

# **Simulation Basics and Scenario Development**

**2017**

# Objectives

Examine current factors that contribute to clinical errors and patient harm



Compare learning methodologies



Define the benefits of simulation training



Explore sources for scenario topics



Define the key components of a scenario

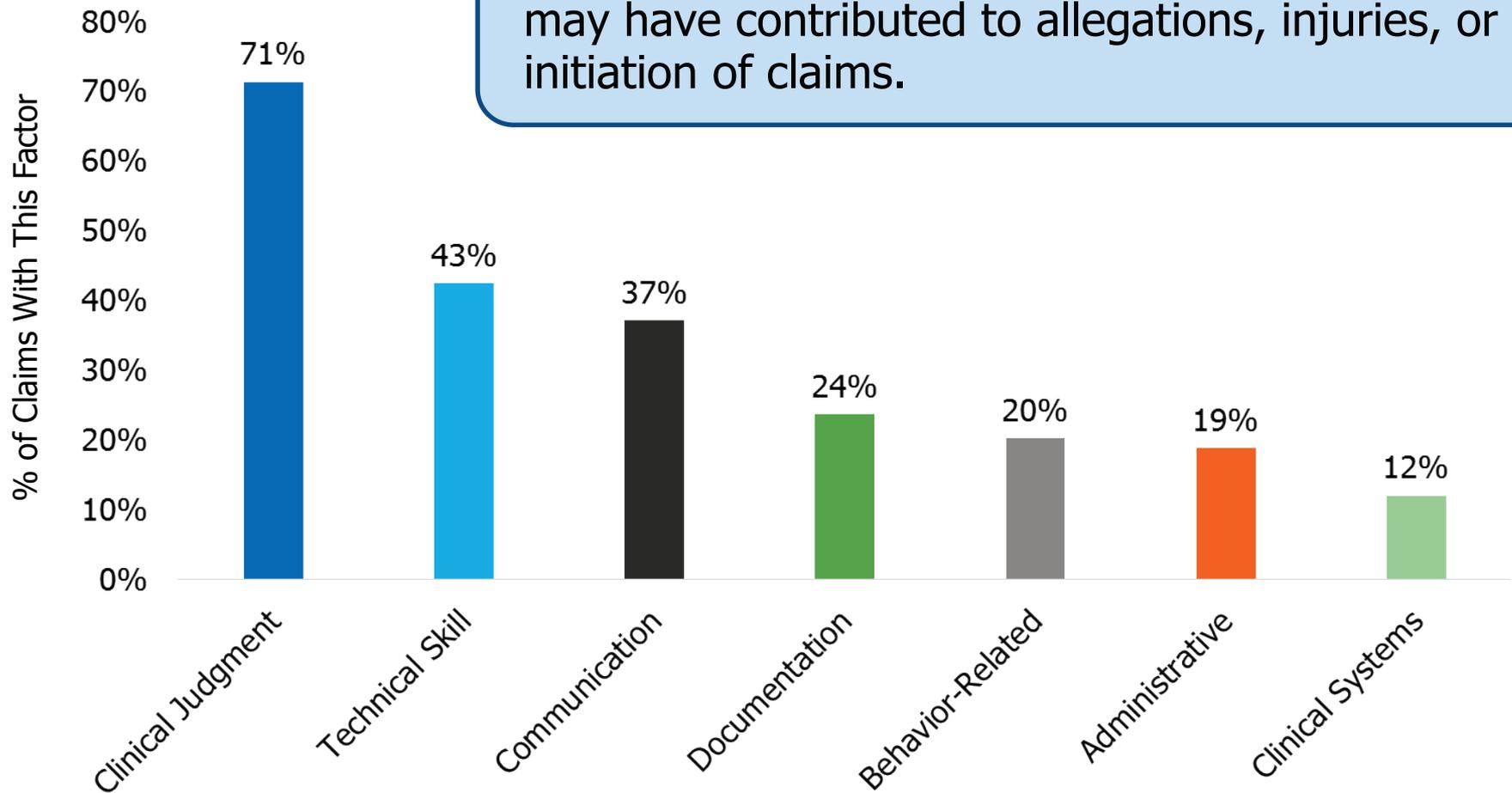


Build a scenario using the components presented



# Top risk factors based on MedPro Group claims data

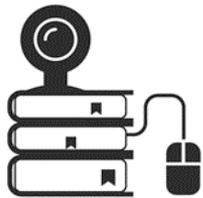
Risk factors are broad areas of concern that may have contributed to allegations, injuries, or initiation of claims.



