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MIS Goes Virtual

A Publication of the Society of Laparoscopic & Robotic Surgeons

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Article Spotlight

JSLS

Stepwise Simulation Course Design Model: Survey Results from 16 Centers

JSLS (2020) 24(2):00060

Review Article

Nehal Khemis, MD, PhD, MHPE, Richard Satava, MD, FACS, & David E. Kern, MD, MPH

Abstract

Background:
In 2016 we published a stepwise evidence-based model (subsequently named SimSteps) for curriculum development (CD) of simulation-based courses. The current study aimed to assess the uses, user friendliness, and perceived effectiveness of this model and its worksheet and to obtain suggestions for improvement.

Methods:
We sent e-mail invitations for a 14-question web-based survey to 13 health professionals who requested the supplemental worksheet of the stepwise model and 11 authors who cited the model's publication in 14 articles. The survey included quantitative and qualitative items.

Results:
Sixteen (67%) from seven countries and six professions responded. Ten (63%) used the model: six for both course and faculty development, three for course development only, and one for faculty development only. Both users and nonusers found the model and worksheet applicable and user friendly and agreed that they guided use of a systematic, comprehensive approach to CD. 94% (15 of 16) agreed that they helped CDers integrate educational effectiveness criteria, develop more objective learners' assessment tools, and enhance validity for their courses. Sixty-nine percent (11 of 16) agreed that model and its worksheet helped CDers include nontechnical skills in courses. The highest reported role in enhancing program evaluation results was in the gain of knowledge (five of eight, 63%) and least was clinical outcomes (two of eight, 25%). All respondents would recommend the model and worksheet to a colleague.

Conclusion:
Respondents find the stepwise model and its worksheet user friendly and helpful in developing simulation curricula of high educational standards. Future studies should include larger sample size, objective measures of impact, and longer-term follow-up.

Keywords: simulation, curriculum development, model, six step, assessment

Simulation is an important teaching and learning method that can shorten health professionals' learning curves. Simulation has long been used to teach provider skills, and its use in health professions education is expected to expand with the increasing use of milestones and entrustable professional activities to reach decisions regarding trainees' level of proficiency and ability for safe independent practice. Simulation has also been used to enhance patient safety by decreasing individual human errors and enhancing health care systems' performance. Whereas the use of simulation is rapidly growing, the lack of standardization in simulation-based course design, implementation, learner assessment, and course evaluation has hindered the gathering of established ...

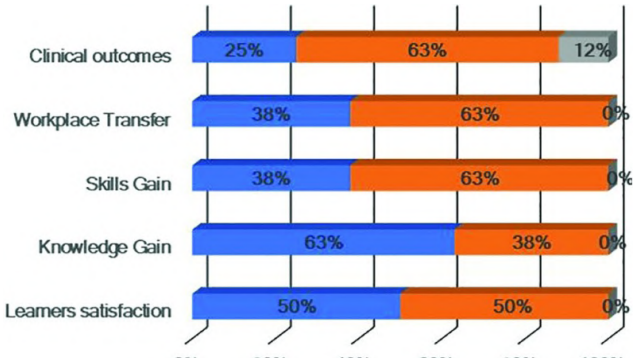

Figure 1. Role of the model in enhancing course evaluation results.

To read more of this article, please **click here.**

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JSLS Journal of The Society of Laparoscopic & Robotic Surgeons

JSLS : Journal of the Society of Laparoscopic & Robotic Surgeons Vols. 1 to 24; 1997 to 2020			
Vol. 24 2020	v.24(1) Jan-Mar 2020	v.24(2) Apr-Jun 2020	v.24(3) Jul-Sep 2020
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- Michael McDonald, MD

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MINIMALLY INVASIVE GYNECOLOGIC SURGERY FELLOWSHIP (FMIGS) OF SOUTH FLORIDA

Location: The Center for Gynecologic Oncology; Miramar, FL
Program Director: Emery Salom, MD **Associate Directors:** Jacob Tangir, MD & Jonathan Black, MD, MPH

The Center for Gynecologic Oncology

Minimally Invasive Gynecologic Surgery Fellowship of South Florida (FMIGS of South Florida) aims to provide comprehensive advanced training in minimally invasive surgery for graduates of SLS approved OB/GYN Residencies while fostering an environment of innovation, advancement, and research in the field of Minimally Invasive Gynecologic Surgery. Graduates of this 2-year fellowship will obtain the skills necessary for the surgical and medical management of complex gynecologic diseases and disorders with minimally invasive techniques, while also providing OB/GYN colleagues with support and collaboration. MIGS of South Florida values scholarship and aims to graduate valued scholars in the fields of Minimally Invasive Gynecologic Surgery and Obstetrics and Gynecology.

