



CARILION CLINIC

*Center for Simulation,
Research and Patient Safety*

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Disclosure of Commercial Relationships

We have no financial conflicts of interest to disclose

Our Objectives

- Determine when simulation would be appropriate to achieve your learning objectives
- Discuss the different uses for simulation, including education, process improvement and research
- How to integrate the Center for simulation, Research and Patient Safety into your work

Our Vision

Improving the delivery of healthcare for our patients by **providing high quality simulation experiences** for learners through **integrated education, clinical practice improvement and research**

Our Mission

- To improve the health of the communities we serve.
 - **Improving systems and team performance** in clinical care provision through simulation.
 - **Optimizing process improvements prior to implementation** within the organization.
 - Conducting **educational and clinical science simulation-based research**, ultimately for the benefit of our patients.

What is Simulation?

- From Merriam-Webster
 - Something that is made to look, feel, or behave like something else especially so that it can be studied or used to train people

What is simulation?



What about in Medicine?

- Any educational activity that seeks to re-create a clinical scenario or task outside of the clinical environment

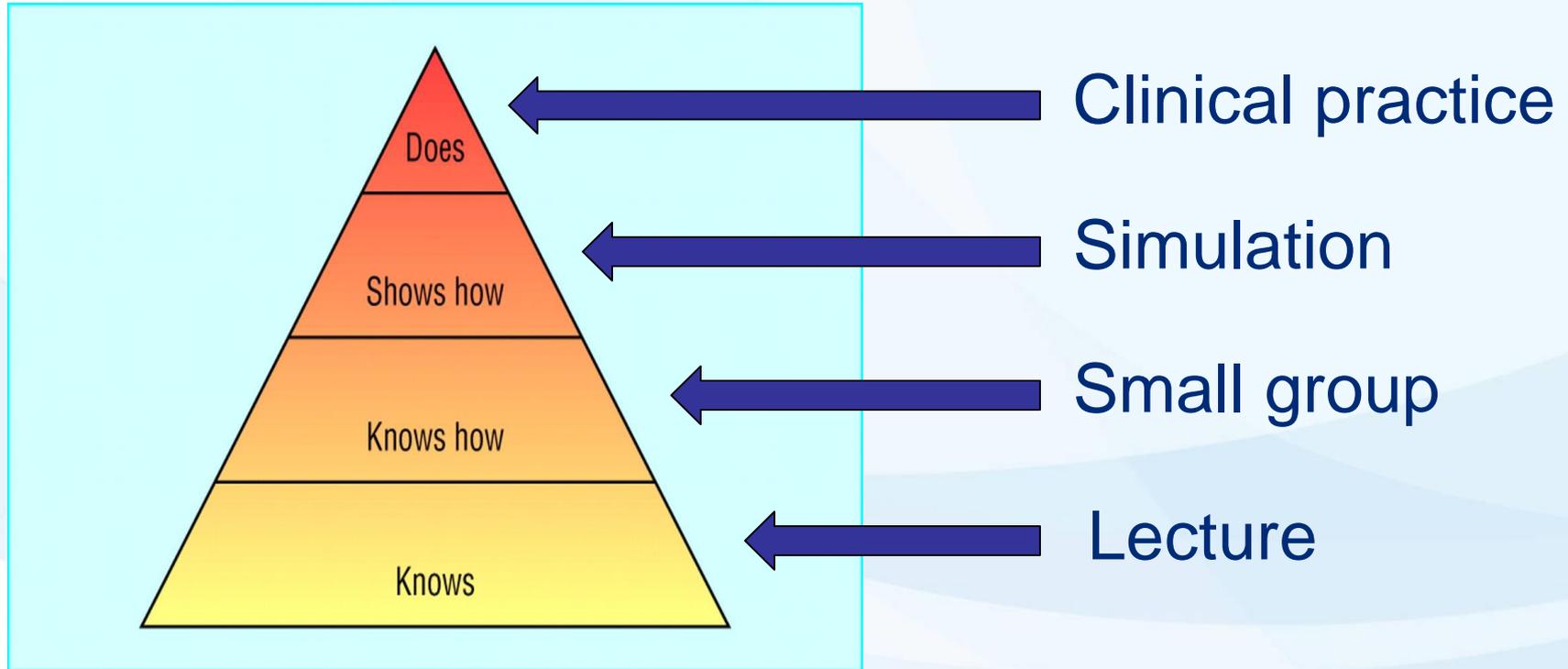
Common Goals of All Simulation

- Allow learners to *practice*
- Ensure exposure to key problems
- Permit repetition for mastery
- Avoid patient harm
- Enhance confidence and *competence*

