

Ripple Effect

Ultrasound reflections

February 2013

Anjum Bandarkar

Diagnostic Imaging and Radiology

Children's National Medical Center, Washington, D.C.

The Beginning.....



This is the beginning of our exciting journey to learning the deepest secrets of ultrasound, one by one. I am positive this will be an enormously enlightening and crushingly humbling experience at the same time.

All cases will be completely anonymized in compliance with HIPPA rules.

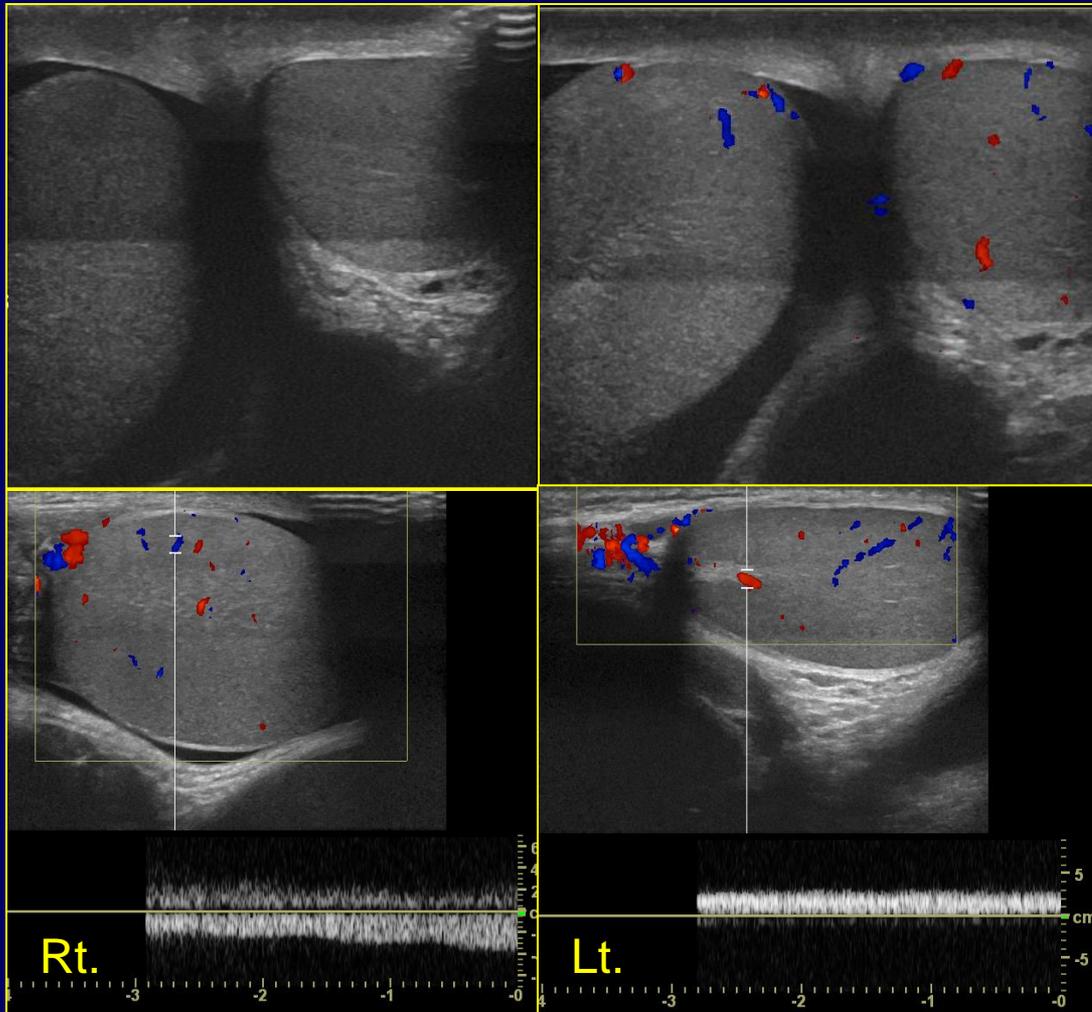
1st US Case Conference for technologists



1. The 1st US Case Conference for US technologists was held on 1/31/2013 from 7:30 – 8:15 am in ultrasound suite 3.
2. Topic : 'Complex Testicular Torsion'
3. No. of cases shown : 3
4. Points discussed : US protocol, scanning technique, findings, interpretation and impact on clinical management and outcome.

