SICC Kids Expanded Scanning Sheet

Objectives:

1. *Review the SICC Kids Protocol*
2. *Introduce the Expanded SICC Kids Protocols*
    a. *SICC Infant*
    b. *SICC Child*
    c. *SICC Adolescent*

Image Acquisition

Probe

- Varies based on age and clinical question (**?PADGO**).
- **Linear** for most peds abdomen applications (pyloric, intussusception, appy), as well as skull, neck, ONSD, and pneumothorax.
- **Phased** array specific for cardiac and head.
- **Curved** or **phased** array for the rest.

?: what is your clinical question
P: probe
A: application
D: depth
G: gain
O: orientation

Additional considerations

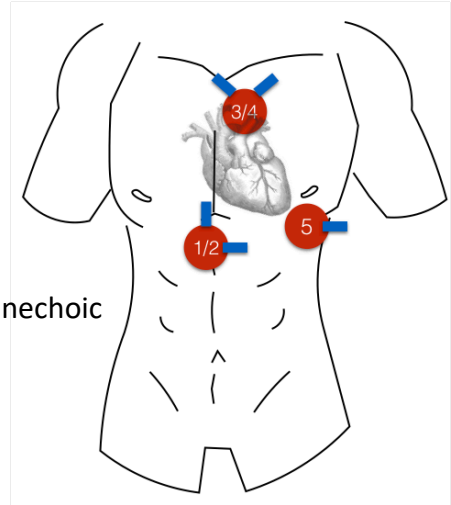
- Warm gel and blankets
- Sweeties and binkies
- Baby shark and lullabies

SICC Kids (HILIFE) – Original Protocol

- **H**eart
- **I**VC
- **L**ung
- **I**ntussusception
- **F**AST
- **E**ctopic/**E**TT size

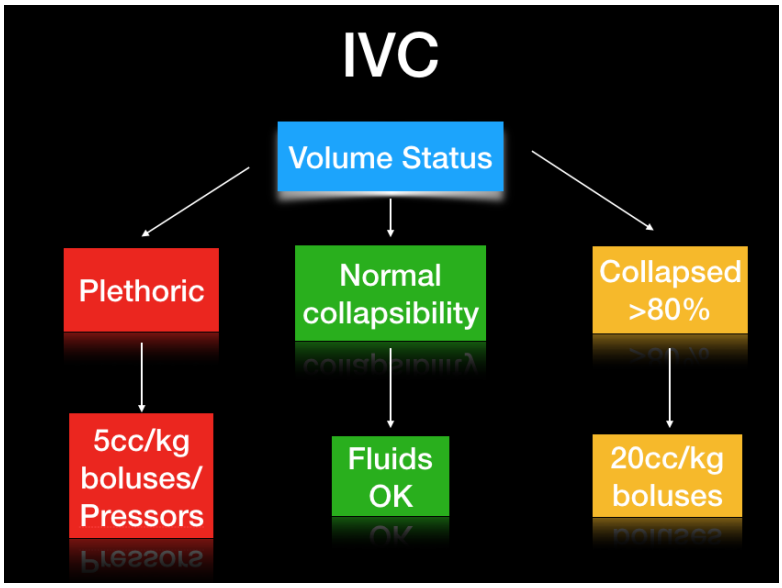
Heart

- ?
    - Fluid (yes or no)
    - Function (good, fair, poor)
    - Size (RV:LV)
    - 4 chambers (yes or no)
- P: phased
- A: cardiac
- D: 12-20cm
- G: blood should be anechoic
- O: see pic



IVC

- ?: volume status, R sided heart failure, PE
- P: curved, phased
- A: abdomen
- D: >6cm
- G: fluid should be anechoic
- O: subxiphoid, probe marker towards the head, rock it back, fan towards the right



Lung

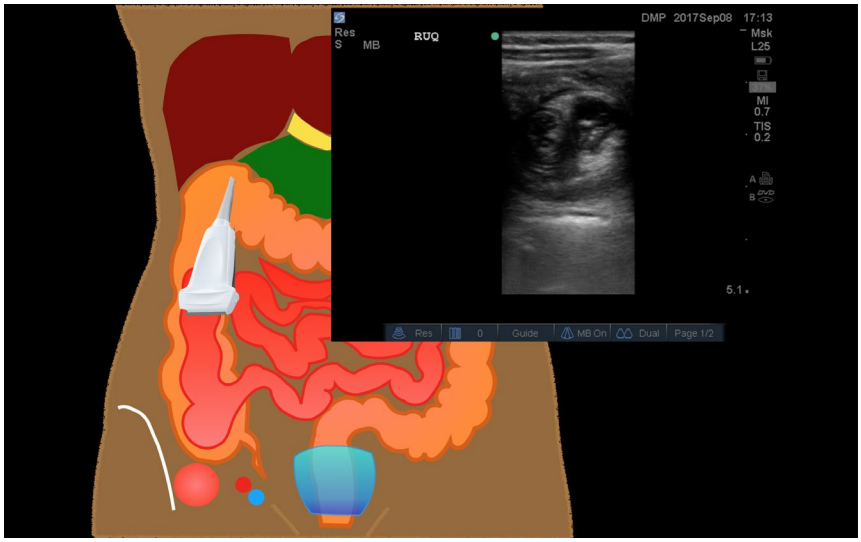
- ?: pneumothorax, hemothorax, effusion, consolidation
- P: any
- A: MSK, Lung, or Abd
- D: varies
- G: varies
- O: LONG w/ marker towards the head

