

# LEECH THERAPY

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The European medicinal leech (*Hirudo medicinalis*) is an invertebrate annelid; its saliva contains hirudin (an anticoagulant), hyaluronidase (which facilitates anticoagulant penetration into the wound) and histamine (to maintain vasodilatation). The primary indication for leech therapy is to improve drainage from flaps that are venously congested, i.e. those that are dusky-blue with a brisk capillary refill and a rapid, dark pinprick. Such congestion may result from a particular vein being too small or not present or a venous anastomosis not being technically possible (e.g. a distal digital replant where an artery is reconstructed but not the vein). Leeches are not normally used in cases of suspected venous obstruction of a free flap as immediate surgical exploration is required; likewise they are of no benefit in an arterially compromised flap as, again, immediate surgical exploration is mandated. As leeching is used for venous (as opposed to arterial) insufficiency, a typical course of treatment may last for up to 2 weeks – until new vein formation occurs at the margins of the flap (Figure 47.29). The anticoagulant effect persists once the leech has detached from the patient, with bleeding occurring for some hours; each leech will imbibe up to 5 mL of blood and up to 150 mL of blood may be lost in the subsequent ooze; thus, all patients must have their haemoglobin level monitored regularly and blood transfusion may be necessary. Leeches contain *Aeromonas hydrophila*, so patients require prophylactic antibiotics (typically a quinolone) until wound closure is complete.

Figure 47.29 Leeching used for a venously congested replanted right external ear.

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