

# 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 H<sub>2</sub>O)
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  $\geq$  12 mmHg?

YES

NO

Patient has IAH

Patient does not have IAH

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

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 / mm<sup>3</sup> 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 $\geq$ 25 mmHg

## Abbreviations

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

Adapted from *Intensive Care Medicine* 2006;32(11):1722-1732 & 2007;33(6):951-962  
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