

A Surgical Junkyard

Retained surgical items (RSIs) can be classified into four general categories: 1) soft goods (e.g., sponges, towels); 2) sharps (e.g., needles, blades); 3) instruments; and 4) miscellaneous small items and device fragments. The first three categories have been long recognized, but more recently the fourth category of miscellaneous items and “surgical junk” — parts and fragments of instruments and devices — has gained increased attention.

If we go back to the November 2010 California Department of Public Health report (1) of the eight hospital-safety failures that involved RSIs, half of the cases involved miscellaneous items and device fragments. There was a retained guidewire, a portion of a retractor, a piece of a drill bit and a small metal device. In other reports (2, 3), needles are a source of frequent miscounts, and in 65 percent of cases the needles were never found. Undoubtedly, a small needle is frequently left in a patient because a clinician decides that it would be too difficult or risky to remove, and a small needle (<13-15mm) left in a large cavity is unlikely to cause harm (4).

In 2008, the Food and Drug Administration (FDA) published a notification of serious adverse events arising from fragments of medical devices and instruments left behind after surgical procedures (5). FDA characterized these as unretrieved device fragments (UDFs) and discussed problems of tissue reaction, infection, perforation, blood vessel embolism and death. Sources of UDFs are from instrument failure that develops from extensive use over time

(burrs, loose parts), as well as instrument faults that are present (poor welds, rough surfaces) in newly purchased surgical instruments (6). Portions of devices or instruments can be inadvertently left in patients when the surgical team doesn't recognize at the time of operation that a piece of an instrument or device has separated and a part remains in the patient. A broken piece of an instrument can be intentionally left in a patient when a clinical decision is made that it would be impossible to retrieve the fragment, such as can happen with a broken drill bit embedded in bone.

Since RSIs and UDFs are a system problem, many stakeholders can be involved in the solution. Each stakeholder has to become a “content expert” in his/her role. For example, the surgeon performs a methodical wound exam in every case and the circulating nurse directs the activities to account for all items. In the prevention of UDFs there is an important, but undeveloped, role for the surgical scrub technologist. The surgical scrub handles all the equipment that moves in and out of the patient during the operation, and is in a unique position to examine the equipment before it is passed to the surgeon and when it is handed back after use. The scrub technologists can become the “content experts” on the condition of the equipment, and develop the knowledge to become familiar with the existing parts of instruments so they can recognize when they receive something back from the field that it is not intact — then the scrub technologist can speak up and begin working with the team to retrieve the missing item. Currently in many hospitals, scrub technologists are not certified and have in-service classes with the nursing

staff. Here is an opportunity for them to begin to structure their own educational activities in the development of a domain of expertise. Lastly, the care of the instruments and devices in the supply-processing areas, as well as the design and manufacture of these surgical tools, is important to investigate when presented with a UDF problem or case.

Guidewires are lost during vascular catheterizations performed in any area and are frequently related to problems in the method of catheter insertion. The events can be prevented by safe technique. The new 2010 AORN Recommended Practices (7) have guidelines for operating rooms and procedure areas in the management of small miscellaneous items and device fragments to prevent their inadvertent retention, and these guidelines should be consulted. Hospitals and surgical technologists can look into programs of certification. The Association of Surgical Technologists will be meeting in San Francisco in early June 2011 (8) and will provide an opportunity to look into the increasing professionalism of this group of “content experts” so we can work together to make sure there is “NoThing Left Behind.”

— Verna C. Gibbs, MD, [NoThing Left Behind](#), drgibbs@nothingsleftbehind.org

References

1. [CDPH Issues Administrative Penalties to 12 Hospitals](#) — 11/12/2010.
2. Gibbs VC, Coakley RD, Reines HD. Preventable errors in the operating room: retained foreign bodies after surgery — part 1. *Curr Probl Surg*. 2007; 44:281.

3. Greenberg CC, Regenbogen SE, Lipsitz SR et al. The frequency and significance of discrepancies in the surgical count.

Ann Surg. 2008 248:337

4. Gibbs V.C. — [NoThing Left Behind®](#):

A National Surgical Patient Safety Project to Prevent Retained Surgical Items — 10/1/2004.

5. FDA Public Health Notification:

[Unretrieved Device Fragments](#). 2008.

6. Daly PM, Brophy T, Steatham J, Srodon PD, Birch MJ. [Unretrieved Device Fragments — the clinical risk of using poor quality surgical instruments](#).

