

# THE LNC NEWSLETTER

PRESENTED BY:

## Medical-Legal Interface

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### *Preventing, and managing the impact of, anesthesia awareness*

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Anesthesia awareness, also called unintended intraoperative awareness, occurs under general anesthesia when a patient becomes cognizant of some or all events during surgery or a procedure, and has direct recall of those events. Because of the routine use of neuromuscular blocking agents (also called paralytics) during general anesthesia, the patient is often unable to communicate with the surgical team if this occurs.

The frequency of anesthesia awareness has been found in multiple studies to range between 0.1 percent and 0.2 percent of all patients undergoing general anesthesia.<sup>1,2,3</sup> The administration of general anesthesia to 21 million patients annually in the United States translates to the occurrence of 20,000 to 40,000 cases of anesthesia awareness each year. Patients experiencing awareness report auditory recollections (48 percent), sensations of not being able to breathe (48 percent), and pain (28 percent). 1 Over 50 percent of these patients are reported to experience mental distress following surgery, including an indeterminate number with post-traumatic stress syndrome.<sup>2,3</sup> Some patients

describe these occurrences as their “worst hospital experience,” and some determine to never again undergo surgery.

The incidence of awareness is reported to be greater in patients in which the dose of general anesthetic must be smaller and carefully titrated to decrease significant side effects, for example, a patient who is hemodynamically unstable. Procedures typically identified as falling into this category are some cardiac, obstetric and major trauma cases.<sup>4</sup> Factors contributing to the risk of anesthesia awareness include the increasing use of intravenous (IV) delivery of anesthesia, as opposed to inhalation, and the premature lightening of anesthesia at the end of procedures to facilitate OR turnover.

Monitoring patients under general anesthesia to prevent anesthesia awareness can be challenging. Despite a variety of available monitoring methods, awareness is difficult to recognize while it is occurring. Typical indicators of physiologic and motor response, such as high blood pressure, fast heart rate, or movement, or homodynamic changes, are often cont on p. 5

## Malnutrition in the Elderly-Fact of Life or Treatable Condition (Part One)

Pattie Patterson RN, LNCC, CLCP

Malnutrition is a common, potentially serious, and frequently under-diagnosed condition among elderly individuals. Profound malnutrition and serious illnesses often present concurrently, and each can exacerbate the progression of the other. The importance of early detection and aggressive treatment is paramount in curtailing the downward spiral. To diagnose the situation one must utilize not only the screening tools, but be aware of the signs and symptoms for early detection.

The most common type of malnutrition in the elderly is called protein energy malnutrition (PEM). It is a potentially serious and frequently under-diagnosed condition. As we age there is a physiological decrease in food intake that occurs to counterbalance the decline in physical activity and resting metabolic rate. In nursing homes PEM is associated with pressure ulcers and cognitive impairment, postural hypotension, infections and anemia. The aggressive treatment of PEM has been shown to significantly improve the overall outcome of the elderly person's overall physical condition. When an elderly person is hospitalized they are rarely properly evaluated for their nutritional status. Even when the nutritional status is identified, adequate nutritional support is rarely provided. Studies show that 20% to 65% of hospitalized elderly are malnourished, and 23% to as many as 85% of nursing home residents are malnourished. It is estimated that following admission to a long term facility that from 54% to 60% showed

weight loss. Approximately 10% lost 5% of their weight within one month after admission and 10% of their weight within six months of admission. Nutritional compromise should not be a consequence of long term care. Nursing homes with aggressive evaluation criteria and treatment policies for malnutrition had lower prevalence and fewer complications of PEM compared to nursing homes that don't have the same said policies. Nutritional supplements have been shown to significantly improve the outcome of PEM, with 50% of malnourished residents gaining weight and 63% showing improvement in PEM diagnostic criteria.

