

# GENERAL POSTOPERATIVE COMPLICATIONS Bleeding

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Postoperative haemorrhage is most common in the immediate postoperative period. It may be caused by an arterial or venous leak, but also by a generalised ooze or a coagulopathy . Slow bleeds may go undetected for hours and then the patient suddenly decompensates. All patients must have their vital signs (pulse rate, blood pressure, oximetry , central venous pressure, if available, and urine output) monitored regularly . Dressings and drains should be inspected regularly in the first 24 hours after surgery . If haemorrhage is suspected, blood samples should be taken for a full blood count, coagulation profile and cross- match. A large-bore intravenous cannula should be sited and fluid resuscitation commenced. If the source of bleeding is in doubt and the patient is stable, an ultrasound or computed tomography (CT) scan may be required to determine the nature of the bleed (most commonly if a haematoma is suspected in the days following surgery). If the patient's cardiovascular system is unstable or compromised in any way (for example neck haematoma or bleeding tonsil) they should be taken back to the operating theatre immediately . The treatment of haemorrhage is both to stop the bleeding and supportive. Supportive treatment includes oxygen and fluid resuscitation. It may require correction of coagulopathy . All patients will require close observation. Blood transfusion carries risks (acute haemolytic transfusion reaction, sensitisation, fluid overload, hyperkalaemia, transfusion-related lung injury and transmission of blood-borne infection). There is much published about what is the right transfusion trigger and how to balance the need for adequate tissue perfusion and the risks of transfusion. According to the Joint United Kingdom (UK) Blood Transfusion and Tissue Transplantation Services Professional Advisory Committee transfusion should be considered if the haemoglobin (Hb) level is below 8g/dL. The decision to transfuse should be based on the clinical condition of the patient with acceptance of higher thresholds in individual cases. If the Hb level is below 7g/dL transfusion is usually indicated (see also Chapter 2 ). John Homans , 1877-1954, Professor of Clinical Surgery , Harvard Medical School, Boston, MA, USA. Philip Wells , contemporary , physician, University of Ottawa, Ottawa, Ontario, Canada. pain, orthostatic hypotension or tachycardia unresponsive to fluid resuscitation, or who have congestive heart failure may need transfusion at a higher threshold. All hospitals should have a 'major haemorrhage protocol' in place. The consultant surgeon, anaesthetist and haematologist should all be involved early on in the care of unstable patients. Summary box 24.5 Postoperative bleeding /uni25CF /uni25CF

All hospitals should have a major haemorrhage protocol in place The need to transfuse blood in the absence of continued bleeding, guided by the Hb level, should be weighed against the risks

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