

## Patient Safety Tip of the Week

November 5, 2013

# Joint Commission Sentinel Event Alert: Unintended Retained Foreign Objects

Joint Commission's most recent Sentinel Event Alert ([TJC 2013](#)) addresses preventing unintended retained foreign objects. Interesting how the terminology has gone full circle. We used to always use the term "retained foreign objects" (RFO's) but then some of the literature pushed toward the term "retained surgical items" (RSI's) to distinguish those items inadvertently left behind during surgery from other retained foreign bodies like broken catheter guide wires. Now TJC is using the acronym "**URFO**" for unintended retained foreign objects.

TJC's sentinel event database includes 772 incidents of URFO's from 2005 to 2012, including 16 deaths. These, of course, are a significant underestimate since not all such cases get reported to TJC. They note that 95% of the incidents result in additional care or extended hospital stay and additional costs (citing a Pennsylvania Patient Safety Authority estimate of \$166,000 average cost for a URFO).

Though they do discuss risk factors for URFO's (eg. emergent cases, unexpected change in procedure, intra-abdominal surgery, obesity, multiple procedures, multiple surgical teams, long case duration, multiple staff turnovers during the procedure), the root causes are probably more important. **Root causes** include problems with the hierarchy and intimidation, poor communication, failure to follow policies and procedures, lack of policies and procedures, and lack of education of staff.

They note that the two most frequently used methods to avoid URFO's, surgical "counts" and cavity "sweeps", are both prone to human error. Despite this, they noted that standardization and other improvements to "counting" have reduced the risk of URFO's in various studies. But they note that leadership must be committed and the culture of safety must support workers speaking up when they identify unsafe conditions.

The Sentinel Event Alert goes on to outline recommendations for the counting procedure and wound opening and closing procedures, largely taken from the "[NoThing Left Behind®](#)" campaign ([Gibbs 2013](#)) and AORN guidelines ([Goldberg 2012](#)) that we

discussed in our June 12, 2012 Patient Safety Tip of the Week “[Lessons Learned from the CDPH: Retained Foreign Bodies](#)”. They discuss when intra-operative imaging studies should be done and mention some of the newer technologies that might supplement the manual count. They also recommend strategies to improve communication (eg. briefings, debriefings, CRM training, speaking up, etc.).

We’ve already done several columns on retained surgical items (listed below). We encourage you to read them because they contain a wealth of information on the topic.

Since our last column on RSI’s/RFO’s there have been a few more articles that are relevant. One very interesting one addressed the issue of retained surgical sponges from an engineering perspective ([Anderson and Watts 2013](#)). They note that most healthcare organizations have approached the issue with counting methodologies that are inherently flawed or technological solutions that are quite expensive. So they applied **engineering problem-solving methodology** to address the issue. The first step is putting the problem into a statement that is not biased and a need statement. The engineer then identifies constraints and potential solutions and formulates specifications. The latter include metrics that can be tested and a weight is assigned to each specification based upon its perceived importance. Brainstorming and analyzing alternative approaches follows.

The problem statement they came up with was “The accidental retention of currently available surgical sponges necessitates additional surgery and adds expenses to surgical procedures.” Our traditional approach has always been that we need to account for the sponges by manually counting or using some other technology that accounts for the sponges. The engineers, on the other hand, conclude that the only way to eliminate the dangers is to **alter the sponge itself!** Hence their solution was to pursue development of a bioresorbable surgical sponge. The article then goes on to describe the next steps in that pursuit.

It is most interesting that the same biases that we see in diagnostic error (eg. anchoring, premature closure, familiarity, etc.) come into play in our approach to patient safety issues. Read the Anderson and Watts article! This fresh perspective that engineering problem-solving methodology brings is most encouraging.

In our June 12, 2012 Patient Safety Tip of the Week “[Lessons Learned from the CDPH: Retained Foreign Bodies](#)” we noted several **unusual items found as retained foreign bodies** (a blue towel, a cautery tip, a Kerlix bandage). A couple other recent resources point out some unusual factors contributing to RFO/RSI’s. Ipaktchi and colleagues described a “near-miss” in which a **piece of labeling tape** from a surgical instrument broke off and was found in the wound before closure ([Ipaktchi 2013](#)). They note that over the years there had been a trend away from engraving or etching surgical instruments to using tape labeling or plastic resin dipping for instruments. The latter two techniques spare the smooth surface of the instruments and add color coding. But with repetitive use and repetitive cycles of cleaning and sterilization these labels may become fragile or loose and break off. Since they are not radiopaque they would easily escape detection and have the capacity to cause all the problems we see with other retained foreign bodies.

They suggest that more modern labeling techniques, like laser engraved QR codes or one dimensional bar codes, will replace current techniques. They note that the FDA's plans for medical device tracking will likely facilitate this change. They note that such labeling will not only improve tracking of instruments in surgery but will also allow tracking of instrumentation processing cycles and adherence to maintenance protocols.

The other was from the investigation of a RFO reported by the California Department of Public Health ([CDPH CA00235788](#)). In this case the retained foreign object was a "fish". No, not the kind of fish that swims in water but rather a Glassman viscera retainer, which is a **fish-shaped soft flexible device** that folds into a roll and is used to shield from nicks and punctures. All the "counts" in the case were reported to be correct. But apparently when the "fish" was added to the surgical field it was not added to the count verbally or on the count board (see our January 8, 2013 Patient Safety Tip of the Week "[More Lessons Learned on Retained Surgical Items](#)" regarding addition of items to the surgical field). In addition, the "fish" apparently has a string attached to promote retrieval but that string had been cut by the surgeon. Guidelines for surgical sponges have always emphasized the importance of not cutting or altering the sponges. Obviously the same should apply to other things, like the "fish".

We're always amazed at the increasing variety of items showing up as retained foreign objects. The Joint Commission Sentinel Event Alert reminds us that the problem of retained foreign objects and retained surgical items is not going away. While we wait for innovative solutions like those described by Anderson and Watts and by Ipaktchi and colleagues, we need to focus on best practices like those outlined in the "[NoThing Left Behind®](#)" campaign ([Gibbs 2013](#)) and AORN guidelines ([Goldberg 2012](#)).

#### **Our prior columns on retained surgical items (RSI's) and retained foreign bodies (RFO's):**

- June 12, 2012 "[Lessons Learned from the CDPH: Retained Foreign Bodies](#)"
- November 2012 "[More on Retained Surgical Items](#)"
- January 8, 2013 "[More Lessons Learned on Retained Surgical Items](#)"
- August 19, 2014 "[Some More Lessons Learned on Retained Surgical Items](#)"

#### **References:**

TJC (The Joint Commission). Sentinel Event Alert. Preventing unintended retained foreign objects. Issue 51 October 17, 2013

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NoThing Left Behind® Campaign.  
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