

Creation of a Gynecology Surgical Simulation Curriculum for LVHN Ob/Gyn Residents

Erin Farmer
DeSales University

Carlie Skellington
Lehigh University

Joseph E. Patruno MD
Lehigh Valley Health Network, Joseph_E.Patruno@lvhn.org

Timothy M. Pellini MD
Lehigh Valley Health Network, Timothy_M.Pellini@lvhn.org

Martin A. Martino MD
Lehigh Valley Health Network, martin_a.martino@lvhn.org

Follow this and additional works at: <http://scholarlyworks.lvhn.org/research-scholars-posters>

Published In/Presented At

Farmer, E., Skellington, C., Patruno, J., Pellini, T., Martino, M., (2016, July, 29). *Creation of a Gynecology Surgical Simulation Curriculum for LVHN Ob/Gyn Residents*. Poster presented at LVHN Research Scholar Program Poster Session, Lehigh Valley Health Network, Allentown, PA.

This Poster is brought to you for free and open access by LVHN Scholarly Works. It has been accepted for inclusion in LVHN Scholarly Works by an authorized administrator. For more information, please contact LibraryServices@lvhn.org.

Creation of a Gynecology Surgical Simulation Curriculum for LVHN Ob/Gyn Residents

Erin Farmer, Carlie Skellington, Joseph E. Patruno MD, Timothy Pellini MD, Marty Martino MD

Lehigh Valley Health Network, Allentown, Pennsylvania

BACKGROUND

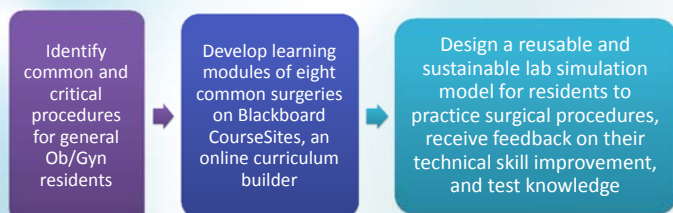
- Appropriate surgical skill is important in preventing intraoperative complications, reducing operative time, and assuring safe surgical outcomes (Birkmeyer et al., 2013).
- Traditional surgical residency program trainees continue to follow a “see one, do one, teach one” training apprenticeship model, during which residents operate on primarily live patients (Van Hove et al., 2010).
- Teaching surgical technique, skills, and procedures in a simulated environment has become critical in graduate medical education. It offers an environment where residents can safely learn and practice, ultimately optimizing future patient outcomes (De Montbrun and MacRae, 2012).

PURPOSE

To design and develop a structured surgical curriculum for LVHN Ob/Gyn residents that incorporates the following components:

- **Learning** – Didactic teaching and appropriate reading material identifying the indications for and methods of performing the surgical procedure
- **Video** – Enforcing surgical principles and technique through standard live case videos
- **Hands-On Performance** – Providing clinical exposure to enhance surgical skills using box trainers, hybrid models, and computer simulation
- **KNowledge** – Evaluating with standardized post-tests

METHODS



RESULTS

- We identified surgical procedures that LVHN Ob/Gyn residents should achieve competency in performing prior to graduation; for which the following training modules were developed:
 1. Ovarian Cystectomy and Oophorectomy
 2. Tubal Sterilization
 3. Pelvic Pain (Endometriosis and Adhesions)
 4. Cystoscopy and Urogenital Surgery
 5. Hereditary Breast and Ovarian Cancer (HBOC)
 6. Ectopic Pregnancy
 7. Basic Hysteroscopy
 8. Cervical Dysplasia (Cone Biopsy and LEEP)
- Each module follows a basic structure with an emphasis on case-based learning and application for the resident, as well as multifaceted evaluation tools.

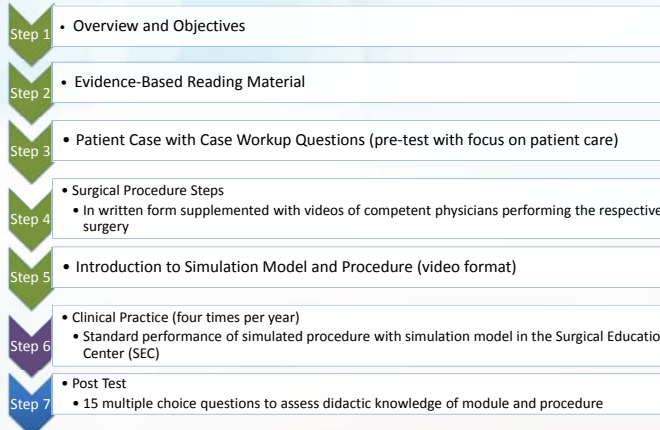


Fig. 1: Overview and Objectives



Fig. 2: Reading Materials



Fig. 3: Case with Questions



Fig. 4: Post Test

RESULTS, cont.

- A simple “hybrid” pelvic simulation model was developed using readily available materials, including a plastic fruit as the uterus, common tubing materials as the iliac arteries and veins, and Smooth On® Silicone Rubber as the peritoneum and soft tissue.
- Affordable and easy-to-replicate interchangeable parts represent various pathologies upon which residents can practice:
 - Endometriosis: water balloon covered with Smooth On® Soma Foam (flexible silicone foam) interspersed with plastic kidney beans

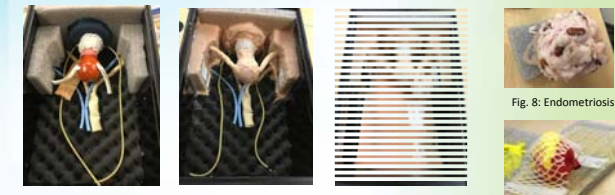


Fig. 5, 6 and 7: Development of Simulation Model

Fig. 8: Endometriosis

Fig. 9: Adhesions

CONCLUSIONS

- This simulated surgical curriculum will be introduced in the structured training program for all Ob/Gyn residents.
- Modules are expected to improve residents’ technical skills and comfort level with critical gynecology procedures that both optimize true operative performance and protect patients.
- The curriculum also provides attending surgeons a standardized and sustainable means to better evaluate surgical performance and competency while providing remediation for needy trainees.
- Future work includes creation of additional modules.

© 2016 Lehigh Valley Health Network

A PASSION FOR BETTER MEDICINE.™

610-402-CARE LVHN.org

REFERENCES
 Birkmeyer, J. D., Fink, L. F., O'Reilly, A., Deane, M., Carlin, A. M., Naranjo, A. R., Dimick, J., Swanson, M. (2013). Surgical Skill and Complication Rates after Bariatric Surgery. *The New England Journal of Medicine*, 369(15), 1434-42.
<http://www.nejm.org/doi/full/10.1056/NEJMoa1202496>
 De Montbrun, S. L., and MacRae, M. (2012). Simulation in Surgical Education. *Clinics in Colon and Rectal Surgery*, 24(1), 15-16.
 Van Hove, P. D., Tuzhil, C. E., Verhaeghoren, S. G., Jansen, J. P. A., Barmann, R. (2010). Objective Assessment of Technical Surgical Skills. *British Journal of Surgery*, 97, 922-27.
<http://www.ncbi.nlm.nih.gov/pubmed/20512021>

