:

- Analyze medical records
- Develop case chronologies
- Screen malpractice cases for merit
- Prepare PowerPoint presentations for settlement negotiations or trial
- Locate nursing & physician experts
- Prepare pain and suffering reports
- Transcribe handwriting
- Prepare life care plans
- Assist with demonstrative evidence
- Prepare medical illustrations
- Assist with preparation of demand letters and settlement brochures

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High Spinal Cord Injury: Respiratory Russian Roulette

by Patricia Iyer

Sooner or later, a personal injury attorney with a substantial practice will be asked to handle the case of a patient who suffered a spinal cord injury. A high spinal cord injury refers to an injury to the spinal cord at a level of C4 or higher. Spinal cord injury most commonly occurs during a motor vehicle crash, but also can result from a fall, gunshot wound, or sports accident. These are devastating, costly injuries that affect all aspects of the person's health and well-being.

Careful handling of the injured person may avert some spinal cord injuries - fracture of the vertebral bodies does not necessarily injure the spinal cord. However, profound injury is caused by shattered vertebral bodies, which push fragments of bone into the cord or a bullet that severs the cord.

The muscles that control breathing are paralyzed when a spinal cord injury occurs at the level of C4 or higher - the diaphragm, the muscles between the ribs, and the abdominal muscles are all affected. Significant injury to the cord can cause the victim to stop breathing shortly after the accident. Some paralyzed individuals who stop breathing at the scene of the accident are resuscitated in time. If their crisis is quickly identified, artificial breaths given with an Ambu bag can sustain them until they reach a hospital at which time they can be attached to a ventilator.

A spinal cord injury is a medical emergency- the time between the injury and treatment is a critical factor affecting the eventual outcome of the patient. Steroids may be used to reduce swelling in the cord, although there is inconclusive evidence that they are of benefit. The Miami Project at University of Miami promotes the idea of cooling the body to 32° to 34° centigrade for 20-24 hours after the injury slows down inflammation and decreases cell damage. [1] Surgical treatment for acute spinal cord compression is warranted if the patient has an increasing neurological deficit. The source of the material pressing on the cord must be located and removed. The timing of the surgical intervention is determined by a neurosurgeon who takes into account the level of the injury and the type - incomplete or complete. An incomplete neurological deficit is one in which some neurologic function exists more than three segments below the level of the injury. This patient has a good prognosis for at least some functional motor recovery. A complete injury is marked by no motor or sensory function existing more than three segments below the injury level. Most authors agree that in

the presence of a progressive neurological deficit, emergency decompression is indicated. Some authors advocate delaying surgery for several days to allow resolution of cord edema in patients with complete spinal cord injuries or stable incomplete spinal cord injuries. Others argue that early surgical stabilization should occur. There is no conclusive evidence that early surgery improves outcome. 2

When a neurological deficit is associated with spinal cord injury, the overall survival rate for all levels of injury is 86% at 10 years. The survival rate drops off for patients injured after age 29 to about 50% at 10 years. Pneumonia is the leading cause of death of patients older than 55 years, nonwhites, and quadriplegics. 3

Since most high spinal cord injured patients will never be able to permanently breathe on their own, prevention of pneumonia is key. In 2004, ventilator associated pneumonia (VAP) used to affect about 5% of patients in hospitals, but the incidence has been decreasing now that VAP is in the patient safety spotlight right now. It kills 20% to 70% of affected patients. 4 VAP is diagnosed when these criteria are in place: the patient was on the ventilator for greater than 48 hours and exhibited 3 of these 5 symptoms: fever, increase in white blood cell count, change in sputum (color or amount), chest x-ray findings of new infiltrates, and worsening oxygen requirements. 5

The Institute for Healthcare Improvement included VAP as one of the 6 patient safety issues in its initial 100,000 Lives Campaign. The Centers for Medicare and Medicaid Services is considering denying payment for VAP that develops in hospitals in 2009. VAP is now judged to be a primarily preventable infection, if specific elements of care are delivered. Several proven strategies reduce the incidence of VAP. Some hospitals have been able to eliminate it from their facilities for two or more years. See box.

Clearly, all of these strategies, except the focus on getting the patient off the ventilator as quickly as possible, are likely to be highly successful in preventing VAP in high spinal cord injured patients.

The effects of frequent VAP include the development of antibiotic-resistant organisms, lung scarring, and the risk of death.

Because high spinal cord injury can so massively affect the ability to breathe, it can create deep anxiety and fear. The treatment that is needed for patients to survive also contributes to their pain and suffering. Families and caregivers also experience this stress. Early in the injury, the vigilance of the treatment team must be non-stop to ensure the survival of the patient. As time goes on, this never-ending vigilance must be continued by the family and caregivers. 6

In the last two months, I have been asked to summarize the pain and suffering of three high spinal cord injured patients, all of whom were injured in motor vehicle accidents. Their ages at the time of the injury: 2-years-old, 18-years-old and 84-years-old. All three had episodes of VAP. Amazingly, the two-year-old was able to be completely weaned from the ventilator several years after her injury. The 18-year-old died from VAP, and the 84-year-old contracted VAP but died from unrelated respiratory disease.

Although the work on these files was performed to explain pain and suffering, we also provide medical summaries, timelines and chronologies. Call us to discuss your needs.

Prevention of VAP

Elevate the head of the bed to 30-45 degrees
Provide frequent mouth care every 2-4 hours
Wash hands diligently
Prevent blood clots in the legs
Prevent stomach ulcers
Stop sedation every day to evaluate the ability to extubate

1. www.jems.com/news_and_Articles/The_Cold_Truth_about_Spinal_Injury.html
2 “Thoracic and lumbosacral fractures”, in Canale: Campbell’s Operative Orthopaedics, 10th Ed, 2003, Mosby
3. Rubenstein, L. and Josephson, K, “Falls and their prevention in elderly people: what does the evidence show?” Medical Clinics of No. America, 90 (5) September 2006
4. www.ihi.org/IHI/Programs/Campaign
5. http://www.ihi.org/IHI/Topics/CriticalCare/IntensiveCare/Literature/TexasHospitalsReduceVAP.htm
6. Fried, G. and Fried, K. “Spinal cord injury”, in Patricia Iyer (Editor) Medical Legal Aspects of Pain and Suffering, Lawyers and Judges Publishing Company, 2003