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THE JOURNAL OF Legal Nurse Consulting



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PURPOSE

The purpose of The Journal is to promote legal nurse consulting within the medicallegal community; to provide novice and experienced legal nurse consultants (LNCs) with a quality professional publication; and to teach and inform LNCs about clinical practice, current legal issues, and professional development.

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The Journal accepts original articles, case studies, letters, and research. Query letters are welcomed but not required. Material must be original and never published before. A manuscript should be submitted with the understanding that it is not being sent to any other journal simultaneously. Manuscripts should be addressed to JLNC@aalnc.org. Please see the next page for Information for Authors before submitting.

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We send all submissions blinded to peer reviewers and return their blinded suggestions to the author. The final version may have minor editing for form and authors will have final approval before publication. Acceptance is based on the quality of the material and its importance to the audience.

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The Journal of Legal Nurse Consulting (JLNC), a refereed publication, is the official journal of the American Association of Legal Nurse Consultants (AALNC). We invite interested nurses and allied professionals to submit article queries or manuscripts that educate and inform our readership about current practice methods, professional development, and the promotion of legal nurse consulting within the medical-legal community. Manuscript submissions are peer-reviewed by professional LNCs with diverse professional backgrounds. The JLNC follows the ethical guidelines of COPE, the Committee on Publication Ethics, which may be reviewed at: http://publicationethics.org/resources/code-conduct.

We particularly encourage first-time authors to submit manuscripts. The editor will provide writing and conceptual assistance as needed. Please follow this checklist for articles submitted for consideration.

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- Manuscript length: 1500 – 4000 words
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- Put title and page number in a header on each page (using the Header feature in Word)
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- Each table, figure, photo, or art should be submitted as a separate file attachment, labeled to match its reference in text, with credits if needed (e.g., Table 1, Common nursing diagnoses in SCI; Figure 3, Time to endpoints by intervention, American Cancer Society, 2003)

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Acceptance will be based on the importance of the material for the audience and the quality of the material, and cannot be guaranteed. All accepted manuscripts are subject to editing, which may involve only minor changes of grammar, punctuation, paragraphing, etc. However, some editing may involve condensing or restructuring the narrative. Authors will be notified of extensive editing. Authors will approve the final revision for submission.

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Varsha Desai
BSN, RN, CNLCP, LNCC
President, AALNC

A Message from the President

Dear AALNC Members,

In October, AALNC released the 2016 AALNC Education and Networking Forum schedule and registration. The Forum joins the AALNC Journal of Legal Nurse Consulting, webinars, Principles & Practice 3rd edition, LNCC review course, and LNC online courses and is one of the main education and networking opportunities for new and long-time LNCs and LNCs from a variety of practice settings.

As your AALNC gets ready for the 2016 AALNC Education and Networking Forum in Charlotte, NC I wanted to give you some of the not-to-miss highlights.

Last year at the 2015 AALNC Forum you heard me speak about NETWORKING! For new, experienced, and timid networkers, AALNC will be hosting a first-time ever event: "Bowling and Networking." There are no skills whatsoever required to bowl, and only business cards are required to network. The Bowling and Networking event is a great opportunity to build relationships and have fun while networking with LNCs of all levels. You will also have the opportunity to network with the AALNC Board of Directors and long-time successful LNCs.

Have you considered expert witness work as part of your LNC practice? Are you a new expert who recently started testifying? Are you a long-time expert witness who would like a refresher? If you answered yes to any of these questions, then you'll want to join us at the AALNC 2016 Pre-Conference 8 hour workshop on depositions and testifying as a Nurse Expert Witness. This event will be led by Steve Babitsky, Esq. of the well-known SEAK expert witness training program. What makes this event unique? Attorney Babitsky will lead you through a program for *nurses* based on the terrific SEAK expert witness training program.

The Forum will also give you great news on marketing, LNC business ownership, writing skills for LNC work products, liability issues on clinical topics, and a fun session from Wendie Howland, AALNC Journal editor, about Writing for Publication.

See you at AALNC Education and Networking Forum from April 21-23, 2016 in Charlotte, NC!

Best,

Varsha Desai BSN, RN, CNLCP, LNCC
President, AALNC

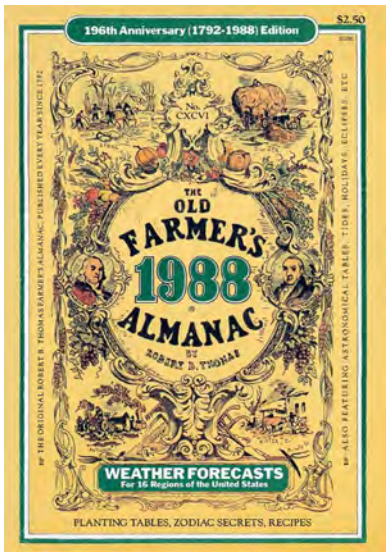
September 2015 Editor's Note

Wendie Howland
MN, RN-BC, CRRN, CNLCP, LNCC

Editor, JLNC

Welcome to the December 2015 issue of the JLNC, Safety. You'll see articles on a wide variety of topics to help you review cases, including standards of practice for radiology technologists, labor and delivery, and operating room. There's a good review of what you should look for when you look at cases involving falls, and when safety involving wheelchair fitting and use is an issue. Is missed communication an issue in that med mal case you're doing? You'll be interested in a review of the TeamSTEPPS protocol for reducing risk, implemented in hospitals around the country. Last, we have a really interesting piece on drug diversion cases, including advice on how a facility ought to be proactive to prevent diversion from going undetected, and how to investigate it properly when it's suspected. Each has a good list of current references. As ever, we welcome your comments.

As I write this, we're having an unusually mild fall. On November 4, with the temperature 70degF, I found an unexpected gift: ripe raspberries in our woods, months after they should be long gone. On the other hand, the Old Farmer's Almanac, a New England staple often cited for accurate long-term weather forecasting (and in my family's kitchen since 1792) says we're in for another record-breaking snowy winter, and reminds us that buds on the trees in November mean winter will last until May. Evidence-based practice mavens will note that their actual records on accuracy show they're some, but not a lot, better than chance, and the Almanac itself says, "Neither we nor anyone else has as yet gained sufficient insight into the mysteries of the universe to predict weather with anything resembling total accuracy."



If you want more hints, though, there's a bumper crop of acorns falling off the oaks and the woolly bear caterpillars have a very wide orange band, both traditional indicators of a long winter ahead. However, as humans have learned with so many other oracles over the centuries, we mere mortals will just have to make what preparations we can and wait to see what happens. Climate is what you expect … but weather is what you get.

I hope you have a wonderful holiday season, especially my personal favorite, the only huge holiday that is celebrated by people of pretty much all faiths and political persuasions in the US— and isn't that an accomplishment and remarkable all by itself. Let's hear it for Thanksgiving. Be glad for our friends, families, surprising gifts, and the chance to share with others. Such is the stuff of memories for long winter nights.

Wendie A. Howland

Wendie A. Howland
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MORE ON ELECTRONIC COMMUNICATION

This came in from the Paradigm Bytes nursing newsletter (http://paradigm97.blogspot.com/) These issues may arise in cases a client refers to a legal nurse for review.

American Nurses Association's Principles for Social Networking (2011)

- *Nurses must not transmit or place online individually identifiable patient information.*
- *Nurses must observe ethically prescribed, professional patient-nurse boundaries.*
- *Nurses should understand that patients, colleagues, institutions, and employers may view postings.*
- *Nurses should take advantage of privacy settings and seek to separate personal and professional information online.*
- *Nurses should bring content that could harm a patient's privacy, rights, or welfare to the attention of appropriate authorities.*
- *Nurses should participate in developing institutional policies governing online conduct.*

EXPERT WITNESSES: ANOTHER WRINKLE

In my job, I see daily information about what the Federal government is auditing in healthcare from the Health and Human Services Office of Inspector General (OIG). They have a whole section of their web site about individuals that are on their "exclusion list,"(https://exclusions.oig.hhs.gov/) people who cannot be employed by any healthcare facility receiving federal/state funding; if they are, care they provide cannot be billed to the government program. They have identified many such individuals and then the government wants back many thousands of dollars from their employers.

I don't know if law firms check potential plaintiffs, defendants, witnesses or expert witnesses against the federal and state exclusion list as part of the workup of a case. However, I would think that you would not want to retain expert witnesses and have opposition counsel question their testimony because they been excluded from a federal/state healthcare program.

James Hanus, RN, BSN, OCN, MHA
Clinical Appeals Specialist

Evaluating Safety in the OR: Tips for the LNC

Patricia Ann "Stormy" Green Wan RN, BSHS, RNFA, LNC

Keywords: Operating room safety, surgical team, standards of care, surgical cases

Some of the most common cases performed in the operating room can present problems that are often seen in litigation. Evaluating surgical records can be a daunting task for a legal nurse consultant (LNC) without preoperative experience; analysis of surgical procedures and processes is best left to a surgical specialist. The purpose of this article is to draw attention to red flags that may alert the LNC to potential problems, and to provide some resources for the LNC when reviewing a surgical case.

