



# Scenario Design and Construction Workshop

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## About WISER

- **Academic Healthcare Simulation Center Founded in 1994**
- **Affiliated with University and a Large Hospital System**
- **Accredited by the Society for Simulation in Healthcare**



# Overview of WISER



Schools

- Medicine
- Nursing
- Pharmacy

Students

Research

Hospital Support

Patient Safety

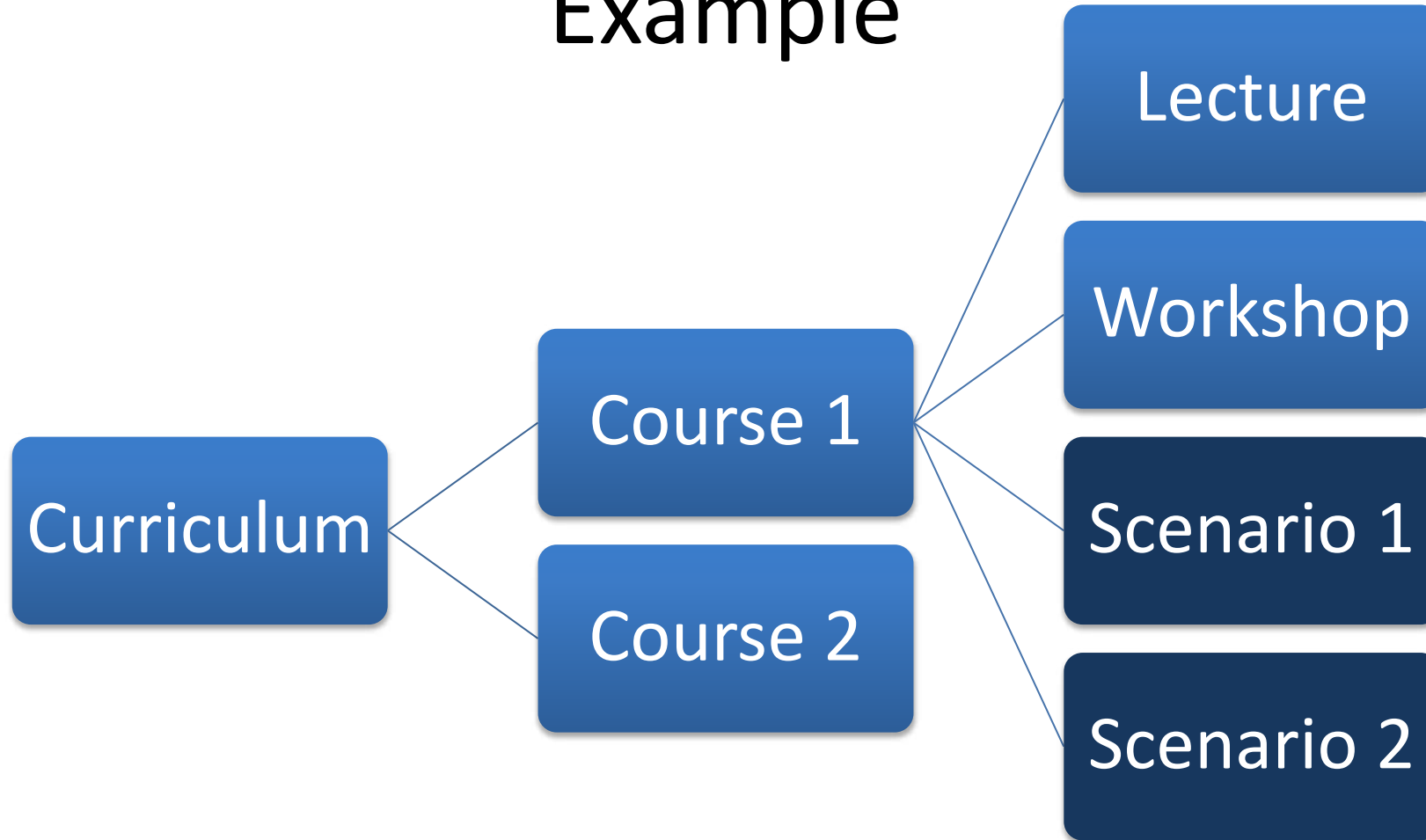
Physicians, Providers, and Staff

Resident Education

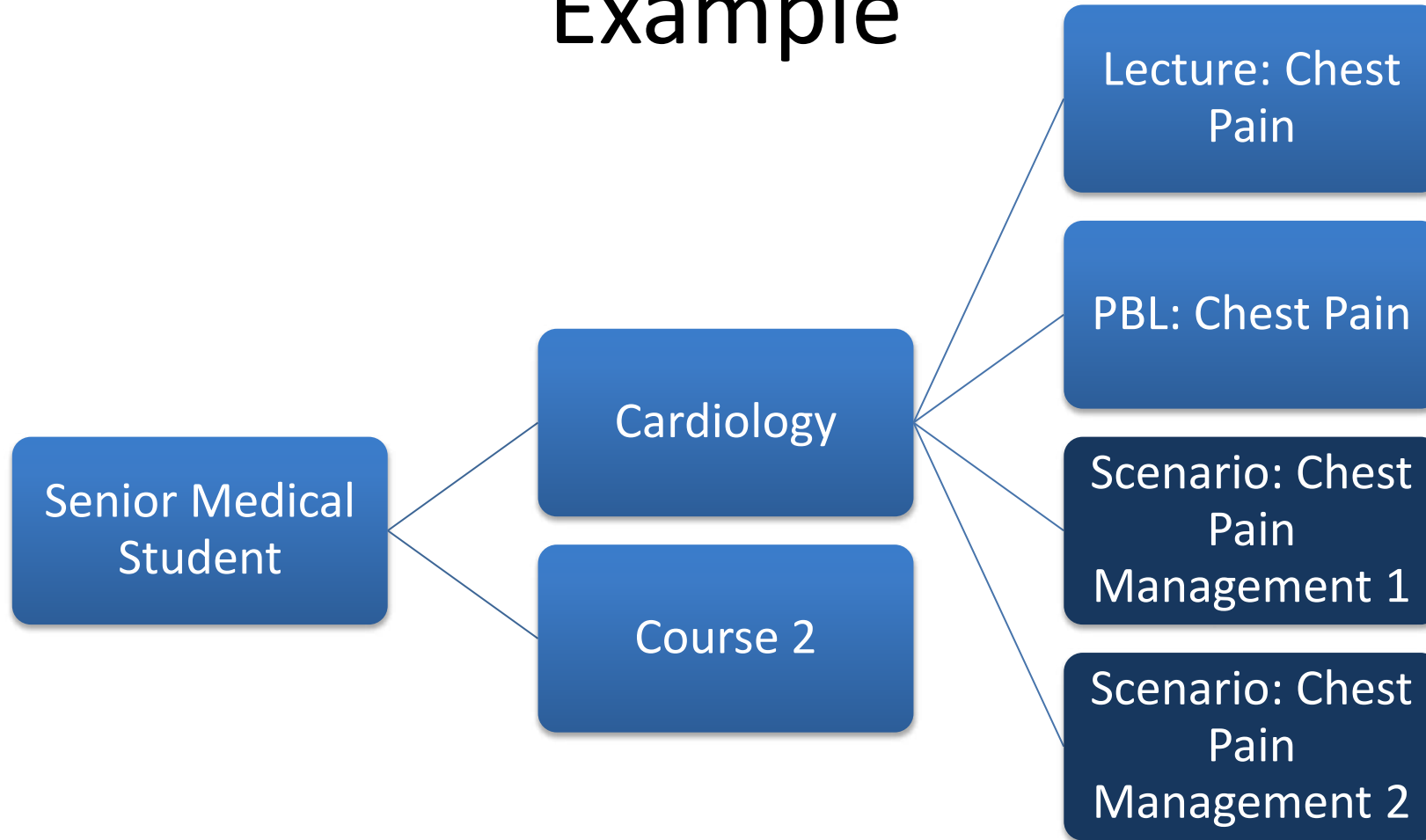


# What is a Scenario?

# Example



# Example



# What is a Scenario?



# Process

Who?

Who are Learners?  
Level of Learner?

WHAT?

- What is being taught
- Objectives

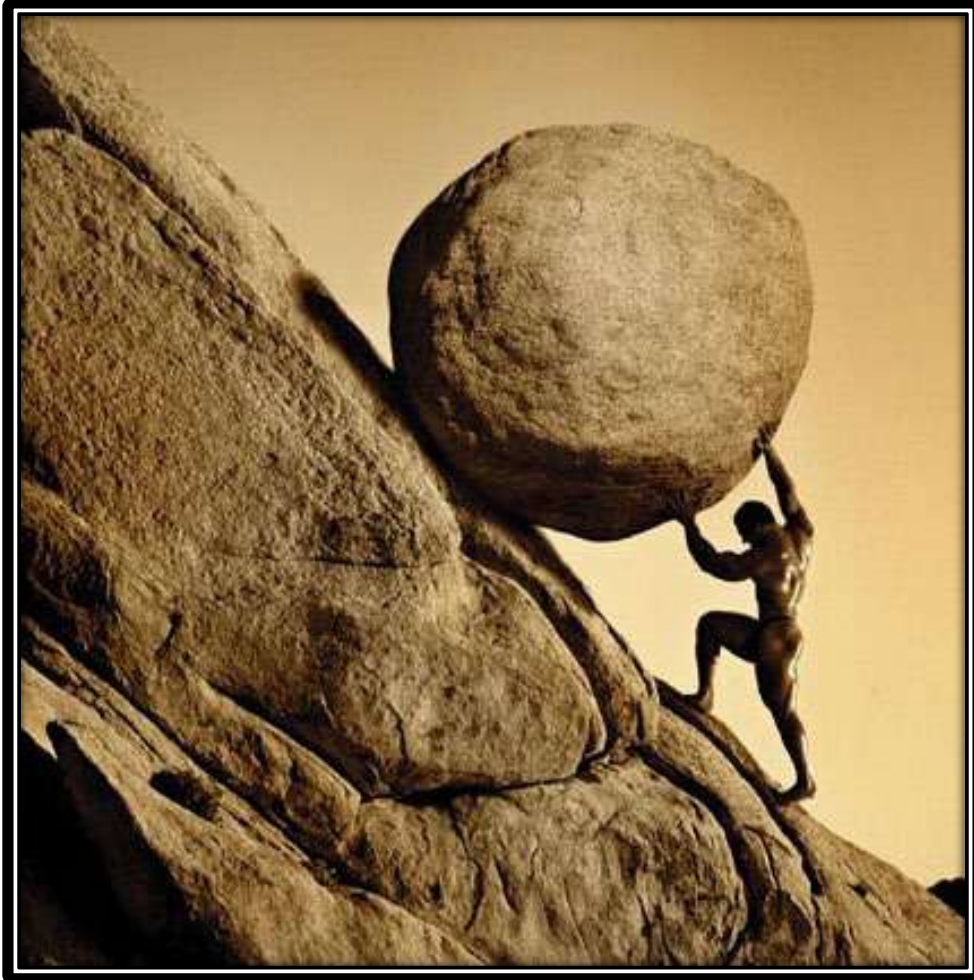
HOW?

