

Teaching sample work

Abdominal trauma · Early decisions

Scalpel & Script

General and colorectal surgery

Clinical teaching sample · Adult trauma



Initial assessment

Life-threatening problems receive treatment as they are found

Primary survey	xABCDE with simultaneous resuscitation
Reassessment	Repeat the survey after intervention or deterioration
Secondary survey	History and systematic examination once immediate threats are controlled
Definitive care	Operation, embolisation, monitored care or trauma-centre transfer

Primary survey: xABCDE

Rapid assessment with repeated checks of the response

	Priority	Examples of immediate actions
x	Exsanguinating bleeding	Direct pressure; tourniquet for uncontrolled life-threatening limb bleeding.
A	Airway and spine protection	Assess patency and protect the cervical spine.
B	Breathing	Assess ventilation and treat critical chest injury.
C	Circulation	Identify bleeding and initiate haemostatic resuscitation.
D	Disability	Assess GCS, pupils and glucose.
E	Exposure and temperature	Examine fully while limiting heat loss.

Case 1 Massive haemothorax

Shock, breathlessness, absent breath sounds and dullness

Both ventilation and circulation are threatened

Recognise

Absent breath sounds with dullness and shock.

Respond

Urgent chest drainage by a trained clinician, blood resuscitation and surgical involvement.

Reassess

Persistent bleeding or instability may require operative control.

Use bedside imaging as feasible without delaying urgent treatment.

Secondary survey and definitive care

The secondary survey follows control of immediate threats

AMPLE history	Allergies, medicines, past history, last oral intake and events.
Examination	Head-to-toe assessment, including back, perineum and neurological findings.
Investigations	Targeted tests and imaging guided by mechanism, findings and stability.
Destination	Confirm the need for theatre, interventional radiology, critical care or transfer.

Clues to important abdominal injury

A reassuring early examination can miss significant injury

Mechanism	High-energy blunt injury, deceleration or penetrating trauma.
Examination	Seat-belt bruising, tenderness, guarding or abdominal distension.
Associated injury	Pelvic fracture, lower rib injury or flexion-distraction spinal injury.
Physiology	Unexplained shock, worsening perfusion or an increasing transfusion requirement.

Seat-belt bruising raises concern for bowel and mesenteric injury.

Imaging follows physiology

The immediate question is whether the patient can safely undergo CT

Clinical situation	Practical approach
Persistent instability despite resuscitation	Limit imaging to what directs immediate bleeding control.
Stable or responding to resuscitation	Contrast CT to define injuries and plan treatment.
Suspected multiple injuries after blunt trauma	Whole-body CT in appropriate adults.
FAST result	Positive: supports free fluid. Negative: does not exclude injury.

When immediate CT is appropriate, do not delay it for FAST.

Case 2 Suspected splenic injury

Teaching scenario

After blunt trauma, a patient has left upper quadrant pain and pain at the left shoulder tip. Contrast CT shows a splenic laceration.

What determines the next step?

Haemodynamic response

Peritonitis or another indication for surgery

Active arterial bleeding on CT

Resources for monitoring and rescue treatment

Splenic injury: treatment decisions

Non-operative care requires observation and immediate access to rescue treatment

Unstable / peritonitis	Urgent operative management. Splenectomy may be necessary.
Stable with arterial blush	Splenic artery embolisation where expertise is rapidly available.
Stable AAST IV-V	Consider angiography / embolisation even without CT blush.
Observation pathway	Serial examination and haemoglobin; plan imaging by grade, vascular findings and local pathway.

Follow-up imaging schedules vary between guidelines.

Case 3 Deterioration after splenic injury

Teaching scenario

A motorcyclist with a known high-grade splenic injury becomes confused and hypotensive. Heart rate is 132/min and urine output is falling.

What is the priority?

Activate major haemorrhage support and obtain urgent operative haemorrhage control when instability persists.

Resuscitation and source control proceed together.

Haemorrhagic shock: assess the trajectory

Use the whole clinical picture and repeated measurements

Assess	What matters
Clinical perfusion	Mental state, skin perfusion, pulses and urine output
Vital signs	Trends in heart rate, blood pressure and breathing
Blood tests	Lactate or base deficit, with repeated haemoglobin
Response to treatment	Sustained improvement, transient response or continued deterioration

Normal initial haemoglobin or blood pressure does not exclude bleeding.

Major haemorrhage response

Activation is based on physiology and response, before a unit count is reached

Blood products	Use the local major haemorrhage protocol. NICE begins adult replacement with plasma and red cells at 1:1.
Tranexamic acid	Give early for significant traumatic bleeding. Standard adult regimen: 1 g IV over 10 min, then 1 g over 8 h.
Time window	Start TXA within 3 hours of injury. Do not delay for coagulation results.
Ongoing treatment	Move promptly to laboratory or viscoelastic guidance and definitive bleeding control.

Monitoring during haemostatic resuscitation

During active bleeding, assess physiology alongside laboratory results

Measure	Clinical target or trigger
Haemoglobin	Generally 70-90 g/L; individualise in acute brain injury
Platelets	>50 × 10 ⁹ /L with ongoing bleeding; >100 × 10 ⁹ /L with traumatic brain injury
Fibrinogen	Replace at ≤1.5 g/L or viscoelastic deficit; aim >1.5 g/L
Ionised calcium	Keep within the normal range, approximately 1.1-1.3 mmol/L
Temperature and perfusion	Restore normothermia; trend lactate / base deficit

During uncontrolled bleeding, do not wait for an Hb threshold.

Liver injury: treatment decisions

Haemodynamic status remains the central decision point

Stable	Contrast CT and non-operative care if no other injury requires surgery.
Arterial blush	Consider embolisation, particularly with ongoing bleeding; assess with the trauma and IR teams.
Persistent instability	Operative bleeding control. Damage-control techniques may be needed.
During observation	Serial assessment for bleeding, bile leak or infection; individualise repeat CT in high-grade injury.

Key messages

Assessment and early decisions

Physiology determines urgency

Early care	Treat immediate threats and reassess after intervention.
Imaging	CT defines injury when the patient can safely undergo it.
Solid organs	Observation and embolisation require monitoring and rescue capability.
Bleeding	Resuscitation supports definitive haemorrhage control.