

Nottingham Children's Hospital

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ABDOMINAL POINT OF CARE ULTRASOUND

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Children's ACuTe UltraSound

OVERVIEW

- What is involved
- Technique and tools
- FAST overview
- Bowels obstruction assessment
- Urography assessment
- NEC examination

KEEP CALM AND SCAN ON

FOCUSED ASSESSMENT SONOGRAPHY IN TRAUMA

- Fast assessment of the patient with suspicion for abdominal trauma (and others) for injury in the peritoneal, pericardial, and pleural cavities
- Proven and useful procedure for the evaluation of the torso for bleeding after traumatic injury for haemodynamically unstable patients
- It is a screening (!)
- SIMPLE and FAST if you know how to do it
- Extended FAST (eFAST) plus chest for PNX/fluids
- Repeatable REPEATABLE repeatable REPEATABLE repeatable

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WHAT IT DOES?

- Abdomen
 - Detecting free fluid, hemorrhage, and other abnormal fluids including urine and bile
- Also
 - Haemopericardium
 - Haemothorax
 - Pneumothorax
 - Solid-organ injury
 - Retroperitoneal injury

WHAT IT DOESN'T?

- Excluding all injuries
- Excluding bleeding in preexisting conditions (VP shunts, ascites)
- NEGATIVE FINDING DOESN'T EXCLUDE PATHOLOGY

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COMPONENTS OF (E)FAST AND HOW TO DO IT

eFAST VIEWS


- 1 SUBCOSTAL
- 2 RUQ MARKER
- 3 LUQ PROBE
- 4 PELVIS
- 5 THORAX
- 6 THORAX

SWEEP !!!

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ADDING UP FROM TODAY....

- LUNG ultrasound.
 - Lung sliding, fluids detection
- CARDIAC ultrasound.
 - Subxyphoid/subcostal view
- ABDOMINAL scan.
 - Lets have a look.....



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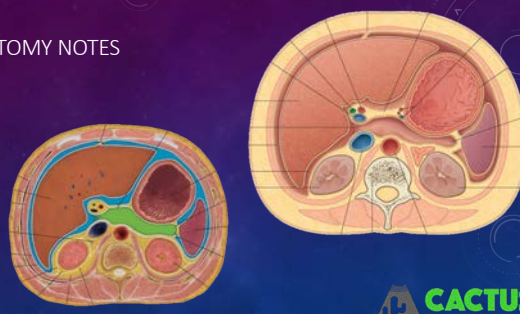
WHICH PROBES FOR ABDOMEN?

- CONVEX/CURVILINEAR
- PHASE ARRAY
- Small kids 5-7MHz
- Neonates 8-10MHz



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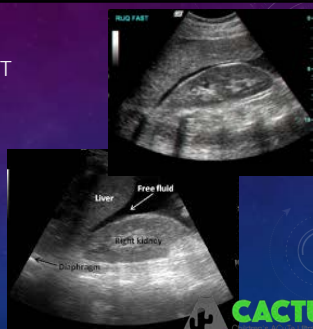
ANATOMY NOTES



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RIGHT UPPER QUADRANT

- Also Perihepatic, 'Morison's Pouch', Right flank view
- Find the kidney first
- Move longitudinally up & down
- Think also about gall bladder
- Could be positive even in spleen injury
- Move up to see pleural space



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LEFT UPPER Q

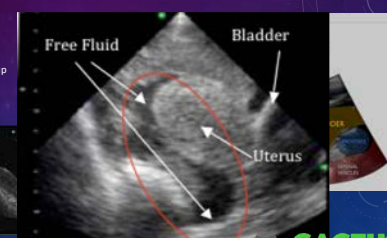
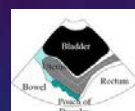
- Perisplenic (Left flank) view
- Left kidney is higher up and more posteriorly
- Spleen structure is like liver
- Less prominent then RUQ



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PELVIC VIEW, SUPRAPUBIC VIEW

