

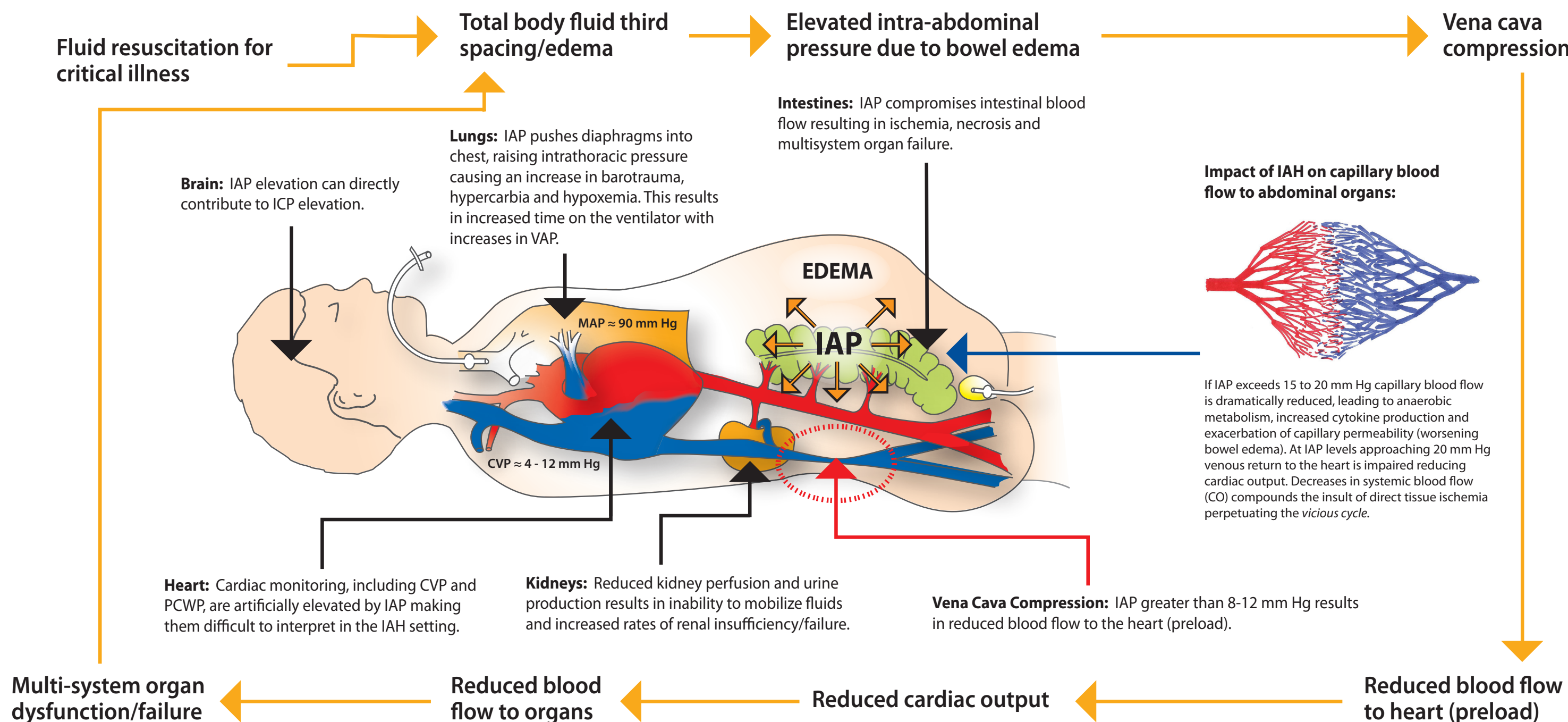
# The Multi-Organ Effects of a Vicious Cycle What Happens to the Body's Organs? Intra-Abdominal Pressure and Intra-Abdominal Hypertension

## Intra-Abdominal Pressure

Most critically ill patients have a significant systemic inflammatory response (SIRS) that triggers the release of cytokines leading to capillary permeability and interstitial edema. Abdominal viscera are particularly vulnerable as tissue edema worsens with the third spacing of resuscitative fluid. As visceral edema worsens intra-abdominal pressure (IAP) increases. As IAP increases perfusion to abdominal organs decreases resulting in compromise to visceral blood flow and tissue ischemia. Tissue ischemia then perpetuates further cytokine release and worsening systemic inflammation thus initiating the *vicious cycle*.

