



THE USE OF A SILVER GAUZE DRESSING IN SPINE SURGERY TO REDUCE THE INCIDENCE OF MRSA SURGICAL SITE INFECTIONS

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BACKGROUND:

During 2004, an increase in the incidence of Staph aureus and MRSA infections following spine surgery was observed as compared to the previous year. One observation was that more patients' undergoing surgery were classified as obese by body mass index (BMI). Nursing staff observed that some patients arriving for spine surgery had difficulty in properly cleaning their body preoperatively. Postoperatively, they were observed having difficulty cleaning themselves after toileting and had more noticeable perspiration on their bodies. The nursing staff meets hospitalized patients personal hygiene needs but proper cleanliness after the patients are discharged may be problematic. Both of these factors were considered risks for infection because of the potential for cross-contamination.

METHODS:

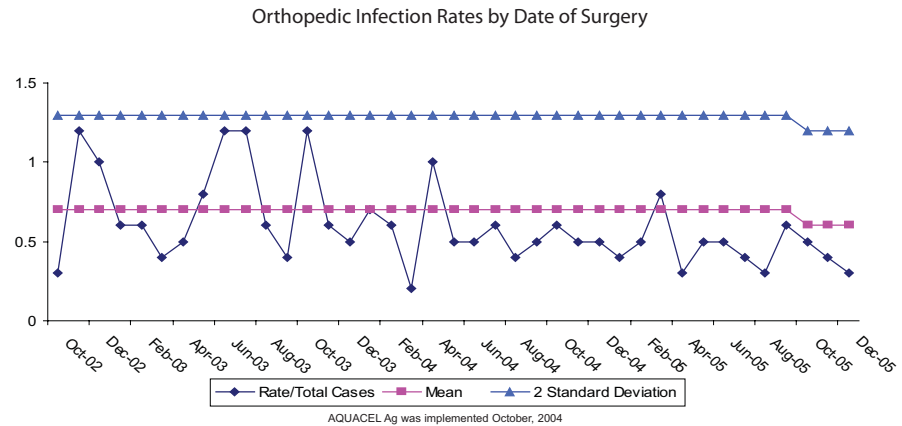
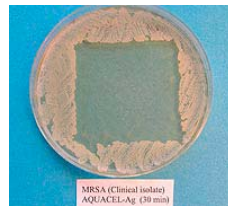
A silver gauze dressing was implemented into the Spine Service in October 2004. The dressing has a large fluid-absorption capacity and absorbs 22 times its weight in fluid, which allows the silver ions to interact with the organisms. It provides immediate and sustained antimicrobial activity to kill *Pseudomonas aeruginosa*, *Staphylococcus aureus*, methicillin-resistant *Staphylococcus aureus* (MRSA), vancomycin-resistant *Enterococcus* (VRE), and other wound pathogens by locking the bacteria within the gelled fibers away from the wound bed. The silver dressing was covered by a sterile, waterproof, thin, clear film dressing, which provides a breathable bacterial barrier to outside contaminants and protects the incision from exogenous contamination from body fluids, such as perspiration. The silver and transparent dressings were applied in the operating room at the end of the case by either the resident or physician's assistant and removed by nursing just prior to discharge so the incision could be evaluated. A new dressing was reapplied and patients were instructed to leave it in place for another 7 days or when it fell off in that time period. Patients received specific educational material that included a picture of the dressing and how the exudate might appear.

RESULTS:

From January – August 2004 there were 12 infections in 1178 spine cases due to Staph aureus and MRSA, with an infection rate of 1.0 and from January-August, 2005 there were 8 in 1321 spine cases with an infection rate of 0.6.

CONCLUSIONS:

The use of a silver gauze dressing with a transparent secondary dressing after spine surgery reduced the rate of postoperative SSI due to MRSA and Staph aureus by 40% in an eight month period. Patients expressed comfort, reduced pain and general acceptance of the dressing. The silver dressing is now used for all spine surgeries and appears to be an effective control measure to reduce SSI in this population.



January – August, 2004

- 12 Staph aureus and MRSA infections in 1178 spine cases - infection rate 1.0

January – August, 2005

- 8 Staph aureus and MRSA infections in 1321 spine cases - infection rate 0.6

p = 0.05

SURGICAL INCISION DRESSING PATIENT INSTRUCTION SHEET

Your surgeon has placed a new antimicrobial dressing over your incision called AQUACEL® Ag – which contains ionic silver in the dressing.

- It provides immediate and sustained antimicrobial activity to wound
- It gels on contact with the wound fluid
- It locks bacteria within the gelled AQUACEL® Ag fibers away from the incision and destroys them. The silver is continuously available in the dressing while in place and provides an effective barrier to prevent infection

Another dressing has been placed directly over the AQUACEL® Ag. You will be instructed to remove both dressings per your surgeon's post-op instructions. The AQUACEL® Ag dressing absorbs 22 times its weight in fluid – therefore, when you remove it – there may be a large amount of fluid buildup in the dressing which is normal. The silver ions interact within the fluid to kill bacteria and prevent infection.