

Personal injury articles that have appeared in past issues of *Privileged Communications*, a quarterly LNC-to-Attorney newsletter.

Understanding Burns

Burn injuries can occur in medical malpractice, personal injury and products liability cases, so we thought it is important for attorneys to understand more about burns and burn care.



Classification

Burns are described as 1st degree, 2nd degree or 3rd degree. First-degree burns are the most superficial. They affect only the top layer of skin (epidermis). Second-degree burns extend into the middle layer of skin (dermis). Third-degree burns involve all three layers of skin (epidermis, dermis, and fat layer), usually destroying the sweat glands, hair follicles, and nerve endings as well.

Burns are further classified as minor, moderate or severe. The severity determines how they are predicted to heal and whether complications are likely. Doctors determine the severity of the burn by estimating the percentage of the body surface that has been burned. Special diagrams are used to show what percentage of the body surface is compromised.

All first-degree burns as well as second-degree burns that involve less than about 10% of the body surface usually are classified as minor. A third-degree burn may be classified as minor if it involves less than 5% of the body surface, unless it involves the face, hands, feet, or genitals. Burns involving these areas or involving deeper layers of skin over larger areas of the body are classified as moderate or, more often, as severe. These types of burns require a burn center consult or referral.

Symptoms

First degree burns are red, moist, swollen, and painful. The burned area whitens (blanches) when lightly touched but does not develop blisters.

Second degree burns are red, tender, swollen and have fluid filled blisters. The redness is a good sign because it means that there is still some blood supply to the tissues. White tissue is seen in 3rd degree burns because the blood vessels have been seared shut. This will lead to tissue death. Third degree burns can also appear as charred or charcoal grey, tough and/or leathery. There is no sensation in a third degree burn but the outside of the burn will be a 2nd degree burn and therefore very painful.

Burns are progressive in nature and for this reason require follow up within 24-72 hours to reevaluate.

Effects of Burn Injury

When a moderate to severe burn occurs there is increased permeability of blood vessels (fluid leaking out into third space), causing swelling and a decrease in circulating blood volume, leading to dehydration and hypovolemic shock, decreased perfusion to vital organs, increased peripheral vascular resistance, decreased cardiac output and a falsely elevated hematocrit. Because of this, burn patients require massive amounts of IV fluids.

Other Complications

Destruction of muscle tissue (rhabdomyolysis) occurs in deep third-degree burns. The muscle tissue releases myoglobin, one of the muscle's proteins, into the blood. If present in high concentrations, myoglobin can cause acute renal failure. Rhabdomyolysis can be diagnosed from blood and urine tests.

Thick, crusty surfaces (eschars) are produced by deep third-degree burns. Eschars can become too tight, cutting off blood supply to healthy tissues or if on the chest, constricting expansion of the chest and lungs, leading to impaired breathing. When this occurs an escharotomy is required, which involves making an incision into the tissue to allow for swelling or lung expansion. This procedure can be done at the bedside.

Treatment

The focus in the first 12-24 hours is on fluid replacement. After this time the focus changes to cleaning the wounds to prevent infection, inflammation and promote healing. Removal of burned tissue with skin grafting is done as early as possible to decrease the amount of pain (because nerve endings are covered), decrease the risk of infection, decrease the hypermetabolic state, decrease the amount of complications, decrease scarring, speed recovery and obtain a better cosmetic appearance. These patients have undergone as much psychological trauma as they have physical trauma and need help with coping and adjusting to their new circumstances. *Source: www.medlineplus.com and AALNC conference.* ❖

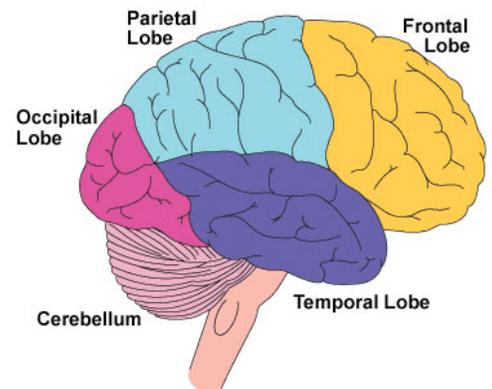
Mild Traumatic Brain Injuries

According to the Center for Disease Control, mild traumatic brain injuries [TBI] are defined as any period of observed or self reported:

- ◆ transient confusion
- ◆ alteration in memory (amnesia)
- ◆ loss of consciousness lasting less than 30 minutes
- ◆ Other signs such as seizures starting after the head injury, headaches, irritability, fatigue, poor concentration and dizziness help support, but are not diagnostic without one of the above.

