# Enhancing High Risk Procedural Skills Training through Active Learning, Emerging Technology & Simulation

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### **INTRO**

- The educational series integrates evidencebased procedure training with the review of applicable anatomy.
- Series of need-based skills workshops to fit a variety of learners, promote competency, and improve confidence by embracing active learning principles, emerging technologies, and simulation.

## **METHODS**

- Educational Model: Presentation →
   Demonstration → Practice → Feedback
- Activity Flow: Didactic Lecture → Virtual
   Reality Anatomy Review → Applied Anatomy

   Review → Procedure → Simulation

#### RESULTS

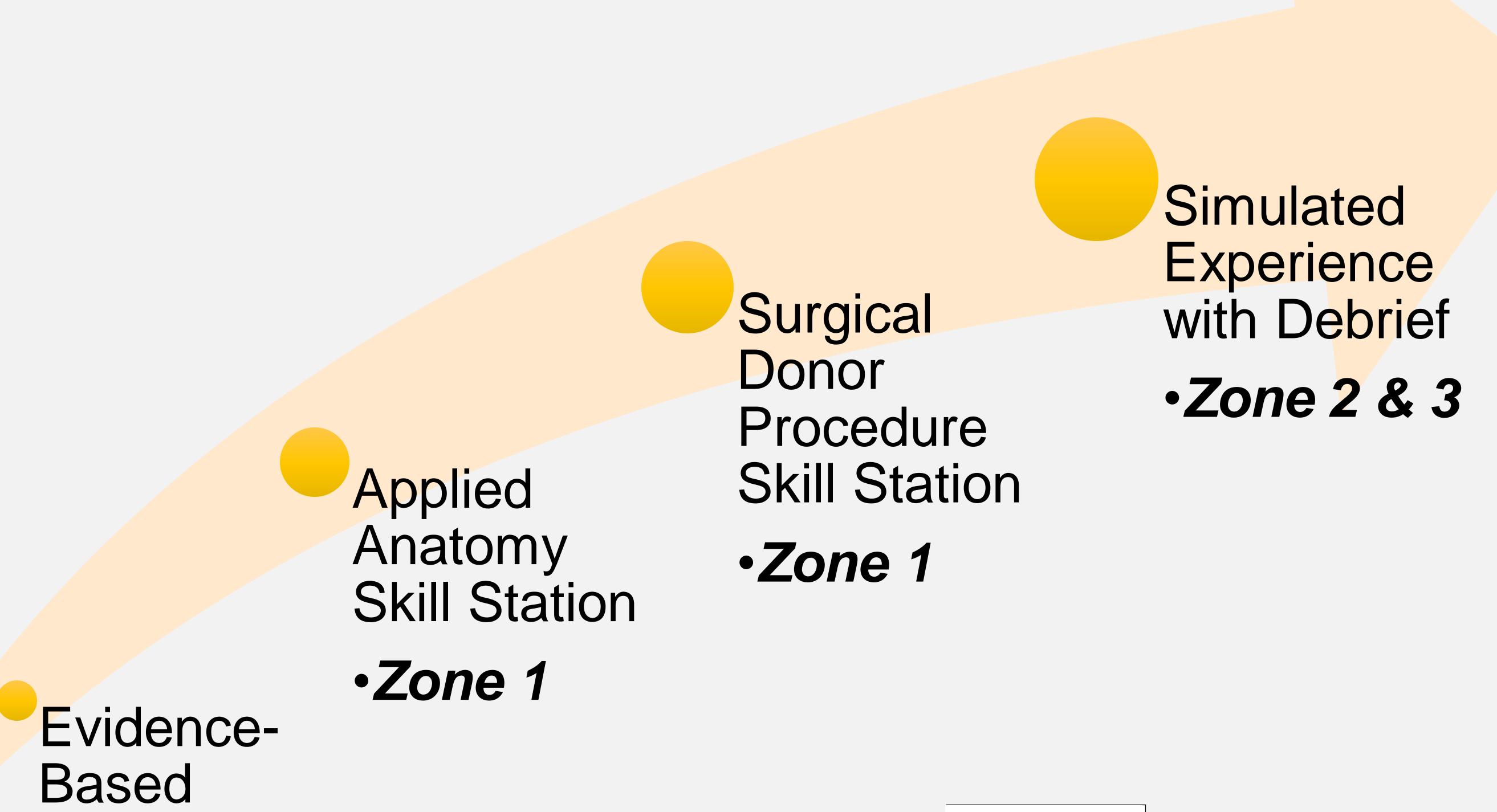
- All participants successfully demonstrated competency.
- Survey Likert scales show the majority of participants found the simulation valid and transferable to patient care.
- Participants felt more prepared and confident to perform the skill, and preferred learning with this educational structure and the surgical donor teaching model.

