

Additional file 1. Complete search strategies and search log — START-OR

Review: Teaching the sterile start: a rapid scoping review and proposed START-OR competency model
Search date: 2 August 2026. Databases: Web of Science Core Collection and Scopus. Coverage: database inception to search date.
No date or language limit was imposed in the exported searches.

Web of Science Core Collection

Q1. Surgical hand preparation—sensitive

TS=((("surgical hand preparation" OR "surgical hand antisepsis" OR "surgical hand scrub" OR "surgical hand scrubbing" OR "surgical hand rub" OR "surgical hand rubbing" OR "preoperative hand antisepsis" OR "preoperative hand disinfection" OR "antiseptic handwashing" OR "antimicrobial handwashing" OR "alcohol-based hand rub" OR "waterless surgical hand preparation") NEAR/10 (time* OR timing OR duration* OR interval* OR "scrub time" OR "rubbing time" OR "application time" OR "contact time" OR "drying time" OR protocol* OR technique*))

Q2. Surgical hand preparation—specific timing

TS=((("surgical hand scrub" OR "surgical hand antisepsis" OR "surgical hand preparation" OR "surgical hand rub") NEAR/5 (time OR duration OR "scrub time" OR "application time" OR "contact time" OR "drying time"))

Q3. Skin antisepsis, drying and draping

TS=((("surgical skin preparation" OR "preoperative skin preparation" OR "surgical skin antisepsis" OR "preoperative skin antisepsis" OR "operative site preparation" OR "patient skin preparation" OR "alcohol-based skin preparation" OR "chlorhexidine-alcohol" OR "povidone-iodine") NEAR/10 (draping OR "sterile draping" OR "drape application" OR drying OR "drying time" OR "antiseptic drying" OR "contact time" OR "time to incision" OR "preparation-to-incision" OR "skin preparation-to-draping" OR interval* OR timing OR duration*))

Q4. Alcohol drying and fire safety

TS=((("alcohol-based skin preparation" OR "alcohol-based antiseptic" OR "chlorhexidine-alcohol" OR "alcoholic chlorhexidine" OR "alcoholic skin antisepsis") NEAR/10 ("drying time" OR "complete drying" OR "antiseptic drying" OR "solution pooling" OR "antiseptic pooling" OR "surgical fire" OR ignition OR flammab* OR drap* OR incision*))

Q5. Sterile table set-up and exposure

TS=((("sterile field" OR "sterile field preparation" OR "sterile field setup" OR "sterile table" OR "surgical instrument table" OR "instrument table" OR "surgical back table" OR "back table" OR "Mayo stand" OR "instrument setup" OR "surgical tray setup" OR "operating room setup") NEAR/10 (time* OR timing OR duration* OR "setup time" OR "preparation time" OR "exposure time" OR "time before surgery" OR exposure OR contamination OR "microbial contamination" OR "bacterial contamination" OR "airborne contamination"))

Q6. Field contamination and exposure time

TS=((("sterile field" OR "sterile table" OR "instrument table" OR "back table" OR "Mayo stand" OR "surgical instruments") NEAR/10 ("exposure time" OR "prolonged exposure" OR "time-dependent contamination" OR contamination OR "microbial contamination" OR "bacterial contamination" OR "airborne contamination" OR "colony-forming units" OR bioburden))

Q7. Education and implementation overlay

TS=((surg* OR perioperat* OR "operating room" OR "operating theatre") AND (educat* OR train* OR teach* OR learn* OR student* OR simulation OR competenc* OR assess* OR audit OR adherence OR compliance OR implementation OR feedback) AND ("hand preparation" OR "skin preparation" OR antisepsis OR "sterile field" OR "instrument table" OR "back table"))

Scopus

S1. Surgical hand preparation

TITLE-ABS-KEY(("surgical hand preparation" OR "surgical hand antisepsis" OR "surgical hand scrub" OR "surgical hand rub" OR "preoperative hand antisepsis" OR "alcohol-based hand rub" OR "waterless surgical hand preparation") W/10 (time* OR timing OR duration* OR interval* OR "application time" OR "contact time" OR "drying time" OR protocol* OR technique*))

S2. Skin preparation and draping readiness

TITLE-ABS-KEY(("surgical skin preparation" OR "preoperative skin preparation" OR "surgical skin antisepsis" OR "operative site preparation" OR "chlorhexidine-alcohol" OR "povidone-iodine") W/10 (draping OR drying OR "drying time" OR "contact time" OR "time to incision" OR interval* OR timing OR duration* OR pooling OR "surgical fire"))

S3. Sterile table and field exposure

TITLE-ABS-KEY(("sterile field" OR "sterile table" OR "instrument table" OR "back table" OR "Mayo stand" OR "instrument setup") W/10 (time* OR duration* OR "setup time" OR "exposure time" OR contamination OR bioburden OR "airborne contamination"))

S4. Education and implementation overlay

TITLE-ABS-KEY((surg* OR perioperat* OR "operating room" OR "operating theatre") AND (educat* OR train* OR teach* OR learn* OR student* OR simulation OR competenc* OR assess* OR audit OR adherence OR compliance OR implementation OR feedback) AND ("hand preparation" OR "skin preparation" OR antisepsis OR "sterile field" OR "instrument table" OR "back table"))

54 **Search and export log**

55 **Table 1. Search and export log**

Source	Date	Records	Notes
Web of Science	2 Aug 2026	5095	Full record and cited references; exported in multiple files where platform limits applied.
Scopus	2 Aug 2026	652	CSV export with citation and abstract fields.
Combined before deduplication	2 Aug 2026	5747	Consolidated in the author-provided workbook.
Unique after deduplication	2 Aug 2026	5449	Normalized DOI or title–year key.
Final included evidence set	8 Aug 2026	143	All included full texts confirmed, verified and analysed by the author team before manuscript closure.

56 Database scope and sufficiency: Web of Science Core Collection and Scopus were prespecified as sufficient for the defined rapid
57 mapping objective. Together they yielded 5,747 records and 5,449 unique records after deduplication; the final included set comprised
58 143 sources with complementary retrieval (62 Web of Science-only, 31 Scopus-only and 50 shared sources) and represented every
59 prespecified evidence domain and specialty group. The review is deliberately bounded to these two databases and does not claim
60 exhaustive coverage of other bibliographic databases or grey literature.
61 **Final evidence-set closure.** All 143 included sources underwent full-text confirmation, author-team verification and analysis before
62 closure of the author-review phase.