Modern Medical Moulage in Health Professions Education

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Definition

moulage

NOUN

A cast or impression, especially of a person or a part of the body; the process of making a cast or taking an impression; the material used for this.





Source: oxford dictionaries.com

Photo: Moulagensammlung des Universitätsspitals Zürich





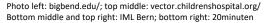
Spot the fake















Moulage in Simulation

- Simulation authenticity
- Suspension of disbelief
- Validity argument
- What is already known?





Objective

Scoping review of

- Which medical conditions are being simulated?
- Who wears the moulages?
- Who gets to experience moulage simulation?
- What are the educational scenarios in which moulages are being used?
- How are they being evaluated





Search strategy

- Journal Citation Report listed journals of dermatology (n=63) and health professions education, including nursing and military medicine (n=22)
- Search term moulage All Content Search
- Publications up until December 2017
- Iterative forward and backward searches





Inclusion criteria

Specification of either

- Depicted conditions
- Information on whom the moulages were used
- Training's or assessment's target population
- Educational scenario in which moulages were used, or
- Mode/criteria of moulage evaluation
- 50 articles included & data extracted





Integumentary conditions

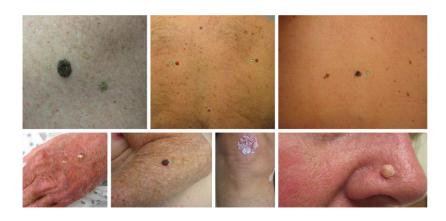
- Actinic keratosis, angioma, contact dermatitis, Osler nodes, nevus and carcinoma, psoriasis, seborrheic keratosis, verruca vulgaris
- Dengue lesions, Ebola rashes, folliculitis, herpes simplex and zoster, insect bites, leishmaniasis, leprosy, tinea corporis







Photos: left: Sabzwari et al., 2017; right: Garg et al., 2010



Trauma cases

 hematoma, abrasions, lacerations, burns and scalds, open and closed fractures, evisceration, amputations, gunshot, pressure wounds







Carriers and learners

- Application on SP (incl. learners), mannequins or both
- Learners include
 - Medical students, residents, postgrads
 - Nursing students and registered nurses
 - Pharmacy students
 - Emergency medical technicians, firemen, first responders, army and navy personnel





Educational scenarios

- Teaching (n=39), usually clinical skills
 - skills lab settings and large scale simulations
- Assessment (n=11), clinical skills
 - OSCE and less objective formats





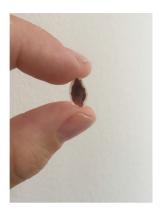
Affective objectives

QUALITATIVE RESEARCH

British Journal of Dermatology

Living with 'melanoma' ... for a day: a phenomenological analysis of medical students' simulated experiences

M. Corr, G. Roulston, N. King, T. Dornan, C. Blease 4,5 and G.J. Gormley 2



Such an inexpensive simulation modality shows promise in prompting medical students to reflect critically on how they could treat patients with melanoma more empathetically in the future.



 $u^{^{\scriptscriptstyle b}}$

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Affective objectives

Teaching empathy to undergraduate medical students using a temporary tattoo simulating psoriasis

Lesley Latham, MSc,^a Aimee MacDonald, BSc,^b Alexa B. Kimball, MD, MPH,^c and Richard G. Langley, MD, FRCPC^a *Halifax, Nova Scotia, Canada, and Boston, Massachusetts*



Described being self-conscious, embarrassed, or uncomfortable

Noticed or perceived that others were looking/staring at tattoo while in public

Attempted to cover tattoo



 $u^{^{\scriptscriptstyle b}}$

Community health





Mawji et al., 2013

Clinical Simulation in Nursing (2013) 9, e513-e519



Clinical Simulation in Nursing

www.elsevier.com/locate/ecs

Featured Article

Imogene: A Simulation Innovation to Teach Community Health Nursing

Aliyah Mawji, RN, PhDa,*, Candace Lind, RN, PhDb

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health concepts the course would be covering. Imogene is a manikin dressed as a homeless, battered sex trade worker. Moulage techniques are used on the manikin to simulate dirt and injuries, including fresh lacerations on her arms, bruises, a black eye, and bleeding from her nose and ear (Figure 1). In addition she has bruising on both upper arms in the shape of hand prints and track marks on her antecubital fossa. Imogene is dressed in her "working clothes," complete with jewelry and makeup. A case study of her life story is presented in Appendix A.

Evaluation

- Few detailed evaluations
- Moulage evaluation
 - Usually visual authenticity, usually by expert
- Scenario or simulation evaluation
 - Objective assessment of varied quality: correct diagnoses
 - Self-reported learning effectiveness





Discussion

- Reporting of heterogeneous quality
- Imprecise terminology
- Unclear quality criteria for moulages
- Little exchange between dermatology, nursing, trauma
- Widely used
- Lots of potential



