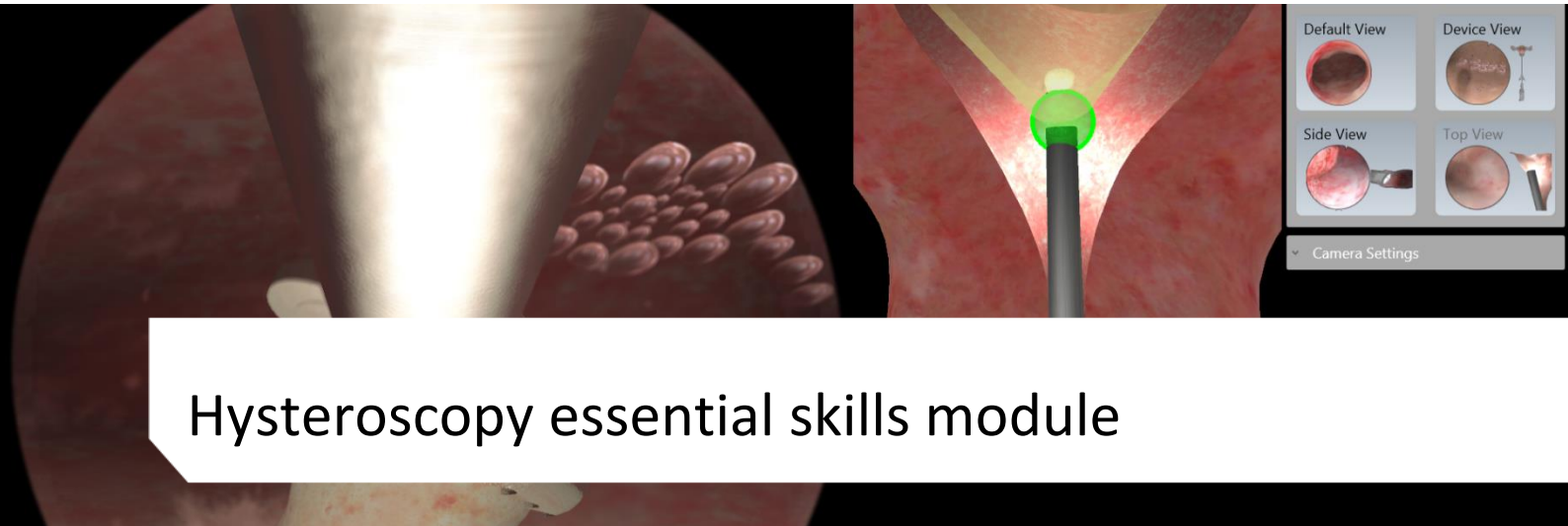




**VirtaMed GynoS™**  
Module descriptions

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# Hysteroscopy essential skills module

## Module description

The HystSim™ essential skills module is a complete curriculum designed for structured integration of hysteroscopy training in OB/GYN residency programs. It contains eight different skills exercises with custom-built feedback scores and reports, using an original diagnostic hysteroscope with working channel, providing ideal preparation for the operating room. Exercises in a safe and realistic virtual environment provide a relaxed setting outside of the operating room to facilitate essential skills training. Each task focuses on one critical step of the procedure: Gaining access to the cervix (anteverted uteri, retroverted uteri), learning to manipulate uterine distension, navigation inside the uterine cavity, biopsy polyp removal using grasper or scissors and treating synechia and light cases of Asherman’s syndrome.

## SimProctor™ educational guidance

Instructions on safe procedure performance are applied to the anatomical setting, incorporating best practices as defined by an expert panel, helping to learn the main behavioral rules during the procedure. The trainee is provided with tips and tricks to improve performance, ghost tools to demonstrate correct behavior, and videos to guide the trainee and various anatomical views are provided, such as an external and side view to help develop orientation. A patient comfort meter is provided to practice maintaining the best possible patient experience during the procedure.

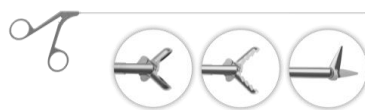
## Learning objectives

- To correctly align the scope.
- To establish uterine distension, clear viewing conditions and safe navigation.
- To identify the right and the left tubal orifice.
- To inspect the uterine cavity by correctly handling the camera.
- To describe all visible pathologies.

## Instruments

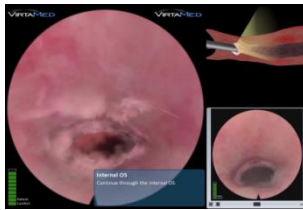


Hysteroscope with working channel



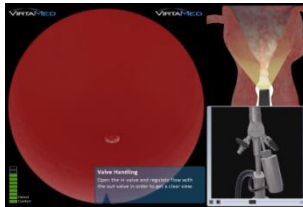
Standard grasper handle (forceps/grasper/scissors)

Cases descriptions



Case 1: Access normal cavity

- This uterine cavity has a regular shape
- No pathologies present



Case 2: Distention anteverted cavity

- Anteverted access
- Small polyp blocks the entrance in the cervical canal
- Challenging change of angles during the access phase



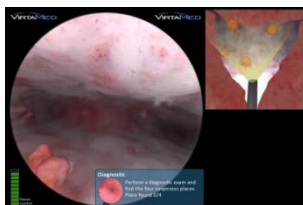
Case 3: Retroverted cavity

- Retroverted uterus
- The light pole needs to be turned 180° up to gain entry in the fundus



Case 4: Navigation

- Regularly shaped uterus contains a 1cm type I myoma close to the left tubal ostium



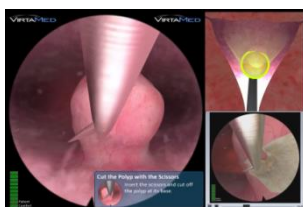
Case 5: Biopsy

- Uterine cavity with four suspicious looking spots in different locations



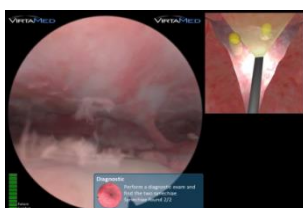
Case 6: Polyp removal with grasper

- Regular shaped uterine cavity contains a small pedunculated polyp centered at the posterior wall



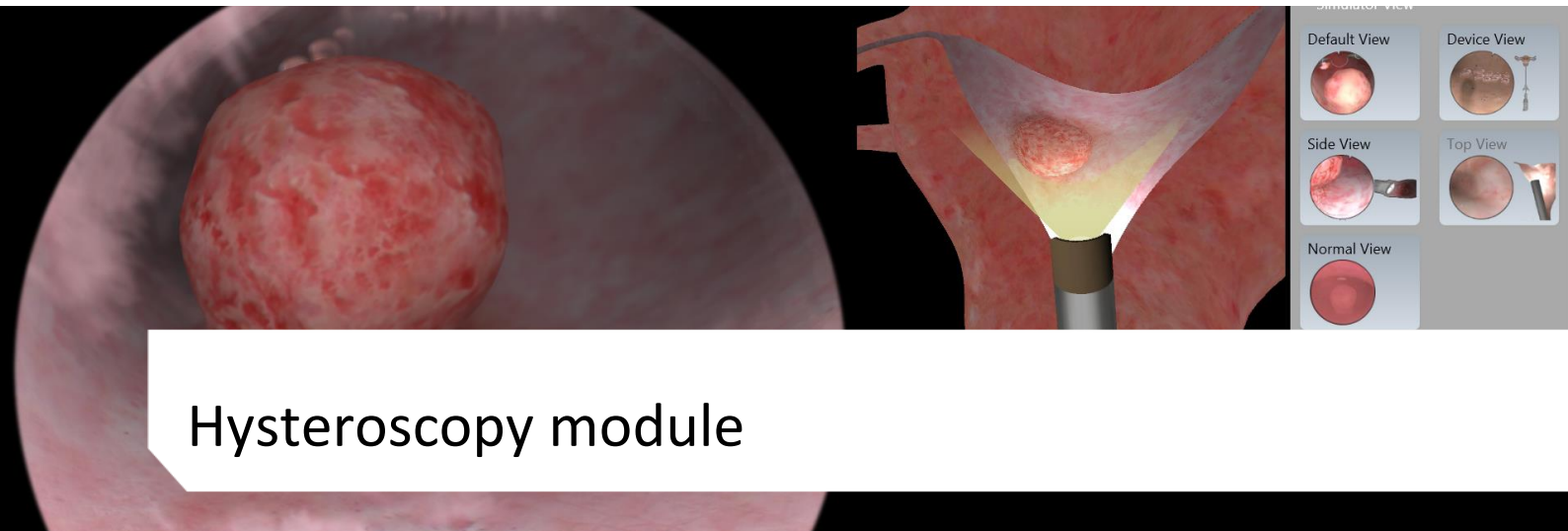
Case 7: Polyp removal with scissors

- Regularly shaped uterus with a 1.5cm medium-sized polyp at the posterior wall close to the tubal ostium



Case 8: Uterine synechia

- Uterine synechiae or intrauterine adhesions are characterized by the presence of adhesions and/or fibrosis within the uterine cavity



## Hysteroscopy module

### Module description

Hysteroscopy is the endoscopic treatment through the cervix with a scope and camera. It is indicated for the resection of submucous myoma and for the resection of lesions such as synechiae or septa. Removing polyps under direct vision prevents adverse events such as missing the polyp during a blind curettage. Thus, hysteroscopy is the gold standard for many diagnostic and therapeutic interventions in case of abnormal uterine bleeding, menstrual pain or even infertility.

#### Diagnostic and surgical hysteroscopy

The module offers 12 virtual patients with varying pathologies and with different levels of difficulty. The trainee gains experience in the usage of the angled optics, establishing a clear view and learns to visualize the entire cavity in a safe environment. Performance review provides feedback on the visualized uterine surface, economy (procedure time, camera path), safety measures (collisions of camera with uterine wall), as well as feedback on fluid handling.

#### Endometrium ablation

Rollerball endometrial ablation remains the gold standard for the permanent treatment of abnormal uterine bleeding. It is performed under direct vision, and provides both diagnostic and therapeutic intervention for abnormal uterine bleeding. The module contains 4 different virtual patients with varying shapes of uterine cavities. Endometrial ablation with the rollerball is an ideal exercise to gain practice in electrosurgery in all positions and in the entire uterus. Performance review provides feedback on a visual overview of the coagulated uterine surface, economy (procedure time, camera path), and safety measures.

#### Polypectomy

A uterine polyp is an endometrial lesion taking up space within the uterine cavity. Symptoms include irregular menstrual bleeding, bleeding between menstrual periods, excessively heavy menstrual bleeding, and vaginal bleeding after menopause. A hysteroscopic treatment is preferred to a blind curettage. The module offers 8 virtual patients with various polyps in different positions and aims at providing training for the first steps in operative hysteroscopy using the loop electrode. Performance review provides feedback on the amount of the removed polyp, economy (procedure time, camera path), and safety measures.

## Myomectomy

Uterine fibroids are benign tumors which grow from the muscle layers of the uterus. Symptoms include abnormal gynecologic hemorrhage, heavy or painful periods, abdominal discomfort or bloating, back ache, urinary frequency or retention, and in some cases, infertility. If a fibroid is predominantly submucosal, complete hysteroscopic resection is possible. The module offers 8 virtual patients with varying types of submucosal fibroids (type 0) in different positions and with different levels of difficulties. Performance review provides feedback on amount and quality of the removed fibroids, economy (procedure time, camera path), and safety measures.

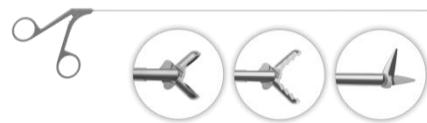
## Learning objectives

- To establish uterine distension and clear viewing conditions.
- To confirm the correctly placed hysteroscope by identifying the right and the left tubal orifice.
- To inspect the uterine cavity completely by directing the camera efficiently over the entire endometrial surface while maintaining a clear view.
- To use the rollerball in a systematic way to ablate the complete endometrial surface, while not ablating the endocervix.
- To describe all visible pathologies.

