Trinity Health

Fire Prevention and Safety

TRINITY HEALTH REQUIRED EDUCATION

Fire Prevention and Safety

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Course Description

Welcome to our annual Fire Safety course for healthcare professionals. This course focuses on key fire safety topics like how fires start, how to reduce risk of fire in your work area, what Trinity Health is doing to help address hazards and keep you safe in emergencies, and how to use fire extinguishers.

No matter your role in our organization, this course will prepare you to prevent fires and respond effectively in the event of a fire emergency.

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Introduction

Lesson 1 of 8

Preparation matters.

Would you know what to do in a fire emergency?

Trinity Health is committed to providing a safe environment for everyone—for us, our colleagues, our patients, our residents, and our visitors. That commitment includes providing this course, which...

1. Educates colleagues about **fire hazards**
2. Helps reduce **potential risks**
3. Promotes a **safe work environment**
4. Ensures that we all know **what to do in an emergency**

This course covers not only your role, but what your facility is doing to keep us all safe.

Course Overview

Key topics covered in this course include:

- How Fires Start
- Fire Hazards in the Workplace
- Facility Fire Safety
- Evacuation Roles and Responsibilities
- Conducting Effective Fire Drills
- How to Use a Fire Extinguisher
- Putting it All Together: What to Do If You See Fire or Smoke

Key safety practices covered in this course

We adhere to the **Life Safety Code (NFPA 101)*** and its guidelines to keep our facilities safe. These measures help protect both the facility and its occupants. In this course, you'll learn more about our key safety practices:

- How we construct and operate our facilities to **protect** people
- How we identify risk, inspect and maintain, and **plan ahead**
- How we use safety equipment and **practice** so we're ready

By taking precautions, we reduce the risks of a workplace fire.
But ultimately, fire safety is everyone's responsibility.

A quick glossary of acronyms

These organizations' standards and rules inform our **best practices** and **compliance requirements** concerning fire safety:

NFPA

The National Fire Protection Association (**NFPA**) is "a global nonprofit organization established in 1896, devoted to eliminating death, injury, property and economic loss due to fire, electrical and related hazards."

This organization provides codes and standards that have become best practices for fire safety (including the **Life Safety Code**).

www.nfpa.org

OSHA

The Occupational Safety and Health Administration (**OSHA**) is a federal agency under the Department of Labor that ensures "safe and healthful working conditions for workers by setting and enforcing standards and by providing training, outreach, education and assistance."

www.osha.gov

CMS

The Centers for Medicare and Medicaid Services (**CMS**) is a federal agency under the Department of Health and Human Services that "provides health coverage to more than 160 million people" and "works in partnership with the entire health care community to improve quality, equity, and outcomes in the health care system."

www.cms.gov

How Fires Start

Lesson 2 of 8

A fire needs three elements

The **fire triangle** is made up of the three things a fire needs: **fuel**, **oxygen**, and **heat**.
You need all three elements to start a fire.

FUEL: The material that burns

Some materials are easier to ignite than others. Knowing which materials are flammable helps us prevent and respond to fires effectively.

In healthcare settings, fuel can be:

- Office supplies
- Flammable chemicals
- Alcohol-based solutions
- Wet hand rubs and ointments
- Linens and bandages
- Tubing

OXYGEN: What fires breathe

When we use **oxygen machines**, there can be extra oxygen in the room, which is a fire hazard. Using gases like **nitrous oxide** (N_2O) can be just as risky as using oxygen.

When fuel and oxygen mix, a fire can ignite. Flammable vapors mix with oxygen and burn. The more oxygen a fire has, the stronger it will burn.

HEAT: The ignition source

Fires need heat or something that can ignite them. In our facilities, heat can come from things like **lasers** and **electrical equipment**. Be cautious: **broken electronics** and even **cigarette ashes** can spark fires.

In this course, we'll explore common sources of heat and how to take precautions to avoid ignition.

Our work areas contain the three elements.

