Welcome to FMH Safety, a self-guided learning program sponsored by the Organization Development Department.

This course examines 10 safety training topics:

- **Fire safety**
- **Electrical safety**
- **Emergency preparedness**
- **Handling hazardous materials**
- **Life & healthcare safety**
- **Medical equipment management**
- **Utilities management**
- **Security**
- **Patient safety**
- **Radiation safety**

You’ll progress through the course using the navigation buttons at the lower right corner of each screen. You may also click on any of the topics above to go directly to that topic. When available, the **Menu** button will return to this page.

Some words are highlighted in **bold and red**. These words are defined or explained in a **Definitions** box at the bottom of the page.

If you have questions regarding this course material or its test, please contact one of the following (someone is available 24/7):

- Phil Giuliano, Director of Public Safety and Security (x3207 or x3505)
- Hospital Supervisor (x3489)

All FMH policy references in the training can be found via the FMH intranet page. Click on the **Policies and Procedures** link.
TOPIC 1 - FIRE SAFETY

This facility has a **Code Red** fire prevention and safety plan (**EC PN 435**).

The plan:
- Identifies potential hazards
- Outlines procedures to control fire hazards
- Outlines procedures for safety if a fire occurs
- Describes department specific roles during a **Code Red**

Fire prevention is the responsibility of all employees, patients and visitors.

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**Definitions**

|-----------|-------------------------------------------------------------------------------------------------------------------------|
Fire Safety

Three elements in every fire:

1. **Oxygen**
2. **Heat**
3. **Fuel**

Remove one of the elements and the fire will go out.

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<thead>
<tr>
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<tbody>
<tr>
<td><strong>Oxygen</strong></td>
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<tr>
<td>Feeds the fire</td>
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<td><strong>Heat</strong></td>
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<td>Ignites the fire</td>
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<td><strong>Fuel</strong></td>
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<td>Contributes to the combustion of a fire</td>
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Fire Safety

Fire prevention:
• Properly store and dispose of hazardous chemicals and any empty containers (gases may build up and cause a fire).
• Do not use damaged electrical wires, plugs, receptacles, lights, or equipment.
• Promptly clean up wet spills, especially in the presence of electrical equipment.
• Report or correct any fire hazards immediately.
• Strictly control all flammable materials.

The fire alarm system contains:
• Pull stations
• Smoke detectors
• Duct detectors
• Sprinklers
• Flow switches
• Automatic door releases
In the event of a fire, remember to **RACE**: 

- **R**escue
- **A**larm
- **C**ontain
- **E**xtinguish

⚠️ **NOTE:** Each step is equally important in the event of a fire.
Fire Safety

In the event of a fire, remember to **RACE**:

**Rescue** - Rescue persons from immediate danger.

**Alarm** - Alarm persons in the immediate area by announcing the code phrase "**Code Red**" several times. Activate the nearest fire alarm and dial **3344**.

**Confine Fire** - Confine the fire by closing all doors and windows to the area where the fire is located.

**Extinguish / Evacuate** - Extinguish – Know the location and type of fire extinguishers in your area. All extinguishers are rated ABC. Know where to locate your department’s fire evacuation diagram.

*Use extinguishers carefully:*
- Do not endanger yourself.
- Try to fight only small fires in their initial stages.
- When extinguishing a fire, maintain a route of escape; keep yourself between the fire and the exit.
When operating a fire extinguisher, remember to **PASS:**

- **P**ull the pin
- **A**im at the base of the fire
- **S**queeze the handle
- **S**weep from side to side
Fire Safety

Emergency response training:
- Is conducted regularly, but at irregular intervals to familiarize employees of all shifts with their responsibilities
- May be planned or unannounced
- Helps improve performance

🌟 Respond to each fire drill as if it were a real fire.

🌟 Know your role if a fire occurs.
TOPIC 2 – ELECTRICAL SAFETY

Receptacles and wall outlets are color-coded and include the following:

Red = emergency outlets

Ivory = general use for normal power
Electrical Safety

Employees who use electrical equipment should be trained on how to properly use the equipment.