A person with a mild TBI appears normal. It may be days or weeks before any signs or symptoms are noticed and is usually picked up first by friends, families or co-workers. Possible signs and symptoms other than the above include:

- ◆ blurred vision
- ◆ ringing in the ears
- ◆ bad taste in the mouth
- ◆ changes in sleep patterns
- ◆ changes in behavior or mood
- ◆ difficulty with memory, concentration, attention and thinking.



There are 2 different mechanisms of injury. The first is the primary injury, which is tissue damage at the time of impact. The second is a secondary injury, where tissue damage occurs hours later due to: 1) swelling of the brain, 2) diffuse axonal injury or widespread injury to nerves in the brain due to shearing, or 3) vascular injury due to bleeding or emboli, causing lack of blood flow to an area. If you remember Natasha Richardson's ski accident and death last year, she was fine initially and did not show any signs of injury until several hours later.

A cerebral contusion involves trauma to the brain's surface. It produces significant swelling and is most pronounced 3-4 days after the injury.

Coup/contrecoup injuries or acceleration/deceleration injuries occur when the head is thrust in one direction and the soft brain collides with the hard, rough inside surface of the skull in the opposite direction. The nerve cells are compressed, twisted and turned causing shearing. If they have had a previous head injury this can increase the amount of damage also.

If you have a client with a mild TBI it may be helpful to give a checklist of the possible signs and symptoms to the spouse, or another person that may act as a witness of your client's condition, to help identify what your client was like before and after the injury. **Contact us if you would like a sample that you can incorporate into your practice.**

MRIs and SPECT scan [single photon emission computed tomography] are frequently used to diagnose mild TBI. It usually takes at least 2 weeks after an injury to show changes on MRI. There are a variety of radiology techniques used in these procedures that aid in the diagnosis. In a SPECT scan, a radioactive tracer is injected into a vein to show the blood flow and brain tissue perfusion. However, some people with mild TBI may not show any abnormalities on these scans.

To show the depth of your client's specific deficits, neuropsych testing is required. This testing looks at general intelligence, attention and concentration abilities, learning and memory functions, language function, visual spatial abilities, auditory function, executive functions and personality and emotional functions.

Source: 2009 AALNC conference session and www.cdc.gov ♦

Use of an Unusual Expert in Death Cases

Northern Virginia attorney, Robert T. Hall, works closely with a grief therapist and social worker, Mila Tecala, in wrongful death cases to understand his client's grief and convey their pain and suffering to a jury. He usually refers clients to the therapist early in the case to help comfort them. She then meets with the family for an entire day to examine how the death has affected their lives and relationships and with the client's permission, shares this information with the attorney.

When using a grief therapist as an expert witness at trial it is important that you lay out why grief is not understood by many, including others in the mental health profession. If you have not thought about this type of an expert before, maybe now is the time. It may increase the value of your cases.

Source: <http://lawyersusaonline.com>

This team has also written a book, *Grief and Loss: Identifying and Proving Damages in Wrongful Death Cases*. Using the strategies in this book, an attorney can show the jury "that a family who experiences a death, has not one loss, but a network of losses and that a death in the family is the death **of** that family." The paperback book is 340 pages and includes a CD with sample summations, checklists and law. For more information on this book, go to www.trialguides.com.

A Picture Is Worth a Thousand Words. . .

We have begun to work with a demonstrative evidence company called High Impact. They offer both custom and generic solutions to almost every type of case. From legal exhibit and interactive presentations to animation. This company does it all. We would like to highlight a few of the services they provide that you may find helpful in your practice.

Injury Summaries magnify the magnitude of your client's injuries. This can be depicted on boards or presented digitally in a product called **Digital I.S.®** to demonstrate injuries, surgical or other procedures, x-rays [either B & W or color] and mechanisms of injury. The medical illustrators work closely with their in-house physicians and radiologists to make sure they are accurate. See their website for examples of what they have done for other cases, particularly the demos of the Digital I.S.® capabilities.