Fellows with FMIGS of South Florida will lead a variety of clinical experiences spanning 3 different Health Care Systems in South Florida. Fellows will provide inpatient gynecologic services of pre-operative, operative, and post-operative care, inpatient consults, and inpatient gynecologic management while supervising daily Gynecologic rounds with students and resident physicians. Office-based clinical experience will be gained at the Center for Gynecologic Oncology and its 4 locations under the tutelage of Program Director: Dr. Emery Salom, MD, and Associate Program Directors: Jacob Tangir, MD and Jonathan Black, MD, MPH.

Dr. Emery Salom, and 2 Associate Program Directors, Dr. Jacob Tangir and Dr. Jonathan Black perform over 1250 operative cases a year of both complex benign and malignant gynecology conditions. This high volume of procedures covers the breadth of MIGS including robotics, conventional laparoscopy, hysteroscopy, and complex vaginal surgery. The fellows will work with surgeons whose collective experience includes gynecologic oncology, infertility, urology, colorectal, and complex gynecologic surgery. Exposure to complex robotic and laparoscopic surgery is a vital component of our fellowship training.

The Center for Gynecologic Oncology (CGO) has an established thriving office practice with a patient base of over 13,000 patients visits a year and ample staff to support the inclusion of a fellowship program in 2020. The facility includes 8 exam rooms, ample office space, and a procedure room equipped for hysteroscopy, endometrial ablation, and other minor procedures.

The CGO is a successful center for clinical research with the required staff and resources for the fellows to engage in meaningful research for the advancement of minimally invasive gynecologic surgery. The FMIGS fellows will complete a minimum of one graduate-level research-related course at Florida International University during the 2-year fellowship as well as a minimum of one research project in accordance with the SLS FMIGS requirements.

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OTHER AVAILABLE SLS FELLOWSHIPS

Fellowship in Minimally Invasive & Robotic Surgery in Gynecology & Reproductive Surgery
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Fellowship in Minimally Invasive & Robotic Surgery in Gynecologic Benign & Malignant Pathologies
Director: Farr Nezhat, MD - New York, NY

Fellowship in Minimally Invasive & Robotic Surgery in Gynecology and Reproductive Surgery
Director: Ceana Nezhat, MD - Atlanta, GA

SLS Fellowship in Advanced Minimally Invasive and Endoscopic Techniques in General and Colorectal Surgery
Director: Jiri (George) Melich, MD - Vancouver, BC, Canada

Florida Surgical Specialists Enhanced General Surgery Fellowship: Advanced Laparoscopic and Robotic Foregut, Hernia and Colorectal Fellowship
Director: Paul Toomey, MD & Riva Das, MD - Bradenton, FL

The Marchand Institute for Minimally Invasive Surgery and Steward Health Mountain Vista Medical Center Affiliated Fellowship Program in Minimally Invasive and Robotic Gynecologic Surgery
Director: Anthony Galitsky, MD & Ali Azadi, MD - Mesa, AZ

Dignity Health Fellowship in Endometriosis, Menstrual Disorders and Adavanced Minimally Invasive Robotic Surgery
Director: Mona E. Orady, MD - San Francisco, CA

Carlos Pellegrini and Brant Oelschlager Surgical Simulation Fellowship
Director: Robert Sweet, MD - Seattle, WA