In our facilities, there are many locations where fuel, oxygen, and heat are present, like:

Laundry rooms

Laboratories

Furnace rooms

Kitchens

*Once a fire starts, it continues to consume more **fuel** and **oxygen**—which, in turn, generates more **heat**. If left unaddressed, a fire will only grow.*

Fires in healthcare facilities

Thousands of fires occur in facilities like yours every year:

WHERE fires happen

**In healthcare,
fires happen in...**

- Long-term care facilities
- Mental health facilities
- Hospitals and hospice care
- Clinics and offices

Data from NFPA.org and USFA.FEMA.gov

HOW fires happen

**When those fires get out of control
they're started by...**

- Cooking equipment
- Electrical malfunction
- Intentional action
- Heating equipment
- Smoking materials
- Misusing a heat source

Fire Hazards in the Workplace

Lesson 3 of 8

Fire hazards in your workplace

Big fires can start from small causes, so you and team must work together to recognize and remove hazards in your work area.

Keep office areas tidy.

- Eliminate loose papers.
- Don't pile boxes.
- Don't place cords in high-traffic areas.

Be cautious of overloaded circuits.

- Don't plug too many cords into one outlet.
- Do not "daisy-chain" extension cords or power strips.
- Talk to staff, patients, and visitors about what they are permitted to plug in in individual rooms.

Use and store flammable liquids and gases safely.

- Keep flammable liquids, alcohol-based solutions, disinfectants, and antiseptic pads away from heat sources.
- Store supplies in cabinets away from things that can start a fire.
- Use as little flammable liquid as needed and avoid spills.
- Dry containers and surfaces, especially in areas with lots of oxygen.

Avoid overheating.

- Don't place cords near a heat source.
- Don't cover cords with paper or rugs.
- Keep machinery clean and free of dust.

Never use broken electrical equipment.

- Check wires regularly.
- Look closely at all equipment before use.
- Report broken equipment.
- Do not allow others to use damaged equipment.

Be mindful of cigarette disposal.

- Follow your facility's rules about smoking.
- Ask visitors to smoke only in designated areas.
- Make sure cigarettes are completely out.
- Place butts in proper containers.
- Do not allow smoking near oxygen supplies.

Your facility's prevention plan

Your facility will have its own written fire prevention plan, and it should be available for you to review. It will include:

- A list of all your facility's major **fire hazards** and potential **ignition sources**
- The types of **fire protection** required to manage those hazards
- Instructions for storing and handling **hazardous materials** and **flammable waste**
- A list of **people responsible** for maintaining equipment and controlling hazards

*Ultimately, the best way to fight fires is to prevent them from starting in the first place—and you can do that by being mindful of your surroundings and **removing unnecessary risks**.*

Facility Fire Safety

Lesson 4 of 8

Your facility's fire safety features

Your facility follows federal guidelines for fire safety that include recommendations for fire safety features in our buildings.

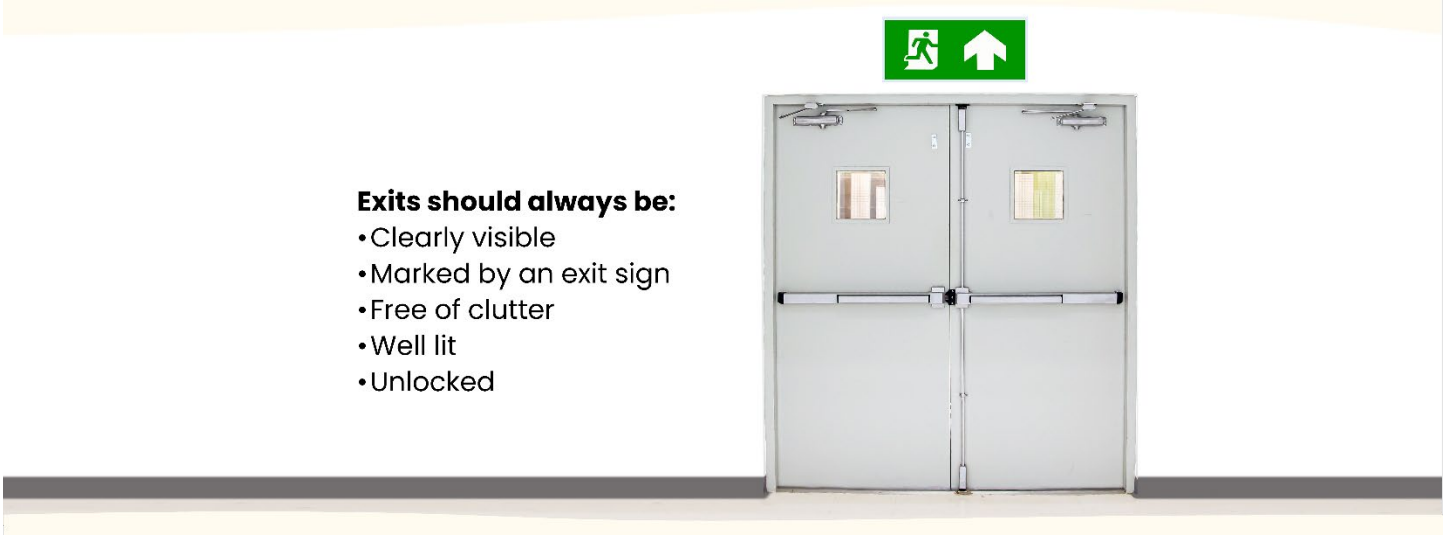
- **Smoke detector**
  Smoke detectors give early warning of fires.
- **Fire alarm system**
  Fire alarm systems sound an alarm when they dected smoke. There are automatic emergency systems that use sound and color to tell you what kind of emeergeny it is, and therea re manual alarm devices that people can pull to sound an alert.
- **Sprinkler system**
  Sprinkler systems spray water to help put out fires.

