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Curiositas: And Finally... (Simulation Structure)

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Curiositas

UNDERGRADUATE QUIZ



Unknown author; public domain image



1. Who is depicted in the top image?
2. What is shown on the bottom image? Who developed it?

Aaron Vage (PhD Student), Centre for Medical Education, Queen's University Belfast.

POSTGRADUATE QUIZ



1. What educational technique is being utilised here?
2. When was this technique developed?

Peter Moore (Academic F2), Davina Carr (Clinical Teaching Fellow), Gerard Gormley (Clinical Professor), Centre for Medical Education, Queen's University Belfast.

HISTORICAL QUIZ



1. What does this image represent?
2. Who used the apparatus?
3. What relevance does it have to today's society?

Image credit: La machine de Madame du Coudray exposée au musée Flaubert et d'Histoire de la Médecine à Rouen by Frederic Bisson. No changes have been made. Available from:

<https://www.flickr.com/photos/zigazou76/8665628775/>

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Andrew Spence (Academic Clinical Lecturer), Centre for Medical Education, Queen's University Belfast.

AND FINALLY...



The above image depicts a post-simulation debriefing session.

1. Do medical simulations share common structures regarding their design?
2. If so, what commonalities do they share?
3. Can the structural order of a medical simulation be altered?

Aaron Vage (PhD Student), Centre for Medical Education, Queen's University Belfast.

CONSIDER CONTRIBUTING TO CURIOSITAS?

Please refer to 'Curiositas: Guidelines for contributors' <http://www.ums.ac.uk/curiositas.html> and email curiositas@ums.ac.uk with your ideas and submissions.

Curiositas: Answers

UNDERGRADUATE QUIZ

1. In the macabre age of late-19th century Paris, a young lady was hauled from the Seine; lifeless, unknown, and body unclaimed. Ambiguity flourishes in terms of the supposed events leading to her death. However, one commonly recited history is that after a spate of emotionally charged words with her lover, the seemingly irreparable state of the relationship drove this girl to plunge into the Seine, without return¹. In a somewhat ironic twist, little could this heart-broken lover have realized that after death she would go on to have probably the most 'kissed' lips in the world.

2. Whilst waiting for an identification that never came, 'L'Inconnue de la Seine' (the unknown of the Seine) so transfixed one particular mortuary assistant that he demanded a facial cast be taken to preserve her beauty. In the years that followed, L'Inconnue de la Seine's facial cast was reproduced, attracting an almost cult-like entourage of fans, composed of artists, playwrights, and philosophers². Prior to receiving a phone call from the esteemed physician Peter Safar, author of 'ABC of Resuscitation' about the manufacture of a rubber mannequin to be used for CPR, the Norwegian toymaker, Asmund Laerdal, had recently saved his small son from drowning³. Receptive to the issue at hand, Laerdal set about creating a realistic, rubber female head and torso, but couldn't decide on a face. One evening whilst having dinner at his in-laws, Laerdal noticed a serine female face hanging on the opposite wall; briskly deciding to take it down and use it for his mannequin. Resusci Anne, now fondly known as CPR Annie, was born⁴.

Most, if not all, medical students will encounter CPR Annie at some point during their studies. However, the next time your lips are pressed to hers, remember that you're training to save a life on the facial reproduction of L'Inconnue de la Seine, a lady whose life may have been longer, had someone known how to resuscitate her!

¹Gordetsky, JB *et al* 2020. *Anesthesia & Analgesia*, 131, 657-659.

²Loke, S & McKernon, S 2020. *BMJ*, 371, m3899.

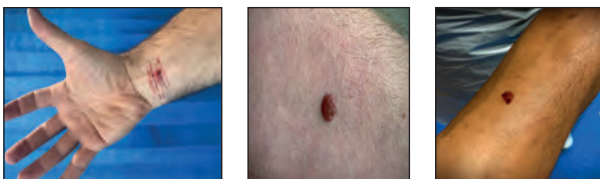
³Tjomsland, N & Baskett, P 2002. *Resuscitation*, 53, 115-119.

⁴Lind, B 2007. *Anaesthesiologica Scandinavica*, 51, 1051-1053.

POSTGRADUATE QUIZ

1. Moulage, from the French moulé (to mould), traditionally describes the process of making wax casts of anatomical specimens. More recently this practice has evolved into the use of special effects makeup to simulate disease and injury and allow an immersive environment for the student learner¹.

