

Appendix 1.

EMIG Steering Committee

Jon Einarsson MD, Ph. D (Chair)
Arnold Advincula MD, (Co-Principal Investigator)
Erika Banks MD, (ACOG Simulations Working Group)
Sandie Carson, MD / Marc Jackson MD (ACOG VP Education)
Gary Frishman, MD / Maria Fidela Paraiso, MD (AAGL Presidents)
Isabel Green MD, (EMIG Curriculum)
Frank Loffer MD, / Linda Bradley MD (AAGL Medical Directors)
Linda Michels, (AAGL Executive Director)
Malcolm G. Munro MD, (Principal Investigator)
M Jonathon Solnik MD, (AAGL Board)
Mark Woodland MD, (CREOG Chair)

Working Group

Malcolm G. Munro MD, (Principal Investigator)
Arnold Advincula MD, (Co-Principal Investigator)
Jocelyne Fletcher, (Proctor)
Lisa Matthews, (Project Coordinator, Proctor)
Craig Cocca, (Proctor)
Kim Thayn, Ph. D (Psychometrician)

EMIG Advisory Committee

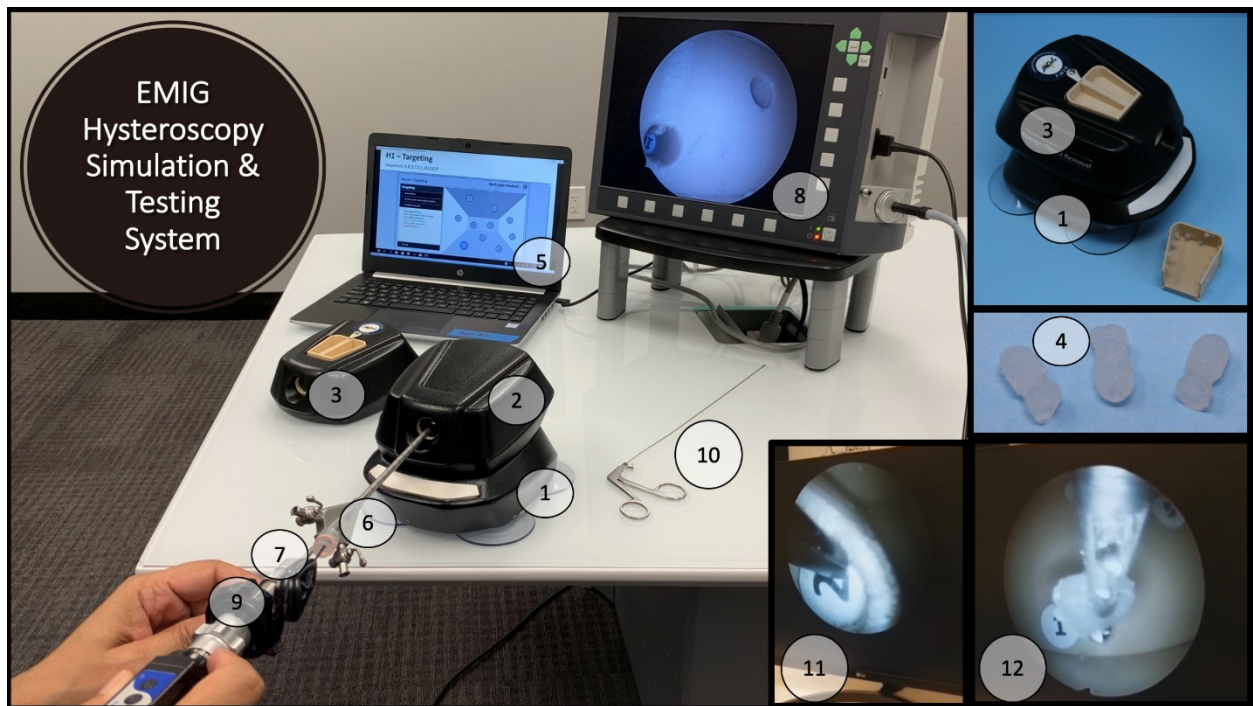
Ted Anderson, MD, Ph. D
Chris Awtrey, MD
Krisztina Bajzak MD
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David Eisenstein MD
Jay Hudgens MD
Cara King, DO
James Messerschmidt, Ph.D
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Saba Saadat, MD
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Jonathon Solnik, MD
Krystle Ziebell, MD

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Appendix 2. American Association of Gynecologic Laparoscopists hysteroscopy simulator (Medical-X, Rotterdam, The Netherlands). The system comprises a proprietary base module (1); targeting module (2); polyp module (3) and polyps (4); a laptop computer with associated proprietary software (5); a 5.5 mm outside diameter hysteroscopic sheath with a 5-French instrument channel (6); a 3 mm outside diameter hysteroscope with a 30° foreoblique lens (7) attached to a remote light source (8); a medical grade video camera head (9) attached to a camera base unit and video monitor (8). In this example, the light source, camera base and video monitor are combined into one device. Hysteroscopic instruments (10) can be passed through the channel for the targeting (11) or polyp removal exercise (12). EMIG, Essentials in Minimally Invasive Gynecology.