Case 1 :

12 yo adolescent male with 8 hours of acute onset right testicular pain. No dysuria or trauma.

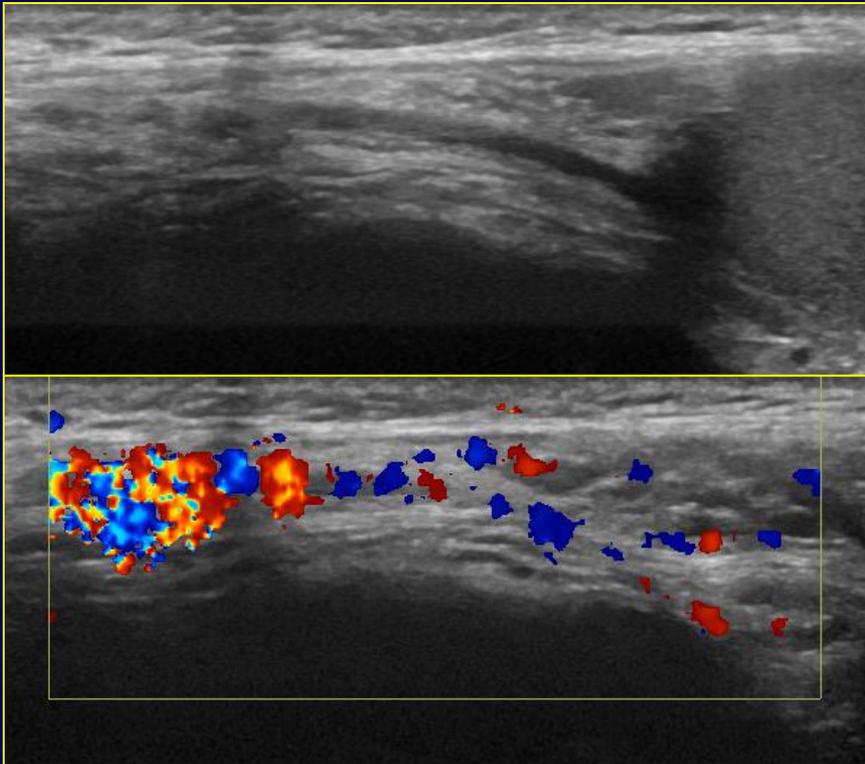


Findings: (please disregard transducer artifact dividing the image horizontally)

