NOTICE: This document contains correspondence generated during peer review and subsequent revisions but before transmittal to production for composition and copyediting:

- Comments from the reviewers and editors (email to author requesting revisions)
- Response from the author (cover letter submitted with revised manuscript)*

*The corresponding author has opted to make this information publicly available.

Personal or nonessential information may be redacted at the editor’s discretion.

Questions about these materials may be directed to the *Obstetrics & Gynecology* editorial office: obgyn@greenjournal.org.
RE: Manuscript Number ONG-20-838

Home Surgical Skill Training Resources for the OB/GYN Trainee during a Pandemic

Dear Dr. Hoopes:

Your manuscript has been rapidly reviewed by the Editors. We would like to pursue fast-track publication. If you can address the comments below and submit your revision quickly, the Editorial Office will start working on it as soon as possible. I am setting the due date to April 21, but we will start working on it whenever you can submit.

Please contact Randi Zung (rzung@greenjournal.org) if you have any questions.

If you wish to consider revising your manuscript, you will first need to study carefully the enclosed reports submitted by the referees and editors. Each point raised requires a response, by either revising your manuscript or making a clear and convincing argument as to why no revision is needed. To facilitate our review, we prefer that the cover letter include the comments made by the reviewers and the editor followed by your response. The revised manuscript should indicate the position of all changes made. We suggest that you use the "track changes" feature in your word processing software to do so (rather than strikethrough or underline formatting).

REVIEWER COMMENTS:

Reviewer #1:

Thank you for the opportunity to review your work. Thank you for putting time and energy into such timely work. Being a simulationista myself, this subject matter is my daily struggle, and I can speak for many others who are in the same boat, not to mention most OBGYN programs in the entire country.

General:

1. Broader need for more simulation—generalizing it beyond COVID
   a. Utility of practical, in the trenches review
      Topic is very hot. Most residencies are struggling as residents are not able to operate and their surgical skills are declining. On top of this, aside from COVID issue, there has not been many recent reviews on gyn surgical sim. As a result, commentary like this would help address both covid and non-covid simulation needs. Sim has a ton to offer there, but just like in other areas of OBGYN it is not getting attention/resources it needs to do the good that it can do, so it is put on the back burner as a result. We need some advocacy work here with that regard. I would mention that in your paper briefly.
   b. Lines 83-85. I am wondering why you opted to take approach based on ref 4 and it is focus on laparoscopy with 3 core skills such as knot tying (that work is misspelled as "typing"), suturing, and surgical dissection. Can you pls explain? The way I see it, your review is very board (as it should be) and includes non-laparoscopic skills, as well as many cognitive components and didactic type material, which does not fit into those 3 categories. Why not just broaden it to gyn surgical education?
   c. Beyond COVID. Before pandemic ended most surgeries, surgical skills of residents have deteriorated over the last decade (multiple reasons, volume, subspecialties, routes, etc). Below reference was one of the landmark articles to call attention to this issue. Why not generalize and say that this was a problem we needed to address as surgical community prior to COVID, and now (as with other problems medicine faced), it has become even more pronounced? That might make your commentary even more impactful.


2. Obstacle of social distancing and simulation training, even if it occurs in small groups, is a problem for many places. For example, at my institution (which is a COVID epicenter), social distancing is enforced to the max, and absolutely no
teaching is taking place unless done via zoom. Only simulations happening are BSLS/ACLS training to run codes on COVID patients. I am bringing this up because although you can do tele coaching, it has some limitations (which need to be addressed) and some of the sims you listed (like hysterectomies, esp. vaginal), require at least 2 people to do. Other issue is space—where those trainers are stored, are they in the hospital? Near clinical area? Do they need to be cleaned before use, and if so how? Do trainees put themselves at risk by leaving homes to go to a training center by breaking shelter in place orders? Once shelter in place is relaxed gradually, this may not be as much of an issue, but at least now it is a major barrier.

3. Audience

In my experience most programs outside of major academic centers with active sim programs struggle to engage in sim. I think this work might benefit from taking content down a notch to the level of an educator who knows very little if not nothing about simulation. After all, is a very expensive and labor intensive resource that may programs cannot afford. Doing more basic explaining of some of the concepts and trainers, esp. on the how-to areas, would be of use if space allows, and if not referring readers to how-to resources.

4. Instruments

In addition to the challenge of making lap boxes or flower pot hysterectomy models for example, another challenge is getting instruments (ex. lap needle drivers and hysterectomy trays). I would suggest adding this to the text.

5. Implementation challenges: this is a major barrier and need to be addressed in paper.

6. Issue of FLS. That is hottest topic now. Since programs are not able to train and test for FLS, it is stressful. I would add that, and emphasize resources. CREST (ACOG initiative) is an example.

7. Issue of Robotic VR trainers. In my opinion, after doing sim in all kinds of settings in the last 10 years, MIMIC (and similar) VR robotic trainers are the biggest bangs for simulation buck. Their value has been shown over and over in the literature, but aside from that, they really do work and get residents ready for the console. Modules are easy to use and skills transfer well. And (aside from issues raised in comment number 2 above), they do not require coaching and are for the most part in compliance with social distancing. There are several variations on the theme of how to implement this. RTN (robotic training network) is prob the most prominent group that did work on this.

8. Cost- are programs going to buying and set all up in the middle of covid? Budgets are depleted, and first thing hospitals will cut will be education. How about asking government for money?

Background

9. Outlines publications on skill decay and put that into perspective nicely. Aside from working on decay, can simulation also be used to teach new skills in this setting? Since are looking at 3-4 months of no surgery, can we address this gap in addition to the decay issue?

10. Line 85. This sentence states "review" while this is current commentary. Maybe another option is to consider submission under clinical expert series if rather than commentary you want to more of a review?

Methods

11. Search methods are comprehensive, and I do agree with adding google search to this. I suggest a few edits to this section.

a. I would explain how to access ACOG sim consortium working group documents and resource in several sentences. It is unique and most comprehensive of all resources.

b. I would emphasize that due to lack of guidance to address deficits in surgical training before and after COVID (1c above) many institutions opted to take matters into their own hands and created their own curriculums. One such example is amazing surgical curriculum created by Mireille Truong at Cedars Sinai (below), which is free and accessible to all. Another is series of COVID era lectures at UCSF (below) which includes some surgical and gyn related topics. You can also highlight a call to action and need for national platform to share educational resources, starting now and continuing post COVID.

Cedars Sinai educational library: https://www.learngynsurgery.com/

One of my AAGL colleagues (Dr. Mireille Truong, MIGS surgeon at Cedars-Sinai), who is outstanding educator created this website or her residents, and it is really one of a kind, as comprehensive as can be and is very user friendly. All you have to do is to create a log in (nothing else required) and it is free for all to use. I would highly rec'd starting with this resource as completing as many modules as you can.
Announcement from UCSF

"Dear Program Managers,

Please see below the important email that was sent to all program directors, program managers and residents. Feel free to share and use this wonderful resource that UCSF created.

Darya

The COVID-19 pandemic has had a significant impact on the personal and professional lives of residents and their families across the country. We recognize the amazing work that residents are doing on the front lines and in their programs on behalf of the patients and the communities they serve. These are truly unprecedented times, and we cannot underestimate how this pandemic has affected your well-being, work, and education.