Any employee who has not received proper training should not use the equipment.

For your safety, FMH has a loss of power response plan. Laminated Utilities Failure & Response sheets are located in each department and are also available from the Safety & Security Department (x3505).
Electrical Safety

When working with electrical equipment, watch for the following hazards:

- Electrical cords or connections in or near water or other liquids
- Electrical cords that are damaged or have broken insulation

Maintain enough space around electrical equipment to safely operate and maintain it.

If you suspect a problem with electrical equipment, contact Plant Operations immediately (x3425).

Do not try to repair the equipment yourself.

FMH’s general electrical safety plan is located in policy EC 100.

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<td><strong>EC 100</strong> General Electrical Safety. Use the Policies and Procedures link on the FMH intranet for more information.</td>
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The hospital's Emergency Operations Plan (EOP) outlines procedures and references additional plans and policies that exist to help employees respond to various emergencies and potential hazardous conditions or events that may strike the hospital or surrounding areas.

The EOP outlines a structure for the Incident Command Center which will be activated when appropriate during emergencies to enhance communication and response procedures.

All employees should understand their role during various types of emergencies and be familiar with where to find response plans and procedures in their department. Ask your supervisor for more information on emergency preparedness if you have questions about response procedures.

### Definitions

| EC PN 400 | Emergency Operations Plan. Use the Policies and Procedures link on the FMH intranet for more information. |
Emergency Preparedness

The state of Maryland has designated that all healthcare facilities use the same code names in every hospital and/or treatment facility. Charts with these codes are posted in many locations throughout FMH. It is your responsibility to become familiar with each code and the appropriate response.

* How Do I Initiate an Emergency Response?

DIAL 3344

* Who Are the FMH Safety Officers?

Phil Giuliano
Bob Hajjar

* Does FMH Have an Environmental Safety Committee?

Yes, the Environment of Care Committee
TOPIC 3 – EMERGENCY PREPAREDNESS

Internal disasters occur on facility property.

External disasters occur outside facility property.

Code Yellow is announced for internal and external disasters, which may include:
- Bioterrorism events
- Electrical failures
- Emergency evacuations
- Hostage situations
- Mass casualties
- Severe weather
- Telephone failures
- Water outages

The FMH on-call administrator, Emergency Department physician, and the hospital Safety Officer decide when to put a Code Yellow disaster plan into effect.

When the disaster plan is activated, employees on duty should respond based on department-specific roles as defined in policy EC PN 438.

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<td><strong>EC PN 438</strong></td>
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Emergency Preparedness

Patient or Staff in Danger

Employees of this facility have both a legal and ethical duty to try to keep any person from harming himself or herself or others.

Your response to a potentially violent individual can have a tremendous impact on the situation:

- Balance or offset the person's behavior with a helpful, calming response.
- Do not allow the situation to escalate and get out of control.
- FMH **Code Green** (Combative Person) response team will respond to assist as needed.

Main campus: Call x3344 to activate. See policy **EC PN 441** for details.

Off-site locations: Call 911. See policy **EC PN 413** for details.

| Definitions |
|-----------------|-----------------|
| **EC 441** | *Code Green – Safe Management of Aggressive Patients.* Use the Policies and Procedures link on the FMH intranet for more information. |
| **EC PN 413** | *Satellite Facilities – Handling of Aggressive Persons (Code Green).* Use the Policies and Procedures link on the FMH intranet for more information. |
TOPIC 4 – HANDLING HAZARDOUS MATERIALS

FMH has special plans for working with:
• Hazardous materials
• Hazardous wastes
• Hazardous spills and exposures

The plan can be found outlined in **EC PN 362**.

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**Definitions**

- **EC PN 362**  
  *Hazardous Materials and Waste Management Plan.* Use the **Policies and Procedures** link on the FMH intranet for more information.
Handling Hazardous Materials

• Hazardous Materials can be found throughout the organization. **SDS (Safety Data Sheet)** information is found online by clicking the beaker icon located on every computer desktop. SDS information describes the potential safety hazards for the product or chemical as well as details special instructions for storage, disposal, spill response, and exposure response.

