TABLE 2
(OAR 333-535-0300)
VENTILATION REQUIREMENTS FOR HOSPITAL AREAS AFFECTING PATIENT CARE 1/
(REFER TO NOTES AT END OF TABLE FOR ADDITIONAL INFORMATION)

AREA DESIGNATION	AIR MOVEMENT RELATIONSHIP TO ADJACENT AREA 2/	MINIMUM OUTSIDE AIR CHANGES PER HOUR 4/	MINIMUM TOTAL AIR CHANGES PER HOUR 4/, 18/	RECIRCULATED BY MEANS OF ROOM UNITS 5/	ALL AIR EXHAUSTED DIRECTLY OUTDOORS 6/, 3/	DESIGN TEMPERATURE DEGREES 8/
CRITICAL CARE AREAS						
Operating Room (General Surgery), Surgical Cystoscopy 14/	out	(4)	20	No	--	70/75
Operating Room (Outpatient/Dental) 14/	out	(3)	15	No	--	70/75
Trauma Room 9/	out	(3)	15	No	--	70/75
Delivery Room, C-Section 14/	out	(3)	15	No	--	70/75
Cardiac Cath., Invasive Special Procedures	out	(3)	15	No	--	70/75
Endoscopy Rooms	in	(2)	10	No	Yes	70/75
Nursery Suite (Normal Newborn)	out	2	6	No	--	75
Nursery (Special Care & NICU)	out	2	6	No	--	75
Post-Anesthesia Recovery Room (Stage 1) 14/	--	(2)	6	No	--	75
Critical and Intensive Care	--	2	6	No	--	70/75
Emergency waiting room 19/	in	(2)	6	No	Yes 19/	--
NURSING UNITS						
LDR, LDRP Room 15/	--	(2)	6	No	--	70/75
Patient Room	--	(2)	6	--	--	75
Patient Corridor	--	1	4	--	--	--
Airborne Infectious Isolation Room 10/	in	(2)	12	No	Yes	70/75
Protective Environment Room 10/	out	(2)	12	No	--	70/75
Isolation Alcove or Anteroom	out/in	--	12	No	Yes	--
Examination Room	--	(2)	6	--	--	75
Medication Room	out	(2)	4	--	--	--

AREA DESIGNATION	AIR MOVEMENT RELATIONSHIP TO ADJACENT AREA 2/	MINIMUM OUTSIDE AIR CHANGES PER HOUR 4/	MINIMUM TOTAL AIR CHANGES PER HOUR 4/, 18/	RECIRCULATED BY MEANS OF ROOM UNITS 5/	ALL AIR EXHAUSTED DIRECTLY OUTDOORS 6/, 3/	DESIGN TEMPERATURE DEGREES 8/
Treatment, Pre-op, Holding Room	--	(2)	6	--	--	75
X-Ray, Scanner, CT, MRI, & Ultrasound	--	(2)	6	--	--	75
EEG, EMG & EKG Rooms	--	(2)	6	--	--	75
Respiratory Inhalation Therapy	in	(2)	6	No	Yes	75
Minor Procedures 13/	out	(2)	6	--	--	75
Minor Procedure Recovery, Stage 2	--	(2)	6	No	--	75
Bronchoscopy (includes holding, treatment and recovery)	in	(2)	12	No	Yes	--
Radiation Therapy Treatment	--	(2)	6	--	--	75
Physical Therapy	in	(2)	6	--	--	75
Hydrotherapy	in	(2)	6	--	Optional	75
Dental Operatory 14/	in	(2)	10	No	Yes	75
SUPPORT AND SERVICE AREAS						
Soiled Utility, Soiled Workroom, Soiled Holding, Bio-Hazard	in	(2)	10	No	Yes	--
Clean Utility, Clean Workroom, Clean Holding 20/	out	(1)	4	No	--	--
Autopsy	in	(2)	12	No	Yes	--
Darkroom	in	(2)	10	--	Yes	--
Non-Refrigerated Body Holding Room 11/	in	optional	10	--	Yes	--
Toilet Room	in	optional	10	--	Yes	70
Bathing Room	in	optional	10	--	Yes	75
Janitor's Closet	in	optional	10	No	Yes	--
Sterilizer Room (Equipment), Endoscopic Instrument Cleaning 20/	in	(2)	10	--	Yes	--
ETO – Sterilizer, Cylinder Room 16/	in	optional	10	No	Yes	75
Linen & Trash Chute Rooms	in	optional	10	No	Yes	--
Hot Lab(Nuclear Medicine), Radiation Therapy 17/	in	(2)	6	No	Yes	--
Pharmacy	out	(2)	4	--	--	--