#### **DISCUSSION**

• The educational model was used for a variety of skills with the soft-embalmed surgical donor as a life-like teaching model to enhance participant confidence and establish competency. Surgical donor skill stations were successfully integrated with anatomical resources and simulation to provide a learning environment well reviewed by learners that improved their perceived confidence and ability to perform the procedure.

Educational model provides a **low stress environment** for inthe-moment *feedback* with *competency* checkoff.

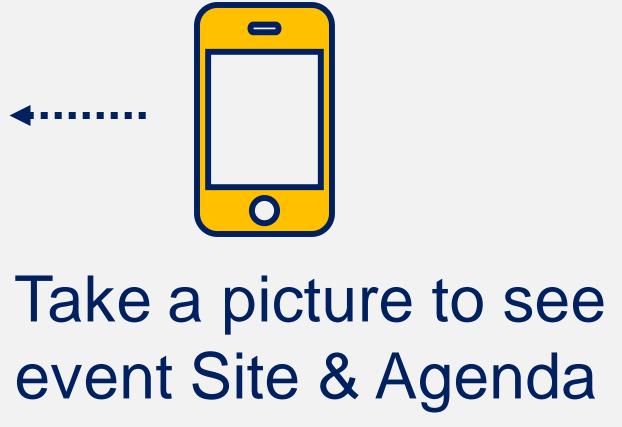
Various modalities of *high-fidelity simulation* and debriefing provide a clear understanding of actions and the opportunity for reflection to **enhance future clinical performance**.





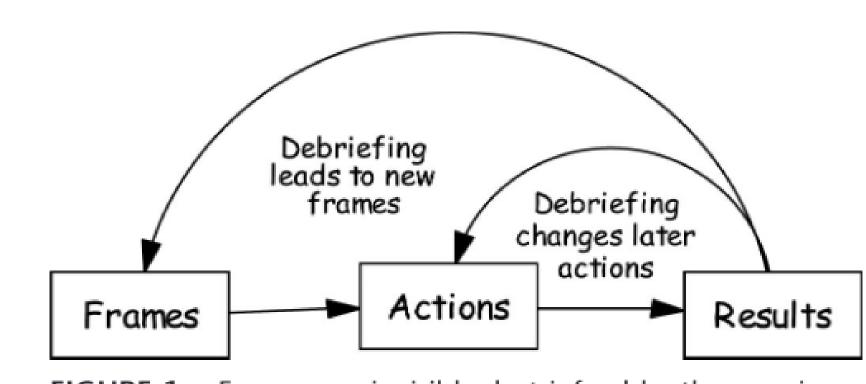
didactic





# **AMMO BAR**

- Competency based
- Intentional structure; EB didactic = learners UTD
- Need based
- Competency checklists & pre/post surveys
- Simulation = low stress
- Sim Skill Station = in-themoment FB, low noise
- Sim Scenario = uninterrupted with noise & distractors; intentional debriefing
- Structured Sim (prebrief, debrief, guides)
- Physical, conceptual & emotional fidelity
- Anatomical Surgical donors via modified Thiel (soft)
  Embalming method provide realistic model
- VR, AR, & prosections are models for applicable regional anatomy
- Participants found sim
   valid & transferable to patient
   care, felt more prepared and
   confident to perform the
   skill, and preferred learning
   through this teaching model.
- Improved perceived confidence and ability



**FIGURE 1.** Frames are invisible, but inferable; they are in the mind of trainees and of instructors. Actions (including speech) are observable. Most results (e.g., vital signs, order/chaos) are also observable.