As educators committed to your growth and inspired by efforts in other specialties, we have joined our resources to create a remote curriculum for obstetrics and gynecology residents across the country. This curriculum will feature some of our best medical educators to help foster your learning even as our usual didactics have been disrupted.

Each weekday, a live didactic session will be given online at 10 a.m. PT. You will be able to access the lectures on the University of California San Francisco’s (UCSF) Zoom account. The password is nrobrd.

Participants will be muted during the lecture portion, but there will be time for questions and discussion through the chat function at the end of each presentation. For those of you who are unable to join the lecture, each session will be recorded and uploaded to the UCSF residency program site. The first session will be held on Monday, April 13, 2020, at 10 a.m. PT.

Monday, April 13
HPV: Karen Smith McCune, MD (UCSF)

Tuesday, April 14
Electrosurgery: Magdy Milad, MD (Northwestern)

Wednesday, April 15
Analyzing the Literature: Nancy Chescheir, MD (UNC). Before this session, review "Cephalic Elevation Device for Second-Stage Cesarean Delivery: A Randomized Controlled Trial."

Thursday, April 16
Management of Abnormal Pap Smears: Huma Farid, MD (BIDMC)

Friday, April 17
Permanent Contraception (and Reproductive Health in the COVID Era): Eve Espey, MD (UNM)

Monday, April 20
Genital Complaints in Young Girls: A Review of Pediatric Gynecology: Nicole Karjane, MD (VCU)

Tuesday, April 21
Menopause: Susan Reed, MD (UW)

Wednesday, April 22
Prenatal Diagnostic Testing: Mary Norton, MD (UCSF)

Thursday, April 23
Fertility Preservation: Kara Goldman, MD (Northwestern)

Friday, April 24
Iso-immunization: Brett Young, MD (BIDMC)

Monday, April 27
Surgical Hemostatic Techniques and Suture: Noor Dasouki Abu-Alnadi, MD (UNC)

Tuesday, April 28
Gyn Care for Breast Cancer Survivors: Mindy Goldman, MD (UCSF)

Wednesday, April 29
Review of Incontinence: Lauren Siff, MD (VCU)

Thursday, April 30
Chronic Pelvic Pain: Marisa Dahlman, MD (UW)

Friday, May 1
STI Treatment Update: Michael Policar, MD (UCSF)

If you or your institution would like to participate in this endeavor in the future or if you have comments or suggestions, please email Sara or Meg directly. Please distribute and forward this email widely!

Best,
Sara Whetstone, MD sara.whetstone@ucsf.edu
Meg Autry, MD meg.autry@ucsf.edu
University of California San Francisco

C. Another source that needs to be lit searched is MedEDPortal. They often have good quality how-to surgical sims. They are peer reviewed, but not indexed in PubMed and are considered to be valuable in the educational circles.

Results/Discussion

12. Laparoscopic Box trainers section (lines 102-121). I think this portion needs to be expanded on a bit. A few issues to address

a.-this is probably of most utility, esp. for the boxes are that portable and can be taken off site and from home to home

b.-many programs have access to and use TASKIT trainers made by Ethicon; they have some limitations but by far are prevalent and most portable. Maybe add pic to the figure?

c.-FLS box trainers are portable as well (heavy but can be moved from home to home). Since FLS certification is going to be a problem with delays and bottlenecks (as in 6 above), that is worth mentioning as an option

d.-from the practical standpoint, programs would want to know how to plug and play those boxes and what pros and cons each has. Some of these are hard to put together and require a bit “tinkering” and willingness to commit time, patience, and energy, which is one of the main barriers to low cost simulation to begin with. Another issue is getting supplies needed for assembly such as wooden boards and hardware tools are problem during social distancing and when the hardware stores are not open.

e. While figure A is clearly showing box and tablet, Figure B has monitor attached to the box—not clear what are camera/monitor specs (commercial? Repurposed?), and Figure C does not show what camera/monitor is used. Some of the lap boxes use commercial spy cameras and others laparoscopic towers in clinical use, and others we versatile and can be used either. You might want to explain this.

13. VR section (lines 132-143)

a. General approach to VR training. While I agree that in general VR trainers have fallen out of favor recently due to cost and lot of training is happening in box trainers, I would not necessarily say that box trainer is sufficient (line 142). Value of VR training comes from not needing surgical coaches because computer would do that for you, which in this case, is valuable because it does not violate social distancing. Some VR trainers have become quite advance, some of them now have haptic feedback, and many have gyn modules, where residents have to do entire hysterectomy. I would say if that if a program has VR trainer, they should strongly consider figuring out how to get their residents on it, but if they don't, it is probably not worth the cost. Also please see comments about robotics above. Please address.

b. Cost
Please clarify what your source for cost is ($2000-3000). From my understanding, LapSim costs $100,000 to buy upfront, and then there is annual maintenance fee, plus cost of software upgrades which is a lot.
Augmented reality sim. I did not see you mention this, and although it is evolving, it is very promising, and programs that have access to it should be encouraged to utilize it more if they are not doing it already.

d. It might be worth mentioning which of the VR simulators mentioned does what, how much gyn content they have in comparison, and what you think would be of most value. Otherwise it reads like a list, and it is hard for the reader to navigate this w/o knowing details (similar to comment 11e above).

14. Homemade models (lines 144-160)

a. From my understanding, "homemade" is not as good of a term to use as "low-cost" or "non-commercial".

b. Line 160. The issue of validity is beyond the scope of this work. It is very complicated, and I think it is best not to get into it. From my understanding, validity is something that you would use for assessment (see ref below). When looking at formative aspects of simulation, you would examine it terms of level of evidence (ex. opinions of participants to clinical outcomes). I would just focus on pointing out specific publications which showed high level of evidence (performance in sim, OR or clinical outcomes) if you want to include such info but would leave summative/assessment component of it out.


15. Lines 161-170 and lines 221-225. I would leave video gaming out of this review. References you included here are weak, and noone show that videogame playing improved performance outside of VR sim environment. You have so much rich material in this article that gaming does not need to be there. Gaming in sim is not the same as video gaming (line Wii) if you want to address that, but I do not feel strongly about it.

16. Online Surgical Simulators Lines 171-182. I think materials mentioned here are valuable, even if not studied. I would prob rename this as "online learning modules"

17. Lines 198-210. Surgical videos
In my opinion, this section of the paper needs a lot more emphasis on quality surgical libraries. As you pointed out, you tube is something we should NOT be using for teaching, unless specifically chosen for some reason. Instead, we should be directing trainees to specific well-vetted sources, of which the main one is AAGL's SurgeryU. Not only those videos are high quality, they are also recently made an entire video curriculum for ACOG, and they are free for all medical students, residents, and fellows. That should be the main source. In addition, they have a reading list for fellows (which residents can also benefit from) and have series of webinar lectures for fellows on surgical topics, all of which are high quality. I would also expand on IAPS which is 2nd best library and has been made free for trainees until sept 2020.

