

Evidence Review

The Guideline for Unintentionally Retained Surgical Items was approved by the AORN Guidelines Advisory Board and became effective as of December 9, 2021.

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 December 2020**. 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 **July 2021**. 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.

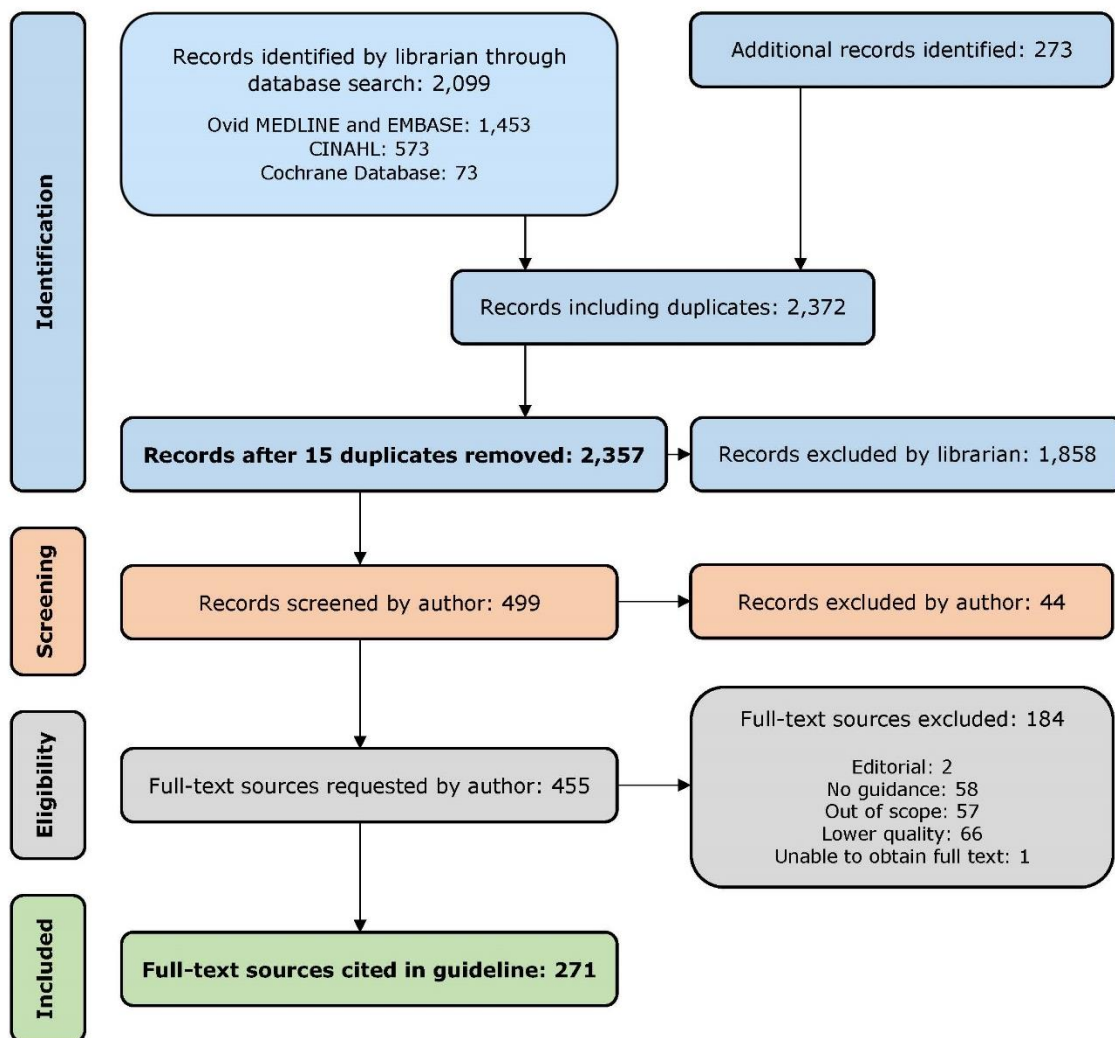
Search terms included *2D matrix, 3D micro tag, adverse event, adverse health care event, anti-Semitism, awareness, attitude to obesity, bar coding, bent hypodermic needles, biliary tract surgical procedures, blood loss, blood loss estimation, blood loss (surgical), bloodless medical and surgical procedures, broken hypodermic needles, cardiac catheters, catheterization (central venous), catheterization (peripheral central venous), catheters, catheters (indwelling), catheters (vascular), central venous catheters, count board, count discrepancies, count reconciliation, count sheet, covert racism, cross-disciplinary communication, cultural bias, cultural competency, cultural diversity, cultural pluralism, delivery of health care, dentistry (operative), device fragments, difference in treatment, discrepancies in treatment, discrimination, disparities, distraction, diversity, documentation, documentation of unresolved count discrepancies, emergency surgery, emergent surgical procedures, ethnic groups, ethnicity, forceps, foreign bodies, glidewires, guidewires, gossypiboma, health care delivery, health care disparities, health care errors, health status disparities, healthcare disparities, healthcare near miss, healthcare time out, healthcare timeout, heart catheter, heart catheterization, human error, human factors, hypodermic needle defects, hypodermic needle fragments, hypodermic needles, implantable catheters, implicit bias, incorrect count, indwelling catheters, instrument breakage, instrument label defects, instrument label fragmentation, intercardiac catheter, intraoperative awareness, intraoperative imaging, intraoperative radiograph, intravascular device defects, intravascular device fragments, interdisciplinary communication, invasive procedures, Islamophobia, lengthy procedure, long procedure, malleable ribbon, medical errors, microneedles, minimally invasive procedures, minorities, minority groups, minority health, missing surgical items, morbid obesity, multiculturalism, multidisciplinary communication, nationality, near miss, near miss (healthcare), needles, never event, noise, noise pollution, nurse's role, nurse's scope of practice, nursing, nursing care, nursing role, obesity, obesity (morbid), operating room nursing, operative procedures, people of color, perioperative nursing, pocketed sponge bag system, prejudice, preventing retained surgical items, pulmonary artery catheters, race, race factors, racial disparities, racial factors, racial bias, racial discrimination, racial prejudice, racism, radio frequency, radio frequency identification, radio frequency identification device, radiopaque, reporting retained surgical items, retained foreign bodies, retained instruments, retained intravascular devices, retained surgical instruments, retained surgical items, retained surgical needle, retained surgical tool, retention, robotic surgical procedures, root cause analyses, root cause analysis, scope of nursing practice, sentinel event, severe obesity, shift change, shift reports, situational awareness, skin color, skin tone, small suture needles, socially responsible surgery, soft goods, speculum, surgical blood loss, surgical clamps, surgical clips, surgical count procedure, surgical count reconciliation, surgical errors, surgical hemorrhage, surgical hooks, surgical instruments, surgical nursing, surgery (operative), surgical pause, surgical plug, surgical procedures, surgical procedures (operative), surgical sponges, surgical time out, surgical timeout, surgical traumatology, surgical valves, surgical wound examination, surgical wound exploration, suture needles, tantalum clips, textiloma, therapeutic sponge packing, throat pack, time out (healthcare), trauma surgery, traumatology, trocar, underserved patients, underserved populations, unequal treatment, unretrieved device fragments, urban population, vascular access devices, vulnerable populations, and weight bias.*

