SAFE PRACTICE 26: WRONG-SITE, WRONG-PROCEDURE, WRONG-PERSON SURGERY PREVENTION

The Objective
Prevention of wrong-site, wrong-procedure, and wrong-person surgeries.

The Problem
Wrong-site surgery involves all surgical procedures performed on the wrong patient, wrong body part, wrong side of the body, or wrong level of a correctly identified anatomic site. [Kwaan, 2006] Wrong-patient surgery may include patients who were never scheduled for a procedure but who received one; procedures performed that were not scheduled; and procedures that were scheduled correctly, but for which the wrong procedure was performed. Because wrong-site surgery is preventable, the National Quality Forum (NQF) has designated it as one of its serious reportable events. [NQF, 2002; NQF 2007; Levinson, 2008b]

The true frequency of wrong-site surgery is not known, and current estimations of the incidence of wrong-site surgeries vary. Based on their analysis of wrong-site surgeries reported to a large malpractice insurer, Kwaan et al. concluded that nonspine wrong-site surgeries are rare, occurring only once in 112,994 operations. [Kwaan, 2006] However, for spine surgeons there was one wrong-site surgery for every 3,110 operations, and it is estimated that 50 percent of spine surgeons will perform a wrong-site surgery at least once in their career. [Mody, 2008] Seiden and Barach estimated, after analyzing 5 major incident reporting and claims databases, that the incidence of wrong-site surgeries may be as high as 1,300 to 2,700 per year. [Seiden, 2006] Data reported to the Pennsylvania Patient Safety Reporting System (PA-PSRS) indicate that, on average, 1 wrong-site surgery occurs in every 300-bed hospital each year. [PA-PSRS, 2007] Forty percent of PA-PSRS-reported events reached the patient, and 20 percent actually involved the completion of a wrong-site procedure. Wrong-site surgeries were the most reported sentinel events (13 percent of 5,208 events) to The Joint Commission between January 1995 and July 2008. [TJC, 2008a] Wrong-surgery sentinel events were distributed among the following types: wrong-side surgeries (59 percent); wrong-patient (12 percent); wrong-procedure (10 percent); and other wrong-site surgeries (19 percent). The surgical specialties most commonly involved were orthopedic (41 percent); general surgery (20 percent); neurosurgery (14 percent); and urology (11 percent). [TJC, 2009]

Because wrong-site surgeries are believed to significantly under-reported, it is not currently possible to estimate the severity of harm caused by these sentinel events. [Seiden, 2006; Levinson, 2008a] Only one major study has attempted to evaluate the severity of harm associated with wrong-site studies. That study concluded that wrong-site studies were rare and that major injury from these errors is even rarer. [Kwaan, 2006] Additional research is needed before this conclusion can be accepted or refuted.

The preventability of wrong-site, wrong-procedure, and wrong-person surgeries cannot be overstated. Analyses performed by hospitals on 126 cases of wrong-site surgery identified the following root causes: communication failures among the surgical team, patient, and family; breakdowns during the preoperative assessment of the patient; and inadequate policies or procedures related to site marking.
and verification procedures by the surgical team. [Clarke, 2008; Blanco, 2009] Other factors related to staffing, culture, and distractions were also cited as root causes. [TJC, 2001] In July 2003, The Joint Commission’s Board of Commissioners approved the Universal Protocol for Preventing Wrong Site, Wrong Procedure, Wrong Person Surgery™. The Universal Protocol is applicable to all operative and other invasive procedures. [JCR, 2010b]

Relatively speaking, the cost of wrong-site surgeries is low. According to the Physician Insurers Association of America, the likelihood for paid claims on wrong-site cases is small. Between 1998 and 2007, the overall average indemnity (in 2008 dollars) paid for a claim was $146,201. Neurosurgeons ($425,677) and urologists ($306,460) paid the highest average indemnities, while orthopedic surgeons were the most likely to have or pay a claim against them. [PA-PSRS, 2008]

**Safe Practice Statement**

Implement the Universal Protocol for Preventing Wrong Site, Wrong Procedure, Wrong Person Surgery™ for all invasive procedures. [AHRQ, 2001; IHI, 2009]

**Additional Specifications**

**Specifications of Universal Protocol:**
[Angle, 2008; JCR, 2010a; JCR, 2010b]

- Create and use a preoperative verification process to ensure that relevant preoperative tasks are completed and that information is available and correct. [WAPS, 2008; Haynes, 2009; Henrickson, 2009; HPR, 2009]

- Mark the surgical site and involve the patient in the marking process, at a minimum, for cases involving right/left distinction, multiple structures (e.g., fingers, toes) or multiple levels (e.g., spinal procedures). [Robinson, 2009]

- Immediately before the start of any invasive procedure, conduct a “time out” to confirm the correct patient, procedure, site, and any required implants or special equipment. [VMMC, 2006; Dillon, 2008]

**Applicable Clinical Care Settings**

This practice is applicable to Centers for Medicare & Medicaid Services care settings, to include ambulatory surgical center, emergency room, inpatient service/hospital, and outpatient hospital.

