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The ASRM Embryo Transfer Simulator Initiative Has Come Full Circle: An Editorial

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The ASRM Embryo Transfer Simulator Initiative Has Come Full Circle: An Editorial

In this issue of F and S Reports, Baker and her colleagues present data in a study that utilized the ASRM Embryo Transfer Simulator (1). They enrolled participants from one of three groups in order to assess the usefulness of the simulator in training individuals from different backgrounds: REI attendings, Ob Gyn residents, and REI nurses and advanced practice providers. Both ET simulation scores and self-assessed comfort levels demonstrated various degrees of improvement allowing the authors to conclude that the simulator is a valuable tool for training embryo transfer to various types of Ob Gyn practitioners.

With this publication, the ASRM Embryo Transfer Simulator Initiative has come full circle. While I acknowledge bias, this program has been a success in all the following aspects. It identified an important gap in training fellows an essential technique (i.e., embryo transfer). Over 50% of fellows previously did not perform any embryo transfers or fewer than 10 during their fellowship. Now that number has decreased. In addition, simulation training is available to all fellows. A partnership was developed with the simulation industry (VirtaMed of Zurich) for developing both the hardware and software critical for a successful embryo transfer (ET) simulator. Through this initiative a robust curriculum was developed for different training programs. The ET simulators were deployed worldwide for programs designed for the new trainer and others for the seasoned practitioners. After deployment in regional fellowship workshops and to individual fellowship programs, a thorough analysis of all data collected was published in Fertility and Sterility and demonstrated statistically significant improvement in a number of skills and self-confidence (2). The Baker et al. manuscript now demonstrates that the ET simulator can be used for clinical research in addition to training ET technique, thus providing another valuable opportunity for ultimately improving IVF success (1).

Some History

On May 9, 2015, the ASRM assembled an ET Simulator Task Force in Washington, D.C. with two goals: 1). to review and finalize a detailed survey which would be sent to all SART programs and from which the results would be used to develop the simulator and an ET Simulator curriculum; and 2). to review the prototype uterine and pelvic models created by VirtaMed with integration of 3D whole pelvis ultrasounds from real patients. One-on-one assessment of these early models occurred during this meeting between individual VirtaMed program employees and individual ASRM Task Force members. Information from these discussions was taken back to VirtaMed for refining the hardware and software for the simulator. The challenge given to VirtaMed was to have a prototype simulator for display in an ASRM Pavilion at the upcoming (2015) annual ASRM Congress, barely 6 months away. In the interim 2 trips by ASRM staff to Zurich were organized to make final refinements to the prototype simulator. The ASRM ET Simulator was showcased at the 2015 meeting generating tremendous enthusiasm. Back in Birmingham, a simulation lab was built and delivery of the first 8 simulators occurred on January 5, 2016. The ET Taskforce was gathered in Birmingham after delivery of the simulators and faculty were recruited for Train-the-Trainer sessions in preparation of upcoming workshops. The simulators were deployed initially at all fellows' educational programs (e.g., the Fellows Retreat, PCRS, etc.) for demonstrations and short training sessions. An ASRM Simulation Pavilion was constructed in the 2016 ASRM Exhibit Hall and for 3 years it provided demonstration sessions for 300 meeting attendees each year.

In parallel with the development of the hardware for the simulator, a robust curriculum was developed with the completion of *The ASRM Guide to Learning Embryo Transfer* and ultimately the *ET Certificate Course* to be used by REI Fellows and other practitioners who were new ET learners. Parts of the Certificate Course were used for shorter simulation programs for more seasoned or experienced clinicians in ET or others who wanted to brush up their skills. The ET survey that was finalized during the DC meeting, was the foundation of curricula that were subsequently developed. It consisted of 82 questions and was sent to all SART medical directors being completed by 41% of them. The results of this survey were published in *Fertility and Sterility* (3) and were used to guide the development of the simulator. In addition, a Common Practice protocol was developed, and the Practice Committee completed a systematic literature review and published an ET Guideline (4) as well as an ET protocol template (5).

Deployment

Early demonstrations and workshops helped to refine the training programs and ultimately to develop a Certificate Course with 4 – 6 hours of online learning followed by a hands-on 1 – 1 ½ day fellow's regional workshop. The first version of the ET Certificate Course was online in February of 2018 for the first regional workshop that was held in Boston for the New England fellows that same month.

These 1 ½ day regional certificate course workshops have been held at least 4 times yearly and a Certificate of Completion is given to fellows who successfully complete the program.

Two types of training programs for fellows were developed. In addition to the quarterly regional workshops, a loaner program emerged in which fellowship programs have a simulator for 4 – 6 weeks for a relatively small fee. These programs follow the Certificate Course. Ideally fellows work together under the direction of a faculty member and during their free time can return for repetitive practice. The loaner program has also been utilized by private practices for seasoned physicians in addition to those who have wanted to improve their skills. One hundred thirty three fellows have completed the Certificate Course to date.

The simulators have also been deployed internationally beginning at ESHRE as a pre-Congress course in 2016 and continuing yearly since then except in 2020 and 2021. In addition to ESHRE the simulators have been deployed for pre-Congress courses at annual meetings for ASPIRE, IFFS, AMMR, ISAR, and CFAS. Programs have been held in Finland, Switzerland, Austria, Spain, Italy, Taiwan, Russia, China, Mexico, India, Canada, and Argentina.

Lessons Learned

While follow-up data are planned to be collected during this next year, the word is out!!! The ASRM Embryo Transfer Simulation program has been an international success. At home a real need was identified by our ET Survey with more than 50% of programs not allowing fellows to perform (and thus learn) embryo transfers. Throughout deployment, word has come back from fellows that more and more programs are allowing fellows to perform embryo transfers particularly after completing the Certificate Course. The ASRM 2014 Strategic Plan sought to bring value to our members but more

importantly to impact the care of our patients. The ASRM Embryo Transfer Simulation Initiative does both!! Another lesson learned is that medical societies can partner with industry including pharma and medical device companies to move bold initiatives forward. Furthermore, the success of this program is the result of work by many ASRM members who have helped every step of the way.

Full Circle

With the manuscript of Baker et al. in this issue of F and S Reports, the ET Simulator initiative has come full circle. While the primary focus will always be on training with the simulator, these investigators have used the simulator for research. As such they have opened the door for others to do the same. Using the simulators for research is yet another way to ultimately improve IVF success.

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