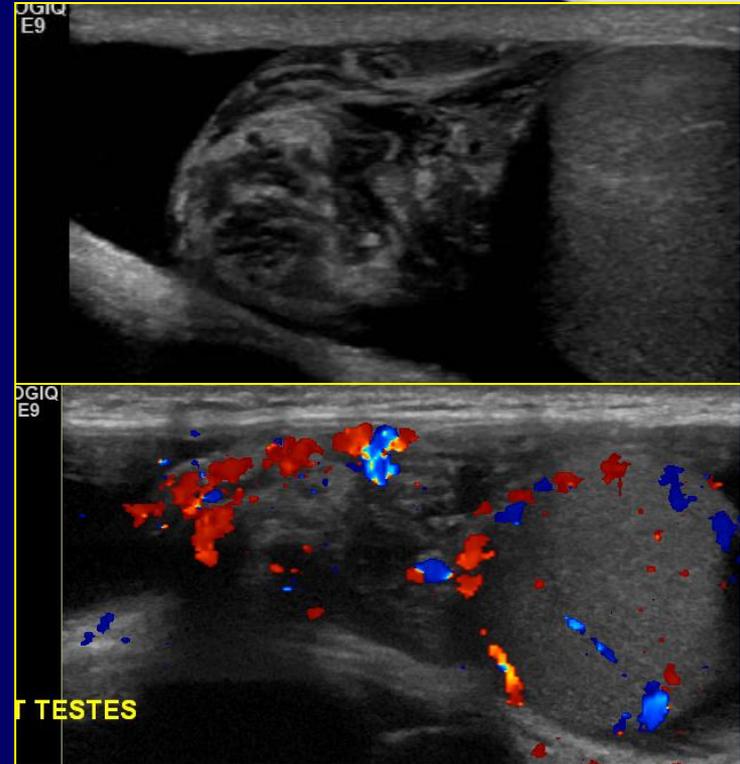
1. Abnormal horizontal right testicular lie.
2. Asymmetrically decreased right intratesticular vascularity compared to the left side.
3. Rt. Testicle larger than left in size.
4. Reactive right hydrocele.

Case 1 :

12 yo adolescent male with 8 hours of acute onset right testicular pain. No dysuria or trauma.



Normal left cord in inguinal canal.



Abnormal rt cord – spermatic cord torsion
Mild right hydrocele with fluid going around the testicle and distal spermatic cord, suggesting a bell clapper deformity.

Case 1 :

12 yo adolescent male with 8 hours of acute onset right testicular pain. No dysuria or trauma.



Sx – Positive right testicular torsion, orchiopexy performed bilaterally after noting a bell clapper deformity.

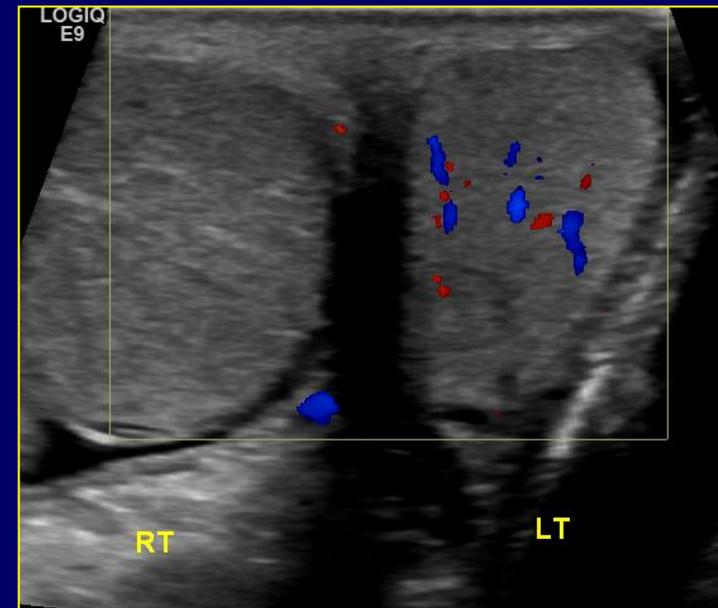
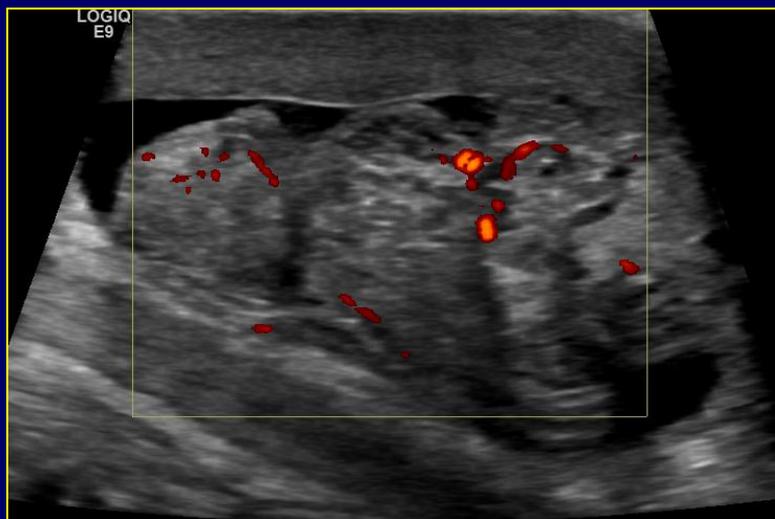
Case 2 :

