

Fire Safety

Lesson 1: Objectives

Upon completion of this course you will be able to:

- ❖ identify fire hazards,
- ❖ classify fires,
- ❖ take action should a fire occur, and
- ❖ appropriately use a fire extinguisher.

Introduction

Fire is a serious threat for any healthcare facility. Patients/residents depend on you for their safety. You should know how to protect patients/residents, visitors, personnel, and yourself. Therefore, you must make every effort to prevent fires from starting and be prepared to respond promptly and effectively in the event of a fire emergency.

Lesson 2: Fire Hazards

- ❖ A common cause of fire in healthcare facilities is smoking in unauthorized areas. Smoking should only occur in Designated Areas. Never leave a lit cigarette unattended or throw a lit cigarette in a trash can. All cigarettes should be extinguished prior to being discarded.
- ❖ Another major fire hazard is improperly used or damaged electrical equipment. All equipment should be checked on a routine basis.
- ❖ Additional hazards include dirty or greasy kitchen equipment, full laundry lint screens, and buildup of combustible waste materials such as paper or boxes. You should be aware of the hazardous properties of materials in your work area.

Lesson 3: Fire Classification

For fire to exist, the following four elements must be present at the same time:

- Enough **oxygen** to maintain combustion,
- Enough **heat** to raise the material to its ignition temperature,
- Some sort of **fuel** or combustible material, and
- The **chemical reaction** that is fire.

Fires are organized into five classes that describe what kind of fuel it contains.

Class A fires are fires in ordinary combustible materials, such as wood, cloth, paper, trash, and plastics.

Class B fires are fires in flammable and combustible liquids and gases.

Class C fires are fires that involve energized electrical equipment.

Class D fires are fires in combustible metals.

Class K fires are fires in cooking appliances that involve combustible cooking media such as vegetable or animal oils and fats.

Quiz Question:

Match each fire class to its description:

Class A = fires in ordinary combustibles

Class B = fires in flammable and combustible liquids and gases

Class C = fires that involve energized electrical equipment

Class D = fires in combustible metals

Class K = fires in cooking appliances that involve combustible cooking media

Lesson 4: Fire Safety Plan

Your organization has developed a plan to protect patients/residents, visitors, personnel, and others in the event of a fire. Periodically you will be instructed on your duties according to the fire safety plan. It is important that you understand your role in providing safety from fire.

Lesson 5: R.A.C.E.

Personnel must respond promptly and effectively to a fire. R.A.C.E. is the acronym used to represent this response.

R – RESCUE from danger

The first step of the fire response is to rescue any person in immediate danger from smoke and flames.

A – Activate the ALARM

The second step of the fire response is to activate an alarm if you discover a fire or respond immediately to an alarm when you hear it. Sounding the alarm is the quickest way to warn others and get help. You may also need to dial a fire emergency number. Activating the alarm initiates the process that alerts the fire brigade (if provided) and fire department. You should know the location of the fire alarms within your work area and how to operate them.

C – CONFINE the fire

The third step of the fire response is to confine the effects of the fire by closing doors. Doors that protect hallway openings are constructed to resist the passage of smoke.

E – EXTINGUISH

After the rescue, alarm and confine procedures have been followed, you may consider extinguishing a small fire. Portable fire extinguishers release an extinguishing agent that stops a fire from burning. Extinguish a fire only if it is small, and if you know how to operate a fire extinguisher. It is important to know the locations and types of extinguishers in your facility. If the fire cannot be extinguished, leave the area, close the door and EVACUATE. Evacuate or relocate patients/residents as detailed in your

organization's fire safety plan. In a healthcare facility, this usually means moving a person from the area of the fire to another area inside the building, unless the fire spreads and evacuation of the entire facility becomes necessary. You should know how to move patients/residents safely and quickly. Fire doors and exits must always be clear of trash, equipment and other obstructions.

