

## Evidence Review

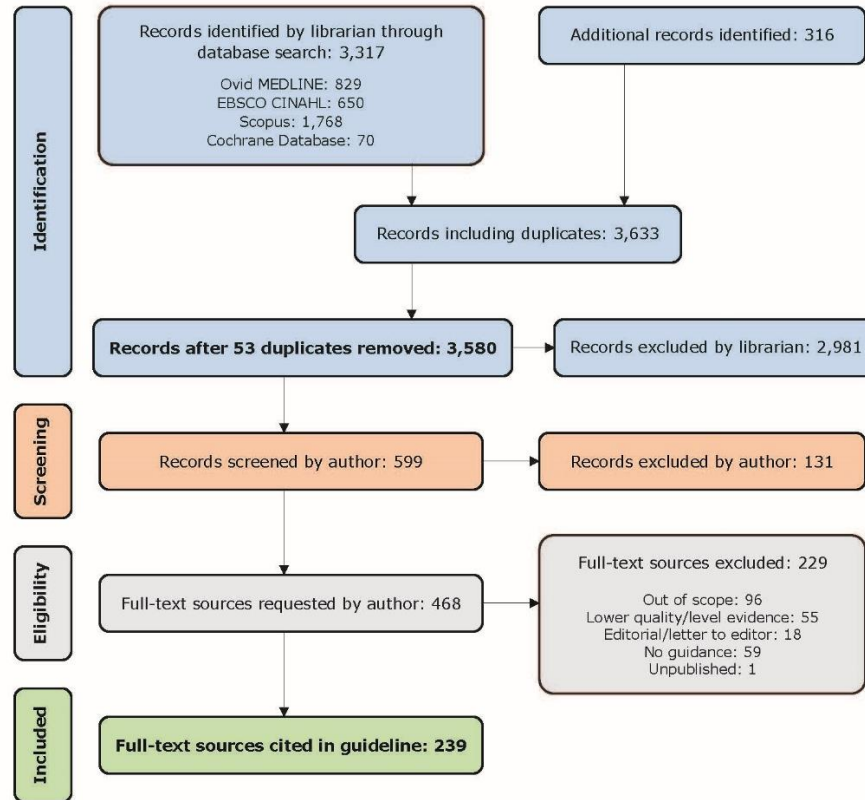
The Guideline for Sterile Technique was approved by the AORN Guidelines Advisory Board and became effective as of December 21, 2020.