Over time, clinicians and facilities have implemented policies and procedures to help prevent errors in the operating room (OR). For example, mandatory "time-outs" are now common practice in the OR to ensure medical records and surgical plans match the patient on the table. There are established procedures for counting surgical sponges used within the wound and other equipment before and after surgery, and there are standard precautions to be considered when positioning patients. Despite these, Hempel estimates around 500 wrong-site surgeries and 5,000 retained surgical items incidents occur annually in the United States (Hempel, 2015)

This article will address safety in general and a few areas of special concern: obesity, positioning, and retained foreign surgical items.

MEMBERS OF THE SURGICAL TEAM

There are commonly five key players during surgical procedures. This list should not be considered comprehensive, and it does not include full role descriptions.

1. Surgeon

- performs the surgical procedure
- trained in surgery as an intern, resident, or fellow
- licensed in the state or US territory
- holds M.D., D.O., D.P.M., or other comparable degree

Note: Consult the applicable state medical society to determine acceptable roles for medical students, interns, residents, and fellows

2. First Assistant

- may be a physician or may be a provider that did not attend medical school
- has the American College of Surgeons (ACS) minimum level of training required for a first assistant on different types of cases
- if a non-physician, has special training to fulfill the role

Most non-physician first assistants are either physician assistants (PA-Cs) or RN first assistants (RNFAs), an advanced practice role; the facility must have policies to describe scope of practice for the role, consistent with state regulations. Some states allow surgical technologists to first assist, so the LNC will need to review the appropriate state regulations on the topic

3. Anesthesia Provider

- responsible for support of the patient's life functions
- is usually a physician with certification in anesthesia or a certified registered nurse anesthetist (CRNA)
- CRNA is an advanced practice role; the facility must have policies to describe scope of practice for the role, consistent with state regulations.
- CRNAs must have at least a master's degree from an accredited nurse anesthesia educational program (American Association of Nurse Anesthetists, 2015)

Procedural sedation, sometimes called conscious sedation, is commonly provided by an RN who has received training for this purpose; should have an Advanced Cardiac Life Support (ACLS) certification (American Heart Association, 2015); some operating rooms require all RN staff members to have ACLS certification; qualification to provide procedural sedation varies by state, so the LNC must become familiar with the state-specific regulations

4. Circulating Nurse, Circulator

- should always be an RN with specific surgical training
- is held to the same standards as other registered nurses in any clinical setting
- assesses patient status and condition
- assures routine and emergency equipment is in place
- shares responsibility for patient positioning
- acts as a patient advocate for safety and rights
- adheres to the scope of practice as defined by state law
- manages flow of information and materiel during case
- performs all of the above before, during, and after the procedure
- documents all events, equipment used, and charges

The American Nurses Association (ANA) and the Association of periOperative Registered Nurses (AORN) are primarily responsible for RN standards of practice in the OR; other standards may also apply.

5. Scrub Personnel

- team member who is "scrubbed in" or "sterile" within the sterile field
- is a trained surgical technologist, RN, or LPN/LVN
- supports the surgeon and first assistant at the surgical site

The person in this role is usually responsible for gathering and verifying necessary items and equipment for the procedure, sets up the case with the circulator, hands instruments to the surgeon and assistant, and removes items from the surgical field during and after the case, depending on facility policies.

As can be expected, teamwork, collaboration, and communication among all of these team members are critical to surgical outcome. Responsibility for patient safety during surgery is shared among all team members.

RED FLAGS

The CDC estimates total number of surgical procedures performed in the United States in 2010 at 51.4 million (CDC, 2010). It should come as no surprise that some would become involved with litigation.

It is well known that many comorbidities, such as diabetes, obesity, hypertension, and others, increase risk of injury during surgery.

Obesity According to Johns Hopkins researchers, obese patients are twelve times more likely to have surgical complications. According to Makary, surgeries on obese patients "usually take longer, the operating fields are deeper, the spaces in which an infection can set in are often greater and blood flow in fat tissue is less than in other types of tissue, which results in slower healing" (Makary, 2011).

Facilities need special equipment and instruments for these patients. A surgical table built to be adjusted to bend the knees, achieve a sitting position, or place a patient in stirrups may accommodate a patient up to 300 pounds but not be safe for one who weighs 400 pounds.

For example, the degree of Trendelenburg to achieve adequate access to the surgical site may be quite steep. Not only does each degree of Trendelenburg increase the risk of nerve or skin injury, but the patient's weight may shift to the head of the table, tilting it downward and resulting in a patient fall.

Surgical tables are a major expense. It can take years for a facility to replace all tables with models that will accommodate today's larger patients. Meanwhile, the entire surgical team needs to ensure that the appropriate table is in place for each patient. This may mean that a surgical procedure must be delayed until a specific table is available for use if it is being used for another patient.

Patient positioning Surgery can require quite extreme positions to visualize the operative field, but positioning is a concern even when a patient is supine for a simple procedure. The patient is usually under anesthesia during positioning, unable to assist in any way or communicate problems or comfort levels, totally dependent upon surgical team members. Staff may need special positioning equipment available in a variety of sizes.

It always takes a team to position a patient safely. All facilities should have policies and procedures for positioning techniques and/or necessary protective devices.

The American College of Surgeons National Surgical Quality Improvement Program has produced an interesting online tool, the *Surgical Risk Calculator*, that can be helpful to the LNC when determining a client's pre-existing risks when he presents for surgery. While it can estimates the chance of an unfavorable outcome, it is not a substitute for appropriate evaluation of each case on an individual basis. As an example, patient compliance is not included in the formula. (ACS, 2007-2015).

Equipment All equipment used in surgery should have regular, well-documented maintenance. All users, including staff and physicians, must be educated about safe use, cleaning, and storage of equipment in accordance with the manufacturer's instructions. Records of appropriate education should also exist, as well as policies regarding maintenance and education.

The CDC estimates 51.4 million surgical procedures performed in the US in 2010 (CDC, 2010). It should come as no surprise that some would become involved with litigation.

Supplies and surgical items Facilities must have policies to address counts for all equipment and supplies used on the surgical field. The count is always performed before and after any procedure. All items added to the field during the procedure are added to the count when added, and must be accounted for at the close of the case.

At least three counts are generally expected: before the case, at the beginning of wound closure, and at the end while the patient is still on the table. Counts are also always done for closure of a cavity within another body cavity, such as when the uterus is closed during a Caesarean section; with a change of staff members during a procedure; or when anyone on the team feels uncomfortable and requests one.

An absent preliminary count does not necessarily indicate an error; in a life threatening emergency, a complete preliminary count may be impossible. However, if so, this and documentation of the attempt made to reconcile the counts must appear in the record.

The word *sponge* can refer to a wide variety of items used or applied within the operating room, but not used during the surgical procedure and therefore *not* counted as surgical sponges. Examples include dressings and sponges for negative pressure wound therapy (NPWT) (e.g.,Wound VAC®).

WHO IS RESPONSIBLE?

As Gerken (2013) states,"Every member of the operating room team faces both individual and group challenges when caring for patients." To understand where responsibility lies, review guidelines, standards, and statements provided by professional organizations.

For example, consider positioning. Each phase may be managed by a different team member. Turning the patient to a prone position is typically initiated by the person responsible for the airway and other life functions, the anesthesia provider. The surgeon or assistant then will align the body and place support devices with the circulator, anesthesia provider, and other team members.

POLICY POSITIONS ON OR SAFETY

These are introductory and not comprehensive. See the respective websites for more definitive information.

1. American Medical Association (AMA)

- Although different caregivers are responsible for rendering specific portions of the patient's care, a single physician should be ultimately responsible for ensuring that the care is delivered in a coordinated and appropriate manner
- Other caregivers should support this obligation through communication with this physician (AMA, 2000).

2. American College of Surgeons (ACS)

- Patient safety is a top priority
- Strongly encourages facilities to develop clear guidelines and encourages a "team approach" as an effective means of rendering safe patient care
- The surgeon is personally responsible for the patient's welfare throughout the operation and "while the surgeon may delegate that certain duties be performed by others, he may not delegate or evade his own personal responsibility." (ACS, 2003)

3. American Society of Anesthesiologists (ASA)

- Anesthesia care provider is primarily concerned with monitoring and maintenance of the patient's life functions during the perioperative period
- Every member of the operating room team faces both individual and group challenges when caring for patients (Bastron, 2001)
- Example: while positioning a patient in a prone position, the anesthesia provider will usually oversee moving the head, neck, shoulders and arms while maintaining the airway and intravenous catheters (IVs); works in tandem with the other team members; the anesthesia provider who notices that a foot is not well padded or secure is expected to bring it to the attention of the remainder of the team.

4. American Nurses Association (ANA)

- All team members are responsible to see that no harm occurs to patients
- ANA goes into more detail in the Code of Ethics (ANA, 2015).