Documinutes™ is a 3 minute or less presentation highlighting the incident and injuries suffered by your client. It is a great for those on a budget or when there is not enough time to provide a full blown settlement documentary or "day-in-the-life" video.

Settlement Documentaries incorporate the use of personal interviews, expert testimony, home video, legal exhibits and animation to produce dramatic and compelling 'evening news" style presentations.

Digstrip®, which we have mentioned in a prior newsletter, digitally depicts your client's fetal monitor strip. It can be customized for your case by adding: drop down menus (examples include definitions, supporting documentation, textbook overlays for immediate comparison, highlighting and symbols), screen black out to focus attention on a certain part of the strip, "landmark events" to immediately advance to an event without scrolling through the entire strip, and tools for highlighting, drawing and annotations. You can also search the strip by time or panel number.

Digital Neuropsych™ - This is a visual representation of your clients neuropsych testing, showing the long term effects of their injury. It demonstrates visually, how far below the norm or a person's baseline they are now functioning.

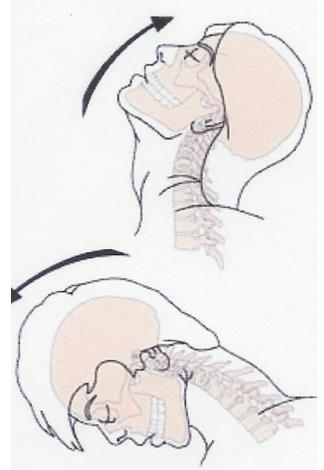
Since a picture is worth a 1000 words you should really view the demos and interactive presentations on their website at www.highimpact.com and judge for yourself if you would like to make a bigger impact with your medical cases and increase their value for your client.

Junk Science in Whiplash Syndrome

Over \$29 billion per year is spent on whiplash injuries and litigation in the United States alone. All personal injury attorneys have dealt with the defense position that whiplash injuries are manufactured or greatly exaggerated. Dr. Michael D. Freeman, et al., wrote a very interesting article reviewing and critiquing the current literature refuting whiplash syndrome. The purpose of this review was to provide an overview of some of the weaknesses and strengths of the whiplash literature.

Over 2000 papers in the whiplash literature were reviewed, and 20 papers were identified that clearly refuted the validity of whiplash syndrome. These 20 papers were then analyzed for methodologic flaws that may have invalidated their conclusions. All 20 papers were found to have significantly flawed methodology and their conclusions were not supported by their research methods.

A description of each paper is given, followed by a discussion of the methodologic flaws that were found. The flaws most frequently found were: “nonrepresentative study sample (60%), inadequate study size (60%), nonrepresentative crash conditions (50%), and inappropriate study design (45%). Other flaws noted were: “unsupported conclusions (25%), unsubstantiated/ unreferenced claims (15%), misquoted literature (5%), improper use of terminology (5%), and misleading illustrations (5%).”



The authors conclude that there is no epidemiologic or scientific basis for the following statements:

- “acute whiplash injuries do not lead to chronic pain
- chronic pain resulting from whiplash injuries is usually psychogenic
- whiplash injuries are unlikely to result in chronic pain in countries where there is no compensation for injury
- rear impact collisions that do not result in vehicle damage are unlikely to cause injury
- whiplash trauma is biomechanically comparable to common movements of daily living
- there is insufficient force generated at the TMJ during whiplash trauma to cause injury
- TMJ injuries are not associated with whiplash trauma
- there is a direct relationship between vehicle damage and the probability of developing chronic pain following whiplash trauma
- chronic pain following acute whiplash injury is caused or worsened by treatment and diagnostic testing
- the risk of chronic neck pain among acutely injured whiplash victims is the same as the prevalence of chronic neck pain in the general population.”

Source: “A review and Methodologic Critique of the Literature Refuting Whiplash Syndrome”, appearing in *Spine*, January 1, 1999. Please contact us for the entire article. ♦

Low Speed Crash Analogies

The use of analogies at trial help the jury understand how motor vehicle collisions can cause permanent injury. Below are a few analogies that may be helpful to use in your next personal injury trial.

“Low-speed” is not the same for a car as for the human body. There may be little vehicle damage at impact speeds less than 20 mph. In an enclosed vehicle there is less sensation of speed when traveling at 20 mph, than is experienced on an open bicycle at the same speed.