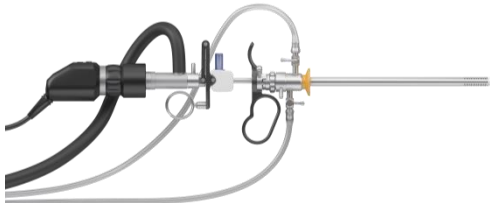
## Instruments



Hysteroscope with working channel

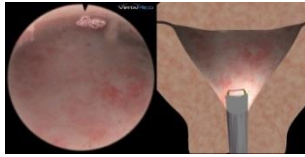


Standard grasper handle (forceps/grasper/scissors)



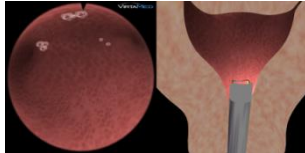
Resectoscope with rollerball or with cutting loop

## Diagnostic and surgical hysteroscopy cases



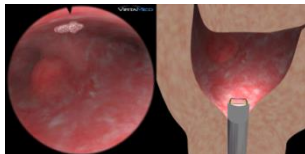
### Diagnosics easy 1

- Normally shaped cavity, parous woman
- No pathology
- No bleeding



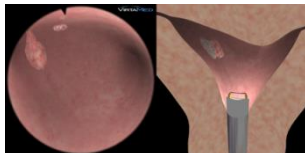
### Diagnosics easy 2

- Arcuate uterus, parous woman
- No pathology
- No bleeding



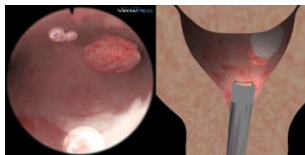
### Diagnosics easy 3

- Spheric cavity with asymmetric tubal angles, parous woman, little bleeding
- Small myoma close to the right fallopian tube at the fundus



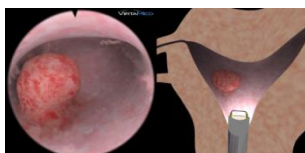
### Diagnosics easy 4

- Bicornue uterus with asymmetric tubal angles
- Small pedunculated polyp in front of the right fallopian tube at the anterior wall
- Little bleeding



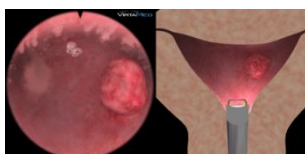
### Diagnostic medium 1

- Arcuate uterus, symmetric tubal angles
- Medium-sized myoma in the fundus/anterior wall close to the left fallopian tube
- Fluffy tissue, little bleeding



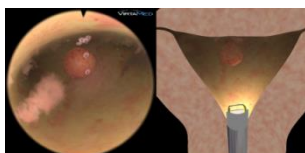
### Diagnostic medium 2

- Bicornue uterus, asymmetric tubal angles
- Medium-sized myoma in the right part of the uterus
- Fluffy tissue, little bleeding



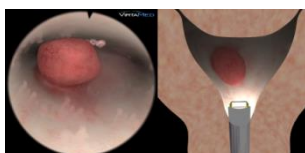
### Diagnostic medium 3

- Normal cavity, deep symmetric tubal angles
- Larger myoma blocking the right fallopian tube
- Floating tissue, fluffy, little bleeding



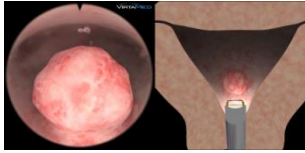
### Diagnostic medium 4

- Normally shaped uterus
- Small myoma at the fundus
- Little bleeding when entering the right ostia
- Few fluffy tissue parts



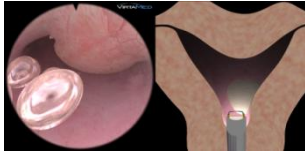
### Diagnosics difficult 1

- Narrow, tight uterus
- Larger myoma centered in the uterus, on the posterior wall
- Medium bleeding



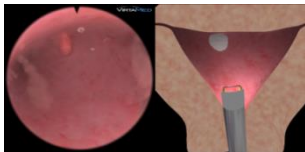
#### Diagnostics difficult 2

- Normally shaped uterus
- Stronger bleeding, fluffy tissue quality
- Medium-sized myoma partially closing the cervix
- Second, smaller fibroid hidden behind the other one



#### Diagnostics difficult 3

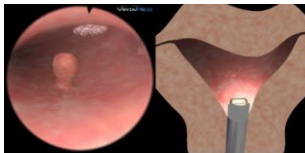
- Arcuate uterus
- Large myoma at the anterior wall partially blocking the entry from the cervical canal into the uterus
- Stronger bleeding, difficult entry



#### Diagnostics difficult 4

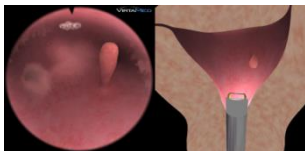
- Normally shaped uterus
- Small polyp located close to the fundus at the anterior wall
- Floating tissue parts, fluffy, stronger bleedings

## Polypectomy cases



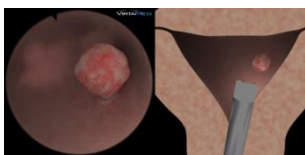
#### Polypectomy easy 1

- Arcuate uterus
- Small polyp on the right posterior wall
- Few fluffy tissue parts



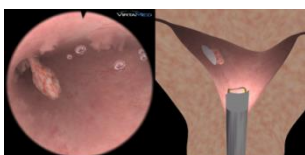
#### Polypectomy easy 2

- Arcuate uterus
- Pedunculated polyp with a narrow, elongated stalk located on the back/posterior wall left
- Fluffy tissue texture



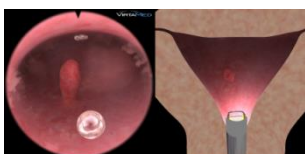
#### Polypectomy easy 3

- Normally shaped uterus
- Medium-sized polyp in front of the left fallopian tube



#### Polypectomy easy 4

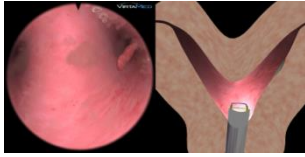
- Bicorne uterus, asymmetric tubal angles
- Small polyp blocking the right fallopian tube, attached to the anterior wall
- Some floating tissue parts



#### Polypectomy medium 1

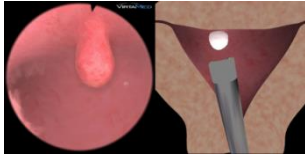
- Normally shaped uterus
- Pedunculated polyp of small size located in the center of the uterus, attached to the posterior wall
- Fluffy tissue





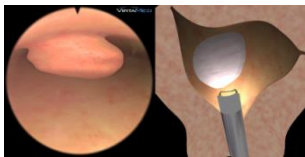
### Polypectomy medium 2

- Bicornuate, symmetric uterus
- Small, narrow and elongated pedunculated polyp inside of the left fallopian tube
- Tissue parts floating in the uterus



### Polypectomy medium 3

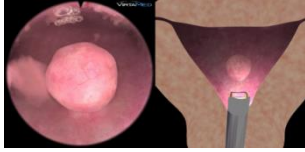
- Normally shaped uterus
- Medium-sized, sessile polyp with a broad base close to the fundus, in anterior position
- Almost clear view



### Polypectomy medium 4

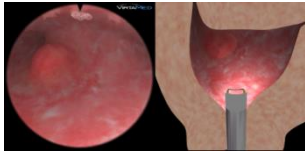
- Heavily distorted cavity, parous woman
- Large sessile polyp with a broad base blocking the right tubal opening, attached to the anterior wall
- Fluffy tissue

## Myomectomy cases



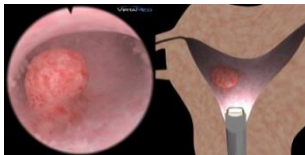
### Myomectomy medium 1

- Normally shaped uterus
- Myoma centered in the uterus
- Tissue a little bit fluffy



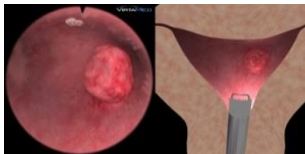
### Myomectomy medium 2

- Spheric cavity with asymmetric tubal angles, parous woman, little bleeding
- Small myoma close to the right fallopian tube at the fundus



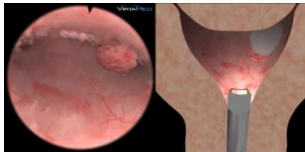
### Myomectomy medium 3

- Bicorne uterus, asymmetric tubal angles
- Medium-sized myoma in the right part of the uterus
- Fluffy tissue, little bleeding



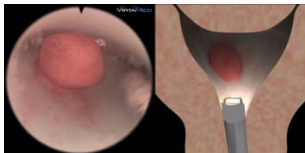
### Myomectomy medium 4

- Normal cavity, deep symmetric tubal angles
- Larger myoma blocking the right fallopian tube
- Floating tissue, fluffy, little bleeding



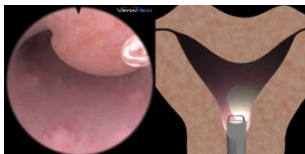
### Myomectomy difficult 1

- Arcuate uterus, symmetric tubal angles
- Medium-sized myoma in the fundus/anterior wall close to the left fallopian tube
- Fluffy tissue, little bleeding



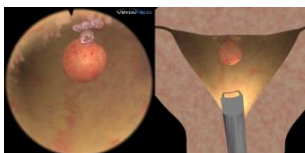
### Myomectomy difficult 2

- Narrow, tight uterus
- Larger myoma centered in the uterus, on the posterior wall
- Medium bleeding



### Myomectomy difficult 3

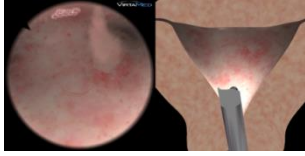
- Arcuate uterus
- Large myoma at the anterior wall partially blocking the entry from the cervical canal into the uterus
- Stronger bleeding, difficult entry



### Myomectomy difficult 4

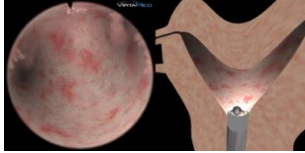
- Normally shaped uterus
- Small myoma at the fundus
- Little bleeding when entering the right ostia
- Few fluffy tissue parts

## Endometrium ablation cases



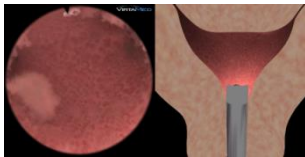
### Endometrium ablation medium 1

- Normally shaped uterus
- No bleeding
- Easy access



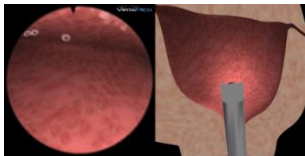
### Endometrium ablation medium 2

- Bicornuate uterus
- No bleeding
- Little bit fluffy tissue



### Endometrium ablation medium 3

- Arcuate uterus with symmetric deep tubal angles
- No bleeding
- Floating tissue parts, very fluffy



### Endometrium ablation medium 4

- Spheric cavity, multiparous woman
- Very narrow, tight uterus
- Some fluffy tissue parts



## Advanced hysteroscopy resection module

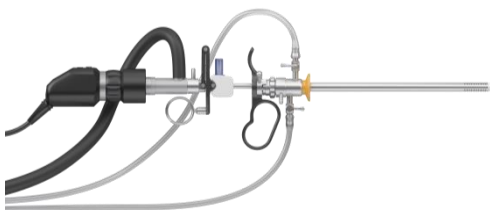
### Module description

The advanced hysteroscopy module includes various patients with advanced gynecologic pathologies and is intended for experienced physicians who already have basic skills in diagnostic and therapeutic hysteroscopy. The trainee acquires advanced hysteroscopy skills and prepares for more difficult interventions such as multiple polyps and myomas of type I and II. Additional cases with uterine adhesions and a septum challenge the trainees and provide better preparation for the operation room. A comprehensive performance review is provided including the amount of pathology removed, safety measures, economy of movement such as camera path, intervention time and use of fluid, and on proper visualization of the uterine surface and the fallopian tubes.

### Learning objectives

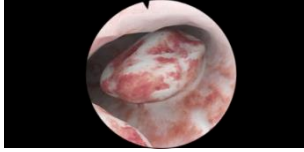
- To acquire advanced skills in hysteroscopy.
- To learn how to cope with multiple pathologies in one cavity.
- To work with the inflow and uterine distension to let intramural parts of myomas expand into the cavity.
- To distinguish adhesions and synechiae from a septum.
- To re-establish intact uterine cavity by removing pathologies.

### Instruments



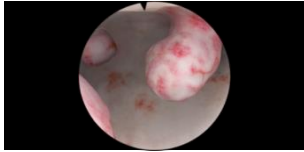
The module requires the same resectoscope as in the diagnostic and therapeutic module. Switching between the loop electrode and the needle electrode is performed within the simulation software.