5. Association of peri-Operating Room Nurses (AORN)

- Has established basic guidelines for safe care of the surgical patient since the 1940s; as early as the 1950s, AORN was advocating for all sponges used during surgical procedures to have a radiopaque component to help identify a possibly retained sponge by means of x-ray
- Began publishing guidelines in their journal in 1975; first publication in book form, 1978 (AORN, 1978)
- AORN consultants are available to non-members on a limited basis at their home office (AORN, 2015)

Many additional medical and nursing organizations come into play when addressing patient safety in the operating room. For example, if a patient received procedural sedation, the LNC may need to review SOC from American Association of Critical-Care Nurses (AACN, 2015). On the other hand, for a patient that underwent a Cesarean section, the LNC may also need to review standards established by the American Congress of Obstetricians and Gynecologists (ACOG, 2015) or the Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN, 2015).

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Patricia Ann "Stormy" Green Wan has over thirty years of experience as a registered nurse in perioperative services as a clinician, educator, manager, RN First Assistant, and director. During the troublesome implementation of side/site surgery in 2004, Stormy was a recipient of the David O. Lawrence National Safety Award for side/site surgeries. While most nurses can review medical records, the analysis of the surgical procedures and processes is best left to a surgical specialist. The surgical nurse may see or read things that the average nurse would likely miss or fail to decipher accurately. She may be contacted at Stormy@GreenLNC.com

Fetal Heart Monitoring in Labor and Delivery

Cheryl Gysegem, RNC-OB, BSN, BSHCA, CLNC

Keywords: Labor, delivery, monitoring, fetal monitoring, uterine contractions, acceleration, deceleration, documentation

Any normal labor and delivery can deteriorate in a moment's time to a crisis situation. Staff members care for two patients at the same time, the mother and the fetus. Competency in fetal monitoring is imperative, because fetal monitoring can show early warning signs of problems. Astute assessment skills are mandatory to detect and intervene on potential problems early. Accurate documentation is essential, as it recreates the scene and can speak for the caregiver in any future legal action.

When a family arrives at the hospital to deliver a baby, they expect competent, safe, quality care without knowing how that comes about. Safety in labor and delivery is no small feat. For every pregnancy, staff members manage at least two patients, mother and infant(s), and more for a multiple birth. If staff do not detect changes in the status of either mother or fetus(es), and treat them immediately, detrimental outcomes can occur.

FETAL MONITORING

When reviewing in a case involving an intrapartum event, the legal nurse consultant (LNC) should initially focus should be on the event itself. Fetal monitor strips will show the fetus' physiologic response to labor. The fetal monitor strips record fetal heart rate, uterine activity, fetal heart rate response to uterine contractions, and whether monitoring was internal or external. A qualified provider should assess the fetal heart rate and contractions over time to

Table 1. Recommendations for assessment of fetal status during labor when using electronic fetal monitoring (AWHONN, 2015)

	Latent phase		Active phase	Second stage	
	(<4 cm)	(4-5 cm)	(≥6cm)	(passive fetal descent)	(active pushing)
Low-risk without oxytocin	At least hourly	Every 30 minutes	Every 30 minutes	Every 15 minutes	Every 15 minutes
With oxytocin or risk factors	Every 15 minutes with oxytocin; every 30 minutes without	Every 15 minutes	Every 15 minutes	Every 15 minutes	Every 5 minutes

detect subtle indications of impending fetal compromise.

The most current recommendations per the Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN) for electronic fetal assessment frequency during labor with and without the use of oxytocin (Pitocin®) are shown in Table 1. (AWHONN, 2015).

Assessment frequency depends on the maternal-fetal condition, which may change rapidly. It is within RN scope of practice to implement specific interventions such as maternal position change, turn off oxytocin (Pitocin®), or provide oxygen via face mask, in response to the effect of labor on the fetal heart rate. Facility policies and procedures should support RN-directed interventions. Summary documentation is acceptable and staff members should follow individual hospital policy for documentation. (AWHONN, 2015).

Caregiver's responsible for fetal monitoring should number and time-stamp fetal monitor strips sequentially. Therefore, missing strips are easily detected. If fetal monitor strips are missing, this is a red flag which could indicate tampering. Therefore, a request for production of these potentially critically-important missing strips would be indicated. The LNC should compare the information from the fetal monitor strips to the caregivers' notes to identify inconsistencies. Fetal heart monitor tracings should be retained in a format that does not permit overwriting or revisions, e.g., microfilm recording of older versions of fetal heart monitor strips.

ELECTRONIC FETAL MONITORING PATTERN DEFINITIONS

Baseline: The mean fetal heart rate (FHR) rounded to increments of 5 beats per minute during a 10-minute segment, excluding:

- Periodic or episodic changes
- Periods of marked FHR variability
- Segments of baseline that differ by more than 25 beats per minute

The baseline must be for a minimum of 2 minutes in any 10-minute segment, or the baseline for that time period is indeterminate. In this case, one may refer to the prior 10-minute window for determination of baseline.

- Normal FHR baseline: 110–160 beats per minute
- Tachycardia: FHR baseline is greater than 160 beats per minute
- Bradycardia: FHR baseline is less than 110 beats per minute

(ACOG, 2010).

Baseline variability: Fluctuations in the baseline FHR that are irregular in amplitude and frequency. Variability is visually quantitated as the amplitude of peak-to-trough in beats per minute.

- Absent—amplitude range undetectable
- Minimal—amplitude range detectable but 5 beats per minute or fewer
- Moderate (normal)—amplitude range 6–25 beats per minute
- Marked—amplitude range greater than 25 beats per minute

(ACOG, 2010)

Acceleration: A visually apparent abrupt increase (onset to peak in less than 30 seconds) in the FHR

- At 32 weeks of gestation and beyond, an acceleration has a peak of 15 beats per minute or more above baseline, with a duration of 15 seconds or more but less than 2 minutes from onset to return.
- Before 32 weeks of gestation, an acceleration has a peak of 10 beats per minute or more above baseline, with a duration of 10 seconds or more but less than 2 minutes from onset to return.
- Prolonged acceleration lasts 2 minutes or more but less than 10 minutes in duration.
- If an acceleration lasts 10 minutes or longer, it is a baseline change.

(ACOG, 2010)

Early deceleration: Visually apparent usually symmetrical gradual decrease and return of the FHR associated with a uterine contraction

- A gradual FHR decrease is defined as when the FHR goes from peak to nadir in 30 seconds or more.
- The decrease in FHR is calculated from the onset to the nadir of the deceleration.

- The nadir of the deceleration occurs at the same time as the peak of the contraction.
- In most cases the onset, nadir, and recovery of the deceleration are simultaneous with the beginning, peak, and ending of the contraction, respectively.

(ACOG, 2010)

Late deceleration: Visually apparent, usually symmetrical gradual decrease and return of the FHR associated with a uterine contraction

- The deceleration is delayed in timing, with the nadir of the deceleration occurring after the peak of the contraction.
- In most cases, the onset, nadir, and recovery of the deceleration occur after the beginning, peak, and ending of the contraction, respectively.

(ACOG, 2010)

Variable deceleration: Visually apparent abrupt decrease in FHR

- An abrupt FHR decrease is defined as when the FHR goes from peak to nadir in less than 30 seconds.
- The decrease in FHR is calculated from the onset to the nadir of the deceleration.
- The decrease in FHR is 15 beats per minute or greater, lasting 15 seconds or greater, and less than 2 minutes in duration.
- When variable decelerations are associated with uterine contractions, their onset, depth, and duration commonly vary with successive uterine contractions.

(ACOG, 2010)

Prolonged deceleration: Visually apparent decrease in the FHR below the baseline

- Decrease in FHR from the baseline that is 15 beats per minute or more, lasting 2 minutes or more but less than 10 minutes in duration.
- If a deceleration lasts 10 minutes or longer, it is a baseline change.

Sinusoidal pattern: Visually apparent, smooth, sine wave-like undulating pattern in FHR baseline with a cycle frequency of 3–5 per minute which persists for 20 minutes or more.

(ACOG, 2010)

It is within RN scope of practice to implement specific interventions in response to the effect of labor on the fetal heart rate. Facility policies and procedures should support RN-directed interventions.

EMERGENCY INTERVENTIONS FOR ABNORMAL FETAL HEART RATE PATTERNS

All interventions should follow institutional policies and procedures.

- Call for assistance
- Administer oxygen through a tight fitting face mask
- Change maternal position (lateral or knee-chest)
- Administer fluid bolus of lactated Ringer's solution
- Perform a vaginal examination and fetal scalp stimulation
- When possible, determine and correct the cause of the pattern.
- Consider tocolysis in the case of uterine tetany or hyperstimulation
- Discontinue oxytocin (Pitocin®) if it is infusing

(ACOG, 2010)

DOCUMENTATION

Clear, concise, factual, and objective documentation is imperative when providing intrapartum care. Sometime in the unforeseeable future, the record may be reviewed by attorneys, physicians, or legal nurse consultants. When the LNC finishes reviewing the documentation, it must be possible to paint a picture of exactly what occurred, what interventions were taken and the response to them, and what the outcomes were.