**Source:** MedPro Group closed claims, 2005–2014, N=>11,000. **Note:** More than one risk factor can be, and often is, attributed to each claim.

# Learning methods

| Learning methods  | Vision | Hearing | Passive response | Active response | Emotional |
|-------------------|--------|---------|------------------|-----------------|-----------|
| Lecture           | ✓      | ✓       |                  |                 |           |
| Role-playing      | ✓      | ✓       | ✓                |                 |           |
| Active discussion | ✓      | ✓       | ✓                | ✓               |           |
| Simulation        | ✓      | ✓       | ✓                | ✓               | ✓         |



# Learning environment

Stress

Practice

Confidentiality

Mutual support

Accountability

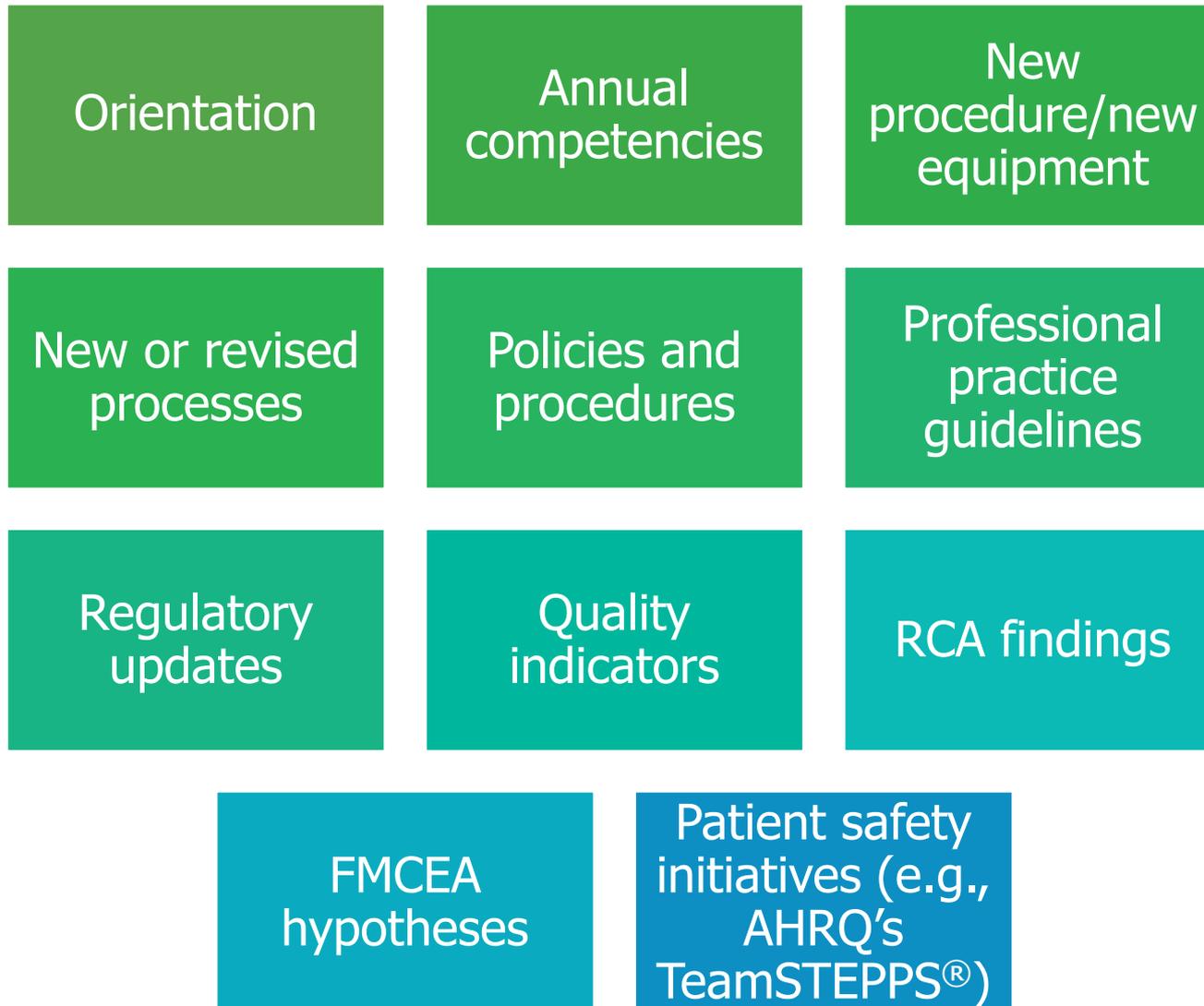


Simulation training can:

- Improve outcomes
- Decrease errors
- Promote teamwork
- Increase confidence
- Engage staff



# Sources for scenario topics



**Note:** RCA = root cause analysis; FMCEA = failure mode and critical effects analysis





# Scenario components

---

# Components of scenarios

---

Learning objectives

---