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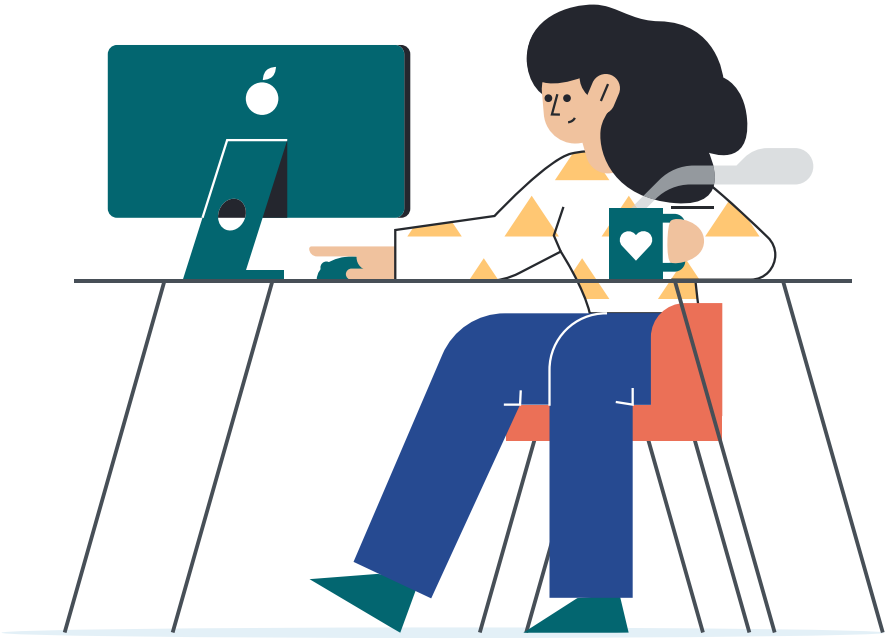

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Selected material from Minimally Invasive Surgery Week 2018* and Minimally Invasive Surgery Week 2019** are presented in video format for online CME credit.

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Non-Members: $900 for the full program / 18 CME hours or $50 per individual course.

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The Society of Laparoscopic & Robotic Surgeons (SLS) is a is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

The Society of Laparoscopic & Robotic Surgeons (SLS) designates this enduring activity for a maximum of *18 AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

** Minimally Invasive Surgery Week 2018 was held August 29-September 1, 2018 at the Sheraton New York Times Square Hotel, New York, New York, USA*
*** Minimally Invasive Surgery Week 2019 was held September 4-7, 2019 at The Roosevelt New Orleans Hotel, A Waldorf Astoria Hotel, New Orleans, Louisiana, USA*

Member in the News

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The Richmond County Medical Society, an organization that's been serving Staten Island for more than two centuries, is comprised of 186 attending physicians at major hospitals, medical centers, medical groups, and doctors in private practices on Staten Island. This society is an integral part of The Federation of Organized Medicine.

Its goal? To enhance the delivery of medical care of the highest quality and to direct the public in regard to problems concerning medicine — especially now during these uncertain and unprecedented times.

Dr. Radha Syed, who was recently installed as president explains: "I want the Richmond County Medical Society to become a community resource for Staten Island residents and physicians and to be a professional connection for all. And for the community of Staten Island I want for us to become a real resource for health questions. And that's why I want Staten Island to know about us. We can direct them to the right area. We need to be the resource center for our community."

Borough residents searching for help for someone who's been afflicted with COVID-19 or those who have questions about various surgeries or seeking recommendations for a doctor with a unique specialty, may also call the RSMS for assistance and/or advice.

"People can call and speak to someone or they can leave a message. I want to get it out there. People don't know we exist. And for that reason we're having meetings once a month every first Tuesday right now through Zoom and Teams for all members and for all physicians. And there is professional information we are always updating."

Dr. Syed, an obstetrician/gynecologist who's had a specialty in women's health for more than 40 years on Staten Island and is affiliated with Staten Island University Hospital/ Northwell Health, was installed as the RCMS's the 214th president in June. In fact, she opens meetings with the time-honored gavel that was used when the organization was originally formed.

Dr. Syed's executive board consists of Dr. Brian McMahon, president-elect, Dr. Melissa Grageda, vice-president, Dr. Murlidar Pahuja, treasurer, Dr. Sara Ahmed, secretary and Linda Sabatino, executive director.

Dr. Syed reiterates her main focus is to have the RCMS serve as the primary health resource for all community members and physicians.

"I want the RCMS to help and assist our fellow physicians ...

