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Critical Processes for Preventing Wrong Site Surgery

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Modern surgical practice is based on a growing knowledge of the biology of disease and on the continued evolution of sophisticated operative techniques. The hectic pace of healthcare attendant to these advances has exacted a significant toll on the precious time the surgeon is able to spend establishing a strong bond of trust that is the essential component of any physician-patient relationship. This limitation has become a prescription for disaster, setting the stage for a harried surgeon to inadvertently operate on the wrong patient, wrong organ, or wrong side. How can something so simple and intuitive as operating on the right part of the right patient be such a common cause for preventable catastrophe? ***The answer lies in process.*** Between the art and science of modern medicine lies order and discipline. Effective medical care requires that all providers have the discipline to follow an organized process of care. This is especially so for prevention of wrong site surgery. Because medical care is a human endeavor, it is susceptible to all of the failings of uncoordinated human effort. ***Process is the pillar of patient safety that assures that the quintessential example of preventable error has no chance of occurring.***

A recent survey of a network of 60 hospitals focused on perception of patient safety as assessed by the people who worked in them. Surgeons, anesthesiologists, operating room technicians, and nurses had essentially the same level of confidence regardless of institution. The extent of this confidence varied among institutions. What was perceived as a problem by one component of the operating room team was similarly perceived by all others.

The process of human endeavor that should control or, more significantly, prevent wrong site surgery focuses on three issues. First is the patient's ability to identify the appropriate side or site of operative intervention and reasons for the procedure. Second is the actual procedure to be performed.

This includes the personnel who will be performing the surgery and ***identifying, verifying, and marking the correct anatomic location*** where it will be performed. Finally, there is the global issue of ***coordination and communication among patient, provider, administrator, and everyone else who is responsible for accumulation of specific information regarding the patient and the surgical procedure.***

Patient-related issues can be problematic. Patients are sometimes forgetful and often have pre-existing problems that diminish their ability to remember discussion of the operative plan. Because there is usually a delay between initial surgical evaluation and the performance of the procedure, marking the site at the time of initial office encounter is impractical.

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What is of value, however, is the production of a "token." This can be as simple as a 3"x5" index card on which the patient's operative site is described in simple English. Both the patient and the physician sign and date the card. The card stays in the surgeon's possession until the date of surgery, at which time it is presented to the patient and/or family to verify the intended procedure. Such a system is simple, reproducible, and protects individuals most at risk for wrong site surgery. Both patient and provider have a strong incentive to assure that the token is provided on the day of surgery. This system can be enhanced even further into a "no ticket, no laundry" policy, in which the absence of the token card signed by the appropriate personnel prohibits entry into the operating room.

Patient anatomy represents a different level of challenge. The obvious laterality of a hernia or lesion that is palpable or visible is relatively easy to identify and to confirm preoperatively with the surgeon's initials. Of greater concern are the internal lesions, such as spinal cord pathology or other anatomic anomalies, that may not be apparent once operative exposure has begun. The best method to avoid this particular problem is to ***assure that the appropriate imaging studies*** that define the lesion to be addressed ***are available in the operating room with the patient.*** Moreover, many modern operating rooms now have access to portable CT scans or fluoroscopic C-arms that should be available 24 hours a day, 7 days a week should the surgeon need additional imaging to confirm that the level of operative intervention or location of operative field is as planned in the preoperative assessment.

The final component of process is the actual interaction of the individuals who represent the medical management team. When evaluating the survey mentioned above and addressing specifically the issue of wrong site surgery**,** the three most common contributing factors were inadequate communication among the surgical team members, followed then by inadequate training of personnel, and lack of availability of patient information. The token system discussed above will certainly help with the information system. One of the major improvements in patient safety that has evolved over the past few years has been the insistence that ***all members of the operative team responsible for providing operative surgical care function as a team.*** This requires that they know each other, communicate well with each other, train together, and are all apprised of the operative plan.