It is known that malnutrition can adversely affect virtually every organ system. The extent of the clinical manifestation of malnutrition is related to the duration and the degree of nutritional compromise. The most striking clinical manifestations include delayed wound healing, development of pressure ulcers, susceptibility to focal and systemic infections, functional decline, cognitive decline, and delayed recovery from acute illness. Hospitalized and malnourished elderly patients have nearly four times the risk of developing delirium as do those who are not malnourished. Most manifestations are reversible with appropriate nutritional support, but with prolonged and profound malnutrition, clinical deterioration supervenes, culminating in irreversible organ damage and ultimately death. Profound malnutrition and serious illnesses cont on p 3

## And In This Corner, The Defense

Robert Morrison, RN BSN

It is normal for most LNCs to discuss their work from the perspective of the plaintiff. While we have not done any formal surveys, it appears from discussion and the reading of professional articles that the majority of LNCs practicing today work for attorneys representing the plaintiff. There are several reasons apparent for this. The LNC is retained, most of all, for his healthcare expertise and experience, thus making him most useful in medically related litigation. The defense in such a case is usually a medical provider, insurer, or healthcare organization or system. As such, they have a great deal of medical expertise in their own house and seem less likely to retain the services of an outside expert. The plaintiff's counsel, on the other hand, is less likely to have their own medical staff and may need such an expert to understand and prepare for the medical issues.

This being said, there are many ways for the LNC to assist the defense team in such a case. Probably the first thing that defense attorneys look for in an LNC is expert testimony, either from the LNC or from an expert located and interviewed by him. This is certainly a critical function, but there are many other ways to improve the defense through the LNC's experience. This month we are looking at some of the skills and expertise that the LNC brings to the defense team. The first thing that needs to be done is to collect and organize all of the pertinent records and data. We suggest to our defense clients that we perform the same record review and analysis that we do for our plaintiff clients. This allows the defense team to gain another perspective of the events in question from an uninvolved professional. During this time the LNC can also identify and explain all of the information such as abbreviations, difficult-to-read handwriting, the identity of all providers involved, and their role in the case. This is helpful to establish up front so that the defendant is not trying to interpret handwritten documentation in deposition or on the witness stand. Such activity makes the defendant look less authoritative to the jury, as if they are not able to read their own handwriting, or that of another provider. It also makes it appear that the defendant does not know who else was involved in the care of the

plaintiff.

This review also serves to identify the issues that are likely to be raised by the plaintiff. The initial court filing may or may not give specific information regarding the plaintiff's claims. If not, the defense must then review the records to determine what the plaintiff is likely to claim and prepare their response to those claims. This is where an independent perspective is helpful. We caution our plaintiff clients that they need to base their actions on the objective data included in the record, not just the subjective recollection of the plaintiff. Even if the plaintiff is a healthcare professional their memory of the events is often incomplete, and usually influenced by their involvement in the case. It is hard to be entirely objective about things that you are directly involved in. The same is true for defense clients. This is not due to deliberate intent to confuse or obstruct, it is just that they cannot put their own involvement completely out of the picture; After all, their reputations, and possibly their ability to continue working, may be at stake. We also prepare a chronology of events similar to those for the plaintiff, but with an additional bit of information. As each potential or known issue is discussed in the chronology, the defendant's response is noted in a separate field. This allows us to see at a glance what the issues are, what information supports or refutes those issues, and what needs to be done to defend against them. We can also create an individual table that shows just the claims, their location in the chronology, and our client's answer. This table can then be updated as the case progresses. It is a simple way to keep one's perspective while dealing with the minutiae.

The record review and the chronology allow us to perform another important function for the defense that of the devil's advocate. I often look at all of my cases from "the other side," so to speak. Once the issues are identified we then proceed to investigate and research them as if we had been retained by opposing counsel. In this scenario it is helpful that the defendant is a healthcare professional. The LNC is free to research the issues, find the arguments and supporting information, and present it to the defense team as a preparation for their

interaction with the opposing counsel. If the defendant has been challenged by the LNC prior to deposition or testimony, he is better prepared to respond to the plaintiff's attorney later. It is also a way for the defendant provider to learn how his actions or words were perceived by the plaintiff during the events in question. Again, it is a matter of objectivity. One cannot truly perceive the point of view of others, particularly during the often hectic and demanding world of healthcare. Assessments have to be performed, options must be determined, and treatment decisions have to be made, often with little or no time to waste. We try to present the other perspectives to the defense team in advance so they are not responding to it "off the cuff" during critical moments of the case.

