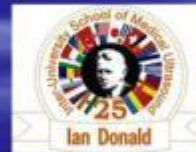


# Pelvic Pain and Ultrasound: What Do You Really Want to See?

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## Objectives



- Discuss etiology of chronic and acute pelvic pain in Gyn patients
- Understand how ultrasound can help in diagnosis of chronic pelvic pain, PID, ectopic pregnancy, hemorrhagic ovarian cyst, ovarian torsion and other causes of pelvic pain
- Appropriately refer ER patients for pelvic ultrasound exam

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## Pelvic Pain



- **Chronic pelvic pain:**  
Non-menstrual pain of at least six months duration that occurs below the umbilicus and is severe enough to cause functional disability or require treatment.
  - 20% of all hysterectomies for benign disease
  - At least 40% of all GYN laparoscopies
- **Acute pelvic pain:**  
GYN emergency evaluation: ER

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## Why GYN Ultrasound?

- Ultrasound is “light” into female pelvis

Ultrasound can “help” in:

1. Diagnosis
2. Management



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## History of Pain

- Consistency
- Duration
- Location
- Frequency / Cyclicity
- Effects on activity (dyspareunia)
- Relationship with GI / GU function
- Previous surgeries



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## Laparoscopic Examination

- Cause of pelvic pain is not identifiable in 39-76% of women who undergo laparoscopy
  - Howard FM. Gynecol Survey 1993;48:357



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## Pelvic Ultrasound

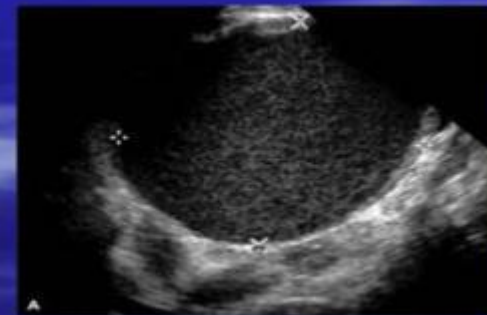
- Hormonal status
- Morphology
- Sensation (pain mapping)
- Pelvic organ mobility
- Vascular anatomy



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## Endometriosis

- The most common Dx at laparoscopy done for chronic pelvic pain
- Homogeneous low to medium level echoes
- Thick walls
- Multilocular



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## Adenomyosis

- "Rainy" pattern of acoustic shadowing
- Normal vessels
- Enlarged uterus (AP diameter)
- Asymmetry

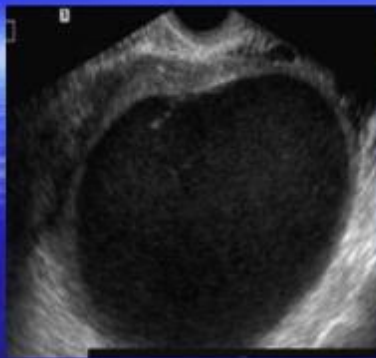


## PID

- The most sensitive & reproducible diagnostic criterion for PID is pelvic pain
- Systemic evaluation of the uterus:
  - Sagittal view
  - Transverse view
- Evaluation of the ovaries
- Bilateral symmetric pain at BOTH tubes: 6/10 on pain scale

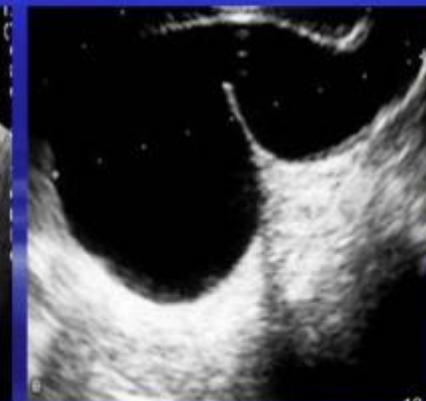
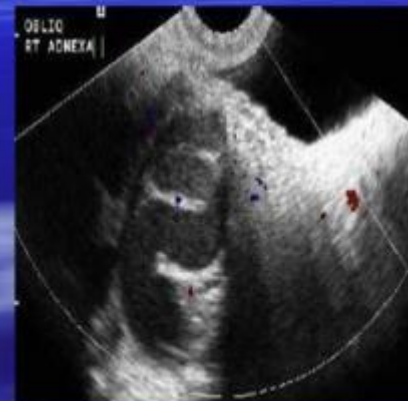


## TOA



## Hydrosalpinx

- Tubular in shape
- Septations or nodules in its wall may be incomplete (tube folding)



## Paraovarian Cysts

- Account for 10% of adnexal masses and are most common in the 3rd and 4th decades of life
- Small asymptomatic lesions to larger cysts, which may undergo hemorrhage or torsion
- The diagnosis, particularly if pain presents in the right lower quadrant, may be difficult because the differential diagnosis is wide

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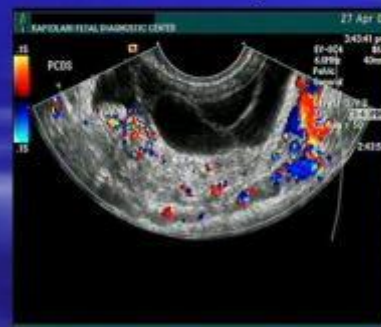
## Paraovarian Cysts



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## Peritoneal Inclusion Cysts

- Septated, cystic adnexal masses that surround ovary
- Usually associated with pelvic adhesions (prior surgery, endometriosis or PID)