The *traditional* ***"time out" is an essential adjunct*** that mandates that all members of the team confirm the purpose of being there before the surgeon's knife touches the patient's skin. Because many hospital operating room staff are still not effectively organized as teams, the real value of a "time out" can be undermined by the constant parade of personnel going in and out of the operating room as the patient's anesthetic is induced and the procedure begun. Many hospitals have begun to augment the "time out" to an actual briefing

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and debriefing where, prior to entry into the operating room, the entire operating team - including anesthesiologists, technologists, and nurses - meet at the patient's bedside with the patient awake to assure one another that the plans for the operative intervention have been appropriately defined and that all members know exactly what is intended. This may represent a significant investment in time and motion; however, the return on the investment and the avoidance of even one errant operative misadventure is well worth the effort.

Wrong site surgery continues to be a problem and a threat to patient safety in American hospitals. It represents the absolute classic opportunity for those who work in these facilities, and whose commitment to good healthcare is manifest with every day's work, to organize very simple systems of communication and coordination that will assure that this preventable disaster is, in fact, completely eliminated.

Universal Protocol Compliance Q&A's

JCAHO compliance with the Universal Protocol for Preventing Wrong Site, Wrong Procedure, Wrong Person Surgery became effective July 1, 2004.

The Universal Protocol encompasses the following basics:

- Pre-operative verification process
- Marking the operative site
- "Time Out" immediately before starting the procedure

Below are some frequently asked questions and **JCAHO's response**:

Q. Isn't this pre-operative checklist thing just another onerous Joint Commission documentation requirement?

A. *The requirement is for a "preoperative verification process." The checklist is an example of one approach - the most common one. The intent of the requirement is to ensure that all of the relevant documents are **available** prior to the start of the procedure and that they have been **reviewed** and are **consistent** with each other and with staffs' understanding of the intended patient, procedure and site. It is the process that is important, not the documentation. Surveyors will evaluate the consistency with which the preoperative verification process if performed, without mandating the use of a checklist if the organization has decided to use a different approach.*

Q. What specific surgical procedures require marking of the site?

A. *The Universal Protocol requirements are applicable to all operative and other invasive procedures that expose patients to more than minimal risk, including procedures done in settings other than the operating room such as special procedures unit, endoscopy unit or interventional radiology suite. Certain routine "minor" procedures such as venipuncture, peripheral IV line placement, insertion of NG tube or Foley catheter insertion are not within the scope of the protocol. In addition, marking the site is required for procedures involving right/left distinction, multiple structures (such as fingers and toes), or levels (as in spinal procedures). Site marking is not required, (nor is it prohibited) for other procedures. These may include mid-line sternotomy, Cesarean Section, laparotomy and laparoscopy, cardiac catheterization and*

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other interventional procedures for which the site of insertion is not pre-determined. However, most other procedures that involve puncture or incision of the skin, or including, but not limited to, percutaneous aspirations, biopsies, cardiac and vascular catheterization, and endoscopies are within the scope of the Universal Protocol.

Q. Do you need to mark the site for laparoscopic procedures?

A. *If the target site is for organs that are paired, site marking is required to indicate the intended side, even though the site of insertion of the instrument is in the midline.*

Q. What is the recommended procedure for marking spinal surgery cases?

A. *For spinal surgery, we advise a two-stage marking process. First the general level of the procedure (cervical, thoracic or lumbar) must be marked preoperatively. If the approach involves anterior versus posterior, or right versus left, then the mark must indicate this. Then, intraoperatively, the exact interspace(s) to be operated on should be precisely marked using the standard intraoperative radiographic marking technique. The requirement for the preoperative marking is based on reported cases in which a patient intended for a cervical procedure had a lumbar procedure started , and vice versa.*

Q. Who should participate in the "time out" process?

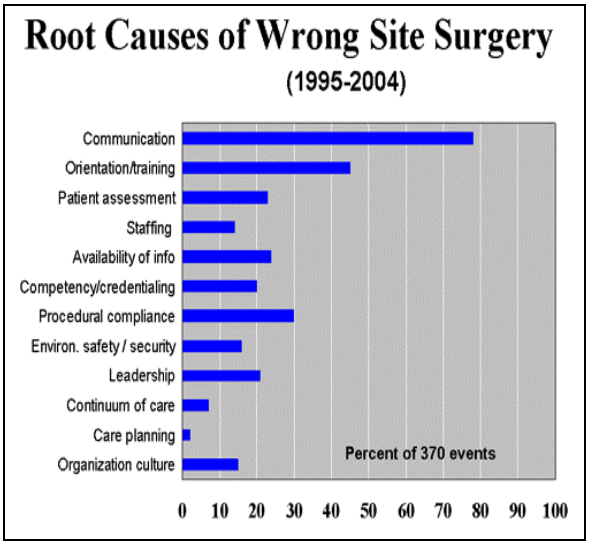
A. *The "time out" must involve the entire surgical team. At a minimum, this includes active participation by the surgeon, anesthesia provider, and circulating nurse. Participation by the other members of the team, as appropriate to their involvement in the procedure, is also encouraged. In particular, there should be no barrier to anyone speaking up if there is concern about a possible error. To include some members of the team but not others sends the wrong message.*