16 yo male with 2 days of right testicular pain and swelling.



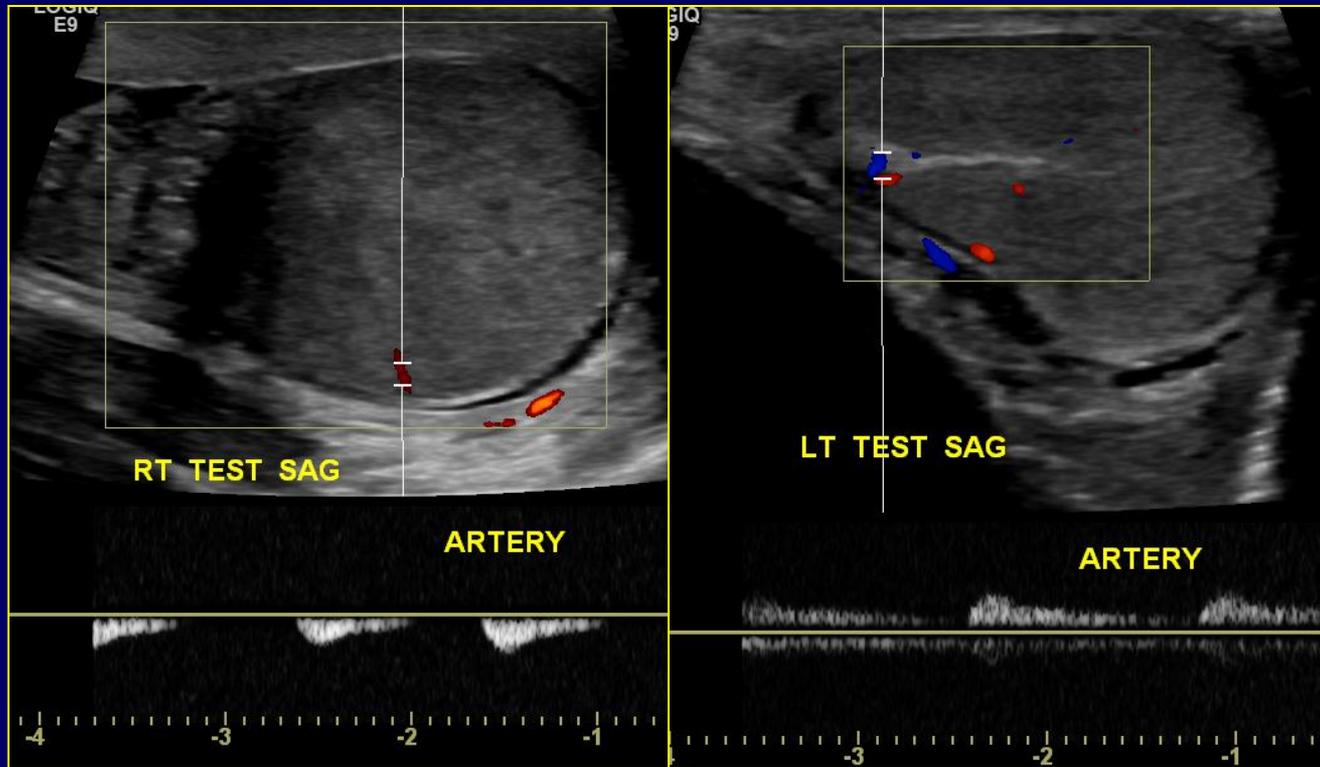
Grayscale and power doppler image of rt. scrotum supratesticular portion demonstrating spermatic cord torsion. Small reactive rt. hydrocele is present.