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Laboratory General 7/	in	(2)	6	--	Yes	--
Pathology	in	(2)	6	No	Yes	--
Cytology	in	(2)	6	No	Yes	--
Biochemistry	out	(2)	6	No	Yes	--
Histology	in	(2)	6	No	Yes	--
Bacteriology	in	(2)	6	No	Yes	--
Serology	out	(2)	6	No	Yes	--
Glass washing (Laboratory)	in	(2)	10	--	Yes	--
Sterilizing	in	(2)	10	--	Yes	--
Food Preparation Center 12/		(2)	10	No	--	--
Warewashing (Food Preparation)	in	(2)	10	No	Yes	--
Dietary Dry Storage	in	Optional	2	--	--	--
Laundry, General	--	(2)	10	No	Yes	--
Soiled Linen (sorting & storage)	in	optional	10	No	Yes	--
Clean Linen	out	optional	2	--	--	--
Medical Gas Storage (See NFPA 99 and Fire Code Requirements) 14/	--	optional	8	--	Yes	--
Soiled Room, Decontamination Room	in	(2)	6	No	Yes	--
Clean Workroom & Sterile Storage 20/	out	(2)	4	No	--	75
Pantry Nourishment		optional	2	--	--	–

NOTES APPLICABLE TO TABLE 2:
"VENTILATION REQUIREMENTS FOR HOSPITAL AREAS AFFECTING PATIENT CARE"

1/ This table covers ventilation standards for comfort, as well as for asepsis and odor control, in areas of hospitals that directly affect patient care. Areas where specific standards are not given shall be ventilated in accordance with ASHRAE Standard 62, "Ventilation for Acceptable Indoor Air Quality Including Requirements for Outside Air." Specialized patient care areas including organ transplant units, burn units, etc., shall have additional ventilation provisions for air quality control as may be appropriate. OSHA standards and/or NIOSH criteria include special ventilation requirements for employee health safety within health care facilities. The agency responsible in Oregon for enforcement is the Workers' Compensation Department.

2/ Design of the ventilation system shall provide that air movement is from "clean to less clean" areas. Those areas which do require positive and continuous control are noted with "out" or "in" to indicate the required direction of air movement in relation to the space named. Rate of air movement may, of course, be varied as needed within the limits required for positive control. Air movement for rooms with dashes and non-patient areas may vary as necessary to satisfy the system

used.

3/ To satisfy exhaust needs, additional replacement air from outside may also be necessary.

4/ Number of total air changes may be reduced when the room is unoccupied if provisions are made to ensure that the number of air changes indicated is automatically re-established any time the space is being utilized. The number of exhaust air changes required for contaminated areas shall not be reduced. Where the number of outside air changes per hour is enclosed in parentheses, outside air qualities may be reduced when the room is unoccupied, if provisions are made to ensure that outside air rates are automatically re-established any time the space is being utilized. Adjustments shall include provisions so that the direction of air movement shall remain the same when the number of air changes is reduced.

5/ Because of cleaning difficulty and potential for buildup of contamination, recirculating room units shall not be used in areas marked with "no".

6/ Air from areas with contamination and/or odor problems shall be exhausted to the outside and not recirculated to other areas. Note that individual circumstances may require special considerations for air exhaust to outside, e.g., an intensive care unit where patients with pulmonary infection might be expected and rooms for burn patients.

7/ The overall laboratory area shall be maintained at a negative pressure with respect to the surrounding areas at all times.