18. Line 226 Hobbies
Just line with gaming, hobbies are controversial due to confounding concerns, so I would leave that out. Instead, most valuable concept is mental rehearsing, which you talk about in this paragraph, and I would expand that this technique is well established in simulation in general (even for things like codes) and is very promising in surgery as more research emerges.

19. Other references to consider including:


Reviewer #3: The authors present a current commentary on home based surgical skill training opportunities during the covid 19 pandemic to fill a gap in training. This was a well researched topic focusing on 3 core skills including psychomotor, visual-spatial and cognitive. I appreciate the thorough review of existing simulators across a broad range from virtual trainers to X-Box. This will be a helpful tool for educators. More importantly we have a unique opportunity for further large scale research and collaboration into these platforms across the country given the limitations on elective surgery in the foreseeable future. This is my only major suggestion to discuss somewhere in the article.

Minor comments listed below:

Line 82 The reference from Military 285 Medicine. 2013;178:76-86 suggest cognitive decay by 6 months and motor decay
10 months. I think this should be stated given the unknown duration and impact of the current pandemic.

Methods:
Well described search criteria and purpose of the study.

Results and Discussion:
Line 110-111 The study Korndorffer JR Jr, Bellows CF, Tekian A, Harris IB, Downing SM. Effective home laparoscopic simulation training: preliminary evaluation of an improved training paradigm. Am J Surg. 2012;203(1):1-7 did show intra-group improvement for both group from pre and post testing. The only difference was in suturing retention.

Figure 1. The images are clear and easy to see. As an educator if there are detailed instruction for making these models as a link or reference it would be helpful. I was only able to access the abstract on some. I am assuming most of these are in the links placed in the end appendix.

EDITOR COMMENTS:

We no longer require that authors adhere to the Green Journal format with the first submission of their papers. However, any revisions must do so. I strongly encourage you to read the instructions for authors (the general bits as well as those specific to the feature-type you are submitting). The instructions provide guidance regarding formatting, word and reference limits, authorship issues ad other relevant topics. Adherence to these requirements with your revision will avoid delays during the revision process by avoiding re-revisions on your part in order to comply with formatting. For instance, images and figures should not be embedded in the text.

Numbers below refer to line numbers.

147: The journal style does not support the use of the virgule ( / ) except in mathematical expressions. Please remove here and elsewhere.

198: you might consider mentioning the green journal youtube channel (Called Green Journal) and the video gallery available on the Green Journal website. There are 105 videos on the Green Journal YouTube channel and 123 videos in the Gallery (not all of them are surgical) These have been screened by the Journal web editor.

229: data is plural—should be "there are conflicting data".

I’d like to provide some directed information about the peer reviewers. Reviewer 1 has provided an expansive review. I generally do not do this, but given the importance of getting the information you have provided published as soon as possible, I’m going to highlight those items in the review that I would like you to consider.

While I agree with and am sympathetic toward the need to increase the use of simulation in OB GYN training notwithstanding the COVID pandemic, that is not the focus of your paper. If you wish to provide a comment about simulation in Ob GYN in general, that is fine, but I would not get diverted by this. In particular, I do not believe you need to address 1c.

This is not a primer on simulation so I do not believe you need to do much around point 3. If a program decides that they want to engage now in sim, no doubt they will have the wherewithal to find the information suggested.

Point 4 needs to be addressed.
FLS: not sure if this needs to be expanded upon. Your call.

Robotic VR trainers: Make sure you address cost, ability to do this at home.
The remote education program from UCSF is certainly interesting, but I don’t see where it is relevant to your paper.

I encourage you to stay focused on the point of your paper.

EDITORIAL OFFICE COMMENTS:

1. Expand “OB/GYN” in the title to read “Obstetrics and Gynecology.” (In fact, could we suggest changing “the OB/GYN Trainee” in the title to “Obstetrics and Gynecology Trainees”? So, the title would read, “Home Surgical Skill Training Resources for Obstetrics and Gynecology Trainees During a Pandemic.”)
2. “VR” should be expanded to read “virtual reality.”

3. It’s okay to use brand names once in the body text, but in both the text and tables all trademark symbols used with brand names should be deleted (“™, ®, ©).

4. Provide the “Retrieved” date for the URLs in the footnote of Table 2.

5. The Editors of Obstetrics & Gynecology are seeking to increase transparency around its peer-review process, in line with efforts to do so in international biomedical peer review publishing. If your article is accepted, we will be posting this revision letter as supplemental digital content to the published article online. Additionally, unless you choose to opt out, we will also be including your point-by-point response to the revision letter. If you opt out of including your response, only the revision letter will be posted. Please reply to this letter with one of two responses:
   A. OPT-IN: Yes, please publish my point-by-point response letter.
   B. OPT-OUT: No, please do not publish my point-by-point response letter.

6. As of December 17, 2018, Obstetrics & Gynecology has implemented an "electronic Copyright Transfer Agreement" (eCTA) and will no longer be collecting author agreement forms. When you are ready to revise your manuscript, you will be prompted in Editorial Manager (EM) to click on "Revise Submission." Doing so will launch the resubmission process, and you will be walked through the various questions that comprise the eCTA. Each of your coauthors will receive an email from the system requesting that they review and electronically sign the eCTA.

   Please check with your coauthors to confirm that the disclosures listed in their eCTA forms are correctly disclosed on the manuscript's title page.

7. Figure 1: Please provide a letter of permission for Figure 1B. We have received permission for 1A and 1C.

   Tables, figures, and supplemental digital content should be original. The use of borrowed material (eg, lengthy direct quotations, tables, figures, or videos) is discouraged, but should it be considered essential, written permission of the copyright holder must be obtained. Permission is also required for material that has been adapted or modified from another source.

   Both print and electronic (online) rights must be obtained from the holder of the copyright (often the publisher, not the author), and credit to the original source must be included in your manuscript. Many publishers now have online systems for submitting permissions request; please consult the publisher directly for more information.

   When you submit your revised manuscript, please upload 1) the permissions license and 2) a copy of the original source from which the material was reprinted, adapted, or modified (eg, scan of book page(s), PDF of journal article, etc.).

8. Standard obstetric and gynecology data definitions have been developed through the reVITALize initiative, which was convened by the American College of Obstetricians and Gynecologists and the members of the Women's Health Registry Alliance. Obstetrics & Gynecology has adopted the use of the reVITALize definitions. Please access the obstetric and gynecology data definitions at https://www.acog.org/About-ACOG/ACOG-Departments/Patient-Safety-and-Quality-Improvement/reVITALize. If use of the reVITALize definitions is problematic, please discuss this in your point-by-point response to this letter.

9. Because of space limitations, it is important that your revised manuscript adhere to the following length restrictions by manuscript type: Current Commentary articles should not exceed 12 typed, double-spaced pages (3,000 words). Stated page limits include all numbered pages in a manuscript (i.e., title page, précis, abstract, text, references, tables, boxes, figure legends, and print appendixes) but exclude references.