The speed for joggers/runners is between 4.5 mph and 8.9 mph. Jurors can understand that someone running less than 10 mph can be injured due to a sudden change in speed such as hitting a wall.

Another good analogy is to compare the speed a person obtains when falling from various heights to various changes in speed in motor vehicle collisions.

- A fall off a 3.3 feet desk results in a speed at impact of 10 mph. A 10 mph change in speed is equivalent to falling off a desk.

- A 15 mph change in speed is equivalent to falling 7.5 feet- off a step ladder.
- A 20 mph change in speed is equivalent to falling 13.4 feet- off the roof of a one story building
- A 25 mph change in speed is equivalent to falling 20.5 feet- off a two story building
- A 30 mph change in speed is equivalent to falling 30 feet- off a three story building.

Source: www.ellisclinic.com/bodyinjury.htm, retrieved Jan. 28, 2004 ♦

Increase your settlements with Pain & Suffering Reports

Pain & Suffering Reports which summarize medical records is a strategic tool that should not be overlooked by the attorney. It can be used in a settlement notebook and, if necessary, presented at trial by the person writing the report. Legal Nurse Consultants are ideal candidates to prepare this type of report because as nurses they are involved in assessing and relieving pain as part of their daily practice.



This type of report may be helpful in the following cases:

- ☞ the client has suffered serious physical injuries as a result of accident or medical malpractice
- ☞ the medical records detail the pain and suffering
- ☞ the client is no longer living, has suffered brain damage or otherwise unable to describe the pain and suffering that accompanied the injury.

The typical pain and suffering report includes either a chart or narrative summary of the client's pertinent medical records with detailed descriptions of all painful procedures, course of treatment, complications and problems they experienced. Quotes from the medical records that support the pain and suffering are used as much as possible. Various other charts may also be helpful to use as exhibits such as a chart of procedures and complications or a summary of pain medication received that can be put into terms that a lay person can understand.

This type of report is prepared by reviewing the medical records, depositions, work and/or school records, interviewing the client, family or friends and using any other information the client may have kept after their injuries, like a diary. The length of this report will vary depending on the volume of medical records and the injuries sustained.

After the report is completed, you may want your legal nurse consultant to function as a fact witness and present your client's pain and suffering to the jury. Contact us for more information on expert fact witnessing. ♦

Understanding Post Traumatic Stress Disorder

Post traumatic stress disorder [PTSD] is an anxiety disorder that develops after exposure to a terrifying event or ordeal in which grave physical harm occurred or was threatened. PTSD can occur in people of any age, including children and adolescents. More than twice as many women as men experience PTSD following exposure to trauma. Other risk factors for developing PTSD include a history of chronic pain and history of prior trauma.

Motor vehicle accidents have been identified as the leading cause of PTSD. With this in mind we thought it would be helpful to understand the criteria that must be met in order to substantiate a claim of PTSD.



The following criteria are from the DSM IV, which is the bible of psychiatric diagnosis and

symptoms.

Criteria A1: Must involve a severe stressor, trauma or victimization

~ About 25% of those exposed to a trauma develop PTSD, only 10% exhibit persistent symptoms

Criteria A2: The person's reaction must be one of extreme horror, fear or helplessness.

Criteria B, C, D deal with symptoms.

Criteria B: (Re-experiencing symptoms) Intense fear, intrusive recollections, distressing dreams, flashbacks, distress on exposure to certain cues, physiological and/or psychological reactions.

Criteria C: (Avoidance behaviors) Avoidance of thoughts and conversations, places and activities, inability to recall trauma, diminished interest, detachment, restricted affect or facial expressions.

Criteria D: (Hyperarousal behaviors) Increased arousal, difficulty sleeping, anger, lack of concentration, hypervigilance, startle response.

Criteria E: Must last for more than one month

Criteria F: Symptoms interfere with the person's daily functioning

Research has shown that: those with avoidance and hyperarousal behaviors at one week were predictive of chronic PTSD; their mental state at three months was most predictive of their status at one year; and 10% have PTSD symptoms five years after the trauma.

The sequelae of PTSD are far reaching and include debilitating physical symptoms, functional impairment, poor quality of life and difficulties with employment and interpersonal relationships. PTSD does not have to be disabling and permanent. Ninety percent will recover with treatment which consists of medications and psychotherapy. The earlier treatment is begun, the better the chance of recovery.