The LNC will review prenatal records, including all lab values, culture results and treatment if warranted, patient adherence to plan of care, gestational ultrasound results, biophysical profile results, nonstress test results, and all other prenatal information. This review will provide information to confirm if treatment in labor and delivery was appropriate.

For example, was the mother diabetic or gestational diabetic? If so, had she received teaching about and been adherent to her diet and medications? Did prenatal ultrasound show fetal macrosomia, defined as, "birth weight heavier than the 90th percentile for each gestational age," which would be a risk factor for shoulder dystocia during labor? (Srichumchit, S., et al, 2015).

Monitoring:

- Check whether the nurse documenting fetal heart rate(s) had confirmed the tracing was fetus/fetuses and not maternal heart rate
- Review fetal monitor strips for indications of fetal distress such changes in baseline, fetal tachycardia, fetal bradycardia, or prolonged decelerations
- Determine whether fetal and uterine monitoring was internal or external
- Compare the fetal monitor strips with nursing and provider doc-

Documentation must stand alone and recreate the moment as accurately as possible.

umentation to look for accurate interpretation and inconsistencies
- Compare nurse's notes with the physician's notes

Chronology:
- Compare times when a nurse notified a provider of fetal or maternal status change, and when the provider responded. If there was a delay in response by the provider, were appropriate channels initiated to escalate the situation up the chain of command?
- When did staff receive provider orders were received and implement them?
- Check oxytocin (Pitocin®) provider orders with nursing documentation to ensure correct dosage and whether it was turned off for fetal distress or uterine hyperstimulation. One error, such as not documenting that oxytocin was turned off at the time of a deceleration, gives the appearance that it continued to infuse. This could have contributed to a bad outcome.

Pathology reports:
- Review the placenta pathology report for abnormalities
- Review provider notes and gestational ultrasounds for prior documentation of a potential placental problem
- Investigate whether an autopsy was performed if the delivery resulted in a fetal demise or stillborn. If there was an autopsy, a final result should be included in records to review.

Policies and Procedures; Standards of Care:

Confirm that policies and procedures were followed and that the standards of care were met.

Complete and accurate documentation can be the caregiver's best friend or worst enemy if a case goes to trial. A positive outcome based on accurate documentation is shown in the case study of L.D. v Patients Fund, 2015, WL 4429090 in the Wisconsin Court of Appeals. Based on documentation by a nurse and midwife managing the care of a laboring 14-year-old who delivered a baby with hypoxic brain injury by Caesarean section, the Wisconsin Court of Appeals "found that there was no negligence in the nurse's or midwife's management of labor." (Daniel, N. 2015).

SUMMARY

Documentation of fetal monitoring can often be forgotten in the moment of a crisis. In the end, however, the documentation by the caregiver must stand alone and recreate the moment as accurately as possible to speak for the facts. These cases can often take years to be filed and come to trial. If a nurse is called to testify 10 years after the date of the occurrence, the documentation from the event will — or will not— attest to the staff's assessments and actions.

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Investigating Institutional Drug Diversion

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Keywords: Drug diversion, drug tampering, investigation

Drug diversion is ubiquitous in healthcare institutions using drugs. Due to its clandestine nature, it is not easy to identify and statistics are hard to come by. This article outlines the problem, recommends possible interventions for facilities, and offers the legal nurse consultant some specific techniques to use when investigating a case involving allegations of diversion.

Liability due to diversion is an evolving issue in health law. Law enforcement and facilities increasingly acknowledge institutional drug diversion, theft of drugs from facilities or patients by healthcare personnel, as a problem in the United States and abroad. Since diversion is clandestine by nature, reliable data about prevalence of institutional diversion are not available, but diversion occurs at most or all institutions using controlled substances. Many diversion incidents go undiscovered, and probably most that are discovered are never reported outside the institution. Estimates of the number of nurses that divert vary, and are generally not based on scientific data. In perhaps the only published study, 6.6% of nurses reported illicit use of prescription-type drugs within the past year[i]. The author's own experience as a diversion investigator suggests that 6.6% is a substantial underestimate.

Diversion is a multi-victim crime posing a significant risk to patient safety, co-workers, institutions, third-party payors, the community at large, and the diverter. Patients may be harmed by an impaired provider when they are denied pain relief or by blood-borne pathogens introduced through tampering and

The liability of the diverter lies in actual harm done to others. Institutional liability usually lies in insufficient diligence to prevent the diversion.

substitution. The institution can be exposed to civil and regulatory liability, negative publicity, and may even face potential closure[ii]. Payors may be billed for drugs that were never administered, and may incur additional costs for the care of patients who have been infected or otherwise harmed. Hazards to the community may take the form of diverters driving while impaired. The diverter himself imperils his own health by using escalating doses of controlled substances, often in combination with large amounts of acetaminophen, risking criminal and civil liability, loss of license, exclusion from health care by the federal government[iii], and injury or death.

LEGAL CONSEQUENCES OF DIVERSION

The liability of the diverter lies in actual harm done to others. Institutional liability usually lies in insufficient diligence to prevent the diversion. In several well-publicized cases, the diverter was held criminally liable and the facility settled for civil liability.

- In a case concluded in Texas in 2009, Jon Dale Jones, an Army hospital CRNA and retired Army captain who diverted fentanyl by substitution resulted in 15 patients becoming infected with hepatitis C. Jones pled guilty to assault and to stealing drugs and was sentenced to 41 months in federal prison[iv].
- In a 2010 case in Colorado, Kristen Parker, a scrub tech who worked at an ambulatory surgery center diverted fentanyl by substitution. Parker was sentenced to 30 years in prison for tampering with a consumer product and obtaining controlled substances by deceit[v]; patients sued the hospital and anesthesia staff for unrelieved pain endured during procedures[vi].
- In another Colorado case only 2 months later, Ashton Daigle, a surgical nurse, substituted saline and tap water for fentanyl and returned the vials to stock. Daigle was sentenced to 54 months in prison for tampering with a consumer product and creating a counterfeit controlled substance; patients sued the hospital for unrelieved pain endured during procedures[vii].
- In a case that came to light in New Hampshire in 2013, David Kwiatkowski, a traveling radiology tech, substituted stolen syringes filled with saline (without changing needles) for new syringes of fentanyl. Kwiatkowski was sentenced to 39 years in prison for obtaining controlled substances by fraud and tampering with a consumer product; several facilities and agencies where he had worked were sued by patients who became infected with hepatitis C through his tampering[viii].
- In another 2013 case in Minnesota, Blake Zenner, an OR nurse, diverted hydromorphone by refilling syringes with contaminated saline. Zenner was sentenced to 24 months in federal prison for obtaining a controlled substance by fraud. The hospital and the diverter were sued by patients who claimed unrelieved pain, and several patients acquired Gram-negative sepsis through contamination (including one that died)[ix].

Facilities in which diversion occurs can be penalized for failing to comply with the *Medicare Conditions of Participation Regarding Pharmaceutical Services*, which require that drug security measures comply with the Controlled Substances Act of 1970[x]. The Conditions require that only authorized personnel have access to locked areas, and that abuses and losses of controlled substances be reported in accordance with federal and state law to the Director of Pharmacy and the CEO, as appropriate. The Controlled Substances Act also requires strict medication security, accurate record keeping, and prompt reporting of theft or loss to Drug Enforcement Administration (DEA)[xi].

DEA investigations into inpatient processes have become increasingly common. In 2014, the DEA fined one of the nation's largest health systems $1.55 million to settle claims of deficiencies in the management of controlled medications at its hospitals and clinics. In addition to the fine, the government required the health system to undertake a rigorous action plan to remediate perceived laxities in their drug security and record-keeping[xii].

INVESTIGATING A SUSPECTED DIVERSION EVENT

Drug diversion in a healthcare facility can take many forms, and typically follows an inexorable pattern of escalation. Many diverters begin by diverting from waste, which may be difficult or impossible to detect. Failing to waste is a common method, and is usually identified quickly by a review of the suspect's drug transactions. Many facilities have a culture of complacency about waste procedure, which facilitates diversion by this method. Other diverters may be more savvy, and hide their failure to waste by a combination of methods: substituting a neutral substance for an opioid in order to deceive a waste wit-

ness, pretending to waste an entire dose by claiming that the patient refused the medication, maximizing the amount of waste available by removing larger-than-needed dosage units, and even removing previously discarded opioids from waste containers.

Eventually, the quantity of drug needed exceeds the amount available from waste, and other methods come into play. One common method consists of removing pain medication from stock when the patient doesn't have pain, and documenting administration as if it had been done. A similar method is removing medication under the name of a patient that has been discharged from the clinical area or from the facility. Removal of duplicate doses is another tactic; the diverter often removes doses from different drug cabinets, thinking that that will mask the duplication. The diverter may remove medication without a provider prescription; the diverter may or may not falsify a verbal prescription.

Diverters often try to escape detection by removing drugs under the sign-on of a colleague who has stepped away from the cabinet without signing out, or may hover behind a colleague to acquire her password. Both hospital staff and impostors have been found to pilfer medications that patients or families have brought from home. Diversion of fentanyl from patches is an often-overlooked risk; nurses may perceive the patches to be at lower risk of diversion than oral or IV forms, but they are a preferred target for some diverters. Used patches can be diverted, but some diverters will place used patches on patients and keep the fresh patches for their own use. In one case last year, a nurse removed patches from patients, put them in his mouth to extract the drug, then replaced them on the patient an hour or so later[xiii].

