GUIDELINE FOR DESIGN AND MAINTENANCE OF THE SURGICAL SUITE

The Guideline for Design and Maintenance of the Surgical Suite has been approved by the AORN Guidelines Advisory Board. It was presented as a proposed guideline for comments by members and others. The guideline is effective August 1, 2018. The recommendations in the guideline are intended to be achievable and represent what is believed to be an optimal level of practice. Policies and procedures will reflect variations in practice settings and/or clinical situations that determine the degree to which the guideline can be implemented. AORN recognizes the many diverse settings in which perioperative nurses practice; therefore, this guideline is adaptable to all areas where operative or other invasive procedures may be performed.

Purpose

The physical design of the surgical suite should support safe patient care, efficient movement of patients and supplies, and workplace safety and security. The surgical suite includes the preoperative, intraoperative, and postoperative patient care areas and support areas, including central and satellite sterile processing areas, administrative areas, waiting areas, and locker rooms. This document provides guidance on the design of the surgical suite; security measures; safety measures during new construction or renovation; planning for utility service interruption; restoration of the surgical suite to full functionality after a utility failure; maintenance of structural surfaces; and design, monitoring, and maintenance of the heating, ventilation, and air conditioning [HVAC] system.

The following topics are outside the scope of this document:

- use of portable/robotic ultraviolet light generators (See the AORN Guideline for Environmental Cleaning[1]);
- management of heater-cooler units (See the AORN Guideline for Sterile Technique[2]);
- accommodations for disabilities;
- interior design (eg, colors, furniture, cabinetry);
- control of surgical smoke (See the AORN Guideline for Surgical Smoke Safety[3]);
- security of information technology, including electronic health records (See the AORN Guideline for Patient Information Management[4]); and
- management of social media.

Evidence Review

A medical librarian 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 January 2012 through January 2018. 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 January 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 *air conditioning, air filters, air microbiology, air pollutants (environmental), air pollution (indoor), airborne particles, anesthetics (inhalation), computer security, confidentiality, door openings/closings/swings, dust, electricity, energy conservation, environment (controlled), equipment contamination, equipment manufacturers, facility design and construction, fungi, gas scavengers, germicidal irradiation, green retrofit, Health Insurance Portability and Accountability Act, HIPAA, hospital design and construction, humidity, HVAC/unoccupied/night setback, illumination, laminar airflow, lighting, meaningful use, microbial colony count, mycoses, occupational exposure, operating room traffic patterns, particulate matter, power failure, privacy, restricted area, security measures, spores, traffic patterns/flow/deterrents, transition zone, ultraviolet germicidal irradiation, ultraviolet rays, unidirectional system, utility failure, vendors, violence, waste products,* and *workplace violence.*

Included were research and non-research literature in English, complete publications, and publications with dates within the time restriction when available. Exclusion criteria included documents deemed to be out of scope or not generalizable, duplicate articles, and older evidence within the time restriction when more recent evidence was available. Editorials, news items, and other brief items also were excluded. Evidence from non-peer-reviewed publications was excluded when evidence from peer-reviewed publications was available, and lower-quality evidence was excluded when higher-quality evidence was available (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 articles were reviewed and critically appraised 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.

The collective evidence supporting each intervention and activity within a specific recommendation was summarized, and the AORN Evidence