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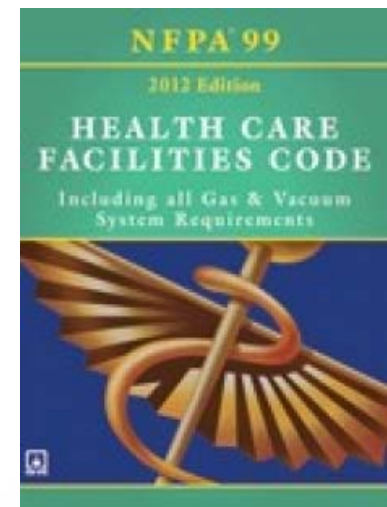
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2012 NFPA 99: A New Risk-Based Approach

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SURVIVAL
OF
THE **FITTEST**

Fundamental Change to Risk-Based

- NFPA 99 before 2012 (Occupancy Based)
 - Non-Patient Focused
- NFPA 2012 (Risk-Based)
 - Patient Focused

Why the Change?

- To provide equal level of safety to patients based on the risk to the patient
- Create flexibility in the design of healthcare organizations
- Equalize the cost of codes in comparison to the safety of the patient (put money where the risk is)

Poor Codes Cost Money without Improving Safety

- **\$6 billion** a year wasted in operational costs because of unnecessary codes and standards
- **\$10 billion** a year wasted in capital costs because of unnecessary codes and standards
- Small things could have a profound effect nationwide



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What does a 5.5% operating margin mean?

- For every \$1 in gross revenue
 - \$0.945 is required to cover the expense of providing services
 - \$0.055 is left to fund capital investments in new facilities and sustainment of legacy facilities
- Every \$1 of capital investment requires \$18.13 of gross revenue

❖ Example:

- Citation made to require all penetrations of tack holes to be filled in any fire or smoke barrier throughout the hospital.
- Hospital hires a contractor to go through facility at a cost of \$7,338.00
 - (1 person, 40 hours plus materials and tax)
- Hospital needs to recover that money, so needs to bill \$133,037.90

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NFPA 99 Risk Layout

Chapters 1-4	Administrative items
Chapters 5-9	Risk of systems
Chapters 10-11	Risk of equipment
Chapter 12	Risk of emergency management needs
Chapter 13	Security needs of all healthcare facilities (SVA)
Chapter 14	Hyperbaric facilities (type of chamber)
Chapter 15	Features of fire protection for all healthcare facilities

How the Code Works

- Determine what the room or space is used for.
- Determine the risk to the patient.
- Select the appropriate risk category.
- Select the systems or procedures in the code that are prescribed by that level of risk category.

Fundamentals (Chapter 4)



- Category 1 - Facility systems in which failure of such equipment or system is likely to cause major injury or death of patients or caregivers shall be designed to meet system Category 1 requirements as defined in this code.

Fundamentals (Chapter 4)



- Category 2 - Facility systems in which failure of such equipment is likely to cause minor injury to patients or caregivers shall be designed to meet system Category 2 requirements as defined in this code.

Fundamentals (Chapter 4)



- Category 3 - Facility systems in which failure of such equipment is not likely to cause injury to the patients or caregivers, but can cause patient discomfort shall be designed to meet system Category 3 requirements as defined in this code.

Fundamentals (Chapter 4)



- Category 4 -Facility systems in which failure of such equipment would have no impact on patient care shall be designed to meet system Category 4 requirements as defined in this code.

Fundamentals (Chapter 4)



- The risk categories of chapter 4 shall apply to chapter 5-11.
- Chapter 12 contains its own categories
- Chapters 13 – 15 apply to all without different categories.

Fundamentals (Chapter 4)

- 4.2* Risk Assessment. Categories shall be determined by following and documenting a defined risk assessment procedure.
- A.4.2 Risk assessment should follow procedures such as those outlined in ISO 31010, NFPA 551, SEMI S10-0307 or other formal process. The results of the assessment procedure should be documented and records retained.