		Lung Sliding	
A lines		Yes	No
	Yes	Normal	Pneumothorax
	No	Other*	Effusion/Hemothorax

*refer to my PLEURA Protocol for more in-depth Lung Ultrasound findings

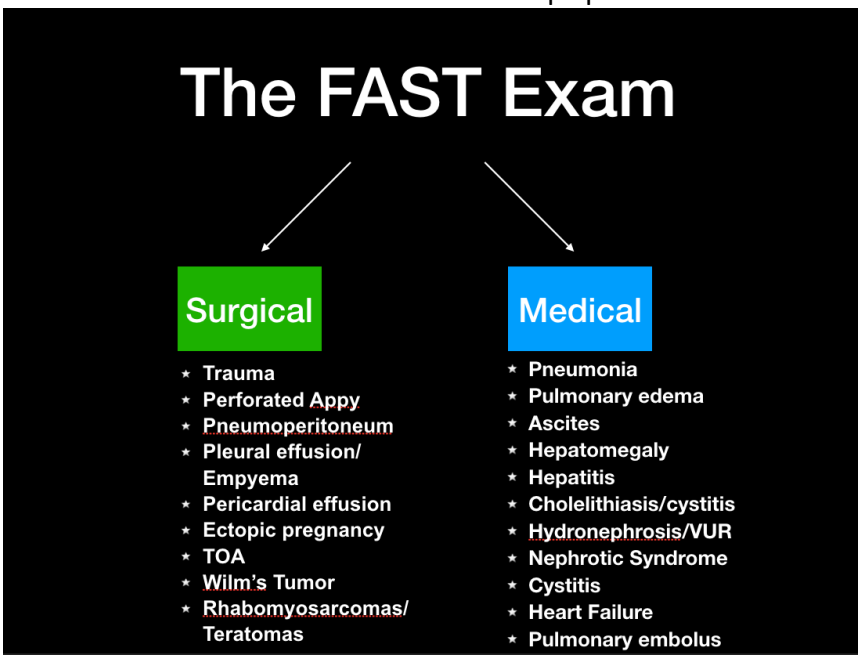
Intussusception

- ?: non-compressible, non-peristalsing target sign >2.5cm
- P: linear
- A: MSK or Peds Abd
- D: up to 6cm
- G: varies
- O: TRV in RLQ, then follow colon in LONG and TRV



FAST

- ?: free fluid in peritoneum, pericardium; other pathology (see chart)
- P: Curved or phased
- A: abdomen/FAST
- D: >6cm
- O: probe marker towards the head in RUQ/LUQ, sagittal bladder views; probe marker matches the screen in TRV bladder and supxiphoid views

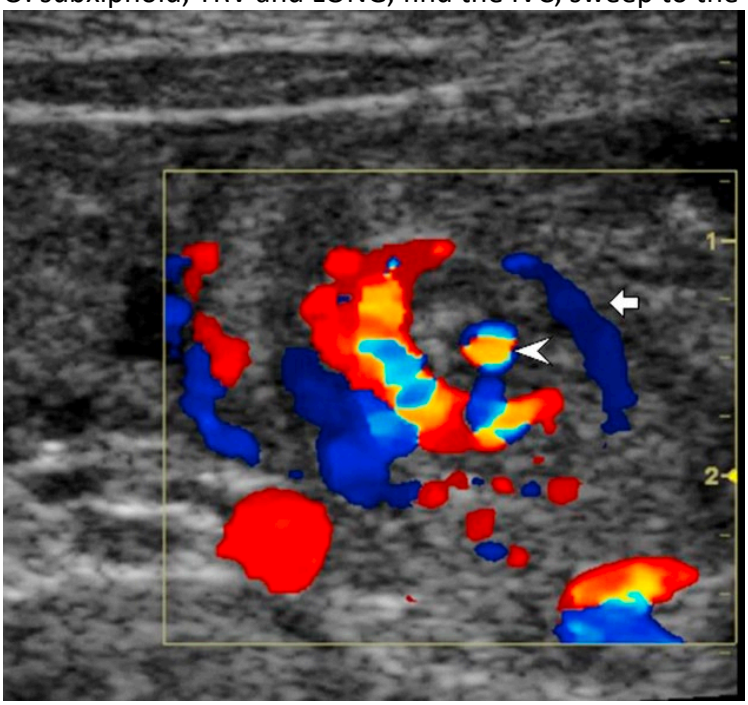


SICC Infant (HALF PH)

