

Fire Response and Evacuation Review

Welcome to the Fire Response (Code Red) and Evacuation (Code Green) on-line review. This site was developed to assist you in complying with an annual review.

It is policy to review these codes on a yearly basis. To save you time from attending an in-service, you can complete an on-line quiz. This on-line learning event was designed from the "Fire Safety Program for Employees of Care and Treatment Occupancies" produced by the "Fire Marshal's Public Fire Safety Council".

Learning Objectives

By the end of this session, you should be able to:

- Identify common fire hazards
- Follow the REACT sequence when you discover a fire
- Identify and respond to 2 fire alarm systems
- Identify three main types of fires and follow the PASS word to use a fire extinguisher
- Follow evacuation sequences
- Apply proper techniques when evacuating patients
- Test your knowledge of the **Fire Response and Evacuation procedures**.

Fires Do Occur!

- A fire occurred in the smoking lounge on the Western Counties Wing at Parkwood, involving a patient travelling with oxygen...
- A fire occurred in 8 Middlesex, South Street Hospital. This fire occurred on December 27, 2002 at approximately 830 pm at SSC, 8 Middlesex. This is an area of the hospital that is dedicated to treating psychiatric patients.

A suicidal patient occupied the room in which the fire occurred. She had left a suicide note across the hall before returning to her room to set fire to her mattress with a lighter. Lighters are not allowed and staff did not know she had it.

Hospital mattresses are flame retardant, but not fire proof. She was able to make it burn and smolder. The patient then went into the bathroom in her room and started a fire in the garbage can with some paper towels.

A passing visitor saw smoke coming from under the door. He immediately went into the room and pulled her to safety.

Noticing the billowing smoke, nursing staff rounded up patients and evacuated them through an open wing, to the elevator core. In the meantime, two other staff members attempted to extinguish the fire with a water extinguisher.

But, they fought the fire with the room's door open resulting in a large amount of smoke in the hallway. The smoke became so dense that two nurses assisting a semi-ambulatory patient were unable to see each other on either side of the patient.

A staff member working the 7th floor ran up the stairs to assist. When there, she thought the lights were turned off because it was so dark due to the smoke in the hallway.

When the fire department arrived, they also attempted to extinguish the mattress. When they couldn't, they broke the window and threw the mattress from the 8th floor.

Fortunately, staff was able to evacuate everyone safely without serious injuries. This scenario was over with in 25 minutes. The damage to the room and the wing was \$20,000.



MODULE 1: Fire Hazards

Fire prevention tips:

Electrical: Improper Use of Extension Cords

Extension Cords

Do not use an extension cord if it is...

- An alternative to a permanent electrical outlet
- Plugged into another cord
- Run under a rug
- Run through a doorway
- Pinched, spliced or visibly damaged
- Supplying electricity to an appliance that runs continually

Electrical Appliances

Only electrical appliances that are CSA approved and purchased through HMMS can be used. Hot plates and toaster ovens are not permitted.

Combustible Materials

Clothing, paper, and other combustible materials should not be near heating appliances and lamps.

Microwave Ovens

Microwave oven safety:

- Ensure the microwave is positioned so that air can circulate around it and vents are not blocked.
- Do not start a microwave oven if it is empty.
- Use the microwave only for food. The use for heating of pillows filled with organic materials is not allowed.
- Read the cooking instructions on the package, especially any warning messages or instructions recommended for microwave ovens.
- Some foods or packaging such as potatoes or popcorn bags can scorch and flame when overcooked.
- **Never leave cooking unattended.**
- Never put foil or other metals, thin plastic storage bags, brown paper or grocery bags in a microwave oven.
- Never put any cookware or containers into the microwave oven unless you are certain it is labeled as microwave-safe.
- Food heated in microwave ovens is very hot and may cause scald burns. Treat mild burns as you would any other mild burn--with lots of cool water.
- If a fire breaks out in a microwave oven, keep the door closed and unplug the unit. Do not try to remove burning containers from a microwave.
- Never leave cooking unattended - if you need to leave, stop the cooking process
- Never put foils or metals in microwaves
- Do not start a microwave when it is empty
- Use a microwave for food only

If a fire starts in the microwave:

- Keep the door closed
- Unplug the microwave
- Do not remove the burning item from the microwave

Hot plates and toaster ovens are not permitted.

