Appendix1: Eligibility criteria for study search

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| **Inclusion criteria** | * Children < 16 years of age * Undergoing any type of surgery (including minimally invasive surgery, elective and emergency surgery) |
| **Exclusion criteria** | * Age ≥ 16 years * Procedures   + not including a visible incision   + not resulting in the presence of a conventional surgical wound   + not requiring suturing or closure of the wound |
| **Interventions/comparators** | * Choice of antiseptic agent for surgical skin preparation (CHG/PVP/alcohol) * Compared with each other or with other antiseptic agents |
| **Primary outcome** | * Rate of surgical site infection (all types) |
| **Types of studies included** | * Randomized controlled trials * Comparative observational studies |

Appendix2: Search strategy

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| Database | Search strategy |
| Medline (via OVID) | exp Chlorhexidine/ or Chlorhexidin\*.ti,ab. or Chlora?rep.ti,ab. or Chlorostat.ti,ab. or Hibi\*.ti,ab. or exp Ethanol/ or Ethanol\*.ti,ab. or Alcohol\*.ti,ab. or IPA.ti,ab. or Soluprep.ti,ab. or Cutasept.ti,ab. or softasept.ti,ab. or exp Povidone-Iodine/ or exp Povidone/ or exp Iodine Compounds/ or iodin\*.ti,ab. or iodophor\*.ti,ab. or Povidon-Iod\*.ti,ab. or Betadona.ti,ab. or Brauno\*.ti,ab. or Destrobac.ti,ab. or Jodoplex.ti,ab. or Pol?sept.ti,ab. or Sepso J.ti,ab. or Topionic.ti,ab. or Wundesin.ti,ab. or Betasept\*.ti,ab. or exp Antiinfective Agents, Local/ or ((solution or agent) adj2 (antiseptic\* or antimicrobial\*)).ti,ab. or (skin adj2 (d?sinfectant or srub or preparation\* or antisep\* or detergent\* or cleaning or cleansing)).ti,ab.  AND  exp surgical wound infection/ or (postop\* adj2 infection).ti,ab. or (incision\* adj2 (infection\* or abces\*)).ti,ab. or (postop\* adj2 absces\*).ti,ab. or (surgical adj2 infection\*).ti,ab. or SSI\*.ti,ab. or wound infection.ti,ab.  AND  exp child/ or exp Infant/ or exp Infant, Newborn/ or exp Adolescent/ or exp Child, Hospitalized/ or exp Intensive Care Units, Pediatric/ or exp Intensive Care Units, Neonatal/ or exp Hospitals, Pediatric/ or exp Intensive Care Units, Pediatric/ or p?ediatric surgery.ti,ab. or (adolescen\*or infan\* or newborn\* or (new adj born\*) or neonat\* or child\* or pediatric\* or paediatric\* or PICU or NICU or PICUs or NICUs).ti,ab.  AND  exp cohort studies/ or cohort$.tw. or controlled clinical trial.pt. or epidemiologic methods/ limit to yr=1966-1989 or exp case-control studies/ or (case$ and control$).tw. or (case$ and series).tw.  OR  randomized controlled trial.pt. or controlled clinical trial.pt. or randomized.ab. or placebo.ab. or drug therapy.fs. or randomly.ab. or trial.ab. or groups.ab.  not exp animals/ not humans.sh. |
| Embase (via OVID) | exp surgical infection/ or exp wound infection/ or exp postoperative complication/ or ssi.ti,ab. or (surgical adj2 infection\*).ti,ab. or wound infection\*.ti,ab. or (postop\* adj2 infection).ti,ab. or (incision\* adj2 (infection\* or abces\*)).ti,ab. or (postop\* adj2 absces\*).ti,ab. or wound infection\*.ti,ab.  AND  exp disinfectant agent/ or (solution or agent adj2 (antiseptic\* or antimicrobial\*)).ti,ab. or (skin adj2 (d?sinfectant or srub or preparation\* or antisep\* or detergent\* or cleaning or cleansing)).ti,ab. or exp povidone iodine/ or exp iodophors/ or exp iodine/ or iodin\*.ti,ab. or iodophor\*.ti,ab. or Povidon-Iod\*.ti,ab. or Betadona.ti,ab. or Brauno\*.ti,ab. or Destrobac.ti,ab. or Jodoplex.ti,ab. or Pol?sept.ti,ab. or Sepso J.ti,ab. or Topionic.ti,ab. or Wundesin.ti,ab. or Betasept\*.ti,ab. or 2 propanolol.ti,ab. or exp alcohol/ or ethanol\*.ti,ab. or alcohol\*.ti,ab. or IPA.ti,ab. or soluprep.ti,ab. or cutasept.ti,ab. or softasept.ti,ab. or exp chlorhexidine/ or Chlora?rep.ti,ab. or Chlorostat.ti,ab. or Hibi\*.ti,ab.  AND  exp child/ or exp infant/ or exp adolescent/ or exp newborn/ or exp child health/ or exp pediatric hospital/ or exp intensive care units, neonatal/ or exp intensive care, neonatal/ or intensive care units, pediatric/ or (adolescen\* or infan\* or newborn\* or (new ADJ born\*) or baby or babies or neonat\* or child\* or boy\* or girl\* or minors or underag\* or (under ADJ1 (age\* or aging)) or juvenil\* or pediatric\* or paediatric\* or suckling\* OR PICU OR NICU OR PICUs OR NICUs).ti,ab.  AND  exp cohort analysis/ or exp longitudinal study/ or exp prospective study/ or exp follow up/ or cohort$.tw. or exp case control study/ or (case$ and control$).tw. or exp case study/ or (case$ and series).tw.  OR  exp crossover procedure/ or exp double-blind procedure/ or exp randomized controlled trial/ or exp single-blind procedure/ or (random\* or factorial\* or crossover\* or cross adj1 over\* or placebo\* or doubl\* adj1 blind\* or singl\* adj1 blind\* or assign\* or allocat\* or volunteer\*).ti, ab. |
| Cochrane CENTRAL | Child  AND  Surgical Wound Infection  AND  (Iodine Compounds or Chlorhexidine or Ethanol or Antiinfective agents, local) |
| CINAHL | ( surgical site infection or surgical wound infection or ssi )  AND  ( Antiinfective Agents, Local Administration and Dosage or Skin Preparation, Surgical or povidone iodine or povidone or betadine or iodine or povidone-iodine or chlorhexidine or chg or chlorhexidine gluconate or ethanol or alcohol )  AND  ( infant or child or pediatric or paediatric or children ) |