

# Fire Safety Tool Kit

## Fire Drill Scenarios

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The following 12 scenarios describe various types of fire events that may be used for conducting a fire drill in the perioperative area.

Each of the scenarios is unique and will help educators guide personnel on how to respond appropriately if a fire should occur. The scenarios may be copied and pasted onto a card with the person's title on it (e.g., RN circulator, surgeon, scrub person). At the beginning of the fire drill, hand each team member a card to identify his or her role. These scenarios also may be presented as an additional learning activity, such as a mock root cause analysis, and used to discuss the reasons why the events occurred.

AORN has provided questions (below) for the educator to ask at the end of each scenario, along with discussion items for facilitating dialogue in a debriefing after the fire drill. Debriefing is useful in providing a forum for participants to discuss and reflect on what has been learned, clarify areas of misunderstanding, address knowledge gaps, and transfer and apply what has been learned into clinical practice.

Scenarios with an asterisk (\*) can be used with the "Duties of the Perioperative Team in a Fire," another component of the [AORN Fire Safety Tool Kit](#). Use these tools together if you want to have a checklist for verifying that team members complete tasks that correspond with their role in a fire drill scenario.

*These guidelines, questions, and discussion items are for educators to use with the following fire drill scenarios.*

**Before the scenario:**

- Prepare the perioperative areas for the scenario.
- Assemble the group.
- Identify the role that each team member will perform.
- Determine whether to have team members evacuate the room after the fire is extinguished.
- Read the scenario and instruct team members on how to react to the situation.

**Questions to ask after the scenario:**

- What events led to this situation?
- If this had been a real fire, is there something else we should have done?

**Discussion items for the debriefing:**

- The facility's plan for the evacuation of a patient from the surgical suite to a designated area.
- Whether the group identified turning off the medical gas shut-off valves as an action that should be taken.
- The location of the medical gas shut-off valves for the OR suite, and facility-specific procedures for turning them off.
- The level of communication between the Charge RN and the other team members while in the OR.
- The facility-specific action plans for evacuation of the OR.
- The affect of a fire drill on surgeries in progress and those that are scheduled for later in the day.

### **Scenario 1**

#### **Type: Small Fire**

An arthroscopy of the right knee is being performed. One of the scrubbed team members places the unconnected active fiber-optic light cable on the sterile drapes, and the drape materials ignite. Evacuation of the room is not necessary.

### **Scenario 2**

#### **Type: Small Fire**

The patient has been anesthetized under general anesthesia and is ready to undergo a laparoscopic cholecystectomy. The patient has been prepped with an alcohol-based antiseptic solution, which has pooled in the umbilical area. The surgeon makes the skin incision at the umbilicus, and then uses the electrosurgical active electrode. When the electrode is activated, it sparks a flame in the area of the umbilicus.

### **Scenario 3**

#### **Type: Small Fire**

The patient has been anesthetized under general anesthesia, has been prepped and draped, and is ready to undergo a procedure using a laser. After the laser is fired, it ignites a sponge.

### **Scenario 4**

#### **Type: Small Fire**

The patient has been anesthetized under general anesthesia and is ready to undergo a laparoscopic cholecystectomy. The patient has been prepped with an alcohol-based antiseptic solution, and the solution has pooled in the umbilical area. The surgeon makes the skin incision at the umbilicus and then uses the electrosurgical active electrode. When the electrode is activated, it sparks a flame in the area of the umbilicus.

### **Scenario 5**

#### **Type: Small Fire**

The patient has been anesthetized with topical anesthetic eye drops and is ready to undergo a minor ophthalmologic procedure using a YAG laser. The laser assistant turns on the laser, but forgets to put it in standby mode. The laser is inadvertently fired, igniting a 4x4 piece of gauze.

### **Scenario 6**

#### **Type: Airway or Endotracheal (ET) Tube Fire**

The surgeon is performing a tonsillectomy on an otherwise healthy six-year-old child. The surgeon uses an electrosurgical active electrode in the mouth, and the ET tube catches fire.

### **Scenario 7**

#### **Type: Equipment Fire**

You are relieving the RN circulator for lunch and notice that the electrical cord on the monitor is frayed. This is the only monitor available, so you decide to continue to use it. As the robotic prostatectomy procedure progresses, you notice smoke coming from the monitor.

### **Scenario 8**

#### **Type: Equipment Fire**

You are relieving the RN circulator for lunch and notice that the electrical cords on the cardiac monitor are frayed. You point it out to the anesthesia professional, who says he is aware of it but that the monitor is the only one available, and that he had no other choice but to use it. As the procedure progresses, you detect the odor of smoke and notice smoke is coming from the monitor.

### **Scenario 9\***

#### **Type: Large Fire**

The patient's perineum has been prepped with povidone iodine, and the abdomen has been prepped with an alcohol-based antiseptic solution for an abdominal hysterectomy. The abdominal prep solution has pooled in the umbilical area and on the sheets. The patient is draped, without allowing adequate time for the solution to dry. The surgeon uses a blade to make the incision and immediately uses the electrosurgical active electrode to cauterize the subcutaneous bleeding. There is a spark at the electrode tip, which ignites the fumes from the prep solution. The surgeon removes burning drapes, but the flames have spread to the sheets.

### **Scenario 10\***

#### **Type: Large Fire**

The patient was prepped with an alcohol-based antiseptic solution for a bowel resection. The prep solution has pooled on the sheets under the patient. After the surgeon makes the incision, the resident, who is acting as the assistant, grabs the electrosurgical active electrode and begins to cauterize the subcutaneous bleeding. There is a spark at the electrode tip, which ignites the fumes from the prep solution. The surgeon removes the drape to find that the fire has spread to the sheets on the bed. After the drapes are moved onto the floor, they continue to burn, requiring the use of a fire extinguisher and room evacuation.

### **Scenario 11\***

#### **Type: Large Fire**

The patient has been prepped with an alcohol-based antiseptic solution for a large incisional herniorrhaphy. The prep solution has pooled in the umbilicus and on the sheets. The patient is draped, without allowing adequate time for the prep solution to dry. After making the skin incision, the surgeon immediately uses the electrosurgical

active electrode. There is a spark at the electrode tip igniting the fumes from the prep solution. The surgeon removes the burning drapes, but the flames have spread to the sheets. The determination is made to evacuate the room after the fire is extinguished.

**Scenario 12\***

**Type: Large Fire**

The patient was prepped with an alcohol-based antiseptic solution for an excisional biopsy of a supraclavicular lymph node. The prep solution has pooled in the sternal notch and on the sheets. A surgical resident assisting with the case drapes the patient, and some of the pooled solution soaks the lower edges of the thyroid drape. She begins the surgical procedure before the surgeon arrives in the room. After making the skin incision, she cauterizes the bleeding with the electrosurgical active electrode. The surgical drape suddenly ignites into flame, close to the patient's face. The surgeon enters the room and quickly removes the drape and throws it onto the floor, but finds that the fire has spread to the underlying sheets on the bed. The scrub person pours water on the sheets, extinguishing the fire, but an active blaze is burning the drapes on the floor, requiring the use of a fire extinguisher and evacuation of the room.