## Advanced hysteroscopy cases



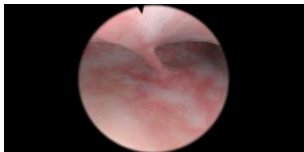
### Multiple polyps

- Visualize the entire cavity while navigating in a secure manner
- You will encounter multiple polyps
- Remove all polyps at the base



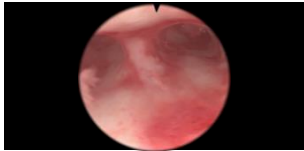
### Multiple myoma type I & II

- Multiple myoma blocking the access
- Resect until you reach the endometrium
- Turn off the inflow to expel intramural tissue
- Carefully resect intramural part



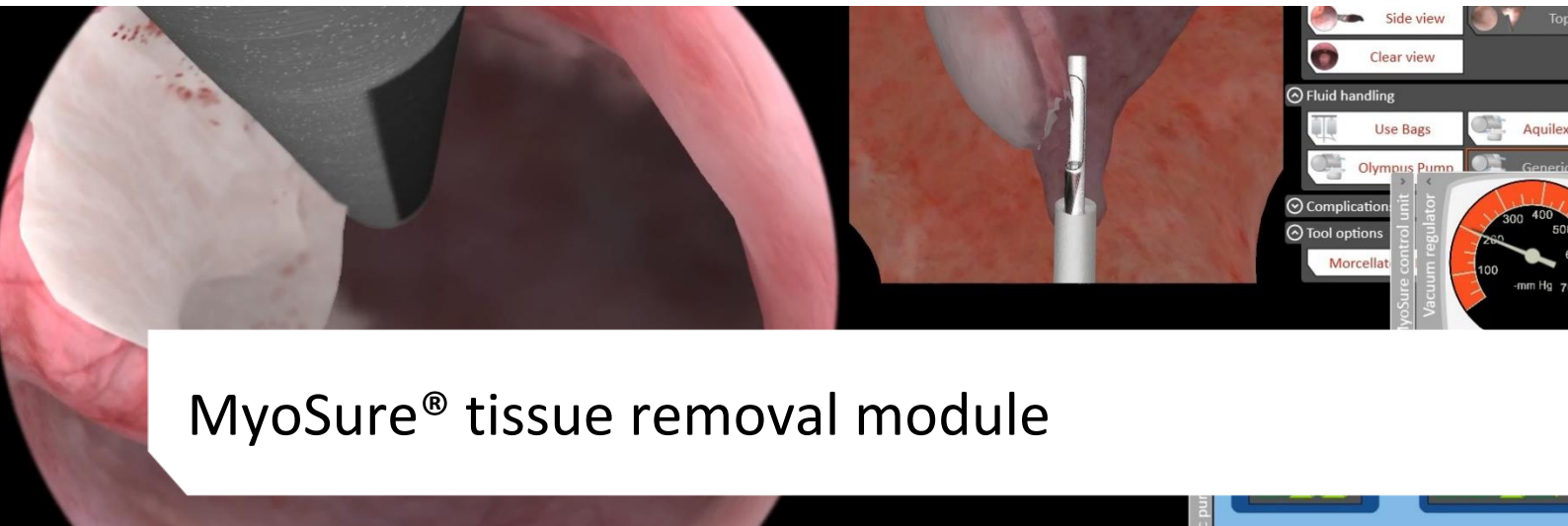
### Uterine synechiae

- Visualize the uterine synechiae in the uterine cavity
- Identify and resect the adhesions with the needle electrode
- Establish a fully extendable cavity



### Uterine septum

- Identify and resect the septum with the needle electrode
- Resect carefully without perforating the uterus
- Establish a fully extendable cavity



## MyoSure<sup>®</sup> tissue removal module

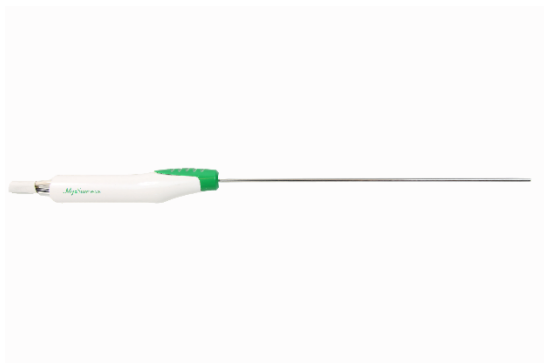
### Module description

Train on 16 virtual patients to correctly learn the MyoSure<sup>®</sup> tissue removal procedure. Each case requires the user to remove different types of growths in the uterus and handle complications such as bleeding. Through increasingly more difficult cases, users gain experience in correctly manipulating the MyoSure<sup>®</sup> device and scope, as well as the pressure pump.

### Learning objectives

- Perform a safe diagnostic hysteroscopy
- Recognize and safely remove intrauterine fibroids using a shaver
- Understand fluid management as it relates to a shaver
- Master angled optics, ergonomics and safety measures

### Instruments



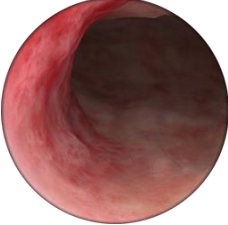
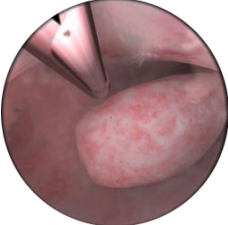
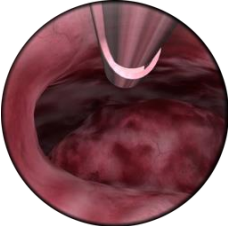
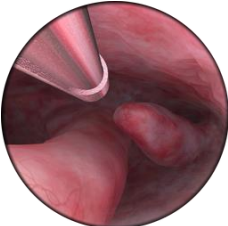
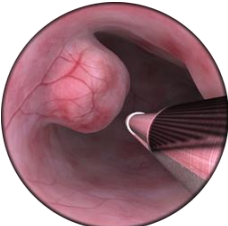
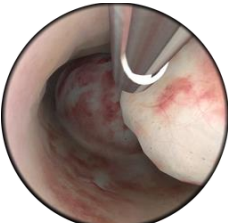
MyoSure device<sup>®</sup>

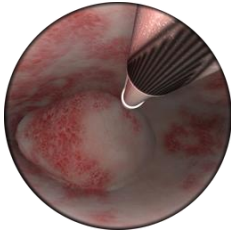


MyoSure scope<sup>®</sup>

## MyoSure<sup>®</sup> tissue removal cases

All training cases can be performed in guided or unguided mode, accompanying the user throughout their entire learning journey.

	<p><b>Case 1</b></p> <ul style="list-style-type: none"> <li>▪ Normal shaped cavity</li> <li>▪ Fluffy endometrium along right-side lateral wall</li> </ul>	<p><b>Objectives</b></p> <ul style="list-style-type: none"> <li>▪ Orientation of MyoSure<sup>®</sup> device</li> <li>▪ Importance of markings on both sides</li> <li>▪ Smooth out fluffy tissue</li> </ul>
	<p><b>Case 2</b></p> <ul style="list-style-type: none"> <li>▪ Bicorne uterus with asymmetric tubal angles</li> <li>▪ 3cm polyp in front of left tubal ostia, some fluffy endometrium</li> </ul>	<p><b>Objectives</b></p> <ul style="list-style-type: none"> <li>▪ Handle bleedings</li> <li>▪ Raise pressure to 80mmHg to clear field</li> </ul>
	<p><b>Case 3</b></p> <ul style="list-style-type: none"> <li>▪ Large size uterus</li> <li>▪ 3-4cm polyp located on the posterior wall of the uterus</li> <li>▪ No bleeding</li> </ul>	<p><b>Objectives</b></p> <ul style="list-style-type: none"> <li>▪ Increasing pump pressure improves view of entire cavity</li> <li>▪ Rotate the scope to improve the viewing angle of the polyp which is located on the posterior wall</li> </ul>
	<p><b>Case 4</b></p> <ul style="list-style-type: none"> <li>▪ Normal shaped cavity</li> <li>▪ 4cm polyp extends into the cervical canal</li> <li>▪ 3cm polyp at left tubal ostia</li> </ul>	<p><b>Objectives</b></p> <ul style="list-style-type: none"> <li>▪ Use in-/outflow before inserting the device to clear bleeding</li> <li>▪ Raise pressure to 100mmHg to tamponade bleeding</li> <li>▪ Place device at distal lateral edge</li> </ul>
	<p><b>Case 5</b></p> <ul style="list-style-type: none"> <li>▪ 3cm myoma type II at the right lateral wall</li> <li>▪ Dolphin pump is being used</li> </ul>	<p><b>Objectives</b></p> <ul style="list-style-type: none"> <li>▪ Handling of pressure pump, e.g. Dolphin</li> <li>▪ Understand correlation between vacuum and cutting performance</li> <li>▪ Achieve distention</li> </ul>
	<p><b>Case 6</b></p> <ul style="list-style-type: none"> <li>▪ 3cm myoma type I in front of left tubal ostia</li> <li>▪ 1.5cm myoma type 0 at internal cervical os</li> </ul>	<p><b>Objectives</b></p> <ul style="list-style-type: none"> <li>▪ Clear cavity with passive outflow when blade is closed</li> <li>▪ Handle stronger bleedings</li> </ul>

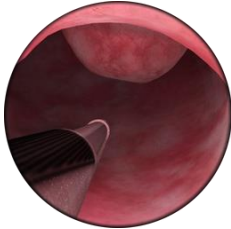


**Case 7**

- 4cm fundal myoma type I
- Retroverted uterine cavity

**Objectives**

- Appropriate way to approach and remove a fundal fibroid
- Tap on the foot pedal to clear an obscured view



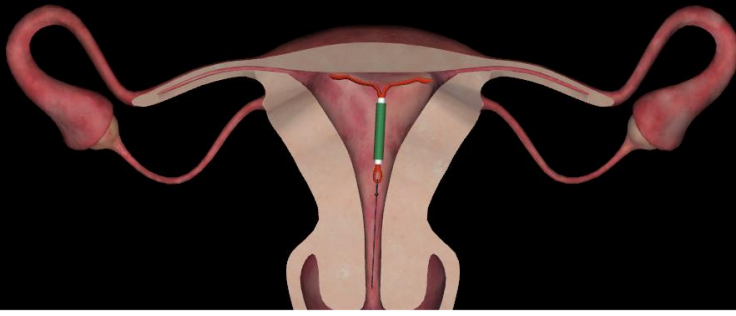
**Case 8**

- 3cm fibroid type II located on the right lateral wall
- Anteverted uterine cavity

**Objectives**

- Manage bleeding by increasing pressure and tapping foot pedal
- Expulsion technique to facilitate removal of type II myoma





Case information

Case name	Anteverted
Simulation time	11:32
Patient Comfort	<div style="width: 100%; height: 10px; background-color: green;"></div>

Tasks

- Put on sterile gloves
- Pick up handle and release threads
- Check slider position
- Align Mirena arms
- Load Mirena into insertion tube
- Secure the threads
- Set flange to measured depth
- Align the cervical canal

## Intrauterine device (IUD) placement module

### Module description

Gynecology training for correct placement of IUDs along with cases for uterine sounding in anteverted or retroverted uteri. Available with or without the SimProctor™ guidance.

### SimProctor™ educational guidance

Instructions on safe procedure performance are applied to the anatomical setting, incorporating best practices as defined by an expert panel, helping to learn the main behavioral rules during the procedure. The trainee is provided with tips and tricks to improve performance, ghost tools to demonstrate correct behavior. Various anatomical views are provided, such as an external and side view to help develop orientation. A patient comfort meter is provided to practice maintaining the best possible patient experience during the procedure.

### Learning objectives

- To correctly learn each step of the procedure
- To safely sound different uteri (anteverted, retroverted or nulliparous cases)
- To correctly place an IUD, with or without visual guidance

### Instruments



IUD as purchased



Uterine sound



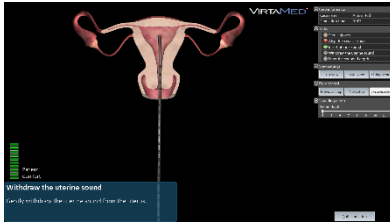
Tenaculum



Speculum

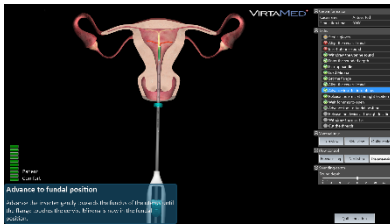
## IUD placement cases

All training cases can be performed guided or unguided, with anteverted, retroverted, and nulliparous uterus.



### Uterine sounding (3 cases)

- Safely sound the uterine cavity and establish the correct length.