Driving Forces Behind Simulation

- Patient safety movement
- Societal expectations of competence
- Decreasing practice opportunities
- Variability of clinical experience
- Competency-based education

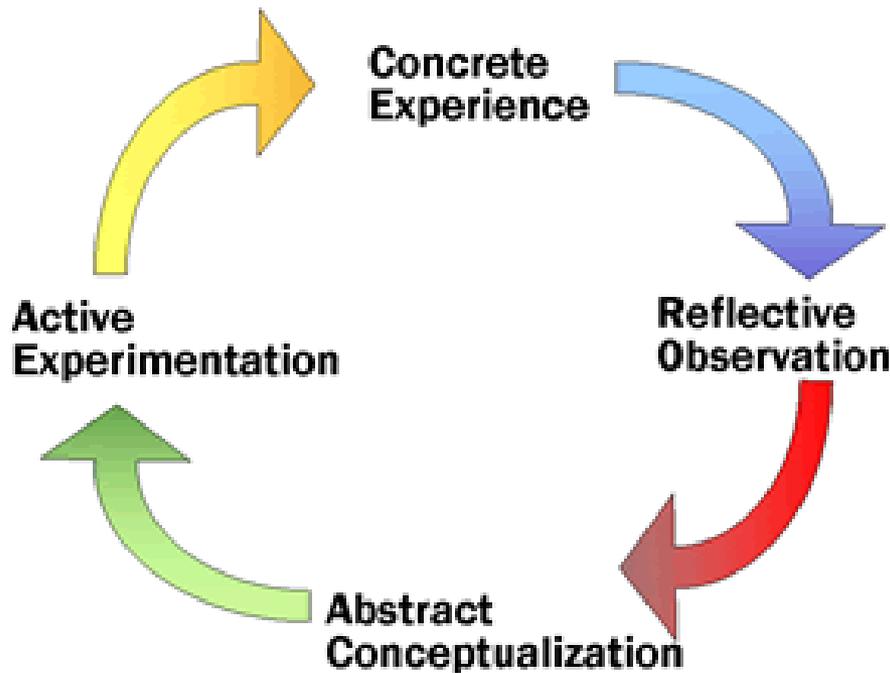
So Why Does it Work?



Kolb's Experiential Learning Cycle

Simulation

Clinical Application



Debriefing

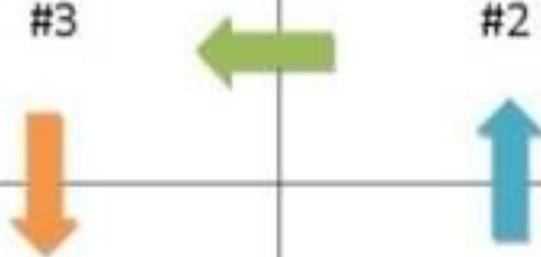
**Kolb's Cycle
of Experiential Learning**

Gordon's Competence Matrix

Practice and mastery

Second nature

	Competence	Incompetence
Conscious	Conscious Competence #3	Conscious Incompetence #2
Unconscious	Unconscious Competence #4	Unconscious Incompetence #1



Know what you don't know

Don't know what you don't know

Knowles' Andragogy

- Adult learners want to:
 - Know ***why*** they are learning
 - Ground learning in ***experience***
 - Take ***responsibility*** for their own learning
 - Learn topics that are ***relevant***
 - Learn in a ***problem-centered*** manner
 - Respond to ***internal*** motivators

Is All Simulation Created Equal?

- *Any* sim is probably better than no sim
- Even unsupervised practice improves learner performance
- But can *better* simulation can lead to *better* learner performance?

