

Complications of open fractures of the lower limb summary

See the comprehensive joint lower limb management by BAPRAS and BOA: 'Standards for the management of open fractures of the lower limb'.

Immediate complications of open fractures:

Occur at the time of injury or within the next 6 hours:

- pain
- hypovolaemia
- neurovascular injury
- other soft tissue damage
- contamination.



Early complications of open fractures

Occur between 6 hours and 14 days after the injury:

- haematoma
- infection
- delayed healing of skin wound
- compartment syndrome
- systemic complications (e.g. fat embolism, thromboembolism, chest infection).



Late complications of open fractures

Occur more than 14 days after the injury:

- delayed union and non-union
- malunion
- chronic pain
- post-traumatic stress disorder
- secondary surgery.

Immediate free flap complications

Occur at the time of injury or within the next 6 hours:

- anastomotic failure
- flap ischaemia
- venous congestion in flap.



Arterial insufficiency

Pale, cool, prolonged CRT >2s

May have loss of Doppler signal (if initially present), although interpret in context of clinical findings as poor inter-user reliability.

Venous congestion

Swollen, warm, brisk CRT <2s, blue discoloration. Can perform pin-prick test, which would demonstrate immediate release of dark venous blood.

Early free flap complications

Occur between 6 hours and 14 days after the injury:

- partial flap necrosis
- total flap necrosis
- superficial infection
- deep infection
- haematoma/seroma
- wound dehiscence
- donor site complications
- systemic complications.



Late free flap complications

Occur more than 14 days after the injury:

- functional impairment
- need for secondary surgery.

