Appendix 2: Evidence table

Author, year, reference	Design, scope, setting, population	Objective	SSI definition	Type of surgery	Study methods	Intervention	Results (SSI)
Biffi, 2012 [11]	RCT January 2007 to December 2008 Italy Population: 68 cancer patients undergoing elective laparoscopic colorectal surgery.	To compare the efficacy of Aquacel® Ag Hydrofiber (ConvaTec Inc, Skillman, NJ, USA) dressing with a common postoperative dressing for the prevention of SSI in elective colorectal cancer surgery.	CDC criteria Follow-up: 30 days following surgery; the surgical site and patient's vital signs were assessed at least once a day during hospitalization, at discharge and at the time of follow-up evaluation.	Elective laparoscopic colorectal cancer surgery	Enrolled patients were randomized by the hospital using computer-generated randomization numbers without blocking. Exclusion criteria: history of allergy to dressing components, evidence of active infection at or adjacent to the operative site, coagulopathy, intestinal obstruction, active bowel bleeding, life expectancy less than 6 months, inability to give written informed consent or a programme of minimally invasive surgery.	C: iodine or alcohol-based swab and dry 4 x 4 gauze) I: hydrofiber dressing with ionic silver (Aquacel® Ag)	C: 11/54 I: 9/58 *P*= 0.623 Funding provided by the microbial dressing manufacturer. Authors declared no conflict of interest.

Burke, 2012 [12]	RCT 9-month period in 2009 Republic of Ireland Population: 124 patients (62 total hip replacements and 62 total knee replacements) ..	To evaluate the clinical benefits and cost effectiveness of the jubilee method compared to a standard traditional adhesive dressings...	An erythematous, indurated wound with persistent copious discharge was suggestive of a deep SSI. Follow-up: until hospital discharge (average length of stay = 9 days).	Elective total hip and total knee replacement	Patients randomized by the block randomization method to have either a jubilee or a traditional adhesive applied to the surgical wound following surgery. Exclusion criteria: patients undergoing revision surgery, on immune-suppressants, with skin conditions or those with trophic skin changes.	C: Mepore® (Mölnycke Health Care, Dunstable, UK) absorbent dressing I: hydrogel jubilee dressings	C: 0/62 I: 0/62 Relative risk: not available 95% CI: not available *P* value: not available Declaration of no conflict of interest by authors.

Dickinson Jennings, 2015 [13]	3-arm RCT Trauma centre, USA Population: 315 inpatients awaiting cardiac surgery or outpatients seen in the pre-surgical testing area before admission for surgery.	To compare wound healing, patient comfort, SSI rates and dressing factors among 3 types of dressing in patients with clean sternotomy incisions.	Superficial or deep (modified CDC) Follow-up: until hospital discharge	Sternotomy	Statistician-generated, random numbers table to assign participants to each of the 3 dressing groups. Following randomization, the principal investigator took the appropriate dressing to the operating room and communicated the dressing assignment directly to the nursing staff. Participants were not told of their group assignment until they awakened after surgery. Due to the nature of the dressings, no aspect of this study was blinded.	C: dry sterile dressing (only resistant to water) I (1): metallic silver dressing (Anticoat® Post-Op; Smith & Nephew PLC, London, UK) I (2): ionic silver dressing (Dermanet® Ag; DeRoyal Industries, Powell, TN, USA) **Interventions grouped together as silver-containing in the analysis.	C: 3/114 I (1): 2/104 I (2): 1/105 *P*: not significant between any group. Dressings provided by manufacturer.
Krieger, 2011 [14]	RCT University-based, tertiary referral hospital, USA Population: 110 patients.	To compare SSI rates among standard gauze dressings.	CDC criteria (modified to include patients placed on antibiotics for signs or symptoms of SSI). Follow-up: 30 days after surgery (via telephone).	Colorectal surgery	Patients were randomized into two different groups at the time of skin closure when a computer-generated envelope was opened indicating the dressing to be used.	C: standard gauze dressings I: silver nylon dressings	C: 18/54 I:7/55 *P*= 0.11 Multivariate analysis: *P*= 0.013 Financial support provided by the manufacturer; authors declared an independent analysis, etc.

Martin-Trapero, 2012 [15]	Single blinded RCT Spain Population: 197 patients diagnosed with cholelithiasis.	To analyze the effectiveness of a PHMB 0.2% dressing against superficial SSI.	CDC criteria	Laparoscopic chole-cystectomy	Patients were randomized by an automatic randomization tool.	C: non-occlusive dressing I: PHMB 0.2% dressings	Superficial SSI: C: 5/101 I: 1/96 *P*=0.212 Declaration of no conflict of interest by authors.
Michie, 1994 [16]	RCT USA Population: 28 consecutive eligible patients undergoing elective surgery that would result in incision(s) not exceeding 200 mm in length each.	To compare a thin hydrocolloid occlusive dressing with a cotton gauze dressing impregnated with bismuth tribromophenate on sutured incisions after plastic and reconstructive surgery.	Not specified	Elective plastic and reconstructive surgery	Computer-generated randomization table with blocks of 4 was used to determine which dressing was applied to the right and left sides (or proximal and distal ends) of the incisions. Patients served as their own control with one half of each incision covered with an impregnated gauze and the other half covered with a thin occlusive hydrocolloid dressing.	C: impregnated-gauze (Xeroform; Covidien [Medtronic], Dubin, Ireland) I: thin occlusive hydrocolloid dressing (DuoDerm® Extra Thin CGF; ConvaTec, Skillman, NJ, USA)	C: 0/40 I: 0/40 *P*= NA Financial support from manufacturer; authors declared no conflict of interest.