- Teaching Methods
- Assessment
- Equipment



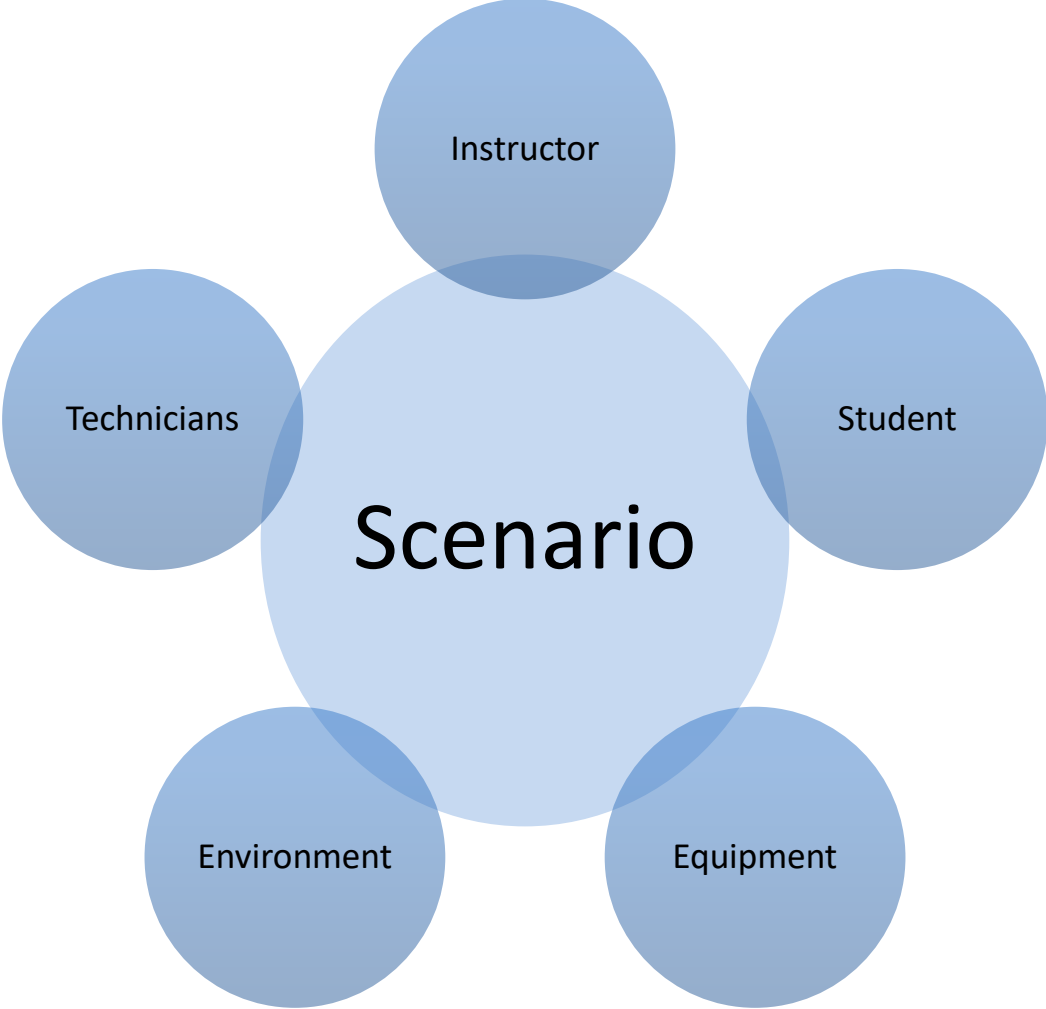
# Why Create Scenario Materials?