Scenario background

---

Target participants

---

Equipment and supply checklist

---

Scenario setup: patient and room

---

Handoff report/scenario steps

---

Facilitator notes

---

Expected outcomes

---

Debrief



# Learning objectives — SMART goals

---

**S** Specific

---

**M** Measurable

---

**A** Achievable

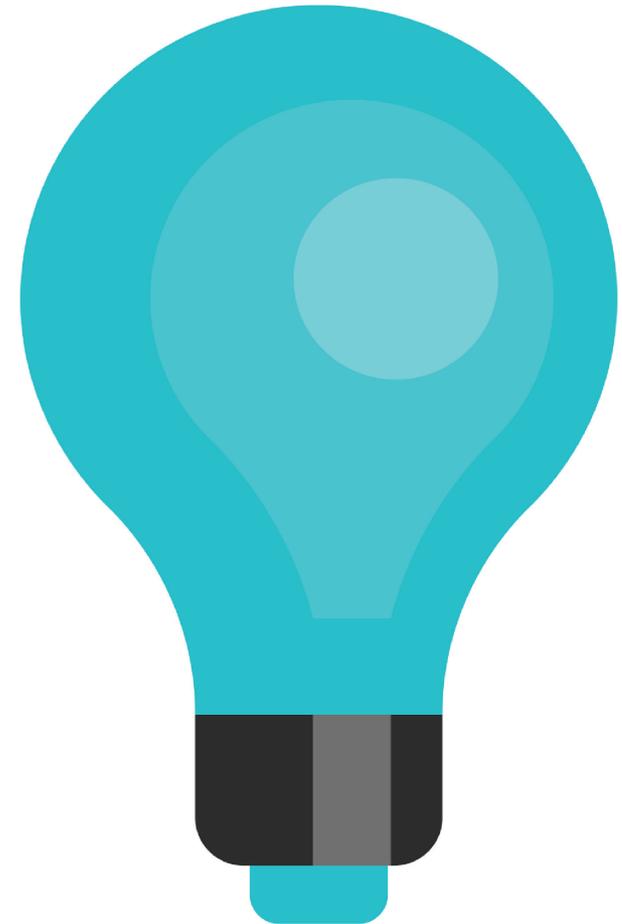
---

**R** Relevant

---

**T** Time-bound

---



# Learning objectives — sample development

## Specific

- Perform a thorough postoperative assessment

## Measurable

- Per hospital policy and procedure

## Achievable

- Nurse's scope of practice

## Relevant

- Required of all clinical unit-based nurses

## Time-bound

- Required upon patient's admission to the unit



# Learning objectives — sample development

---

The participant will: Perform a postoperative assessment per hospital policy and procedure

---



# Learning objectives — sample development

The participant will:

Document a postoperative assessment per hospital policy and procedure

Develop a patient care plan based on the postoperative assessment per hospital policy and procedure



**REMEMBER**

One task per learning objective!

