ADDENDA

ANSI/ASHRAE/ASHE Addendum g
to ANSI/ASHRAE/ASHE Standard 170-2013

Ventilation of Health Care Facilities

Approved by ASHRAE on September 30, 2015; by the American Society for Healthcare Engineering on September 28, 2015; and by the American National Standards Institute on October 1, 2015.

This addendum was approved by a Standing Standard Project Committee (SSPC) for which the Standards Committee has established a documented program for regular publication of addenda or revisions, including procedures for timely, documented, consensus action on requests for change to any part of the standard. The change submittal form, instructions, and deadlines may be obtained in electronic form from the ASHRAE website (www.ashrae.org) or in paper form from the Senior Manager of Standards.

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FOREWORD

This addendum completes the process of coordinating operating room and procedure room terminology with the 2014 FGI Guidelines. No technical requirements of the standard are changed. As part of this coordination process, definitions of several spaces are adapted from the 2014 FGI Guidelines.

Note: In this addendum, changes to the current standard are indicated in the text by underlining (for additions) and ~~strikethrough~~ (for deletions) unless the instructions specifically mention some other means of indicating the changes.

Addendum g to Standard 170-2013

Revise Section 3 as shown. The remainder of Section 3 is unchanged.

3. DEFINITIONS

[. . .]

~~***classification of surgeries:***~~

~~***procedure room (Class A surgery):*** provides minor surgical procedures performed under topical, local, or regional anesthesia without preoperative sedation. Excluded are intravenous, spinal, and epidural procedures, which are Class B or C surgeries.~~

~~***operating room (Class B surgery):*** provides minor or major surgical procedures performed in conjunction with oral, parenteral, or intravenous sedation or performed with the patient under analgesic or dissociative drugs.~~

~~***operating room (Class C surgery):*** provides major surgical procedures that require general or regional block anesthesia and/or support of vital bodily functions.~~

~~(For more information on this method of classifying surgeries, see ACS [2000] in Informative Appendix B.)~~

[. . .]

invasive procedure*: a procedure that

a. penetrates the protective surfaces of a patient's body (e.g., skin, mucous membranes, cornea);
b. is performed in an aseptic surgical field (i.e., a procedure site);
c. generally requires entry into a body cavity; and
d. may involve insertion of an indwelling foreign body.

Informative Note: Invasive procedures are performed in locations suitable to the technical requirements of the procedure with consideration of infection control and anesthetic risks and goals. Accepted standards of patient care are used to determine where an invasive procedure is performed. "Invasive procedure" is a broad term commonly used to describe procedures ranging from a simple injection to a major surgical procedure. For the purposes of this document, the term is limited to the above description. The intent is to differentiate those procedures that carry a high risk of infection, either by exposure of a usually sterile body cavity to the external environment or by implantation of a foreign object into a normally sterile site. Procedures performed through orifices normally colonized with bacteria and percutaneous procedures that do not involve an incision deeper than skin would not be included in this definition.

[. . .]

operating room (OR)*: a room in the surgical suite that meets the requirements of a restricted area and is designated and equipped for performing surgical or other invasive procedures. An aseptic field is required for all procedures performed in an OR. Any form of anesthesia may be administered in an OR if proper anesthesia gas administration devices are present and waste anesthesia gas disposal systems are provided.

[. . .]

procedure room*: a room designated for the performance of procedures that do not meet the definition of "invasive procedure" and may be performed outside the restricted area of a surgical suite and may require the use of sterile instruments or supplies. Local anesthesia and minimal and moderate sedation may be administered in a procedure room, as long as special ventilation or waste anesthesia gas disposal systems are not required for anesthetic agents used in these rooms.

[. . .]

restricted area*: a designated space in the semirestricted area of the surgical suite that can only be accessed through a semirestricted area. The restricted access is primarily intended to support a high level of asepsis control, not necessarily for security purposes. Traffic in the restricted area is limited to authorized personnel and patients. Personnel in restricted areas are required to wear surgical attire and cover head and facial hair. Masks are required where open sterile supplies or scrubbed persons may be located.

[. . .]

****Informative Note:*** Definitions adapted from the FGI Guidelines (see FGI [2014] in Informative Appendix B).

Revise Section 6.1.1 as shown.

6.1 Utilities

6.1.1 Ventilation Upon Loss of Electrical Power. The space ventilation and pressure relationship requirements of Table 7.1 be maintained for the following spaces, even in the event of loss of normal electrical power:

a. AII rooms
b. PE rooms
c. Operating rooms ~~(Class B and C surgery)~~, including delivery rooms (Caesarean)

(For further information, see NFPA [2012] in Informative Appendix B.)

Revise Table 6.4 as shown. The remainder of the table is unchanged.