SEASONAL DECORATIONS

Live Evergreen Trees

- No live evergreen trees are permitted within any hospital building. Live trees may be decorated outside of buildings, provided they are no closer than eight (8) feet from the building walls and do not obstruct exits.

Artificial Trees

- Artificial trees may be displayed within buildings. These trees must be of a fire retardant nature. Metallic trees **MUST NOT** be decorated with electrical lighting sets.

Decorations

- **ALL** decorations **MUST** be of a fire resistant nature; absorbent cotton, natural evergreen boughs and untreated crepe paper **must not be used**. All electrically energized decorations, other than battery operated must be equipped with a three (3) wire grounded plug or two (2) pronged polarized plug which are CSA and/or Ontario Hydro labeled, approved and tagged as such. All electrical decorations not having proper approval must be checked and inspected by the Hospital Electrical Department. No extension cords are permitted and no electrical cords allowed running through pinch points, i.e., doors, windows, etc. No electrical decorations are permitted in areas where oxygen or hazardous materials are used or stored.

Patient Rooms

- Small (table size) artificial trees may be displayed in patient rooms, not more than one (1) per room, with **NO** electrical lighting sets in place.

OPEN FLAME DEVICES AND OTHER HEAT DEVELOPING DECORATIONS ARE NOT TO BE USED WITHIN THE ORGANIZATION. NO DECORATIONS OF ANY TYPE SHALL OBSTRUCT; FIRE EXITS, CORRIDORS, FIRE FIGHTING EQUIPMENT, SPRINKLERS OR FIRE ALARM DEVICES. ANY INFRACTION OR VIOLATION OF THE INFORMATION LISTED ABOVE, OR ANY EQUIPMENT FOUND DEFECTIVE WILL RESULT IN THE REMOVAL OF SAID ITEM BY THE FIRE PREVENTION OFFICE.

All Christmas trees and decorations must be removed by: **the first Monday after New Years.**

MODULE 2: REACT

Upon discovering a fire or smoke, taking appropriate steps will save lives. These steps form the acronym REACT:

Remove people in immediate danger, if possible

Ensure doors and windows are closed to confine the fire and smoke

Activate the fire alarm system

Call 55555

Try to extinguish the fire - if you are trained

Fires are never the same! Remember that the sequence of these steps may vary due to the nature of the fire or smoke.

Remove people in immediate danger, if possible

Smoke kills. In fact, people die more from smoke inhalation than from fires. The reason is that smoke can quickly fill a room and rob its occupants of oxygen. If you discover a fire - even if it is small - first remove people from the area.

Ensure doors are closed to confine the fire and smoke

After you move people from the room with the fire, close the door. You want to confine the smoke so that it does not spread and harm your coworkers and patients. Close all other doors in the area.

Closing the door also...

- Cuts off the supply of oxygen to the fire
- Slows the fire's spread
- Protects your evacuation route
- Stops drafts from spreading the smoke

What about windows?

Close as many windows as possible, including reception area windows to aid in stopping the spread of smoke. Be aware that smoke may leave the building through a window, and re-enter the building through a window of another floor.

Activate the fire alarm system

You need to activate the alarm system once people are removed and doors are shut. Fire alarms are typically located near exits and smoke barrier doors. A simple pull of the alarms lever or turning and removal of the key, on key pull stations, initiates the alarm system.

An activated alarm initiates a pre-planned response by other employees - like the REACT sequence - and triggers the hospital's fire safety features. These features include:

- Sending a signal to Security and to the Fire Department
- Sounding the alert bells, allowing others to be notified of a potential fire emergency
- Releasing electromagnetic and other hold-open devices on doors, causing them to close to create a barrier to smoke
- Sending elevators to a pre-determined floor
- Shutting down or activating air circulation systems to control the spread of smoke

Call 55555

The hospital's designated person needs to know the precise location of the fire to help coordinate the emergency response. Calling 55555 - which is your direct access to the hospital's internal security and emergency response team - ensures the fire department arrives quickly to fight the fire.