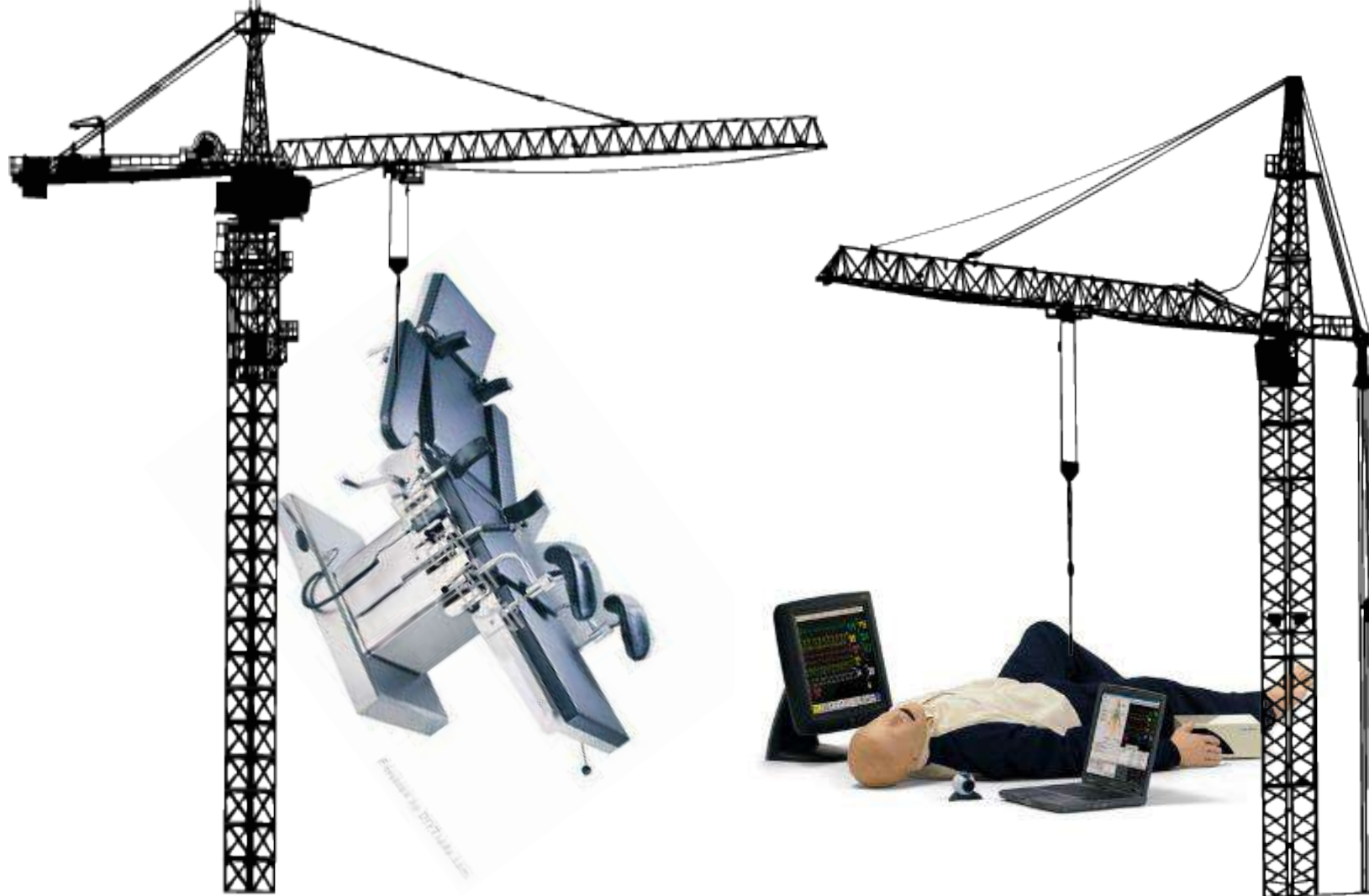


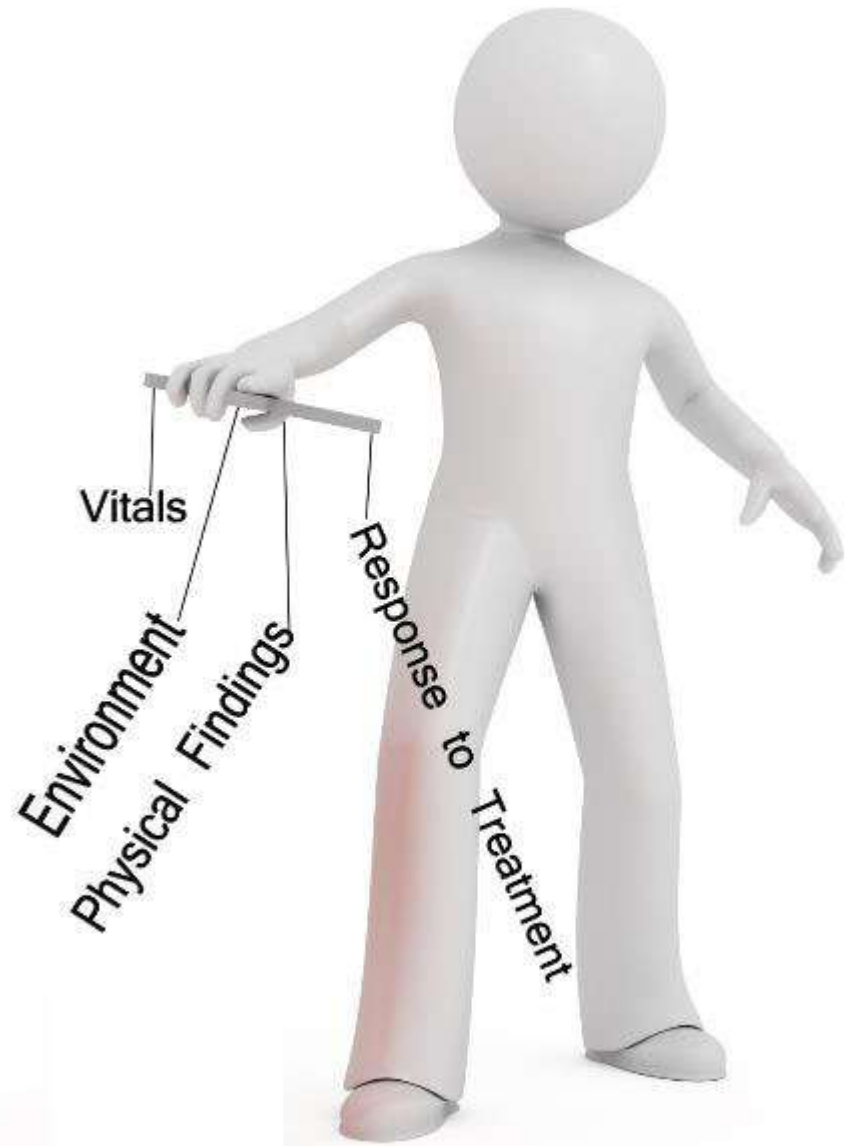


# Scenario Construction

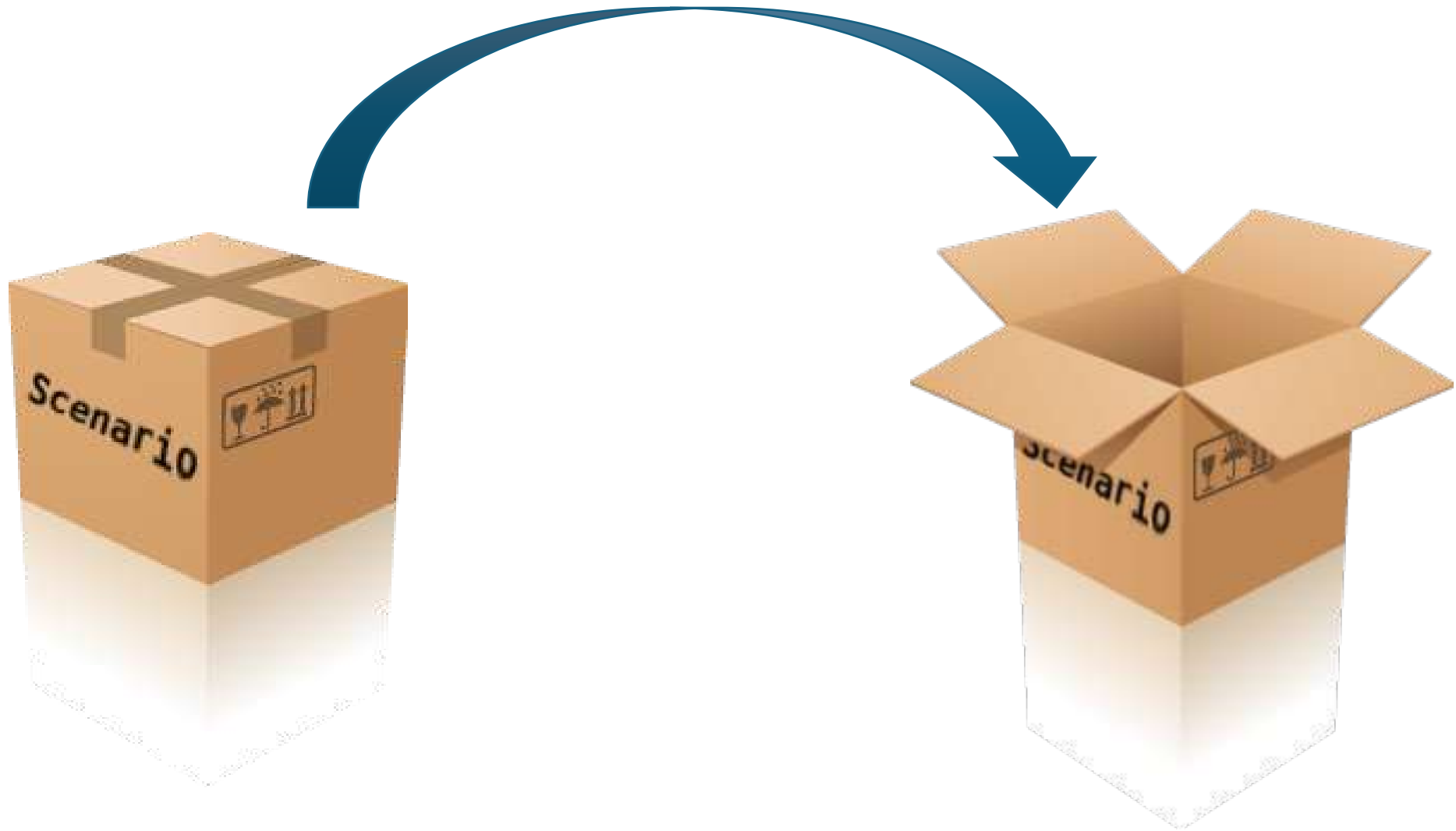
# Critical Groups in Scenario Development







# What do you want from the Box?







# Who are the Learners?

- All of the Same?
- Mixed Group
- Level
  - Junior
  - Senior

# Goals and objectives

- Identify
  - Teaching Goals
  - Assessment Goals
    - Faculty Clarity

# Orientation for the Student

- Set Expectations
  - What is simulated vs. what is not
  - Orientation to
    - Environment
    - Equipment

# Assessment

- FOCUS Instructor Attention
- Accuracy Capabilities
  - Video vs. non-video review
- Time Realities

# Debriefing Instructions

- Linked to Learning Objectives
- Avoid overwhelming the participants
- Don't over-review the obvious
- Suggest a Debriefing Method

# Instructor Preparations

- Instructor training is crucial
- Instructor Instructions
  - Understand Objectives
  - Understand Technical Features

# Supplemental Debriefing Materials

- Attempt to Standardize Discussions
- Graphs, Pictures, Videos
- Slides of Main Points



# Technician Instruction

- Room Set up
- Equipment Lists
- Expectations
- Room Re-set



# Pre-Program the Scenario

- Provides Standardization
- Helps with Debriefing
- Helps With Data Collection

# Plan to Recycle Scenarios

- Decrease center development time
- Increase quality
- Easier to collect comparison data



# Examples

# Course Components: Instructor

## TASK TO BE COMPLETED

- Establish unresponsiveness
- Airway
- Breathing
- Circulation
- Call for help/Call Rapid Response Team
- Apply defibrillator pads
- Discontinue PCA pump
- Administer fluids
- Administer Narcan if indicated
- Maintain respiration/ventilation
- Pull bed away from wall
- Pull out headboard
- Connect bag valve mask to high flow oxygen and ventilate

# Course Components: Instructor

## CRITICAL DEBRIEFING POINTS

1. Review the positive actions displayed by participants regarding the Top 20 List in addition to the following:
  - Recognize PCA overdose
  - Discontinue narcotic
  - Maintain airway, breathing, circulation
  - Administer fluid as initial treatment
2. Note opportunities for improvement for the remainder of scenarios.
3. Note time markers within the scenario (Example: It was three minutes before the team defibrillated the patient).
4. Allocate five minutes within the first debriefing to discuss similar experiences that the instructor may have encountered.
5. Acknowledge participant experiences as well. This will serve as reinforcement of the materials and give participants an opportunity to raise questions or discuss concerns.
6. Assess proper assembly of flowmeter.