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DR. SANGITA PARAB, IMMEDIATE PAST PRESIDENT OF THE RICHMOND COUNTY MEDICAL SOCIETY, LEFT, PASSES THE GAVEL TO DR. RADHA SYED, CURRENT PRESIDENT. (COURTESY/LINDA SABATINO) STATEN ISLAND ADVANCE

DR. SANGITA PARAB, IMMEDIATE PAST PRESIDENT OF THE RICHMOND COUNTY MEDICAL SOCIETY, LEFT, PASSES THE GAVEL TO DR. RADHA SYED, CURRENT PRESIDENT. (COURTESY/LINDA SABATINO) STATEN ISLAND ADVANCE

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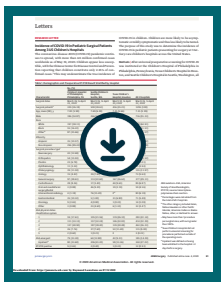
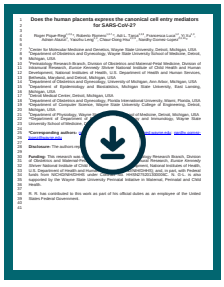


COVID-19 in Pediatric Surgery Patients

Lin, et al investigated the incidence of COVID-19 in pediatric surgical patients in the Children's Hospital of Philadelphia in Philadelphia, Pennsylvania,Texas Children's Hospital in Houston, and Seattle Children's Hospital in Seattle, Washington. Overall, 1295 pediatric surgical patients were included in this study, with a mean (SD) age of 7.35 (5.99) years. Overall incidence of COVID-19 was 0.93%(12 of 1295). However, there was a significant difference in incidence across hospitals. The overall incidence of COVID-19 in children undergoing preoperative universal screening was less than 1%. However, this varied greatly between the regions represented by our hospitals and even by township within the catchment area of a single hospital. While patients with COVID-19 were more likely to have preoperative symptoms, most notably fever and rhinorrhea, half of the patients with positive results had no symptoms. Additionally, some of the symptoms noted were easily attributed to unrelated conditions (eg, appendicitis).

Clinical Characteristics of Emergency Surgery Patients with COVID-19

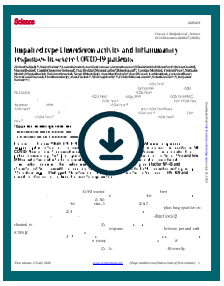
Li, et al investigated clinical and epidemiologic features of COVID-19 patients undergoing emergency surgery. They conducted a retrospective cohort study of 164 emergency surgery patients with or without COVID-19 pneumonia in Zhongnan Hospital of Wuhan University in Wuhan, China, from January 1, 2020, to January 20, 2020. For this report, the final date of follow-up was February 5, 2020. Of the 164 emergency surgery patients, the median age was 41 years, and 136 (82.9%) were women. The associated main clinical symptom included fever (93 [56.7%]), dry cough (56 [34.2%]), fatigue (86 [52.4%]), nausea (78 [47.6%]), and dizziness (77 [47%]). Of 54 emergency surgery patients infected with COVID-19, the median age was 46 years, and 45 (83.3%) were women. The pathologic clinical symptoms investigated included fever (54 [100%]), fatigue (48 [88.9%]), nausea (52 [96.3%]), dizziness (46 [85.2%]), and dry cough (44 [81.5%]). The lymphopenia (0.37 x 10^9/L [interquartile range: 0.23-0.65]) and increased C-reactive protein (24.7 x 10^9/L [interquartile range: 13.57-38]) were observed. The preoperative fever and postoperative fever in emergency surgery patients with or without COVID-19 pneumonia were analyzed in this study. Of 54 emergency surgery patients with COVID-19,15 (27.8%) showed preoperative fever, 54 (100%) had postoperative fever. Of 110 emergency surgery patients without COVID-19, 5 (4.5%) had preoperative fever, 31 (28.2%) patients had postoperative fever. In emergency surgery patients with COVID-19, the fever lasted more than 7 days, markedly exceeding the length of time non-COVID19 patients experienced fever (approximately 3 days).



Human Placenta and Cell Entry Mediators for SARS-CoV-2

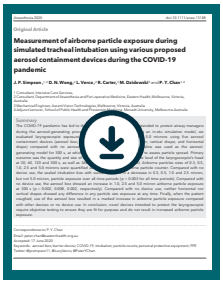
Pique-Regi, et al investigated the expression of ACE2 and TMPRSS2 throughout pregnancy in the placenta as well as in third-trimester chorioamniotic membranes. They report that co-transcription of ACE2 and TMPRSS2 is negligible in the placenta, thus not a likely path of vertical transmission for SARS-CoV-2. By contrast, receptors for Zika virus and cytomegalovirus, which cause congenital infections, are highly expressed by placental cell types. These data show that the placenta minimally expresses the canonical cell-entry mediators for SARS-CoV-2. They conclude that SARS-CoV-2 is unlikely to infect the placenta and fetus since its canonical receptor and protease, ACE2 and TMPRSS2, are only minimally expressed by the human placenta throughout pregnancy. In addition, they showed that the SARS-CoV-2 receptors are not expressed by the chorioamniotic membranes in the third trimester. However, viral receptors utilized by CMV, Zika virus, and others are highly expressed by the human placental tissues. They note that while transcript levels do not always correlate with protein expression, their data indicate a low likelihood of placental infection and vertical transmission of SARS-CoV-2