# Learning objectives — sample development

---

The participant will: Perform a postoperative assessment per hospital policy and procedure

---

Document a postoperative assessment per hospital policy and procedure

---

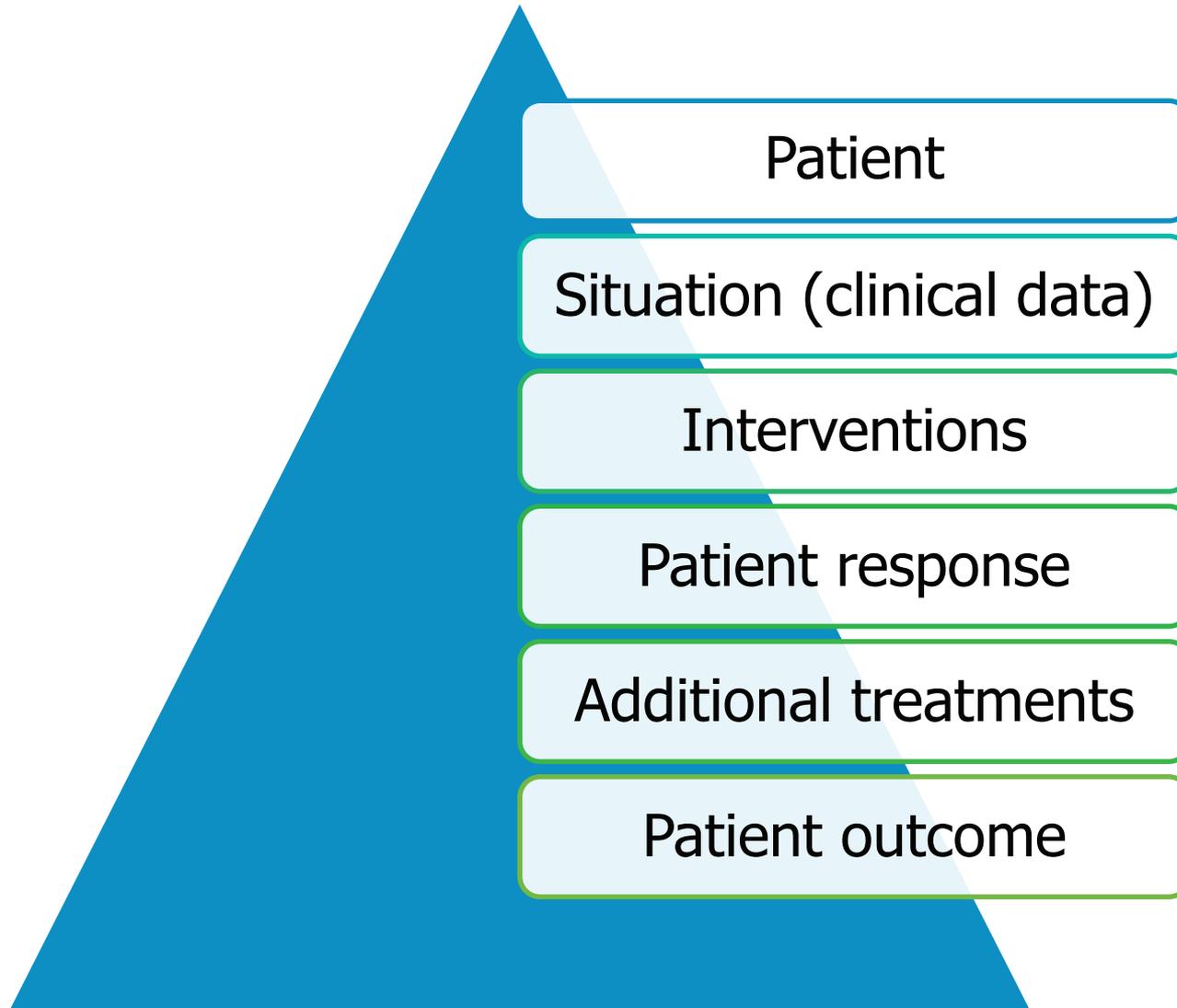
Develop a patient care plan based on the postoperative assessment per hospital policy and procedure