Medical Device Decontamination. 2010: 14:18.

7. AORN, [Perioperative Standards and Recommended Practices](#), July 2010.

8. [Association of Surgical Technologists](#).

Simplified CHPSO Data Submission Now Available

For institutions that are having difficulties designing an XML report from their incident reporting system or are using a program such as Excel for their system, CHPSO has developed an Excel macro that translates a spreadsheet filled with reports into the XML format suitable for submission to the CHPSO database.

This macro is limited in its capabilities and we encourage providers to only use this when an XML solution appears impractical.

CHPSO members can obtain more information by contacting Rory Jaffe at 916.552.7568 or rjaffe@calhospital.org.

Make Checklists Worthwhile

For those who've read Dr. Atul Gawande's "Checklist Manifesto," you know that it is a very well-written book describing Dr. Gawande's experience in leading the creation and implementation of the World Health Organization (WHO) Surgical Safety Checklist.

As career aviators with several hundred years (combined) of aviation experience, my colleagues and I are troubled by our observation that too often in health care we see checklists being used as a "to do" list rather than an interactive aid to reduce *unnecessary* variability and increase reliability. When well constructed, it represents the best thoughts of experts in the process to deal with *necessary* variability (patient population, disease process, treatment options, etc.) in a consistent manner. So how can health care organizations ensure that they don't miss out on the real value of checklists? Here are a few thoughts:

A checklist is a "trigger" that causes the clinical team to have a standardized conversation with embedded crosschecks about the upcoming procedure. It is NOT merely a "tick sheet" (e.g., grocery list) with a "tick in the box" whenever someone thinks something has been done. The tick sheet mentality undermines the effectiveness of the checklist in health care. Checklist and process can't just be pencil whipped by the staff ... or the clinical partnership is not real and patient care suffers.

The surgeon (or proceduralist) should lead the process of checklist usage. Checklists get run when they're ready for it. It's their tool to manage the team and the work. The surgeon says something like, "Let's run the pre-procedure checklist." The circulator can then make the required callouts — but only once the surgeon has initiated it.

This is not to say that the rest of the clinical team are merely observers. On the contrary, they must be active participants. Every member of the team is either "checking" or "monitoring." The checklist enables all team members to know what to expect and when. They are transformed from "guessers" to "expecters," true members of the team who must speak up when the process does not go as expected. Reaction times are dramatically reduced between observation and communication because all members of the team have a "shared mental model."

Excellent checklists are human-factor guides, based on experience, which anticipate decision points where problems have occurred in past procedures. They prescriptively involve the entire team in the decision-making process.

Checklists provide a framework to deal with complexity. NASA and other studies show that the act of preparation, even when conditions differ from expectations, gives us the ability to deal more fully with the unexpected. Thus, checklists prepare the team for both the expected and unexpected.

— Steven Montague, Vice President,
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New Opportunity for Members

CHPSO is entering into arrangements with select organizations to provide members access to specialized knowledge and assistance. Our first was with other PSOs in order to pool our data and experience: [NAPSO™](#). Today we are pleased to announce our second arrangement. We now have contracted with another PSO, QA to QI Consulting, to provide peer review process benchmarking.

This program focuses on the peer review program structure and function, not specific cases. No physician-specific or patient-specific information is used.

As part of a hospital's CHPSO membership, within this arrangement communications with QA to QI Consulting are protected as Patient Safety Work Product. The program is voluntary and there is no charge for participation. We encourage you to take advantage of this opportunity.

Dr. Edwards' article follows and describes the program in greater detail.

— Rory Jaffe, MD MBA, rjaffe@calhospital.org

Quality, Safety and Peer Review, Part II

The Problem

Clinical peer review has yet to fulfill its obligation to enhance quality and patient safety. Most hospitals still rely on an outmoded and dysfunctional quality-assurance model for peer review (see [CHPSO Patient Safety News July 2010](#)). An [emerging QI Model](#) is far superior. You can quickly assess your own program with the evidence-based, online [Peer Review Program Self-Evaluation Tool](#).

With so much room for program improvement comes a need for better information. The studies that defined and validated the QI Model involved self-reported survey responses and objective measures of quality and safety from the Centers for Medicare & Medicaid Services and three major health care data vendors. Unfortunately, it takes three years of mortality and morbidity data to produce stable comparative measures. Thus, such measures will not serve well going forward. In order to advance the QI Model, we'll need timely data on what a variety of programs are actually doing along with concurrent results. Sadly, the research also shows that most hospitals do not track process and outcomes measures from peer review.