If you need help trying to determine if your client or the plaintiff is really suffering from PTSD, give us a call. *Source: 2009 AALNC Conference session and DSM –IV Manual.* ♦

Compartment Syndrome: An Orthopedic Emergency

What is a compartment?

A compartment is an area of the body where muscles, nerves and blood vessels are encompassed within a tough, inelastic tissue called fascia.

What is compartment syndrome?

When there is an injury and swelling occurs, the fascia does not expand and causes compression of the contents of the compartment. As pressure in the compartment increases, the microcirculation is compressed, leading to decreased blood perfusion and ischemia [decreased oxygen to the tissues.]

There are 46 compartments in the body with 36 of them found in the extremities. Compartments of the leg are most frequently involved.

What can cause compartment syndrome?

- Fractures
- Direct Compartment trauma
 - Surgery

- Venomous bites
- Crush wounds
- Postischemic swelling [from loss of blood flow]
- Electrical injuries
- Edema [swelling] formation
- Prolonged tourniquet time [blood vessels are compressed]
 - Vascular obstruction
 - Thermal injuries
 - Excessive use
- Coagulopathies resulting in bleeding into a compartment
 - Anticoagulant therapy
 - Hemophilia
- Other causes
 - Constrictive dressings
 - Gas gangrene
 - Use of pneumatic antishock garments
 - IV infiltration [See picture]
 - Drug overdose

Onset: Can be as short as 2 hours to as long as 6 days after an injury.

Treatment is emergent. **If a nurse suspects compartment syndrome they should notify the doctor immediately.**

The pressure has to be released by:

1. Loosening the bandage or splitting a cast, along with elevation.
2. Fasciotomy [A surgical intervention involving cutting the fascia to release pressure and save the extremity]

If pressure is not relieved in a timely manner [within 4-6 hours of first symptoms] muscle necrosis occurs with loss of function and nerve damage from the swelling and compression.

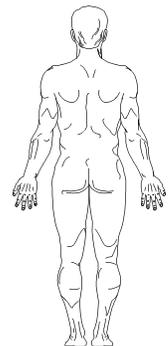
Sources: 2008 AALNC Conference Session on Orthopedic Complications and *Nursing Malpractice*, 3rd edition

Orthopedic Terminology

Have you ever tried to read orthopedic or rehab exams or physical therapy records? These definitions may help you decipher the records.

BODY MOVEMENTS

- Extension- movement that draws two body parts away from each other.
- Flexion- movement that draws two body parts closer together.
- Dorsiflexion- backward bending of hand or foot (ie. toes toward head)
- Plantar Flexion- forward bending of hand or foot (ie. pointing toe).
- Supination- turning upward of palm of hand.
- Pronation- turning palm of hand backward or downward.
- Abduction- drawing AWAY from body.
- Adduction- drawing toward the body.



MUSCLE TESTING

- When testing for muscle strength, one of the scales frequently use is:
- Grade 5 or 5/5 strength (normal)- can hold or move body part against gravity and maximum resistance. An example would be that the person can lift their arm up in the air (against gravity) and push and pull against maximum resistance
- Grade 4 or 4/5 strength (good)- can hold or move body part against gravity with minimum to moderate resistance
- Grade 3 or 3/5 (fair)- can hold or move body part against gravity only. Can lift body part off bed, but not push or pull with any resistance.
- Grade 2 or 2/5 strength (poor)- can move body part through range of motion against gravity with support or assistance.
- Grade 1 or 1/5 (trace)- cannot move body part at all, but some muscle contraction can be felt.
- Grade 0 or 0/5- no evidence of muscle contraction.

GRADING SYSTEM FOR TENDON REFLEXES

<u>Grade</u>	<u>Symbol</u>	<u>Interpretation</u>
0	0	Absent
1	+	Diminished but present
2	++	Normal, average
3	+++	Normal but brisker than average, may or may not indicate pathology
4	++++	Hyperactive; very brisk, most often pathologic
5	+++++	Hyperactive with clonus [rapid contraction and relaxation of muscle]

Source: Medical Legal Quick Tips, 2000. Reprinted with permission of MedLeague Support Services. ❖