Beware ! This is not rt. epididymitis.



Case 2 :

16 yo male with 2 days of right testicular pain and swelling.



Note differences in testicular size and parenchymal echotexture.

Case 2 :

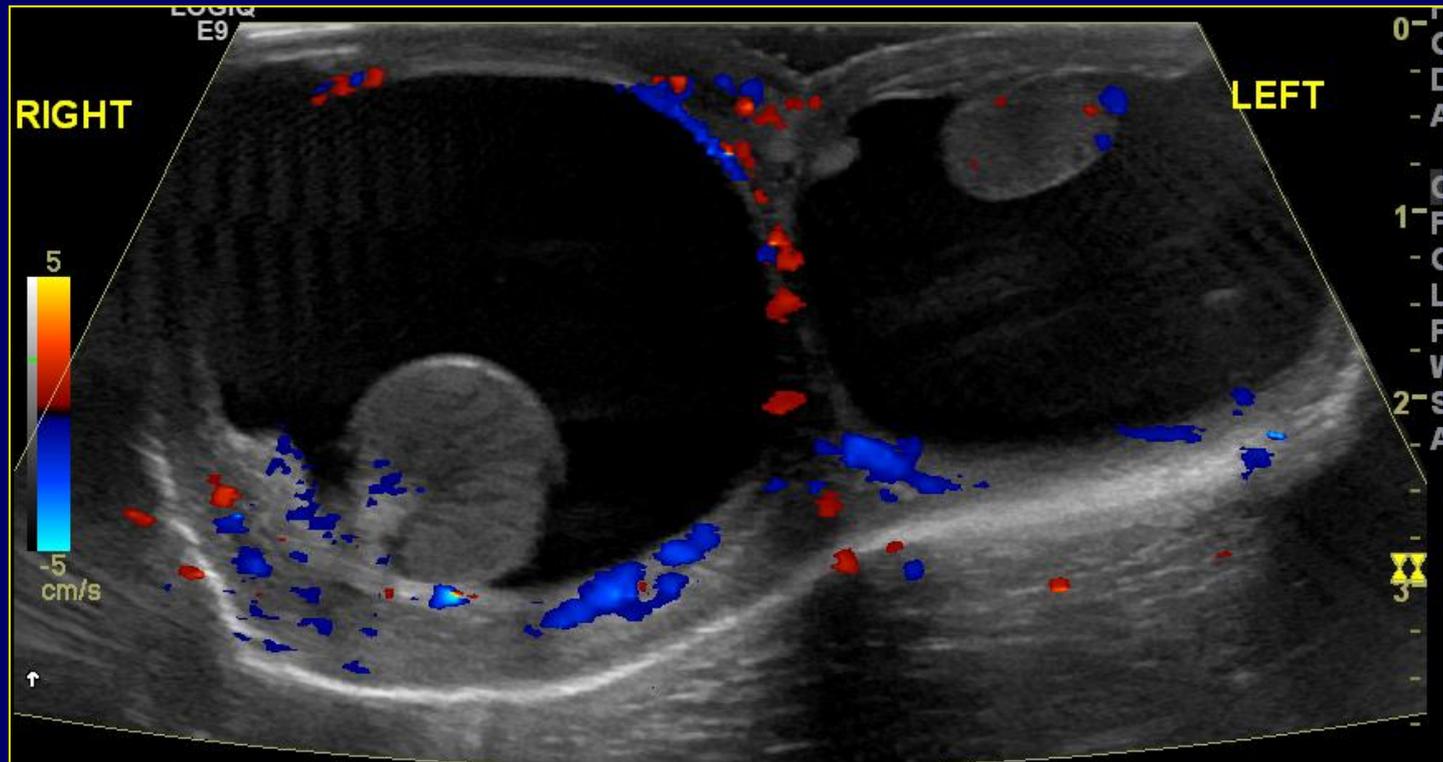
16 yo male with 2 days of right testicular pain and swelling.