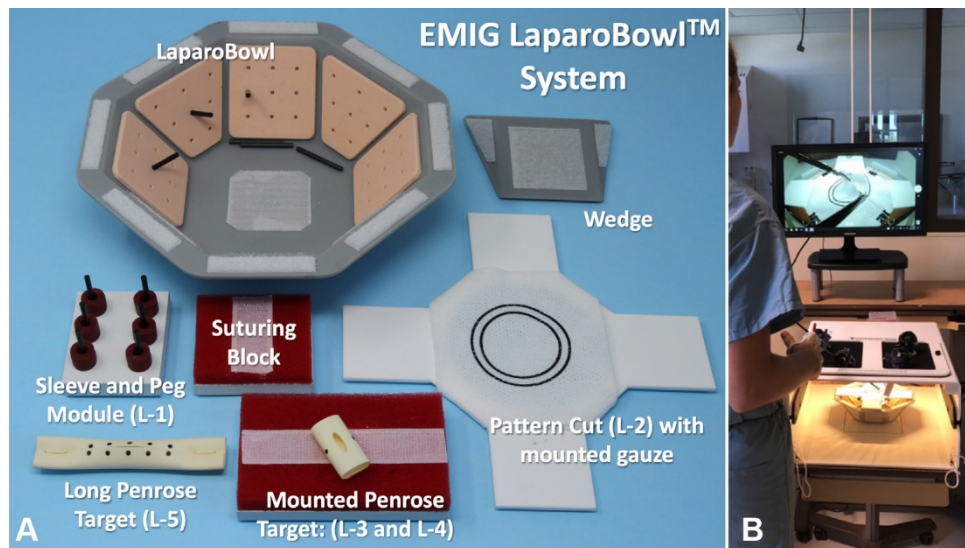


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Appendix 3. The Essentials in Minimally Invasive Gynecology (EMIG) LaparoBowl System. A. The system comprises the octagonal LaparoBowl with five internal perforated and six (three internal and three external) hook and loop fastener-type panels; a wedge to use internally to prevent loss of the sleeves if dropped and externally to provide additional angles for targets; the Pattern Cut (Exercise L-2) platform; two types of suturing blocks for mounting of Penrose targets for exercises L-3, 4, and 5; and the floor-mounted Peg Module for exercise L-1. B. The LaparoBowl is placed into the Fundamentals in Laparoscopic Surgery Trainer Box. Note the participant standing to one side of the trainer to perform the exercise. Reprinted from Essentials in minimally invasive gynecology manual skills pilot validation trial. Munro MG, Brown AN, Saadat S, Gomez N, Howard D, Kahn B, Stockwell E, et al. J Minim Invasive Gynecol 2020;27:518–534, Copyright 2020, with permission from Elsevier.



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Appendix 4. FLS Laparoscopic Simulator (Limbs & Things Inc., Savannah GA). The FLS Trainer Box was used to provide the environment for the EMIG LaparoBowl system. This unit includes an integrated video camera and internal lights, while each of the two black panels was perforated with four cannulas to allow hand instrument access. The output from the video camera is displayed on a video monitor, not shown. Reprinted from Essentials in minimally invasive gynecology manual skills pilot validation trial. Munro MG, Brown AN, Saadat S, Gomez N, Howard D, Kahn B, Stockwell E, et al. J Minim Invasive Gynecol 2020;27:518–534, Copyright 2020, with permission from Elsevier. Figure originally from Limbs & Things, used with permission.



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Appendix 5. Web-Based Screening Survey. Each voluntary candidate identified by the local principal investigator was instructed to take the web-based survey to determine eligibility and to provide anonymized demographic and other data for later analysis. The novice (PGY-1) cohort was required to have minimal hysteroscopic, laparoscopic and related simulator experience. For the other three groups, a minimum level of laparoscopic and hysteroscopic experience was required, the amount based upon their level of training.

