Swedish operating room nurses’ preventive interventions to reduce bacterial growth and surgical site infections, and increase comfort in patients undergoing surgery

av

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Akademisk avhandling

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Abstract

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Surgical site infection is a major postoperative complication that causes patient suffering and is costly for society. The general aim of this thesis was to test and describe interventions performed by operating room (OR) nurses to prevent bacterial growth in surgical patients, with the intent to prevent surgical site infections (SSIs) whilst increase patients comfort.

In studies I and II, 220 pacemaker patients were tested to compare pre-heated skin disinfection with room-temperature skin disinfection regarding bacterial growth, skin temperature and patient experience. Preheated skin disinfection was not less effective compared to room-temperature skin disinfection in reducing bacterial growth after skin disinfection and there were no differences regarding SSIs three month postoperatively. Preheated skin disinfection reduces skin heat loss and was perceived as more pleasant compared to room-temperature skin disinfection.

In study III, 12 OR nurses were examined regarding bacterial growth on their hands and at the sterile glove cuff end after surgical hand disinfection and again after wearing sterile surgical gloves during surgery. They were compared with a control group of 13 non-health care workers. OR nurses’ hands had higher amounts of bacterial growth at two of three culture sites after surgical hand disinfection compared with the control group, and the bacterial growth increased in both groups with time during surgery. There seems to be a risk of bacterial growth at the glove cuff end during surgery, involving the same type of bacteria as isolated from the hands.

In study IV, 890 OR nurses answered an online questionnaire describing OR nurses interventions guided by national guidelines to reduce SSIs, such as preparation of the patient skin, patient temperature, and OR materials used. The proportion of the OR nurses who complied with the national guidelines preventive interventions was high: skin disinfection solution (93.5%), drapes (97.4%) and gowns (83.8%), and double gloves (73%). However, when guidelines were lacking the interventions differed.

Keywords: skin disinfection, patient experience, skin temperature, intraoperative, surgical site infection, bacterial growth, recolonization.

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