## Intra-Abdominal Hypertension

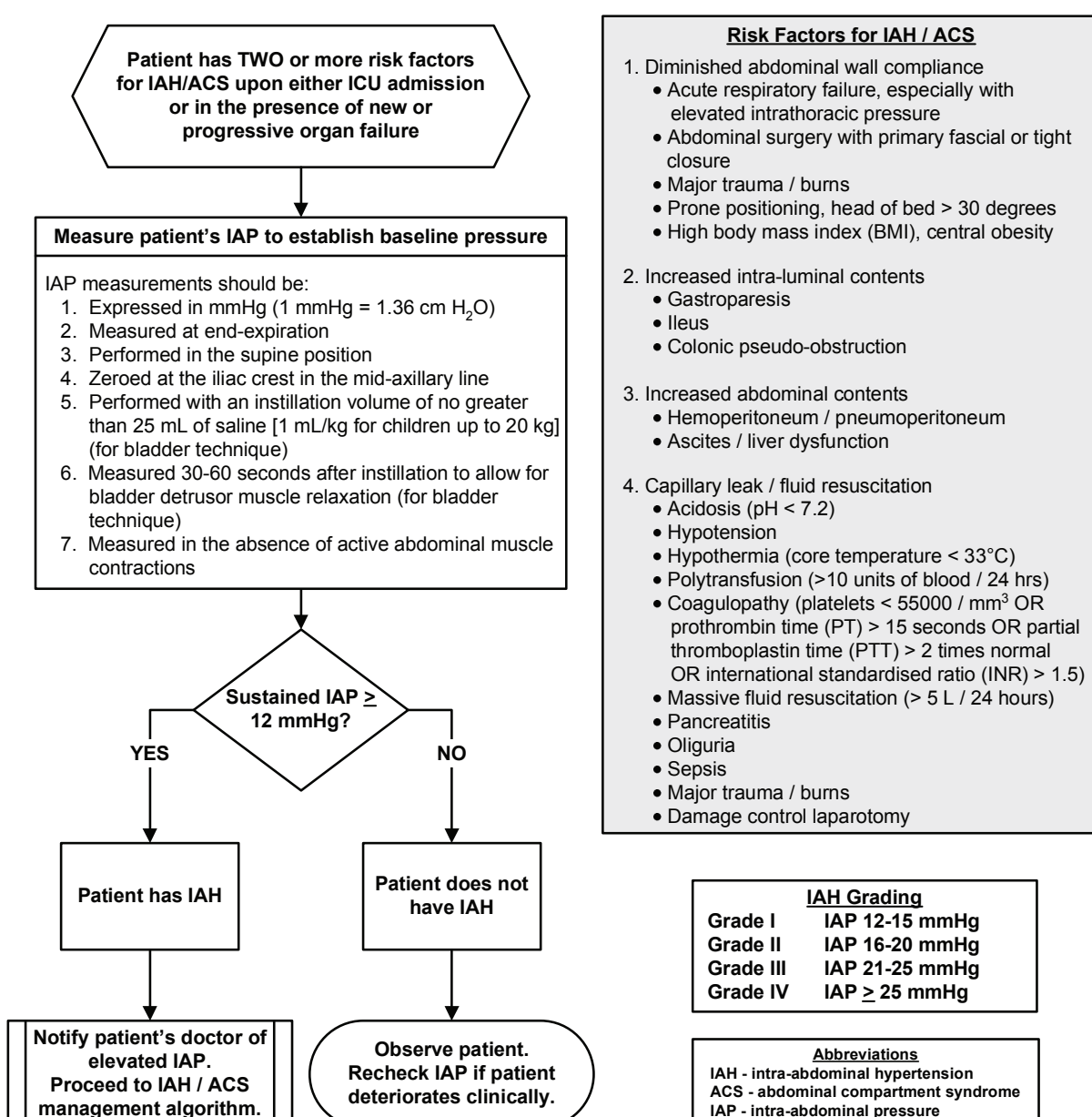
Intra-Abdominal Hypertension (IAH) is defined as Intra-Abdominal Pressure (IAP) above 12 mm Hg [1]. At which point significant tissue perfusion problems arise, which can lead to early organ dysfunction. An IAP level over 20 mm Hg typically causes organ failure and is called Abdominal Compartment Syndrome [1].