Sx – Positive right testicular torsion with bell clapper deformity.

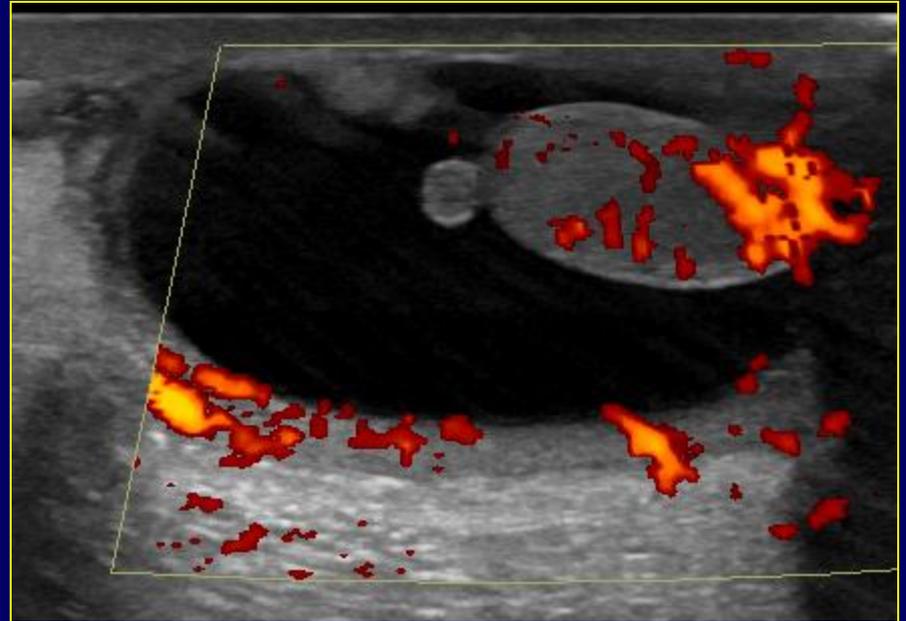
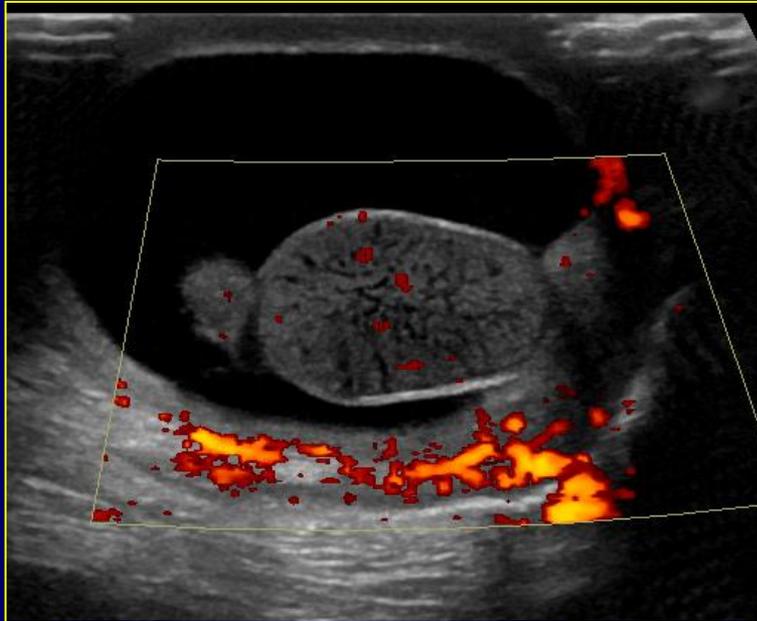
Case 3 :

Newborn male DOL 1 with scrotal swelling.



