INTRA-ABDOMINAL HYPERTENSION (IAH) ASSESSMENT ALGORITHM

- Patients should be screened for IAH/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.

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

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 the supine position
4. Zeroed at the iliac crest in the 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] (for bladder technique)
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

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.

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

4. 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)
   - Massive fluid resuscitation (> 5 L / 24 hours)
   - Pancreatitis
   - Oliguria
   - Sepsis
   - Major trauma / burns
   - Damage control laparotomy

IAH Grading

Grade I  IAP 12-15 mmHg
Grade II IAP 16-20 mmHg
Grade III IAP 21-25 mmHg
Grade IV IAP ≥ 25 mmHg

Abbreviations
IAH - intra-abdominal hypertension
ACS - abdominal compartment syndrome
IAP - intra-abdominal pressure

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