Try to extinguish the fire - if you are trained

You may try to extinguish the fire if these conditions apply:

- The alarm is activated and 55555 has been called
- You are trained to identify the fire type

- You are trained to use the appropriate extinguisher for that fire type
- Someone is there to assist you
- The fire is smaller than the size of a small garbage can and not growing beyond your control

Given these conditions do not apply, you are encouraged to follow the REACT sequence up until this point and focus on removing people out of immediate danger.

MODULE 3: Identifying and responding to the Fire Alarm Systems

The hospital uses two types of fire alarms. These are single stage and two stage.

Single Stage Alarm

The Lawson Health Research Institute and Monsignor Roney Building only at SJHC, have single stage alarm systems. This means that the building is to be evacuated immediately on the sounding of the alarm. There is a public address system for the single stage areas. The bells at these sites ring at 2 chimes or beats per second.

At RMHC London and St. Thomas, the fire alarm bell will ring consistently within the immediate fire zone. The alarm bell will ring intermittently outside of the location of the fire.

At the South Street Hospital site - Health Services Building, Education Centre and Nurses Residence Building as well as the University Hospital Perth Drive Complex **only** have single stage fire alarm systems.

This means that the building is to be evacuated immediately on the sounding of the fire alarm. There is **no** public address for the single stage areas on the South Street Site.

The bells at these sites ring at 2 chimes or beats per second (120 beats per minute).

Two Stage Alarm

You will hear the first stage alarm when a pull station, smoke detector or heat detector has been activated. Its purpose is to alert staff of a potential fire emergency. This alarm rings steadily at 1 chime or beat per second.

The second stage alarm signals to leaders and staff that an evacuation procedure is in effect. This happens when the fire cannot be extinguished easily and it threatens other occupants or the building itself. The second stage alarm rings twice as fast as the single stage alarm. It rings at 2 chimes or beats per second. A public address announcement will inform building occupants of the Code Green status and provide instructions in how staff may assist with evacuation. When hearing this alarm stage, carefully listen to the overhead page and follow directions.

What do you do?

When hearing an alarm, follow these simple steps:

- Do not leave your area.
- Stop what you are doing and check your immediate area - the fire or smoke may be in your area
- Reassure patients and visitors
- Listen for overhead instructions. The overhead page will start with "Code Red..." It will identify the source and nature of the code.

- Take necessary precautions as instructed by the page or your leader - this may include removing obstructions in the hallway and closing doors.
- If the fire is in your area- REACT

MODULE 4: Identify a fire type and follow the 'PASS' word to use a fire extinguisher

Training is a must...

Only trained personnel should attempt to use a fire extinguisher when it is safe to do so. You and your team must quickly assess the situation and consider whether focus should be placed on evacuating the fire scene or attempting to extinguish the fire.

Fight or Flight?

You find a fire. You follow procedure (REACT). Now what?

The focus should be placed on closing doors and moving people out of danger if you say yes to any of these criteria:

- The fire is larger than an office garbage pail
- The fire is growing
- The fire is behind a closed door that is hot to touch
- Smoke is accumulating at the ceiling
- The room is uncomfortably hot
- You are having difficulty breathing
- You don't have a buddy to back you up

If you assess otherwise, try to fight the fire.

When must I fight a fire?

If you work in an area where evacuation is extremely difficult - such as an Operating Room, or the Intensive Care Unit - you may need to focus on extinguishing the fire immediately.

Things to consider before I fight the fire

- Is the fire alarm activated?
- Has someone called 55555?
- Do I know how to operate the extinguisher?
- Do I have a back-up person in case the fire gets out of hand?
- Where is my escape route if the fire is not extinguished?
- Is the fire small and containable?
- Do I have the correct type of extinguisher for the fire?
- Is it too smoky or uncomfortably hot?

Are all fires the same?

There are three types of fires:

1. Class A - "Ordinary fires" Burning wood, paper, cardboard, plastics and textiles
2. Class B - "Flammable Liquids" Burning oil, gasoline, paint and grease
3. Class C - "Energized circuits" Electrical fires, computer fires

When fighting these fires, you need to use the proper extinguisher.

Which extinguisher do I use? Fire extinguishers are standardized so that they are easily identifiable. Only one extinguisher should be used to fight a fire unless the area is difficult to evacuate, or the fire is under control.