The most egregious method of diversion is substitution or tampering. In these cases, the diverter removes the controlled drug from a vial, syringe, or administration device and replaces it with another substance. Because substitution is usually done in haste, the diverter may use the same needle throughout the process, resulting in contamination with the diverter's own blood. The substituted material is then administered to a patient immediately or returned to stock. Diverters may collect used vials or syringes and fill them with saline or tap water, and repeatedly exchange them for unused vials in the cabinet. They frequently gain access to the cabinet by means of a cancelled transaction or under the pretense of checking inventory; in either case, they have entered without appearing to have removed any drug. Tampering and substitution entail a risk of introducing blood-borne pathogens to containers that are supposed to be sterile, in addition to denial of analgesics to patients that need them.

Most diverters take one or occasionally two drugs far more often than any other. The preferred drug is usually an opioid. As the diversion scheme progresses, other drugs may be added to help the diverter cope with symptoms of opioid abuse, and sometimes to mask substitution. For instance, a diverter may begin to divert benzodiazepines to alleviate anxiety. He may divert promethazine or ketorolac to substitute for a diverted opioid, so the patient experiences some sedation or analgesia when the substitute is administered. Promethazine, diphenhydramine, and ondansetron are frequently stolen to alleviate nausea or pruritus resulting from opioid abuse. Sometimes hospital staff will casually or regularly divert sleep aids to help them cope with irregular work schedules.

Investigation of a suspected diversion event usually involves reviewing drug cabinet data and analytic reports. Often the initial suspicion arises when a user is a statistical outlier compared to his peers. Analytic reports may be available to highlight suspicious behavior, such as frequent medication overrides or regularly choosing the same witness to waste. In all cases, the transaction record must be compared to the documentation in the medical record. Key items in the record include:

- documentation of administration
- pain scales
- vital signs
- prior analgesic requirement
- timing of administration as compared to removal; regular documentation of administration before the drug has been obtained from the cabinet is a strong indicator of diversion.

BEHAVIORAL SIGNS

Behavioral signs of diversion typically occur late in the development of a diversion habit. Ideally, diversion would be detected by other methods before such signs occur. Diverters are typically high performers at the start of their diversion activity, and do not often fit preconceived ideas of how a drug abuser should appear. They may be new orientees or experienced leaders. They are often award winners and have advanced academic achievements.

There are, however, some common behaviors that can be recognized as indicating diversion. Diverters frequently come to work earlier than their scheduled shift, and stay late. They volunteer for overtime and may appear for work when not scheduled. They choose their preferred medication when other options are available, and often request supplemental orders for breakthrough pain. They make increasingly frequent trips to the bathroom, where the vast majority of diverters choose to self-administer. They often volunteer to administer medications for their colleagues' patients, and may considered unusually helpful. Outward signs of impairment, such as deteriorating work performance and passing out, occur later.

ESSENTIAL ELEMENTS OF A DIVERSION PROGRAM

Every healthcare facility must have a robust program to prevent, detect, and respond to diversion. Liability for the institution typically arises from the failure to have such a program or to use it effectively.

The diversion program should include policies that specifically outline measures to prevent, detect, and properly report diversion. The policies should spell out a mechanism for responding promptly to diversion, including clear delineation of who is responsible for each component of the response. The policies should mandate reporting to DEA and law enforcement. There should be a regular program of auditing for diversion, and the person entrusted with undertaking the audits should have sufficient time allotted to do so. There should also be a systematic process of ongoing risk assessment (i.e., Diversion Risk Rounds)[xiv].

Collaboration between departments such as nursing and pharmacy is essential. A collaborative relationship with external agencies, including regulatory bodies and law enforcement, established in advance of a crisis, can make the involvement of law enforcement during a crisis more constructive, and can reduce adverse publicity associated with diversion.

Regular education on diversion for all clinical, medical, and nonclinical staff is indispensable. Staff must understand that diversion creates an unsafe environment for patients, that diversion occurs at all institutions where controlled substances are handled, and that all staff have a role in preventing and reporting diversion. Diversion education should be a part of orientation for new employees, and should occur annually after hire.

PREVENTION

The best response to drug diversion is prevention. Diversion cannot be prevented entirely; it occurs in every healthcare facility, and requires vigilance on the part of the facility to prevent harm to patients and others. The facility's first step is appropriate pre-employment screening of potential hires. The facility must require compliance with medication-handling policies, and establish a culture of compliance and vigilance. Finally, the facility must make resources available to staff to manage stress and reduce the risk of turning to diversion as a substitute for stress management, and be certain that employees are aware of those resources.

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Radiology Technologists: Scope, Standards and Ethics

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Keywords: radiology technician, radiology technologist, radiology liability, radiation technology credentialing, radiology technology standards.

Identifying the steps RTs take to protect themselves from liability cases may help Legal Nurse Consultants reveal the standards of practice and ethics in the profession of radiologic technology. Testifying experts may refer to the aspirational ASRT Code of Ethics, enforceable ARRT Standards of Ethics, ASRT Practice Standards, ASRT Decision Tree for Determining Scope of Practice, and various ASRT Curricula Guides. Also included is information about professional liability insurance for RTs, ARRT Sanctioning and its affect, and what RTs can do if they ever encounter a potential professional liability incident.

Note: This article is written for educational purposes only and not to provide legal advice. Any resemblance to an actual character or liability case is coincidental. The author is not an attorney or legal expert. If you have need of legal advice, please contact a qualified attorney or legal expert. "John" is a fictional character used for illustration purposes.

John, RT (R) (CT) ARRT, is a Registered Technologist (RT) with certifications in Radiography and Computed Tomography by the American Registry of Radiologic Technologists (ARRT). After graduating from training, he worked for five years in the radiology department of a six-hundred bed hospital. His performance was exceptional. That is, until he made a critical mistake preparing for a procedure this morning. Before moving the

patient from the gurney to the table, he lowered the side rails and then walked behind the exposure control booth to set the x-ray exposure technique. The patient fell off the gurney and fractured his neck, becoming quadriplegic.

After litigation, the hospital paid several million dollars in damages. John had no professional liability insurance. The court ordered John to pay several thousand dollars in damages. This required him to retain an attorney to help protect his assets, at considerable expense. The hospital fired him on grounds of professional negligence, triggering an American Society of Radiologic Technologists (ASRT) review of John's performance record, and he was officially sanctioned.

In less than a minute, John's lapse of judgment compromised patient safety and placed his entire career in jeopardy. RTs can never become complacent about liability risk and must be ever vigilant to protect themselves against claims of professional negligence and other medical legal threats. Here are five guidelines that may help to shield RTs from professional liability lawsuits.

PROFESSIONAL LIABILITY INSURANCE

RTs must exercise considerable independent judgment in their duties, which is why they are professionally recognized as *technologists*, not technicians. The hospital and physician-radiologist have only limited control over an RT's work; therefore, they are not liable for an RT's mistake in judgment. Attorneys often seek to recover damages from everyone associated with professional liability cases, including any physicians involved and the facility. (Pigeon, 2004) Whether RTs are working full-time or part time, with or without benefits, as independent contractors or moonlighting, they should consider getting professional liability insurance to help protect their assets. (ASRT, 2015; Health Providers Service Organization, 2015).

KNOW WHAT NEGLIGENCE IS AND HOW IT IS ESTABLISHED

Negligence is defined as a failure to exercise the care toward others which a reasonable or prudent person would do in the circumstances, or taking action which such a reasonable person would not. Negligence is accidental as distinguished from "intentional torts" (assault or trespass, for example) or from crimes, but a crime can also constitute negligence, such as reckless driving. (Legal Dictionary, 2015)

Establishing negligence in a professional liability case requires proving the presence of four criteria.

"First to be established by the plaintiff's attorney is the existence of duty that is owed by the RT to the plaintiff (patient)." (FindLaw, 2015) Did John owe his patient a legal duty to perform all aspects of the radiologic examination his patient was about to undergo in a safe manner?

"Secondly, the plaintiff's attorney will attempt to show the applicable standard of care and the RT's deviation from that standard of care breached the duty John owed the patient." (FindLaw, 2015) Did John deviate from the standard of care of ensuring his patient was safe and secure from falling off the gurney when he lowered the side rails of the gurney and walked away to set the x-ray exposure settings?

"Third, the plaintiff's attorney will attempt to show that there was a causal relationship between the RT's deviation from the standard of care and the patient's injury." (FindLaw, 2015) In failing to fulfill his legal duty to provide his patient with reasonable care, did John allow (cause) his patient to fall off the gurney?

"Fourth, the plaintiff's attorney will attempt to show that as a result of the fall the patient was harmed or injured." (FindLaw, 2015) Was John's patient harmed or hurt in any way from falling off the gurney?