Case 3 :

Newborn male DOL 1 with scrotal swelling.



Abnormal right testis: asymmetrically increased in size, with poor arterial flow and hypoechoic striations radiating throughout the parenchyma. Findings are concerning for testicular torsion. Large hydrocele.

Left – normal testis.

Case 3 :

Newborn male DOL 1 with scrotal swelling.



Sx : Rt. Orchiectomy for neonatal torsion (rt. Extravaginal torsion),
Left side pexed.

Complex Testicular Torsion : Take home points !



1. Presence of color flow does not exclude torsion !!
2. Grayscale findings of testicular parenchymal heterogeneity, asymmetric lie and size, reactive hydrocele are important secondary sonographic signs that favor torsion.
3. Pay careful attention to spermatic CORD ! Trace the cord in its entirety.
4. A bunched up cord/ cord knot shouldn't be mistaken for epididymitis.
5. Be descriptive in the US report, and speak to the on call urologist to discuss.

Complex Testicular Torsion : Take home points !



6. Early diagnosis is essential for timely management, but it is.....

..... NEVER TOO LATE !

Testes have been salvaged even after 36 hours.

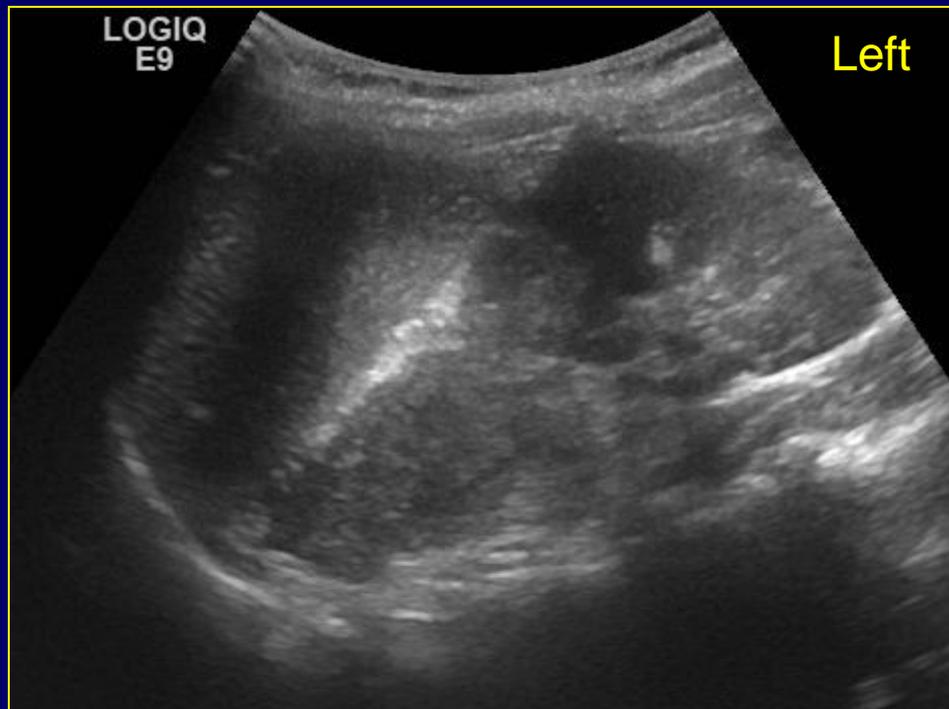


Now a reason to smile.....

Great Catch !

Are you ready for the **CHALLENGE** ?