• Hard copy binders with SDS information are available in the Environmental Health Services (EHS) office and the Safety & Security office in the event you are unable to access this information electronically.

• Department Managers are responsible for ensuring that all hazardous materials are appropriate for your area, are being stored and used safely, and that all staff have training on the specific hazards and special handling instructions.

**Definitions**

| SDS       | A Safety Data Sheet is issued for every potentially hazardous chemical in the workplace. The SDS contains details about the hazards, possible exposure mechanisms, symptoms of exposure, and remediation action to take if you are exposed. |

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Handling Hazardous Materials

Compressed Gas Cylinders

Keep all compressed-gas cylinders secured at all times. Cylinders should be in a rack or in a device used for transport. Full and empty cylinders should be separated and clearly labeled.

**Tanks may not be laid down on beds, stretchers or on the floor at any time.**

A maximum of 12 E cylinders are permitted in a given compartment or unit at all times. Exceeding this limit is against National Fire Protection Agency (NFPA) standards.
Handling Hazardous Materials

All chemical or hazardous spills must be reported immediately.

- Call PBX operator
- Evacuate all personnel in immediate area
- Isolate area by closing doors
- Wait for response team to assist with cleanup
- Follow response as outlined in spill policies EC 302 and EC 303, referenced below

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<td><strong>EC 302</strong></td>
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<td><strong>EC 303</strong></td>
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Handling Hazardous Materials

Employees who may potentially be exposed to hazardous chemicals must receive training:

- Prior to initial assignment to work with the chemical
- Whenever the hazards in their work area change

Department supervisors:
- Plan and organize training
- Provide notice to employees
- Document training
TOPIC 5 – LIFE & HEALTHCARE SAFETY

Life safety management protects patients, staff, visitors, and property from harm by providing for the safe use of buildings and grounds.

FMH's Life Safety Management Plan is outlined in EC PN 154.

Definitions


EC PN 154  
FMH's Life Safety Management Program is a documented management plan describing our organization's process for protecting patients, staff, visitors and property from harm.

Our Life Safety Management Program includes the following:
- A fire safety plan for each area of the facility
- Emergency response training
- Testing and inspection of the fire alarm system
- Ongoing assessment of fire-safety features
- Handicap accessibility
- Patient safety
- Construction
When planning for construction or renovation work, this facility identifies hazards that could affect patient care in designated areas.

The facility puts proper controls in place to reduce the effect of construction work on patient care needs. This includes a full assessment of infection control, life safety, utilities, equipment, and security risks.
Life & Healthcare Safety

This facility uses *interim life safety measures (ILSM)* in:
- Construction areas
- Locations near construction
- All buildings that do not meet current life safety codes

These measures apply to all employees, physicians, and construction workers.

Designated department supervisors work with personnel from the construction team, Plant Operations, Infection Control, and Security and Safety Officers to plan inspections and follow-up activities to support life safety.

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<td><em>interim life safety measures</em></td>
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Life & Healthcare Safety

All employees have a role in maintaining a safe environment for patients, family members, visitors, and staff.

**Ensuring safety begins with an awareness of:**
- Safety-sensitive areas
- Event reporting
- Emergency response procedures during code situations
- Important Environment of Care polices and plans as outlined in this education
- Fire prevention tools and tips
- Continual risk assessment of the physical environment
Safety-sensitive areas may include:

- Behavioral Health Unit (BHU)
- Cashier’s office
- Electrical and boiler rooms
- Emergency Department (ED)
- Gift shop
- Medical records
- Medical waste storage areas
- Nuclear medicine
- Obstetrics/Pediatrics
- Operating rooms (OR)
- PACU/NICU
- Pharmacy
- Same-Day Surgery (SDSS)
Life & Healthcare Safety

Public access should be controlled in all safety-sensitive areas:

• Persons in sensitive areas must have a reason for being there.

• Visitors in sensitive areas must be with authorized staff at all times.

• Employees working in a sensitive area should be oriented to the area when they are first hired, followed by annual reviews. Orientation should include education about the sensitive nature of the area and procedures necessary to control public access to the area.
If you sustain an on-the-job injury or suspect job-related illness, regardless of how slight, report it to your supervisor immediately.