Sample Risk Assessment



NFPA 99 2012 Risk Assessment Tool

Room Name	Space	Chapter 5	Chapter 6	Chapter 7	Chapter 8				Chapter 9	Chapter 10	Chapter 12
		Oxygen Medical Air Vacuum WAGD	Electrical	Data Phone Nurse Call Cable TV	Potable Water Non-potable Water Water Heating Water Conditioning	Non-medical Compressed Air Black Waste Water Grey Waste Water Clear Waste Water	Heating Ventilation Air Conditioning	Equipment (See Equipment Tab)	Emergency Management (See Emergency Management Tab)		
OR 1											
OR 2											
OR 3											
OR 4											
OR 5											
OR 6											
OR Workroom											
OR Storage Room											
Soiled Storage											
Decon Room											
Trauma 1											
Trauma 2											
Trauma 3											
Trauma 4											
Trauma X-Ray											
Holding Room	1										

USING THE ASHE RISK ASSESSMENT TOOL

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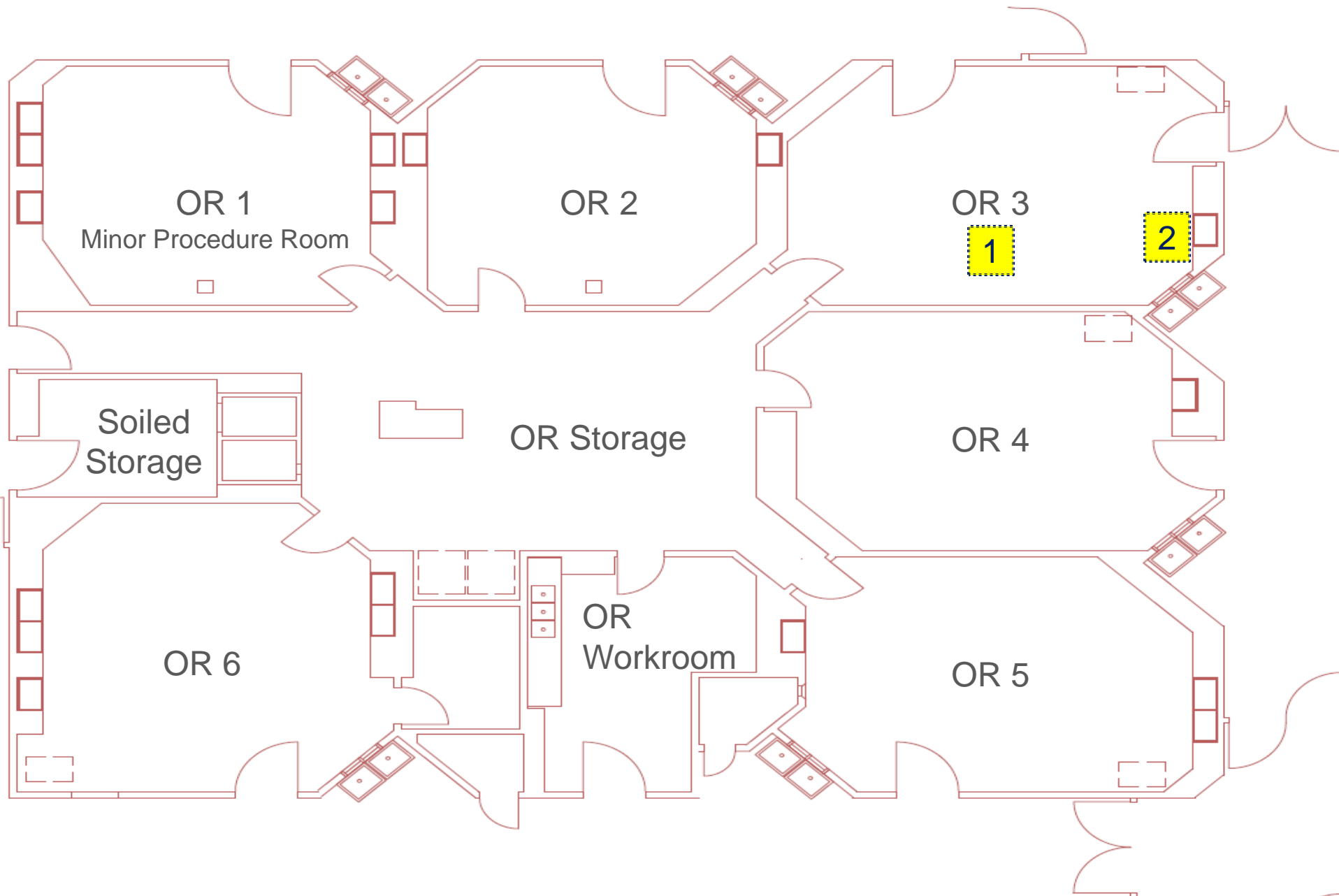
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Risk Assessment for Systems