---

For more information about developing learning objectives, visit <http://thesecondprinciple.com/instructional-design/threedomainsoflearning/> and [www.bloomstaxonomy.org/Blooms%20Taxonomy%20questions.pdf](http://www.bloomstaxonomy.org/Blooms%20Taxonomy%20questions.pdf)



# Scenario background



# Target participants

Disciplines

Skill levels

Scenario roles

- Participants
- Confederates
- Patient
  - Simulator
  - Actor/standardized patient



# Equipment and supply checklist

Equipment (e.g.,  
crash cart,  
defibrillator, monitors,  
etc.)

Supplies (e.g.,  
syringes, needles,  
bandages,  
medications, etc.)

Communication  
device (pocket phone,  
unit-based phone,  
walkie-talkie, etc.)



**FOR SIMULATION USE ONLY**



# Patient and room setup



Patient



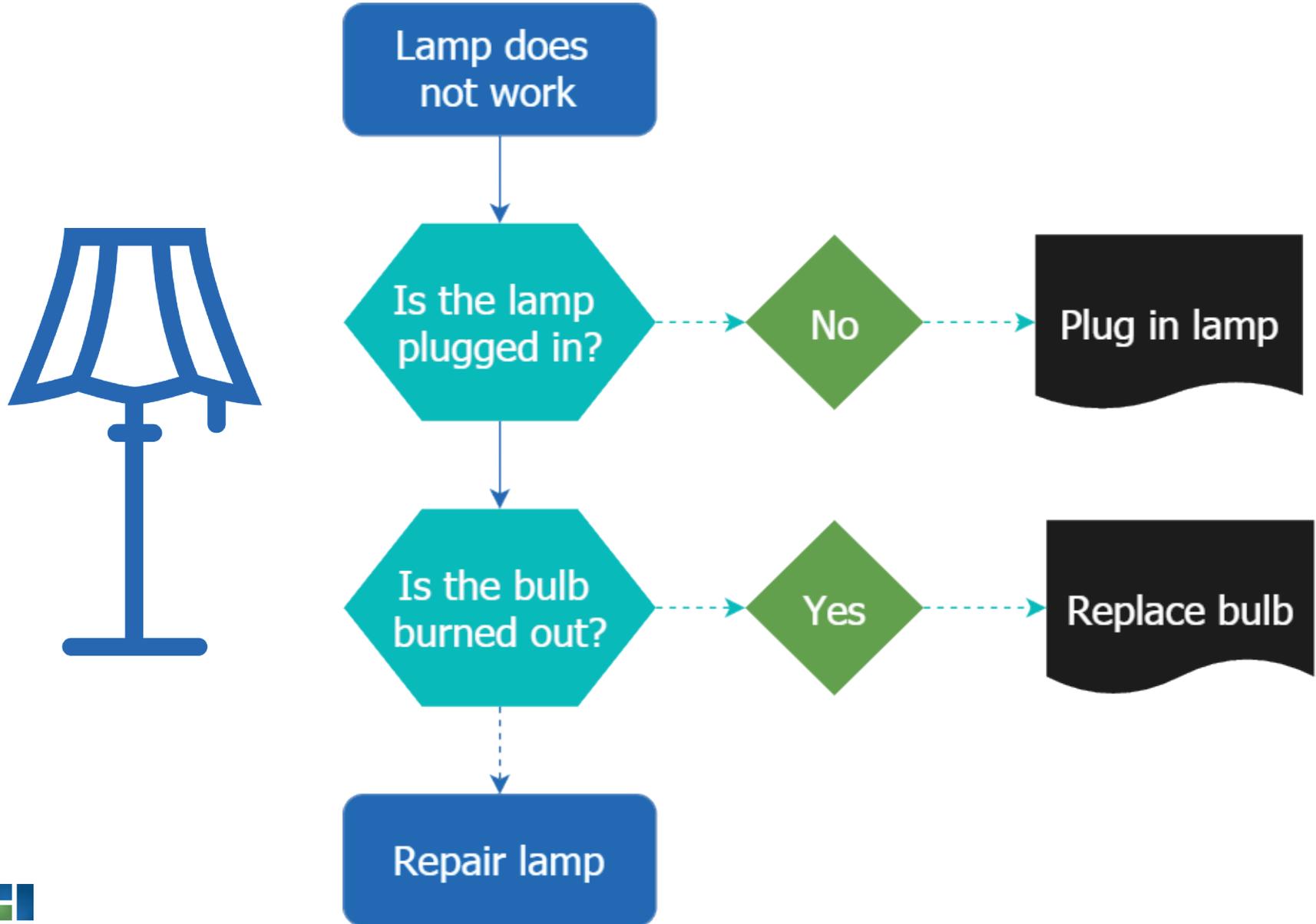
Environment/setting

# Patient handoff report

| Patient history     | Allergies                      |
|---------------------|--------------------------------|
| Vital signs         | Medications                    |
| Neurological status | Chief complaint/current status |



# Scenario steps — simple lamp example



# Sepsis scenario

Patient assessment/pain assessment/vital signs/past medical history

Performed

Prompt used?

Not performed



Analysis of patient assessment and lab results

Performed

Prompt used?