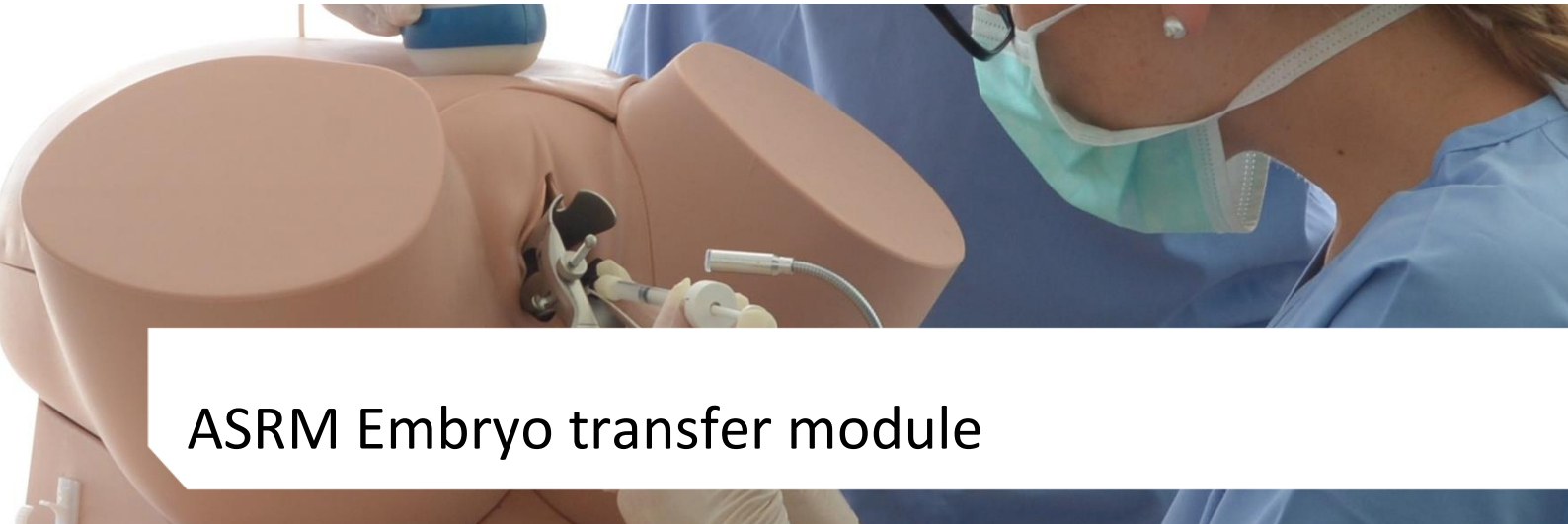
### IUD placement (12 cases)

- Correctly place the IUD by closely following the official instructions given by the manufacturer.



### Uterine sounding and IUD placement (12 cases)

- Perform the complete procedure.



## ASRM Embryo transfer module

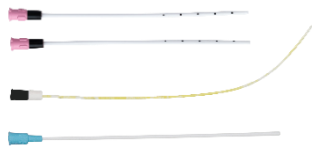
### Module description

9 virtual patients for teaching embryo transfer, with and without ultrasound guidance, plus 5 virtual patients for teaching intrauterine insemination. Interchangeable unique uteri / cervix models: straight, bent, and tortuous cervical canal, as well as a canal with false passage. Also includes a retroverted uterus with endometriosis. The module comes with a set of transfer and guide catheters, both tracked within the simulation.

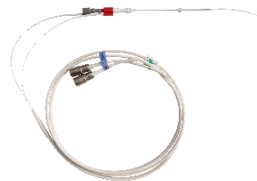
#### Learning objectives

- Perform the various embryo transfer techniques (direct, transfer with trial and afterload) as defined by the American Society for Reproductive Medicine (ASRM)
- Determine the best location for embryo expulsion based on either the ultrasound image or the uterine depth
- Train in your team to coordinate tasks, reduce patient risk, and minimize procedure time

### Instruments



Wallace<sup>®</sup> catheters



Cook Guardia<sup>™</sup> catheters



Ultrasound transducer replica



Syringe

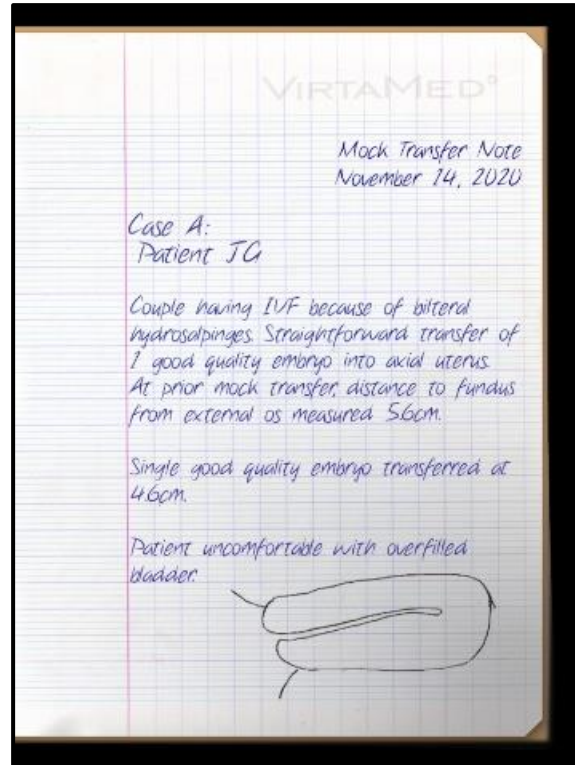
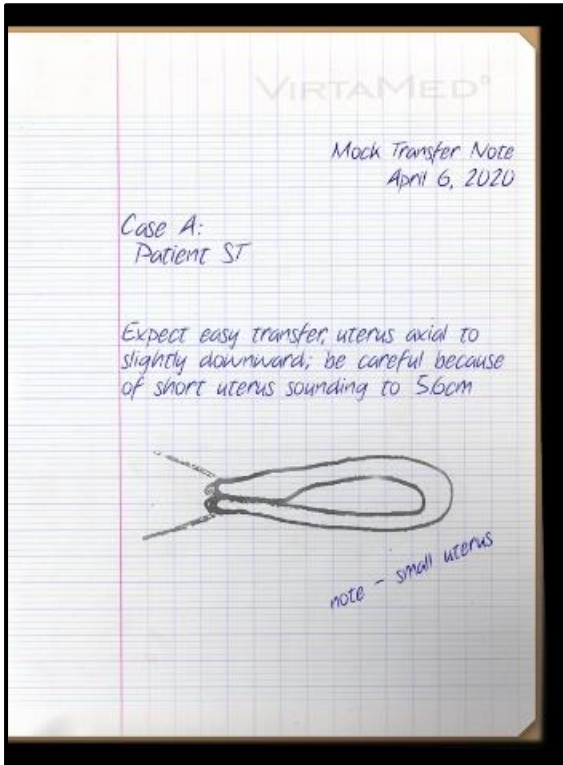
Case A1: Axial Uterus

**Learning objectives:**

- Learn the different embryo transfer procedure options
- Very short uterine depth. Designed to teach new practitioners to use ultrasound and sound depth to avoid touching the fundus.

**Canal navigation tips:**

- Easy canal. No tips necessary.



Case B: Anteverted Uterus

**Learning objectives:**

- To learn how to navigate a slightly more challenging canal
- To introduce the pros and cons of leading with either the inner or outer catheter.

**Canal navigation tips:**

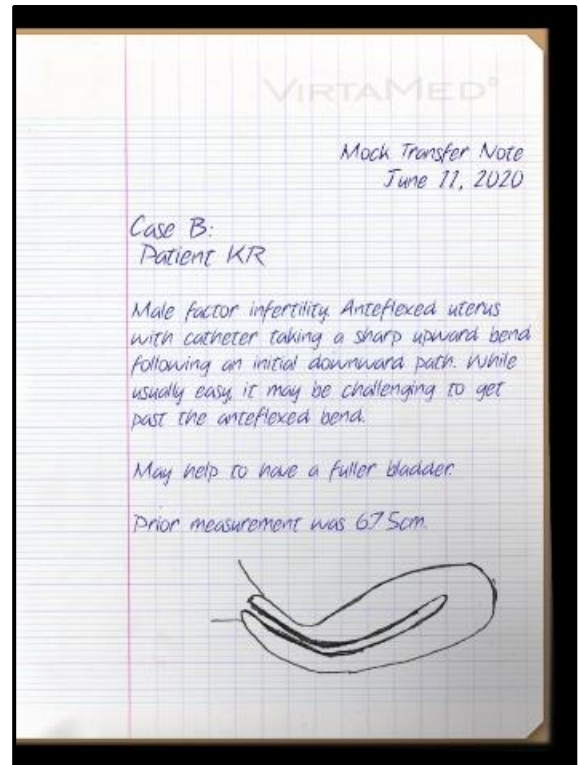
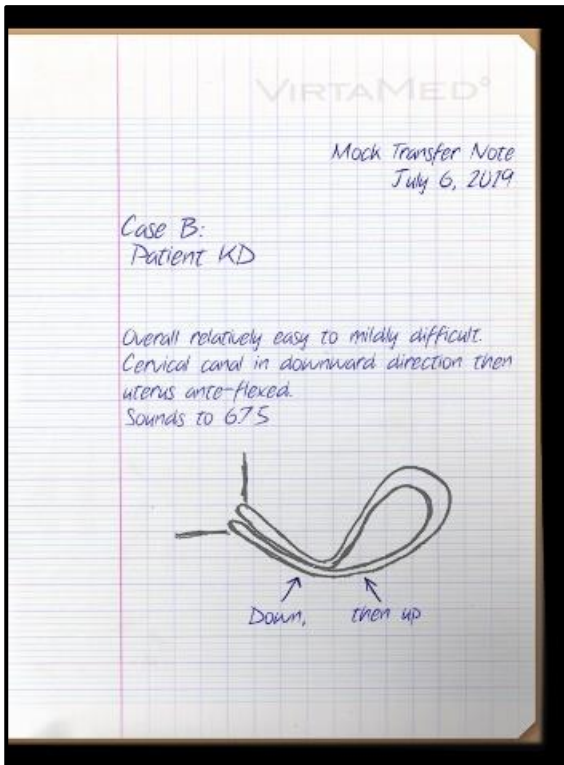
- There is a sharp ante-flex bend at the internal os

Option 1:

- Lead with 2+ cm of the inner catheter.
- You will feel a small amount of resistance at the internal os but should be able to easily push the inner catheter past it and into the uterine cavity.

Option 2:

- Lead with the outer catheter.
- Place a 30 degree bend in the catheter. (*Wallace only*)
- When you reach the inner os, scoop the catheter into the uterine cavity.



Case C: Tortuous Canal

**Learning objectives:**

- To learn to gently use a bent catheter to navigate a tortuous canal.
- To demonstrate the differences when navigating with either the inner or outer catheter.

**Canal navigation tips:**

- This is a tortuous canal that bends first up and then down.

Option 1:

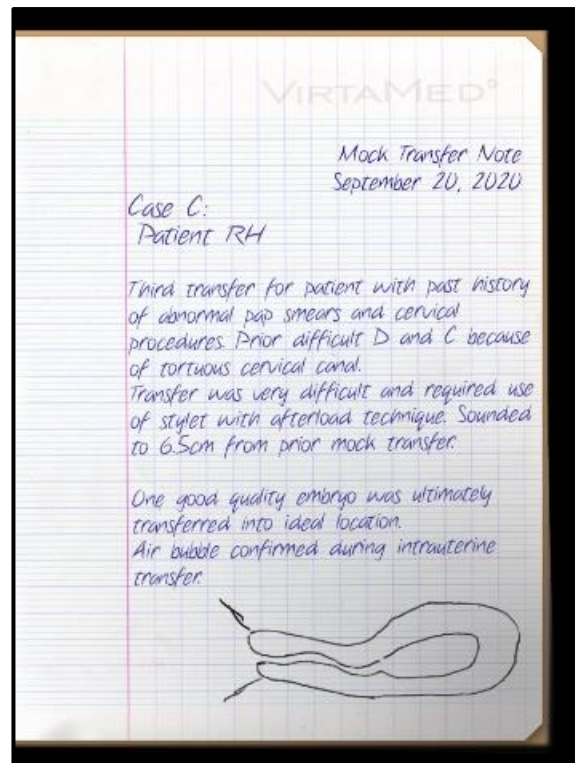
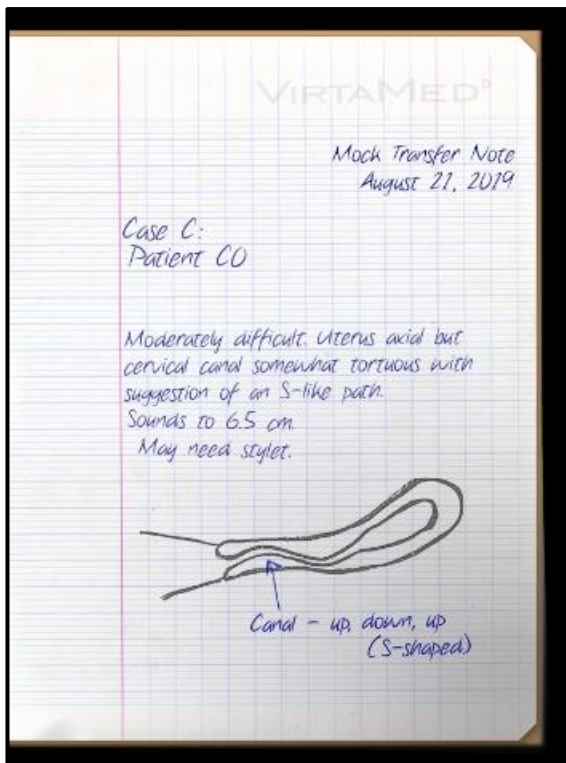
- Lock the catheters together to lead with as much soft catheter as available in front.
- Very slowly and steadily guide the inner catheter through the external os.
- Continue to slide the inner catheter through the cervical canal, watching to see that it does not buckle outside the patient.

