Transducer not included
(Catalog #s ABV300, ABV301)

CAUTION: Prior to use, read complete instructions inside carton.

1. Spike saline bag (Do not use a pressurized bag).
2. Attach hospital supplied transducer. Remove extra tubing from transducer until the transducer is configured like the drawing in 2a or 2b. Follow step 2a or 2b depending on your configuration.
   2a. Attach transducer to AbViser stopcock (ABV300 & ABV301). Place cap on end of transducer.
   2b. For ABV300 & ABV301 remove AbViser stopcock and attach transducer/stopcock assembly. For ABV601 remove cap and attach transducer/stopcock assembly. Place cap on end of transducer.
3. Prime system by flushing saline through tubing and transducer.
4. Place sterile drape under patient’s Foley/drain bag connection. Clamp Foley to prevent urine leakage. Prep Foley/drain bag connection with antiseptic solution, then disconnect using aseptic technique. Tear perforation on AbViser AutoValve protective bag. Attach Foley and drain bag connection to AbViser AutoValve. Un-clamp Foley. Apply blue tape (included) at AbViser AutoValve/Foley connection to prevent inadvertent disconnection during infusion.
5. Mount transducer to patient or pole at the level of the iliac crest in the mid-axillary line (level of the urinary bladder). Plug cable into AbViser IAP monitor or any ICU monitor that can display CVP or other single pressure channel.
6. Zero transducer by turning stopcock “off” to patient. Vent stopcock cap and push the “zero” button on the monitor. Retighten stopcock cap and turn handle back so that the transducer is open to the patient.
7. Be sure patient is in the supine position before measuring their IAP. Retract the plunger until 20 mL (for adult patients) of fluid is in the syringe. Compress the syringe plunger within 10 seconds infusing the fluid into the bladder. Pediatric Patients: Briskly infuse 1 mL/Kg + 2 mL, not to exceed 20 mL.
8. Allow the system to equilibrate and then note the pressure reading on the monitor at end-expiration. This IAP reading will last approximately 2 minutes, at which point the valve will automatically open (drain). Confirm that the AutoValve has opened and urine is draining normally.
9. Record the infused saline in the I/Os to adjust for proper urine output.
10. Repeat steps 7-9 every 1-2 hours or as required.

Interpreting Intra-Abdominal Pressure:

<table>
<thead>
<tr>
<th>IAP Pressure</th>
<th>Interpretation*</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-7 mm Hg</td>
<td>Normal in critically ill patients.</td>
</tr>
<tr>
<td>6-11 mm Hg</td>
<td>Minimal elevation, commonly found in critically ill patients</td>
</tr>
<tr>
<td>12-15 mm Hg</td>
<td>Mild to Moderate Intra-Abdominal Hypertension</td>
</tr>
<tr>
<td>16-20 mm Hg</td>
<td>Moderate to Severe Intra-Abdominal Hypertension. Beware of ACS. Significant pathophysiologic changes may be present.</td>
</tr>
<tr>
<td>&gt; 20 mm Hg</td>
<td>ACS – if patient has a sustained IAP &gt; 20 mm Hg that is associated with new organ dysfunction or failure.</td>
</tr>
</tbody>
</table>

* These are general guidelines. Patient co-morbidities and clinical parameters will influence the clinical significance of these measurements and the onset of clinically apparent abdominal compartment syndrome.

References:
Risk Factors for IAH / ACS

1. Diminished abdominal wall compliance
   • Acute respiratory failure, especially with elevated intrathoracic pressure
   • Abdominal surgery with primary fascial or tight closure
   • Major trauma/burns
   • Prone positioning, head of bed > 30 degrees
   • High body mass index (BMI), central obesity
2. Increased intra-luminal contents
   • Gastroparesis
   • Ileus
   • Colonic pseudo-obstruction
3. Increased abdominal contents
   • Hemoperitoneum/pneumoperitoneum
   • Ascites/liver dysfunction
   • Capillary leak/fluid resuscitation
   • Acidosis (pH < 7.2)
   • Hypotension
   • Hypothermia (core temperature < 33°C)
   • Polytransfusion (> 10 units of blood/24 hrs)
   • Coagulopathy (platelets < 55000/mm³) OR prothrombin time (PT) > 15 seconds OR partial thromboplastin time (PTT) > 2 times normal OR international standardised ratio (INR) > 1.5
4. Tight closure

IAH Assessment Algorithm

- Patients should be screened for IAH and ACS risk factors upon ICU admission and with new or progressive organ failure.
- If two or more risk factors are present, a baseline IAP measurement should be obtained.
- If IAH is present, serial IAP measurements should be performed throughout the patient’s critical illness.

Measure patient’s IAP to establish baseline pressure

IAP measurements should be:
1. Expressed in mmHg (1 mmHg = 1.36 cm H2O)
2. Measured at end-expiration
3. Performed in supine position
4. Zeroed at the iliac crest in mid-axillary line
5. Performed with an instillation volume of no greater than 25 mL of saline [1 mL/kg for children up to 20 kg]
6. Measured 30-60 seconds after instillation to allow for bladder detrusor muscle relaxation (for bladder technique)
7. Measured in the absence of active abdominal muscle contractions

Patient has TWO or more risk factors for IAH/ACS upon either ICU admission or in the presence of new or progressive organ failure

Sustained IAP > 12 mmHg?

YES

Patient has IAH

Notify patient’s doctor of elevated IAP. Proceed to IAH / ACS management algorithm.

NO

Patient does not have IAH

Observe patient. Recheck IAP if patient deteriorates clinically.

IAH/ACS Medical Management Algorithm

- The choice (and success) of the medical management strategies listed below is strongly related to both the etiology of the patient’s IAH / ACS and the patient’s clinical situation. The appropriateness of each intervention should always be considered prior to implementing these interventions in any individual patient.
- The interventions should be applied in a stepwise fashion until the patient’s intra-abdominal pressure (IAP) decreases.
- If there is no response to a particular intervention, therapy should be escalated to the next step in the algorithm.

Measure IAP / APP at least every 4-6 hours or continuously. Titrate therapy to maintain IAP=15 mmHg and APP ≥ 60 mmHg

Step 1

- Initiate gastrointestinal prokinetic agents
- Abdominal ultrasound to identify lesions
- Ensure adequate nutrition and analgesia
- Avoid excessive fluid resuscitation
- Goal-directed fluid resuscitation
- Maintain abdominal perfusion pressure (APP) ≥ 60 mmHg

Step 2

- Administer enemas
- Abdominal computed tomography to identify lesions
- Achieve prone position, head of bed > 20 degrees
- Resuscitate using hypertonic fluids, colloid
- Hemodynamic monitoring to guide resuscitation

Step 3

- Consider colonoscopic decompression
- Consider surgical evacuation of lesions
- Consider neuromuscular blockade
- Hemodialysis / ultrafiltration
- Vasodilatory medications to keep APP ≥ 60 mmHg

Step 4

- If IAP > 25 mmHg (and/or APP < 50 mmHg) and new organ dysfunction / failure is present, patient’s IAH / ACS is refractory to medical management. Strongly consider surgical abdominal decompression.