- **H**eart
  - Fluid
  - Function
  - Size
  - 4 chambers
- **A**orta
  - Volvulus
- **L**ung
  - Pneumothorax
- **F**AST
  - Trauma
  - Hydronephrosis
- **P**yloric stenosis
- **H**ead (open fontanelle!)
  - IVH
  - Hydrocephalus
  - Skull fracture

Aorta

- ?: twisting of celiac and superior mesenteric arteries, whirlpool sign
- P: curved or phased
- A: abd
- D: >6cm
- G: blood should be anechoic
- O: subxiphoid, TRV and LONG, find the IVC, sweep to the left

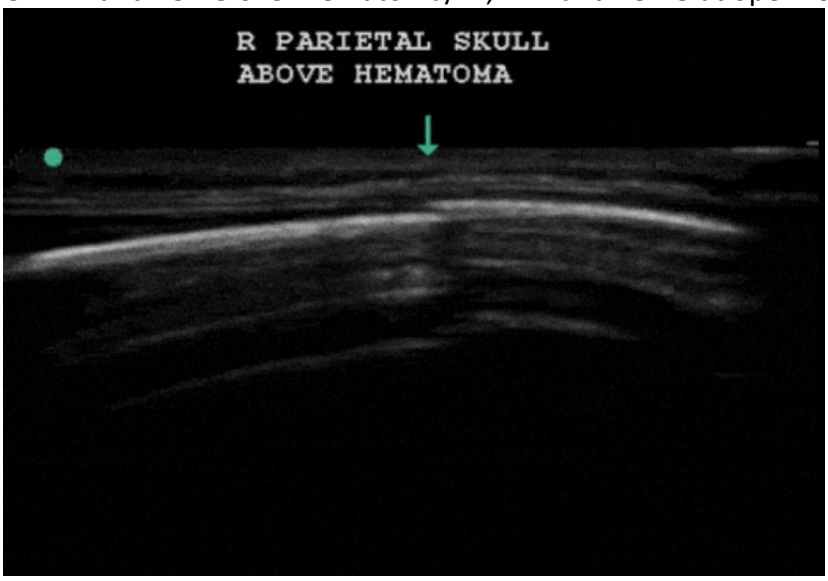


Pyloric stenosis

- ?: Gastric outlet obstruction from hypertorphic pyloric muscle
    - Pi=3.14=3mm muscle diameter, 14mm channel length=Pyloric stenosis
    - No passage of stomach contents from antrum of stomach to duodenum
- P: linear
- A: MSK
- D: <6cm
- G: varies
- O: TRV + LONG

Head

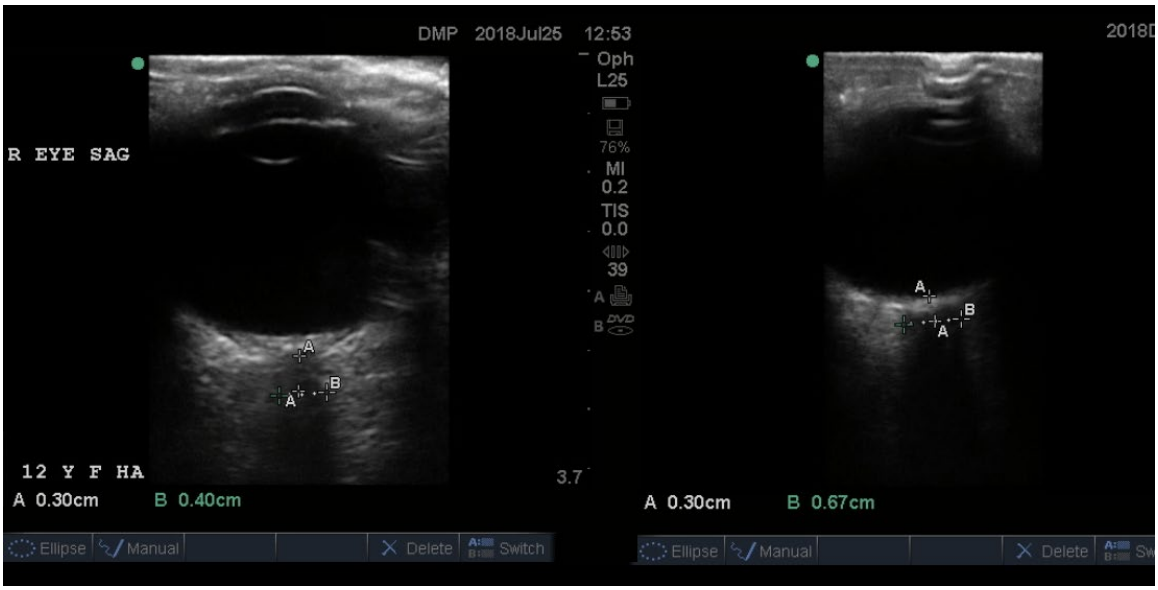
- ?: hydrocephalus, IVH, skull fracture
- P: linear for skull fracture or cephalohematoma; phased for hydrocephalus/IVH
- A: MSK for linear; Abd or head for phased
- D: varies
- G: varies
- O: TRV and LONG over hematoma/Fx; TRV and LONG at open fontanelle