Q. What is meant by "active communication" as part of the "time out" process?

A. *"Active communication" doesn't necessarily mean everyone has to repeat the same information. The members of the team may signal their agreement by a brief oral acknowledgement, a nod or some other gesture. The point is, absence of a response should not be interpreted as agreement.*

For additional information on the Universal Protocol and frequently asked questions just log onto http://www.jcaho.org.

JCAHO Statistics



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Simulation Team Training- A Proactive Approach to Risk Reduction

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Simulation in health care training has been used for decades. Since the late 60's and early 70's, the use of full body manikins for CPR and obstructed airway procedures have allowed skills and techniques to be taught to all levels of care providers. What is new today is the development of computer programs that can model physiology, combined with advances in plastics and other micro-technologies, to develop "life-like" mannequins. Many colleges and universities have expanded skill labs to include the simulated patient and there are well over 20 "Virtual Hospitals" across the country where rooms are dedicated to simulation.

Advanced patient simulators combine multiple skill trainers in one "body," such as realistic airways where tongues swell and cords spasm, plastic airways that have the ability to "swell" using pneumatic controls, an IV arm, and a chest that produce heart, lung, and bowel sounds. Blood flow can be simulated by pulsing of compressed air through tubing and controlling the pressure and volume to allow monitoring of changes in blood pressure. Some simulators can even analyze airflow for oxygen content or anesthesia gases. While state-of-the-art simulators makes for a more "real" experience, improvement and enhancement of training skills can also be realized using less expensive models.

Simulation is well suited for team training because to function as a team in an emergency, each member must have some knowledge of the strengths and abilities others bring to the event. Computer programmed simulation allows students to experience real time events and scenarios as well as variations in scenarios. The repeatability of computer programmed simulation enables the scenario to be repeated as many times as necessary to achieve the desired level of individual and/or team assessment and procedural skills.

Simulation training not only increases skill proficiency; it forces the student to deal with the real-time factor in completing the processes involved in various tasks. For instance, inserting an IV requires time to set-up, prepare the site, insert the IV, and secure it, as does medication administration or any other procedure. Students are prevented from "assuming" an IV or other procedure has been completed but must perform each step until the scenario has advanced to its logical conclusion, which may not always be the desirable outcome.

In the routine clinical setting, the instructor/mentor would "take over" in emergency cases to protect the patient. Simulation allows students to experience failure and the consequences of poor or incorrect choices without the harm factor.

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Success teaches many things, but possibly not the point that needs to be learned. Success can easily be an "accident," done more as a list of steps rather than as a planned event. With simulation, weaknesses in approach and decision-making are easier to pinpoint and the repeatability feature of simulation readily highlights what would have been the correct or better decision.

Training with simulation works best when multiple members of the team are involved. In most schools, training usually involves students of one discipline, such as all nurses or physicians, or paramedics; however, health care teams of varying disciplines can benefit from this proactive approach toward improving the delivery of health care.

Both Shands Jacksonville and Shands UF campuses provide simulation training opportunities and you may contact the following individuals for further information:

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Bibliography

1. DeVita, MA; Schaefer, J; Lutz, J; Wang, H; Dingily, T. Improving medical emergency team (MET) performance using a novel curriculum and a computerized human patient simulator. Qual. Saf. Health care, 2005; 14: 326-331.
2. Hamman, WR. The complexity of Team Training: What we have learned from aviation and its applications to medicine. Qual. Saf. Health care, 2004; 13: 72-79. Retrieved from: http://qhc.bmjjournals.com/cgi/content/full/13/supl_1/i72.