



Learning From Others:

Anesthesia
Quality Institute 
ANESTHESIA INCIDENT
REPORTING SYSTEM (AIRS)

A Case Report From the Anesthesia Incident Reporting System

Review of unusual patient care experiences is a cornerstone of medical education. Each month, the AQI-AIRS Steering Committee abstracts a patient history submitted to the Anesthesia Incident Reporting System (AIRS) and authors a discussion of the safety and human factors challenges involved. Real-life case histories often include multiple clinical decisions, only some of which can be discussed in the space available. Absence of commentary should not be construed as agreement with the clinical decisions described. Feedback regarding this article can be sent by email to airs@asahq.org. Report incidents or download the AIRS mobile app at www.aqiairs.org.

Case 2018-4: Switcheroo

On an otherwise uneventful Tuesday there were 30 cases waiting to start at 0730. One case was a healthy 4-year-old male for a laparoscopic-assisted ureteral re-implantation. In the preoperative room next door, a 5-year-old male who was also otherwise healthy was being prepped for a ureteral stent placement. Both patients had the same attending anesthesiologist who was supervising two residents. The attending performed the preoperative evaluation on both patients.

At 0725, the 5-year-old patient who was scheduled to undergo stent placement was taken to the operating room setup for the ureteral reimplantation. As is customary, the attending surgeon was not present for anesthesia induction and last saw the patient in the preoperative room.

Just prior to the induction of anesthesia, the team performed a sign-in and reviewed the patient's ID band against the electronic anesthesia record and the consent form. The error was discovered and the patient was immediately transported to the correct operating room.

Discussion

The World Health Organization (WHO) surgical safety checklist consists of three parts (Figure 1). The first, commonly known as the sign-in, is performed prior to the administration of any induction drugs. This check verifies the patient's identity against the consent form and the medical record as well as serves as a pause to ensure the planned anesthetic is appropriate for the procedure. There are also checkpoints to make sure key anesthetic risks have been accounted for, such as difficult airway, allergies or a high probability of significant blood loss.

The surgical timeout requires the presence of the surgeon and is performed prior to incision. This check again verifies identity, the consent form and incision location. This element of redundancy is designed to further reduce the risk of operating on the wrong patient or body part. This checkpoint also calls for discussion of critical events, imaging, antibiotic compliance and introduction of all team members. The

third and final portion of the checklist is typically called the debriefing or sign-out and includes verifying that the instrument counts are correct and specimens are identified, and offers an opportunity for reflection and system-based improvement.


There is a paucity of data in the literature on adoption of the full checklist. However, there is excellent evidence that if all parts of this checklist are performed by an engaged surgical team, morbidity and mortality fall dramatically. Haynes et al. found a decrease in the rate of death from 1.5 percent to 0.8 percent, and inpatient complications dropped from 11 percent to 7 percent across eight hospitals in eight separate cities.¹ de Vries et al. also evaluated the impact of a surgical safety checklist and found the number of complications per 100 patients dropped from 27.3 to 16.7 and the in-hospital mortality decreased from 1.5 percent to 0.8 percent.²

Please take a moment and think about the magnitude of those results.

One would expect that the full checklist would be active at every hospital in the U.S.; however, we know that is not the case. Fourcade et al. noted a host of cultural factors that prevented the full checklist from being implemented across 18 cancer centers. Their results showed that the checklist was completely used about 61 percent of the time.³ Of note, use of the checklist was mandatory. At a couple of national meetings, the author has informally asked large groups of anesthesia providers if the checklist is completely adopted at their institution. Most places perform a surgical time out; however, many do not perform a sign-in or debriefing. This case is an example of where the sign-in stopped a potential "never" event cold. One may hypothesize that the surgical timeout would have caught the mistake, or the surgeon would have noticed that he or she did not recognize the patient; but hope is not a good strategy for preventing "never" events.

Continued on page 46

Figure 1: The WHO Surgical Safety Checklist (available at <http://www.who.int/patientsafety/topics/safe-surgery/checklist/en/>)