You should also shut off oxygen machines and other compressed gas systems if you are instructed to do so.

Quiz Question:

Put the appropriate response to a fire in order:

1. ***Rescue**
2. ***Alarm**
3. ***Contain**
4. ***Extinguish/Evacuate**

Lesson 6: Fight or Flight

Attempting to extinguish even a small fire carries some risk. Fire can increase in size and intensity in seconds, blocking your exit path and creating a hazardous environment. You should only consider extinguishing a fire with a portable fire extinguisher:

- ❖ If the fire is limited to the original material ignited, is contained and has not spread;
- ❖ If you are safe from smoke;
- ❖ If the heat has only slightly raised the temperature of the room;
- ❖ If you can see;
- ❖ If you have a clear evacuation path behind you;
- ❖ If you know how to operate the fire extinguisher; and
- ❖ If the extinguisher is proper for the class of fire.

Lesson 7: Choosing the Appropriate Extinguisher

There are different classes of fires therefore there are different types of extinguishers. Some types of fire extinguishers can be used on more than one class of fire. Others have warnings when it would be dangerous to use a particular fire extinguisher. A fire extinguisher will have a label that consists of a letter and number based on the class and size of fire it will extinguish.



This label reads “1-A:10-BC”. The letters (A, B, and C) represent the classes of fire for which the extinguisher has been approved. The number 1 indicates how much water, or if another extinguishing agent is used (such as dry chemical in this example), how much Class A fire that extinguishing agent will put out as compared to the rated amount of water (1.25 gallons). The number 10 represents the area in square feet of a flammable liquid Class B fire that you should be able to extinguish. A Class C rating confirms that the extinguishing agent will not conduct electricity. The extinguisher in this example should extinguish the same amount of fire as a 1.25 gallon water extinguisher or extinguish a liquid fire that is 10 square feet in size and the extinguishing agent (dry chemical) will not conduct electricity.

Quiz Question:

The letter on a fire extinguisher label represents the type of fire for which the extinguisher has been approved.

***True** or False

Lesson 8: Using a Fire Extinguisher

(NOTE: You may wish to display contact information for the appropriate personnel to contact within your organization.)

Face the fire and have a clear evacuation path behind you. Follow the instructions on the extinguisher. You can operate most fire extinguishers using the P.A.S.S. technique:

1. **PULL...** Pull the pin. This will also break the tamper seal.
2. **AIM...** Aim low, pointing the extinguisher nozzle at the base of the fire.
3. **SQUEEZE...** Squeeze the handle to release the extinguishing agent.

4. **SWEEP...** Sweep from side to side at the base of the fire until it appears to be out.

If you find that an extinguisher needs inspection, maintenance, or recharging, or is missing from its designated area, contact the appropriate personnel within your organization.

Quiz Question:

Put the technique used when operating a fire extinguisher in order:

1. ***Pull**
2. ***Aim**
3. ***Squeeze**
4. ***Sweep**

Lesson 9: If Fire Strikes

If fire strikes and you must evacuate through smoke, remember to crawl low, under the smoke and keep your mouth covered. Never open doors that are hot to the touch. When you come to a closed door, use the back of your hand to feel the top of the door, the doorknob, and the crack between the door and the door frame to make sure that fire is not on the other side. If it feels hot, use another evacuation path. Even if the door feels cool, open it carefully. Brace your shoulder against the door and open it slowly. If heat and smoke come in, slam the door and make sure it is securely closed, then use an alternate evacuation path. Follow the directions of fire and security personnel. Once outside, go to the relocation areas defined in the fire safety plan. Stay out of the building until fire or security personnel give you permission to go back in.

If fire strikes and you cannot evacuate safely or if you're instructed to stay where you are, be calm and protect yourself. Close the doors between you and the fire and smoke. Stuff the cracks around the door with towels or bedding and cover vents to keep smoke out of the room. If there's a telephone in the room, call in your exact location to the fire department even if they are on the scene. Wait at the window and signal with a sheet or flashlight or something easy to see. Do not open or break the window.