1. Pressurized Water

Use: Class A fire - wood, paper, cardboard, plastics and textiles

Description: Silver cylinder with a rubber hose and pressure gauge

Contents: Pressurized water

Range: 30-40 feet if at full pressure

Discharge time: Approximately 1 minute

Do not use: Class B and Class C fires



2. CO2 Carbon Dioxide

Use: Class B fire - oil, gasoline, paint and grease Class C fire - electrical

Description: Red cylinder with black horn attachment - comes in various sizes

Contents: Carbon Dioxide (CO2)

Range: 3-8 feet (dependent on size)

Discharge time: 8 - 30 seconds (dependent on size)

Do not use: Class A



3. Dry Chemical Powder

Use: All fires

Description: Typically red cylinder, but may be any colour - comes in various sizes

Contents: Dry chemical containing ammonium phosphate

Range: 5-20 feet (dependent on size)

Discharge time: 8 - 25 seconds (dependent on size)



Buddy System

It is recommended to have someone with you at all times when fighting the fire. If you don't have back up, focus on containing the fire and evacuating people from the area.

Before you fight the fire:

- Keep your back to your escape route
- Stand 6-8 feet from the fire

Fighting the fire - your PASS word:

- Pull the pin from the extinguisher's handle
- Aim the nozzle at the base of the fire
- Squeeze the handle
- Sweep from side to side, back and forth over the fire

Remember: It is not difficult to know how to use a fire extinguisher! The challenge is in knowing when the use of an extinguisher is appropriate!

MODULE 5: Evacuation Sequences

The purpose of an evacuation sequence is to remove endangered patients and staff from the fire area and to confine the fire as quickly as possible. Usually, this sequence is the order in which an evacuation will take place.

Of course, circumstance might dictate otherwise:

1. Evacuate the room of origin, only if you are able. Make certain to close all doors to the area containing the fire.
2. Evacuate the rooms beside and opposite the room of fire origin. These occupants are at greatest risk for smoke inhalation due to their proximity.
3. Evacuate all ambulatory patients next. They should be moved in a group, whenever possible. Visitors may provide assistance to their loved ones.
4. Patients in wheel chairs are to be moved next
5. Other non-ambulatory patients should be moved next. These patients are more difficult to move because they may require more than one person.
6. Resistant patients should be removed last along with those on life support. If they are not in immediate danger, they should be left in the room with the door closed. Make certain the fire department or the hospital's security staff are informed of these patients.

Horizontal Evacuation

Horizontal evacuation involves moving patients from the fire area beyond corridor smoke barrier doors to another area on the same floor.

At LHSC and St. Joseph's, smoke barrier doors separate all floor areas. The areas in between the doors are called zones. This method of evacuation is preferred because you can quickly move from the fire zone without using stairs.

When conducting a horizontal evacuation, patients should be removed to the closest zone avoiding - if possible - the room containing the fire. Horizontal evacuation does not require a formal directive when removing persons from immediate danger.

Vertical Evacuation

Vertical evacuation is more difficult because it involves moving patients down stairs to at least 2 floors below the fire zone or outside. You should never move people up or into basement areas.

Your patience is required during these evacuations. These evacuations are usually slow and difficult, especially when moving non-ambulatory patients. Elevators can only be used with the permission of the fire department. The Fire Platoon Chief, or Hospital Administrator will order when a vertical or total evacuation is to take place.

Total Evacuation

If the conditions within the building become severe, a total evacuation might be ordered. These evacuations should proceed in an organized, orderly fashion outwards from the fire zone.

Evacusleds: Who is appropriate?

An evacusled is a device used to allow a caregiver to evacuate a patient to safety, both horizontally and vertically. It is stored under the mattress on the bed frame. When needed, it is pulled out to enclose the patient on the mattress and is used by one or more caregivers, to pull both patient and mattress down the hall and stairs to safety. A large portion of our population would likely fit the criteria, but until all can be equipped with a sled, some sort of prioritization must take place to ensure the sleds are best utilized.

