# Reduction in surgical site infection in patients treated with microbial sealant prior to coronary artery bypass graft surgery: a case-control study.

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## Abstract:

Surgical site infection (SSI) is a serious complication after cardiac surgery. This case-control study investigated the effect of a cyanoacrylate-based microbial skin sealant (InteguSeal) applied preoperatively on the SSI rate in patients undergoing coronary artery bypass graft (CABG) surgery. Of 676 patients who underwent CABG surgery with or without concomitant procedure(s) between March and November 2007, 545 received standard preoperative care and 131 also received pretreatment with the microbial sealant. Of these, 90 cases pretreated with microbial sealant and 90 controls were matched using established preoperative and intraoperative risk factors for SSI. Preoperative risk scores for SSI were 9.9+/-4.3 and 9.7+/-4.0 (P=0.747) for the microbial sealant and the control group, respectively, and combined preoperative-intraoperative risk scores were 9.7+/-4.1 and 8.7+/-3.5 (P=0.080), respectively. Carotid artery disease (P=0.019), congestive heart failure (P=0.019), acute myocardial infarction (P=0.001) and emergency surgery (P=0.026) were significantly more common in the microbial sealant group. Follow-up was 100% for both groups. Superficial or deep sternal infection 30 days post surgery developed in seven patients (7.8%) in the control group compared with one patient (1.1%) in the microbial sealant group (odds ratio 7.5). In summary, the inclusion of microbial sealant in preoperative patient preparation seems to reduce the incidence of SSI following CABG surgery; further larger studies are needed before firm conclusions can be drawn.