

ABDOMINAL EVALUATION IN BLUNT TRAUMA

Approved by SGH Trauma Committee on 24/04/2007

**I. Haemodynamically unstable (i.e. inability to maintain SBP < 80 mm Hg despite ongoing resuscitation – greater than 1-2L fluid)**

FAST (preferred) or DPA or immediate laparotomy

**II. Haemodynamically stable**

**A. Patient can provide a reliable physical exam (i.e. no head injury or intoxication or dementia or intubation/sedation)**

- (1) **Not Symptomatic** (i.e. the patient does not complain of abdominal, back or flank pain) *and* has **no abdominal tenderness** on examination: no further abdominal evaluation is necessary

**NB - Rib and Pelvic Fractures:** Patients with lower rib fractures (diagnosed radiographically or clinically) and patients with pelvic fractures may harbour intraabdominal injuries that can be difficult to diagnose solely by physical exam. In these patients, a CT scan should be performed to rule out visceral injuries.

- (2) **Symptomatic**, i.e. complains of abdominal pain or exhibits abdominal tenderness on examination: then further evaluation is warranted. This may be accomplished either by obtaining an abdominal CT scan *or* by performing serial abdominal examinations no more than four hours apart for a period of at least forty eight hours by the same examiner.

**NB:** If there is no other reason to admit a patient beyond ruling out an abdominal injury, then obtaining an abdominal CT scan with oral and intravenous contrast may allow for a more rapid discharge from the ED (if the scan is negative).

**NB:** Patients with worsening abdominal complaints or worsening abdominal exam should be admitted for further observation irrespective of the abdominal CT findings.

**NB:** all patients with abdominal wall seat belt contusions ('seat belt sign') are at high risk for intestinal perforations and should undergo prompt abdominal CT scan. Patients with negative scans should still be admitted for observation, as the CT scan is not 100% sensitive for these injuries.

(3) Role of FAST in haemodynamically stable patients: A **negative FAST** does **not** adequately exclude clinically significant abdominal injuries. A **positive FAST** in a stable patient mandates an urgent abdominal CT scan, provided the attending Trauma Surgeon is in agreement and adequate IV access, blood product availability and operating theatre preparedness is established before transfer to the CT scanner.

B. The patient who is **unable to provide a reliable physical exam** (i.e. head injury or intoxication or dementia or intubation/sedation) with a mechanism of injury consistent with possible abdominal injury should have his/her abdomen urgently evaluated with a CT scan (as per pan scan protocol). This includes patients who may be alert and cooperative but who will require a general anaesthetic for repair of other injuries (eg.: orthopaedic).

### III. Timing and technique of abdominal CT scan

- A. Abdominal CT scans in these patients should be obtained promptly (within 60 minutes of arrival to the ED).
- B. Blunt trauma cases requiring abdominal CT should have oral contrast administered **only** if the patient is able to safely sit up and drink the solution. This excludes patients with suspected cervical, thoracic or lumbar spine injuries and those who are too obtunded to safely swallow oral contrast. However, if the reporting Radiologist is unable to resolve an ambiguous finding on **any case** done without oral contrast, the oral and/or rectal contrast should be administered in the safest manner possible (orally and/or via gastric/rectal tube) and the patient re-scanned.
- C. The Trauma Team Leader is responsible for the order in which body regions are scanned. If a 'Pan Scan' or CT Head is indicated, this should occur first to avoid contrast contamination of the intracerebral CT. The Trauma Team Leader is responsible for ensuring as close to 'real time' reporting of the scans occurs.