Quiz Question:

If you must evacuate through smoke:

- a. Crawl low.
- b. Do not open doors that are hot to the touch.
- c. Keep your mouth covered.
- d. ***All of the above.**

Lesson 10: Conclusion

(NOTE: You may wish to display the contact information for the appropriate personnel within your organization.)

Your organization is committed to preventing fires and training you to respond promptly and effectively in the event of a fire emergency. If you have any questions about fire safety, contact the appropriate personnel within your organization for guidance and assistance.

Test Questions (10 questions Pre-test or 5 questions Post-test)

Pool 1 (6 or 3 questions)

MULTIPLE CHOICE

1. Which of the following element does not need to be present for fire to exist?
 - a. Oxygen.
 - b. Carbon monoxide.
 - c. Fuel or combustible material.
 - d. Heat.

2. Class C fires are fires that involve:
 - a. Wood.
 - b. Cloth.
 - c. Electrical equipment.
 - d. Paper.

3. Fires are organized into classes that describe:
 - a. How much oxygen it needs.
 - b. How much heat it needs.
 - c. How much carbon monoxide it needs.
 - d. What kind of fuel it contains.

4. In which of the following situations would it be appropriate to consider extinguishing a fire yourself?
 - a. When the fire has spread beyond the original ignited material.
 - b. When the extinguisher is proper for the class of fire.
 - c. When you do not know how to operate the extinguisher.
 - d. When the area is filled with thick smoke.

5. What type of extinguisher is appropriate for a fire involving paper?
 - a. An extinguisher with the letter "A" on the label.
 - b. A multi-class extinguisher as long as the letter "K" is on the label.
 - c. Class C fire extinguisher because it can be used on any class of fire.
 - d. No extinguisher can be used for a fire involving paper.

6. Which of the following correctly describe the P.A.S.S. technique?
 - a. Prepare, Activate, Sound, Siren.
 - b. Pass, Alarm, Safety, Strike.
 - c. Pull, Aim, Squeeze, Sweep.
 - d. Plan, Action, Start, Spread.

7. If you must evacuate through smoke...
 - a. Crawl low.
 - b. Do not open doors that are hot to the touch.
 - c. Keep your mouth covered.

d. All of the above.

8. Which of the following correctly describes the R.A.C.E. acronym used to represent a prompt and effective response to a fire?

- a. Rescue, Alarm, Confine, Extinguish.
- b. Run, Act, Call, Exit.
- c. Race, Alert, Constrain, Escape.
- d. Remove, Action, Care, Enter.

Pool 2 (4 or 2 questions)

TRUE / FALSE

9. You should understand your role in carrying out your organization's fire safety plan.

10. Class C fires are fires that involve energized electrical equipment.

11. Class K fires are fires in cooking appliances that involve combustible cooking media.

12. The first step of the fire response is to confine the fire.

13. You must activate the alarm before rescuing persons in immediate danger from fire.

14. Fire doors and exits must always be clear of trash, equipment and other obstructions.

15. There is risk in attempting to extinguish a fire.

16. The letter on a fire extinguisher label represents how much water the extinguisher contains.

17. Class A fires involve wood, cloth and paper.

18. The letter on a fire extinguisher label represents the type of fire for which the extinguisher has been approved.

19. Class K fire extinguishers can be used on any class of fire.

20. To identify the right extinguisher to use you must match the letter on the extinguisher's label to the class of fire.

Fire Safety – Clinics

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- c. Keep your mouth covered.
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Pool 2 (4 or 2 questions)

TRUE / FALSE

9. You should understand your role in carrying out your organization's fire safety plan.

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11. Class K fires are fires in cooking appliances that involve combustible cooking media.

12. The first step of the fire response is to confine the fire.

13. You must activate the alarm before rescuing persons in immediate danger from fire.

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