8/ Dual temperature indications (such as 70/75) are for an upper and lower variable range within which the room temperature must normally be controlled. A single figure indicates required minimum heating or cooling design capacity. Nothing in this rule shall be construed as precluding the use of the temperatures higher or lower than those noted when the patients' comfort and medical conditions make differing temperatures desirable. Occupied areas not normally utilized by inpatients may have design temperatures of 68 degrees Fahrenheit for heating and 78 degrees Fahrenheit for cooling. Unoccupied areas such as storage, etc., shall have temperatures appropriate for the function intended.

9/ The term "trauma room" as used here is the operating room space in the trauma center that is routinely used for emergency surgery. The first aide room and/or "emergency room" used for general initial treatment of accident victims may be ventilated as noted for the "treatment room."

10/ Airborne infectious isolation is a room with an inward air movement relationship to adjacent areas where a patient with airborne infectious diseases may be a risk to the surrounding area. Protective environment is a room with an outward air movement relationship to adjacent areas where the patient may be at risk from the surrounding areas. Rooms with reversible airflow provisions for the purpose of switching between airborne infectious and protective environment isolation rooms are not acceptable.

11/ The non-refrigerated body holding room would be applicable only for those facilities that do not perform autopsies on site and utilize the space for short periods while waiting for body transfer to be complete. Design temperature given is for cooling.

12/ Food preparation centers shall have ventilation systems that have an excess of air supply for "out" air movement when hoods are not in operation.

13/ Minor Procedure Rooms are rooms where non-invasive and non-anesthetizing procedures are performed.

14/ NIOSH criteria documents regarding occupational exposure to waste anesthetic gases and vapors, and control of occupational exposure to nitrous oxide in the dental operatory indicate a need for both local exhaust (scavenging) systems and general ventilation of the areas in which respective gases are utilized.

15/ Ventilation levels indicated for LDR/LDRP rooms are for rooms in which no or only occasional small amounts of anesthesia gases are delivered and when restrictions for use are included in the hospital's written anesthesia policy.

16/ Specific regulations exist regarding ethylene oxide (ETO) use under rules of the state Workers' Compensation Department, OAR Chapter 437, Division 156. These rules include specific requirements for local exhaust of the ETO sterilizer. Also, see OAR 333-074-0355(4)(a)(R) for further requirements.

17/ There are special requirements imposed by the U.S. Nuclear Regulatory Commission (Regulatory Guide 10.8-1980) regarding use of Xenon 133. These standards are not, however, adopted as a rule by the State of Oregon.

18/ Air change requirements indicated are minimum values. Higher values should be used when required to maintain indicated room conditions (temperature and humidity), based on the cooling load of the space (lights, equipment, people, exterior walls and windows, etc.)

19/ A ventilation system serving Emergency Waiting Rooms may recirculate air if HEPA filters are used. In this application, the return air shall be passed through the HEPA filters before it is introduced into any other spaces.

20/ When sterilizers requiring exhaust are located within a clean utility, workroom or sterile storage room, local exhaust shall be provided while maintaining the outward air movement relationship to adjacent areas.

TABLE 3
(OAR 333-535-0300)

FILTER EFFICIENCIES FOR VENTILATION AND AIR CONDITIONING SYSTEMS IN GENERAL HOSPITALS

AREA DESIGNATION	Number of Filter Beds	FILTER RATINGS	
		Filter Bed No. 1	Filter Bed No. 2
All areas for inpatient care, treatment and/or diagnosis, and those areas providing direct service or clean supplies such as sterile and clean processing, etc.	2	30% MERV 6	95% MERV 14
Laboratories.	2	30% MERV 6	80% MERV 13
Protective Environment Rooms	2	30% MERV 6	99.97% MERV 17
Administrative, bulk storage soiled holding areas, food preparation areas, laundries, HVAC units serving individual non-critical patient rooms, and all non-patient areas. Kitchen range hood dedicated make-up air systems.	1	30% MERV 6	–

NOTE:

1 Efficiency ratings shall be based on ASHRAE Standard 52-1 and MERV ratings shall be based on ASHRAE Standard 52-2.

2 These requirements do not apply to outpatient facilities that do not perform invasive procedures or use inhalation anesthetics if at least one 30% minimum efficiency filter is provided.

