

**Prospective, Randomized Trial of
Abdominal Perfusion Pressure (APP)
as a Resuscitation Endpoint**

STUDY PROTOCOL

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for the WSACS Clinical Trials Working Group

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PART A. Summary of the study

Principal investigator(s):

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Study centers and number of patients planned:

20 (twenty) study centers enrolling a total of 400 patients.

Study participants (Name plus affiliation, listed alphabetically):

To be solicited through the WSACS Clinical Trials Working Group (CTWG).

Study period

Enrollment of first patient: To be determined once the study protocol is approved at each site.

Estimated date of last patient in study: To be determined based upon study center number and patient enrollment.

Objectives

Primary objective

- To determine whether maintenance of abdominal perfusion pressure (APP) ≥ 60 mmHg improves survival in patients with either moderate intra-abdominal hypertension (IAH) or abdominal compartment syndrome (ACS) when compared to a traditional mean arterial pressure (MAP) resuscitation endpoint of ≥ 65 mmHg.

Secondary objective(s)

- To determine whether APP-based resuscitation decreases the incidence of IAH/ACS-related organ failure.

Study design

Prospective, randomized, non-blinded resuscitation endpoint trial

Patient population

Critically ill medical and surgical patients who demonstrate evidence of either moderate IAH (defined as an intra-abdominal pressure (IAP) ≥ 15 mmHg) or abdominal compartment syndrome (defined as an IAP > 20 mmHg with new onset organ dysfunction or failure).

Duration of the study period

To be determined by patient enrollment and number of study centers.

Endpoints

Primary endpoint

- 30-day all-cause mortality

Secondary endpoints

- Incidence of end-organ failure
 - Acute renal failure
 - Defined using the RIFLE score
 - Acute hepatic failure
 - Defined using Child's-Pugh score
 - Acute respiratory failure
 - Defined using the American-European Consensus Conference definitions
 - Acute onset
 - Bilateral infiltrates on chest radiographs
 - PAOP < 18 mmHg if measured or absence of clinical signs of left atrial hypertension
 - ARDS = PaO₂ / FiO₂ <200 mmHg
 - ALI = PaO₂/ FiO₂ <300 mmHg
 - Acute gastrointestinal hemorrhage
 - Defined as passage of bright red blood from either the upper or lower gastrointestinal tract or development of melena
 - Acute myocardial infarction
 - Defined by an elevation in biochemical markers (troponin or CKMB) with at least one of the following:
 - Ischaemic symptoms;
 - Development of pathological Q waves on the ECG
 - ECG changes indicative of ischaemia (ST segment elevation or depression); or coronary artery intervention (for example, coronary angioplasty).
- Abdominal perfusion pressure (APP) [calculated as mean arterial pressure (MAP) minus intra-abdominal pressure (IAP)]
- Intra-abdominal pressure (IAP)
- Mean arterial pressure (MAP)
- Intensive care unit length of stay (days)
- Hospital length of stay (days)
- Ventilator-free days
 - Defined as total hospital days minus days on mechanical ventilation