To find an RT guilty of professional liability, the plaintiff's attorney will bring forward evidence to demonstrate that all four elements of negligence existed. Expert testimony most likely will be used. (FindLaw, 2015) For example, when it comes to demonstrating deviations from standards of care existed (the second element of negligence), an experienced and knowledgeable RT may be retained by the plaintiff's attorney to testify because John is an RT. Establishing that the patient was harmed or injured (the fourth element of negligence) may require the plaintiff's attorney to bring in a physician expert to corroborate the diagnostic reports obtained in the patient's medical records.

PROFESSIONAL STANDARDS AND SCOPE OF PRACTICE

ASRT Code of Ethics The testifying RT expert for the plaintiff's attorney will likely consult the *ASRT Code of Ethics* (ASRT, 2015) as criteria to determine if John deviated from prudent standards of practice. These Codes were developed to delineate high standards of professional conduct and to help members aspire to high ethical principles. (Ehrlich, 2013) The *ASRT Code of Ethics* contains ten ethical statements, and John may have violated four of them as indicated in bolded letters.

> The radiologic technologist **conducts herself or himself in a professional manner, responds to patient needs** and supports colleagues and associates **in providing quality patient care.** The radiologic technologist practices technology founded upon theoretical knowledge and concepts, **uses equipment and accessories consistent with the purpose for which they were designed** and employs procedures and techniques appropriately. (ASRT, 2015)

The radiologic technologist **assesses situations; exercises care, discretion and judgment; assumes responsibility for professional decisions; and acts in the best interest of the patient.** . (ASRT, 2015)

The radiologic technologist **uses equipment and accessories**, employs techniques and procedures, performs services in accordance with an accepted standard of practice and demonstrates expertise in minimizing radiation exposure to the patient, self and other members of the health care team. (ASRT, 2015)

The radiologic technologist **practices ethical conduct appropriate to the profession and protects the patient's right to quality radiologic technology care.** . (ASRT 2015)

Plaintiff's attorney will also likely reference the *ARRT Standards of Ethics*. (ARRT, 2015)

This document includes the *ASRT Code of Ethics* along with the ARRT Rules of Ethics, which are mandatory and enforceable for RTs and candidates.

"Certification and Registration are methods of assuring the medical community and the public that an individual is qualified to practice within the profession. Because the public relies on certificates and registrations issued by ARRT, it is essential that Certificate Holders and Candidates act consistently with these Rules of Ethics. These Rules of Ethics are intended to promote the protection, safety, and comfort of patients. The Rules of Ethics are enforceable. Certificate Holders and Candidates engaging in any of the following conduct or activities, or who permit the occurrence of the following conduct or activities with respect to them, have violated the Rules of Ethics and are subject to sanctions…" (ARRT, 2015)

Currently, there are twenty-two ARRT Rules covering a range of concerns:

- fraud or deceit of the certification process
- subverting the ARRT examination process
- convictions
- crimes
- courts-martial
- state or federal regulatory violations
- scope of practice violations
- unprofessional conduct
- inappropriate delegation of responsibilities that threaten patient safety (ARRT, 2015)

John seems to have violated at least one of the ARRT Rules as indicated in bolded letters:

Engaging in unprofessional conduct, including, but not limited to: (i) a departure from or failure to conform to applicable federal, state, or local governmental rules regarding radiologic technology practice or scope of practice; or, if no such rule exists, to the minimal standards of acceptable and prevailing radiologic technology practice; **(ii) any radiologic technology practice that may create unnecessary danger to a patient's life, health, or safety.** Actual injury to a patient or the public need not be established under this clause. (ARRT, 2015)

ASRT Practice Standards Another important document that experts for the plaintiff's attorney may consult in professional liability cases involving RTs includes the ASRT Practice Standards that address scope of practice, clinical performance, quality performance, professional performance, and advisory opinion statements for the following areas of radiologic technology:

- Bone densitometry
- Cardiovascular interventional
- Computed tomography
- Limited x-ray machine perators
- Magnetic resonance
- Mammography
- Medical dosimetry
- Nuclear medicine
- Quality management
- Radiography
- Radiologist assistant
- Radiation therapy
- Sonography (ASRT, 2015)

ASRT Decision Tree for Determining Scope of Practice ASRT's *Decision Tree for Determining Scope of Practice* shows the process for assuming accountability for providing safe care. (ASRT, 2015)

ASRT Curriculum Guides It is reasonable to assume that an RT deemed qualified to sit for ARRT certification has graduated from an approved educational-training program in radiologic technology that provided detailed instruction regarding adherence to professional standards of practice and behavior. Therefore, one may confidently assume that John must have known about this very important subject matter and how to apply it in a variety of situations.

The ASRT offers curriculum guides which include detailed instruction on standards of care, scope of practice and ethics for the following:

- Bone densitometry
- Cardiovascular interventional
- Computed tomography
- Limited x-ray machine operators
- Magnetic resonance
- Mammography
- Medical dosimetry
- Nuclear medicine
- Quality management
- Radiography
- Radiologist assistant
- Radiation therapy
- PET-CT
- B.S.R.S. Core Curriculum

In addition, the ASRT endorses three other curricula:

- Nuclear Medicine Curriculum developed by the Society of Nuclear Medicine and Molecular Imaging
- National Education Curriculum for Sonography developed through a national consensus conference and hosted on the website of the Joint Review Committee on Education in Diagnostic Medical Sonography,
- American Association of Medical Dosimetrists Curriculum Guide." (ARRT, 2015)

ARRT SANCTIONING

John's performance was reviewed by the ARRT. He was found in violation of ARRT Rules and sanctioned. "Sanctioning allows the public (consumers), prospective employers, and anyone else for that matter, to learn which RTs have violated ARRT Rules. Types of sanctions imposed on violators include: (1) reprimand, (2) ineligible for certification and registration, (3) suspension, (4) summary suspension, and (5) revoking of certification and registration." (ARRT, 2015) "Sanctioned RTs are listed in the official ARRT Sanctioned List which includes the sanctioned person's name, ARRT ID, birthdate, city, state, type of sanction, and date of sanctioning." (ARRT, 2015) Being listed on the ARRT Sanction List may give a negative impression to prospective employers.

MINIMIZE THE DAMAGE

RTs who find themselves committing a potential liability incident should take immediate and swift action to minimize the damage as much as possible. RTs who follow hospital policy and procedures and operate within their defined scope of practice are covered under their facility's umbrella liability policy. (Pigeon, 2004) This includes giving immediate physical and mental help to the patient and immediately filing an incident report.

SUMMARY

The key to understanding professional liability lawsuits for Registered Technologists is understanding the standards of practice and guidelines referenced here. If an incident does occur due to breach of standard, each must act quickly to minimize damages. In these ways, negligence cases involving RT practice are similar to that of any autonomous healthcare professional.

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Patient Safety: Creating a Culture Change to Support Communication and Teamwork

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Keywords: Safety, interprofessional communication, quality care, simulations,

Patient safety is the responsibility of all healthcare providers. Communication and teamwork issues have been shown to be the cause of many medical errors. For this reason, the IOM has suggested that standardization of communication among healthcare providers can contribute to better teamwork and ultimately positive patient outcomes. This article discusses various aspects of communication as a barrier to good care. It describes TeamSTEPPS™ as an evidence-based practice tool for improving patient safety through enhanced communication and teamwork skills for all members of the team.

PATIENT SAFETY

Many healthcare patients are savvy, litigious consumers with high expectations of expert professional care. They want to feel that the professionals trained to care for them will provide safe, competent care. US healthcare, both private and academic, is under increased scrutiny. Medical errors, especially those caused by failures in communication, are ubiquitous. And effective communication and teamwork are fundamental to quality patient care.

In its 1999 publication, *To Err Is Human: Building a Safer Health Care System*, the Institute of Medicine (IOM) reported that preventable medical errors caused an estimated 44,000 to 98,000 deaths each year. Associated costs for additional care, lost income and household productivity, and disability, was between $17 to $29 billion (IOM, 1999). From 1995 to 2004, communication failures were the leading root cause of all sentinel events reported to the Joint Commission. *To Err*

Communication failures were the leading root cause of all sentinel events reported to the Joint Commission.

Is Human: Building a Safer Health Care System provided a blueprint for change and a challenge for all parties involved in healthcare to make improved patient safety a national priority (O'Daniel & Rosenstein, 2008).

Communication must be clear, accurate, complete and timely to be effective for patient safety (Durham & Alden, 2008). When it is not, patient safety is decreased for several reasons: lack of critical information, misinterpretation of information, unclear reports and prescribing over the telephone, and overlooked changes in patient status (O'Daniel & Rosenstein, 2008).

The IOM reported that "it is in inadequate handoffs that safety often fails first" (p. 45). Because errors often occur during care transition, the The Joint Commission 2007 Patient Safety Goal required that hospitals "implement a standardized approach to hand-off communications and provide an opportunity for staff to ask and respond to questions about a patient's care" (Goal 2, p. 647). While the goal is simply stated, it is challenging to develop and implement effective strategies for handoffs across various health care settings, given the complexity of health care delivery.