During normal Employee Health Department hours, report to Employee Health (if an employee is injured at an offsite facility they can go to Corp OHS).

After normal Employee Health Department hours, report to the ED if injured. If ill, follow the directions of your immediate supervisor.

The supervisor should:
• See that the injured employee receives necessary treatment.
• Ensure the appropriate reporting has been completed through the VERGE Portal on the intranet.
WHAT SHOULD WE DO?

1. LEARN THE EARLY SIGNS & SYMPTOMS OF A HEART ATTACK
2. TAKE THE PLEDGE & SHARE EHAC WITH OTHERS
3. VISIT YOUR DOCTOR AND DISCUSS YOUR RISK
4. BE ALERT
5. IF A HEART ATTACK OCCURS, CALL 9-1-1

EHAC Pledge™

I understand that heart attacks have beginnings that may include chest discomfort, shortness of breath, shoulder and/or arm pain, and weakness. These may occur hours or weeks before the actual heart attack.

I solemnly pledge that if it happens to me or anyone I know, I will call 9-1-1 or activate our Emergency Medical Services.

Name __________________________ Date ________________________

Visit us at www.deputyheartattack.org for more information about heart disease and prevention.

DID YOU KNOW HEART ATTACKS HAVE BEGINNINGS™?

- Like other diseases, heart attacks have early signs and symptoms.
- These “BEGINNINGS” OCCUR IN OVER 50% OF PATIENTS.
- However, if recognized in time, these “beginnings” can be treated before the heart is damaged!

How can you prevent a heart attack?

Understand the risk factors and see a doctor for early diagnosis.

Learn the signs and symptoms. There is a difference in the way heart attacks occur in men and women.

Take the Early Heart Attack Care™ (EHAC™) Pledge to save a life.

Be alert for a heart attack in yourself or someone in your vicinity. Becoming an active bystander could save a life.

When in doubt, call 9-1-1. First responders have the medical technology to quickly save a life.

EHAC NOT ONLY SAVES A LIFE, IT SAVES THE QUALITY OF A LIFE!
WHAT IS EHAC?
Early Heart Attack Care (or EHAC) education asks you to learn the signs and symptoms of a heart attack so you can become an active bystander to save a life - even if it’s yours. Why?
- Over 800,000 people die in the US every year from a heart attack.
- On average, 50% of these patients display, but ignore, the warning signs.

LEARN THE EARLY SIGNS & SYMPTOMS
Someone may experience any or all of these symptoms. When they start, they can be mild or come and go. Over time, the symptoms and pain increase until the victim collapses.

- Chest pressure, squeezing, aching, or burning
- Feeling of fullness
- Pain that travels down one or both arms
- Shortness of breath
- Jaw pain
- Back pain
- Nausea
- Anxiety
- Excessive fatigue

SURVIVE. DON’T DRIVE. CALL 9-1-1

WHAT ARE THE RISK FACTORS?
These are the general risk factors. Discuss your risk for a heart attack with your doctor.
- Chest pain, pressure, burning, aching or tightness - it may come and go
- A family history of cardiovascular disease
- High blood pressure
- Overweight or obese
- Sedentary lifestyle
- Using tobacco products
- Metabolic disease, diabetes or other illnesses
- For women it can also include birth control pills, a history of pre-eclampsia, gestational diabetes or having a low birth weight baby

WHAT IS THE DIFFERENCE?
MEN vs WOMEN
Heart attack symptoms can be different between men and women. Why does it matter? Men are less likely to seek immediate medical care and are more likely to die.
- Men normally feel pain and numbness in the left arm or side of chest, but in women, these symptoms may appear on the right side.
- Women may feel completely exhausted, drained, dizzy or nauseous.
- Women may feel upper back pain that travels up into their jaw.
- Women may think their stomach pain is the flu, heartburn or an ulcer.

