GYNAECOLOGY
ULTRASOUND IMAGING & MANAGEMENT

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Back to basics:
Normal appearances and common pitfalls
Gynaecological US examinations - observations

The sonographer should demonstrate:

- *normal anatomy/variants* including age and menstrual status related appearances of the whole organ in at least two planes. This should include assessment of:
  - size, outline, echotexture and echogenicity.
- *pathological findings.*
The anatomical structures which the sonographer should be able to examine correctly are:

- **uterus**: position, size, shape and ultrasound characteristics of endometrium and myometrium
- **ovaries**: position, size, shape and ultrasound characteristics. Number, size and internal echo pattern of follicles where present
- **cervix**
- **fallopian tubes** where visible
- **broad ligaments**
- **pelvic muscles**
- **pelvic blood vessels**.
Clinical history

- Reason for referral, age
- Menstrual history
  - LMP
  - Cycle history – length, regularity, duration, menopause
- Symptoms
  - Pain, type, duration, ? related to cycle
  - Bleeding, ? heavy, IMB, PMB, amenorrhoea
- Relevant medication
- Previous gynaecological surgery / treatment
normal anatomy/variants
menstrual status related appearances

Throughout the fertile period of a woman’s life hormonal changes control cyclical changes to the reproductive organs. Every month, an egg is released from the ovaries and the endometrium thickens in readiness to accept it - if it is fertilised. If conception does not take place, then this uterine lining is discarded and a menstrual bleed occurs.
**assessment of size**

<table>
<thead>
<tr>
<th>Uterine Size</th>
<th>Length (cm)</th>
<th>Width (cm)</th>
<th>Antero-posterior (cm)</th>
<th>Volume (ml)</th>
<th>Cervix Corpus Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult (nulliparous)</td>
<td>6–8</td>
<td>3–5</td>
<td>3–5</td>
<td>30–40</td>
<td>1:2</td>
</tr>
<tr>
<td>Adult (parous)</td>
<td>8–10</td>
<td>5–6</td>
<td>5–6</td>
<td>60–80</td>
<td>1:2</td>
</tr>
<tr>
<td>Postmenopausal</td>
<td>3–5</td>
<td>2–3</td>
<td>2–3</td>
<td>14–17</td>
<td>1:1</td>
</tr>
</tbody>
</table>

(From Warwick,\textsuperscript{47} with permission.)
assessment of outline
assessment of echotexture
assessment of echogenicity
GYNAECOLOGICAL EXAMINATION WORKSHEET

**Uterus:** AV/RV

- longit.
- trans.
- AP
- endometrial thickness (mm)

**R Ovary:**

- longit.
- trans.
- AP
- vol.(mls)

**L Ovary:**

- longit.
- trans.
- AP
- vol.(mls)

**R Adnexa:**

**L Adnexa:**

**Free fluid:** No/Yes

√ = normal U/S appearance & position    x = abnormal U/S appearance & position
Observation worksheet

GYNECOLOGICAL ULTRASOUND

- Pelvis Complete (Non-OB)
- Pelvis Limited (Non-OB)
- Transvaginal (Non-OB)

Tech __________________________

Hormone Replacement: Yes / No __________________________

LMP - ________ / ________ / ________

CLINICAL INFORMATION (RX, SURG., MEDS, ETC.) __________________________

<table>
<thead>
<tr>
<th>Uterus</th>
<th>Surg. Absent</th>
<th>Non-Vis</th>
</tr>
</thead>
<tbody>
<tr>
<td>cm</td>
<td>cm</td>
<td>cm</td>
</tr>
<tr>
<td>AP</td>
<td>TRANS</td>
<td>LONG</td>
</tr>
</tbody>
</table>

Position:
- Normal  
- Anteverted  
- Retroperted  
- Anteflexed  
- Retroflexed

Endometrium: ________ mm
- Normal
- Fluid Present

Cul-de-sac: Normal Fluid Present - Anterior / Posterior

Fibroid:
- cm
- cm
- cm
- cm
- cm
- cm
- cm

RT Ovary

- cm
- cm
- cm
- cm
- cm
- cm
- cm

LT Ovary

- cm
- cm
- cm
- cm
- cm
- cm
- cm
Uterus – observation summary

- Position
- Size
- Shape
- Endometrium
- Myometrium
- Ultrasound characteristics
Ovaries – observation summary

- Position
- Size
- Shape
- Ultrasound characteristics
- Follicle – number, size, echo pattern
Further observations

Power Doppler image of the right adnexa demonstrates a right adnexal cystic lesion with diffuse low level echoes, and **absent** internal vascularity.
Further observations

Prominent uterine veins
? IUCD (mirena)
Further observations
Further observations