Option 2:

- Place a 30 degree bend in the catheter/stylet starting approximate 2 cm from the tip. (*Wallace only*)
- Guide the catheter through the external os in an upward scoop.
- Slowly and gently rotate the catheter 180 degrees following the cervical canal. You should feel little resistance.
- Continue to rotate the catheter through the next bend until you reach the internal os. This second bend will be slightly more difficult to navigate.

Option 3:

- Use a stylet. Insert the stylet in the guide catheter.
- Then place a bend in the catheter/stylet and navigate the canal as described above. Be sure that you are rotating the stylet instead of the catheter.



Case D2: Ridge and False Passage

**Learning objectives:**

- To identify, both haptically and using ultrasound guidance, when the catheter tip is in a false passage.
- To learn different techniques to navigate around a false passage and into the uterine cavity.

**Canal navigation tips:**

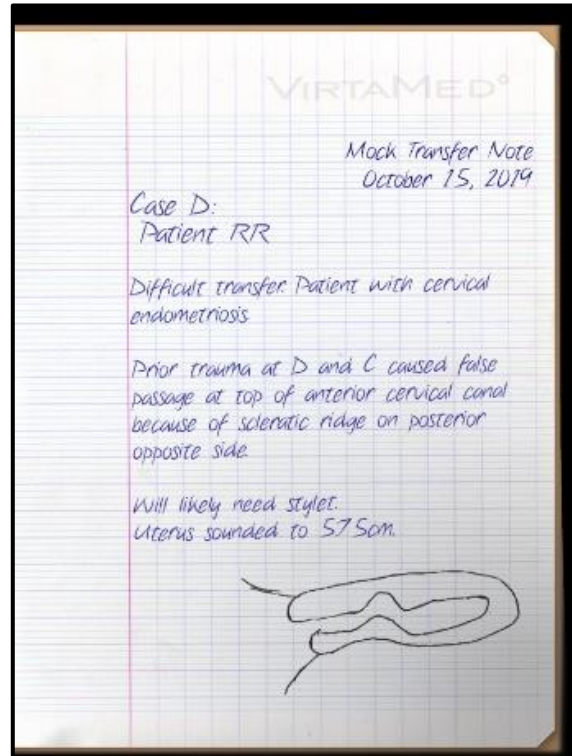
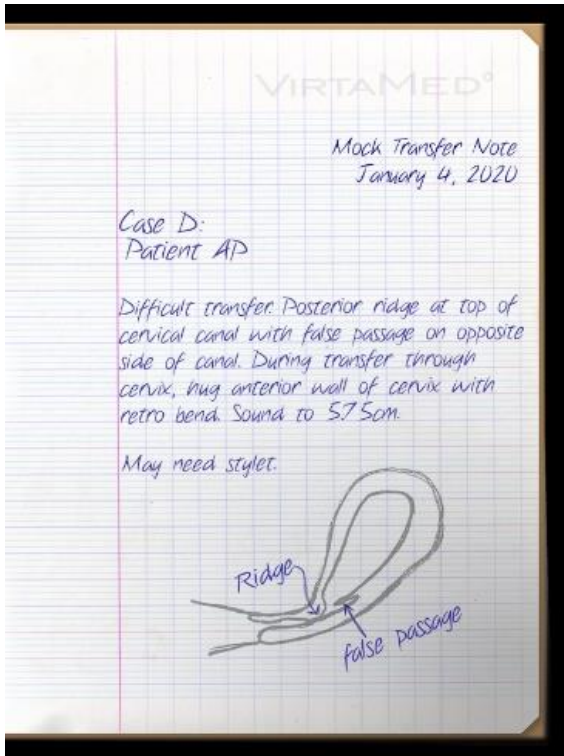
- Due to the shape of the canal, the catheter tip is naturally guided into the false passage.
- Great opportunity to demonstrate the benefits of the afterload technique.

Option 1:

- Place a 10 degree bend in the catheter. (*Wallace only*)
- Lead with the guide catheter. Guide the catheter through the external os in an upward scoop.
- Rotate the catheter 180 degrees to navigate the tip over the ridge and past the false passage.

Option 2:

- Perform the steps above using a stylet. Be sure to rotate the stylet instead of the catheter.



Case E: Retroverted Uterus

**Learning objectives:**

- To identify, both haptically and using ultrasound guidance, the retroverted uterus.
- To learn different techniques to navigate past any resistance caused by the endometriosis.

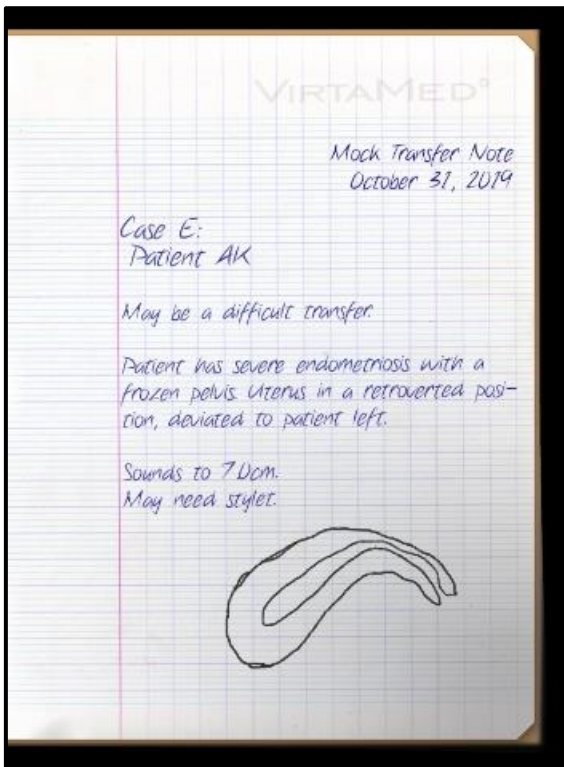
**Canal navigation tips:**

Option 1:

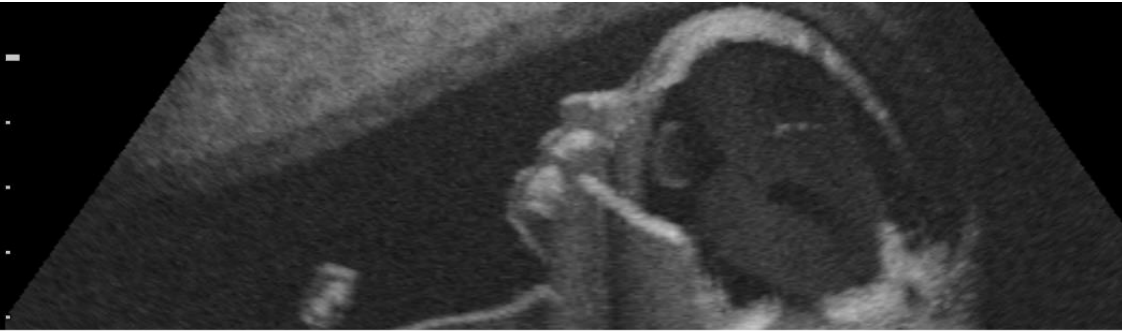
- Lead with 1+ cm of the soft catheter.
- Gently slide the guide or soft catheter as necessary to move past any resistance.

Option 2:

- Insert a soft stylet into the guide catheter.
- Place a 20 degree end in the catheter/stylet. (*Wallace only*)
- Gently navigate until you have passed the internal os. Rotate the stylet conservatively, as needed.







## Transabdominal obstetric ultrasound module

### Module description

Incorporating the 20+2 approach, a combination of 2 overview sweeps & 20 planes, the transabdominal obstetric ultrasound module provides a structured method of examining the mid-trimester fetus. Trainees learn across over 100 cases, various fetal positions, different placenta locations, and doppler imaging. The module contains various fetal abnormalities such as down syndrome, anencephaly, spina bifida, placenta previa, and bilateral renal agenesis. Training with the highest realism, the transabdominal transducer can be moved freely across the entire abdomen to visualize the fetus.

### Learning objectives

- To perform a systematic second-trimester ultrasound exam using the 20+2 approach
- To gain an understanding of what the normal ultrasound appearances are in each plane
- To detect and diagnose vascular complications using doppler imaging
- To practice caliper placement for measurement of the gestational age

### Instruments



Transabdominal ultrasound transducer



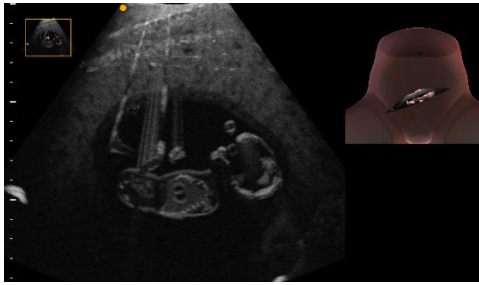
Small abdomen for fetuses younger than 18 weeks. Cases are only active when the correct abdomen is used.



Large abdomen for fetuses older than 18 weeks. Cases are only active when the correct abdomen is used.

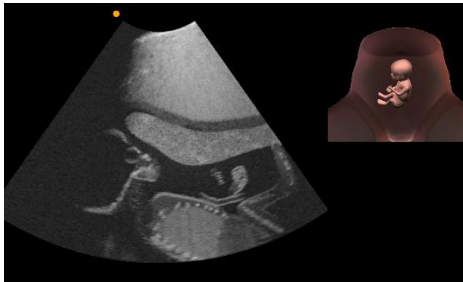
## Transabdominal obstetric ultrasound: patients

### Patient 1 "Angelique"



- Fetal age: 14 weeks 3 days
- Fetal position: Cephalic
- Placental location: Fundal
- Amniotic fluid: Normal
- Diagnosis: Normal pregnancy
- Belly size to use: Small
- Gender: Female

### Patient 2 "Yuki"



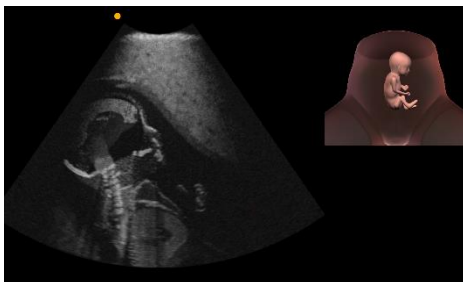
- Fetal age: 20 weeks 0 days
- Fetal position: Breech, spine left
- Placental location: Right
- Amniotic fluid: Normal
- Diagnosis: Normal pregnancy
- Belly size to use: Large
- Gender: Female

### Patient 3 "Jada"



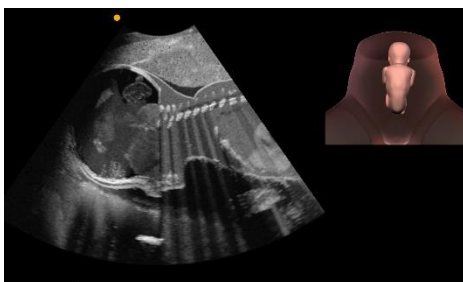
- Fetal age: 19 weeks 5 days
- Fetal position: Breech
- Placental location: Low anterior
- Amniotic fluid: Normal
- Diagnosis: Normal pregnancy
- Belly size to use: Large
- Gender: Male

