

PREVENTION OF SURGICAL SITE INFECTION (SSI)

Finn Gottrup

*Copenhagen Wound Healing Centre, Bispebjerg University Hospital,
Copenhagen, Denmark*

Introduction: The infection rate is for superficial Surgical Site Infections (SSI) in the clean-contaminated wounds 3% and contaminated/dirty around 10%. After prophylactic antibiotics became routinely used the infections rates in the most contaminated groups has been reduced: clean 2.1%; clean-contaminated 3.3%; contaminated 6.4% and dirty/infected 7.1%.

Methods: SSI is dependable of balance between on one side microbial conditions like type, number and virulence of bacteria and on the other side the host resistance including resistance in the local wound tissue.

Many factors are influencing this balance and the resulting rate of SSI. Looking on evidence for the influence of each factor the following has been found: I. Proven influencing: immunological function, ultra clean air, duration of surgery, smoking, hypoxia, hygienic precautions and prophylactic antibiotics; II. Probably influencing: adipositas of the patient, DM, heart and lung diseases, blood transfusions, suture techniques and materials, delayed closure, placement of incision; III. Perhaps influencing: alcohol, nutrition.

Results: Prevention of SSI primarily includes: I. Preoperatively: prophylactic antibiotics, supplementary oxygen, avoid smoking for 6 weeks before surgery, optimal hygienic precautions; Peroperatively: correct surgical incision, short duration of surgery, optimal suture technique and optimal use of surgical materials (sutures, drains, dressings etc); Postoperatively: optimal dressing selection and use of surgical materials, avoid seroma and haematoma.

Conclusions: Infection is a major barrier for healing. Different methods for prevention of SSI are available, but future studies are still needed in order to produce further decrease in the rate of SSI.