Not performed



Notification of physician or rapid response team

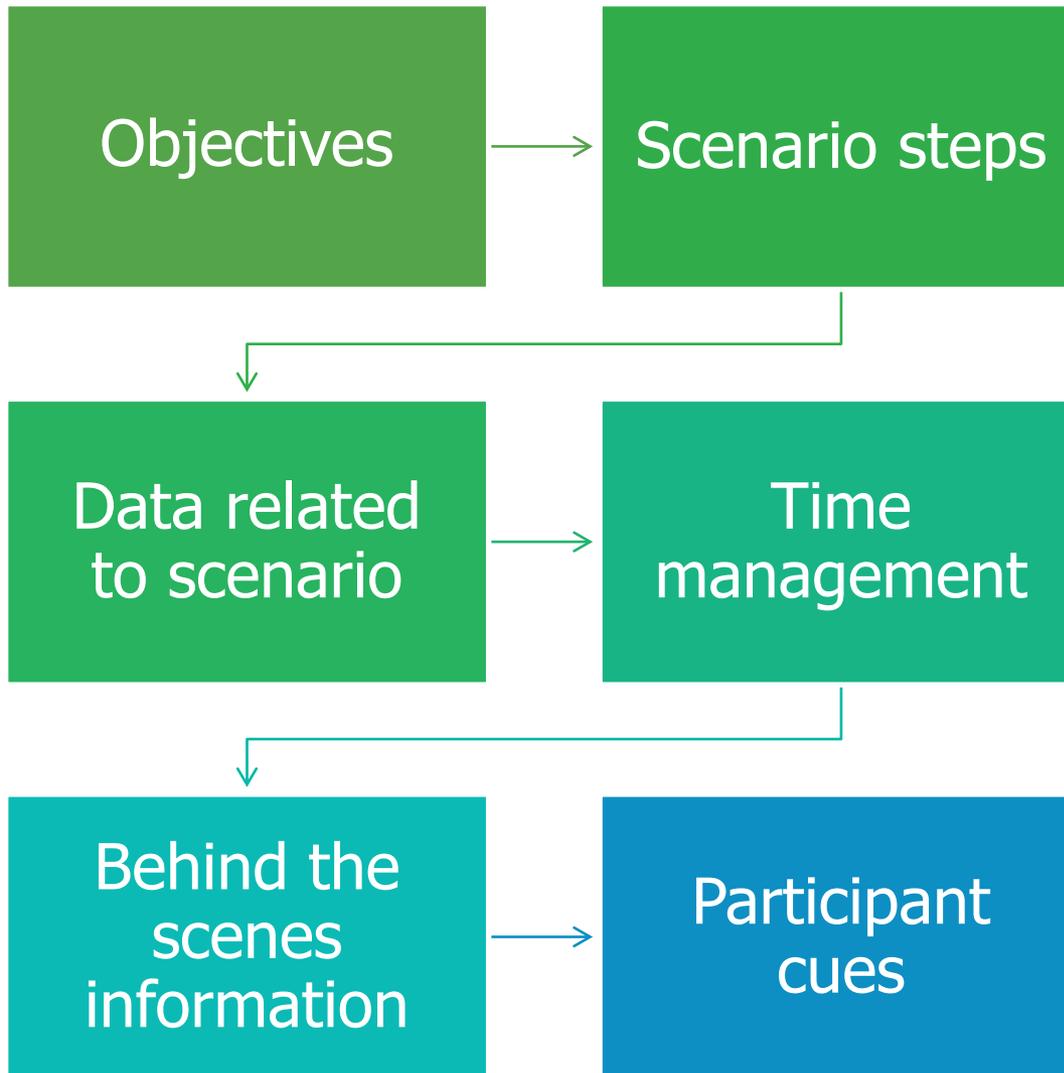
Performed

Prompt used?

Not performed



# Facilitator notes



# Expected outcomes

## Short-term

- Learning objectives
- Process redesign

## Long-term

- Critical-thinking skills
- Teamwork improvement
- Effective communication



# Debriefing notes

What went well?

What could have been better?

What can I apply to clinical practice?





# Scenario building

---

# Traumatic brain injury/concussion scenario

## Learning objectives

The participant will:

---

- Perform a patient assessment to include extent of injury, Glasgow Coma Scale (GCS) score, time of the injury, and patient age
- Prescribe appropriate diagnostic testing
- Determine proper patient disposition (discharge or admission)

CDC/ACEP Traumatic Brain Injury Guideline Update:  
[www.cdc.gov/traumaticbraininjury/mtbi\\_guideline.html](http://www.cdc.gov/traumaticbraininjury/mtbi_guideline.html)



# Traumatic brain injury/concussion scenario

## Scenario background

While participating in a championship game in a local men's baseball league, 27-year-old Jimmy Lucas sustained a head injury when he was knocked over by a base runner as Jimmy was attempting to make the tag at home plate. Jimmy immediately lost consciousness for about 3 minutes. When he awoke, he complained of a slight headache, but otherwise was oriented to person, place, time, and date. Jimmy, with a C-spine collar in place, was immediately transported by ambulance to the local hospital's emergency department (ED).



## Scenario background (continued)

Upon assessment of Jimmy's injury, the following parameters are found: nonpenetrating trauma to the head; GCS=15; B/P=116/74; Pulse=86; Respirations=12; Temperature=37°C (98.6°F); diffuse headache pain=5/10; all other anatomy and physiology within normal limits. Jimmy remains in the ED until the provider orders his admission or discharge. C-spine evaluation is negative and noncontrast head CT results indicate no intracranial lesion.

## Targeted participants

- New resident physicians
- ED nurses (confederates)



## Equipment & supplies

- Hospital stretcher
- C-spine collar
- B/P cuff
- Thermometer
- Pen light
- Otoscope
- Ophthalmoscope
- IV supplies