WHAT ARE ATYPICAL PRESENTATIONS?
In an atypical presentation, the signs and symptoms are different. How? The patient may not complain about pain or pressure in the chest. Be alert for the following:
- A sharp or "knife-like" pain that occurs with coughing or breathing.
- Pain that spreads above the jawbone or into the lower body.
- Difficult or labored breathing.

DID YOU KNOW?
85% of heart damage occurs within the first two hours of a heart attack. EHAC is knowing the subtle danger signs of a heart attack and acting upon them immediately - BEFORE HEART DAMAGE OCCURS.
TOPIC 6 – MEDICAL EQUIPMENT MANAGEMENT

Medical equipment is a major factor in the quality of patient care.

FMH's Medical Equipment Program manages the safe and effective use, operations and repair of medical equipment within all of FMH's facilities. See EC PN 610.

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<td><strong>EC PN 610</strong></td>
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Medical Equipment Management

*General guidelines for working with medical equipment:*

- All employees involved in the use of medical equipment must be trained on how to use the equipment.
- All equipment must be inspected before it is used on a patient.
- Equipment must be cleaned after each patient use.
- Malfunctioning or broken equipment must be removed from service and clearly labeled.
- Equipment that may potentially cause harm or is broken must be tagged and reported to the Biomedical Engineering Department by calling **x3614**.
Medical Equipment Management

Know where the shutoff valves and zone valves are located when working with oxygen, vacuum, and medical air.

Be prepared to shut off valves as instructed during a fire.

All medical gas access and alarm panels must be unobstructed at all times for quick access in the event of an emergency.
Medical Equipment Management

Be sure you have received proper training for any equipment you are required to use.

Carefully inspect equipment before each use. Check for the FMH inspection sticker which indicates when the item is due for preventative maintenance.

*If you suspect a problem with medical equipment:*
- Remove and tag the equipment.
- Notify your supervisor.
- Contact the facility’s Biomedical Engineering Department at x3614. An emergency equipment repair request after normal business hours can be initiated by contacting the Hospital Operator.
- Obtain backup equipment to ensure continuity of care.
- Refer to policy **EC 604** for more detailed information on the equipment repair process.

### Definitions

| EC 604 | Equipment Repairs. Use the Policies and Procedures link on the FMH intranet for more information. |
FMH has a Utilities Management Program designed to minimize risk throughout the organization. This program is outlined in EC PN 710.

The program identifies and manages critical operating components of the hospital's utility system.

Special emphasis is placed on monitoring, evaluating and managing the interaction between patients, staff and the utility system.

Definitions

| EC PN 710 | Utilities Management Plan. Use the Policies and Procedures link on the FMH intranet for more information. |
Utilities Management

Power for this facility is provided by the local utility company.

*When normal power is interrupted, an emergency power system takes over:*
- The system is powered by diesel-fueled generators.
- Switches for emergency lighting are easily seen and are either red or labeled appropriately.

Three FMH policies provide details of appropriate response when systems fail. See EC PN 403, EC 700 and EC 701 for more information.

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### Definitions

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<thead>
<tr>
<th>Policy</th>
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<tr>
<td>EC PN 403</td>
<td><em>Electrical Power/Generator Failure.</em> Use the <a href="#">Policies and Procedures</a> link on the FMH intranet for more information.</td>
<td><a href="#">Policies and Procedures</a> link on the FMH intranet for more information.</td>
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<tr>
<td>EC 700</td>
<td><em>Utility Systems Failure and Basic Response Plan Main Campus.</em> Use the <a href="#">Policies and Procedures</a> link on the FMH intranet for more information.</td>
<td><a href="#">Policies and Procedures</a> link on the FMH intranet for more information.</td>
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<tr>
<td>EC 701</td>
<td><em>Off Campus Utility Systems Failure &amp; Basic Response Plan.</em> Use the <a href="#">Policies and Procedures</a> link on the FMH intranet for more information.</td>
<td><a href="#">Policies and Procedures</a> link on the FMH intranet for more information.</td>
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Utilities Management

This facility has a plan to manage utility risks:

• Utility systems are inspected, tested, and maintained to ensure reliability.
• Employees are trained to respond to utility emergencies and know their responsibilities if utility systems fail.
• Staff immediately report problems or emergencies related to utility systems and appropriate corrective actions are taken.
• Utility systems are managed to maintain a safe environment for patients, families, visitors, and staff.

