

# Reducing Total Joint Replacement Surgical Site Infections: A Comparison of Two Dressings

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## RESEARCH QUESTION

This research sought to compare the efficacy of hydrofiber dressings such as Aquacel, to standard, non-impregnated, gauze dressings for the purpose of reducing rates of infection.



## SIGNIFICANCE

As total joint replacement becomes more common, so too do the complications associated with them, including infection (NIH, 2017).

The most common pathogens responsible for these infections are methicillin-susceptible and methicillin-resistant strains of *Staphylococcus aureus* which are associated with increased risk for worse clinical outcomes and death” (Li & Webster, 2017).

Hospitals spend an additional \$10,000-40,000 to treat a patient with an implant-associated infection (Li & Webster, 2017).

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## FINDINGS

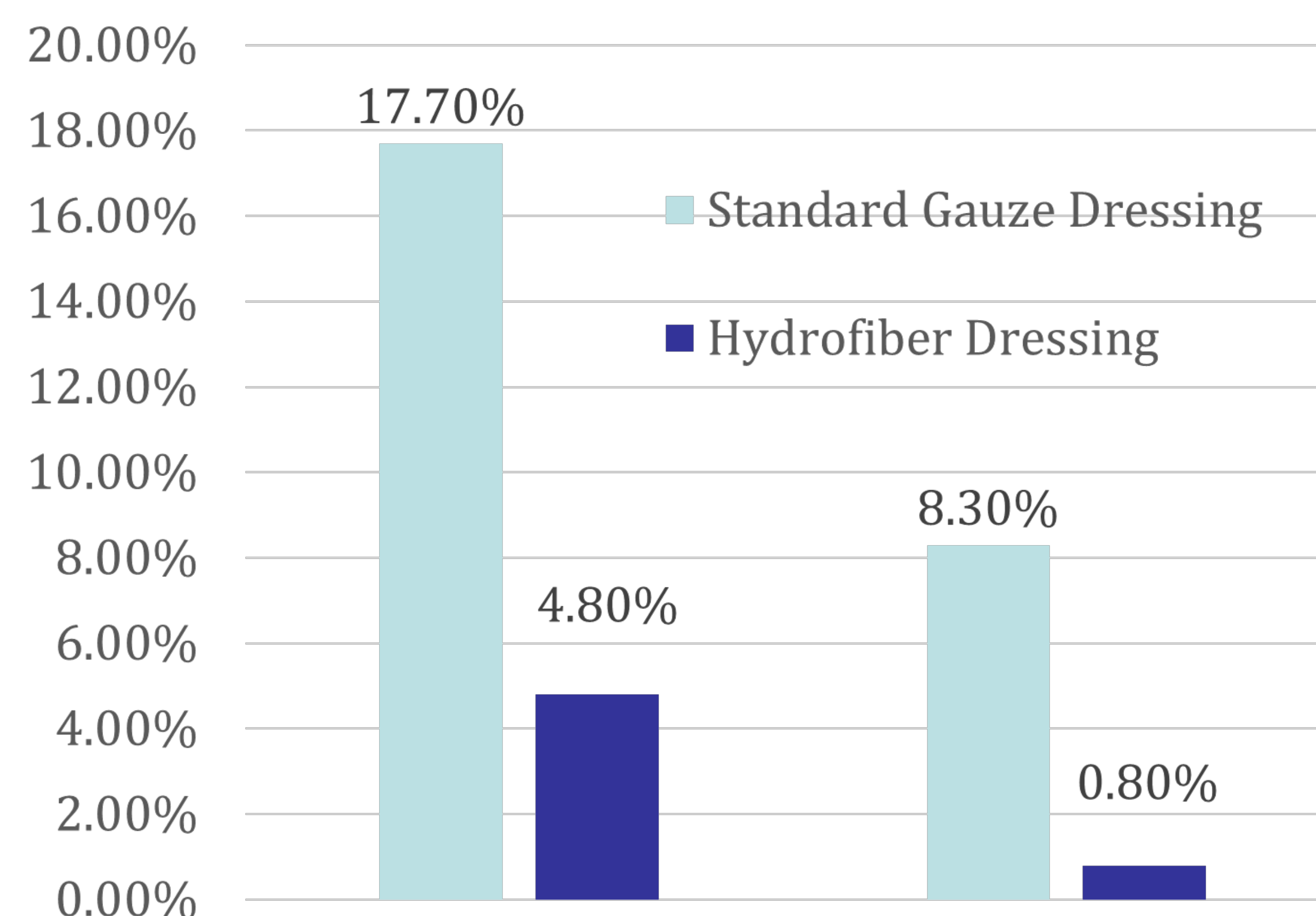
In a study group which received Aquacel Ag hydrofiber dressings, the incidence of complication was **4.8%**, compared to the group that received a standard gauze dressing, which had a **17.7%** incidence of wound complication (Kuo et al., 2017, p.3).

**2.5%** of patients who received Aquacel Ag dressings developed blistering, compared to **5%** with the standard gauze dressings (Kuo et al., 2017, p.4).

Among those who received Aquacel Ag dressings, **0.8%** developed superficial surgical site infection compared to **8.3%** of patients who received a standard gauze dressing (Kuo et al., 2017, p.1).

The average number of dressing changes in the 7 days following the procedure in the occlusive dressing group was **less than one**, compared to **2.8** dressing changes in the standard dressing group. Fewer dressing changes is a factor for uneventful wound healing and decreased wound complications. Changing the dressing less frequently prevents unnecessary exposure to potentially harmful bacteria. (Springer et al., 2015).

Rates of Surgical Site Complication and Infection



## PRACTICE CHANGE

Findings indicate that occlusive hydrofiber dressings are superior and aid in reducing dressing changes, wound blistering, and surgical site infections.

This change in practice is cost-effective because prevention of SSI saves the facility \$10,000-40,000 per patient (Li & Webster, 2017).

Hydrofiber dressings require fewer dressing changes, which is easier for patients when caring for their surgical incision at home, and also reduces exposure to pathogens (Li & Webster, 2017).

Effectiveness can be measured by comparing SSI rates before and after implementing the use of the hydrofiber dressings.



## EXPECTED OUTCOMES

Occlusive hydrofiber dressings are more effective in reducing wound complications including rates of infection among patients undergoing total joint arthroplasty. The research supports this change in practice from standard gauze dressings to hydrofiber dressings and if this change is implemented, rates of SSI should be reduced and result in improved patient outcomes and satisfaction.