The Solution

Thus, I have launched the non-commercial [Normative Peer Review Database Project](#). It is designed to support studies in health care operations improvement, publication of findings, and feedback for improvement of quality and safety. Participants complete an annual program information report and contribute specified peer review program data semi-annually. In return, they receive a normative performance report semi-annually.

Since measurement is integral to process improvement, contribution to this Normative Database creates a win-win. When you measure peer-review process and outcomes, you will strengthen your ability to improve your own program. Your contribution will return useful benchmarking information and support ongoing research on best practices.

The measure set is simple (see QAtoQI.com/datadefinitions.htm). CHPSO members may report data to QA to QI as Patient Safety Work Product. You may join or withdraw at any time, and,

through CHPSO, there is no charge for this. Merely submit program measures semi-annually and complete a program information report annually. As long as you submit the minimum required measures and complete the annual program information report, you will receive semi-annual normative data reports.

Only de-identified aggregate data will be disclosed in reports and scientific publications. Submitted data will be used only for the purpose of the Normative Database Project and publication of scientific articles. It will not be returned. It will eventually be destroyed or de-identified according to federal regulations. Please contact me for further information.

— Marc Edwards, MD MBA [QA to QI Consulting, marc@QAtoQI.com](mailto:QAtoQI@QAtoQI.com)

References

1. Edwards MT. [The objective impact of clinical peer review on hospital quality and safety](#). *Am J Med Qual*. 2010; published online before print December 15, 2010.
2. Edwards MT. [Clinical peer review program self-evaluation for US hospitals](#). *Am J Med Qual*. 2010; 25(6):474-480.
3. Edwards MT, Benjamin EM. [The process of peer review in US hospitals and its perceived impact on quality of care](#). *J Clin Outcomes Manage*. 2009(Oct);16(10):461-467.

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Member Listing Live

CHPSO currently has over 200 members who are listed at www.chpso.org/members.asp. This listing will be updated regularly.

CHPSO members can share Patient Safety Work Product with each other, such as when asking a colleague at another institution for specific advice concerning an event. This list helps identify fellow members.

Remember that such communications must comply with your institution's policies and you cannot identify the providers who were involved in the case. Our February 7 Policies and Procedures teleconference (see Calendar, below) will include information on suitable inter-organizational communications policies.

We also seek to acknowledge the efforts of our member institutions, and this public listing is a start. Further materials will be developed later for this member recognition campaign.

— Rory Jaffe, MD MBA rjaffe@calhospital.org

Calendar

The following upcoming events are still open for enrollment. For more information or to enroll, use the contacts listed below.

February

3: *BEACON*: Practical Skills for Quality Improvement. Castro Valley.

7: *CHPSO*: Policies and Procedures for Working With a PSO. Teleconference 10–11 AM.

10: *BEACON*: Compass Series 2 of 4. Oakland.

14: *CHPSO*: Just Culture Support Call. 10–11 AM.

15: *SCPSC* (Southern California Patient Safety Collaborative): Track I — Hospital Acquired Infections in the ICU Setting, Sepsis and Surgical Care Improvement Project. Industry Hills.

16: *CHPSO*: Retained Surgical Items. Teleconference 3–4 PM.

16: *PSCSD&IC* (Patient Safety Council of San Diego & Imperial Counties): HAI Elimination. San Diego.

18: *CHPSO*: Just Culture and HR. Teleconference 10–11 AM.

22: *SCPSC*: Perinatal Monthly Webinar. 12:15 PM.

23: *PSCSD&IC*: Ending Elective Deliveries Before 39 Weeks Gestation. TBD.

March

4: *CAPSAC*: California Patient Safety Action Coalition meeting. Sacramento.

9: *PSCSD&IC*: Reduce Preventable Readmissions through Networking (PRN). San Diego.

10: *BEACON*: Compass Series 3 of 4. Fremont.

14: *CHPSO*: Just Culture Support Call. 10–11 AM.

15: *SCPSC*: Track II — Pressure Ulcers, Readmissions and Transitions of Care. Industry Hills.

23: *BEACON*: Practical Skills for Quality Improvement. Santa Clara.

24: *SCPSC*: Perinatal Monthly Webinar. 12:15 PM.