*“Which road do I take?”
Alice asked.*

*“Where do you want to
go?” replied the cat.*

*“I don’t know,” Alice
answered.*

*“Then,” said the cat, “it
doesn’t matter which
road you take.”*



Best Practices in Simulation

- *Features and uses of high-fidelity medical simulations that lead to effective learning: a BEME systematic review.*

Providing Feedback

Repetitive Practice

Curriculum Integration

Range of Difficulty Level

Multiple Learning Strategies

Capturing Clinical Variation

Controlled Environment

Individualized Learning

Defined Outcomes

Simulator Validity

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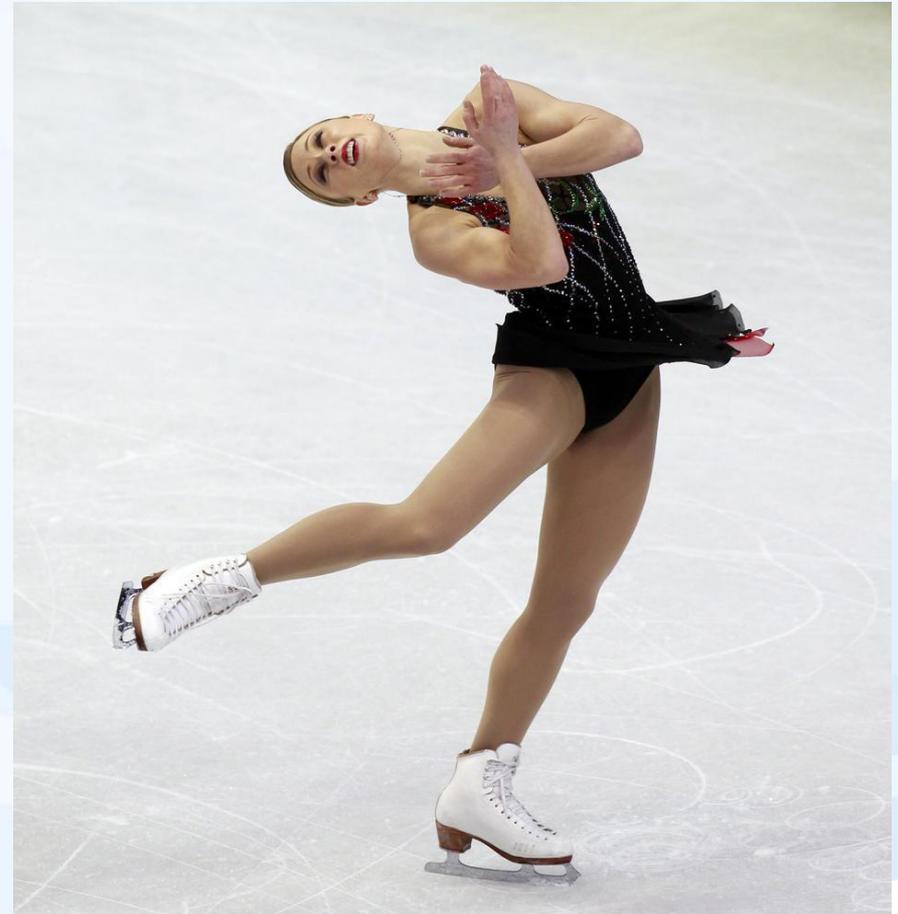
Need to Ensure...

- Adequate *practice* for learners
- Feedback to improve performance
- Sufficient repetitions to achieve mastery

And there's a word for this...

Deliberate Practice (Ericsson)

- Developed to describe practice patterns of elite athletes
- Applies to simulation-based medical education
- ***Expert performance*** is the goal



Features of Deliberate Practice

- Well-defined **objectives**
- Focused, repetitive **practice**
- Rigorous **measurements**
- Informative **feedback**
- **Error correction** in future practice
- Progression toward **mastery**

Features of Good Debriefing

- Maintain positive regard for learners
- Focus on learner safety
- Seek to understand learner point of view
- Be clear about performance gaps
- Address both what to do and why
- Ensure learners experience success

Simulation Pearls

1. Know what you're trying to accomplish
2. Know what your learners don't know – and figure out how to fix it
3. Maximize time and quality of practice
4. Assess your learners – don't rely on their reaction to gauge effectiveness
5. ***Tailor debriefing to the situation, but always use good debriefing practices***

What is next



What can we do together?

- Develop sim that is appropriate for your learning needs
- Conduct sim that is meaningful
- Measure the impact of your sim
- Test processes/procedures/new ideas
- WHAT ELSE??

More info?

Carilion Clinic [S] | <https://www.carilionclinic.org/simcenter>

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Training Options **Activity Request Form** Experience It By the Numbers Our Team Support CSRPS

Center for Simulation, Research and Patient Safety

Improving the delivery of health care for our patients by providing high quality simulation experiences for learners through integrated education, clinical practice improvement and research just as a reference for what the center does.

Call 540-855-6860 Learn more



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Questions or feedback?