Comparison 2.1: Single-use disposable drapes and/or surgical gowns vs. reusable drapes and/or surgical gowns

Author, year, reference	Type and duration of study/ setting	Intervention	Comparator	Primary outcome	Results	Other comments/limitations
Bellchambers, 1999 [14]	RCT 18 months (July 1995 - December 1996) Australia 505 coronary artery surgery patients Each patient followed up for 3 months Tertiary referral centre for cardiac surgery	Disposable paper drape system including an iodophor-impregnated adhesive plastic drape, which covered the central thorax and abdomen (no further specifications for this type of drape). The operating surgeon, assistants and scrub nurses wore gowns of the same material as the drapes.	Reusable fabric drapes (not specified) including an iodophor-impregnated adhesive plastic drape covering the anterior thorax. The operating surgeon, assistants and scrub nurses wore gowns of the same material as the drapes.	**SSI** using the wound scoring system ASEPSIS (**A**dditional treatment, the presence of **S**erous discharge, **E**rythema, **P**urulent discharge and **S**eparation of the deep tissues, the **I**solation of bacteria and the duration of inpatient **S**tay). The total score used to reflect the severity of infection is as follows: 0–10 □□satisfactory healing 11–20 □□disturbance of healing 21–30 □□minor wound infection 31–40 □□moderate wound infection >41 □□severe wound infection.	Sternal wounds: Intervention: 13/250 Comparator: 12/236 *P* =0.87 Leg wounds: Intervention: 27/234 Comparator: 31/216 P =0.78	Allocation was stratified according to whether or not the patient had previous coronary artery surgery. Patients were allocated using sealed envelopes containing a series of computer-generated random numbers. Outcome assessor blinded. 15 patients died during the follow-up period of the study. No further comments on the cause of death.

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Belkin, 1998 [15]	Quasi-RCT (2-week alternate cycle use of intervention and comparator), 5 months USA Class 1 clean and class 2 clean-contaminated General, cardiothoracic, orthopaedic, neuro-surgery, plastic and other surgery Each patient followed up 7 to 28 days Teaching hospital	Disposable, non-woven gowns and drapes (spun-laced material identified commercially as Sontara®, Jacob Holm Group, Basel, Switzerland)	Reusable fabric gowns and drapes (128-thread count fabric consisting of a blend of 65% polyester, 34% cotton, and 1% stainless steel. Sleeves and front of the gowns were made with two-ply.	**Infected wound: defined as when pus is visible in wound (not matching with CDC definition).**	Wound infection: Intervention: 108/2139 Comparator: 133/2223 *P* =0.177	Excluded from the study: - classes 3 and 4: contaminated or dirty - ophthalmology - no visible wound - any procedure performed outside the operating room - if no primary closure Outcome assessor blinded

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Castro Ferrer, 2004 [16] [Full text in Spanish]	Observational, single non-teaching centre One year of observation (before intervention and after intervention); 6 months of training (wash-in phase) – single-use drapes Spain Type of procedures: general surgery	Single-use adhesive surgical drapes (the adhesive concept applies to how the drape is secured to the surrounding area of the surgical field). The intervention also included non-reusable gowns (Klinidrape, Molnlycke Health Care).	Conventional reusable drapes and gowns	Wound infection rate (incisional SSI)	Wound infection Single-use: 31/421 (7.4%) Reusable drapes 18/396 (4.5%) Stratified by type of surgical contamination: Clean: I: 8/204 (3.9%) C: 2/167 (1.29%) Clean-contaminated I: 5/96 (5.2%) C: 3/100 (3%) Contaminated-dirty I: 11/76 (14.5%) C: 8/83 (9.6%) Dirty I: 7/45 (15.6%) C: 5/46 (10.8%)	– Additional outcomes were also analyzed, such as staff satisfaction. – Analysis of the different properties of the new material was done, that is: – impermeability – isolation – liquid absorption – resistance. Potential bias may have been introduced due to different patient populations in the 2 study periods. Nevertheless, the type of surgery regarding the degree of contamination seems equipoise between both periods. No data on additional risk factors that may have influenced SSI, such as the ASA score, are reported. No data on the degree of wound infection. – No data about blinding assessment of SSI is reported or participant blinding. – Interestingly, adverse effects of adhesive drapes are taken into consideration (9% of skin rash or eczema).

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Gallagher, 2007 [17]	Prospective non-randomized study, 3 years Italy 364 pacemaker and implantable cardioverter defibrillator patients	Simplified draping method: disposable single adhesive fenestrated drape designed originally for use in cardiac catheterization.	Traditional draping: involves the use of multiple cloth drapes; adhesive strips and draping clamps are used to maintain the position of drapes.	Suspected and confirmed infection Definition not provided	Intervention: 1/250 Comparator: 6/114 *P* =0.014	Intervention procedures performed by the same experienced operator (first operator experience >500 pacing procedures before the current series); control procedures performed by 3 other operators in the same catheterization laboratory over the same period. These operators were less experienced, each having first operator experience of <100 cases at the start of the study period. – Cephalic access was used for 71% of ventricular leads and 60% of atrial leads; in both cases significantly lower proportions than in the study group (*P*= 0.001) – Poor comparability between intervention and comparator.
Treggiari, 1992 [18] [Full text in Italian]	Prospective, non-randomized, non-controlled study Italy	Disposable non-woven fabric drapes and gowns (TNT fabric 450).	Conventional reusable cotton drapes and gowns.	Wound infection (named as "postoperative infection")	Wound infection: Non-woven fabric drapes: 4/25 Conventional cotton drapes: 4/25 Non-significant	– SSI definitions not reported – Surveillance only until postoperative day 10.

SSI: surgical site infection; RCT: randomized controlled trial; CDC: Centers for Disease Control and Prevention; I: Intervention; C: Comparator.