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 (**Figure 1**).

Articles identified in the search were provided to the lead author for critical appraisal. The lead author distributed research articles to another evidence appraiser who independently evaluated and appraised each article using the AORN Research or Non-Research Evidence Appraisal Tools as appropriate. Each article was then assigned an appraisal score based on a consensus of the lead author and evidence appraiser. 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

- Originally published May 1976, *AORN Journal*, as “Standards for sponge, needle, and instrument procedures.”
- Format revision March 1978, July 1982.
- Revised March 1984, March 1990.
- Revised November 1995; published October 1996, *AORN Journal*.
- Revised; published December 1999, *AORN Journal*.
- Reformatted July 2000.
- Revised November 2005; published as Recommended Practices for Sponge, Sharp, and Instrument Counts in *Standards, Recommended Practices, and Guidelines*, 2006 edition.
- Reprinted February 2006, *AORN Journal*.
- Revised July 2010 for online publication in *Perioperative Standards and Recommended Practices*.

- Reformatted September 2012 for publication in *Perioperative Standards and Recommended Practices*, 2013 edition.
- Minor editing revisions made in November 2014 for publication in *Guidelines for Perioperative Practice*, 2015 edition, as Guideline for Prevention of Retained Surgical Items.
- Revised January 2016 for publication in *Guidelines for Perioperative Practice*, 2016 edition.
- Minor editing revisions made in October 2016 for publication in *Guidelines for Perioperative Practice*, 2017 edition.
- 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*.
- Revised December 2021 for publication in *Guidelines for Perioperative Practice*, 2022 edition.

Scheduled for review in 2026.