

PRACTICE GUIDELINES: INTRA-ABDOMINAL HYPERTENSION/ABDOMINAL COMPARTMENT SYNDROME

OBJECTIVE:

Provide guidelines describing the appropriate monitoring for adult and pediatric patients who are at risk for Intra-abdominal hypertension (IAH)/Abdominal Compartment Syndrome.

GUIDELINES:

Purpose of these guidelines are to assist in identifying patients who are at risk for development of intra-abdominal hypertension (IAH)/abdominal compartment syndrome.

Identify etiologies of Intra-abdominal hypertension and Abdominal compartment syndrome.
Identify clinical signs and symptoms of Intra-abdominal hypertension and Abdominal compartment syndrome.

Recognize and implement the use of bladder pressures for the diagnosis of Intra-abdominal hypertension and Abdominal compartment syndrome.

Procedure: Defining IAH & ACS

1. Intra-Abdominal Hypertension (IAH) A steady state pressure of greater than 12mmHg concealed within the abdominal cavity
2. Abdominal Perfusion Pressure (APP):
 - a. Defined as Mean Arterial Pressure (MAP) – Intra-Abdominal Pressure (IAP)
3. Abdominal Compartment Syndrome (ACS):
 - a. A sustained IAP > 20mmHg (with or without an APP < 60) that is associated with new organ dysfunction/failure – research purposes

Etiologies Intra-abdominal hypertension and Abdominal compartment syndrome:

Primary

Abdominal trauma
Abdominal surgery
Diminished abdominal wall compliance
Increased intra-luminal contents
Increased abdominal contents
Capillary leak/fluid resuscitation
Cirrhosis w/ascites
Gastroparesis/ileus
Ogilvie's syndrome
Volvulus
Pancreatitis
Abdominal abscess
Retroperitoneal bleed

Secondary

Large IVF resuscitation
Mechanical ventilation
Sepsis and/or septic shock
Burns
Metabolic acidosis
Third spacing/interstitial edema
Prone positioning

1. Based upon the risk assessment evaluation, if a patient has 2 or more risk factors that are associated with IAH/ACS, a positive presence indicates the need for serial monitoring.
2. Measure the patient's IAP to obtain a baseline. A sustained IAP \geq 12 mmHg requires continued monitoring.
3. If patient has an IAH, notify medical provider. Proceed to IAH/ACS management algorithm.
4. Patient does not have IAH continue to observe patient. If patient declines recheck the IAP.
5. Persistent patient IAP \geq 12 begin medical management Algorithm.

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

Establishing a baseline IAP (Nurses refer to AACN Procedure Manual for Critical Care)

1. Expressed in mm Hg (1 mm Hg=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 25ml 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