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## Pedunculated Fibroids

- Heterogeneous, hypoechoic, solid adnexal mass
- Do not confuse with ovarian mass
- Identify the pedicle
- Color Doppler: bridging blood vessels



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## Degenerated Fibroid



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## Ectopic Pregnancy



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## Hemorrhagic Cysts

- A very fine network of thin linear to curvilinear echoes (fishnet or reticular pattern) – not true septa
- May have solid appearance or solid components due to clot
- Color Doppler – no flow in clot



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## Hemorrhagic Cyst



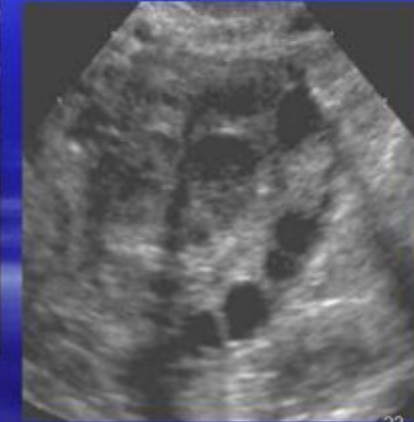
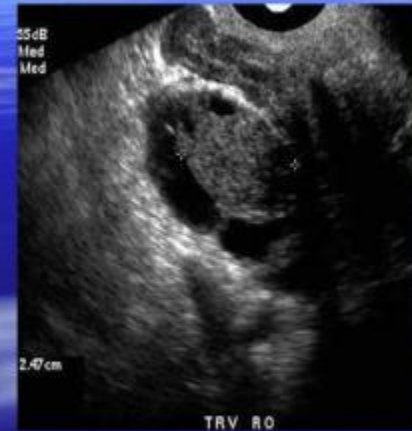
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## Ovarian Torsion

- Enlarged ovary that appears edematous; heterogeneous echotexture, small cystic areas towards the periphery; some free fluid
- Comparison with the morphologic appearance and flow patterns of the contralateral ovary important for diagnosis
- 90% of affected ovaries have abnormal Doppler (venous vs. arterial flow)

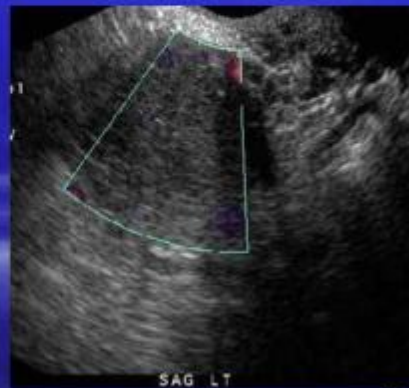
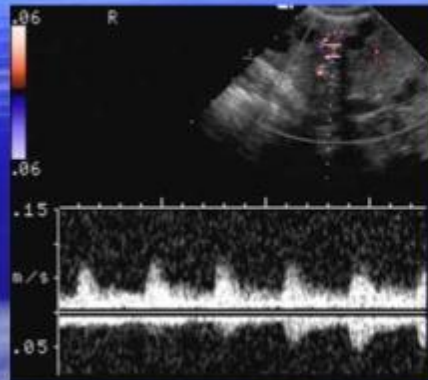
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## Ovarian Torsion



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## Ovarian Torsion



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## Ovarian Torsion: Helpful Tips

- Palpatory information provides added value at no extra cost
- Have the patient use pain scale in order to determine the site most likely to be the source of pain
- Distinguish between the unpleasant pressure of examination and focal pain



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## Ultrasound & Pelvic Pain: Differential Dx

### Variables

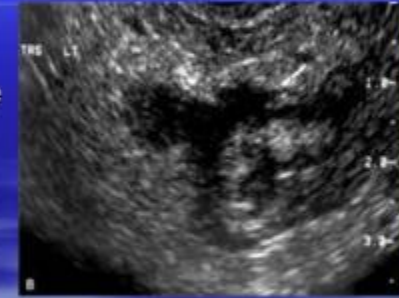
1. Equipment resolution
2. Operator experience / time
3. Patient compliance / habitus



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## Non-GYN Causes of Pelvic Pain

- GI
  - Constipation
  - Irritable Bowel Syndrome
  - Diverticulitis
  - Inflammatory Bowel Disease
- GU
  - Urethral Syndrome
  - Interstitial Cystitis
- Musculoskeletal
  - Pelvic floor muscle
  - Nerve entrapment
  - Ventral, groin and obturator hernia
- Somatization



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## GYN Ultrasound and Pelvic Pain

### Legal aspects

1. Failure to do ultrasound
2. Resident education - supervision
3. Accreditation
4. Medical records
5. Level of ultrasound expertise



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## Conclusions



- When a pelvic mass is identified in Pt with pelvic pain, determine if of ovarian origin or not
- The ultrasound exam must be technically adequate and all of the mass should be clearly visualized (TAS vs. TVS)
- Most pelvic masses can be characterized by B-mode and Doppler ultrasound and this can significantly influence management plans

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## GYN Ultrasound and Pelvic Pain

GYN ultrasound is among the most important advances in OB/GYN today.



Its simplicity and ease of operation is changing the GYN office and ER practice.

Remember: formal and appropriate training/experience in ultrasound is mandatory!

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## GYN Ultrasound and Pelvic Pain

- Telemedicine and remote evaluation
- Second opinion ultrasound exam
- Ultrasound consultation: image based gynecology



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