Dear Readers,

Ever since bacteria were found to cause infections, attempts have been made to reduce their numbers in wounds. Among the maneuvers used to minimize wound infection are washing the wound with antiseptics and sterile water, irrigating the wound with sterile solutions, surgeons scrubbing their hands with various antibacterial agents prior to operations and procedures, providers wearing sterile gloves to prevent further contamination of the wound, and using antibiotics to kill any unwanted bacteria. As a surgeon, sterile technique and the necessity for it were beaten into me from the beginning of my training. Recent evidence, however, seems to point out that many of the things we learned concerning the importance of sterility and sterile technique may not be so important after all. Is it really necessary to use sterile solutions to irrigate wounds? Recently, an article was published in this journal questioning that premise. Other studies also have shown that cleaning wounds with clean tap water is just as effective as using sterile saline, resulting in no difference to wound infection rates.

Another study showed that irrigation of wounds with either clean tap water or sterile saline reduced bacterial counts by 71%, and the infection rate was not different regardless of the solution used. It appears that wound irrigation to remove many of the bacteria is the critical step in the procedure and not the solution used in the irrigation. Think how much money this would save if everyone were to adopt the technique of utilizing clean tap water instead of sterile saline for cleansing wounds.

Another ‘gold standard’ in preventing infection has been the use of sterile gloves when dealing with open wounds. I have questioned this practice in years past when forced to do emergency procedures, even including suturing a penetrating wound of the heart with no skin prep, no surgical scrub of my hands, and no gloves. Interestingly, none of those patients developed a wound infection!

I am not advocating not wearing gloves—realistically, gloves protect the operator as much, if not more than, the patient. But is it truly necessary to wear sterile gloves when treating patients with open wounds? An interesting recent study compared sterile gloves with ‘clean’ gloves and found that although there was a statistically significant larger number of bacteria on the clean versus the sterile gloves, the number of bacteria on each kind of glove was well below that required to cause an infection. What does this mean when actually treating patients? In a 2004 study, 816 patients were seen in a busy emergency department with uncomplicated traumatic lacerations; half the lacerations were closed by physicians wearing sterile gloves and half were closed by physicians wearing clean gloves. The infection rate for the sterile glove group was 6.1% and that for the clean glove group was 4.4%. Another study of 126 patients who underwent minor surgical procedures with wounds closed with sutures by physicians wearing only clean gloves found that the post-procedure infection rate was only 2.4%, well within the accepted range. All of these reports suggest that the use of clean gloves is acceptable, especially considering the expense of providing masks, sterile gloves, and sterile gowns for these minor procedures. This would obviously apply to our work in treating wounds in our wound centers.

This presents 2 avenues for thought. First, if you believe this information, consider the money that could be saved by using clean tap water for wound irrigation and clean gloves for treatments. Secondly, we pride ourselves on practicing evidence-based wound care. Information like this certainly goes against what we have been told is true. Maybe we should reexamine the evidence on many things we have taken for granted as being true.