1. Last Name: _____	First Name: _____	Middle Name: _____
Date of birth (mm/dd/yyyy): _____		Gender: <input type="checkbox"/> M <input type="checkbox"/> F <input type="checkbox"/> Other
Completion <u>dd/mm/yyyy</u>		Date of _____

A. Current Status

Current Location:					
Institution: _____					
City _____ State/Province: _____					
Country: _____					
Training/Practice Category: Please select one of the following:					
<input type="checkbox"/> OB-GYN Resident					
-Year of Training: PGY-1 <input type="checkbox"/> PGY-2 <input type="checkbox"/> PGY-3 <input type="checkbox"/> PGY-4 <input type="checkbox"/> PGY-5 <input type="checkbox"/>					
<input type="checkbox"/> OB-GYN Fellowship Training					
-Year of Training: 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>					
-Fellowship type:					
<input type="checkbox"/> MFM		<input type="checkbox"/> GYN Oncology		<input type="checkbox"/> REI	
<input type="checkbox"/> FPMRS		<input type="checkbox"/> AAGL FMIGS		<input type="checkbox"/> Other MIGS (Specify)	
<input type="checkbox"/> Post Residency/Fellowship					

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☐ Faculty/Attending (Residency and Fellowship programs)
☐ Practitioner (non-teaching centers) ☐
 Other _____

B. Education:

Answer all that apply:

What was the name of your medical school?

-Name of medical school: _____

-Graduation Year: _____

☐ MD ☐ DO ☐ Other (specify): _____

Have you had residency training in another specialty? ☐ Yes ☐ No

If Yes – For how many years? ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ >6

- What Specialty(s): _____

Have you had Fellowship Training? ☐ Yes ☐ No

☐ Current Fellow - year of training? ☐ 1 ☐ 2 ☐ 3 ☐ Completed fellowship – Year

Fellowship Type

☐ MFM ☐ GYN Oncology ☐ REI ☐
 Other MIGS (Specify) _____
☐ FPMRS ☐ AAGL-SRS MIGS (2 yr) ☐ AAGL-SRS MIGS
 (1 yr)

C. Other Information:

Handedness ☐ Right ☐ Left ☐ No preference (ambidextrous)

Vision

Year of last formal eye exam? _____

Corrected vision? ☐ Yes ☐ No

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D. Prior Simulator Training

Are you FLS certified?

☐ Yes ☐ No

-Experience with FLS Simulator System (0-5, 0 meaning no experience, 5 meaning highest level of experience)

2 ☐ 3 ☐ 4 ☐ 5

☐ 0 ☐ 1 ☐

-Experience with other surgical simulation systems? ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Specify: _____

What is your Experience with Robotic Assisted Simulators?

-Suturing:

Intracorporeal knot tying..... ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Running suture..... ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Provide a self-evaluation of task comfort level (0-5, 0 meaning not comfortable, 5 meaning very comfortable)

-Bead-Peg Transfer task..... ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

-Circle cutting task..... ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

-Suturing:

Intracorporeal knot tying..... ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Extracorporeal knot tying..... ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Running suture..... ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

E. Laparoscopic Surgical Experience

What is your experience with laparoscopic surgery (Robotic excluded)?

(0-5; 0 meaning no experience, 5 meaning highest level of experience)

- Tissue dissection (e.g. adhesion dissection or creation of bladder flap)

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

- Suturing:

Intracorporeal knot tying..... ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

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Extracorporeal knot tying..... ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Laparoscopic running suture..... ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

What is your experience with robotic assisted laparoscopic surgery?

(0-5, 0 meaning no experience, 5 meaning highest level of experience)

-Tissue dissection (e.g. adhesion dissection or creation of bladder flap)

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4
☐ 5

-Suturing:

Intracorporeal knot tying..... ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Running suture..... ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

F. Hysteroscopic Surgical Experience

What is your experience with diagnostic hysteroscopy?

Rigid Hysteroscope (0 meaning no experience, 5 meaning highest level of experience) ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

What is your experience with operative hysteroscopy?

Operative Hysteroscopy/Resection Experience – (endometrial ablation device **not** included)

(0-5, 0 meaning no experience, 5 meaning highest level of experience)

Polyp removal..... ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Myoma resection..... ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Endometrial resectoscopic ablation..... ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Cannulation of Fallopian tube..... ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Asherman's Syndrome/Septum..... ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Foreign body removal (e.g. IUD)..... ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Appendix 6. L-5 running suture errors. Mean errors in mm (\pm standard error of the mean) (A) for each of the 10 targets (B) by cohort. Target order is reversed for those standing on the left side of the trainer box.

