

Abstract

Objective: The emergence of the (COVID-19) pandemic has had an overwhelming impact on surgical training with canceled operating lists and a shifting focus towards running essential services. Although, these changes have resulted in a trend towards eLearning and virtual platforms as never before, yet trainees find themselves at a loss. The lost opportunity for hands-on training threatens surgical-skill decay, placing trainees at a significant disadvantage compared to their predecessors.

Simulation training has shown to be effective in preventing decay and is recognised as a method for teaching novice learners' new technical skills. Minimal invasive surgery in gynaecology requires competence at key procedures such as laparoscopic hysterectomy. The core skills required to achieve such competence are psychomotor skills, visual-spatial skills, and cognitive skills. Homemade low-cost simulation models can be used to develop these skills.

Methods: We share our experience of using household items to create a variety of low-cost models for laparoscopic hysterectomy training. The models required common materials easily available at home, such as kitchen sponges, toilet roll cylinders, plastic pipes, modeling clay, fruits, and clothing items, etc. to simulate the vaginal vault, tissue dissection planes, and colpotomy.

Results: In our experience household items not only allow for readily available practice exercises but also encourage creativity.

Conclusion: The COVID-19 pandemic has undoubtedly put trainees at risk of surgical-skill decay. However, using low-cost household models for surgical exercises focused on developing the psychomotor, visual-spatial, and cognitive skills central to surgical performance could help prevent surgical-skill decay.

SURGICAL SKILL DECAY AMONG GENERATION COVID TRAINEES

- The emergence of the (COVID-19) pandemic has had an overwhelming impact on surgical training with cancelled operating lists and a shifting focus towards running essential services.
- This has encouraged a trend towards eLearning and virtual platforms as never before, yet trainees find themselves at a loss.
- The lost opportunity for hands-on training threatens surgical-skill decay, placing trainees at a significant disadvantage compared to their predecessors.
- In most trust, operating lists reduced to 25% with gynae-onc list being prioritised.
- This has resulted in huge back-log's in waiting lists with a significant impact on training.

WHO WILL USE OUR INVENTION

- Anyone training in gynaecology stands to benefit from ELSIM
 - It's inexpensive (Average cost £1-12)
 - It's convenient
 - It's easy to create
 - It's reusable
 - Easy to multiply
 - Great for training and practice
 - Encourages out of box thinking!

COLPOTOMY MODELS



WHAT CAN BE DONE?

- Simulation training has shown to be effective in preventing decay and is recognized as a method for teaching novice learners new technical skills
- Commercial laparoscopic trainers are very expensive (box trainers (£200-1000), Virtual reality trainers (typically cost £2000-100,000))
- Models compatible with commercial trainers cost (£25 pounds/model)

INVENTION MATERIALS

- Commonly available household items
- Kitchen dish washing sponges
 - Toilet roll tube
 - Craft materials-Foam sheets, Styrofoam, threads, modelling clay, Velcro
 - Plastic materials-Straws, tubing, cups, gloves and balloons, cloth hanging clips
 - Fruits
 - Clothing items-Socks, tights
 - Sanitary pads
 - Makeup sponge



SUTURING MODELS



EASY LOW-COST SIMULATION MODELS (ELSIM)

- Minimal invasive surgery in gynaecology requires competence at key procedures such as laparoscopic hysterectomy, ovarian cystectomy.
- The core skills required to achieve such competence are **psychomotor skills, visual-spatial skills & cognitive skills.**
- Homemade easy low-cost simulation models (ELSIM) can be used to develop these skills.
- Aimed to create low-cost, easy to make, reusable alternatives to expensive lap training boxes and models to facilitate learning lap skills relevant to gynaecology.

TISSUE DISSECTION MODELS



SUTURING MODELS