## International Recommendations for Intra-Abdominal Pressure Monitoring and Intervention:

### INTRA-ABDOMINAL HYPERTENSION (IAH) ASSESSMENT ALGORITHM

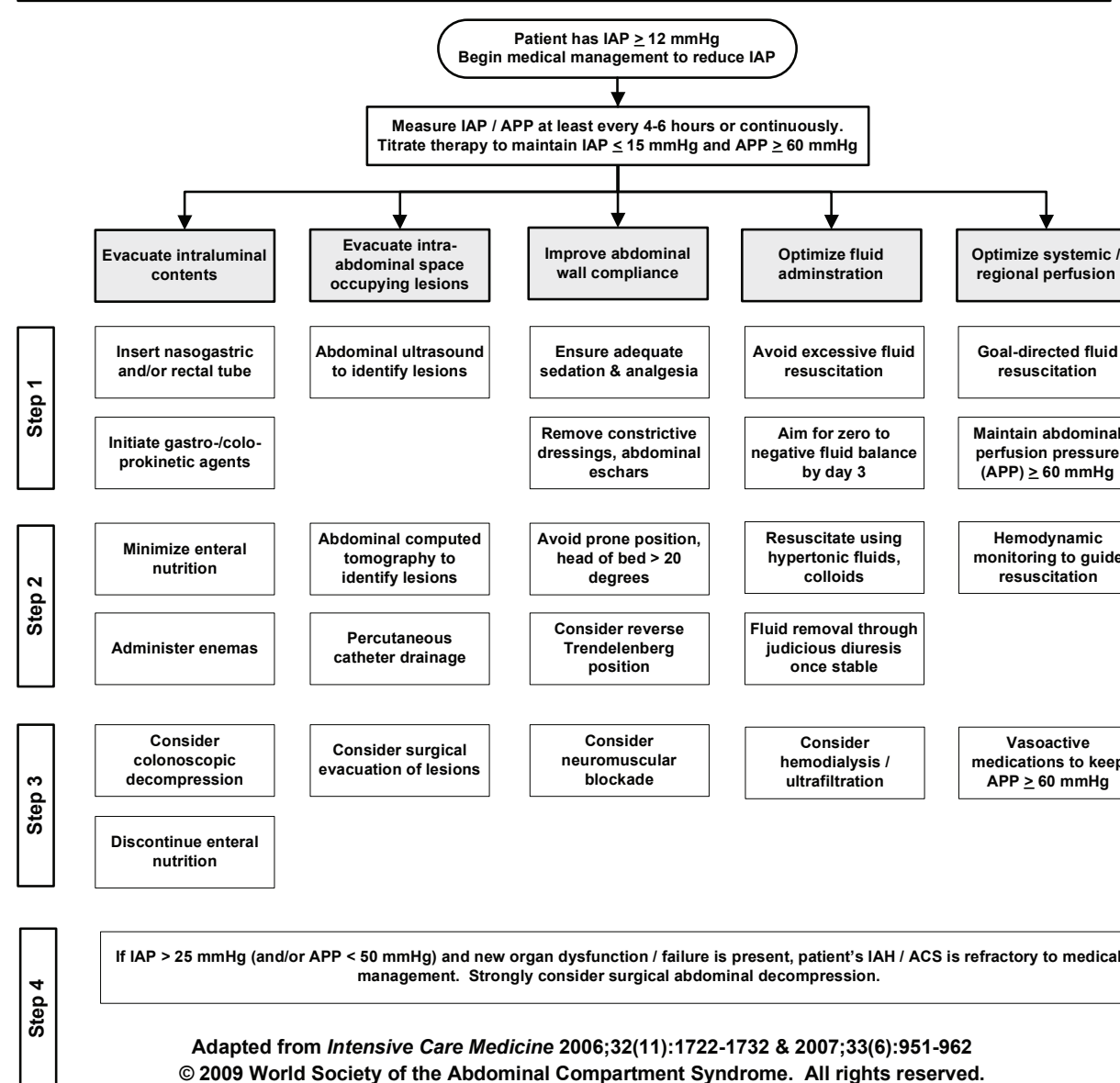
- Patients should be screened for IAH/ACS risk factors upon ICU admission and with new or progressive organ failure.
- If two or more risk factors are present, a baseline IAP measurement should be obtained.
- If IAH is present, serial IAP measurements should be performed throughout the patient's critical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



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### 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.



This educational poster was sponsored by:



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[1] Results from the International Conference of Experts on Intra-abdominal Hypertension and Abdominal Compartment Syndrome. II. Recommendations *Intensive Care Medicine* 2007