

# **Simple or sophisticated: How should paediatric simulation training be deployed?**

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**Sydney Clinical Skills  
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No personal financial benefits



**Sydney Clinical Skills  
and Simulation Centre**





**Paediatric Emergency Treatment and Advanced Life Support (PETALS)**

**GESCHN Mobile Paediatric Emergency Training**

**GESCHN Paediatric Trauma Team Training**

**GESCHN Paediatric Team Training**



**Emergency Medicine Crisis Management**



**Sydney Clinical Skills and Simulation Centre**



# Variables in programs

- Experience of target - Novice to expert
- Educational methods
  - E learning
  - Practical workshops
  - Simple scenarios
  - Intensive full scale immersive scenarios and debriefing



# Variables in programs

- Modalities
  - Task trainers
  - Simple manikins
  - Sophisticated robotic manikins
  - Actors



# Variables in programs

- Content
  - Didactic clinical topics
  - Non-technical skills
- Scale of program
  - Small bespoke courses
  - Statewide programs





# beme

## BEST EVIDENCE MEDICAL EDUCATION

### **BEME Spotlight No.4**

#### **High-fidelity medical simulations and most effective learning**

*Tim Dornan, Sonia Littlewood, Stephen A Margolis, Albert Scherpbier, John Spencer and Valmae Ypinazar*

**Review citation:** Issenberg S B, McGaghie W C, Petrusa E R, Gordon D L and Scalese R J. (2005). What are the features and uses of high-fidelity medical simulations that lead to most effective learning? BEME Guide No 4. *Medical Teacher* 27, 1, pp 10-28.

**Review website:** <http://www.bemecollaboration.org/beme/pages/reviews/issenberg.html>

**Keywords:** Medical simulation, high-fidelity, learning



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# Most effective learning

- Feedback during the learning experience
- Repetitive practice
- Integrate simulators into overall curriculum
- Adapt simulator to complement multiple learning strategies
- Variety of clinical conditions
- Controlled environment – no adverse consequences
- Individualised learning in the simulator
- Clearly defined outcomes for learners to achieve
- Simulator is a valid learning tool



# Most effective learning

- Validity – mirror real life

Vs

- Reliability – reproducibility, uniformity



	R4K	Insitu	PETALS	PTTT	PTT	PEMCM
Feedback	++	++	++	+++	+++	+++
Repetition	+++	+	++	++	++	+++
Integration	+++	++	++	++	++	++
Complementary	+++	+	++	++	++	++
Variety	+	++	++	++	++	+++
Controlled	+++	+++	+++	+++	+++	+++
Individualisation	+++	+	++	++	++	++
Outcomes	+++	++	++	+	+	++
Validity	+ / +++	++	++	+++	+++	+++
Reliability	+++	++	++	+	+	++



# Course evaluations

## ■ Quantitative

- How well course run? 4 +
- I enjoyed this session 4 +
- Particular content 3 +



# Course evaluations

- Qualitative

- Value scenario learning
- Authentic
- Reflect what do at work
- Non judgmental instructors



# Improving reliability

- Instructors
  - Stable instructor core
- Refine scenarios
- Reduce number of scenarios
- Longer courses



# The Future

- Highly reproducible, mass market, in situ programs eg RESUS4KIDS
- Specialised, highly valid, more sophisticated programs eg PEMCM

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