

Safer surgery

Robin Ellis and Miranda Newbery describe their work to assess the processes in place at hospitals to stop objects being left inside patients after operations



Imagine all the factors that contribute to a successful surgical procedure. The surgeon, registrar, anaesthetist and other practitioners all working together in a sometimes very challenging situation where the life and wellbeing of the patient depends on their inputs and processes. There are many potential risks in any surgical procedure, and one of these is something being unintentionally retained in the patient. Thankfully, this is very rare, though serious, and is referred to as a never event – something which should never happen.

It would seem almost unbelievable that a highly skilled surgical team could accidentally allow a surgical instrument to be retained after surgery. However, when you consider that the potential retained items include swabs the size of a peanut, or suture needles smaller than your average sewing needle, and that the environment can have many obstructions, it's easier to understand the risk.

Retained instruments post-operation is one of the three surgical never events listed by the UK National Health Service (NHS). The NHS defines never events as “serious incidents that are entirely preventable because guidance or safety recommendations providing strong systemic protective barriers are available at a national level, and should have been implemented by all healthcare providers”.

The process for guarding against items being unintentionally retained is known as the accountable items process. The World Health Organization (WHO) has accountable items guidelines, as does the Association for Perioperative Practice (AfPP) in the UK. However, the guidelines aren't prescriptive since there are differences in the procedures adopted in different hospitals. NHS trusts have their own accountable items procedures which are based on the WHO, AfPP and NHS guidelines.

Inspired Usability was asked to investigate the accountable items process for Northern Lincolnshire and Goole NHS Foundation Trust, which wanted to ensure that its process

was as robust and safe as possible. The trust has three hospitals and each has operating theatres.

Our initial work involved visits to each of the trust's three hospitals to observe the accountable items process in operating theatres. We spent time with the operating team in surgery. The staff directly responsible for the accountable items process are:

- **Scrub practitioner** – responsible for all the surgical instruments and consumable items. The scrub practitioner is stationed close to the patient, surgeon and registrar throughout the surgery.
- **Circulating practitioners** – support the scrub practitioner by recording accountable items and retrieving additional instruments and consumables as required.
- **Surgeon** – has ultimate responsibility for the surgical procedure, including the accountable items process.

We interviewed scrub and circulating practitioners to explore their opinions regarding the accountable items process and to identify any potential enhancements to the process.

We analysed the processes adopted and compared these for the three hospitals to explore any differences and identify the best practices.

We then ran workshops with a range of scrub and circulating practitioners from the trust's three hospitals. The workshops enabled us to present the findings from our research and gain further insights to the processes adopted. We presented potential enhancements to the accountable items process to gain participants' input. The participants provided suggestions for enhancement of some elements of the accountable items processes through structured design exercises.

Accountable items process

The accountable items process starts with the checking and counting of items in preparation for the procedure. The scrub



and circulating practitioners work together to count, check and record the surgical instruments and consumable items.

- Surgical instrument trays. There can be as many as five trays for some procedures. Each tray has an instrument list against which the contents are checked.
- Consumable items such as swabs and needles are carefully counted and checked. The consumable items are recorded on a whiteboard in theatre.

As the surgical procedure progresses, the scrub practitioner hands instruments as required to the surgeon or registrar. The scrub practitioner pays careful attention to the procedure, ensuring that the surgeon passes back all instruments used. The consumable items handed to the surgeon are counted out and then back in, and the whiteboard is updated throughout.

At key stages during the procedure a count is undertaken where the scrub and circulating practitioners work together to count and check the consumable items, using the whiteboard as a reference.

At the end of the procedure, before patient closure, a final count is undertaken where all instruments and consumables are counted and checked against the lists from the start of the procedure and the whiteboards.

Outcomes

The overall accountable items process observed at the trust's three hospitals was consistent, with only minor differences in the details of the items recorded and some of the equipment used.

The accountable items process adopted at the trust is consistent with the guidelines. The ergonomics research concluded that the process was safe. Opportunities to enhance the accountable items process were identified:

- The layout of the individual operating theatres impacted on the accountable items process through the placement of equipment and the location and size of the whiteboard.

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- The whiteboard is a key component in the accountable items process. It's important that the whiteboard is easily visible from the scrub practitioner's location and is easily accessible to the circulating practitioner. There were opportunities to improve the location of the whiteboard in some of the trust's operating theatres.
- The recording of items on the whiteboard varied a little at the trust's three hospitals. This was explored during the workshops. It was concluded that there are key items which must be recorded on the whiteboards, and others which can be recorded depending on the local practice. This was not considered to impact on the safety of the process.
- The equipment used for the storage of used swabs, which are kept in sight to enable counting and checking, varied at the trust's hospitals. One equipment solution was superior in enabling clear visibility and quick, accurate counting. It was recommended that this equipment solution be adopted across the trust's hospitals.
- Like any process, accountable items is reliant upon the individual practitioners. The scrub practitioner role is very demanding and requires experience. The up-skilling of practitioners is key in ensuring that there are staff with adequate experience in all theatre teams. The shadowing of less experienced staff by highly experienced scrub practitioners should be continued and extended to up-skill more theatre staff.

Upon receiving the recommendations, the trust worked to ensure the enhancements were fully considered and implemented to refine their accountable items process.

The visits to the trust's operating theatres enabled an appreciation of the work undertaken and the professionalism of the surgical teams.

It was a privilege to observe the surgical teams in action and reassuring to observe a safe and robust accountable items process. ■

About the authors

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