

General:

- 'damage control' refers to urgent abdominal exploration with the basic goal of controlling massive bleeding & preventing ongoing peritoneal contamination
- after 'damage control' patients often arrive in the ICU hypothermic, acidotic & coagulopathic. ICU goal is to correct these abnormalities to allow return to theatre for definitive operation as required
- failure to correct acidosis of coagulopathy suggests ongoing bleeding which may require return to theatre

Rewarming:

- warm blankets & a warm room are essential & should be prepared before the patient arrives
- all intravenous fluids should be warmed
- rarely invasive techniques for active rewarming may be required

Correction of acidosis:

- acidosis is generally the result of global hypoperfusion & should correct with restoration of circulatory volume and haemoglobin

Correction of coagulopathy:

- clotting factors function best at normal temperature and normal pH
- standard coagulation tests may be normal in the lab at 37 degrees despite significant coagulopathy in the hypothermic patient
- coagulopathy may also be a result of dilution in massive transfusion or disseminated intravascular coagulation
- calcium is bound by citrate, a preservative in packed red cells and needs to be aggressively replaced as it acts in the clotting cascade and is required for normal contractive function of the heart and circulatory system

- delayed complications from either known or unsuspected intra-abdominal injuries generally manifest as sepsis
- the possibility of missed hollow viscous injury is a major concern during the nonoperative management of patients
- when solid organ injuries are identified the risk of hollow viscus injury increases so that 6% of patients with one solid organ injury have a viscus injury, 22% with two solid organ injuries have a viscus injury & 33% of patients with three solid organ injuries have a viscus injury

admission after damage control laparotomy

ICU management of abdominal trauma
[Created by Paul Young 28/10/07]

general

- admission to ICU necessitates reevaluation of the patient by repeating the primary & secondary surveys
- repeat primary survey is required because:
 - (i) transport may have dislodged equipment
 - (ii) significant time may have elapsed since the initial primary survey
- secondary survey is required because:
 - (i) it may have been interrupted due to the need for urgent operation
 - (ii) patient may have been transferred to ICU due to a decline in clinical status
 - (iii) 10% of trauma patients have injuries that are missed during the initial evaluation
 - (iv) 25% of abdominal injuries are undetected at the time of presentation

admission for non-operative management of solid organ injury

- non-operative management consists of:
 - (i) serial physical examination
 - (ii) serial measurement of laboratory parameters
 - (iii) strict bed rest
 - (iv) optimisation of coagulation status
- changes in physical examination findings, haemodynamic status (including tachycardia) or transfusion should be promptly communicated to the trauma surgeon as any clinical deterioration may necessitate immediate angiography or operation

delayed complications