# Traumatic brain injury/concussion scenario

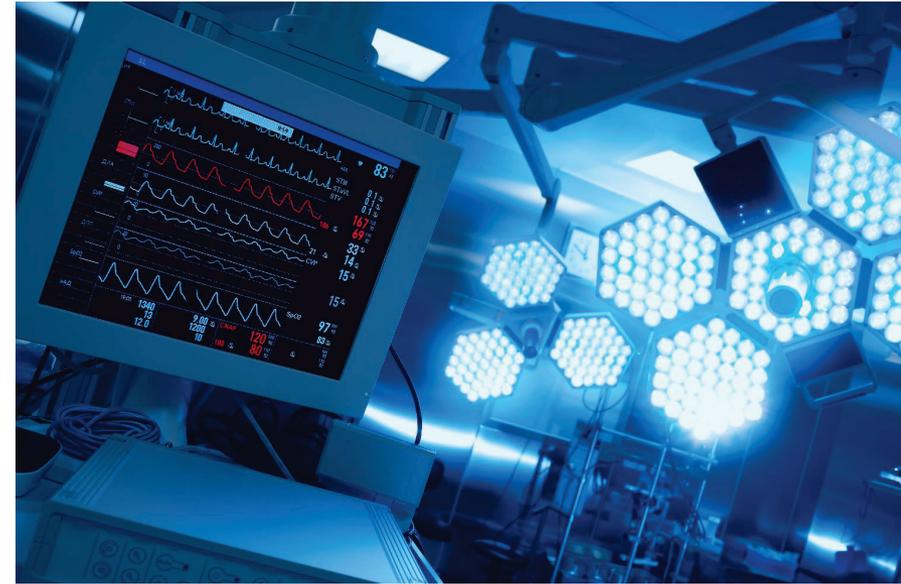
## Scenario setup

### Patient

Position patient (actor or simulator) on stretcher dressed in baseball uniform (t-shirt/ jersey) and ball cap with C-spine collar in place

### Room setup

If not using a room/bay in the hospital's ED, place equipment and supplies in the room to match the actual setting (e.g., place scopes on the wall, etc.)



## Handoff report (from EMS to provider/nurse)

- This is a 27-year-old male — Jimmy Lucas — who sustained a head injury when he was knocked over during a baseball game. Jimmy immediately lost consciousness for approximately 3 minutes. Since waking up, he's complained of a slight headache, but otherwise is oriented to person, place, time, and date. We placed him in the C-spine collar and transported him here. His vital signs are: B/P 116/74; pulse 86; respirations 12; temperature 37°C. He's had no seizures and has remained conscious since the initial injury.



# Traumatic brain injury/concussion scenario

## Scenario steps

| Time  | Patient condition/response   | Participant actions                                   | Tasks completed  |
|-------|--|---|--|
| 19:40 | B/P 116/74; Pulse 86; Respirations 12; Temp 37° C; slight headache | Begin assessment                                      | Proper assessment done?<br>Yes or No   |
| 19:44 | Vital signs same; headache pain diffuse 5/10                       | Order noncontrast head and neck CT                    | Proper CT order provided?<br>Yes or No   |
| 20:20 | Vital signs same; headache pain diffuse 5/10                       | (1) Review CT results, (2) decide patient disposition | CT results reviewed?<br>Yes or No<br>Appropriate patient disposition ordered?<br>Yes or No |



# Traumatic brain injury/concussion scenario

## **Facilitator notes**

The purpose of this scenario is to assess the new resident physician's knowledge and decision-making confidence in treating a mild traumatic brain injury.

Using an actor in the patient role will allow for more interaction between the physician and patient.

Because this scenario is targeted for new resident physicians, having the patient/family challenge the physician's orders will allow for assessment of the participant's decision-making confidence and human factor influence.

Throughout the scenario, the facilitator will need to provide data for the vital signs, GCS, and time display.

To manage the time lapse, the facilitator has the option to compress (speed up) time as needed. Time compression must be either displayed or verbalized to the participants.



## Expected outcomes

- **Short term:** Become familiar with updated clinical practice guidelines
- **Long term:** Develop confidence in decision-making skills and self-awareness of the influence of human factors.



## Debrief

- What went well?
- What could you have done better?
- What can you apply in clinical practice from this simulation experience?

**Note to facilitator:** Asking specific questions regarding the clinical practice updates can provide additional talking points, as needed.



## QUESTIONS?

Contact your patient safety and risk consultant  
at 1-800-463-3776.

