Identify haemorrhage

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External haemorrhage may be obvious, but the diagnosis of concealed haemorrhage may be more di ffi cult. Any shock should be assumed to be hypovolaemic until proven otherwise and, similarly , hypovolaemia should be assumed to be due to haemorrhage until this has been excluded. Once haemorrhage has been identified, the institution’s major haemorrhage protocol should be activated, which will Figure 2.2 - ate resuscitative measures include the assessment of airway and). breathing and control of life-threatening issues as necessary . Large-bore intra venous access should be instituted and blood drawn for cross-matching (see Cross-matching). Transfusion should start with emergency (type O) blood (see Transfusion). Once haemorrhage has been considered, the site of hae - morrhage must be rapidly identified. Note that this is not to identify the exact location definitively , but rather to define the next step in haemorrhage control (operation, angioembolisa - tion, endoscopic control). Clues may be in the histor y (previous episodes, known aneurysm, non-steroidal therapy for gastro - intestinal bleeding) or examination (nature of blood /uni00A0 – /uni00A0 fresh, melaena; abdominal tenderness, etc.). For shocked trauma - patients, the external signs of injury may suggest internal hae - morrhage, but haemorrhage into a body cavity (thorax, abdo - men) must be excluded with rapid investigations (chest and). pelvis radiographs, abdominal ultrasound). Investigations for blood loss must be appropriate to the patient’s physiological condition. Rapid bedside tests such as ultrasound are more appropriate for profound shock and exsanguinating haemorrhage than investiga tions such as com - puted tomography . Patients who are not actively bleeding can have a more methodical, definitive work-up.

Bleeding Prioritise coagulation Recognise active bleeding Hypotension. Transient/Non-responder Damage control resuscitation Goal: Coagulation function. Coronary perfusion Damage control surgery Permissive hypotension Balanced transfusion (1:1 RBC and FFP) Treat coagulopathy (tranexamic acid, platelets, /f_i brinogen) Monitor : Cardiovascular: BP , HR 2+ + Electrolytes: Ca , K Coagulation: PT, /f_i brinogen, ROTEM/TEG Perfusion: pH, base excess, lactate, temperature Haemorrhage resuscitation. BP , blood pressure; CO, cardiac output; FFP , fresh-frozen plasma; F GCS, Glasgow Coma Scale score; HR, heart rate; IAP , intra-abdominal pressure; PaO blood cells; ROTEM, rotational thromboelastometry; SVR, systemic vascular resistance; S elastography; UO, urine output.

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