Contact your supervisor for more information or with questions related to your specific response to utility system failures.
FMH's Security Management Plan contributes to the health and well-being of patients, staff and visitors by providing a safe and secure environment in which they can receive quality healthcare.

See policy **EC PN 219**.

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Know these important phone numbers:

To contact an FMH security officer, dial **x3505 (240/566-3505)**

If you are inside the facility, you may dial "0" and ask the operator to connect you to security

If you are reporting any emergency (fire, combative person, active shooter, etc.) call **x3344**

If you are reporting an emergency from an FMH satellite facility, you should dial 911
Always wear your ID badge as required by this facility.

ID badges should be placed above the waist and worn at all times so as to be seen easily by others.

Protect your ID badge and, if applicable, your facility-issued uniforms so they cannot be misused.

Report a lost or missing badge immediately.

Refer to policy **EC 200**.

### Definitions

| EC 200 | Personnel Identification Badges. Use the Policies and Procedures link on the FMH intranet for more information. |
**Security**

**General Safety Tips**

**PARKING**
- Always try to walk with a group, rather than alone, to your vehicle.
- After dark, request a security escort to your vehicle if you are alone.
- Always look around when traveling to and from your car.

**PROTECTING YOUR VALUABLES**
- Lock valuables in your office, a desk drawer, a filing cabinet, or your locker.
- Keep valuables out of sight when they are in your car. Either lock them in the trunk or place them under the seat of your car.

**PROTECTING YOURSELF**
- Know security policies and procedures.
- Practice personal security.
- Report situations that could become a security threat.
- See your supervisor if you have questions.
TOPIC 9 – PATIENT SAFETY

Ensuring the safety of our patients is not just the responsibility of direct caregivers. Patient safety is the responsibility of every person working or volunteering at FMH. FMH’s Safety Management Plan (EC PN 153) and Patient Safety Plan (EC PN 301) supports procedures that work to improve and sustain an environment that lends itself to safe patient care.

You can help by:

• Understanding your role in event reporting and how to use the VERGE online reporting system.
• Being familiar with emergency response procedures such as RACE and PASS and your role during other emergencies like a Code Pink or hazardous material spill.
• Properly identifying patients prior to interactions, assessments, medication administration, procedures, food deliveries, and tests.
• Responding if you see smoke, smell smoke, or suspect a fire
  – Pull the fire alarms (if area is so equipped) or call x3344 (if on-campus)
  – Call 911 (if building has no fire alarms, or anywhere off-campus)
• Understanding National Patient Safety Goals (NPSG) and your role in the continual survey readiness process.
• Communicate effectively to patients and family members in a way that allows them to play an integral part in their care.

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<td><strong>EC PN 153</strong></td>
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<td><strong>EC PN 301</strong></td>
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Frederick Memorial Hospital is accredited through The Joint Commission. The Joint Commission (TJC) established its National Patient Safety Goals (NPSG) Program to help accredited organizations prioritize and better focus on specific areas of concern in regards to patient safety. Each year The Joint Commission will add further patient safety goals to its list of required standards.

The current standards can be found on the FMH intranet page by clicking on the Patient Safety icon. You'll find the current standards and other useful patient safety information.

**2014 NPSGs**
- Identify Patients Correctly
- Improve Staff Communication
- Use Medicines Safely
- Use Alarms Safely
- Prevent Infections
- Identify Patient Safety Risks
- Prevent Mistakes in Surgery
Patient Identification:
Many errors within healthcare can be avoided by correctly identifying that the right patient is being interacted with. It is important, for example, to verify that the correct patient is receiving the correct medication, having the right barium swallow, etc.

Name & Date of Birth are the two patient identifiers that FMH uses.

In both inpatient and outpatient areas it is very important that the name and date of birth get verified every time you perform a test, deliver a meal, or register a patient.

