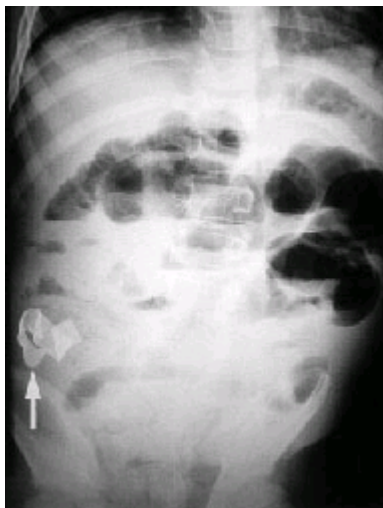



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Surgical Hide and Seek

By Kim Krieger
ScienceNOW Daily News
 17 July 2006

In the hustle and confusion of an emergency operating room, it's not surprising for the occasional surgical sponge to go missing. But when that sponge is forgotten inside a patient, it's no harmless mistake. Now there may be a way to detect mislaid sponges before the patient leaves the OR. Radio Frequency ID (RFID) tags, like those used to prevent shoplifting, can be sewn into surgical sponges, according to a new study. If the idea catches on, the technology could prevent hundreds of infections and deaths caused by forgotten sponges every year.

Lost.

A new technology may make sponges left in patients a thing of the past.

Credit: *Archives of Surgery*

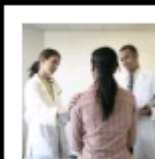
of exactly how many sponges were used and where they all went. Very occasionally--only about 1 in every 16,000 surgeries--a sponge is accidentally left inside the patient's body, leading to potentially serious infection.

In this month's issue of *Archives of Surgery*, Alex Macario, a surgeon at Stanford University School of Medicine in Palo Alto, California, and colleagues describe a tracking system they hope will eliminate that risk. An RFID tag, sewn into every surgical sponge, acts as a tracking device. To test the technology, one surgeon placed a tagged sponge somewhere within the body cavity of an abdominal surgery patient who had consented to the study. A second surgeon, who did not see where the sponge was hidden, waved a RFID detector wand over the patient's abdomen. When the wand was directly over the RFID-labeled sponge, the RFID chip picked up radio waves from the wand and transmitted a signal, making the wand beep. In 4 trials with a total of 8 patients, the surgeon could locate the hidden sponge in less than three seconds, every time.

"This is a very nice proof-of-concept," says Atul Gawande, a surgeon at Brigham Women's Hospital in Boston and at the Harvard School of Public Health. The RFID technique is very fast, he adds, but unless the RFID tags are very cheap, it could prove

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expensive--the U.S. uses about 2 billion surgical sponges a year. The RFID sponges are being developed by ClearCount Medical Solutions, which hopes to make the technology available in the fall.

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