10. Specific rules govern the use of acknowledgments in the journal. Please note the following guidelines:

   * All financial support of the study must be acknowledged.
   * Any and all manuscript preparation assistance, including but not limited to topic development, data collection, analysis, writing, or editorial assistance, must be disclosed in the acknowledgments. Such acknowledgments must identify the entities that provided and paid for this assistance, whether directly or indirectly.
   * All persons who contributed to the work reported in the manuscript, but not sufficiently to be authors, must be acknowledged. Written permission must be obtained from all individuals named in the acknowledgments, as readers may infer their endorsement of the data and conclusions. Please note that your response in the journal's electronic author form verifies that permission has been obtained from all named persons.
   * If all or part of the paper was presented at the Annual Clinical and Scientific Meeting of the American College of Obstetricians and Gynecologists or at any other organizational meeting, that presentation should be noted (include the exact dates and location of the meeting).

11. Provide a précis on the second page, for use in the Table of Contents. The précis is a single sentence of no more than 25 words that states the conclusion(s) of the report (ie, the bottom line). The précis should be similar to the abstract's conclusion. Do not use commercial names, abbreviations, or acronyms in the précis. Please avoid phrases like "This paper
presents" or "This case presents."

12. The most common deficiency in revised manuscripts involves the abstract. Be sure there are no inconsistencies between the Abstract and the manuscript, and that the Abstract has a clear conclusion statement based on the results found in the paper. Make sure that the abstract does not contain information that does not appear in the body text. If you submit a revision, please check the abstract carefully.

In addition, the abstract length should follow journal guidelines. The word limits for different article types are as follows: Current Commentary articles, 250 words. Please provide a word count.

13. Only standard abbreviations and acronyms are allowed. A selected list is available online at http://edmgr.ovid.com/ong/accounts/abbreviations.pdf. Abbreviations and acronyms cannot be used in the title or précis. Abbreviations and acronyms must be spelled out the first time they are used in the abstract and again in the body of the manuscript.

14. the journal does not use the virgule symbol (/) in sentences with words. Please rephrase your text to avoid using "and/or," or similar constructions throughout the text. You may retain this symbol if you are using it to express data or a measurement.

15. Please review the journal's Table Checklist to make sure that your tables conform to journal style. The Table Checklist is available online here: http://edmgr.ovid.com/ong/accounts/table_checklist.pdf.

16. The American College of Obstetricians and Gynecologists' (ACOG) documents are frequently updated. These documents may be withdrawn and replaced with newer, revised versions. If you cite ACOG documents in your manuscript, be sure the reference you are citing is still current and available. If the reference you are citing has been updated (ie, replaced by a newer version), please ensure that the new version supports whatever statement you are making in your manuscript and then update your reference list accordingly (exceptions could include manuscripts that address items of historical interest). If the reference you are citing has been withdrawn with no clear replacement, please contact the editorial office for assistance (obgyn@greenjournal.org). In most cases, if an ACOG document has been withdrawn, it should not be referenced in your manuscript (exceptions could include manuscripts that address items of historical interest). All ACOG documents (eg, Committee Opinions and Practice Bulletins) may be found via the Clinical Guidance & Publications page at https://www.acog.org/Clinical-Guidance-and-Publications/Search-Clinical-Guidance.

17. Authors whose manuscripts have been accepted for publication have the option to pay an article processing charge and publish open access. With this choice, articles are made freely available online immediately upon publication. An information sheet is available at http://links.lww.com/LWW-ES/A48. The cost for publishing an article as open access can be found at http://edmgr.ovid.com/acd/accounts/ifauth.htm.

Please note that if your article is accepted, you will receive an email from the editorial office asking you to choose a publication route (traditional or open access). Please keep an eye out for that future email and be sure to respond to it promptly.

18. If you choose to revise your manuscript, please submit your revision through Editorial Manager at http://ong.editorialmanager.com. Your manuscript should be uploaded in a word processing format such as Microsoft Word. Your revision’s cover letter should include the following:
   * A confirmation that you have read the Instructions for Authors (http://edmgr.ovid.com/ong/accounts/authors.pdf), and
   * A point-by-point response to each of the received comments in this letter.

If you submit a revision, we will assume that it has been developed in consultation with your co-authors and that each author has given approval to the final form of the revision.

Sincerely,

Nancy C. Chescheir, MD
Editor-in-Chief

2018 IMPACT FACTOR: 4.965
2018 IMPACT FACTOR RANKING: 7th out of 83 ob/gyn journals

In compliance with data protection regulations, you may request that we remove your personal registration details at any time. (Use the following URL: https://www.editorialmanager.com/ong/login.asp?a=r). Please contact the publication office if you have any questions.
Dear Dr. Nancy Chescheir,

We wish to submit our revised current commentary article entitled “Home Surgical Skill Training Resources for Obstetrics and Gynecology Trainees during a Pandemic” for consideration by Obstetrics & Gynecology. We confirm that this work is original and has not been published elsewhere, nor is it currently under consideration for publication elsewhere.

In this paper, we review available resources for remote simulated laparoscopic and basic surgical training. This is an unprecedented time as we do not know how long the COVID-19 pandemic will last. With residencies having moved to skeleton call teams, medical students no longer allowed in the hospitals, and elective surgeries cancelled, we hope that this article will guide programs on how to maintain their trainees’ surgical skills. Although there are many published resources for surgical trainees regarding simulators and surgical videos, these have not been compared nor described for trainees who have little access to hands-on training or their faculty mentors. We include information on studied effectiveness, disadvantages, cost, and accessibility. In order to prevent surgical skill decay and delays in medical education, we hope that this article will help OB/GYN residency and fellowship programs implement new remote surgical skill curricula for the hundreds of trainees who are now unable to practice their surgical skills in the hospital. We hope to submit this article for an expedited review so that it can reach institutions and learners in this time of need.

We have revised the manuscript to reflect the changes requested by the reviewers. All authors have read the revisions and the Instructions for Authors. The suggestions provided by the reviewers and our responses are listed below this letter. Of note, comments have been made on the word document to more easily find the edits. Line references correspond to the document when tracked changes have been accepted.

We have no conflicts of interest to disclose. The lead author, Sarah Hoopes, M.D., affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained. The authors had access to relevant aggregated study data and other information (such as study protocol, analytic plan and report, validated data table, and clinical study report) required to understand and report research findings. The authors take responsibility for the presentation and publication of the research findings, have been fully involved at all stages of publication and presentation development, and are willing to take public responsibility for all aspects of the work. All individuals included as authors and contributors who made substantial intellectual contributions to the research, data analysis, and publication or presentation development are listed appropriately. The authors’ personal interests, financial or non-financial, relating to this research and its publication have been disclosed. Copyright permission has been provided for the images in Figure 1 of the manuscript and are attached to this application.

Thank you for again for your consideration of this manuscript.

Sincerely,

Sarah Hoopes, M.D.
Truce Pham, medical student
Danielle Antosh, M.D.
Fiona Lindo, M.D.
Reviewer #1:

General:

1. Broader need for more simulation—generalizing it beyond COVID

   a. Utility of practical, in the trenches review
      Topic is very hot. Most residencies are struggling as residents are not able to operate and their surgical skills are declining. On top of this, aside from COVID issue, there has not been many recent reviews on gyn surgical sim. As a result, commentary like this would help address both covid and non-covid simulation needs. Sim has a ton to offer there, but just like in other areas of OBGYN it is not getting attention/resources it needs to do the good that it can do, so it is put on the back burner as a result. We need some advocacy work here with that regard. I would mention that in your paper briefly.