Ozaki, 2015 [17]	RCT October 2010 to September 2013 USA Population: 500 adults undergoing a non-emergency surgical procedure for peripheral vascular disease involving arteries or bypass grafts.	To test the hypothesis that a silver-eluting alginate topical surgical dressing would lower wound complication rates in patients undergoing open arterial procedures in the lower extremity.	Primary endpoint – 30-day wound complication incidence based on NSIP guidelines. Follow-up: 30 days after surgery.	Open, non-emergency procedure for peripheral vascular disease involving arteries or bypass grafts.	Patients were randomized in the operating room by block design after wound closure was completed, but before any dressing was applied. Exclusion criteria: known allergy to silver or alginate, participation in another interventional clinical trial, or prior participation in the current study.	C: standard gauze dressing I: silver alginate dressing (Acticoat® Absorbent; Smith & Nephew)	C: 38/250 I: 42/250 *P*= 0.64 Bivariate OR 1.03 (95% CI: 0.70-1.52) *P*= 0.87 Multivariate OR 0.91 (95% CI: 0.61-1.37) *P*= 0.65 Financial support from manufacturer; authors declared no conflict of interest.
Shinohara, 2008 [18]	RCT November 2003 to March 2006 Japan Population: cohort of 134 consecutive patients	To compare an occlusive hydrocolloid dressing and a gauze dressing with regard to the cost and incidence of wound infection after abdominal surgery.	Pus, pyrexia, and local tenderness Follow-up: mean of 30 days in both groups.	Gastric, duodenal, pancreatic, biliary disease.	Randomization methods not described. Exclusion criteria: anal and perianal operations, and peritonitis and emergency operations.	C: standard gauze dressing I: occlusive hydrocolloid dressing: consists of an outer permeable polyurethane membrane with a thin absorbent and adhesive hydrocolloid interface.	C: 1/71 I: 1/63 *P*=0.567 Conflict of interest not addressed.

Vogt, 2007 [19]	RCT Denmark Population: 160 adults planned for vascular surgery with an expected hospitaliza-tion of 4+ days.	To compare the standard type of dry dressing, Mepore® (Mölnycke Health Care) with moist wound healing using a hydrofiber dressing, Aquacel® (ConvaTec Inc), in primary closed wounds after vascular surgery.	30-day wound complication incidence based on NSIP guidelines.	Elective vascular surgery	Patients were allocated by drawing an envelope with a corresponding number (completed by a non-involved person) in consecutive marked envelopes and opened in the operating room. Exclusion criteria: hypersensitivity to either Mepore® or Aquacel®, dementia, insufficient Danish or pregnant.	C: Mepore® standard dry dressing I: Aquacel®	C: 7/66 I: 9/70 *P*=0.68 Contribution from ConvaTec; but stated "no financial associations between the products tested and the authors".

Wynne, 2004 [20]	Setting: Melbourne, Australia Population: 737 patients undergoing cardiac surgery who required a median sternotomy incision in a major metropolitan teaching hospital from September 1999 to November 2001.	To compare dressing types (dry, hydrocolloid, hydroactive) in terms of their ability to protect against infection and promote healing, patient comfort, and cost-effectiveness.	CDC criteria Follow-up: from postoperative day 1 to day 6, daily data collection and wound assessment were conducted at 3 pm. Patients were followed up either through the outpatient department or telephone survey approximately 4 weeks after discharge from hospital.	Cardiac	Randomization was stratified equally across two operating rooms and was achieved using opaque envelopes. Patients were randomly assigned to one of 3 treatment groups by the circulating nurse on the commencement of sternal skin closure. Exclusion criteria: unable to provide written consent, immune-suppressed or under the care of one surgeon who did not wish to have his/her patient participate in the study.	C: dry absorbent (Primipore; Smith & Nephew) I (1): Hydrocolloid dressing (DuoDerm® Thin; ConvaTec Inc) I (2): hydroactive dressings (Opsite; Smith & Nephew)	C: 6/243 I (1): 6/267 I (2): 9/227 P= NS between any groups Conflict of interest not addressed

RCT: randomized controlled trial; CDC: Centers for Disease Prevention and Control; SSI: surgical site infection; CI: confidence interval; OR: odds ratio; I: intervention; C: control; PHMB: polyhexamethylene biguanide; NSIP: national surgical improvement programme; NA: not available; NS: not significant.