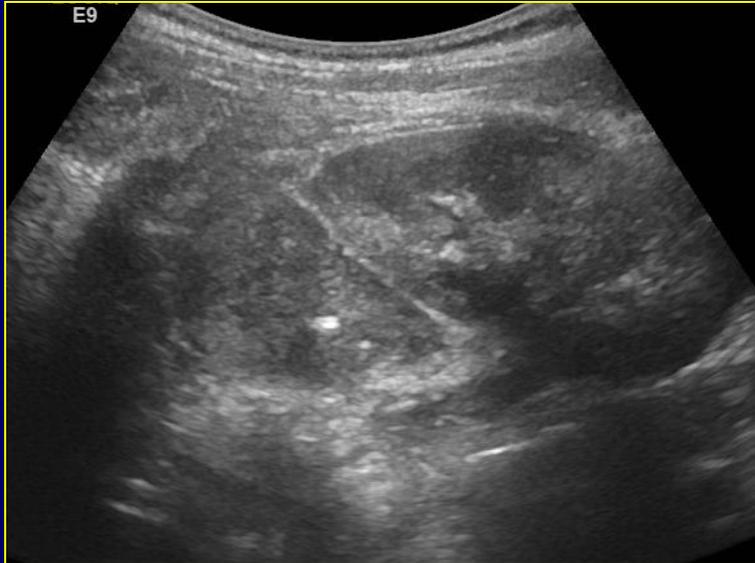
History: 7 yo girl in the ER with RLQ pain, need to r/o appendicitis.



Do you see it ?

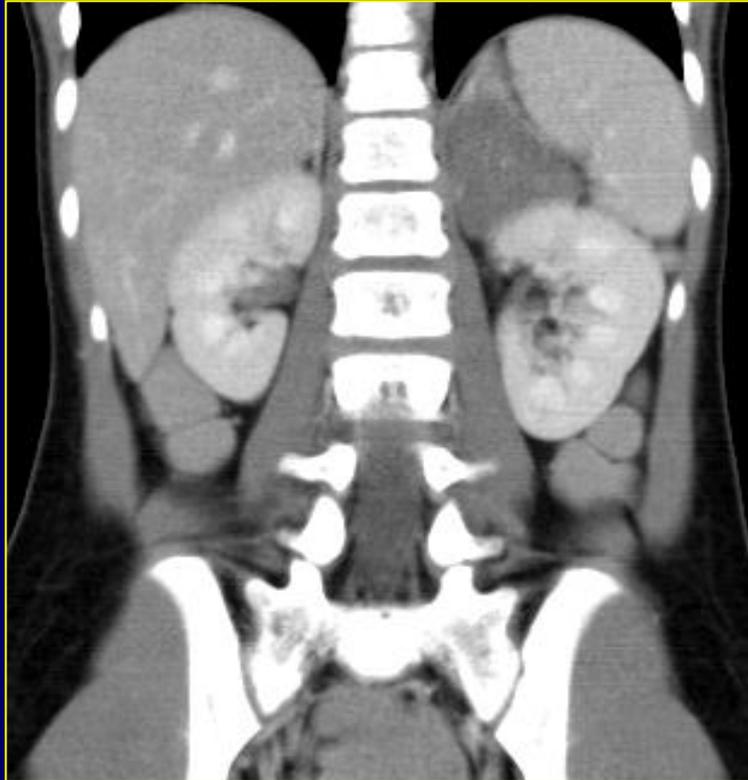
OK...some more images
coming up.....

Great Catch !



Serenity now.....

Great Catch !



Left adrenal mass picked up by US technologist on Appy US in an ER patient.



Quiz Time: Say True or False.

1. Torsion occurs most frequently in newborns and young boys 5 -7 years of age.
2. Extravaginal torsion occurs proximal to attachment of tunica vaginalis.
3. Intravaginal torsion is found exclusively in newborn infants.
4. Bell clapper deformity is associated with intravaginal torsion.
5. Doppler flow may be difficult to demonstrate in very young children with normal testes.
6. Unilateral diminished or absent flow is the most accurate sign of testicular torsion.

US technologists - PI submit answers to Bruce Deitrich to claim credit.



Thank you