

Evidence Review

The Guideline for Care and Cleaning of Surgical Instruments was approved by the AORN Guidelines Advisory Board and became effective as of October 12, 2020.

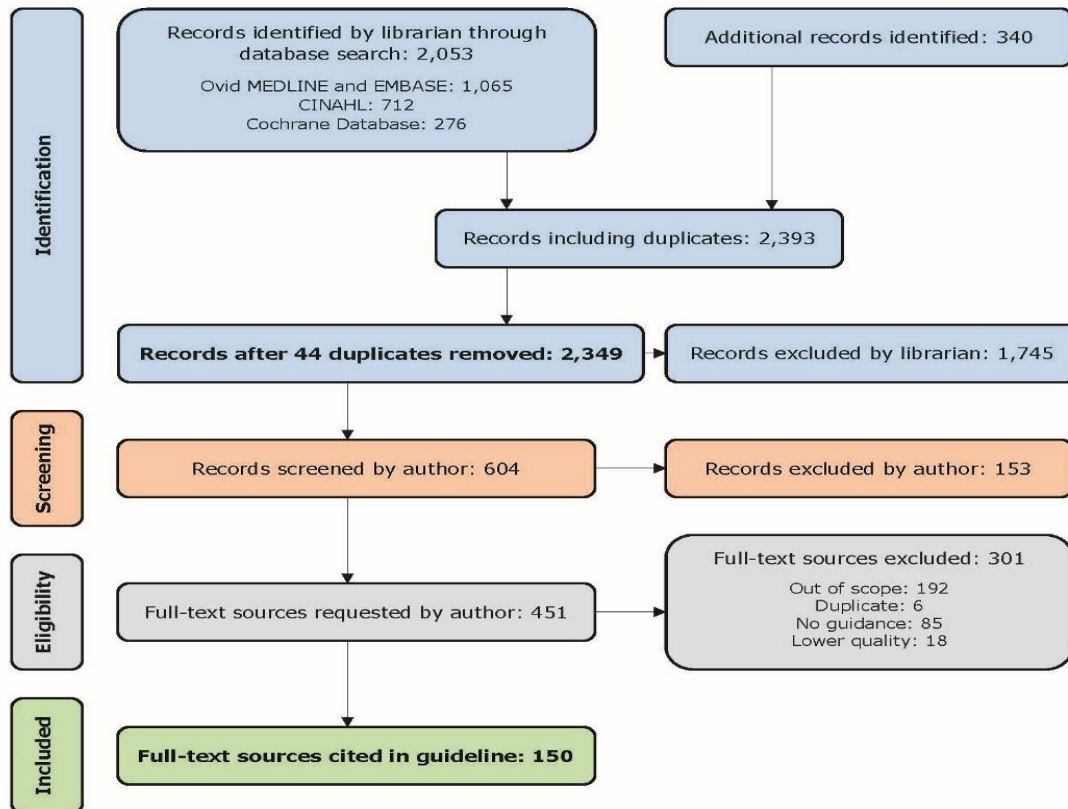
A medical librarian with a perioperative background conducted a systematic search of the databases Ovid MEDLINE®, Ovid Embase®, EBSCO CINAHL®, and the Cochrane Database of Systematic Reviews. The search was limited to literature published in English from **January 2014 through August 2019**. At the time of the initial search, weekly alerts were created on the topics included in that search. Results from these alerts were provided to the lead author until **November 2019**. The lead author requested additional articles that either did not fit the original search criteria or were discovered during the evidence appraisal process. The lead author and the medical librarian also identified relevant guidelines from government agencies, professional organizations, and standards-setting bodies. **Search terms** included *adenosine triphosphate, antineoplastic agents, arthroscopic shavers, asepsis, bacteria, bacterial adhesion, bacterial load, biofilms, biofoul, borescopes, cart washers, case cart, central services department, chemical safety, cleaning verification, corrosion, Creutzfeldt-Jakob syndrome, cross infection, cytotoxic, decontamination, detergents, disinfection, disinfection and sterilization, endotoxins, enzymatic detergents, equipment and supplies, equipment contamination, equipment reuse, evaluation studies as topic, guidelines as topic, impingement, infection control, instrument air, instrument cleaning, instrument coating, instrument dipping, instrument disinfectant, instrument drying, instrument marking, instrument tape, insulation test, ionized water, laryngoscopes, leaching, luciferases, luminescent measurements, magnification, maintenance, medical device reprocessing, microbial sensitivity tests, mitomycin, occupational hazards, occupational exposure, powered surgical equipment, printing (three-dimensional), prion diseases, protein test, rigid endoscopes, risk management, robotic instruments, satellite sterile processing, sterile water, sterile processing department, sterilization, surgical equipment and supplies, surgical instruments, surgical procedures (operative), surgical wound infection, TOSI test, toxic anterior segment syndrome, toxic endothelial cell destruction, ultrasonic, washer disinfectant, washing system, water microbiology, water purification, and water supply.*

Included were research and non-research literature in English, complete publications, and publications with dates within the time restriction when available. Excluded were non-peer-reviewed publications and older evidence within the time restriction when more recent evidence was available. Editorials, news items, and other brief items were excluded. Low-quality evidence was excluded when higher-quality evidence was available, and literature outside the time restriction was excluded when literature within the time restriction was available. Articles that discussed antimicrobial multifunctional surface coatings were considered and determined to be out of scope for this document and therefore were excluded (**Figure 1**).

Articles identified in the search were provided to the project team for evaluation. The team consisted of the lead author and one evidence appraiser. The lead author and the evidence appraiser reviewed and critically appraised each article using the AORN Research or Non-Research Evidence Appraisal Tools as appropriate. The literature was independently evaluated and appraised according to the strength and quality of the evidence. Each article was then assigned an appraisal score. The appraisal score is noted in brackets after each reference as applicable.

Each recommendation rating is based on a synthesis of the collective evidence, a benefit-harm assessment, and consideration of resource use. The strength of the recommendation was determined using the AORN Evidence Rating Model and the quality and consistency of the evidence supporting a recommendation. The recommendation strength rating is noted in brackets after each recommendation.

Figure 1: PRISMA 2009 Flow Diagram



Adapted from Moher D, Liberati A, Tetzlaff J, Atman DG; The PRISMA Group. Preferred reporting items for systematic reviews and meta-analyses: The PRISMA Statement. PLoS Med. 2009;6(6):e1000097.

Publication History

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- Revised November 2001; published March 2002, AORN Journal.
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- Minor editing revisions made to omit PNDS codes; reformatted September 2012 for publication in Perioperative Standards and Recommended Practices, 2013 edition.
- Revised September 2014 for online publication in Perioperative Standards and Recommended Practices.
- Minor editing revisions made in November 2014 for publication in Guidelines for Perioperative Practice, 2015 edition.
- Evidence ratings revised in Guidelines for Perioperative Practice, 2018 edition, to conform to the current AORN Evidence Rating Model.
- Evidence ratings revised and minor editorial changes made to conform to the current AORN Evidence Rating model, September 2019, for online publication in Guidelines for Perioperative Practice.
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Scheduled for review in 2024.