Joining the Ranks: Mannequins and the Inside Story
Dr. Ghazwan Altabbaa and Dione Kolodka, Alberta Health Services
Broadcast live from the 2018 IPAC Canada conference

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CME Disclosure

• Ghazwan Altabbaa is a physician at Alberta Health Services and Faculty member at University of Calgary.
• Dione Kolodka is a staff at Infection Prevention Control at Alberta Health Service.

• No financial disclosures for both.

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Agenda

What is simulation?
How does simulation look like for Infection Control?
IPC and Medical Education
Our story & their story: Mannequins reporting
Healthcare providers joining the conversation
What is next?

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What is simulation

The technique of imitating the behaviour of some situation or process by means of a suitably analogous situation or apparatus, especially for the purpose of study or personal training.

Some definitions

- Fidelity refers to the accuracy with which the simulation and/or simulation device imitates reality.
- High, Medium, Low: high would be full body mannequin with physiologic modelling and low would be basic CPR manikin.

- **Task trainers**: devices designated to provide experiences in specific skills or simulation (e.g. airway management).
- **Full-body simulator**: electromechanical outfitted manikin of varying fidelity.
- **VR**: computer-generated representation of a physical entity (e.g. bronchoscopy)
- **Haptic**: physical feedback of device.
- **Immersive environment**: full-scale simulation by physical devices alone or in combination with VR to recreate a health-care setting.
- **Debriefing**: reflective post-scenario discussion of key activities, events and principles from experience.
Some history

- First introduced in 1960's in anaesthesia, then expanded to other medical specialties. Dr. Stephen Abrahamson at USC.

- Especially in the 1990's widespread: ability of simulation to provide a unique procedural and cognitive training platform and train repetitively on complex tasks where mistakes become powerful learning vehicles rather than negative outcomes at bedside.

- The old axiom of see one, do one, teach one (practising on patients) may no longer be appropriate given concern with patient safety.
- Now it is expected that trigness have some basic competencies before and during learning with actual patients.
- This applies to all levels of education from UME to PGME and CME.

- More ingrained in medical education given move towards development and demonstration of learner competencies.
- Identified as a high research priority in medical education.
- At the regulatory level, simulation is allowed to meet the minimum quotas for procedures, situations, and management challenges.
- American board of anesthesiology has mandated simulation as part of its maintenance of certification program since 2000.
- It’s category 3 in our MOC according to RC.
- It is likely that simulation will play an increasing role in recertification activities.

Video 1

- This is a sample video of a simulation based activity.
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Video 2

- This is a sample video of a simulation based activity that has an IPC learning objective.

IPC and Medical Education

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How much do medical students know about infection control?
C.M. Mann a,b, A. Wood b

Survey of teaching/learning of healthcare-associated infections in UK and Irish medical schools
D. O’Brien a,b, J. Richards c, K.E. Walton d, M.G.A. Phillips a, H. Humphreys a,b

Brief Report
Knowledge, source of information, and perception of Portuguese medical students and junior doctors of infection control precautions
David Peres MD, MPH a, Milton Severo PhD b,c, Maria Amélia Ferreira MD, PhD b

SHORT COMMUNICATION
Do medical students receive training in correct use of personal protective equipment?
Amria John a,b, Myreen E. Tomas a,b, Aditya Hari a, Bridget M. Wilson a and Curtis J. Donkey a,b
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KEYWORDS
Medical students, infection control, training education

ABSTRACT
Background: Healthcare personnel often use incorrect technique for donning and doffing of personal protective equipment (PPE). Objectives: We tested the hypothesis that medical students receive insufficient training on correct methods for donning and doffing PPE.
Methods: We conducted a cross-sectional survey of medical students on clinical rotation at two teaching hospitals to determine the type of training they received in PPE technique. The students performed simulations of contaminated PPE removal with fluorescein solution on gloves and were scored for correct PPE technique and skin and clothing contamination. To obtain additional information on PPE training during medical education, residents, fellows, and attending physicians completed written questionnaires on PPE training received during medical school and on knowledge of PPE protocols recommended by the Centers for Disease Control and Prevention.
Results: Of 72 medical students surveyed, only 11 (15%) reported receiving PPE training, and none had received training or demonstration of hand hygiene. An educational initiative to address these deficiencies led to improved training and education.

Conclusions: Our findings suggest that there is a need for development of effective strategies to train medical students in correct use of PPE.

Abbreviations: PPE, personal protective equipment; MDR, multi-drug resistant; MDR, methicillin resistant; SARS, severe acute respiratory syndrome; MERS, Middle East respiratory syndrome; WHO, World Health Organization; ED, Emergency Department; Osce, Objective structured clinical examination

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Most HCWs not very good at donning and doffing PPE with high rates of skin/clothing contamination
Our story & their story: Mannequins reporting

• Here we would like to review some of the observations from our Internal Medicine Residency Program

Healthcare providers joining the conversation

• Here we would like to review some of the results in conversations with front line healthcare providers.
What is next?

• Discuss some of the action steps applied at this time in residency program.

Discussion
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Speaker: Martin Kiernan, University of West London

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Speaker: Dr. Aamer Ikram, Director, National Institute of Health, Islamabad, Pakistan

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Speaker: Andrew Streifel, University of Minnesota

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