# Course Components: Simulation Operator

EQUIPMENT LIST		
Equipment	Quantity	Checked
Facemask	1	<input type="checkbox"/>
Nasal cannula	1	<input type="checkbox"/>
Oral airways	1	<input type="checkbox"/>
Bag valve mask	1	<input type="checkbox"/>
Crash cart with supplies	1	<input type="checkbox"/>
Defibrillator	1	<input type="checkbox"/>
Defibrillator pads	1	<input type="checkbox"/>
AED (if not on crash cart)	1	<input type="checkbox"/>
Backboard for CPR	1	<input type="checkbox"/>
Blood pressure cuff	1	<input type="checkbox"/>
IV fluid bag/tubing/catheters	1	<input type="checkbox"/>
CPR code flow sheet	1	<input type="checkbox"/>
Stretcher or bed	1	<input type="checkbox"/>
Phone	1	<input type="checkbox"/>
Pulse oximeter	1	<input type="checkbox"/>
Oxygen flowmeter	1	<input type="checkbox"/>
Suction canister	1	<input type="checkbox"/>
Narcan	1	<input type="checkbox"/>
PCA pump Sodium Chloride	1	<input type="checkbox"/>



# Course Components: Simulation Operator

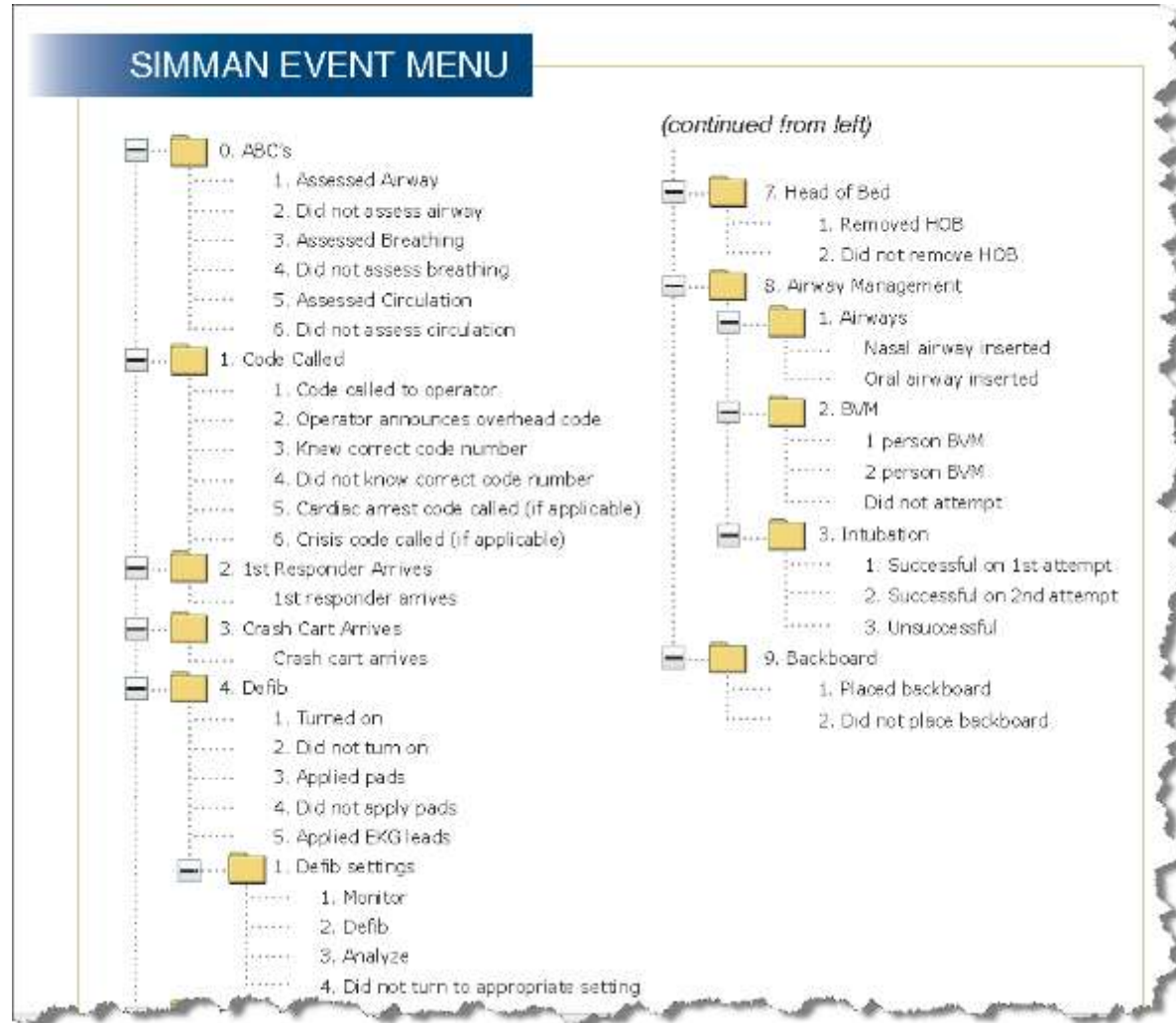
## ROOM SETUP

- The ideal physical environment for this scenario should be similar to the patient care area that the participants are most familiar. Examples include:
  - Patient room for acute care provider
  - MRI suite for radiology personnel
  - Exam room for outpatient provider
- If unable to use clinical area, a classroom setting is an option.
- If a classroom is used, attempts should be made to simulate patient care environments with the images provided in each box (Example: oxygen and suction).

For this scenario:

- Prepare manikin to resemble patient corresponding with Scenario 6.
  - Oxygen flowmeter is in the room or use the photo substitute.
  - IV access
  - Monitored
  - Hospital gown
  - Blood pressure cuff
  - Pulse oximeter
  - Pillow
  - Other: \_\_\_\_\_
- Place crash cart outside the room.
- Elevate head of bed.
- PCA pump should be placed on the IV pole, adjacent to the patient's bed.

# Course Components: Simulation Operator



# Course Components: Simulation Operator

## ROOM TRANSITION

After the debrief, return the room to its original state.

- Return the equipment to its pre-scenario configuration including bed placement, backboard, BVM, etc.
- Restock any disposables used in scenario.
- If IV is used, make sure that it is turned off, otherwise the bag will drain.
- Check IV fluids to ensure adequate level for next scenario.
- Turn the defibrillator off.
  - If defibrillator pads were used on the manikin, clean the surface area where the pads were attached to remove adhesive residue.
  - If pads are intact, return the pads to the adhesive backing for reuse in the next scenario.
- Return crash cart to outside of room.