TABLE 6.4 Minimum Filter Efficiencies

Space Designation (According to Function)	Filter Bank No. 1 (MERV)[a]	Filter Bank No. 2 (MERV)[a]
Operating rooms ~~(Class B and C surgery)~~; inpatient and ambulatory diagnostic and therapeutic radiology; inpatient delivery and recovery spaces	7	14
Laboratories; Procedure rooms ~~(Class A surgery)~~, and associated semirestricted spaces	13[b]	NR

Revise Section 6.5.3 as shown.

6.5.3 Radiant Heating Systems. If radiant heating is provided for an AII room, a protective environment room, a wound intensive-care unit (burn unit), an operating room or a procedure room ~~(for any class of surgery)~~, either flat and smooth radiant ceiling or wall panels with exposed cleanable surfaces or radiant floor heating shall be used. Gravity-type heating or cooling units, such as radiators or convectors, shall not be used in operating rooms and other special-care areas.

Revise Section 6.7.2 as shown.

6.7.2 Air Distribution Devices. All air distribution devices shall meet the following requirements:

a. Surfaces of air distribution devices shall be suitable for cleaning. Supply air outlets in accordance with Table 6.7.2 shall be used.

b. The supply diffusers in operating rooms ~~(Classes B and C surgeries)~~ shall be designed and installed to allow for internal cleaning.

c. Psychiatric, seclusion, and holding-patient rooms shall be designed with security diffusers, grilles, and registers.

Revise Table 6.7.2 as shown below. The remainder of the table is unchanged.

TABLE 6.7.2 Supply Air Outlets

Space Designation (According to Function)	Supply Air Outlet Classification[a]
Operating rooms[b], procedure rooms ~~(all class A, B, and C surgeries[b])~~	Primary supply diffusers Group E, nonaspirating additional Supply Diffusers, Group E

Revise Section 7.1(d) as shown. The remainder of Section 7.1 is unchanged.

7.1 General Requirements. The following general requirements shall apply for space ventilation:

[…]

d. In AII rooms, protective environment rooms, wound intensive-care units (burn units), and operating and procedure rooms ~~(for all classes of surgery)~~, heating with supply air or radiant panels that meet the requirements of Section 6.5.3 shall be provided.

Revise Section 7.4.1 as shown. The remainder of Section 7.4.1 is unchanged.

7.4.1 Operating Rooms ~~(Class B and C)~~, Operating/Surgical Cystoscopic Rooms, and Caesarean Delivery Rooms. These rooms shall be maintained at a positive pressure with respect to all adjoining spaces at all times. A pressure differential shall be maintained at a value of at least +0.01 in. wc (2.5 Pa). Each room shall have individual temperature control. These rooms shall be provided with primary supply diffusers that are designed as follows:

[…]

Revise Section 7.4.3 as shown.

7.4.3 Imaging Procedure Rooms. If invasive procedures occur in this type of room, ventilation shall be provided in accordance with the ventilation requirements for procedure rooms ~~(Class A surgery)~~. If anesthetic gases are administered, ventilation shall be provided in accordance with the ventilation requirements for operating rooms ~~(Class B or C surgery)~~.

Revise Section 8.6(b) as shown. The remainder of Section 8.6 is unchanged.

8.6 Duct Cleanliness. The duct supply system shall meet the following requirements for cleanliness:

[…]

b. The supply diffusers in operating rooms ~~(Class B and C surgery)~~ shall be opened and cleaned before the space is used.

Revise Table 7.1 as shown. The remainder of the table is unchanged.

TABLE 7.1 Design Parameters

Function of Space	Pressure Relationship to Adjacent Areas (n)	Minimum Outdoor ach	Minimum Total ach	All Room Air Exhausted Directly to Outdoors (j)	Air Recirculated by Means of Room Units (a)	Design Relative Humidity (k), %	Design Temperature (l), °F/°C
SURGERY AND CRITICAL CARE							
Operating room ~~(Class B and C)~~ (m), (o)	Positive	4	20	NR	No	20–60	68–75/20–24
[. . .]							
Procedure room ~~(Class A surgery)~~ (o), (d)	Positive	3	15	NR	No	20–60	70–75/21–24
[. . .]							

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ASHRAE's short-range goal is to ensure that the systems and components within its scope do not impact the indoor and outdoor environment to a greater extent than specified by the Standards and Guidelines as established by itself and other responsible bodies.

As an ongoing goal, ASHRAE will, through its Standards Committee and extensive Technical Committee structure, continue to generate up-to-date Standards and Guidelines where appropriate and adopt, recommend, and promote those new and revised Standards developed by other responsible organizations.

Through its *Handbook*, appropriate chapters will contain up-to-date Standards and design considerations as the material is systematically revised.

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