Spotlight on Medication Administration:
Patient bedside scanning and MAR or chart verification should be used as another level of patient identification and should be used in conjunction with the verbal verification of the patient’s name and date of birth. Even with these precautions, errors can still occur. It is imperative to examine medications prior to administration to ensure the correct patient label is on the medication or device, the correct dose is being given at the correct time, and the medication is appropriate given the patient’s current condition.

Using Medications Safely:
- Pull and prep medications one patient at a time to reduce risk for errors
- Label all medications, med containers, syringes, cups, and basins
- Draw up only one syringe at a time and immediately label
- Take extra care when working with patients on anticoagulation therapy
Patient Safety

National Patient Safety Goals (NPSG)

Preventing Infections:
- Use **hand sanitizer or soap and water** when entering or leaving a patient's room, before and after gloving, and before and after providing care.
- You must use soap and water for C-diff patients – alcohol does not work.
- Use proven guidelines to prevent:
  - infections that are difficult to treat
  - central blood stream infections
  - surgical site infections

Communication:
Everyone can contribute to a culture of safety by sharing critical information to the correct staff member(s) in a timely fashion.
- Repeat important information to ensure accuracy (orders, critical test results, etc.)
- Use **Situation, Background, Assessment, Recommendation (SBAR)** for communications when appropriate.
- Record **date and time** on all documentation.
- Utilize communication hand-off procedures to share important information with others.
**Identifying Patient Risks:**
- Identify those patients who may be at risk for suicide and complete the appropriate assessments to determine the risk
- Address patient’s immediate safety needs & most appropriate setting for treatment.

**Understanding Universal Protocol:**
- Complete the pre-procedure verification process
- Make sure the physician marks the procedure site
- Perform a time-out for any procedure that requires a consent
  - Correct patient
  - Correct site
  - Correct procedure
  - Correct position
  - Correct equipment
Patient Safety

Everyone is responsible for positively contributing to the FRHS culture of patient safety. This is accomplished in part by being aware of your physical environment, assessing risks, working to mitigate risks to patients, visitors, and peers, understanding National Patient Safety Goals and your role in addressing safety concerns, and reporting events or concerns immediately so issues can be addressed.

Event reporting is a critical component of the FRHS Safety Plan and empowers all staff members to report safety concerns, patient or visitor concerns, communication issues, staff injuries, medical equipment concerns, infection control issues, and more.

The VERGE Event Reporting portal can be found on the intranet.
Patient Safety

Teamwork plays a big role in providing quality care in a safe and effective environment. Teamwork is everything from communicating to physicians and pharmacists in clarifying orders, to working with dietary when a patient’s needs change, to even calling for the RAPID RESPONSE TEAM based on a patient’s deteriorating or sudden change in condition. Clinical staff should be comfortable calling for an RRT when they feel an immediate, multidisciplinary examination is in the best interest of the patient given their current condition. A Rapid Response can be initiated by dialing 3344.

Teamwork also applies to partnering with a patient’s family and empowering them to play an active role in the care of their loved one. A CONDITION H is a family initiated rapid response when they feel something is not right or there is a medical emergency. A condition H can be initiated by dialing 3006.
Background Radiation Exposure

Human populations are continually exposed to background sources of radiation. An average U.S. resident receives a dose of approximately 3.0 mSv/y (300 mrem/y) from sources of natural background radiation.

The level of natural exposure varies around the globe, at some locations, natural background radiation exposure exceed the average levels by a factor of 10 and sometimes even by a factor of 100.

Non-Radiation worker’s doses are easily maintained below the regulatory allowance of 100 mrem/y above background.
Radiation Safety

Use:
- Most radiology procedures occur within Radiology department or other dedicated areas; ED, Cardiac Cath Lab, & OR
- Occasional need for portable x-ray generation
- Radiation is only present when a machine is activated

Precautions:
- Staff/Nurses/Patients/Visitors whom cannot be removed from the area shall either be protected from direct scatter radiation by a lead apron (or mobile shield) or shall be positioned at least 2 meters from the machine.
- Technologist will notify all individuals when the machine will be activated.
Radiation Safety