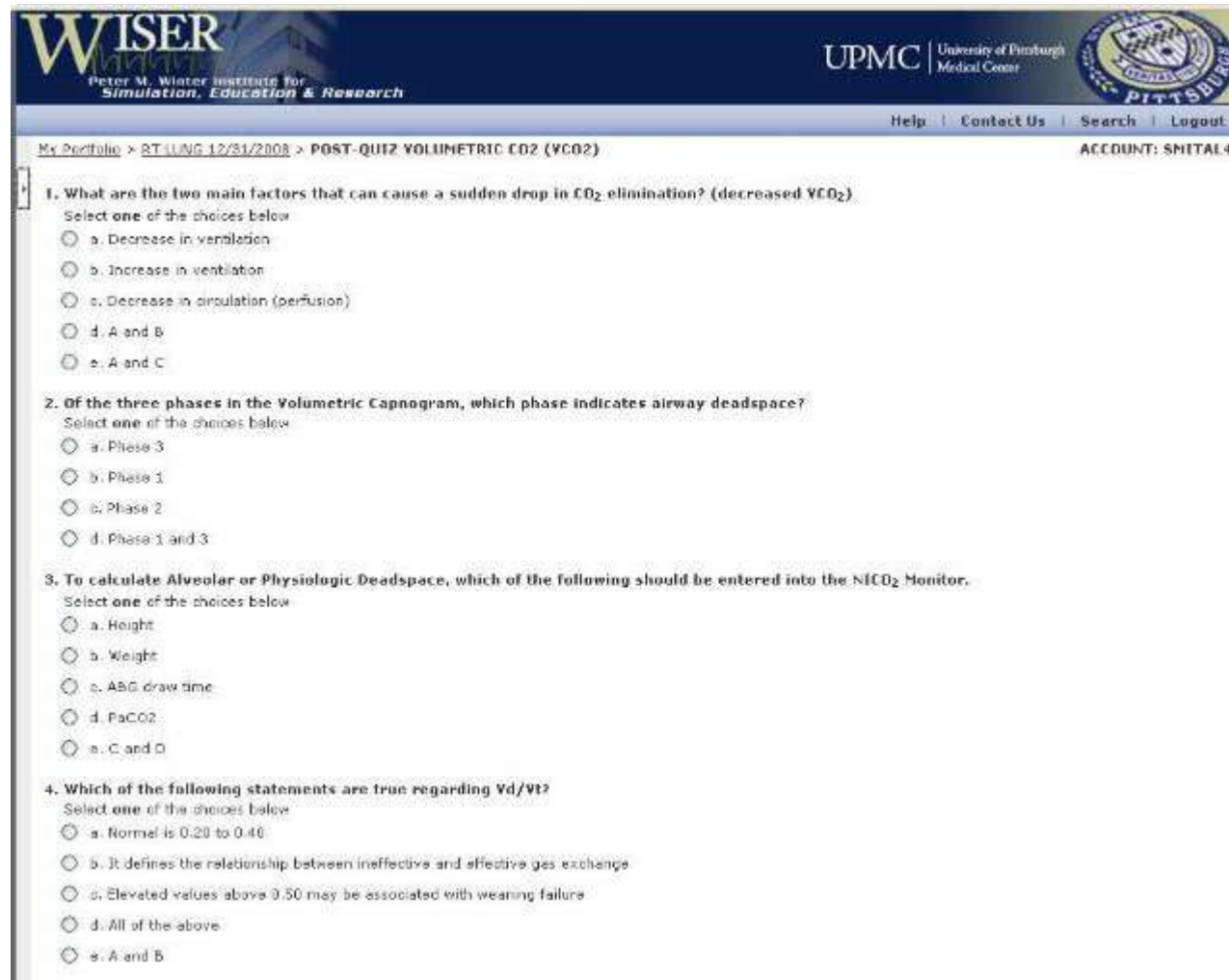
# Course Components

- Scenario and Debriefing Guide



# Course Components: Participant

- Quiz



The screenshot displays a quiz interface for WISER (Winter Institute for Simulation, Education & Research) at UPMC (University of Pittsburgh Medical Center). The page title is "POST-QUIZ VOLUMETRIC CO<sub>2</sub> (VCO<sub>2</sub>)". The account name is "SMITAL4". The quiz consists of four multiple-choice questions:

- 1. What are the two main factors that can cause a sudden drop in CO<sub>2</sub> elimination? (decreased VCO<sub>2</sub>).**  
Select one of the choices below:
  - a. Decrease in ventilation
  - b. Increase in ventilation
  - c. Decrease in circulation (perfusion)
  - d. A and B
  - e. A and C
- 2. Of the three phases in the Volumetric Capnogram, which phase indicates airway deadspace?**  
Select one of the choices below:
  - a. Phase 3
  - b. Phase 1
  - c. Phase 2
  - d. Phase 1 and 3
- 3. To calculate Alveolar or Physiologic Deadspace, which of the following should be entered into the NICO<sub>2</sub> Monitor.**  
Select one of the choices below:
  - a. Height
  - b. Weight
  - c. A&C draw time
  - d. PaCO<sub>2</sub>
  - e. C and D
- 4. Which of the following statements are true regarding V<sub>d</sub>/V<sub>T</sub>?**  
Select one of the choices below:
  - a. Normal is 0.20 to 0.40
  - b. It defines the relationship between ineffective and effective gas exchange
  - c. Elevated values above 0.50 may be associated with weaning failure
  - d. All of the above
  - e. A and B

# Course Components: Participant

- Survey

**WISER**  
Peter M. Winter Institute for  
Simulation, Education & Research

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My Portfolio > My Portfolio History > Manage Class CTT 3/11/2008 > VIEW SURVEY/EVALUATION ACCOUNT: SMITAL4

Questions highlighted in red are not active and will not be visible during testing.