BARRIERS TO EFFECTIVE COMMUNICATION

Health professionals tend to work autonomously, even though they are nominally team members. Efforts to improve patient safety and quality are often jeopardized by the communication and collaboration barriers that exist between clinical staff. In the Joint Commission's sentinel event database, 65 percent of the identified adverse events have been found to have communications failures as the underlying root cause. (Joint Commission, 2007, p.48).

The barriers between nurses and physicians are the most common. Physicians and nurses often have different perceptions of their goals, roles, and patient care responsibilities. Additionally, since the United States is one of the most ethnically and culturally diverse countries in the world, clinicians come from a variety of cultural backgrounds; cultural differences can exacerbate communication problems (Joint Commission, 2007, p.20).

For example, in some cultures, individuals refrain from being assertive or challenging opinions openly. As a result, it is very difficult for nurses from such cultures to speak up if they see something wrong and may communicate their concern very indirectly. Cultural barriers can also hinder nonverbal communication.

A review of the organizational communication literature shows that another common barrier to effective communication and collaboration is hierarchies. Sutcliffe, Lewton, and Rosenthal (2004) agree that communication failures in the medical setting arise from vertical hierarchical differences, concerns with upward influence, role conflict, and ambiguity and struggles with interpersonal power and conflict. Communication can be distorted or withheld in situations where there are hierarchical differences between two communicators, particularly when one person is concerned about appearing incompetent, does not want to offend the other, or perceives that the other is not open to communication.

Relationships among the individuals providing patient care can have a powerful influence on how and even if important information is communicated. Staff who witness poor performance by peers may hesitate to speak up in fear of retaliation or feeing that speaking up will do no good. Research has shown that delays in patient care and recurring problems from unresolved disputes are often the byproduct of physician-nurse disagreement. O'Daniel and Rosenstein (2008) have identified relationship issues, especially personality and communication style, affecting when nurses are either reluctant or refuse to call physicians even in the face of a deteriorating status in the patient: intimidation, fear of getting into a confrontational or antagonistic discussion, lack of confidentiality, fear of retaliation, and the fact that nothing ever seems to change. Disruptive behaviors are particularly concerning, due to how frequently they occur and the potential negative affect they can have on patient care. The patient's perception can be that the staff cannot deliver safe care because they can't communicate effectively.

KNOWN BENEFITS OF COMMUNICATION AND TEAM COLLABORATION

Clinicians must have standardized communication tools and work in an environment where individuals can express concerns. Structured communication techniques can help team members ensure accuracy, make decisions, and take action rapidly. The Joint Commission's 2007 National Patient Goals proposed additions to Joint Commission standards suggested that one way to bridge the communication gap is to train staff to use a Situational Briefing Model of Communication initially developed by the military and first implemented in healthcare at Kaiser Permanente in Oakland, CA.

TeamSTEPPS

The *Team Strategies and Tools to Enhance Performance and Patient Safety* (TeamSTEPPS™) system was developed for healthcare by the U.S. Department of Defense's Patient Safety Program and the Agency for Healthcare Research and Quality (AHRQ) based on 20 years of research on team training from the military, aviation, and healthcare (Mayer et al., 2011). TeamSTEPPS™ focuses on specific skills supporting team performance principles, including training requirements, behavioral methods, human factors, and cultural change designed to improve quality and patient safety.

Teams make fewer mistakes than individuals, especially when each team member knows the responsibilities of other team members (King et al., 2008). However, even though they share common safety and quality goals, these interdependent team members come from separate disciplines and diverse educational programs and are rarely educated together. AHRQ began its effort to disseminate TeamSTEPPS™ nationwide in 2006, sponsoring training programs for as many people as possible through collaborative efforts of several federal agencies, academic centers, and health care networks, aiming for wide-scale dissemination through 2014 (King et al., 2008).

TEAM DYNAMICS

TeamSTEPPS™ emphasizes defining team skills, demonstrating the tools and strategies team members can use to gain proficiency in the competencies/skills, and identifying tools and strategies to overcome barriers. These are the basis for standardizing communication and ultimately improving patient safety.

TeamSTEPPS™ training has specific tools and strategies for improving communication and teamwork, built upon an evidence-based framework with four core teachable, learnable skills: communication, leadership, situation monitoring, and mutual support. In Figure 1, the red arrows depict a two-way dynamic interplay between the core skills and team-related outcomes of enhanced knowledge, positive attitudes, and exceptional performance. Encircling the four skills is the patient care team, the patient, direct caregivers, and those in supportive roles.(Figure 1)

FIGURE 1. THE TEAMSTEPPS™ MODEL. (KING ET AL., 2008, P.11)

DEFINITIONS OF TERMS

- **Communication** is the ways information is clearly and accurately exchanged among team members.
- **Leadership** is the ability to coordinate team member activities by ensuring team actions are understood, changes in information are shared, and team members have the necessary resources.
- **Situation Monitoring** is a process of actively scanning and assessing situational elements to gain understanding or to maintain awareness to support team function.
- **Mutual Support** is anticipating and supporting other team members' needs by having accurate knowledge about their responsibilities and workload (King et al., 2008).

HIGH-FIDELITY SIMULATION TO CREATE A SAFE LEARNING ENVIRONMENT

TeamSTEPPS® training scenarios using authentic clinical events are designed to challenge the interprofessional team to rely on both problem-solving and team skills while focusing on the core principles; doing so, students, faculty, and practitioners develop new appreciation of all professions' roles. Debriefing provides the students an opportunity for both self- and peer reflection on their interaction with other team members' values, abilities, and teamwork skills. (Forstater, Speakman, Pettit, & Duffy, 2015).

Figueroa, Sepanski, Goldberg, and Shah (2013) found that integrating TeamSTEPPS™ into their simulation scenarios resulted in increased perception of knowledge and ability and that perception remained high three months after the training.

IMPLICATIONS FOR THE LEGAL NURSE CONSULTANT

The legal nurse consultant (LNC) has the responsibility of evaluating the safety measures employed by a hospital or other entity. The use of TeamSTEPPS™

Clinicians must have standardized communication tools and work in an environment where individuals can express concerns. Structured communication techniques can help team members ensure accuracy, make decisions, and take action rapidly.

is one means of addressing safety issues and gives evidence of an awareness of the importance of keeping patients safe. Combined with other evidence-based practices, it has the potential to reduce adverse events. Training logs, policy/procedure manuals, and other records should give evidence of whether the facility endorses the TeamSTEPPS™ model and how widely and effectively it has promulgated its use.

CONCLUSION

Patient safety is the responsibility of all healthcare providers. Communication and teamwork issues have been shown to be the cause of many medical errors. For this reason, the IOM has suggested that standardization of communication among healthcare providers can contribute to better teamwork and ultimately positive patient outcomes. TeamSTEPPS™ offers an evidence-based practice tool for improving patient safety through enhanced communication and teamwork skills for all members of the team. This concept gives everyone caring for the patient a voice in contributing to all aspects of patient care.

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Safe Practices for Clients who need Wheelchairs: Considerations for Clients, Caregivers, and Health Care Facilities

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Keywords: Pressure ulcers; wheelchairs; seating and mobility; pressure relief; physical therapy; occupational therapy

Thousands of people in care facilities are affected negatively by falls and pressure ulcers; billions of dollars are spent annually on their preventable complications. Making evidence based-choices for buying and using wheelchair and seating equipment promotes client health, safety, independence, and better outcomes. Physical and Occupational Therapists play a key role on the team responsible for wheelchair seating and mobility equipment evaluation, recommendation and training. Nursing has the opportunity to identify at-risk clients who need equipment, and to reinforce training in its proper use/care. This article focuses on safe practice goals for managing clients in wheelchairs: fall prevention, skin protection, and injury prevention for clients, staff, and caregivers.

Wheelchairs and seating systems are critical equipment to assist with mobility, postural support, and skin protection. Staff and client safety can be directly related to proper training in and use of wheelchair seating and mobility equipment.

This article will focus on safe practice goals: fall prevention, skin protection, and injury prevention for clients, staff, and caregivers.

FALLS: DEFINITION AND PREVENTION

A fall in the hospital is defined as a sudden, uncontrolled, unintentional, downward displacement of a client to the floor or other object. When a client is found on the floor, it is considered an unwitnessed fall. (VHA NCPS, 2004). Both circumstances should be captured in the hospital's reporting database system as sentinel events that are reviewed by The Joint Commission. Since 2008, the Centers for Medicare & Medicaid Services has not paid hospitals for the additional costs of treating clients who die or become disabled as a result of a fall (Clancy, 2013). Despite this, according to The Joint Commission, from 2004 to current, falls-related events have steadily increased, now the second most reported sentinel event in 2014.

Physical therapy (PT) should perform a detailed mobility assessment when clients are identified as being at risk for falls. An Occupational Therapy (OT) referral may also be indicated, especially if the client is not independent and safe in activities of daily living.

FALLS RISK ASSESSMENT

The two most frequently-used fall risk assessment scales are the *Morse Fall Scale* and the *Hendrich II Fall Risk Model*.