Surgical Safety Checklist		
 World Health Organization		Patient Safety <small>A World Alliance for Safer Health Care</small>
Before induction of anaesthesia	Before skin incision	Before patient leaves operating room
(with at least nurse and anaesthetist)	(with nurse, anaesthetist and surgeon)	(with nurse, anaesthetist and surgeon)
Has the patient confirmed his/her identity, site, procedure, and consent? <input type="checkbox"/> Yes	<input type="checkbox"/> Confirm all team members have introduced themselves by name and role.	Nurse Verbally Confirms: <input type="checkbox"/> The name of the procedure <input type="checkbox"/> Completion of instrument, sponge and needle counts <input type="checkbox"/> Specimen labelling (read specimen labels aloud, including patient name) <input type="checkbox"/> Whether there are any equipment problems to be addressed
Is the site marked? <input type="checkbox"/> Yes <input type="checkbox"/> Not applicable	<input type="checkbox"/> Confirm the patient's name, procedure, and where the incision will be made.	To Surgeon, Anaesthetist and Nurse: <input type="checkbox"/> What are the key concerns for recovery and management of this patient?
Is the anaesthesia machine and medication check complete? <input type="checkbox"/> Yes	Has antibiotic prophylaxis been given within the last 60 minutes? <input type="checkbox"/> Yes <input type="checkbox"/> Not applicable	
Is the pulse oximeter on the patient and functioning? <input type="checkbox"/> Yes	Anticipated Critical Events To Surgeon: <input type="checkbox"/> What are the critical or non-routine steps? <input type="checkbox"/> How long will the case take? <input type="checkbox"/> What is the anticipated blood loss?	
Does the patient have a: Known allergy? <input type="checkbox"/> No <input type="checkbox"/> Yes	To Anaesthetist: <input type="checkbox"/> Are there any patient-specific concerns?	
Difficult airway or aspiration risk? <input type="checkbox"/> No <input type="checkbox"/> Yes, and equipment/assistance available	To Nursing Team: <input type="checkbox"/> Has sterility (including indicator results) been confirmed? <input type="checkbox"/> Are there equipment issues or any concerns?	
Risk of >500ml blood loss (7ml/kg in children)? <input type="checkbox"/> No <input type="checkbox"/> Yes, and two IVs/central access and fluids planned	Is essential imaging displayed? <input type="checkbox"/> Yes <input type="checkbox"/> Not applicable	

Anesthesia Sign In – Performed by Anesthesiologist
Before Induction in Room Anesthesiologist and Circulator Verify: 1) Patient Identification (Two Identifiers – first and last name, MRN) Benjamin Jones (DOB: 12/12/2011, Sex: male) MRN: 1651144 Check armband and consent Verify with family, if applicable 2) Procedure and Anesthetic Lumbar Puncture – Lower – Spine Verify on consent State anesthetic technique Discuss regional block(s) and check for block/surgical site mark(s) Blood consent signed, if applicable 3) Weight and Allergies Weight: 19 kg Allergies: Review of patient's allergies indicates no known allergies 4) Assessment Scores and Prevention Strategies, as Appropriate For example: ✓ VTE (SCDs) ✓ STBUR ✓ Braden Q 5) Verify Information Against Whiteboard



Figure 2: Sample electronic anesthesia sign-in report

Continued from page 44

Our recommendation is to examine your organization, and if the checklist is not in use, ask why. There have been very few interventions in modern medicine with a potential result as great as this. If your hospital or health system is using an electronic health record (EHR) and an anesthesia information management system (AIMS), there is even the potential to add the patient's photo to a checklist displayed electronically in the anesthetizing location. Figure 2 (page 45), "Anesthesia Sign In," is an example of this functionality. The WHO has a detailed implementation manual that can assist you in improving your organization's adoption of the checklist.⁴ As a small bonus, your improvement efforts are eligible for MOCA Part IV credit.

The AIRS committee is interested in hearing your stories where the checklist was particularly helpful or did not stop an error from reaching the patient. Please consider submitting an AIRS report at aqiairs.org.

References:

1. Haynes AB, Weiser TG, Berry WR; for Safe Surgery Saves Lives Study Group. A surgical safety checklist to reduce morbidity and mortality in a global population. *N Engl J Med*. 2009;360(5):491-499.
2. De Vries EN, Prins HA, Crolla RM; for the SURPASS Collaborative Group. Effective of a comprehensive surgical safety system on patient outcomes. *N Engl J Med*. 2010;363(20):1928-1937.
3. Fourcade A, Blache JL, Grenier C, Bourgain JL, Minvielle E. Barriers to staff adoption of a surgical safety checklist. *BMJ Qual Saf*. 2012;21(3):191-197.
4. World Health Organization. Implementation manual WHO surgical safety checklist 2009: safe surgery saves lives. http://apps.who.int/iris/bitstream/10665/44186/1/9789241598590_eng.pdf. Published 2009. Last accessed February 14, 2018.



ERRATUM

Correction to February *Monitor* Article – Anaphylaxis in the Dental Chair

The AIRS Committee sincerely apologizes for a misquotation that appeared in the February *ASA Monitor* article "Anaphylaxis in the Dental Chair." The original referenced article, "Trends in death associated with pediatric dental sedation and general anesthesia," cited 25 deaths while the sedation was provided by the dentist performing the procedure. In the AIRS case report, this was attributed instead to dental anesthesiologists. The corrected sentence should read "...and 25 occurred among patients under the care of the dentist." The AIRS Committee collaborates on all case reports as a team, regrets this mistake and assures our readers that this was an example of a human error with no negative intent.