### Patient 4 "Ellie"



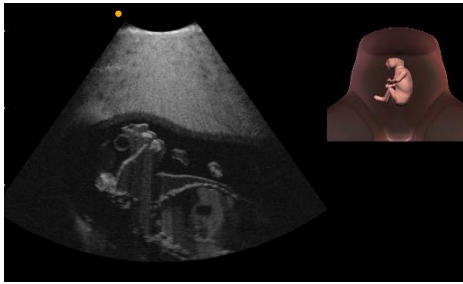
- Fetal age: 20 weeks 4 days
- Fetal position: Breech
- Placental location: Posterior
- Amniotic fluid: Normal
- Diagnosis: Normal pregnancy
- Belly size to use: Large
- Gender: Male

### Patient 5 "Sofia"



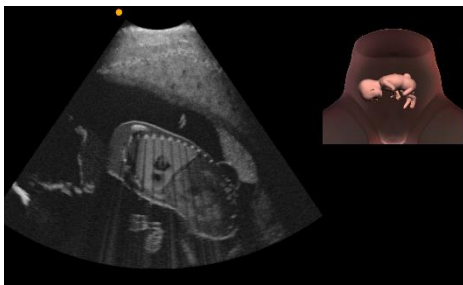
- Fetal age: 25 weeks 5 days
- Fetal position: Breech
- Placental location: Anterior fundal
- Amniotic fluid: Normal
- Diagnosis: Normal pregnancy
- Belly size to use: Large
- Gender: Female

Patient 6 “Deirdre”



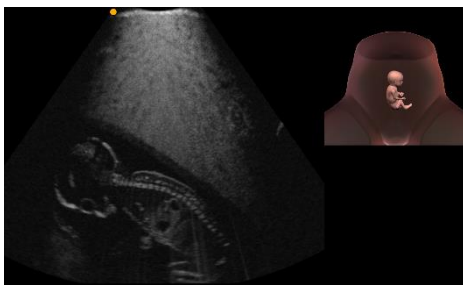
- Fetal age: 21 weeks 0 days
- Fetal position: Breech
- Placental location: Low posterior
- Amniotic fluid: Normal
- Diagnosis: Anencephaly
- Belly size to use: Large
- Gender: Male

Patient 7 “Annabelle”



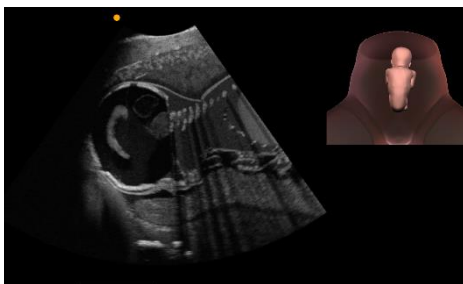
- Fetal age: 21 weeks 3 days
- Fetal position: Transverse
- Placental location: Fundal
- Amniotic fluid: Normal
- Diagnosis: Spina bifida
- Belly size to use: Large
- Gender: Male

Patient 8 “Femi”



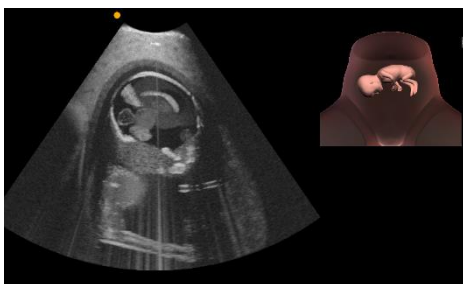
- Fetal age: 17 weeks 0 days
- Fetal position: Breech, spine right
- Placental location: Posterior fundal
- Amniotic fluid: Normal
- Diagnosis: Miscarriage
- Belly size to use: Small
- Gender: Male

Patient 9 “Priya”



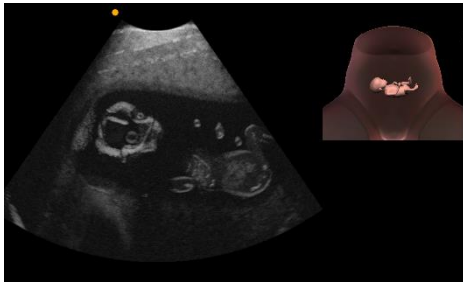
- Fetal age: 24 weeks 0 days
- Fetal position: Breech, spine up
- Placental location: Posterior
- Amniotic fluid: Low
- Diagnosis: Renal agenesis
- Belly size to use: Large
- Gender: Male

Patient 10 “Taylor”



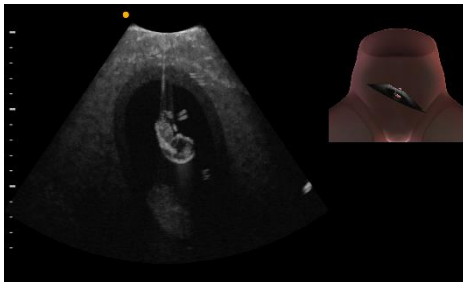
- Fetal age: 21 weeks 3 days
- Fetal position: Transverse, spine up
- Placental location: Placenta previa
- Amniotic fluid: Normal
- Diagnosis: Normal pregnancy
- Belly size to use: Large
- Gender: Female

Patient 11 "Tiara"



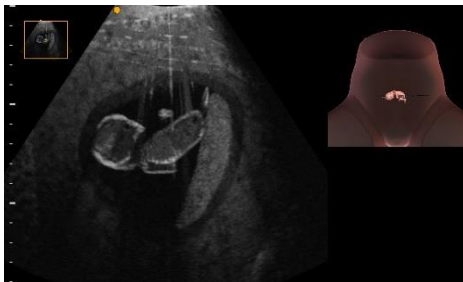
- Fetal age: 16 weeks 5 days
- Fetal position: Transverse, back
- Placental location: Fundal
- Amniotic fluid: Normal
- Diagnosis: Down syndrome
- Belly size to use: Small
- Gender: Female

Patient 12 "Ursula"



- Fetal age: 10 weeks 5 days
- Fetal position: Cephalic
- Placental location: Posterior, right
- Amniotic fluid: Normal
- Diagnosis: Normal pregnancy
- Belly size to use: Small
- Gender: Female

Patient 13 "Lucy"



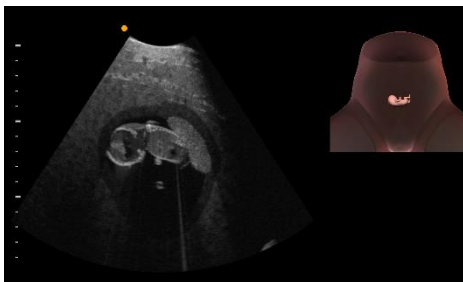
- Fetal age: 12 weeks 2 days
- Fetal position: Transverse
- Placental location: Left
- Amniotic fluid: Normal
- Diagnosis: Normal pregnancy
- Belly size to use: Small
- Gender: Male

Patient 14 "Olivia"



- Fetal age: 19 weeks 4 days
- Fetal position: Cephalic
- Placental location: Low lying anterior
- Amniotic fluid: Normal
- Diagnosis: Cleft lip
- Belly size to use: Large
- Gender: Female

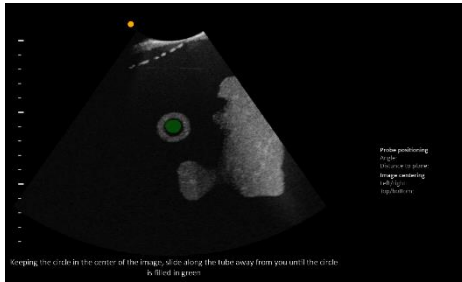
Patient 15 "Kiki"



- Fetal age: 12 weeks 2 days
- Fetal position: Transverse
- Placental location: Anterior
- Amniotic fluid: Normal
- Diagnosis: Down syndrome
- Belly size to use: Small
- Gender: Male

## Transabdominal obstetric ultrasound: cases

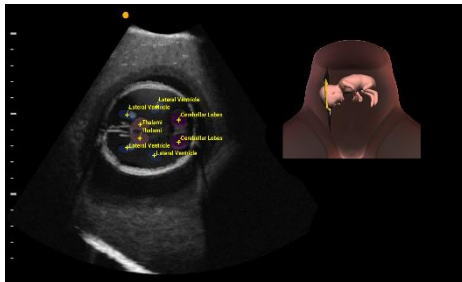
### Basic Skills – Probe handling



#### Learning objectives:

- Slide, rotate and tilt the probe to visualize shapes
- Sweep through objects in the abdominal space to understand how probe movements affect the image on the screen

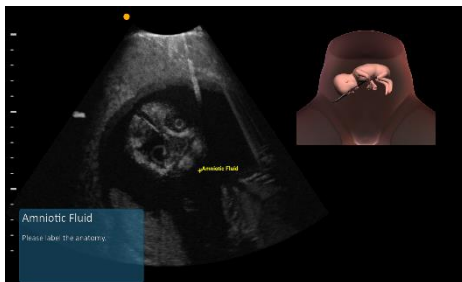
### Basic Skills – Anatomical planes



#### Learning objectives:

- Learn the 20 important planes in the mid-trimester fetus
- Use training features such as control lights, the outside view, and anatomy labels to guide you

### Basic Skills – Anatomies Identification



#### Learning objectives:

- Navigate to randomized anatomical structures and check the accuracy of your assessment

### 6-Steps approach



#### Learning objectives:

- Assess the fetal lie
- Identify placental location
- Measure amniotic fluid volume
- Visualize cardiac activity
- Perform biometric measurements based on the Hadlock scale

All training cases include one fetus only (multiple pregnancies are not simulated)

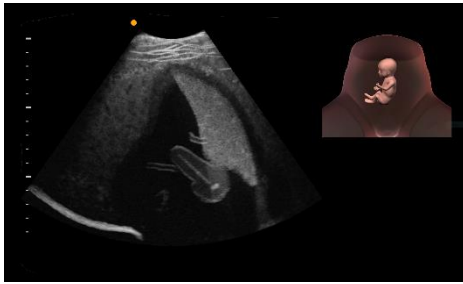
### 11-14 Weeks exam



#### Learning objectives:

- Perform the 6-steps approach exam as described above
- Measure nuchal translucency

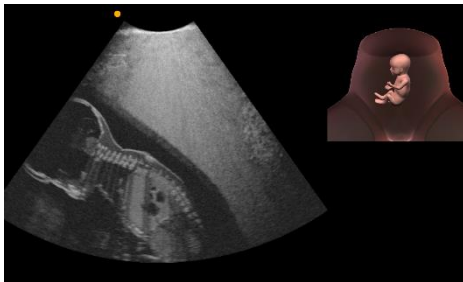
## Free roam



### Learning objectives:

- Navigate the different structures of the fetus according to your needs
- Recognize signs of abnormalities including placenta previa
- Perform fetal biometry

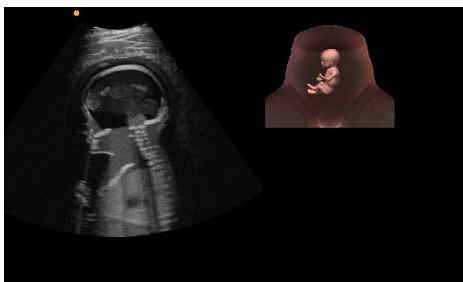
## Spine



### Learning objectives:

- Identify and document the 3 planes of the fetal spine: spine in sagittal, spine in coronal, and the coronal section of the body
- Check for any spinal or skin defects including spina bifida meningocele

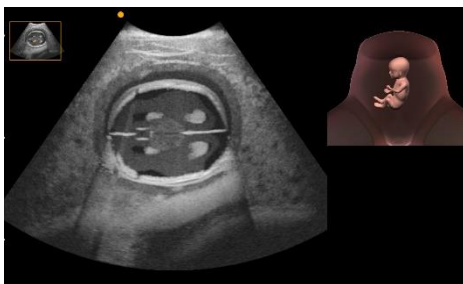
## 20+2 planes



### Learning objectives:

- Navigate to the 20 important planes in the mid-trimester fetus
- Identify the key structures within these planes
- Recognize signs of abnormalities including bilateral renal agenesis, miscarriage, and Down syndrome
- Perform fetal biometry

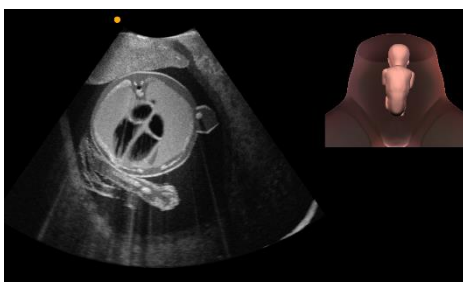
## Brain



### Learning objectives:

- Navigate to the 3 important planes of the brain: transventricular, transthalamic, and transcerebellar
- Identify the key structures within these planes such as the falx, ventricles, and cavum septum pellucidum
- Recognize signs of abnormalities of the brain including anencephaly, lemon-shaped skull, and banana-shaped cerebellum
- Perform fetal biometry of the brain