  Did you know? *If the sprinkler system is out of order for more than 10 hours, your facility is supposed to either evacuate the building or start a fire watch until it's up and running again.*
- **Fire extinguishers**
  Fire extinguishers are used to control fires before they grow.

  Did you know? *There are different types of fire extinguishers (you'll learn about them in a moment). Your facility will make sure the right kind of extinguisher for the area is available.*
- **Non-flammable materials**
  Only non-flammable fabric, furniture, interior paint, and building materials can be used.

- **Windows**
  Buildings should have outside windows or doors in every room where people sleep.
- **Fire doors & partitions**
  Your facility should have automatic fire doors, and should be partitioned into zones that keep fire and smoke contained.

  Did you know? *Each fire oor has to have "positive latching hardware," which keeps the door closed when it's under pressure from fire, and has to be labeled as an exit.*



Fire safety checks and risk assessment

Your facility conducts regular fire risk assessments to verify that it's ready in the case of a fire emergency. The checks **identify fire hazards** for each area so we can **minimize risk** to our people and property.

Documentation

Your facility should have documented proof of its own risk assessment and from state or local fire department inspections. You also have access to written fire emergency action plans.

While we hope a major fire never happens at your facility, you should know what to do.

Do you know...

- The fastest **exit route**?
- A **backup plan** if that route is blocked?
- How to **help** patients, residents, visitors, and your colleagues get to safety?
- How to **check in** once you've evacuated?

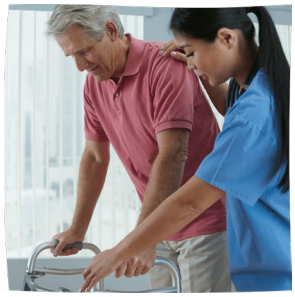
Emergency action plans

Your facility will have written plans that outline exactly who is responsible for what during various types of emergencies. The plans cover:

Reporting fires and other emergencies

Extinguishing fires and working with fire departments

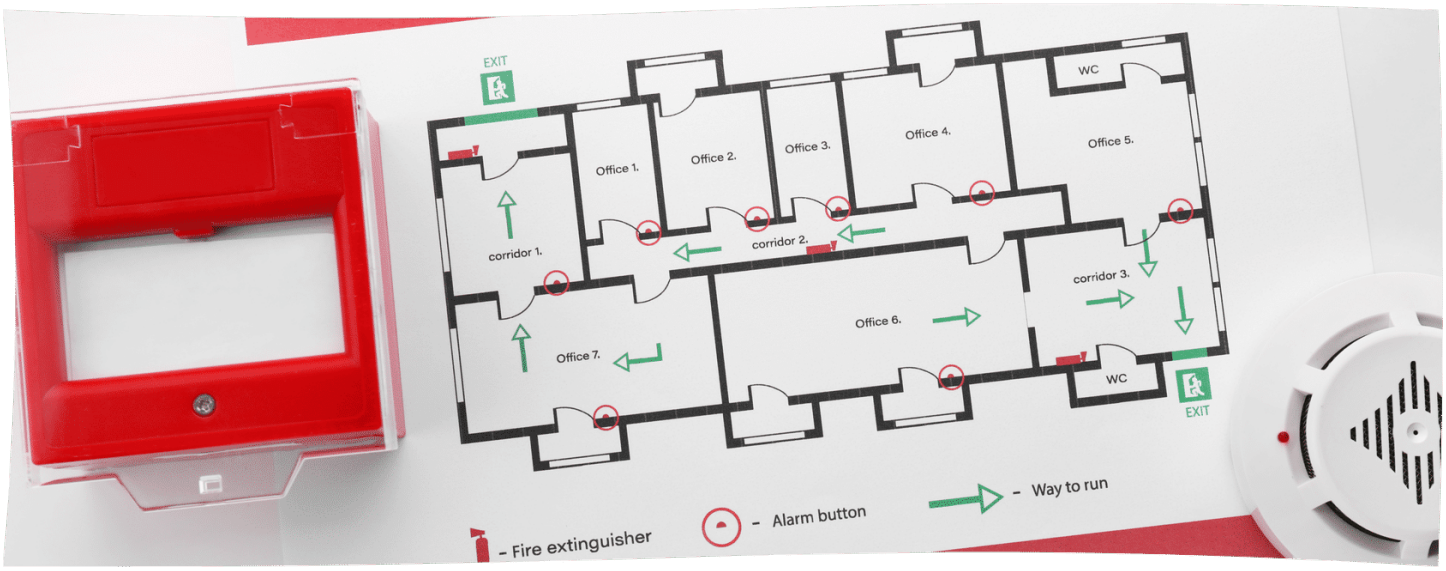
Evacuating the facility and handling rescue and medical duties



Accounting for everybody and ensuring their safety

When to review the action plan

You'll be assigned fire safety education every year. But in addition to annual review...



You should also check your site's emergency action plan **when you start a new job or a new set of responsibilities**.

Your facility has assessed and documented the **fire hazards** and **fire prevention and control steps** related to your new tasks.

Familiarize yourself with your site's emergency action plan so that, in the event of a real fire, your actions are second nature.

Evacuation Roles and Responsibilities

Lesson 5 of 8

Evacuation

Evacuation might be necessary if **fire extinguishers don't put out the fire or people are in immediate danger** of injury or death.

In healthcare facilities, there are three types of evacuations:

Lateral Evacuation

Move all individuals to a safe area on the same floor.

Vertical Evacuation

Move everyone in the area down to a lower floor or safety area.

Defend In Place

Stay in the building, but in a safe zone away from danger.

Moving people to safety

If safety officials order a complete evacuation of your facility, you will be required to help people move. Here's how.

1. First, move individuals who can **walk**.
2. Next, help those who use **wheelchairs**.
3. Then, move anyone confined to their bed or a **stretcher**.

Assisting people during evacuation

If it's possible, move anyone who's very sick or injured in their beds or on stretchers. If it becomes necessary, you can carry individuals to safety in a number of ways, including:

- Side-by-side assist
- Chairlift
- Swing carry
- Cradle drop
- Extremity carry

Defend-in-place strategy

In outpatient and office settings, people can leave the building during an emergency. But in other types of healthcare facilities with inpatient and residential care, we are often **unable to evacuate**.

For these sites, the Life Safety Code provides guidelines for a plan to Defend In Place, where building requirements and staff help protect people who can't exit the premises, keeping them safe as they **remain in place** or **move to another location within the building**.

In addition to certain facility safety requirements (which you read about earlier), the Life Safety Code requires:

- **Staff training & testing**

  Staff must do fire drills every quarter, know policies and procedures for fire safety, and regularly test of all systems

- **Automation**

  There must be automatic sprinkler, door, detector and alarm systems, and automatic notification to the local fire department

- **Backup systems**

  For critical access hospitals, there must also be backup power, gas, water and emergency systems

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Conducting Effective Fire Drills

Lesson 6 of 8

Common excuses for avoiding fire drills

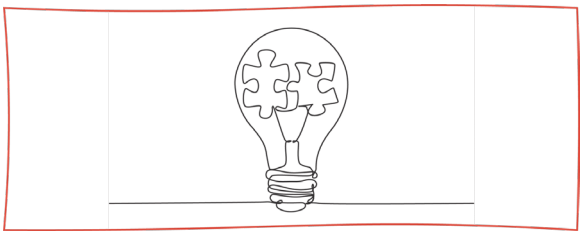
"I'm in the middle of something."
"I'm not going to have to deal with a real fire—that's someone else's job."
"We're short-staffed today and I don't have time to waste."