      We agree that there is a lack of gynecologic simulation reviews in the literature. We incorporated this information into our background section (line 55).

   b. Lines 83-85. I am wondering why you opted to take approach based on ref 4 and it is focus on laparoscopy with 3 core skills such as knot tying (that work is misspelled as “typing”), suturing, and surgical dissection. Can you pls explain? The way I see it, your review is very board (as it should be) and includes non-laparoscopic skills, as well as many cognitive components and didactic type material, which does not fit into those 3 categories. Why not just broaden it to gyn surgical education?

      The word “typing” was changed to “tying” (line 66). We feel that the same core skills discussed by reference 4 (cognitive, psychomotor, and visual-spatial) can be applied to surgical skills in general. In each section of the article and in the table, we mention which of these skills are addressed, for example that webinars enhance cognitive surgical skills. The wording in the background of the paper was adjusted to better reflect this (line 66).

   c. Beyond COVID. Before pandemic ended most surgeries, surgical skills of residents have deteriorated over the last decade (multiple reasons, volume, subspecialties, routes, etc). Below reference was one of the landmark articles to call attention to this issue. Why not generalize and say that this was a problem we needed to address as surgical community prior to COVID, and now (as with other problems medicine faced), it has become even more pronounced? That might make your commentary even more impactful.


      We agree that simulation outside of the pandemic will help to improve confidence and resident surgical skill training, a need that is evidenced by the lack of surgical preparedness felt by fellows in the above reference. However, we feel that this may divert our readers from the objective of the paper which is to provide a list of evidenced based resources that can be implemented in a remote surgical curriculum during the COVID-19 crisis. We therefore did not incorporate this suggestion into the revised manuscript.

2. Obstacle of social distancing and simulation training, even if it occurs in small groups, is a problem for many places. For example, at my institution (which is a COVID epicenter), social distancing is enforced to the max, and absolutely no teaching is taking place unless done via zoom. Only simulations happening are BLS/ACLS training to run codes on COVID patients. I am bringing this up because although you can do tele coaching, it has some limitations (which need to be addressed) and some of the sims you listed (like hysterectomies, esp. vaginal), require at least 2 people to do. Other issue is space—where those trainers are stored, are they in the hospital? Near clinical area? Do they need to be cleaned before use, and if so how? Do trainees put themselves at risk by leaving homes to go to a training center by breaking shelter in place orders? Once shelter in place is relaxed gradually, this may not be as much of an issue, but at least now it is a major barrier.

      Due to stay-at-home orders, we understand that the implementation of low-cost, homemade surgical models will be difficult and a limitation for programs. We incorporated this information into the low-cost, homemade surgical model
section (line 126) and into the table (table 1, row 4, column 5).

3. Audience: In my experience most programs outside of major academic centers with active sim programs struggle to engage in sim. I think this work might benefit from taking content down a notch to the level of an educator who knows very little if not nothing about simulation. After all, is a very expensive and labor-intensive resource that may programs cannot afford. Doing more basic explaining of some of the concepts and trainers, esp. on the how-to areas, would be of use if space allows, and if not referring readers to how-to resources.

We appreciate that many programs may be new to simulation and that a primer to simulation would be an important resource to develop. Due to the limitation of the length of the manuscript, we do not feel like we can properly address basic concepts of surgical simulation and trainers. Fortunately, most of the resources mentioned in the paper including the website links in the appendix, describe how they should be developed.

4. Instruments: In addition to the challenge of making lap boxes or flower pot hysterectomy models for example, another challenge is getting instruments (ex. lap needle drivers and hysterectomy trays). I would suggest adding this to the text.

Information on how to obtain surgical instruments was included in the section on laparoscopic box trainers and in the section on homemade surgical models (lines 92-94 and 121 and table 1, row 4 column 6).

5. Implementation challenges: this is a major barrier and need to be addressed in paper.

Implementation may be challenging with stay-at-home orders and with cost. Although we included information on cost, we added information on how to obtain surgical tools and how tools might be cleaned or shared (described above). We also acknowledge that due to limitations previously described in the paper, implementation will vary by program (lines 85, 92-94, 126, 186-187, and table 1, row 4, column 5).

6. Issue of FLS. That is hottest topic now. Since programs are not able to train and test for FLS, it is stressful. I would add that, and emphasize resources. CREST (ACOG initiative) is an example.

Information regarding FLS certification training including the CREST initiative was incorporated into the laparoscopic box trainer section (lines 96-97 and 152-153). Information regarding FLS training online modules was incorporated into the body of text in addition to Table 1 (row 6, column 2).

7. Issue of Robotic VR trainers. In my opinion, after doing sim in all kinds of settings in the last 10 years, MIMIC (and similar) VR robotic trainers are the biggest bangs for simulation buck. Their value has been shown over and over in the literature, but aside from that, they really do work and get residents ready for the console. Modules are easy to use and skills transfer well. And (aside from issues raised in comment number 2 above), they do not require coaching and are for the most part in compliance with social distancing. There are several variations on the theme of how to implement this. RTN (robotic training network) is prob the most prominent group that did work on this.

Information regarding the online Da Vinci training modules and the Robotic Training Network was added to the section on Modules and Webinars (lines 152-153). This information was also included in Table 1 (row 6, column 2). Because the VR Robotic trainers are bulky and costly, they are likely not able to be incorporated into a remote training program. We therefore did not describe the robotic VR trainer in depth but did mention its cost and lack of mobility (line 108-109).

8. Cost- are programs going to buying and set all up in the middle of covid? Budgets are depleted, and first thing hospitals will cut
will be education. How about asking government for money?

*We agree that cost is a major limitation to use of any resource which is why the cost of each resource was previously described in the manuscript. Due to word count limitations, we were unable to include a statement calling for government funding of simulation training.*

**Background**

9. Outlines publications on skill decay and put that into perspective nicely. Aside from working on decay, can simulation also be used to teach new skills in this setting? Since are looking at 3-4 months of no surgery, can we address this gap in addition to the decay issue?

*We agree that simulation can be used to teach new skills especially for any novice surgeon during this pandemic. We addressed this in the background section of the paper with a few new references (line 59).*

10. Line 85. This sentence states "review" while this is current commentary. Maybe another option is to consider submission under clinical expert series if rather than commentary you want to more of a review?

*Although we have submitted this paper as a current commentary, we feel like it can still be classified as a general review and therefore did not change the wording in the background. As clinical expert series are solicited by the Editor, we did not consider this classification of submission.*

**Methods**

11. Search methods are comprehensive, and I do agree with adding google search to this. I suggest a few edits to this section.

a. I would explain how to access ACOG sim consortium working group documents and resource in several sentences. It is unique and most comprehensive of all resources.

*Unfortunately, we do not have available word count for a detailed instruction on how to access the ACOG simulation working group resources. However, we do have a weblink in the appendix to the ACOG simulation page where these documents can be found and searched.*

b. I would emphasize that due to lack of guidance to address deficits in surgical training before and after COVID (1c above) many institutions opted to take matters into their own hands and created their own curriculums. One such example is amazing surgical curriculum created by Mireille Truong at Cedars Sinai (below), which is free and accessible to all. Another is series of COVID era lectures at UCSF (below) which includes some surgical and gyn related topics. You can also highlight a call to action and need for national platform to share educational resources, starting now and continuing post COVID.