Other services that the LNC can provide are research and literature review, assisting in the preparation of- or response to- interrogatories, assisting with preparations for deposition, and the location and screening of expert witnesses. During the review of the record, or in interviews with the defendant, the LNC may also identify items that are helpful, but not included in the medical record- things such as appointment books or records, telephone records or transcripts, policies and procedures that pertain to the issues, and prescription records, just to name a few.

Although it is tempting for the defense to rely on their own built-in sources of expertise, we have found that it is also helpful to hear from experts that are not part of the events in question and have no relationship with those that are. That is the main reason that attorneys normally do not represent themselves in court. Even the most humble of us have trouble showing objectivity when analyzing our own actions. It helps to get a second opinion, as any doctor will tell you.

**THE NEWSLETTER  
TEAM WOULD LIKE TO  
WISH YOU A SAFE  
AND HAPPY  
THANKSGIVING!**

## Malnutrition in the Elderly-Fact of Life or Treatable Condition (Part One)

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often present concurrently, and each can accelerate the progression of the other. The importance of early detection and aggressive intervention is of utmost importance to arrest the downward spiral. Prompt diagnosis relies on a high index of suspicion and available screening tools.

It has been found that therapeutic diets are often unpalatable and poorly tolerated by the elderly, which leads to weight loss. In nursing homes diabetic diets appear to have no effect on diabetic control. Therapeutic diets such as low salt, low fat and sugar restricted diets should be avoided in the elderly. In fact, the strongest taste sensation is for sweet and often times this is the only taste sensation the elderly has left. Adding sugar to otherwise bland tasting foods is a great way to encourage the elderly to eat an otherwise avoided meal.

A carefully obtained history is the most valuable tool for identifying persons at risk for malnutrition. Weight change over time is one of the most important aspects of the history. Unintentional weight loss of 10 pounds or more over a period of 6 months is a strong indicator of nutritional risk and morbidity. A dietary history includes providing the patient with a simple questionnaire (food diary) that inquires into quantity as well as quality of food intake. The history should also ascertain the presence of risk factors for deficient nutrition intake such as poverty, social isolation, and inability to shop, prepare food, or feed them.

Additionally, any chronic medical condition that may potentially affect nutritional status must be documented,

such as diabetes, cardiopulmonary disease, cerebrovascular disease, gastrointestinal conditions, depression, dementia, and rheumatological disease. Acute illnesses may demand increased nutritional requirements, and the frequency and severity of such events must be noted. Review of both prescription and over-the-counter medications is essential to avoid polypharmacy. Many commonly used drugs are anorexigenic, notably digoxin, theophylline, non-steroidal anti-inflammatory drugs (NSAIDs), and psychotropic drugs such as fluoxetine, lithium and phenothiazines. (A comprehensive list of potential drug offenders can be found at [www.ltcnutrition.org](http://www.ltcnutrition.org).) The physical examination should determine general body condition, present body weight and height, and the presence of any sign of nutritional deficiency in the skin, hair, nail, eyes, mouth, or muscles.

Serum albumin level is the most frequently utilized biochemical marker for malnutrition. With a half-life of approximately three weeks, albumin is a good indicator of baseline nutritional status but is less useful in assessing effectiveness of acute nutritional intervention. It does, however, give a good indicator over the long haul. Albumin levels less than 3.5 mg/dL are strongly suggestive of PEM, and levels less than 3.2 mg/dL are excellent predictors of mortality and morbidity in the elderly. There is a 24% to 56% increase in the likelihood of dying for every decline of .35mg/dL in serum albumin.