**Example Implementation Approaches**

- Empower the entire healthcare team to “stop the line” at any point in the process and to resume only when all elements of the protocol are in place/verified.

- Implement the WHO 19-item surgical safety checklist, which has been estimated to save the lives of 1 in 144 surgical patients. [Haynes, 2009]

- Raise awareness of wrong-site surgery through system-wide patient safety alerts. [Rhodes, 2008]

**Strategies of Progressive Organizations**

- Some organizations include the patient’s own words into the health record. This includes the patient confirming his or her full name and birth date.
Opportunities for Patient and Family Involvement

- Educate the patient and family members about the common incidence of wrong-site surgical procedures.
- Actively involve the patient, and family whenever appropriate, in all steps of presurgery preparation.
- Include the patient during time-out procedure to verify correct surgical site.
- Encourage the patient to ask questions and “stop the line” before sedation if he or she is not included in the time-out.

Outcome, Process, Structure, and Patient-Centered Measures

These performance measures are suggested for consideration to support internal healthcare organization quality improvement efforts and may not necessarily address all external reporting needs.

- **Outcome Measures** include change in rates of incidence of the NQF-endorsed® serious reportable events and The Joint Commission sentinel events related to surgery performed on the wrong site, wrong side, or wrong person.
  - Percentage of Ambulatory Surgical Center admissions experiencing a wrong-site, wrong-side, wrong-patient, wrong-procedure, or wrong-implant surgery.
  - NQF-endorsed® outcome measure:
    1. #0267: Wrong Site, Wrong Side, Wrong Patient, Wrong Procedure, Wrong Implant [Hospital, Ambulatory Surgical Centers]: Percentage of ASC admissions experiencing a wrong site, wrong side, wrong patient, wrong procedure, or wrong implant.

- **Process Measures** include monitoring to identify actual or aborted gaps in performance of all steps of the Universal Protocol.
- **Structure Measures** include compliance with the Universal Protocol as part of the leadership dashboard and evidence of ongoing education and training for all caregivers, including medical staff who participate in operative and invasive procedures. This should include the percentage of individuals completing initial and refresher sessions.
- **Patient-Centered Measures** include surveys of patient involvement in surgical-site identification and communication with the entire team.

Settings of Care Considerations

- **Rural Healthcare Settings:** All requirements of the practice are applicable to rural healthcare settings.
- **Children’s Healthcare Settings:** All requirements of the practice are applicable to children’s healthcare settings.
- **Specialty Healthcare Settings:** All requirements of the practice are applicable to specialty healthcare settings.

New Horizons and Areas for Research

Opportunities for further improvement exist in the area of patient identification that include the use of technology-enabled best practices.

Other Relevant Safe Practices

Notes


Feb. 16, 2011

Dear Healthcare Leader:

We are delighted to announce that the National Quality Forum has graciously given us permission to distribute copies of the *NQF Safe Practices for Better Healthcare – 2010 Update*. This copy has been provided to you in the interest of helping you implement, and/or educate others to adopt the suggestions and implementation examples into your safe practices.

The National Quality Forum is dedicated to providing evidence-based practices as ready-to-use tools to improve safety. The practices in the *NQF Safe Practices for Better Healthcare – 2010 Update* have been evaluated, assessed and endorsed to guide large and small healthcare systems in providing the safest care in every area of patient safety. We give our highest recommendation for them as a valuable resource toward patient safety from hospital bedside to boardroom. It is in the fulfillment of this mission that NQF makes the gift of this to you in your pursuit of your quality journey.

We hope that you will recommend that others purchase the report from NQF. The homepage of the National Quality Forum can be accessed at the following link: [http://www.qualityforum.org/](http://www.qualityforum.org/) and an abridged report of the *NQF Safe Practices for Better Healthcare—2010 Update* can be downloaded free online at: [http://www.qualityforum.org/Publications/2010/04/Safe_Practices_for_Better_Healthcare—_2010_Update.aspx](http://www.qualityforum.org/Publications/2010/04/Safe_Practices_for_Better_Healthcare—_2010_Update.aspx). To obtain the full report for a cost of $29.99, please contact NQF by phone during business hours at 202-783-1300 or via e-mail at info@qualityforum.org and their staff will contact you for payment details.

If you want to have a free copy of the entire set of practices, you may receive one if you fill out a web-based survey that may be filled out at [http://www.safetyleaders.org/2010nqfResearchStudy/index.jsp](http://www.safetyleaders.org/2010nqfResearchStudy/index.jsp).

We want to acknowledge you and your institution for your current efforts in patient safety. We hope you enjoy this important information and find it useful in your future work.

Sincerely,

Charles R. Denham, M.D.
Chairman