TABLE 4
(OAR 333-535-0300)

HOT WATER USE (DESIGN TEMPERATURE)

	Clinical	Dietary	Laundry
Liters per hour per Bed	11.9	7.2	7.6
Gallons per Hour per Bed	3	2	2
Temperature (C)	41-49	49	71
Temperature (F)	105-120 (minimum-maximum)	120 (maximum)	160

1. Provisions shall be made to provide 180F (82C) rinse water at warewasher. (May be by separate booster.) Lower temperatures are allowable for chemical type warewashers when such units are approved by the local authority responsible for enforcement of the OPSC. 140F water may be provided at pot washing sinks.

2. Quantities indicated for design demand of hot water are for general reference minimums and shall not substitute for accepted engineering design procedures using actual number and types of fixtures to be installed. Design will also be affected by temperatures of cold water used for mixing, length of run and insulation relative to heat loss, etc. As an example, total quantity of hot water needed will be less when temperature available at the outlet is very nearly that of the source tank and the cold water used for tempering is relatively warm.

3. Provisions shall be made to provide 160F (71C) hot water at the laundry equipment when needed. (This may be by steam jet or separate booster heater.) However, it is emphasized that this does not imply that all water used would be at this temperature. Water temperatures required for acceptable laundry results will vary according to type of cycle, time of operation, and formula of soap and bleach as well as type and degree of soil. Lower temperatures may be adequate for most procedures in many facilities but the higher 160F (71C) should be available when needed for special conditions.

4. The maximum water temperature is defined as the maximum temperature of water delivered at the fixture.

TABLE 5
(OAR 333-535-0300)

STATION OUTLETS FOR OXYGEN, VACUUM (SUCTION) AND MEDICAL AIR SYSTEMS

(NUMBER OF OUTLETS ACCESSIBLE TO EACH BED, UNLESS OTHERWISE NOTED.)

LOCATION	OXYGEN	VACUUM	MED. AIR
Patient Rooms (Medical and Surgical), including holding and pre-operation	1	1	---
Examination/Treatment (Inpatient Medical, Surgical, and Ante-partum Postpartum Care)	1	1	---
Intermediate Care	2	2	1
All Critical Care, Coronary Critical Care (General)	3	3	1
Newborn Intensive Care	3	3	3
Newborn Nursery (Full Term)	1/4 cribs	1/4 cribs	1/4 cribs
Pediatric and Adolescent Patient Rooms	1	1	1
Psychiatric Patient Rooms	—	—	—
Infectious Isolation Rooms	3	3	1
General Operating Room, Hybrid OR, Trauma Rooms used for Surgery	2	3	1
Special Procedures, including EP Lab, Cardiac Catheterization Lab	2	2	2
Surgical Cystoscopy, Endoscopy, and Bronchoscopy	2	2	2
Cardio, Ortho, Neurological Surgery	2	3	1
Post-Anesthesia Care Unit	1	3	1
Phase 2 Recovery adjacent to PACU	1	3	1
Phase 2 Recovery remote from PACU	1	1	—
Caesarean/Delivery Room	2	4	2
Labor Room	2	2	2
Labor/Delivery/Recovery (LDR/LDRP)	2	2	2
Infant Resuscitation Area	1	1	1
First Aid and Emergency Treatment	2	2	1
Orthopedic and Cast Room (no surgery)	1	1	1
MRI	1	1	1
Autopsy Room	—	1 per work station	

NOTE:

1/ Vacuum outlets required are in addition to any that might be used as part of a scavenging system for removal of anesthetizing gases (also see NFPA 99).

2/ Outpatient facilities, except ambulatory surgical care facilities, are exempt from these requirements.

3/ If separate areas are provided for the mother and baby, provide a minimum of 1 oxygen and 2 vacuum for mother and a minimum of 1 oxygen and 1 vacuum for baby.

4/ Rooms designed for universal adaptability shall meet the highest care requirements.