Serum cholesterol level is another biochemical marker of malnutrition. Serum

levels less than 160 mg/dL suggest low lipoprotein levels, and thus low visceral protein. Cholesterol levels below 160 mg/dL is seen to be highly predictive of subsequent mortality in a number of nursing home residents, and even lower levels were correlated with a ten-fold increase in mortality. A decrease in cholesterol levels from above 160 mg/dL to less than 120 mg/dL during acute hospitalization has been associated with increased length of stay, complications, and mortality. Hypocholesterolemia, however, develops later in the progression of malnutrition, so its value as a screening tool is limited.

Total lymphocyte count (TLC) is another useful screening test. Reports show a four-fold increase in mortality with a TLC of less than 1500 cells/mm. Levels less than 800 cells/mm indicate severe malnutrition. Clinically, this is reflected in suppressed cellular immunity. The relative immune compromise is reversed with nutritional support, but, left untreated, may progress to sepsis and death. As with hemoglobin, a low white blood cell count may be related to specific nutrient deficiencies such as folate, vitamin B12, and iron.

Proteins with a shorter half-life than albumin are occasionally used to assess acute response to nutritional intervention. Prealbumin, with a half-life of two days, and retinol binding proteins, with a half-life of two hours, fit this criterion.

Next month, the conclusion of this article.

## JCAHO Updates National Patient Safety Goals for 2005

Maggie Driscoll BSN RN CCRN CLNC

The Joint Commission's Board of Commissioners recently released the National Patient Safety Goals (NPSGs) for 2005. In an effort to improve safety for residents and patients in health care organizations, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) identified and approved its first set of 6 National Patient Safety Goals (NPSG) in July of 2002. The Joint Commission has now developed program-specific goals for nine other healthcare categories beginning in 2005 including disease-specific programs, ambulatory

assisted living, long-term care and laboratories.

For hospitals, the 2005 goals have been expanded to include **two new goals: accurately and completely reconciling medications across the continuum of care and preventing patient falls.** Beginning in 2005 JCAHO will require hospitals to accurately and completely collect information on patient's current medications and to communicate that data with other healthcare providers who may need to use that information to care for patients. Hospitals will also be required to assess, periodically

reassess, and address patient risk for falls, including how medications may influence falls risk.

Accredited hospitals will now be required to develop a list of look-alike/sound-alike medications, review this list at least annually and to take action to prevent medication mix-ups. The list must contain at least 10 drug combinations identified by the JCAHO as potentially dangerous as outlined online at: <http://www.jcaho.org/accredited+organizations/patient+safety/05+npsg/lasa.pdf>

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## Drug Cocktails Hit Psychiatry

Sarah McLain RN, CLNC

The approach, called "polypharmacy," aims to help people who don't respond to a single drug by putting them on several drugs that target different brain chemicals. The approach -- driven in part by the shortcomings of many available medications -- is psychiatry's answer to HIV/AIDS drug cocktails and combinations of cancer drugs.

But there are some key differences. Unlike HIV and cancer -- whose underlying cell biology is fairly well understood and that have been the subject of clinical trials involving drug combinations -- the causes of mental illness remain largely a mystery. Little research has been done about how to administer polypharmacy or whether it even works in some cases. Multiple drugs also mean multiple side effects -- and multiple prescription bills.

Doctors arrive at the right mix by tinkering with a sequence of different drugs based on past experiences, word of mouth and drug-company marketing that informs them about the strengths and weaknesses of each drug. A common combination pairs Eli Lilly & Co.'s Prozac, which acts on the neurotransmitter serotonin, and Glaxo Smith Kline PLC's Wellbutrin, which is thought to hit norepinephrine and dopamine. If that doesn't work, a doctor could pluck something else off the shelf such as low doses of thyroid hormone, lithium, antipsychotic drugs and stimulants.

Many psychiatrists believe that polypharmacy offers some of the sickest patients their best shot at recovering. Polypharmacy grows out of the evolving thinking in psychiatry that mental illness is at least partly rooted in biology -- the result of imbalances of brain chemicals that can be corrected with drugs. In addition, many drugs on the market today have fewer and milder side effects than older generations of medications, and doctors are less leery of prescribing multilayered concoctions than they once were.

