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Wand spots swabs left in patient

A handheld device can help surgeons check no swabs have been left behind in their patients after emergency producedures, a study shows.

Some instruments have remained undiscovered in patients for years

The wand detected radiofrequency-tagged gauze pads 100% of the time in less than three seconds.

Currently, surgeons rely on counting how many swabs have been used and retrieved. But this can prove more difficult during emergency operations.

The US team at Stanford say the wand could be used as an extra check.

Safeguards

> **"The difficulty arrises in long, complicated operations where hundreds of swabs are used"**
>
> Mr John Black of the Royal College of Surgeons

Dr Alex Macario and colleagues, at Stanford University School of Medicine, explained in Archives of Surgery: "The surgical team will remain responsible for inspecting the surgical site and avoiding retained foreign bodies."

Thankfully, such mishaps occur only rarely - one US study reported the incidence as about one in every 10,000 surgical procedures that involve open surgery.

And in some cases, these foreign bodies may cause no symptoms and can remain undiscovered for decades.

However, they can add on an average of four days to the hospital stay after surgery and may also lead to sepsis (toxins in the blood or tissues), obstruction of the intestines and death.

Gauze pads or swabs that are used to mop up blood are already tagged with a special strip that makes them visible on X-rays. Mobile X-ray machines are available in operating theatres but getting a result is not as immediate as seconds.

Mr John Black of the Royal College of Surgeons said:

FOREIGN BODIES LEFT IN PATIENT

2002-03: 401 (one in 17,000)

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Source: UK National Patient Safety Agency

"Incidents are exceedingly rare and every operating theatre is obsessed with not doing it. The difficulty arrises in long, complicated operations where hundreds of swabs are used.

"There are pretty robust procedures to safeguard against this. If this device would detect the swab in three seconds it would add to these procedures.

"If the device could also avoid having to X-ray patients then it might be worthwile having available."

The study

The device, which works by detecting swabs tagged with a radiofrequency identification chip, is not yet available commercially and is still in the developmental stage.

In the study eight patients due to undergo routine abdominal and pelvic operations under general anaesthesia gave consent for surgeons to test the device.

During the patients' operations eight untagged swabs and 28 radiofrequency-tagged swabs were used.

Before each patient's wound was closed, one surgeon placed a tagged or untagged swabs inside the patient while the other surgeon looked away. The edges of the wound were pulled together to cover the inside of the body cavity and the second surgeon used the wand to check for the swabs.

The device accurately detected all 28 of the tagged swabs. There were no false positives, meaning the wand did not indicate there was a tagged swab in the cavity when there was not, and no false negatives, meaning the wand did not fail to detect tagged swabs that were present.

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