2. The exact origins of moulage are uncertain. Whilst the process of casting human body parts can be traced to the ancient Egyptians' mummification process, moulding for the purposes of education seems to have begun in the 17th century. Gaetano Giulio Zumbo, a Sicilian abbot, presented wax models of anatomical specimens across Europe. Towards the beginning of the 19th century, dermatological models became the prime utilisation of this method^{2,3}. More recently, moulage has been used extensively in the world of simulation teaching. Below are a few examples of how moulage has been used at Queen's University Belfast: left, self-inflicted lacerations moulage (temporary transfer tattoo); middle, dermal nevus prosthetic; right, superficial spreading melanoma (temporary transfer tattoo).



¹Stokes-Parish, JB *et al* 2018. *Nurse Education Today* 64:49-55.

²Riva, A *et al* 2010. *Journal of Anatomy* 216(2):209-22.

³Worm, AM *et al* 2007. *Journal of the European Academy of Dermatology and Venereology* 21(4):515-9.

HISTORICAL QUIZ

1. Two hundred and sixty years ago, French midwife Angelique Marguerite Le Boursier du Coudray embarked on a journey to bring healthcare education to the masses. To address the high infant mortality rate, she identified deficiencies in young women's knowledge in the process of birth¹. Nick-named 'The Machine', Madame du Coudray developed an obstetric manikin consisting of a female pelvis complete with womb, pelvic organs and infant to demonstrate the critical steps involved in birth. Manufactured from leather, cotton and canvas, this combination of basic materials created an opportunity to truly save lives².

2. Authorised by King Louis XV in 1759, over a quarter of a century as du Coudray toured the Kingdom of France, it is estimated she taught in excess of 5,000 doctors, surgeons and nurses the process of childbirth through simulation. Mechanical elements including strings and straps to simulate stretching of the birth canal and perineum and a separate detailed infant attached via umbilical cord. Complete with a shaped nose, ears, drawn on hair and mouth she also demonstrated management of complications such as breech position deliveries³.

3. Through her pioneering efforts, du Coudray was appointed head accoucheuse at the Parisian Hotel Dieu Hospital, leaving an enduring legacy of learning through simulation in obstetrics, the principles of which are still in use today. Running paid courses complete with certificates of completion, her teaching model included peer-to-peer learning through her former students, mirroring modern-day medical education training⁴. Furthermore, the use of literature to accompany The Machine provided a written guide on childbirth, including management of complications, which supplemented clinical skills gained through hands-on practice: essential components of modern-day medical education through simulation, over a quarter of a millennium later¹.

¹Halff, R 2014. *Angelique Marguerite Le Boursier du Coudray's Abrégé de l'art des accouchements*. The New York Academy of Medicine: Books Health and History.

²Jandu, G & Khan, A. 2021. *Journal of Medical Biography* 29(2):121-122.

³Gelbart, N 1999. *The King's Midwife: A History and Mystery of Madame du Coudray*. California. University of California Press.

AND FINALLY...

1 and 2. As simulation-based medical education (SBME) has developed through the years, the structure of the student simulation experience has evolved to encompass several phases. Whilst each training centre will develop its own plan regarding SBME, there are three common phases in simulation: briefing, simulation and debriefing. During the briefing phase, educators aim to reduce learner anxiety by introducing the simulation landscape and constituent simulators. The simulation phase involves participation in a designed scenario. The debriefing phase is traditionally a post-simulation feedback session, where educators encourage learners to share their emotional responses and thought processes concerning the simulation, allowing reflection and informed discussion in terms of learning and performance¹. Debriefing can further be divided into three subphases, reaction, analysis, and summary. The reaction subphase encourages learner self-expression. Analysis is generally composed of a formative assessment. The summary delivers critical key messages and points of improvement².

3. In recent years, research has validated the use of intra-simulation debriefing as a tool to aid learner understanding³. These forms of 'debriefing-on-demand' are also touted for their potential anxiety-reducing, performance-enhancing effects, partially due to their ability to alter simulation structure⁴. However, whilst intra-simulation debriefing affords real-time analysis of a learner's anxieties, and consequent performance, it may also act to reduce the overall fidelity of the simulation at hand.

¹Lawson, S *et al* 2018. *Ulster Medical Journal*, 87, 163-167.

²Lilot, M *et al* 2018. *Anesthesiology*, 128, 638-649.

³Schober, P *et al* 2019. *BMC Medical Education*, 19, 334. ⁴McMullen, M *et al* 2016. *Journal of the Society for Simulation in Healthcare*, 11, 157-163.



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