The Morse Fall Scale is used in acute care and a few long-term care inpatient settings upon admission, after any fall, with any changes in status, with transfers to a new setting and upon discharge. The Morse Fall Scale assesses the clients history of falls (immediate or within 3 months), secondary diagnosis(es), ambulatory aids used, the presence of a saline lock or IV fluids, gait quality, and the client's mental status. This tool is research driven and interventions are standardized by the level of the risk (VHA NCPS, 2004). However, it is not designed for long-term care use and does not quantify risk of unsafe wheelchair use: it scores a wheelchair user as a 0 risk for falls, so fails to accurately capture risks of unsafe wheelchair use.

The Hendrich Fall Risk Assessment is used in inpatient and some long-term care settings. It classifies risk based on gender, mental and emotional status, symptoms of dizziness, and medication classes known to increase risk (Gray-Miceli, 2007). It focuses on interventions for specific areas of risk rather than a general risk score, and clients are categorized as low-risk or high-risk. It is not as researched as the Morse Fall Scale and nearly every client will be put in the high-risk category (VHA NCPS, 2004).

One final initial screening for fall risk is called the *Timed Get Up & Go* Test. This test requires the client to rise out of a chair and walk quickly around an object placed eight feet in front of him and return to the chair and sit down. The client is allowed to practice one time. If the client takes longer than 8.5 seconds he should be considered high-risk and referred to PT/OT for further evaluation (VHA NCPS, 2004) and recommendations.

Clients found to be at risk for falls should be identified with appropriate room signage, colored non-slip socks, arm bands, and covered in shift report.

FALLS RISK PREVENTION INTERVENTIONS

Numerous fall risk interventions have been identified:

- bed in lowest possible level with wheels locked
- non-slip mats around the bed
- floors uncluttered, especially between the bed, chair, and bathroom
- eliminating spills quickly
- encouraging the client to always wear appropriate, safe footwear
- proper lighting at night
- patient items kept within easy reach
- eliminating restraints
- medication review
- increased caution with urinary catheters, drainage tubes, and IVs
- frequent rounding (at least hourly)
- toileting regimen
- bed/chair alarms
- education for client, staff, and family
- video surveillance monitoring systems (Pearson & Coburn, 2011).

If a client needs a wheelchair, it should be close to the bed and ready for safe use.

PREVENTING SKIN BREAKDOWN

Pressure ulcers affect 3 million adults a year and nearly 60,000 people per year die from them, nearly twice as many as by MVA. Clients 65 years and older accounted for 72.3% of all acute hospitalizations with pressure ulcers (Russo, 2006). In spinal cord injury, 60% will develop a pressure ulcer during their lifetimes. More than one in ten nursing home residents have a pressure ulcer. The government spent $15 billion on pressure ulcer treatment in 2003 (Russo, 2006).

ETIOLOGY

A pressure ulcer is an area of skin that becomes damaged, often due to a combination of ischemic and tissue

deformation damage around a bony prominence. Tissue damage due to cellular deformation can occur much more quickly (minutes to hours) than damage due to localized ischemia (6-8 hours) (Gefen, 2014). Deep tissue damage from deformation happens due to the force of the skeleton acting on the tissues. Deformation takes an inside-to-out pathway, versus the outside-to-in pathway we often think of when we think about a wound moving from Category I to a Category IV Pressure Ulcer. Chronic sitting can cause high compressive loading, not only causing ischemia, but also distorting the cells and causing internal tissue damage. Stekelenburg (2007) concluded that large deformation, in conjunction with ischemia, is the main trigger for irreversible muscle damage.

Ischemia and tissue damage result in pain that tells the client to change position to re-establish adequate blood flow. Clients with decreased or total lack of pain sensation or who are unable to adequately move or shift their weight are especially at risk. Often, wheelchair users have both of these risk factors.

In addition, risk assessment also involves looking at extrinsic risks: increased temperature, moisture, shearing, friction, and pressure; and patient-specific intrinsic risks: decreased circulation; smoking; diabetes mellitus; high blood pressure; poor nutrition and dehydration; aging; history of previous skin breakdown.

Poor wheelchair positioning and poor cushion support, and the inability to perform independent weight shifts/pressure reliefs contribute to the development of pressure sores.

SKIN ASSESSMENT

The most common assessment tool used in predicting pressure ulcer/skin breakdown risk is the Braden Scale, which evaluates sensory perception, moisture, activity, mobility, nutrition, friction and shear. Clients are more at risk of skin breakdown when their sensory perception is decreased, when moisture is increased, when activity level and mobility is reduced, when nutrition is less than adequate and when friction and shear are a problem. The lower the Braden Risk Assessment Score, the higher the client's risk of developing skin breakdown. Braden scores can range from 6 to 20, with a score of 12 or less indicating a high risk.

Both most frequently-used fall risk assessment scales, the Morse Fall Scale and the Hendrich II Fall Risk Model, have limitations and cannot be universally applied.

PREVENTION

Proper seating and positioning with the right wheelchair, cushion, and back support, as well as the ability to perform adequate pressure reliefs, are keys to preventing skin breakdown for clients who use wheelchairs.

Some of the key practices provided by the Paralyzed Veterans of America (PVA) Clinical Practice Guidelines on Pressure Ulcer Prevention (2014) for wheelchair users are as follows:

- Monitoring for skin breakdown
- Periodically evaluate the individual and his/her support environment for optimal maintenance of skin integrity.
- Prescribe wheelchairs and seating systems according to individualized anthropometric, ergonomic, and functional principles.
- Establish and initiate a specific pressure relief regimen within the individual's capability.
- Pressure relief frequency/duration: 1-3 minutes for every 15-30 in seated in wheelchair; this is the most conservative recommendation.
- Prescribe a power weight-shifting wheelchair system for individuals who are unable to independently perform an effective weight shift.
- Education on effective strategies for the prevention and treatment of pressure ulcers.

WHEELCHAIR ASSESSMENT AND INTERVENTION

These people should be referred to a PT or OT who is a qualified seating and wheelchair professional, not a vendor, for an in-depth wheelchair seating and mobility evaluation: Clients who

- cannot walk safely
- are at risk for skin breakdown
- would otherwise be confined to bed
- have a wheelchair and/or seating system that does not meet needs

The evaluation should include:

- medical diagnoses
- comorbidities
- skin status
- pain and sensation level
- strength
- posture
- mobility skills, including ability to perform pressure relief, transfers and w/c propulsion
- vision, cognition, and safety awareness

Many individuals' needs can be met with very simple equipment. Clients requiring more complex rehabilitation technology (CRT) need equipment that is individually configured, not a facility "stock" wheelchair and cushion.

If equipment is required for safe discharge, wheelchair/seating evaluation, trial, and recommendation process should be finished while the client is still an inpatient.

Health insurance for facility long term care often will not cover CRT separately, a barrier to access to the evidence-based care for clients whose admission duration is indefinite or permanent.

It is the therapist's responsibility to work with suppliers and inform the client, family, and facility about equipment, costs, functional trade-offs, and options. A qualified CRT supplier must have a certification from the Rehabilitation and Assistive Technology Society of North America (RESNA) as an Assistive Technology Professional (ATP) certification.

If equipment is required for safe discharge, the therapist and ATP should complete the wheelchair/seating evaluation, trial, and recommendation process while the client is still an inpatient. Veterans may be eligible for individualized CRT through VA benefits, and this option should be explored.

TRAINING AND INJURY PREVENTION

Caregiver training should occur as part of safe discharge planning. The client should also be instructed in how to direct caregivers in the safe use and care of equipment to promote safety with transfers, re-positioning, and other mobility related activities of daily living.

Transfer training should be documented and may include the following:

- Proper body mechanics with transfers and lifting
- Safe operation of transfer/lift equipment
- Transfer techniques for moving clients to/from different surfaces
- Transfer techniques for moving clients needing differing levels of assistance
- Using a gait belt or transfer belt
- Attending to the environment during transfers (i.e. floor surfaces, clutter, bed locked in place, position of catheter, oxygen, etc.)
- Safe wheelchair management technique for transfers

Safe wheelchair equipment caregiver use and care training for ADLs should be documented and may include safe operation of the wheelchair seating system, including tilt, recline, elevation and elevating/articulating leg rests for necessary pressure reliefs and positioning of the client for various activities of daily living. (Sprigle, Mauer, & Sorenblum, 2010).

Wheelchair safety includes proper maintenance of wheelchairs and seating equipment to prevent injury to wheelchair user and/or caregivers. Users and caregivers should have documented education on accessories, maintenance, replacement intervals, and safe use. Clients, families, and caregivers should also learn safe wheelchair driving, and this should be documented.

SUMMARY/CONCLUSION

Clients depend upon their wheelchairs and seating systems for mobility, improved independence, pressure relief, postural support, and access to the rest of the world. Proper wheelchair assessment, provision, maintenance, training and use are keys to promoting safety in health care facilities, as well as independence for clients. Given the costs to manage pressure ulcers and the results of falls, attention to the safe clinical application of wheelchair and seating systems are value based health care choices, as well as best practices.

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