

# Impact of MRSA nasal colonization on surgical site infections after gastrointestinal surgery

May 20 2012

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Methicillin-resistant Staphylococcus (MRSA) nasal colonization is associated with longer hospital stays and an increase in surgical site infections (SSI) in patients undergoing major gastrointestinal surgery, according to a new study from Scott and White Memorial Hospital, Temple, TX.

Antibiotic-resistant organisms such as [MRSA](#) can cause infections after surgery. Many studies have shown that MRSA nasal [colonization](#) increases the risk of developing SSI, and there has been an effort to conduct swab testing to isolate those [patients](#) and decontaminate or reduce the risk of MRSA SSI.

Researchers led by Harry T. Papaconstantinou, MD, chief of colorectal surgery at Scott and White Memorial Hospital, sought to determine the type of infection that might occur post-gastrointestinal (GI) surgery in someone who receives a nasal swab that tests positive for MRSA. The majority of organisms that cause SSIs after GI surgery usually occur within the [body cavity](#) operated on, but MRSA tends to colonize on the skin. Therefore, researchers expected to find that nasal colonization of MRSA wouldn't have an effect, as it is not an organism that is routinely found or colonized in the [GI tract](#).

Of the 1,137 patients identified, 6 percent were MRSA positive, 15 percent were MSSA positive and 79 percent were negative. One hundred

and one patients experienced SSI (9 percent), with the MRSA-positive group associated with a higher rate of SSI when compared to the negative and methicillin-sensitive [Staphylococcus aureus](#) (MSSA)-positive groups (14 percent versus 9 percent versus 4 percent, respectively).

Researchers also looked at other potential [risk factors](#) and found that the nasal swab result was not an indication of developing an SSI. "I don't think MRSA colonization necessarily increases risk for developing SSI, but I do think that MRSA colonization affects what type of organism is involved in SSI," said Dr. Papaconstantinou. He added that if you examine the organism present in SSIs, of the patients who tested positive for MRSA, 70 percent of their wound infections stemmed from MRSA.

Dr. Papaconstantinou said it is instructive to look at this research and consider what it takes to do a nasal swab test, to identify those with Staph aureus and differentiate between MRSA and MSSA, and then look at what it would cost to decolonize those patients. The next step for this research is to conduct surveillance and eradication of MRSA in bowel surgery.

Investigators examined all patients who had nasal swab tests at Scott and White Memorial Hospital between December 2007 and August 2009, and who had also undergone major [gastrointestinal surgery](#) (surgery of the esophagus, stomach, small bowel, colon and rectum, liver, gallbladder, pancreas, etc.) Patients had a nasal swab test to determine their MRSA colonization status within 24 to 48 hours after admission and were grouped into one of three categories: MRSA swab-positive, MSSA swab-positive, or those who had neither and were considered negative.

Provided by Digestive Disease Week

Citation: Impact of MRSA nasal colonization on surgical site infections after gastrointestinal surgery (2012, May 20) retrieved 24 April 2024 from

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