



**BSR/ASHRAE/ASHE Addendum u  
to ANSI/ASHRAE/ASHE Standard 170-2021**

**Public Review Draft**

**Proposed Addendum u to  
Standard 170-2021, Ventilation of  
Health Care Facilities**

**First Public Review (March 2025)  
(Draft shows Proposed Changes to Current Standard)**

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**ASHRAE, 180 Technology Parkway NW, Peachtree Corners, GA 30092**

**(This foreword is not part of this standard. It is merely informative and does not contain requirements necessary for conformance to the standard. It has not been processed according to the ANSI requirements for a standard and may contain material that has not been subject to public review or a consensus process. Unresolved objectors on informative material are not offered the right to appeal at ASHRAE or ANSI.)**

## FOREWORD

*The glossary changes in this proposed addendum are coordinated with changes that the FGI editions are incorporating as evolving guidance on the planning and programming of these various treatment settings is prescribed by FGI.*

*The space ventilation tables have been updated with the addition of new FGI spaces that will be detailed in their upcoming editions.*

*[Note to Reviewers: This addendum makes proposed changes to the current standard. These changes are indicated in the text by underlining (for additions) and ~~striketrough~~ (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the current standard are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed changes.]*

## Addendum u to 170-2021

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*Revise Section 3 as shown below. The remainder of Section 3 is unchanged. Reference Addendum d to 170-2021.*

### 3. Definitions

***Class 1 imaging room:*** an imaging room designated for the performance of patient care activities, including diagnostic radiography, fluoroscopy, mammography, computed tomography (CT), ultrasound, magnetic resonance imaging (MRI), nuclear medicine, and other imaging modalities, including services that use natural orifice entry and do not pierce or penetrate natural protective membranes.

***Class 2 imaging room:*** an imaging room designated for the performance of patient care activities, including diagnostic and therapeutic procedures such as coronary, neurological, or peripheral angiography, including electrophysiology, cardiac catheterization, and interventional angiography and similar procedures.

***Class 3 imaging room:*** an imaging room designated for the performance of patient care activities, including invasive procedures and any other Class 2 procedure during which the patient will require physiological monitoring and is anticipated to require active life support. procedural invasive fluoroscopy: therapeutic or diagnostic invasive procedures that require fluoroscopic imaging (e.g., cardiac catheterization, interventional angiography, cardiac stenting, or implantation of devices). (Informative Note: These procedures are typically performed in a restricted or semirestricted area based on the classification of the imaging procedure being performed.)

***invasive procedure:*** a procedure that is performed in an aseptic surgical field and penetrates the

protective surfaces of a patient's body (e.g., subcutaneous tissue, mucous membranes, cornea). An invasive procedure may fall into one or more of the following categories:

- a. Requires entry into, or opening of, a sterile body cavity (i.e., cranium, chest, abdomen, pelvis, joint spaces)
- b. Involves insertion of an indwelling foreign body
- c. Includes excision and grafting of burns that cover more than 20% of total body area
- d. Does not begin as an open procedure but has a recognized measurable risk of requiring conversion to an open procedure

***(Informative Notes:***

1. 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.)
2. Definition is adapted from the FGI Guidelines; see FGI [2018a, 2018b] in Informative Appendix E.)

***operating room (OR):*** a room in the surgical suite that meets the requirements of a restricted area and is designated and equipped for performing invasive procedures. (***Informative Note:*** Definition is adapted from the FGI Guidelines; see FGI [2018a, 2018b] in Informative Appendix E.)

***procedural fluoroscopy:*** therapeutic or diagnostic procedures that require fluoroscopic imaging (e.g., cardiac catheterization, interventional angiography, cardiac stenting, or implantation of devices). (***Informative Note:*** These procedures are typically performed in a restricted or semirestricted area based on the classification of the imaging procedure being performed.)

***procedure room:*** a room designated for the performance of patient care that requires high level disinfection or sterile instruments and some environmental controls but is not required to be performed with the environmental controls of an operating room. (***Informative Note:*** Definition is adapted from the FGI Guidelines; see FGI [2018a, 2018b] in Informative Appendix E.)

***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:*** Definition is adapted from the FGI Guidelines; see FGI [2022a, 2022b] in Informative Appendix E.)