Impaired Interferon Activity and Inflammatory Responses in Severe COVID-19



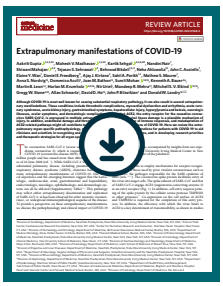
Hadjadj, et al performed an integrated immune analysis on a cohort of 50 COVID-19 patients with various disease severity. A unique phenotype was observed in severe and critical patients, consisting of a highly impaired interferon (IFN) type I response (characterized by no IFN-β and low IFN-α production and activity), associated with a persistent blood viral load and an exacerbated inflammatory response. Inflammation was partially driven by the transcriptional factor NF-κB and characterized by increased tumor necrosis factor (TNF)-α and interleukin (IL)-6 production and signaling. These data suggest that type-I IFN deficiency in the blood could be a hallmark of severe COVID-19 and provide a rationale for combined therapeutic approaches. They propose that type I IFN deficiency is a hallmark of severe COVID-19 and infer that severe patients might be relieved from the IFN deficiency by IFN administration and from exacerbated inflammation by adapted anti-inflammatory therapies targeting IL-6 or TNF-α.

Measurement of Airborne Particle Exposure During Tracheal Intubation



Simpson, et al. used an in-situ simulation model, to evaluate laryngoscopist exposure to airborne particles sized 0.3 - 5.0 microns using five aerosol containment devices (aerosol box; sealed box with and without suction; vertical drape; and horizontal drape) compared with no aerosol containment device. Nebulised saline was used as the aerosol-generating model for 300 s, at which point, the devices were removed to assess particle spread. The primary outcome was the quantity and size of airborne particles measured at the level of the laryngoscopist's head at 30, 60, 120 and 300 s, as well as 360 s (60 s after device removal). Airborne particles sizes of 0.3, 0.5, 1.0, 2.5 and 5.0 microns were quantified using an electronic airborne particle counter. Compared with no device use, the sealed intubation box with suction resulted in a decrease in 0.3, 0.5, 1.0 and 2.5 micron, but not 5.0 micron, particle exposure over all time-periods ($p = 0.003$ for all time periods). Compared with no device use, the aerosol box showed an increase in 1.0, 2.5 and 5.0 micron airborne particle exposure at 300 s ($p = 0.002$, 0.008, 0.002, respectively). Compared with no device use, neither horizontal nor vertical drapes showed any difference in any particle size exposure at any time. Finally, when the patient coughed, use of the aerosol box resulted in a marked increase in airborne particle exposure compared with other devices or no device use. They conclude that devices such as the aerosol box confer minimal to no benefit in containing aerosols during an aerosol-generating procedure and may increase rather than decrease airborne particle exposure. A sealed box with suction appears to decrease airborne particle exposure.

Extrapulmonary Manifestations of COVID-19



Gupta, et al published a comprehensive review of extrapulmonary manifestations of COVID-19 patients in Nature Medicine. They note that although COVID-19 is most well known for causing substantial respiratory pathology, it can also result in several extrapulmonary manifestations. These conditions include thrombotic complications, myocardial dysfunction and arrhythmia, acute coronary syndromes, acute kidney injury, gastrointestinal symptoms, hepatocellular injury, hyperglycemia and ketosis, neurologic illnesses, ocular symptoms, and dermatologic complications. Given that ACE2, the entry receptor for the causative coronavirus SARS-CoV-2, is expressed in multiple extrapulmonary tissues, direct viral tissue damage is a plausible mechanism of injury. In addition, endothelial damage and thromboinflammation, dysregulation of immune responses, and maladaptation of ACE2-related pathways might all contribute to these extrapulmonary manifestations of COVID-19. They reviewed the extrapulmonary organ-specific pathophysiology, presentations and management considerations for patients with COVID-19 to aid clinicians and scientists in recognizing and monitoring the spectrum of manifestations, and in developing research priorities and therapeutic strategies for all organ systems involved.