A medical librarian with a perioperative background conducted a systematic search of the databases Ovid MEDLINE®, EBSCO CINAHL®, Scopus®, and the Cochrane Database of Systematic Reviews. The search was limited to literature published in English from **2012 through 2017**. 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 **April 2018**. 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 subject headings such as *abdominal and perineal surgery, aerosolization, asepsis, aseptic practice, aseptic technique, assembled instruments, assisted gloving, barrier precautions, blocked vents, blood, body exhaust suits, bone and bones, bone cements, bowel isolation technique, bowel surgery, bowel technique, break in sterile technique, C-arm, case classifications, cerebrospinal fluid shunts, cesarean birth, cesarean section, changing levels, chemical indicator, chemical integrator, chewing gum, clamped instruments, clean closure technique, clean to dirty case, closed gloving, closing instruments, closing trays, colorectal surgery, complex procedure, contamination, conversations, corrective actions, cough, cover equipment, cover implants, cover instrument trays, critical zone, cuffing, cystoscopic surgery, cystoscopy, debris, delivery of sterile items, delivery to sterile field, dispensing sterile items, doffing, donning, door openings, double gloving, dual sterile fields, education, endovascular procedures, endovascular surgery, event-related sterility, extended cuffs, facing back to back, facing front to front, fluid and fat absorption, fluid warmers, fluoroscopy, gastrointestinal tract, glove compromise, glove expansion and fluid, glove gown interface, glove inspection, glove integrity, glove perforation, gloves (surgical), gowns, grease, hair, hand hygiene, handling sterile items, health physics, heavy items, human factors, hybrid operating room, hybrid procedure room, hybrid surgical suites, immediate action, increased activity, indicator systems, indicators and reagents, individual interventions, inspection of sterile supplies, instrument inspection, instrument set removal, instrument trays, instrument wrap, interoperative MRI, intraoperative MRI, introduction of sterile supplies, loban, iodine impregnated drape, isolation technique, Kimguard, lead apron, lead garment, leaning over, level of the sterile field, maintain integrity, major break, Maxair, medications, metastatic tumors, methyl methacrylate, microscope eyepiece, microscopes, minimally invasive, minimally invasive procedures, minimally invasive surgical procedures, minimize handling, minor break, monitoring sterile field, movement of personnel, multiple sterile fields, multiple surgical specialties, neoplasm metastasis, non-penetrating clamps, opening sterile items, opening sterile items in a rigid container, operative microscope, organic material, orthopedic hoods, otolaryngology, package integrity, packaging, pharmaceutical preparations, plastic adhesive incise drape, plastic bandages to cover holes, polymethyl methacrylate, procedural drapes, product evaluation, product packaging, product selection, protective clothing, radiologic exposure, retrieve sterilizer items, robotic surgery, robotic surgical procedures, seated procedures, securement, sharp items, simulation, slush machines, sneezing, solutions, space suits, Spaulding classification, speech, sterile areas or sections, sterile barrier, sterile drapes, sterile field, sterile field preparation, sterile part of gown, sterile practices, sterile surgical gloves, sterile surgical gown, sterile technique, sterility, strikethrough, sub-sterile, surgery (digestive system), surgical air systems, surgical conscience, surgical doors shut, surgical drapes, surgical draping, surgical equipment and supplies, surgical gown, surgical gown cuffs, surgical gown seams, surgical gown strikethrough, surgical helmet system, surgical hood, surgical instruments, surgical site infection bundle, surgical wound, table covering, talking, tape doors, team interventions, time-related sterility, tissue, traffic patterns, training, unanticipated delay, ventriculoperitoneal shunts, visible defect, waist level, wound classification, and wrapped items.*

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 (**Figure 1**). Articles identified by the search were provided to the project team for evaluation. The team consisted of the lead author and two evidence appraisers. The lead author divided the search results into topics and assigned members of the team to review and critically appraise 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 agreed upon by consensus of the team. 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, Altman DG; The PRISMA Group. Preferred reporting items for systematic reviews and meta-analyses: The PRISMA Statement. *PLoS Med.* 2009;6(6):e1000097.

## Publication History

- Originally published as “AORN Standards—OR wearing apparel, draping and gowning materials,” March 1975, *AORN Journal*.
- Revised; published as “Standards of technical and aseptic practice: OR,” March 1978, *AORN Standards of Practice*.
- Revised October 1985; published as “Recommended practices: basic aseptic technique,” March 1987, *AORN Journal*.
- Revised February 1991; published as “Recommended practices: aseptic technique,” October 1991, *AORN Journal*.
- Revised January 1996; published as “Recommended practices for maintaining a sterile field,” November 1996, *AORN Journal*.
- Revised; published February 2001, *AORN Journal*.
- Revised November 2005; published in *Standards, Recommended Practices, and Guidelines*, 2006 edition. Reprinted February 2006, *AORN Journal*.

- Revised December 2012; published as “Recommended practices for sterile technique,” *Perioperative Standards and Recommended Practices*, 2013 edition.
- Evidence ratings revised 2013 to conform to the AORN Evidence Rating Model.
- Minor editing revisions November 2014; published as “Guideline for sterile technique” in *Guidelines for Perioperative Practice*, 2015 edition.
- Evidence rating revised to conform to the current AORN Evidence Rating Model in *Guidelines for Perioperative Practice*, 2018 edition.
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