Traditional Wound Tx Persists Without Evidence

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MAUI, HAWAII — Common practices in wound treatment, such as wearing sterile gloves and using saline instead of tap water for irrigation to prevent infection, are not supported by evidence from clinical studies but are continued from fear of lawsuits, Dr. Adam Singer observed at a conference sponsored by the American College of Emergency Physicians.

Dr. Singer examined several common wound treatment practices:

► **Sterile vs. nonsterile gloves.** A multicenter, single-blind, randomized controlled trial had 816 patients (of 9,000 patients) randomized to be treated with either sterile gloves (408) or without sterile gloves (408) (Ann. Emerg. Med. 2004;43:362-70). There was a 97% follow-up rate after 1 week. Infection rates were 6.1% for those patients treated with sterile gloves, compared with 4.4% for those treated without sterile gloves. "Look at how many patients were screened, 9,000, while only 816 were entered," he said, adding that this suggests a selection bias. Nevertheless, the differences between groups were not statistically significant. "So, there's no difference whether you use sterile gloves or you do not use sterile gloves," remarked Dr. Singer, professor and vice chairman for research in the department of emergency medicine at the State University of New York at Stony Brook. But given concerns about potential lawsuits, he added, "I just put on the gloves—for a dollar, it's not worth the hassle."

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► **Wound irrigation in children: saline or tap water?** A randomized, controlled trial compared outcomes of wounds irrigated with saline in 271 children with outcomes of wounds irrigated with tap water in 259 children (Ann. Emerg. Med. 2003;41:609-16). In the tap water group, there were more hand wounds, which increased the risk of infection. But the infection rate was 2.8% for saline-irrigated wounds, compared with 2.9% for tap water–irrigated wounds. "The infection rates were almost identical," Dr. Singer observed. But he doesn't use tap water in practice, he added—for the same reason that he uses sterile gloves.

► **Effect of cap and mask on infection rates.** A study compared infection rates for 442 lacerations (IMJ Ill. Med. J. 1984; 165:397-9). A total of 239 lacerations were repaired while the physician wore a cap and mask, while 203 were repaired without the physician wearing a cap and mask. Infections developed in 2.5% of the patients in the cap-and-mask group, compared with 3.9% of the patients in the non–cap-and-mask group. "These differences are not statistically significant or clinically significant," Dr. Singer said, "so I don't use caps and masks."

The goals of wound management have shifted beyond concerns about infections, he indicated.

"The goals of wound management—whether a laceration, abrasion, or any type of burn—are to close the wound early and prevent wound infection," noted Dr. Singer. "But more and more, we're paying attention to cosmetic outcomes as well as functional outcomes, because infection rates are actually quite rare." In the emergency department, the infection rate is about 3%-5% he added.

A 1998 study examined treatment outcomes of 1,923 facial and scalp lacerations, of which 1,090 were irrigated and 833 were not irrigated (Ann. Emerg. Med. 1998;31:73-7). The infection rate was 0.9% for irrigated lacerations, compared with 1.4% for nonirrigated lacerations. Optimal cosmesis outcomes were achieved in 76% of irrigated lacerations, compared with 82% of nonirrigated lacerations.

The differences, he observed, were not statistically significant or clinically significant. But the favorable cosmetic outcomes of not using irrigation appeared to approach significance. The conclusion? "You need to use judgment, as always," Dr. Singer said.

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