Cedars Sinai educational library: [https://www.learngynsurgery.com/](https://www.learngynsurgery.com/)

One of my AAGL colleagues (Dr. Mireille Truong, MIGS surgeon at Cedars-Sinai), who is outstanding educator created this website or her residents, and it is really one of a kind, as comprehensive as can be and is very user friendly. All you have to do is to create a log in (nothing else required) and it is free for all to use. I would highly rec'd starting with this resource as completing as many modules as you can.

**Announcement from UCSF:**

"Dear Program Managers,
Please see below the important email that was sent to all program directors, program managers and residents. Feel free to share and use this wonderful resource that UCSF created.

The COVID-19 pandemic has had a significant impact on the personal and professional lives of residents and their families across the country. We recognize the amazing work that residents are doing on the front lines and in their programs on behalf of the patients and the communities they serve. These are truly unprecedented times, and we cannot underestimate how this pandemic has affected your well-being, work, and education.

As educators committed to your growth and inspired by efforts in other specialties, we have joined our resources to create a remote curriculum for obstetrics and gynecology residents across the country. This curriculum will feature some of our best medical educators to help foster your learning even as our usual didactics have been disrupted.

Each weekday, a live didactic session will be given online at 10 a.m. PT. You will be able to access the lectures on the University of California San Francisco's (UCSF) Zoom account. The password is nrobrd.

Participants will be muted during the lecture portion, but there will be time for questions and discussion through the chat function at the end of each presentation. For those of you who are unable to join the lecture, each session will be recorded and uploaded to the UCSF residency program site. The first session will be held on Monday, April 13, 2020, at 10 a.m. PT.

If you or your institution would like to participate in this endeavor in the future or if you have comments or suggestions, please email Sara or Meg directly. Please distribute and forward this email widely!

Best,

Sara Whetstone, MD sara.whetstone@ucsf.edu
Meg Autry, MD meg.autry@ucsf.edu
University of California San Francisco

We agree that the “learnngynsurgery.com” and the UCSF lectures are valuable resources that have been created. The website was included in Table 1 (row 7, column 2). We feel that although the UCSF lecture series may contain some surgical content, they would be better represented on another platform (perhaps an online forum) where faculty can share general educational resources. We added a statement recommending that programs share newly developed resources such as these in the conclusion paragraph (line 189).

C. Another source that needs to be lit searched is MedEDPortal. They often have good quality how-to surgical sims. They are peer reviewed, but not indexed in PubMed and are considered to be valuable in the educational circles.

Although, the AAMC’s MedEDPortal is also a valuable educational resource that serves as a search engine for medical education publications, in general, we feel like it does not directly relate to the focus of the paper.

Results/Discussion

12. Laparoscopic Box trainers section (lines 102-121). I think this portion needs to be expanded on a bit. A few issues to address

a.-this is probably of most utility, esp. for the boxes are that portable and can be taken off site and from home to home

We agree that the biggest advantage of the box trainers is their portability. We feel like we previously emphasized this point in lines 78-79 and in Table 1 (row 2, column 4). We therefore did not expand upon this subject.

b.-many programs have access to and use TASKIT trainers made by Ethicon; they have some limitations but by far are prevalent and
most portable. Maybe add pic to the figure?

Due to space limitations and ease of online search engines using the brand names listed in the article, we did not include an image of the Ethicon TASKIT trainer. Obtaining permission from the manufacturer may also delay publishing.

c.-FLS box trainers are portable as well (heavy but can be moved from home to home). Since FLS certification is going to be a problem with delays and bottlenecks (as in 6 above), that is worth mentioning as an option)

**FLS certification exams are currently being postponed due to the pandemic. We explained that by practicing FLS tasks using a portable trainer and by reviewing the FLS modules, these examinations might not further be delayed due to lack of preparation (lines 95-97).**

d.-from the practical standpoint, programs would want to know how to plug and play those boxes and what pros and cons each has. Some of these are hard to put together and require a bit "tinkering" and willingness to commit time, patience, and energy, which is one of the main barriers to low cost simulation to begin with. Another issue is getting supplies needed for assembly such as wooden boards and hardware tools are problem during social distancing and when the hardware stores are not open.

**We understand that lack of supplies and difficulty in construction will limit the use of homemade box trainers which is why we previously included construction material and time in Figure 1. We further clarified this limitation in both the figure legend and in the body of the text in the section on laparoscopic trainers (lines 85-86 and 192-194).**

e. While figure A is clearly showing box and tablet, Figure B has monitor attached to the box—not clear what are camera/monitor specs (commercial? Repurposed?), and Figure C does not show what camera/monitor is used. Some of the lap boxes use commercial spy cameras and others laparoscopic towers in clinical use, and others versatile and can be used either. You might want to explain this.

**We adjusted the figure legend to include the monitor used for each homemade trainer (line 192-194). We do not have the space to discuss specific cameras and monitors that can be used but hope that readers will view the cited sources for more information.**

13. **VR section (lines 132-143)**

a. **General approach to VR training.** While I agree that in general VR trainers have fallen out of favor recently due to cost and lot of training is happening in box trainers, I would not necessarily say that box trainer is sufficient (line 142). Value of VR training comes from not needing surgical coaches because computer would do that for you, which in this case, is valuable because it does not violate social distancing. Some VR trainers have become quite advance, some of them now have haptic feedback, and many have gyn modules, where residents have to do entire hysterectomy. I would say if that if a program has VR trainer, they should strongly consider figuring out how to get their residents on it, but if they don’t, it is probably not worth the cost. Also please see comments about robotics above. Please address.

**We revised the wording in the VR training section to reflect the above suggestion (lines 110-112). We agree that if a program has a VR trainer it is a valuable resource and should be shared with trainees.**

b. **Cost**

Please clarify what your source for cost is ($2000-3000). From my understanding, LapSim costs $100,000 to buy upfront, and then there is annual maintenance fee, plus cost of software upgrades which is a lot.
We had previously not seen trainers that cost up to $100,000 but with further research we verified this price and updated our table and body of text to reflect this (line 108 and Table 1, row 3, column 6).

c. Augmented reality sim. I did not see you mention this, and although it is evolving, it is very promising, and programs that have access to it should be encouraged to utilize it more if they are not doing it already

We agree that augmented reality simulation should be included in this review. We touched upon this resource in the virtual reality trainer section (lines 106-107).

d. It might be worth mentioning which of the VR simulators mentioned does what, how much gyn content they have in comparison, and what you think would be of most value. Otherwise it reads like a list, and it is hard for the reader to navigate this w.o knowing details (similar to comment 11e above).

Due to word count restraints we were unable to provide specifics for each type of virtual reality trainer mentioned. Instead we left Table 1 as is with a list of manufacturers that can be searched by faculty who are interested in their purchase. A comparison of different virtual reality trainers would make a valuable paper in the future.

14. Homemade models (lines 144-160)

a. From my understanding, "homemade" is not as good of a term to use as "low-cost" or "non-commercial".