But some psychiatrists question whether more drugs are necessarily better. Gabor Keitner, professor of Psychiatry and Human Behavior at Brown University in Providence, R.I., thinks polypharmacy has gone too far. Patients are plied for years with a dizzying sequence of drugs that have side effects ranging from insomnia to lack of libido to weight gain. "I think we are overmedicating people," he says.

Dr. Keitner, who directs the

inpatient mood-disorder clinic at Rhode Island Hospital, also worries that patients are getting the false hope that some magic combination of drugs will cure them. It may be better, Dr. Keitner says, to teach patients how to manage their conditions and emphasize continuing therapy. "This is leading us down a path that may not be good for patients or the profession," he says.

Of course, not all patients respond to the new approach. A Psychiatrist in California had one patient in her early 40s, whom he treated with five different drug regimens over two years. Her problems persisted. It was impossible to find a combination that lifted her depression without side effects like sedation or an exacerbation of her anxiety.

There is one area of psychiatry where there is some scientific evidence of polypharmacy's efficacy: bipolar disorder, which is characterized by alternating periods of mania and depression. Significant evidence supports pairing a mood stabilizer such as lithium, Depakote or Lamictal with an antipsychotic such as Seroquel or Risperdal, says S. Nassir Ghaemi, a psychiatrist who wrote a book on polypharmacy.

Using multiple drugs to treat mental illnesses has become controversial partly because of the cost involved -- especially with schizophrenia. The standard therapy for schizophrenia today is the use of "atypical" antipsychotics, which have milder side effects than older drugs, but are relatively expensive. A month's worth of Bristol-Myers Squibb Co.'s atypical antipsychotic Abilify, for instance, costs \$352 whereas generic clozapine, an older drug, costs \$152. If a schizophrenic patient doesn't improve on one drug alone, doctors may add another atypical antipsychotic or one of the older "typical" drugs.

In some states, public-health programs have balked at paying for combinations of psychiatric drugs without evidence that the treatment actually works.

Insight on how to use combinations of drugs to treat resistant cases of depression may be provided by a large government-funded trial just completed that tested various prescribing strategies. But results of the trial, conducted with 4,000 depressed people in 13 states, aren't expected until May 2005.

## JCAHO Updates National Patient Safety Goals for 2005

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The JCAHO has also added new requirements for improving effectiveness of communication between caregivers by requiring hospitals to measure, assess and, if necessary, take action to improve the timeliness of reporting of critical test results and values, and the timeliness of receipt by the responsible licensed caregiver.

Goals to reduce errors related to wrong-site surgery and clinical alarm systems have been moved to the disease-specific category, while a new goal to reduce the risk of influenza and pneumococcal disease in older adults was added. Requirements designed to meet the new goal include developing and implementing protocols for administration and documentation of vaccination, and the identification and management of outbreaks.

The previous hospital NPSGs remain:

- Improve the accuracy of patient identification
- Improve the effectiveness of communication among caregivers
- Improve the safety of using medications
- Improve the safety of using infusion pumps
- Reduce the risk of health care-associated infections

For additional information regarding the National Patient Safety Goals in all categories visit the JCAHO website at:

<http://www.jcaho.org/accredited+organizations/patient+safety/npsg.htm>

### Charting Bloopers

"His prognosis was poor, having a massive cerebral hemorrhoid."  
 "Patient is to remain plastered for the next 6 to 8 weeks."  
 "Both her old and new noses have been placed in our album."  
 "There was some concern about financial matters, but the patient was told she could apply for public assistance."  
 "Bleeding began in the rectal area and continued all the way to Los Angeles."  
 "Patient called and left word that he had expired last week."  
 "I saw your patient yesterday, who's still under our car for physical therapy."

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masked by the use of paralytic agents to achieve necessary muscle relaxation during the procedure, as well as the concurrent administration of other drugs necessary to the patient's management, such as beta-blockers or calcium channel blockers.