**Revise Table 7-1 and the notes to Table 7-1 as shown below. The remainder of Table 7-1 is unchanged.**

**Table 7-1 Design Parameters—Inpatient Spaces**

Function of Space (f)	Pressure Relation to Adjacent Areas (n)	Minimum Outdoor	Minimum Total	All Room Air Exhausted Directly to Outdoors (j)	Air Recirculated by Means of Room Units (a)	Unoccupied Turndown	Minimum Filter Efficiency (c)	Design Relative Humidity (k), %	Design Temperature (l), °F/°C
DIAGNOSTIC AND TREATMENT									
Gastrointestinal endoscopy procedure room (FGI 2.2-3.11.2 & Table 2.1-1) (x)	NR	2	6	NR	No	Yes	MERV-8	20-60	68-73/20-23

**Normative Notes for Table 7-1 (continued):**

x. If the planned space is designated in the organization’s operational plan to be used for bronchoscopy and gastrointestinal and other endoscopy services, the design parameters for “bronchoscopy, sputum collection, and pentamidine administration” shall be used.

**Add the rooms indicated below to Table 8-1 and revise the notes to Table 8-1 as shown below. The remainder of Table 8-1 is unchanged. Reference Addendum h to 170-2021.**

**Table 8-1 Design Parameters—Specialized Outpatient Spaces**

Function of Space (f)	Pressure Relation to Adjacent Areas (n)	Minimum Outdoor	Minimum Total	All Room Air Exhausted Directly to Outdoors (j)	Air Recirculated by Means of Room Units (a)	Unoccupied Turndown	Minimum Filter Efficiency (c)	Design Relative Humidity (k), %	Design Temperature (l), °F/°C
DIAGNOSTIC AND TREATMENT									
Exam/observation room (FGI 2.1-3-2.43.2.2.2)	NR	2	4	NR	NR	Yes	MERV-8	Max 60	70-75/21-24
Short stay patient room (FGI xx)	NR	2	4	NR	NR	Yes	MERV-8	Max 60	70-75/21-24

[Sleep testing room \(FGI.xx\)](#) NR 2 4 NR NR Yes MERV-8 Max 60 70–75/21–24

**Normative Notes for Table 8-1:**

h. If the planned space is designated in the organization’s operational plan to be used for bronchoscopy and gastrointestinal and other endoscopy services, the design parameters for “bronchoscopy, sputum collection, and pentamidine administration” shall be used.

**Add the rooms indicated below to Table 8-2. The remainder of Table 8-2 is unchanged.**

**Table 8-2 Design Parameters—General Outpatient Spaces (q)**

Function of Space (f)	Pressure Relations to Adjacent Areas (d)	Design Option		All Room Air Exhausted Directly to Outdoors (j)	Air Recirculated by Means of Room Units (a)	Unoccupied Turndown	Min. Filter Efficiencies (c)	Design RH % (i)	Design Temperature °F/°C (k)	$R_p$ - $R_a$ Air-Class Design Option		
		Min. Outdoor Air (q)	Min. Total Air (q)							Air Class (q)	$R_p$ cfm/(L·s)/person and Min. Space Population (q)	$R_a$ cfm/ft <sup>2</sup> (L·s/m) (q)
GENERAL DIAGNOSTIC AND TREATMENT												
<a href="#">Behavioral and mental health observation room/area (FGI 2.12-3.3)</a>	NR	2	3	NR	NR	Yes	MERV-8	NR	70–75/21–24	1	5 (2.5) / 2	0.06 / (0.3)
<a href="#">Behavioral and mental health exam room (FGI 2.11-3.2.2)</a>	NR	2	3	NR	NR	Yes	MERV-8	NR	70–75/21–24	1	5 (2.5) / 2	0.06 / (0.3)
<a href="#">Behavioral and mental health central milieu room (FGI 2.11-3.2.4)</a>	NR	2	3	NR	NR	Yes	MERV-8	NR	70–75/21–24	1	5 (2.5) / 2	0.06 / (0.3)
<a href="#">Behavioral and mental health group room (FGI 2.11-3.2.5)</a>	NR	2	3	NR	NR	Yes	MERV-8	NR	70–75/21–24	1	5 (2.5) / 2	0.06 / (0.3)