We adjusted the title to include “low-cost” although we decided to continue to use the word “homemade” as we felt it was more relatable to trainees and faculty who are new to simulations (line 124).

b. Line 160. The issue of validity is beyond the scope of this work. It is very complicated, and I think it is best not to get into it. From my understanding, validity is something that you would use for assessment (see ref below). When looking at formative aspects of simulation, you would examine it terms of level of evidence (ex. opinions of participants to clinical outcomes). I would just focus on pointing out specific publications which showed high level of evidence (performance in sim, OR or clinical outcomes) if you want to include such info but would leave summative/assessment component of it out.


We appreciate this suggestion and agree that validity is beyond the scope of this work. We revised the final sentence of this section to reflect this (lines 127-128).

15. Lines 161-170 and lines 221-225. I would leave video gaming out of this review. References you included here are weak, and none show that videogame playing improved performance outside of VR sim environment. You have so much rich material in this article that gaming does not need to be there. Gaming in sim is not the same as video gaming (line Wii) if you want to address that, but I do not feel strongly about it.

We agree that the evidence supporting the use of video game technology is weak and therefore we altered the wording and decreased the size of this paragraph and altered Table 1 (lines 130-136 and row 5, column 4). However, because video gaming is so prominent in society and in the literature on search of remote surgical training, we feel like it still needs to be included in the manuscript.
16. Online Surgical Simulators Lines 171-182. I think materials mentioned here are valuable, even if not studied. I would probably rename this as "online learning modules."

The title of this section was changed and this change was reflected in Table 1 (Line 137 and row 6, column 1)

17. Lines 198-210. Surgical videos
In my opinion, this section of the paper needs a lot more emphasis on quality surgical libraries.
As you pointed out, YouTube is something we should NOT be using for teaching, unless specifically chosen for some reason. Instead, we should be directing trainees to specific well-vetted sources, of which the main one is AAGL’s SurgeryU. Not only those videos are high quality, they are also recently made an entire video curriculum for ACOG, and they are free for all medical students, residents, and fellows. That should be the main source. In addition, they have a reading list for fellows (which residents can also benefit from) and have series of webinar lectures for fellows on surgical topics, all of which are high quality. I would also expand on IAPS which is 2nd best library and has been made free for trainees until Sept 2020.

We adjusted the surgical video section to highlight AAGL’s SurgeryU and IAPS video library in addition to the Green Journal YouTube channel (line 162-164). We also revised the paragraph to help with word count and put focus on the use of high-quality surgical videos from well-vetted sources (lines 157-165).

18. Line 226 Hobbies
Just line with gaming, hobbies are controversial due to confounding concerns, so I would leave that out. Instead, most valuable concept is mental rehearsing, which you talk about in this paragraph, and I would expand that this technique is well established in simulation in general (even for things like codes) and is very promising in surgery as more research emerges.

We altered the title of the section and body of the section to focus on mental imagery (lines 175-177). Due to space restrictions we were unable to expand upon this technique.

19. Other references to consider including:


We reviewed the above references and incorporated them into the body of the manuscript (lines 59 and 139).

Reviewer #3:
1. The authors present a current commentary on home-based surgical skill training opportunities during the COVID 19 pandemic to fill a gap in training. This was a well-researched topic focusing on 3 core skills including psychomotor, visual-spatial and cognitive. I appreciate the thorough review of existing simulators across a broad range from virtual trainers to X-Box. This will be a helpful tool for educators. More importantly we have a unique opportunity for further large-scale research and collaboration into these platforms across the country given the limitations on elective surgery in the foreseeable future. This is my only major suggestion to discuss somewhere in the article.

We agree that this is the perfect time to collaborate and conduct large-scale medical education research. To address this suggestion, we added a statement to the conclusions reflecting the above (lines 190-191).
Minor comments listed below:

2. Line 82 The reference from Military 285 Medicine. 2013;178:76-86 suggest cognitive decay by 6 months and motor decay 10 months. I think this should be stated given the unknown duration and impact of the current pandemic.

*We agree that these are valuable findings. They were incorporated to the background paragraph (lines 57-58).*

Methods:
Well described search criteria and purpose of the study.

Results and Discussion:

*After re-evaluation, we felt that the positive findings were more important to discuss than the negative findings in this study. Due to space constraints, we could not discuss this reference in more detail. The two previous sentences describing this study were shortened and combined into one (line 82-83).*

Figure 1. The images are clear and easy to see. As an educator if there are detailed instruction for making these models as a link or reference it would be helpful. I was only able to access the abstract on some. I am assuming most of these are in the links placed in the end appendix.

*Due to space constraints we did not include the web links in the appendix because we thought the citations listed in the footnote of the table would be enough. If desired by the Editor despite word count limitations, we will add weblinks to the appendix for each article in PubMed.*

**EDITOR COMMENTS:**

We no longer require that authors adhere to the Green Journal format with the first submission of their papers. However, any revisions must do so. I strongly encourage you to read the instructions for authors (the general bits as well as those specific to the feature-type you are submitting). The instructions provide guidance regarding formatting, word and reference limits, authorship issues ad other relevant topics. Adherence to these requirements with your revision will avoid delays during the revision process by avoiding re-revisions on your part in order to comply with formatting. For instance, images and figures should not be embedded in the text.

Numbers below refer to line numbers.

1. 147: The journal style does not support the use of the virgule ( / ) except in mathematical expressions. Please remove here and elsewhere.

*All virgules were removed in body of text and in tables (line 154; table 1, row 7, column 6 and table 1, row 8, column 6)*

2. 198: you might consider mentioning the green journal YouTube channel (Called Green Journal) and the video gallery available on the Green Journal website. There are 105 videos on the Green Journal YouTube channel and 123 videos in the Gallery (not all of them are surgical). These have been screened by the Journal web editor.

*The Green Journal YouTube channel and video gallery were added to the body of the text and to the table (lines 162-164 and table 1, row 8, column 2).*
3. 229: data is plural—should be “there are conflicting data”.

The sentence containing this typo was removed (line 177).

I’d like to provide some directed information about the peer reviewers. Reviewer 1 has provided an expansive review. I generally do not do this, but given the importance of getting the information you have provided published as soon as possible, I’m going to highlight those items in the review that I would like you to consider.

4. While I agree with and am sympathetic toward the need to increase the use of simulation in OB GYN training notwithstanding the COVID pandemic, that is not the focus of your paper. If you wish to provide a comment about simulation in Ob GYN in general, that is fine, but I would not get diverted by this. In particular, I do not believe you need to address 1c.

We opted not to address comment 1c from reviewer 1 in the manuscript. Here is our response: “We agree that simulation outside of the pandemic will help to improve confidence and resident surgical skill training, a need that is evidenced by the lack of surgical preparedness felt by fellows in the above reference. However, we feel that this may divert our readers from the objective of the paper which is to provide a list of evidenced based resources that can be implemented in a remote surgical curriculum during the COVID-19 crisis. We therefore did not incorporate this suggestion into the revised manuscript.”

5. This is not a primer on simulation so I do not believe you need to do much around point 3. If a program decides that they want to engage now in sim, no doubt they will have the wherewithal to find the information suggested.