To overcome the limitations of current methods to detect anesthesia awareness, new methods are being developed that are less affected by the drugs typically used during general anesthesia. These devices measure brain activity rather than physiological responses. These electroencephalography (EEG) devices (also called level-of-consciousness, sedation-level and anesthesia-depth monitors) include the Bispectral Index (BIS)<sup>®</sup>, spectral edge frequency (SEF) and median frequency (MF) monitors. These devices may have a role in preventing and detecting anesthesia awareness in patients with the highest risk, thereby ameliorating the impact of anesthesia awareness. A body of evidence has not yet accumulated to definitely define the role of these devices in detecting and preventing anesthesia awareness; the Joint Commission expects additional studies on these subjects to emerge. In its review of the Bispectral Index (BIS)<sup>®</sup> monitor, the Food and Drug Administration determined that "Use of BIS monitoring to help guide anesthetic administration may be associated with the reduction of the incidence of awareness with recall in recall in adults during general anesthesia and sedation."

The anesthesia professional must often balance the psychological risks of anesthesia awareness against the physiological risks of excessive anesthesia for many critical medical conditions. The Joint Commission has asked the American Society of Anesthesiologists (ASA) and the American Association of Nurse Anesthetists (AANA) to address the adequacy of current monitoring practices regarding anesthesia levels, including those that involve little or no technological support.

### Reducing the risk of anesthesia awareness

Both the ASA and the AANA provide guidelines for administering and monitoring anesthesia. Specific recommendations for the prevention of awareness are addressed in the February

2000 issue of *Anesthesiology*.<sup>4</sup> These include:

- Consider premedication with amnesic drugs, e.g., benzodiazepines or scopolamine, particularly when light anesthesia is anticipated.
- Administer more than a "sleep dose" of induction agents if they will be followed immediately by tracheal intubation.
- Avoid muscle paralysis unless absolutely necessary and, even then, avoid total paralysis [by using only the amount clinically required].
- Conduct periodic maintenance of the anesthesia machine and its vaporizers, and meticulously check the machine and its ventilator before administering anesthesia.

In addition, anesthesia practitioners should be alert to patients on beta-blockers, calcium channel blockers and other drugs that can mask physiologic responses to inadequate anesthesia.

### Managing the impact of anesthesia awareness

As noted above, anesthesia awareness cannot always be prevented. Health care practitioners must therefore be prepared to acknowledge and manage the occurrence of anesthesia awareness with compassion and diligence. This management includes the following suggestions for patients who report awareness<sup>1</sup>:

- Interview the patient after the procedure, taking a detailed account of his or her experience and include it in the patient's chart.
- Apologize to the patient if anesthesia awareness has occurred.
- Assure the patient of the credibility of his or her account and sympathize with the patient's suffering.
- Explain what happened and its reasons, e.g., the necessity to administer light anesthesia in the presence of significant cardiovascular instability.
- Offer the patient psychological or psychiatric support, including referral of the patient to a psychiatrist or psychologist.
- Notify the patient's surgeon, nurse and other key personnel about the incident and the subsequent interview with the patient.
- Surgical team members should also be educated about anesthesia awareness and its management.

### Joint Commission recommendations

Anesthesia awareness is under-recognized and under-treated in health care organizations. The Joint Commission recommends that health care organizations which perform procedures under general anesthesia do the following to help prevent and manage anesthesia awareness:

1. Develop and implement an anesthesia awareness policy that addresses the following:
  - Education of clinical staff about anesthesia awareness and how to manage patients who have experienced awareness.
  - Identification of patients at proportionately higher risk for an awareness experience, and discussion with such patients, before surgery, of the potential for anesthesia awareness.
  - The effective application of available anesthesia monitoring techniques, including the timely maintenance of anesthesia equipment.
  - Appropriate post-operative follow-up of all patients who have undergone general anesthesia, including children.
  - The identification, management and, if appropriate, referral of patients who have experienced awareness.
- 2) Assure access to necessary counseling or other support for patients who are experiencing post-traumatic stress syndrome or other mental distress.

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