Why we practice

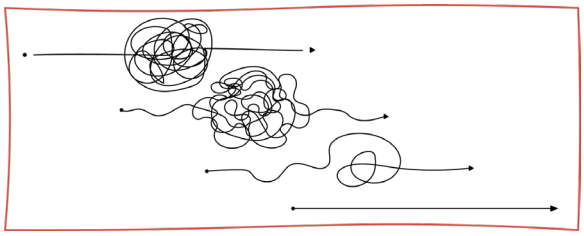
You may feel like what you're doing in the moment is more important than doing fire drills, but it's crucial to participate in something that's so necessary for everyone's safety.

Here are **four very important reasons** to practice when you have the opportunity:

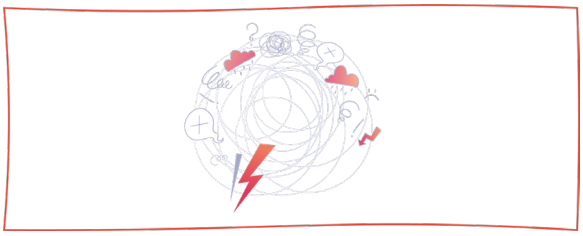
It's hard to think logically during a crisis.



Repetition minimizes confusion.



Without practice, we're more likely to panic.



Drills reveal flaws in our evacuation plan.

Fires become much more dangerous
when they're accompanied by panic and confusion.

By practicing fire drills, we'll all feel more prepared
and collected in the event of an actual fire.

Treat every fire alarm like a fire emergency, even if it's a practice fire drill.

How to Use a Fire Extinguisher

Lesson 7 of 8

Fire extinguishers: the first line of defense

In a healthcare setting, knowing how to use fire extinguishers is not just a precaution; it's a responsibility. You are the first line of defense when it comes to fire emergencies.

Before you point an extinguisher at a fire, however, you need to be sure you've got the right one for the job.

Six classes of fire extinguishers

Understanding the classes of fire is fundamental to effective fire safety. Each class represents a specific type of fire. In our facilities, you will have access to six classes of extinguishers.

Class A

Suitable for fires involving **common combustibles** like:

- Paper
- Cardboard
- Wood
- Fabric
- Rubber
- Most plastics

Class A fire extinguishers contain water or a dry chemical that **cools the fire** and suppresses it by **removing heat**.

Class B

Suitable for fires fueled by **flammable liquids** such as:

- Gasoline
- Oil
- Grease
- Paint
- Compressed anesthetic gases

Class B fire extinguishers contain materials like carbon dioxide (CO_2) or dry chemical powder that **smother the fire** by **eliminating oxygen**.

Class C

Suitable for fires involving **electrical equipment** like:

- Appliances
- Light fixtures
- Fuse boxes
- Electrical wiring

Class C fire extinguishers typically use **non-conductive** substances like CO_2 or dry chemical powder to extinguish the fire **without conducting electricity**.

Class A-B-C

Suitable for **all three fire classes** (A, B, and C).

These extinguishers often contain a **combination** of dry chemicals or agents to effectively combat different types of fires.

Class D

Suitable for fires involving **flammable metals** such as:
- Magnesium
- Titanium
- Sodium

Class D fire extinguishers use dry powder agents like powdered graphite, sodium chloride, or copper-based substances to **extinguish fires** by **separating the fuel** (ignited combustible metal) from oxygen.

Class K

Suitable for controlling cooking fires that involve **grease or oils**.

Class K fire extinguishers work by **forming a soapy foam** on hot cooking oils, which **smothers the fire**, minimizes splash hazards, and holds in vapors and steam.

***Always** check the label on an extinguisher before attempting to put out a fire—or else you risk spreading the fire further.*

Using the PASS method to extinguish a fire

The PASS method is a simple and effective way to use a fire extinguisher, and it's a crucial technique for safely and efficiently extinguishing a fire:

1. **P—Pull the pin.**

   Start by **pulling the safety pin** or ring from the fire extinguisher. This action unlocks the extinguisher and allows you to discharge the extinguishing agent.