April

7: *SCPSC*: Track III — Perinatal Care. Industry Hills.

10: *CHPSO*: Just Culture Support Call. 10–11 AM.

14: *BEACON*: Compass Series 4 of 4. Oakland.

20: *PSCSD&IC*: HAI Elimination. San Diego.

25: *BEACON*: Annual Exchange Pre-Conference. Burlingame.

26: *BEACON*: Annual Exchange. Burlingame.

May

9: *CHPSO*: Just Culture Support Call. 10–11 AM.

11: *PSCSD&IC*: Reduce Preventable Readmissions through Networking (PRN). San Diego.

24: *SCPSC*: Perinatal Monthly Webinar. 12:15 PM.

24: *SCPSC*: Track I — Hospital Acquired Infections in the ICU Setting, Sepsis and Surgical Care Improvement Project. Industry Hills.

25: *PSCSD&IC*: Ending Elective Deliveries Before 39 Weeks Gestation. TBD.

June

13: *CHPSO*: Just Culture Support Call. 10–11 AM.

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15: PSCSD&IC: HAI Elimination. San Diego.

21: SCPSC: Track II — Pressure Ulcers, Readmissions and Transitions of Care. Industry Hills.

28: SCPSC: Perinatal Monthly Webinar. 12:15 PM.

July

11: CHPSO: Just Culture Support Call. 10–11 AM.

13: PSCSD&IC: Reduce Preventable Readmissions through Networking (PRN). San Diego.

13: SCPSC: Track III — Perinatal Care. Industry Hills.

August

8: CHPSO: Just Culture Support Call. 10–11 AM.

9: SCPSC: Track I — Hospital Acquired Infections in the ICU Setting, Sepsis and Surgical Care Improvement Project. Industry Hills.

17: PSCSD&IC: HAI Elimination. San Diego.

23: SCPSC: Perinatal Monthly Webinar. 12:15 PM.

24: PSCSD&IC: Ending Elective Deliveries Before 39 Weeks Gestation. TBD.

September

12: CHPSO: Just Culture Support Call. 10–11 AM.

13: SCPSC: Track II — Pressure Ulcers, Readmissions and Transitions of Care. Industry Hills.

14: PSCSD&IC: Reduce Preventable Readmissions through Networking (PRN). San Diego.

27: SCPSC: Perinatal Monthly Webinar. 12:15 PM.

October

10: CHPSO: Just Culture Support Call. 10–11 AM.

19: PSCSD&IC: HAI Elimination. San Diego.

25: SCPSC: Perinatal Monthly Webinar. 12:15 PM.

November

8: SCPSC: Track I — Hospital Acquired Infections in the ICU Setting, Sepsis and Surgical Care Improvement Project. Industry Hills.

9: PSCSD&IC: Reduce Preventable Readmissions through Networking (PRN). San Diego.

14: CHPSO: Just Culture Support Call. 10–11 AM.

15: SCPSC: Track III — Perinatal Care. Industry Hills.

23: PSCSD&IC: Ending Elective Deliveries Before 39 Weeks Gestation. TBD.

December

12: CHPSO: Just Culture Support Call. 10–11 AM.

13: SCPSC: Track II — Pressure Ulcers, Readmissions and Transitions of Care. Industry Hills.

14: PSCSD&IC: HAI Elimination. San Diego.

For further information on these events:

BEACON: Petrina Aiello paiello@hospitalcouncil.net or www.beaconcollaborative.org

CAPSAC: John Keats John.Keats@CHW.edu or www.capsac.org

CHPSO: Rory Jaffe rjaffe@calhospital.org

PSCSD&IC: Lindsey Wade lwade@hasdic.org

SCPSC: Catherine Carson ccarson@hasc.org

Instructions to Authors

Prospective authors may submit articles to Rory Jaffe, MD, MBA (rjaffe@calhospital.org, 916.552.7568). Typical articles will be brief — between 200 and 600 words. Additional information may be provided as web links. If accepted, the additional information may be hosted on the CHPSO website. A completed [publication agreement form](#) must be submitted prior to publication.

About This Newsletter

CHPSO Patient Safety News provides lessons learned from reviews of patient safety events and news of patient-safety activities in this state. We hope you will find it useful in your efforts to improve patient outcomes. This newsletter may be freely distributed in its original form. Copies of each newsletter are archived on the CHPSO website (www.chpso.org).