- Lets practice applying a risk assessment for systems using the tool

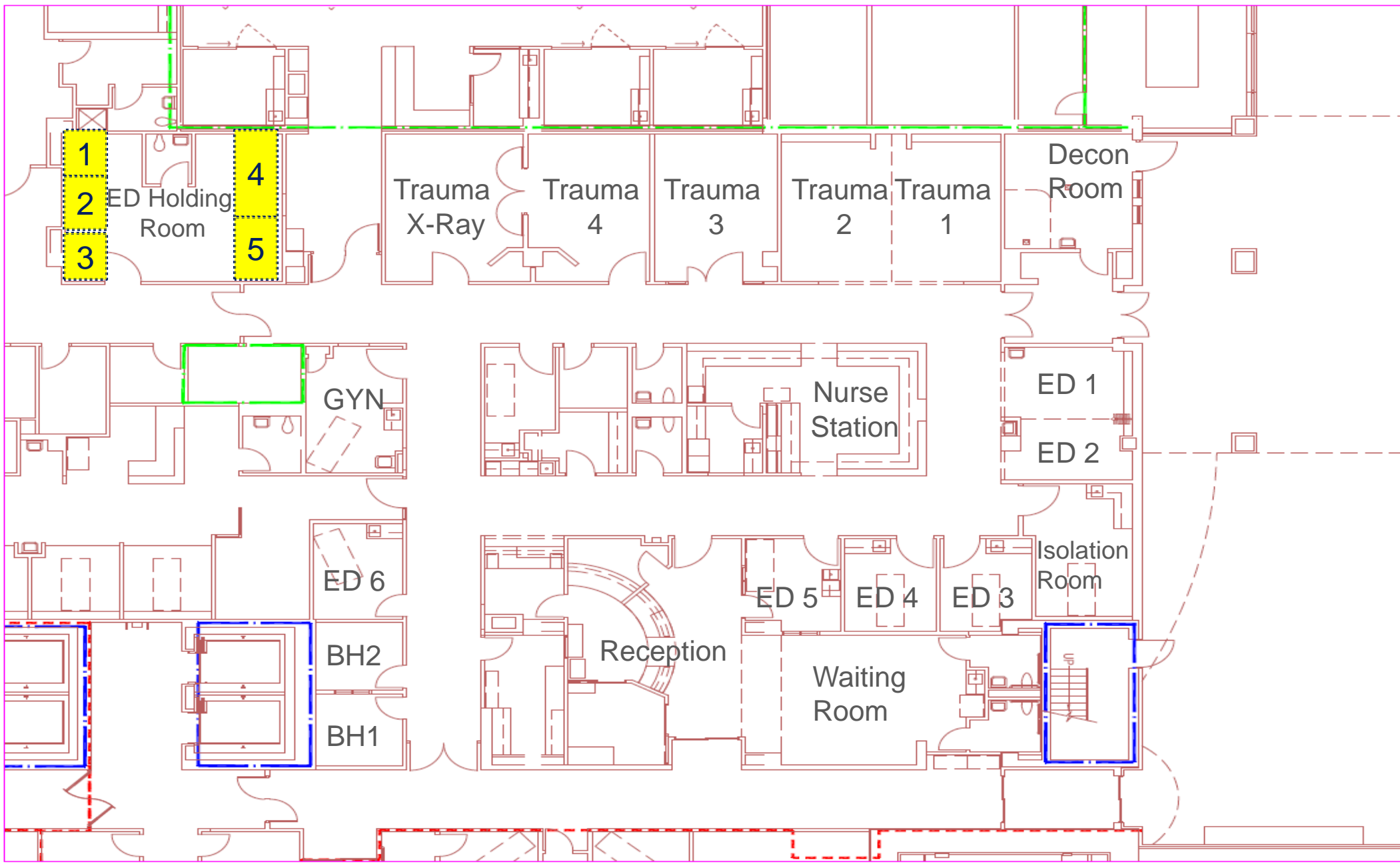
Operating Room Suites

 Indicates Space in the room

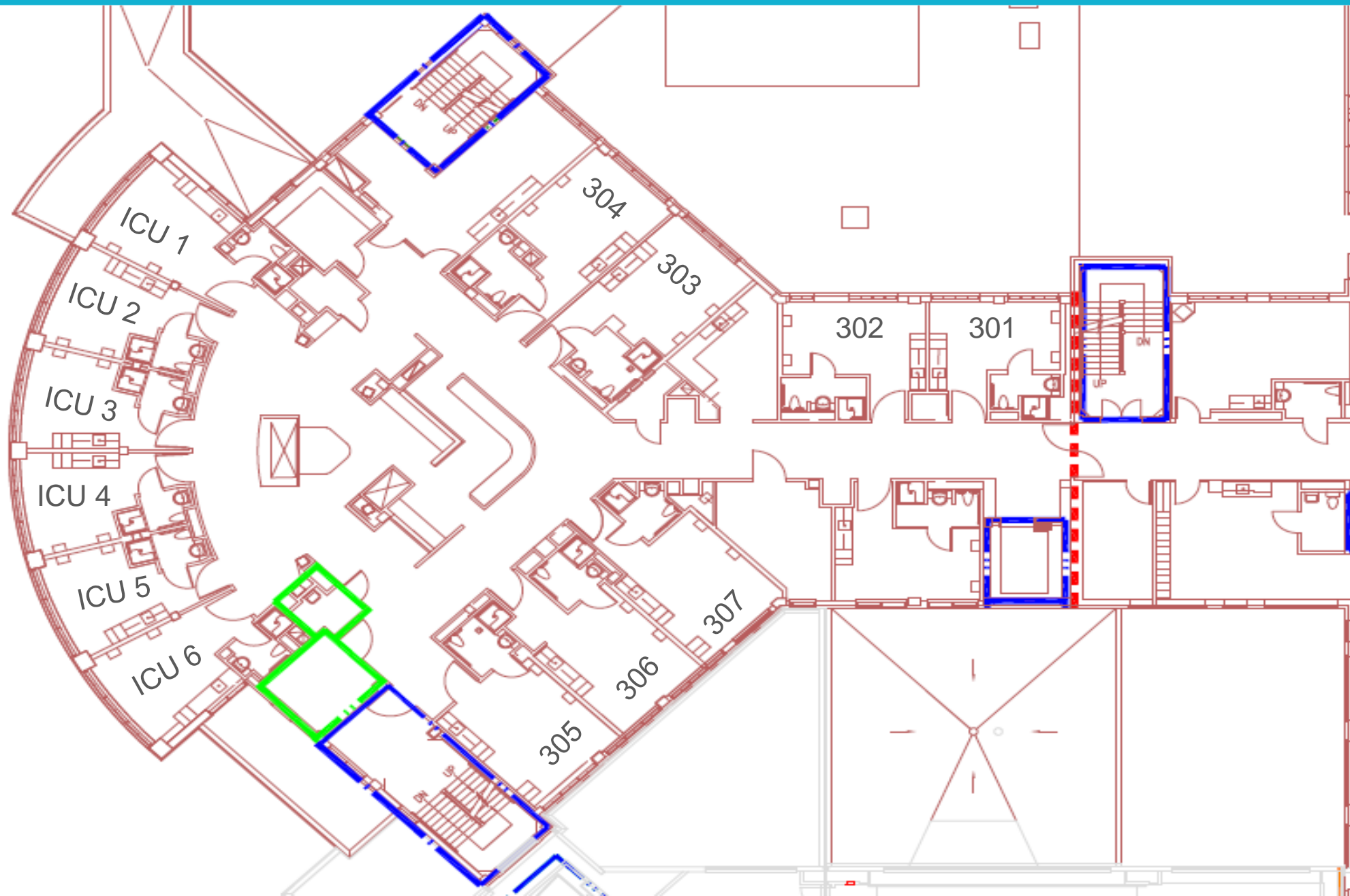


 Indicates Space in the room

Emergency Room Suites



Nursing Floor



RISK ASSESSMENT TOOL FOR EQUIPMENT

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Risk Assessment for Electrical Equipment (Chapter 10)

10.1* Applicability.

10.1.1 This chapter shall apply to the performance, maintenance, and testing of electrical equipment in health care facilities, as specified in Section 1.3.