**CTT - PRE-CLASS PARTICIPANT SURVEY** [Printable Version](#)

**Part 1: Background, experience and perception**

A. Postgraduate Experience in Healthcare (Postgraduate is defined as having a degree in your field of practice)  Select Answer

B. Please indicate your level of training.  Select Answer  
Other:

If your level of training indicated in Part 1 B was 2 (Resident), 3 (Fellow), 4 (Medical Student), 8 (Nursing Student) or 11 Respiratory Therapist Student indicate your training year / GMT.

C. Please list your primary clinical sites:  Select Answer  
Other:

D. Not including ACLS, have you previously attended a course on crisis team organization?  Select Answer

E. If you have attended a course on this topic previously, how long ago was that?  Select Answer

**Part 2: Self evaluation of competence and confidence**

A. Self evaluation of competence during a crisis team response  Select Answer

B. Self evaluation of confidence during a crisis team response  Select Answer

C. Self evaluation of competence in your own field of training / specialty (e.g. Are you a competent nurse?)  Select Answer

D. Self evaluation of confidence in your own field of training / specialty (e.g. Are you confident in your nursing skills?)  Select Answer

**Part 3: Background and Attitudes toward macro simulation (full scale human simulation)**

A. Compared to clinical experience with real patients, training with simulation is:  Select Answer

B. In the future, simulation will be a necessary part of recertification.  Select Answer

C. I am uncomfortable with simulation based competency training

STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

D. I am uncomfortable with simulation based competency because I am embarrassed to perform in front of others

STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

E. I am uncomfortable with simulation based competency because I do not believe it is valid

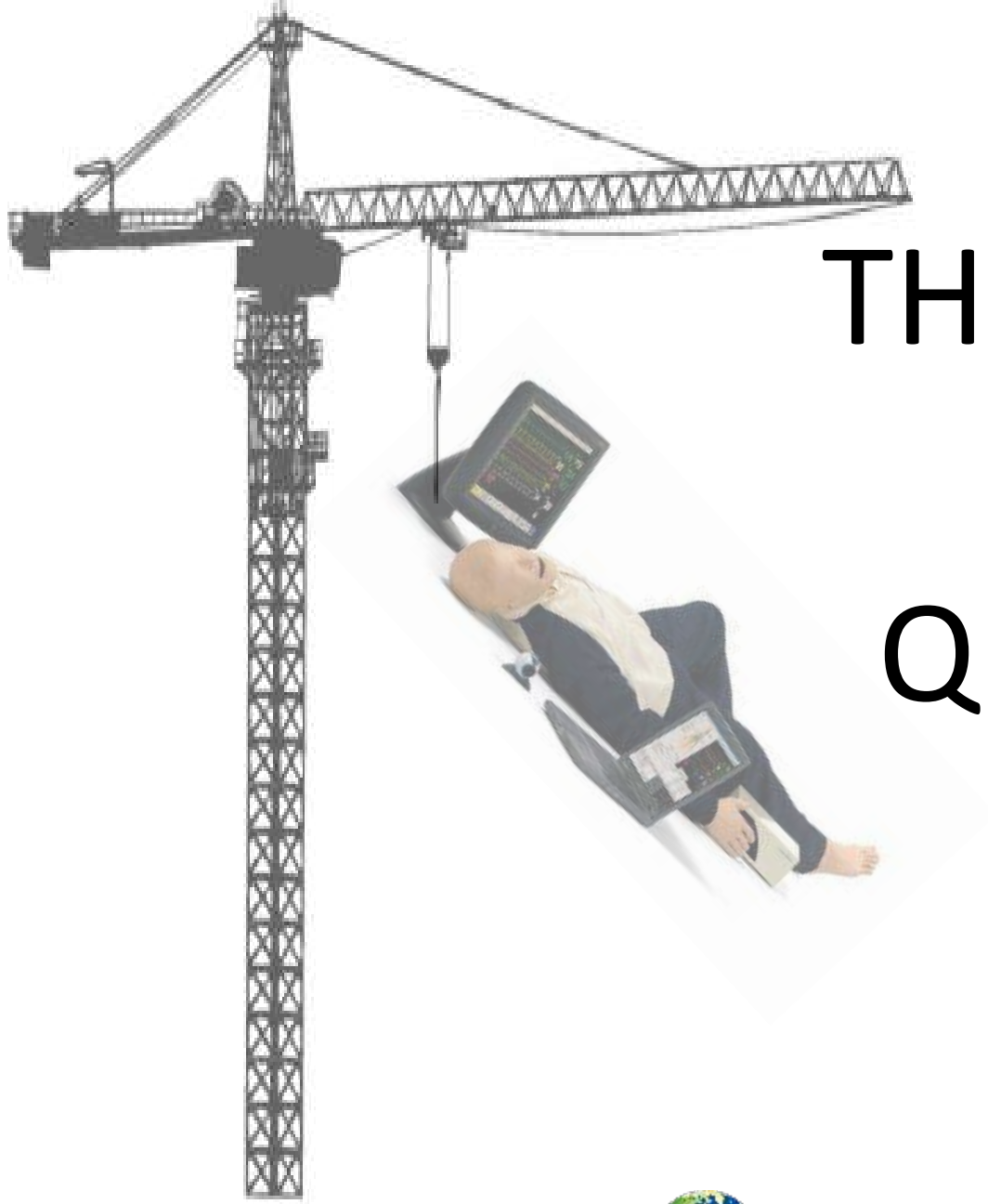
STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

UPMC  
University of Pittsburgh  
Medical Center

UPMC LIFE CHANGING MEDICINE

# Tying It All Together

- Developing Scenarios is a BIG Job
- Will Save Time
- Help With Consistency



# THANK YOU and Questions



[www.wisersimulation.org](http://www.wisersimulation.org)





# Thank You!



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