2. **A—Aim low.**

   Next, **aim the nozzle or hose** of the fire extinguisher at the base of the fire, not at the flames. This is where the fuel source is, and targeting it is essential for success.

3. **S—Squeeze the lever.**

   Squeeze the handle or lever of the fire extinguisher to release the extinguishing agent. Maintain a firm grip, and remember that releasing the handle stops the discharge.

4. **S—Sweep from side to side.**

   In a steady and controlled manner, **sweep the nozzle or hose from side to side**, covering the entire base of the fire. This sweeping motion helps to ensure that the fire is adequately extinguished and doesn't re-ignite.

*Remember, it's crucial to keep a **safe distance** from the fire, and always have an **escape route** in case the fire becomes uncontrollable.*

Only use a fire extinguisher if it's safe.

Is the fire **large**? Has it **spread** to the walls or ceiling? Is the fire **smoky**?
If the answer is yes to any of those questions, **leave the firefighting to the professionals**.

What to do...

If you can put the fire out in time…

- **Monitor the Area:**

  Keep a close watch on the area where the fire occurred to ensure it doesn't reignite. Stay prepared to use the fire extinguisher again if necessary.

- **Alert Others:**

  Notify your colleagues, patients, or anyone nearby that the fire has been extinguished and it's safe to return to the area.

- **Report the Incident:**

  Inform the appropriate personnel or authorities about the fire, even if it was small and successfully extinguished. This ensures proper documentation and investigation if needed.

If you can't put the fire out in time…

- **Evacuate Immediately:**

  If the fire continues to grow or if it's spreading rapidly, prioritize your safety and the safety of others. Evacuate the area as quickly as possible.

- **Sound the Alarm:**

  Activate the fire alarm or emergency notification system if available. This will alert others to the fire and initiate the evacuation process.

- **Close Doors:**

  As you evacuate, close any doors behind you to help contain the fire and slow its spread.

- **Use Fire Extinguishers Safely:**

  If at any point you feel unsafe or the fire becomes uncontrollable, abandon the firefighting attempt and evacuate. Your safety is the top priority.

- **Assemble at Designated Areas:**

  Follow your healthcare facility's evacuation procedures and gather at designated assembly points. Account for all personnel and patients to ensure everyone is safe.

Remember, safety comes first.

If the fire is beyond your control, don't risk your well-being. Follow evacuation procedures and let the professionals handle the situation.

Putting it All Together: What to Do If You See Fire or Smoke

Lesson 8 of 8

The RACE acronym

In a healthcare environment, knowing how to respond to the presence of fire or smoke is crucial for ensuring the safety of patients, colleagues, and yourself.

The RACE acronym is a simple yet effective framework to guide your actions in the event of a fire emergency. RACE provides a structured approach to handling such situations.

Remove/ Rescue

If there are any people near the fire, help them get away.

Your first priority is to ensure the safety of patients, visitors, and colleagues.

This step involves assessing the situation and rescuing anyone in immediate danger.

Alarm/ Alert

Sound the alarm, get help, call the fire department.

Promptly alert the appropriate personnel and authorities about the fire or smoke.

This action initiates the facility's fire response procedures and ensures a coordinated response.

Confine/ Contain

Do what you can to stop the fire from spreading.

Limit the fire's spread and its impact on the healthcare environment.

This step involves closing doors and taking measures to prevent the fire from growing.

Extinguish/ Evacuate

Try to put out the fire. If you can't or it's not safe, evacuate the area.

Only attempt to use a fire extinguisher if you've been trained and if the fire is small and manageable.

Prioritize evacuation if you're unsure about your ability to control the fire.

Do you know what to do?

In this course, we've talked about all the ways we keep ourselves, our patients, our residents, and our visitors safe:

- How we can **prevent** fires by being mindful in our work areas,
- The **protective features** our facilities include in their construction and operation,
- The **processes and checks** we have in place to make sure we're identifying risks,
- The ways you can **prepare** for fire emergencies, and
- What to **do** if there is a fire emergency.

Everyone—regardless of their department or position—is responsible for preventing fires.

Be ready.

Practice with each fire drill. Keep up with your fire safety training so you know what to do in the event of a fire.