- **H**eart
- **I**VC
- **L**ung
- **I**ntussusception
- **F**AST
- **E**ye (ONSD)/**E**TT size

ONSD

- ?: increased ICP, measure 3mm down from retina, measure across (>5.5mm abnl)
- P: linear
- A: ophthalmic
- D: <6cm
- G: varies, increase gain to look for intraorbital pathology, decrease gain to eval ONSN
- O: TRV and LONG



ETT size

- ?: best size ETT for pediatric intubation
- P: linear
- A: MSK
- D: <6cm
- G: carotids should be anechoic
- O: TRV, probe marker matches screen

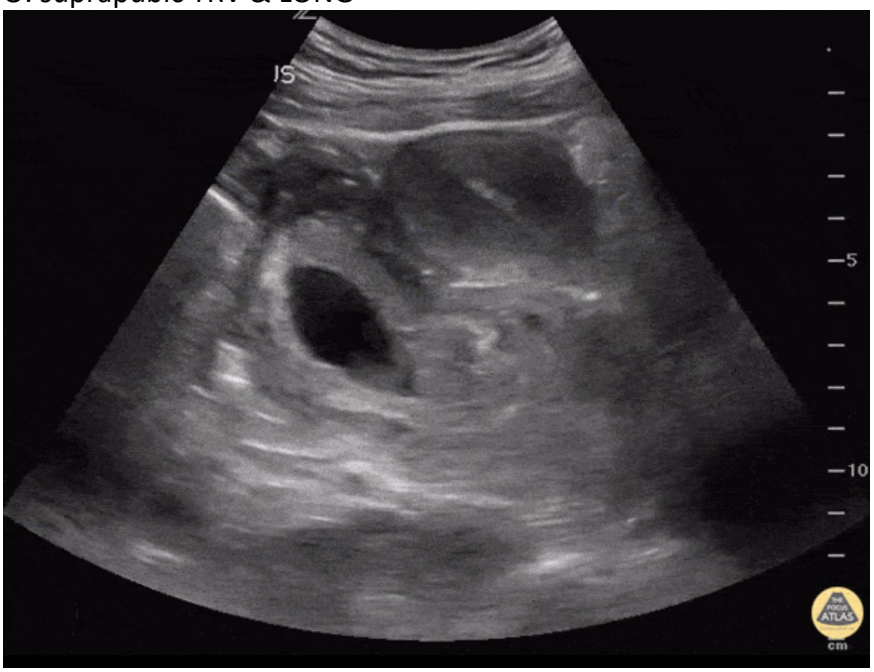
Age (years)	ETT outer diameter by physical indices of age-based formulas	Tracheal outer diameter estimated by ultrasound	ETT size clinically used for intubation
03-05	5.5±0.25	5.4±0.2	5.5±0.5
06-10	6.5±0.5	8.2±0.7	8±0.6
11-15	7.75±0.5	8.6±0.6	8.7±0.8
16-20	9.0±0.5	9.7±0.9	10±0.7

SICC Adolescent (HILIFE)

- **H**eart
- **I**VC
- **L**ung
- **I** (eye) ONSD
- **F**AST
- **E**ctopic

Ectopic/Ovary

- ?: ruptured ectopic/ovarian torsion
- P: curved or phased
- A: Abd/GYN
- D: >6cm
- G: decrease gain to decrease posterior acoustic enhancement from bladder
- O: suprapubic TRV & LONG



Questions

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