## Heart and thorax



### Learning objectives:

- Identify the key structures in the fetal heart such as the four-chamber view with lungs, RVOT, and LVOT
- Identify right and left side of the fetal situs
- Perform fetal biometry of the fetal heart based on the Hadlock scale
- Recognize signs of abnormalities of the heart including the ventricular septum defect

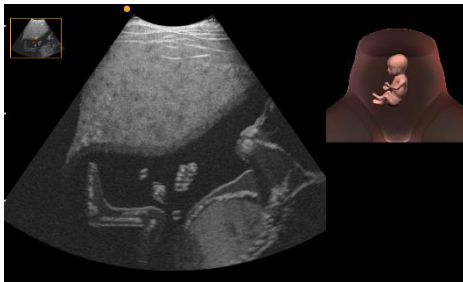
## Abdomen and pelvis



### Learning objectives:

- Identify the key structures within the fetal abdomen and pelvis such as the stomach and kidneys
- Recognize signs of abnormalities of the abdomen including bilateral renal agenesis

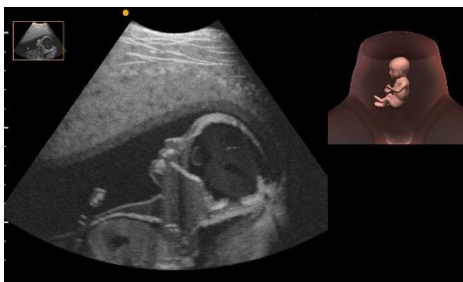
## Limbs



### Learning objectives:

- Identify the key structures of fetal limbs such as the femur, tibia, and fibula
- Identify right and left side of the fetus
- Perform fetal biometry
- Recognize signs of abnormalities of the limbs including the sandal gap

## Face



### Learning objectives:

- Identify the key structures of fetal face such as the facial profile, lips, eyes, and nose
- Recognize signs of abnormalities of the face including missing nasal bone

## Patient overview

Module	Angelique	Yuki	Jada	Ellie	Sofia	Deirdre	Annabelle
<b>6-Steps</b>	-	Case 9	Case 1	Case 6	Case 8	-	Case 4
<b>11-14 Weeks</b>	Case 3	-	-	-	-	-	-
<b>Free Roam</b>	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7
<b>20+2</b>	-	-	-	Case 3	Case 6	-	Case 4
<b>20+2 Testing</b>	Case 3	Case 1	Case 12	Case 7	Case 10	Case 8	Case 9
<b>Spine</b>	Case 8	-	-	Case 9	Case 7	Case 1	Case 2
<b>Brain</b>	-	Case 2	Case 1	Case 7	Case 5	-	Case 6
<b>Heart</b>	Case 6	Case 8	Case 3	Case 5	Case 2	Case 11	Case 9
<b>Abdomen</b>	-	Case 8	Case 10	Case 7	Case 1	Case 4	Case 3
<b>Limbs</b>	Case 10	Case 6	Case 2	Case 1	Case 4	Case 7	Case 9
<b>Face</b>	Case 5	Case 1	Case 4	Case 3	Case	Case 8	Case 7

Module	Femi	Priya	Taylor	Tiara	Ursula	Lucy	Olivia	Kiki
<b>6-Steps</b>	Case 5	Case 10	Case 7	Case 2	-	-	Case 3	
<b>11-14 Weeks</b>	-	-	-	-	Case 2	Case 1		Case 4
<b>Free Roam</b>	Case 8	Case 9	Case 10	Case 11	Case 12	Case 13	Case 14	Case 15
<b>20+2</b>	-	Case 5	Case 1	Case 2	-	-	-	
<b>20+2 Testing</b>	Case 2	Case 4	Case 11	Case 6	-	-	Case 5	
<b>Spine</b>	Case 6	Case 5	Case 4	Case 3	-	-	-	
<b>Brain</b>	Case 4	Case 9	Case 3	Case 8	-	-	-	
<b>Heart</b>	Case 4	Case 1	Case 10	Case 7	-	-	-	
<b>Abdomen</b>	Case 9	Case 6	Case 2	Case 5	-	-	-	
<b>Limbs</b>	Case 11	Case 8	Case 5	Case 3	-	-	-	
<b>Face</b>	Case 6	-	-	Case 2	-	-	-	



## Transvaginal obstetric ultrasound module

### Module description

A comprehensive training for 1<sup>st</sup> trimester transvaginal ultrasound, the module contains 16 patient cases. Abnormalities include a possible molar pregnancy, early pregnancy losses, pregnancies of unknown location, double ectopic pregnancy, and a non-pregnant patient. Masses and fluids in the adnexa, as well as Nabothian cysts, are also included. The transfer of skills from the simulator to the patient is facilitated thanks to the realistic tactile sensation of the transvaginal probe.

### Learning objectives

- To perform a systematic first-trimester ultrasound exam
- To visualize and assess uterine and pregnancy structures
- To practice caliper placement for measurement of the gestational age

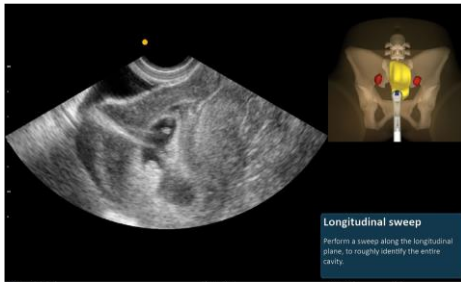
### Instruments



Transvaginal ultrasound probe

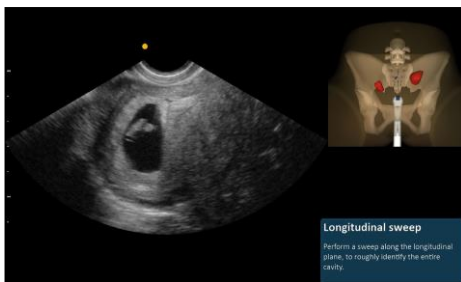
## Transvaginal obstetric ultrasound: guided cases

### Patient 1 “Chante”



- Pregnancy classification: Early pregnancy loss
- Number of embryos: 1
- Actual gestational age: 6w, 6d
- EGA based on LMP: 6w, 6d
- Landmarks not possible to visualize: All are possible to visualize.
- Previous pregnancies: 1 Gravida, 0 Para, 0 c-section, 0 ectopic
- Previous ultrasound for current pregnancy: None
- Recent medical history: N/A

### Patient 2 “Akira”



- Pregnancy classification: Definite intrauterine pregnancy
- Number of embryos: 1
- Actual gestational age: 7w, 1d
- EGA based on LMP: 6w, 3d
- Landmarks not possible to visualize: All are possible to visualize.
- Previous pregnancies: 3 Gravida, 2 Para, 0 c-section, 0 ectopic
- Previous ultrasound for current pregnancy: None
- Recent medical history: N/A

### Patient 3 “Galia”



- Pregnancy classification: Definite intrauterine pregnancy
- Number of embryos: 1
- Actual gestational age: 8w, 1d
- EGA based on LMP: 8w, 1d
- Landmarks not possible to visualize: All are possible to visualize.
- Previous pregnancies: 1 Gravida, 0 Para, 0 c-section, 0 ectopic
- Previous ultrasound for current pregnancy: None
- Recent medical history: N/A

### Patient 4 “Jasmine”



- Pregnancy classification: Definite intrauterine pregnancy
- Number of embryos: 1
- Actual gestational age: 9w, 1d
- EGA based on LMP: 9w, 1d
- Landmarks not possible to visualize: All are possible to visualize.
- Previous pregnancies: 1 Gravida, 0 Para, 0 c-section, 0 ectopic
- Previous ultrasound for current pregnancy: None
- Recent medical history: Nabothian cysts on cervix

Patient 5 “Sasha”



- Pregnancy classification: Definite intrauterine pregnancy
- Number of embryos: 1
- Actual gestational age: 10w
- EGA based on LMP: 13w, 2d
- Landmarks not possible to visualize: All are possible to visualize.
- Previous pregnancies: 3 Gravida, 1 Para, 1 c-section, 0 ectopic
- Previous ultrasound for current pregnancy: None
- Recent medical history: N/A

Patient 6 “Riley”



- Pregnancy classification: Definite intrauterine pregnancy
- Number of embryos: 1
- Actual gestational age: 12w, 1d
- EGA based on LMP: 11w, 5d
- Landmarks not possible to visualize: Yolk sac is not present.
- Previous pregnancies: 2 Gravida, 1 Para, 1 c-section, 0 ectopic
- Previous ultrasound for current pregnancy: None
- Recent medical history: N/A

Patient 7 “Noel”



- Pregnancy classification: Pregnancy of unknown location
- Number of embryos: 0
- Actual gestational age: Unknown
- EGA based on LMP: 5w, 5d
- Notes: Pregnancy of unknown location. Patient could not be pregnant despite positive pregnancy test.
- Landmarks not possible to visualize: Gestational sac, embryo/fetus, yolk sac, and cardiac activity not present.
- Previous pregnancies: 1 Gravida, 0 Para, 0 c-section, 0 ectopic
- Previous ultrasound for current pregnancy: None
- Recent medical history: History of irregular menses, weekly positive pregnancy test

Patient 8 “Dakota”



- Pregnancy classification: Early pregnancy loss (based on history only)
- Number of embryos: 0
- Actual gestational age: approx. 7w, 3d
- EGA based on LMP: 8w, 4d
- Notes: Spontaneous abortion, mean sac diameter measures at approx. 7w 3d, minimal grow since last ultrasound.
- Landmarks not possible to visualize: Embryo/fetus not present. No cardiac activity is present.
- Previous pregnancies: 2 Gravida, 1 Para, 0 c-section, 0 ectopic
- Previous ultrasound for current pregnancy: Yes, scanned 2 weeks ago at 6w, 6d
- Recent medical history: Irregular cycle, duration from 24-42 days, patient has experienced bleeding since last ultrasound

Patient 9 “Odalis”



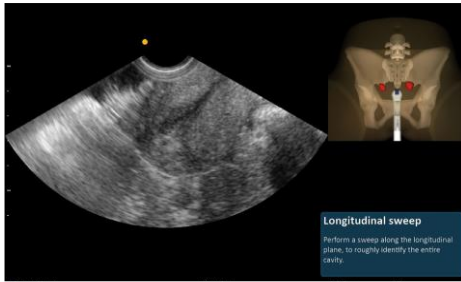
- Pregnancy classification: Pregnancy of unknown location
- Number of embryos: 0
- Actual gestational age: Unknown
- EGA based on LMP: Unknown
- Notes: Pregnancy of unknown location with a mass in the left adnexa indicating a possible ectopic pregnancy.
- Landmarks not possible to visualize: Gestational sac, embryo/fetus, yolk sac, and cardiac activity are not present.
- Previous pregnancies: 1 Gravida, 0 Para, 0 c-section, 0 ectopic
- Previous ultrasound for current pregnancy: None
- Recent medical history: Positive pregnancy test

Patient 10 “Kiana”



- Pregnancy classification: Pregnancy of unknown location
- Number of embryos: 0
- Actual gestational age: Unknown
- EGA based on LMP: Unknown
- Notes: Pregnancy of unknown location with a mass in the left adnexa indicating a possible ectopic pregnancy.
- Landmarks not possible to visualize: Gestational sac, embryo/fetus, yolk sac, and cardiac activity not present.
- Previous pregnancies: 1 Gravida, 0 Para, 0 c-section, 0 ectopic
- Previous ultrasound for current pregnancy: None
- Recent medical history: Positive pregnancy test

Patient 11 “Imani”



- Pregnancy classification: Pregnancy of unknown location
- Number of embryos: 0
- Actual gestational age: Unknown
- EGA based on LMP: Unknown
- Notes: Signs of ectopic pregnancy, fluid in the cul-de-sac, echolucent/sonolucent fluid or blood in the uterus
- Landmarks not possible to visualize: gestational sac, embryo/fetus, yolk sac, and cardiac activity are not present.
- Previous pregnancies: 1 Gravida, 0 Para, 0 c-section, 0 ectopic
- Previous ultrasound for current pregnancy: None
- Recent medical history: Positive pregnancy test

Patient 12 “Marina”



