

Assessing Fluid Responsiveness



CVP (IF CENTRAL LINE ALREADY IN PLACE)

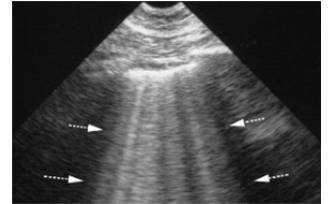
CVP can serve as a starting point for adequate fluid loading. However, reaching these CVP thresholds does not guarantee adequate fluid loading. While a very low CVP usually indicates an under-resuscitated patient, the opposite is not true.

In non-intubated patients, fluid load until CVP > 10

In intubated patients, fluid load until CVP > 14

IF YOU HAVE ULTRASOUND, USE B-LINES ON LUNG ULTRASOUND

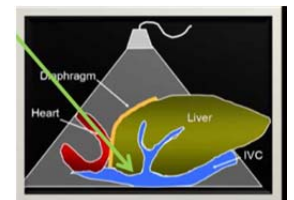
3 or more B-Lines in one Intercostal Space



IF NOT TUBED-USE **DYNAMIC IVC**

If IVC collapses with inspiration (>30%), give fluid bolus.

Measure just caudal to hepatic veins



IF NOT TUBED AND PATIENT IS HYPERPNEIC-CAN USE **DYNAMIC CVP**

If CVP decreases 2 mmHg with deep inspiration, administer fluid

IF TUBED, REGULAR HEART RHYTHM, ALINE, NOT SPONT BREATHING-USE **SYSTOLIC OR PULSE PRESSURE VARIATION**

Increase Vt to 10 ml/kg

If there is a visible decrease in systolic or pulse pressure with mechanical breaths, give fluid

After observation, change Vt back to lung protective settings

Limited evidence would indicate the pulse ox pleth wave may be used the same way

IF ALINE IN PLACE-USE **PASSIVE LEG RAISE**

Place patient in semi-fowlers (45)

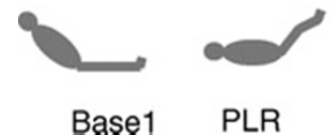
Observe arterial MAP and Pulse Pressure (PP)

Place patient in modified Trendelenberg

If arterial MAP or PP rises during the next 60 seconds, patient will benefit from fluid

Return patient to original position

To know if your passive leg raise is accurate, you need to see the CVP increase by at least 2 mm or use a SV monitor



IF YOU ARE SKILLED AT ECHO-USE **LEFT VENTRICULAR ASSESSMENT (LVEDD)**

Transthoracic echo M-mode PLAX

Hypovolemia < 2.3 cm

Measured at the tip of the mitral leaflets at the q-wave