Analysis of Endoscopic Simulators for Assessment of Surgical Skills of OBGYN Residents.

Adriana Pero  
*Lafayette College*

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

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

Jhonathan Duarte MD  
*Lehigh Valley Health Network, jhonathan.duarte@lvhn.org*

Victoria Lawn DO  
*Lehigh Valley Health Network, Victoria.Lawn@lvhn.org*

*See next page for additional authors*

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Authors
Adriana Pero, Joseph E. Patruno MD, Martin A. Martino MD, Jhonathan Duarte MD, Victoria Lawn DO, and Taylor Wejkszner
Analysis of Endoscopic Simulators for Assessment of Surgical Skills of OBGYN Residents

Joseph Patruno, MD; Martin Martino, MD; Jhonathan Duarte, MD; Victoria Lawn, DO; Taylor Wejkszner; and Adriana Pero

Lehigh Valley Health Network, Allentown, Pennsylvania

BACKGROUND

- Accurately evaluating residents on their surgical skills is important to ensuring resident development and improving the quality of patient care
- Many residency programs utilize simulation training to refine and assess the residents’ surgical skills
- Investigation of simulator training at LVHN could show a valid method to develop and evaluate the surgical skills of OBGYN residents

METHODS

- Study was conducted among OBGYN residents in five different class years in summer 2016 and summer 2017
- Residents were tested on surgical training simulators that imitated laparoscopy, hysteroscopy, and robotic surgeries

RESULTS

- Data shows differences in resident class year, most profoundly in the middle of residency (second to third year), but not necessarily improvement among same residents from 2016 to 2017
- A correlation was found between results and number of surgeries
- Time and efficiency, which are important skills for surgeons, improve as residents progress

CONCLUSION

- Possible investigation of patient outcomes with relation to simulation performance in attending physicians
- Creating baseline performance requirements or improvement expectations for residents
- Investigating other variables that may affect performance (sleep, rotation, mood, etc.)
- Linking simulation performance with Tips or B-Line evaluations

FUTURE RESEARCH

- Analysis of Endoscopic Simulators for Assessment of Surgical Skills of OBGYN Residents

Box Trainers
- Peg Transfer
- Hysteroscopy
- Shoelace
- Bead Speed

Symbionix
- 30° Camera Manipulation
- Grasping and Clipping
- Cutting
- Electrocautery

Robot Mimic
- Matchboard #2
- Tubing #1
- Energy Switching #2

Measurements
- Time
- Number of mistakes

Time by PGY
- Efficiency by PGY
- Accuracy by PGY

Analysis
- Results tested for correlation with number of surgeries completed
- Results compared between class years
- 2017 results compared to 2016 results

Figure 1. The correlation between the box total score and the total number of surgeries completed in 2017 for each resident. r=-0.69 (p=0.00017)

Figure 2. The average score for robot total by resident year. F=8.64 (p=0.0065)

Figure 3. The average by year of the sum of the times of the simbionix and robot mimic exercises and the average by year of the sum of the economy of motion and the path length of the simbionix and robot mimic exercises