Results: We created a complete fetal CVS model (figure 1), allowing individual control and monitoring of preload, left and right pump flow and relevant arterial and peripheral resistance. Our model was able to generate flow patterns for the Aorta, DA, MCA, umbilical arteries and the Aortic isthmus. The model was then calibrated and validated using ultrasound vessel measurements and Doppler flow parameters from a healthy fetus, and we demonstrated that alteration in parameters allowed simulation of the dynamic behaviour of the fetal CVS.

Conclusions: This system will allow modelling of the consequences of changes including myocardial contractility, aortic isthmus flow variations and brain redistribution caused by unilateral cardiac strain and IUGR, which cannot be performed in a clinical or experimental setting. These can potentially be tuned towards an individual fetus when blood flow measurements are available.

Supporting information can be found in the online version of this abstract

OC05.05 Impact and uptake of ISUOG’s Basic Training Program
T. E. Cohen-Overbeek1, T. Chudleigh2,3, Basic Training Task Force4
1Obstetrics and Gynecology, Erasmus University Medical Centre, Rotterdam, Netherlands; 2University of Hertfordshire, Hatfield, United Kingdom; 3Rosie Hospital, Cambridge University Hospitals Trust, Cambridge, United Kingdom; 4Basic Training Task Force, Education Committee, International Society of Ultrasound in Obstetrics and Gynecology (ISUOG), London, United Kingdom

Objectives: To assess the impact of ISUOG’s Basic Training Program on trainees’ knowledge and to evaluate its uptake and outreach.

Methods: The Basic Training Program consists of 4 steps aimed to provide both theoretical as well as practical training. The theoretical component is delivered in the form of 32 lectures designed to fulfill the recommendations for “Basic Training in Obstetric and Gynaecological Ultrasound” put forth by the ISUOG Education Committee. In addition, the program incorporates the relevant components of the ISUOG Practice Guidelines for: Performance of the Routine Mid-Trimester Scan, Performance of First-Trimester Scan and Use of Doppler Ultrasonography in Obstetrics. The 32 lectures are delivered in a standardised comprehensive, yet concise, format. All presentations commence with clearly outlined learning objectives and key questions, and they conclude with key points that summarise the critical aspects of each lecture. The lectures are prepared for a 30-45-minute delivery duration and they have been delivered live, via live-stream or by online viewing. A pre- and a post-test is administered prior to and after the presentations to assess impact on trainees’ knowledge and learning.

Results: Since 2016, the ISUOG BT theoretical component’s lectures have been presented at 11 ISUOG meetings that took place on 4 different continents. They were attended by 761 attendees who were physically present at the meetings. In addition, live-streaming occurred at 60 other locations on 2 additional continents. They were attended by 761 attendees who were physically present at the meetings. In addition, live-streaming occurred at 60 other locations on 2 additional continents where a total of 1931 trainees were reached. Pre- and post-tests demonstrated an average increase of 20% in correct answers.

Conclusions: Since its inception in 2016, ISUOG’s Basic Training Program has reached a substantial number of trainees covering 4 continents. It has left a positive impact on trainees’ knowledge. This shall ultimately translate into equalising the quality of the obstetrical and gynaecological examination around the globe, in line with ISUOG’s aims and goals, and it shall positively impact the outcome for our patients and their offspring.

OC05.06 Improving precision of second trimester biometry
C. Loiacono1,2, M. Bethune3,2, P. Lombardo4, M. Schneider4
1Box Hill Hospital, Box Hill, VIC, Australia; 2Mercy Hospital for Women, Heidelberg, VIC, Australia; 3Specialist Women’s Ultrasound, Box Hill, VIC, Australia; 4Monash University, Clayton, VIC, Australia

Objectives: To utilise image score-based criteria for second trimester fetal biometry as an educational tool to improve biometry quality.

Methods: Five sonographers regularly performing obstetric ultrasound examinations were recruited for this study. Biometry images were collected from fifteen second trimester examinations for each sonographer prior to participating in a biometry education session and another set of biometry images were collected from fifteen second trimester examinations following the education session. The education session was a one-hour presentation that explained an image score-based criteria to evaluate and grade the quality of the bi-parietal diameter (BPD), head circumference (HC), abdominal circumference (AC), femur length (FL) and humeral length (HL) biometry parameters.

Each of the five sonographers performed a total of 30 examinations (15 pre and 15 post the education session). From these examinations a total of 150 images were collected for each biometry parameter (75 pre and 75 post education). A total of 600 biometry images were evaluated.

Images from both the pre- and post-education session were assessed by an obstetrician sonologist using the same image score-based criteria. Pre- and post-image scores were compared using paired t-tests.

Results: Improvement in the mean image scores for all biometry parameters was observed after the education session. The difference between pre- and post-education image quality scores was significant for the AC (p = 0.01), FL (p = 0.002) and for the overall score (p = 0.001).

Conclusions: Implementing an image score-based criteria evaluation technique is a simple and useful method to improve fetal biometry precision.

OC05.07 Transvaginal ultrasound probes are human papillomavirus-free following low-level disinfection: a survey of 667 observations
M. Dommergues1,2, C. Estellat3,4, I. Heard5, A. Rouel1, A. Lafourcade1,2, J. Luc6,7
1Obstetrics and Gynaecology, Hôpital Pitie Salpêtrière APHP, Paris, France; 2Sorbonne Universités, Paris, France; 3Biostatistique Santé Publique et Information Médicale, Hôpital Pitie Salpêtrière APHP, Paris, France; 4Centre, de Pharmacoépidémiologie UMR 1123 CIC-P1421, INSERM, Paris, France; 5Institut Pasteur, Paris, France; 6UHLIN, Hôpitaux Universitaires Paris Nord Val de Seine, Paris, France; 7IAME UMR 1137, DeSiCID, Université Paris Diderot Sorbonne Paris Cité, Paris, France

Objectives: To assess the risk of high risk human papillomavirus (hrHPV) contamination of transvaginal ultrasound (TVUS) probes following low level disinfection (LLD).

Methods: Multicentre observational study (NCT02659072). We audited 676 TVUS in 46 Paris area facilities who volunteered to enrol. Before each TVUS, and following LLD, we sampled the keyboard, the naked probe, and the sheathed probe for hrHPV DNA detection (Cobas® 4800 Roche, Alameda, CA, USA). We recorded preventive hygiene actions performed before starting TVUS and categorised as “appropriate” or “inappropriate”.

Supporting information can be found in the online version of this abstract