We also opted not to address comment 3 from reviewer 1. Here is our response: “We appreciate that many programs may be new to simulation and that a primer to simulation would be an important resource to develop. Due to the limitation of the length of the manuscript, we do not feel like we can properly address basic concepts of surgical simulation and trainers. Fortunately, most of the resources mentioned in the paper including the website links in the appendix, describe how they should be performed.”

6. Point 4 needs to be addressed.

We updated the text to address comment 4 by reviewer 1. Here is our response: “Information on how to obtain surgical instruments was included in the section on laparoscopic box trainers and in the section on homemade surgical models (lines 93-94, 120-121, and table 1, row 4, column 6).”

7. FLS: not sure if this needs to be expanded upon. Your call.

We included more information regarding FLS certification in response to comment 6 by reviewer 1. Here is our response: “Information regarding FLS certification training including the CREST initiative was incorporated into the laparoscopic box trainer section (lines 96-97 and 152-153). Information regarding FLS training online modules was incorporated into the body of text in addition to Table 1 (row 6, column 2).”

8. Robotic VR trainers: Make sure you address cost, ability to do this at home.

We opted to include more information about robotic training modules in response to comment 7 by reviewer 1. Here is our response: “Information regarding the online Da Vinci training modules and the Robotic Training Network was added to the section on Modules and Webinars (lines 152-153). This information was also included in Table 1 (Row 6, column 2). Because the VR Robotic trainers are bulky and costly, they are likely not able to be incorporated into a remote training
program. We therefore did not describe the robotic VR trainer in depth but did mention its cost and lack of mobility (line 108-109).”

9. The remote education program from UCSF is certainly interesting, but I don’t see where it is relevant to your paper.

We agree that this manuscript is likely not the best platform to discuss this valuable didactic series. Here is our response to comment 11b by reviewer 1: “We feel that although the UCSF lecture series may contain some surgical content, they would be better represented on another platform (perhaps an online forum) where faculty can share general educational resources. We added a statement recommended that programs share newly developed resources such as these in the conclusion paragraph (line 188-189).”

I encourage you to stay focused on the point of your paper.

**EDITORIAL OFFICE COMMENTS:**

1. Expand “OB/GYN” in the title to read “Obstetrics and Gynecology.” (In fact, could we suggest changing “the OB/GYN Trainee” in the title to “Obstetrics and Gynecology Trainees”? So, the title would read, “Home Surgical Skill Training Resources for Obstetrics and Gynecology Trainees During a Pandemic.”)

   The title was changed to that listed above (Line 1).

2. “VR” should be expanded to read “virtual reality.”

   “VR” was removed throughout the manuscript to read “virtual reality” (lines 98-112).

3. It’s okay to use brand names once in the body text, but in both the text and tables all trademark symbols used with brand names should be deleted (™, ®, ©).

   All trademark symbols were removed from the text. Brand names were removed where possible. We understand that brand names are not to be included in tables as a rule. However, we feel that the addition of brand names in the table makes the table valuable to readers. We feel it is important to list the manufacturers of these different products concisely in table format so that readers can easily reference available products. If the editor strongly feels we need to remove brand names from table 1 then we will make this change.

4. Provide the “Retrieved” date for the URLs in the footnote of Table 2.

   The “Retrieved” dates were added to the footnote of Table 2 (lines 209, 210, 213)

5. The Editors of Obstetrics & Gynecology are seeking to increase transparency around its peer-review process, in line with efforts to do so in international biomedical peer review publishing. If your article is accepted, we will be posting this revision letter as supplemental digital content to the published article online. Additionally, unless you choose to opt out, we will also be including your point-by-point response to the revision letter. If you opt out of including your response, only the revision letter will be posted. Please reply to this letter with one of two responses:
   A. OPT-IN: Yes, please publish my point-by-point response letter.
   B. OPT-OUT: No, please do not publish my point-by-point response letter.
We have chosen to opt-in and allow the publishing of this point-by-point letter.

6. As of December 17, 2018, Obstetrics & Gynecology has implemented an "electronic Copyright Transfer Agreement" (eCTA) and will no longer be collecting author agreement forms. When you are ready to revise your manuscript, you will be prompted in Editorial Manager (EM) to click on "Revise Submission." Doing so will launch the resubmission process, and you will be walked through the various questions that comprise the eCTA. Each of your coauthors will receive an email from the system requesting that they review and electronically sign the eCTA.

Please check with your coauthors to confirm that the disclosures listed in their eCTA forms are correctly disclosed on the manuscript's title page.

We have nothing to disclose and will verify the eCTA forms after submission of this revision.

7. Figure 1: Please provide a letter of permission for Figure 1B. We have received permission for 1A and 1C.

Tables, figures, and supplemental digital content should be original. The use of borrowed material (eg, lengthy direct quotations, tables, figures, or videos) is discouraged, but should it be considered essential, written permission of the copyright holder must be obtained. Permission is also required for material that has been adapted or modified from another source.

Both print and electronic (online) rights must be obtained from the holder of the copyright (often the publisher, not the author), and credit to the original source must be included in your manuscript. Many publishers now have online systems for submitting permissions request; please consult the publisher directly for more information.

When you submit your revised manuscript, please upload 1) the permissions license and 2) a copy of the original source from which the material was reprinted, adapted, or modified (eg, scan of book page(s), PDF of journal article, etc.).

We will upload copies of original articles that contain figure 1a-1c along with the revised manuscript. Because the article containing figure 1B is open access, permission does not need to be obtained through the publisher as long as the source is properly cited. Information from the publisher regarding their open access policy will be included on a document titled “Figure 1b Permission.”

8. Standard obstetric and gynecology data definitions have been developed through the reVITALize initiative, which was convened by the American College of Obstetricians and Gynecologists and the members of the Women’s Health Registry Alliance. Obstetrics & Gynecology has adopted the use of the reVITALize definitions. Please access the obstetric and gynecology data definitions at https://www.acog.org/About-ACOG/ACOG-Departments/Patient-Safety-and-Quality-Improvement/reVITALize. If use of the reVITALize definitions is problematic, please discuss this in your point-by-point response to this letter.

We reviewed the definitions that were developed through the revitalize initiative. The words defined in these documents are not discussed in our manuscript.

9. Because of space limitations, it is important that your revised manuscript adhere to the following length restrictions by manuscript type: Current Commentary articles should not exceed 12 typed, double-spaced pages (3,000 words). Stated page limits include all numbered pages in a manuscript (i.e., title page, précis, abstract, text, references, tables, boxes, figure legends, and print appendixes) but exclude references.

Our precis contains 24 words and the abstract contains 111 words. The full article was formatted in size 12 font with double space text. It is 11 pages long and contains 3144 words. The figure/table citations contain 148 words. We are happy to move these citations to the references section to bring word count to 2996.
10. Specific rules govern the use of acknowledgments in the journal. Please note the following guidelines:

* All financial support of the study must be acknowledged.
* Any and all manuscript preparation assistance, including but not limited to topic development, data collection, analysis, writing, or editorial assistance, must be disclosed in the acknowledgments. Such acknowledgments must identify the entities that provided and paid for this assistance, whether directly or indirectly.
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