Advantages include:

- effective removal of all types of patients weighing more than 150 lbs
- reduces the required number of rescuers to one per patient
- speeds up rescue by at least a factor of four, according to literature
- requires little training, less strength/effort than a carry, and reduces risk of injury to the rescuer
- reduces patient stress and danger of injury and provides patient protection both in doors and out
- is readily available, stored under each mattress

Patient criteria to consider in determining the need:

1. The weight of the patient/resident: more than 68kg or 150 lbs
2. The mobility level of the patient. *eg. Can the patient ambulate/manage stairs safely, with assistance? Speed/endurance must be considered, as well as amount of assistance. Some patients may be partial ambulators and have trouble with stairs. Wheel chairs are encouraged to be utilized for horizontal transfers, and to transport patients to and from the stairwells. Can the patient descend safely? Or even Ambulate down the stairs, with assistance?*
3. The fragility of the patient. *eg. Would alternate evacuation methods put the patient at risk (ie. Bumping down the stair/dragging cause fractures/significant soft tissue injury?*
4. Mental status of the patient: Ability to cooperate, confusion, resistance, etc.

Regular training is recommended for use of the evacusled, maintenance, and tracking of the sleds, and posting on the beds where the sled is located.

Evacu-Check Device

Site's equipped with this device include:

- Parkwood Hospital
- Marian Villa
- St. Mary's Hospital
- Lawson Research Institute

The primary function of these devices as seen in pictures supplied in this fire plan is to indicate that a room is vacant if the device is found in the open, or reflective position (yellow reflective material).

Staff are instructed to thoroughly inspect all rooms before closing the door and activating the Evacu-check device. A complete check of the entire room must be done as patients have been found in closets.

These devices have a built in safeguard should a person re-enter the room where the device has been activated. When a person re-enters a room with an activated Evacu-check, the Evacu-check will automatically revert back to a non-evacuated room.

Staff are encouraged to test all Evacu-check devices in their area regularly to ensure proper function and are free from damage.

MODULE 6 Techniques for Moving semi-ambulatory and non-ambulatory patients

Please note that this section is for illustrative purposes only. You should practice or have training with these techniques to ensure you do not harm your patient or injure yourself.

Semi Ambulatory Evacuation Techniques

Side-by-Side

While standing beside your patient:

- Reach around her back and grasp her wrist
- Keep patient close to you when walking to a safe area



Bear Hug

While standing behind your patient:

- Place your arms under her armpits
- Grasp the patient's left and right wrists, crossing her arms in front
- Gently prod your patient's legs in front to walk to a safe area



Non-Ambulatory

Cradle Drop

- Make certain the bed will not move before doing this technique
- Place a blanket on the floor - partly under the bed and past the head of the patient
- Kneel beside the bed with one leg raised closest to the patient's head.
- Grip your patient under the knees and shoulders
- Lean back sliding your patient to the edge of the bed
- Rock back sliding your patient off the bed cradling your patient onto your lap
- Control the descent of your patient to the floor
- Fold the blanket around the patient and pull him head first to safe area



NOTE: If speed is essential, use this technique without a blanket.

Swing Carry - requires two people

- First person raises the patient to the sitting position
- Second rescuer rotates the patient's legs 90 degrees from the side of the bed and lowers them off the side of the bed
- The rescuers sit on each side of the patient, placing the patient's arms on the shoulders of the rescuers
- The rescuers place their arms around the patient and grasp each other's upper arm
- The rescuers pass their other hand under the patient's knees and lock hands
- The rescuers lift the patient simultaneously and remove to a safe area



Extremity Carry - requires two people

- One rescuer grasps the patient's legs in the vicinity of the knees
- The other rescuer places their arms under the patient's arms and clasps their hands on the patient's chest
- Both rescuers lift the patient and move him to a safe area



Infant Removal

- Spread a blanket on the floor
- Put two infants in each bassinet
- Place up to four bassinets in the centre of the blanket
- Fold the bottom corners over and roll up the sides of the blanket
- Grasp the loose corners of the blanket and drag bassinets to a safe area

Take the on-line test

When you are ready to take the on-line test, please go to the link below. This will test your knowledge of the Fire & Safety procedures. If you are not ready, please review the above information again.

In order to record your completion with Medical Affairs, you will be required to enter your **surname** and **password** which can be found on the "Instruction Sheet for Online Training Modules" included with your hospital application package.

<https://www.sjhc.london.on.ca/SSL/fire>

If you have any further questions or concerns, please contact the Medical Affairs office at 519-685-8500 ext. 75125.