

Title: What are baseline measurements of Inferior Vena Cava diameter in normovolemic children?

Inclusion

Age 0-22
English speaking

Exclusion

- Abnormal vital signs on presentation or during the visit
- Pregnant
- Fever, illness or diagnoses known to affect volume e.g. asthma, pneumonia, AGE
- PMHx: end organ failure e.g. renal insufficiency, diabetes, cardiac disease or liver disease

Steps for enrollment:

Signatures:

- Two signatures: Consent parent or guardian form
- One signature: Research authorization form
- One signature: Ascent patient (7 yo or older)

Patient ID sticker

- Print 3 stickers and affix one to each signed form
- Collect the following and add Excel Dropbox data collection form:
 - Age (years plus months)
 - Gender (F/M)
 - Height (cm)
 - Weight (kg)
 - Patient chief complaint/diagnosis

The ultrasound

- The patient identifier on the Sonosite and Q-path should be PIVC
- Color code in Q-path with the Category tag Blue (no name, no MR#)
- All patients will be placed in the supine position
- Patients should not be instructed on a breathing technique
- Sagittal sub-xiphoid view:
 - M-mode of inspiratory and expiratory IVC diameters (min and max)
 - Measure just distal to its junction with the hepatic veins below the diaphragm where the IVC walls are parallel.
- Transverse sub-xiphoid view:
 - M-mode maximal IVC diameter just caudal to the insertion of the left renal vein into IVC.
 - M-mode maximal Ao diameter just caudal to the insertion of the left renal vein into the IVC.

Great care will be taken to not compress the abdomen and to avoid inducing Valsalva maneuvers during the bedside ultrasound.

Goals for enrollment:

- 20 patients per age group
- (0-2 years of age, 2- 7 years of age, 7 - 12 years of age, and 13 - 22 years of age)