INTRA-ABDOMINAL HYPERTENSION (IAH)/ABDOMINAL COMPARTMENT SYNDROME (ACS) MANAGEMENT ALGORITHM

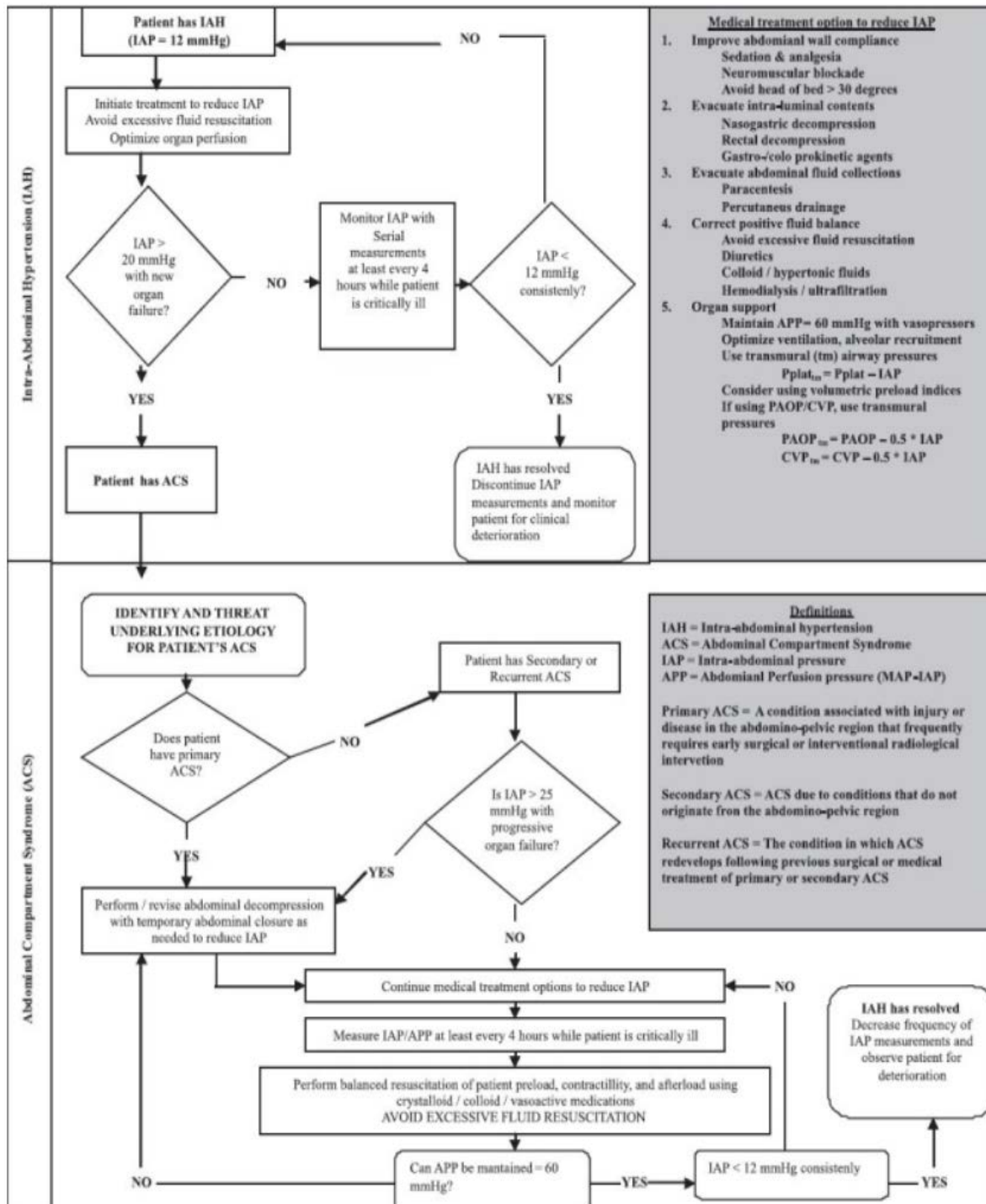
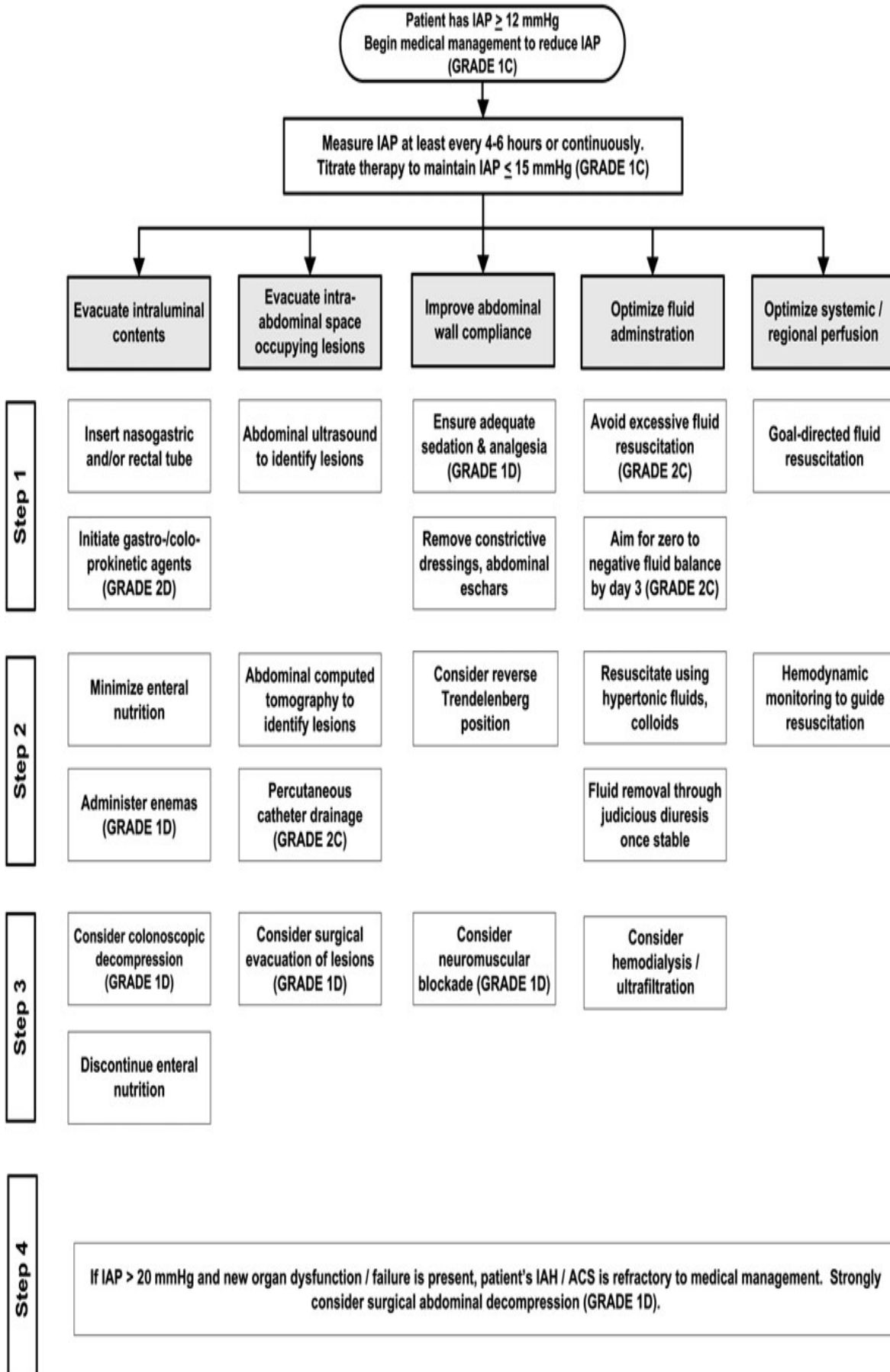


Fig. 1 Updated intra-abdominal hypertension (IAH)/abdominal compartment syndrome (ACS) management algorithm. IAP intra-abdominal pressure.

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.



References

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