- Pregnancy classification: Ectopic
- Number of embryos: Multiple
- Actual gestational age: 8w 4d
- EGA based on LMP: 7w, 4d
- Notes: Visible ectopic twins. One embryo has a visible crown-rump length (CRL), which is measurable at 8w, 4d. The other embryo is not easily visualized. Gestational sac cannot be measured correctly.
- Landmarks not possible to visualize: All are possible to visualize.
- Previous pregnancies: 1 Gravida, 0 Para, 0 c-section, 0 ectopic
- Previous ultrasound for current pregnancy: None
- Recent medical history: Positive pregnancy test

Patient 13 “Vanessa”



- Pregnancy classification: IUP
- Number of Embryos: 0
- Gestational age and/or related notes: 5week 3 days
- Landmarks not possible to visualize: none
- EGA based on LMP: 5 weeks
- Previous Pregnancies: 3
- Previous ultrasound for current pregnancy: no
- Recent Medical history: none

Patient 14 “Toni”



- Pregnancy classification: IUP
- Number of Embryos: 1
- Gestational age and/or related notes: 9 weeks 2 days
- Landmarks not possible to visualize: bicornuate is only seen in transverse plane
- EGA based on LMP: 9 weeks 6 days
- Previous Pregnancies: none
- Previous ultrasound for current pregnancy: no
- Recent Medical history: none

Patient 15 "Katy"



- Pregnancy classification: IUP/Possible Molar Pregnancy
- Number of Embryos: 1
- Gestational age and/or related notes: 7 weeks 3 days
- Landmarks not possible to visualize: clear endometrium (stripe), no cardiac
- EGA based on LMP: 8 weeks 5 days
- Previous Pregnancies: 3
- Previous ultrasound for current pregnancy: none
- Recent Medical history: severe N/V, and spotting

Patient 16 "Mei"



- Pregnancy classification: Possible ectopic
- Number of Embryos: 0
- Gestational age and/or related notes: 7 weeks 4 days
- Landmarks not possible to visualize: none
- EGA based on LMP: 7 weeks 4 days
- Previous Pregnancies: None
- Previous ultrasound for current pregnancy: none
- Recent Medical history: intermittent light bleeding and cramping x 2 weeks

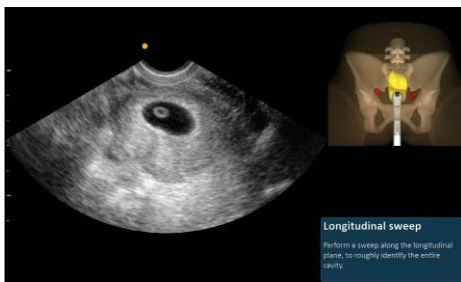
## Transvaginal obstetric ultrasound: testing mode

### Patient 1 "Akira"



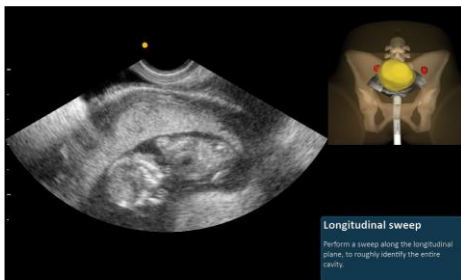
- Pregnancy classification: Definite intrauterine pregnancy
- Number of embryos: 1
- Actual gestational age: 7w, 1d
- EGA based on LMP: 6w, 3d
- Landmarks not possible to visualize: All are possible to visualize.
- Previous pregnancies: 3 Gravida, 2 Para, 0 c-section, 0 ectopic
- Previous ultrasound for current pregnancy: None
- Recent medical history: N/A

### Patient 2 "Dakota"



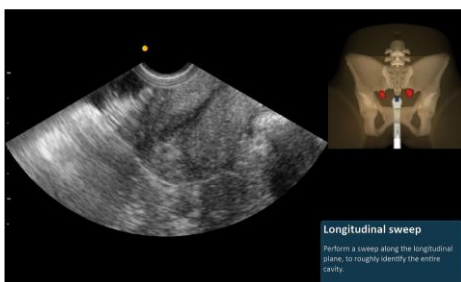
- Pregnancy classification: Early pregnancy loss (based on history only)
- Number of embryos: 0
- Actual gestational age: approx. 7w, 3d
- EGA based on LMP: 8w, 4d
- Notes: Spontaneous abortion, mean sac diameter approx. 7w 3d, minimal growth since last ultrasound.
- Landmarks not possible to visualize: Embryo/fetus not present. No cardiac activity is present.
- Previous pregnancies: 2 Gravida, 1 Para, 0 c-section, 0 ectopic
- Previous ultrasound for current pregnancy: Yes, scanned 2 weeks ago at 6w, 6d
- Recent medical history: Irregular cycle from 24-42 days, patient has experienced bleeding since last ultrasound

### Patient 3 "Riley"



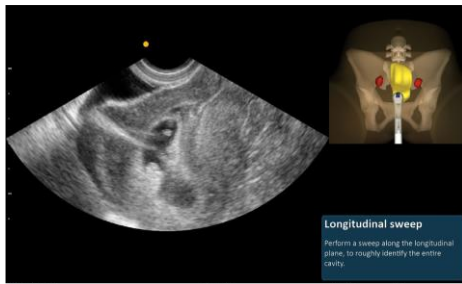
- Pregnancy classification: Definite intrauterine pregnancy
- Number of embryos: 1
- Actual gestational age: 12w, 1d
- EGA based on LMP: 11w, 5d
- Landmarks not possible to visualize: Yolk sac is not present.
- Previous pregnancies: 2 Gravida, 1 Para, 1 c-section, 0 ectopic
- Previous ultrasound for current pregnancy: None
- Recent medical history: N/A

### Patient 4 "Imani"



- Pregnancy classification: Pregnancy of unknown location
- Number of embryos: 0
- Actual gestational age: Unknown
- EGA based on LMP: Unknown
- Notes: Signs of ectopic pregnancy, fluid in the cul-de-sac, echolucent/sonolucent fluid or blood in the uterus
- Landmarks not possible to visualize: Gestational sac, embryo/fetus, yolk sac, and cardiac activity not present
- Previous pregnancies: 1 Gravida, 0 Para, 0 c-section, 0 ectopic
- Previous ultrasound for current pregnancy: None
- Recent medical history: Positive pregnancy test

Patient 5 “Chante”



- Pregnancy classification: Early pregnancy loss
- Number of embryos: 1
- Actual gestational age: 6w, 6d
- EGA based on LMP: 6w, 6d
- Landmarks not possible to visualize: All are possible to visualize.
- Previous pregnancies: 1 Gravida, 0 Para, 0 c-section, 0 ectopic
- Previous ultrasound for current pregnancy: None
- Recent medical history: N/A

Patient 6 “Noel”



- Pregnancy classification: Pregnancy of unknown location
- Number of embryos: 0
- Actual gestational age: Unknown
- EGA based on LMP: 5w, 5d
- Notes: Pregnancy of unknown location. Patient could not be pregnant despite positive pregnancy test.
- Landmarks not possible to visualize: Gestational sac, embryo/fetus, yolk sac, and cardiac activity not present.
- Previous pregnancies: 1 Gravida, 0 Para, 0 c-section, 0 ectopic
- Previous ultrasound for current pregnancy: None
- Recent medical history: History of irregular menses, weekly positive pregnancy test

Patient 7 “Galia”



- Pregnancy classification: Definite intrauterine pregnancy
- Number of embryos: 1
- Actual gestational age: 8w, 1d
- EGA based on LMP: 8w, 1d
- Landmarks not possible to visualize: All are possible to visualize.
- Previous pregnancies: 1Gravida, 0 Para, 0 c-section, 0 ectopic
- Previous ultrasound for current pregnancy: None
- Recent medical history: N/A

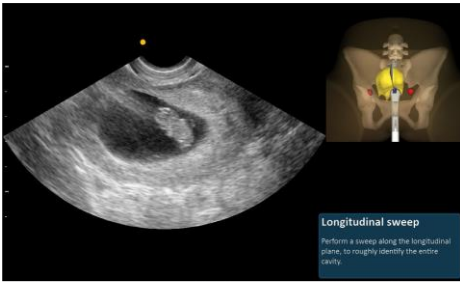
Patient 8 “Kiana”



- Pregnancy classification: Pregnancy of unknown location
- Number of embryos: 0
- Actual gestational age: Unknown
- EGA based on LMP: Unknown
- Notes: Pregnancy of unknown location with a mass in the left adnexa indicating a possible ectopic pregnancy.
- Landmarks not possible to visualize: Gestational sac, embryo/fetus, yolk sac, and cardiac activity not present.
- Previous pregnancies: 1 Gravida, 0 Para, 0 c-section, 0 ectopic
- Previous ultrasound for current pregnancy: None
- Recent medical history: Positive pregnancy test

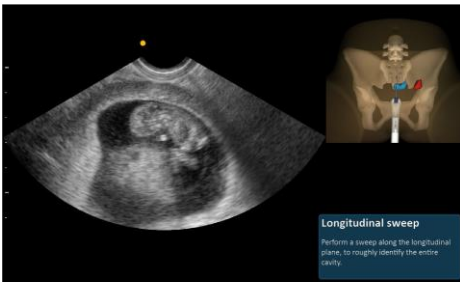


Patient 9 “Jasmine”



- Pregnancy classification: Definite intrauterine pregnancy
- Number of embryos: 1
- Actual gestational age: 9w, 1d
- EGA based on LMP: 9w, 1d
- Landmarks not possible to visualize: All are possible to visualize.
- Previous pregnancies: 1 Gravida, 0 Para, 0 c-section, 0 ectopic
- Previous ultrasound for current pregnancy: None
- Recent medical history: Nabothian cysts on cervix

Patient 10 “Sasha”



- Pregnancy classification: Definite intrauterine pregnancy
- Number of embryos: 1
- Actual gestational age: 10w
- EGA based on LMP: 13w, 2d
- Landmarks not possible to visualize: All are possible to visualize.
- Previous pregnancies: 3 Gravida, 1 Para, 1 c-section, 0 ectopic
- Previous ultrasound for current pregnancy: None
- Recent medical history: N/A

Patient 11 “Marina”



- Pregnancy classification: Ectopic
- Number of embryos: Multiple
- Actual gestational age: 8w 4d
- EGA based on LMP: 7w, 4d
- Notes: Visible ectopic twins. One embryo has a visible crown-rump length (CRL), which is measurable at 8w, 4d. The other embryo is not easily visualized. Gestational sac cannot be measured correctly.
- Landmarks not possible to visualize: All are possible to visualize.
- Previous pregnancies: 1 Gravida, 0 Para, 0 c-section, 0 ectopic

Patient 12 “Odalis”



- Pregnancy classification: Pregnancy of unknown location
- Number of embryos: 0
- Actual gestational age: Unknown
- EGA based on LMP: Unknown
- Notes: Pregnancy of unknown location with a mass in the left adnexa indicating a possible ectopic pregnancy.
- Landmarks not possible to visualize: Gestational sac, embryo/fetus, yolk sac, and cardiac activity not present.
- Previous pregnancies: 1 Gravida, 0 Para, 0 c-section, 0 ectopic
- Previous ultrasound for current pregnancy: None
- Recent medical history: Positive pregnancy test

Patient 13 “Mei”



- Pregnancy classification: Possible ectopic
- Number of Embryos: 0
- Gestational age and/or related notes: 7 weeks 4 days
- Landmarks not possible to visualize: none
- EGA based on LMP: 7 weeks 4 days
- Previous Pregnancies: None
- Previous ultrasound for current pregnancy: none
- Recent Medical history: intermittent light bleeding and cramping x 2 weeks

Patient 14 “Toni”



- Pregnancy classification: IUP
- Number of Embryos: 1
- Gestational age and/or related notes: 9 weeks 2 days
- Landmarks not possible to visualize: bicornuate is only seen in transverse plane
- EGA based on LMP: 9 weeks 6 days
- Previous Pregnancies: none
- Previous ultrasound for current pregnancy: no
- Recent Medical history: none

Patient 15 “Katy”



- Pregnancy classification: IUP/Possible Molar Pregnancy
- Number of Embryos: 1
- Gestational age and/or related notes: 7 weeks 3 days
- Landmarks not possible to visualize: clear endometrium (stripe), no cardiac
- EGA based on LMP: 8 weeks 5 days
- Previous Pregnancies: 3
- Previous ultrasound for current pregnancy: none
- Recent Medical history: severe N/V, and spotting

Patient 16 “Vanessa”



- Pregnancy classification: IUP
- Number of Embryos: 0
- Gestational age and/or related notes: 5week 3 days
- Landmarks not possible to visualize: none
- EGA based on LMP: 5 weeks
- Previous Pregnancies: 3
- Previous ultrasound for current pregnancy: no
- Recent Medical history: none