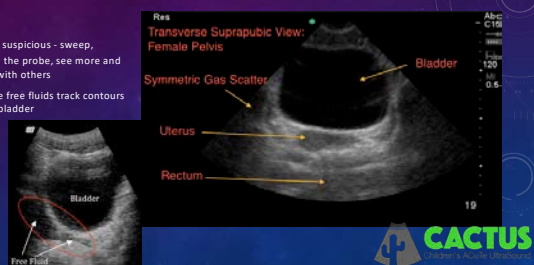
- Use both planes
- If bladder is empty, you may fill it up
- Clamp catheter if there is one



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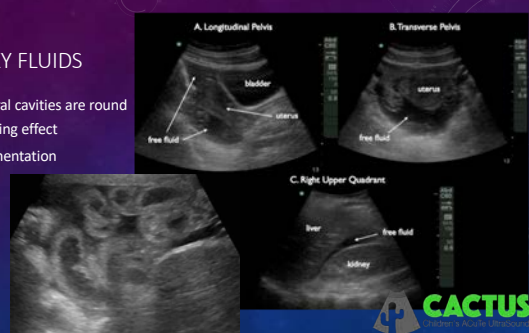
TRANSVERSE SUPRAPUBIC

- If pic is suspicious - sweep, change the probe, see more and check with others
- Positive free fluids track contours of the bladder



SPIKY FLUIDS

- Natural cavities are round
- Snowing effect
- Sedimentation



CONSISTENCY AND TYPE OF ASCITES



PARACENTESIS

- Blind is possible, but why?



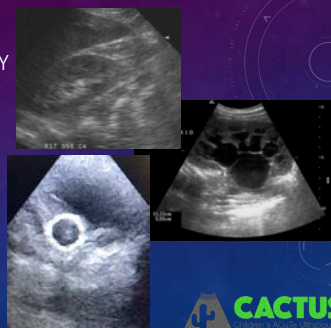
BOWEL OBSTRUCTION

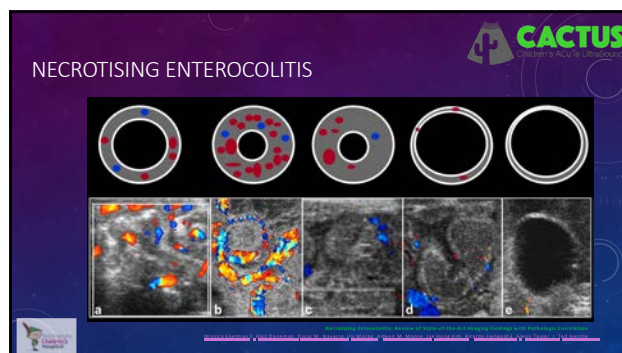
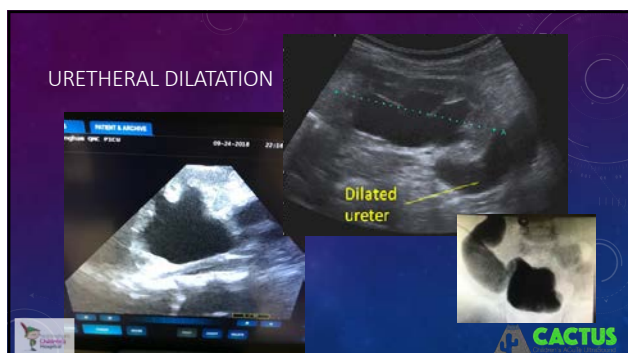
- Advantage of dynamic assessment - peristalsis
- Ileus state judgement
- Invagination/intussusception
- ! Free fluids
- pylorostenosis



OBSTRUCTIVE UROPATHY

- Inborn uropathies are common
- Possible sepsi- style infection presentation as the first sign
- Hydronephrosis and collection system dilation
- May mislead for free fluids





THOUGHTS

- Repeat scan if suspicious and you are on the floor
- Don't delay theatre if patient is already on the way
- Difficult to see something like 100ml of blood
- Think gravity
- Change the probe and planes
- See more kidneys, livers, bladders, collections ...

CACTUS MAKES PERFECT

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