Radioactive Material in Nuclear Medicine

Diagnostic use:
- Bone scans, Hida scans, Lung scans, etc.
- Tracer doses
- Tc-99m most commonly used isotope
- Once administered, patients are the source of radiation
- Radiation always present until physical decay and/or biological elimination

Precautions:
- In general due to the small (tracer) activity involved, there is no radiation hazard for nurses caring for patients who have received a nuclear medicine dose
- This applies to pregnant nurses and those concerned about future pregnancies
- Patients routinely undergo similar studies on an outpatient basis
- Universal Precautions are acceptable
- Written specific precautions for staff in Nuclear Medicine and Radiation Oncology
- Targeted “at-risk” staff will receive further safety instruction on proper procedures prior to clinical cases
Designated areas of possible radiation exposure are posted with appropriate warning signs.
The Standard Methods to Reduce Radiation Exposure Are:

1. **Time** - Reduce time of around radiation machines or sources
2. **Distance** - Doubling the distance from the source will decrease the exposure fourfold.
3. **Shielding** - Utilize shielding between yourself and x-ray source
Radiation Safety

There is great concern for both healthcare workers and patients who are exposed to radiation when they are pregnant.

Higher exposure than the regulatory limits to the unborn child have been shown to increase risk of:
- Childhood cancer
- Low birth weight
- Mental retardation

However, **no increase** in prenatal effects has been observed when exposure is **within regulatory limits**.

Safeguarding the health of the pregnant employee and her fetus is very important. FMH’s practice is guided by policy **IC 919**.

The most important step in ensuring safety is for any pregnant employee to notify Employee Health as soon as the pregnancy is confirmed.

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<td><strong>IC 919</strong></td>
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The magnetic resonance imaging (MRI) suites (both on and off campus) are also restricted areas. MRI equipment can be hazardous to staff or patients.

The powerful magnetic field of an MRI scanner, which is always on, will attract iron-containing objects and may cause them to move suddenly and forcefully. Such objects must be kept outside the MRI scanning area. The magnetic field of the MRI scanner will even pull on iron-containing objects from inside a person’s body.

The following special precautions should be followed:
• Always check with the MRI technician before entering the room.
• Do not take anything into the room that is magnetic, as such objects will be pulled into the unit, possibly causing life-threatening effects to anyone in the room. Use a hand magnet to test any metal objects that may be magnetic.
• Do not enter the room if you have certain implants, such as a pacemaker, surgical clips, defibrillator, non-removable medication pump, artificial heart valve, cochlear implant, shrapnel, etc.

In case of an accident, only the MRI technicians, MRI supervisors or facility engineers can turn off the equipment.

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Lasers may be used in your facility for some treatments. Lasers are **not** a source of radiation but can be hazardous to staff and patients if not used correctly.

*Employees using lasers must be trained in safe use:*

- Laser equipment is labeled with power and wave length information.
- Laser equipment that can result in risk of injury is labeled with hazard warning signs, including *Caution* or *Danger* signs.
- PPE is provided as needed; this may include eye protection.
- Jewelry may reflect laser beams; **do not** wear jewelry that may cause laser exposure.
- Some lasers may include a *Caution: Do Not Stare into Laser Beam* warning to prevent unintended viewing.
- A laser safety office monitors laser use.

### Definitions

| Laser | An acronym for *Light Amplification by Stimulated Emission of Radiation*. A laser is a cavity with mirrors at the ends, filled with material such as crystal, glass, liquid, gas, or dye. It produces an intense beam of light. |

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Radiation & MRI Safety

Contact your supervisor if:
- A patient or employee is injured by MRI or laser equipment.
- Equipment does not function properly.
- Precautions are not being followed regarding restricted areas, such as the MRI.
- You have a concern for occupational exposure due to unsafe radiation protection practices.
- You have questions about MRI or laser safety.

More information about radiation safety, PPE, nuclear medicine and MRI safety is available through Net Learning.
Take Test

When you are ready to take the test:

1. Return to the FMH internet page where you opened this course material

2. Click the link for the test (the test will appear on screen in Adobe Reader, in PDF format)

3. Print the test, then complete it and return it to your supervisor for grading