Risk Assessment for Electrical Equipment

Electrical and Gas Equipment



Equipment	Equipment Tag #	Risk									
Defibrillator			<table border="1"> <tr> <td>1</td> <td>Facility systems in which failure of such equipment or system is likely to cause major injury or death of patients or caregivers shall be designed to meet system Category 1 requirements as defined in this code.</td> </tr> <tr> <td>2</td> <td>Facility systems in which failure of such equipment is likely to cause minor injury to patients or caregivers shall be designed to meet system Category 2 requirements as defined in this code.</td> </tr> <tr> <td>3</td> <td>Facility systems in which failure of such equipment is not likely to injury to patients or caregivers but can cause discomfort to patients shall be designed to meet system Category 3 requirements as defined in this code.</td> </tr> <tr> <td>4</td> <td>Facility systems in which failure of such equipment would have no impact on patient care shall be designed to meet system Category 4 requirements as defined in this code.</td> </tr> </table>	1	Facility systems in which failure of such equipment or system is likely to cause major injury or death of patients or caregivers shall be designed to meet system Category 1 requirements as defined in this code.	2	Facility systems in which failure of such equipment is likely to cause minor injury to patients or caregivers shall be designed to meet system Category 2 requirements as defined in this code.	3	Facility systems in which failure of such equipment is not likely to injury to patients or caregivers but can cause discomfort to patients shall be designed to meet system Category 3 requirements as defined in this code.	4	Facility systems in which failure of such equipment would have no impact on patient care shall be designed to meet system Category 4 requirements as defined in this code.
1	Facility systems in which failure of such equipment or system is likely to cause major injury or death of patients or caregivers shall be designed to meet system Category 1 requirements as defined in this code.										
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3	Facility systems in which failure of such equipment is not likely to injury to patients or caregivers but can cause discomfort to patients shall be designed to meet system Category 3 requirements as defined in this code.										
4	Facility systems in which failure of such equipment would have no impact on patient care shall be designed to meet system Category 4 requirements as defined in this code.										
Ultrasound unit											
Anesthesia Delivery unit											
Ventilator											
Pulse Oximeter											
Vital Signs monitor											
Scale											
Infusion Pump											
Electronic Thermometer											
Contrast Injector											

Risk Assessment for Electrical Equipment

- Lets practice applying a risk assessment using the tool for electrical equipment

Defibrillator



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Ultrasound



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Anesthesia Cart



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Ventilator



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Scale



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Vital Signs Monitor



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Thermometer



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Contrast Injector



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Risk Assessment of Gas Equipment (Chapter 11)

11.1 Applicability

11.1.1* This chapter shall apply to the use, at normal atmospheric pressure, of all of the following:

- (1) Nonflammable medical gases
- (2) Vapors and aerosols
- (3) Equipment required for the administration of 11.1.1(1) and (2)

Risk Assessment for Gas Equipment

Electrical and Gas Equipment



Equipment	Equipment Tag #	Risk	
Defibrillator			
Ultrasound unit			
Anesthesia Delivery unit			
Ventilator			
Pulse Oximeter			
Vital Signs monitor			
Scale			
Infusion Pump			
Electronic Thermometer			
Contrast Injector			

1	Facility systems in which failure of such equipment or system is likely to cause major injury or death of patients or caregivers shall be designed to meet system Category 1 requirements as defined in this code.
2	Facility systems in which failure of such equipment is likely to cause minor injury to patients or caregivers shall be designed to meet system Category 2 requirements as defined in this code.
3	Facility systems in which failure of such equipment is not likely to injury to patients or caregivers but can cause discomfort to patients shall be designed to meet system Category 3 requirements as defined in this code.
4	Facility systems in which failure of such equipment would have no impact on patient care shall be designed to meet system Category 4 requirements as defined in this code.

Risk Assessment for Gas Equipment

- Lets practice applying a risk assessment using the tool for gas equipment

Risk Assessment for Gas Equipment



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Nasal Cannula



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Non-Rebreather Mask



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Nebulizer



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Emergency Management

12.1.2 Applicability. This chapter shall be applicable to any health care facility that is intended to provide medical care during an emergency or maintain services for patients during a disaster and for the protection of visitors and staff.

12.3 Matrix Categories. The application of requirements in this chapter shall be based on the category of the health care facility as defined in Table 12.3.

USING THE TOOL FOR EMERGENCY MANAGEMENT

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Emergency Management Categories

Emergency Management



1	Those inpatient facilities that remain operable to provide advanced life support services to injured responders and disaster victims. These facilities manage the existing inpatient load as well as plan for the influx of additional patients as a result of an emergency.
2	Those inpatient or outpatient facilities that augment the critical mission. These facilities manage the existing inpatient or outpatient loads but do not plan to receive additional patients as a result of an emergency.

Building	<i>Category</i>
Main Hospital	
Medical Office Building	
Same Day Surgery Center	
Oncology Center	
Radiation Clinic	
Offsite Lab Draw	
Urgent Care Center	

Emergency Management Categories

- Lets practice applying the emergency management tool

Urgent Care Center



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Same Day Surgery



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Medical Office Building



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Imaging Center



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Radiation Oncology Center



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Offsite Blood Draw



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THANK YOU

QUESTIONS / FEEDBACK?

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