

## **The use of medical leeches for venous congestion. A review and case report.**

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### **Abstract**

The medicinal leech, *Hirudo medicinalis*, has been used for hundreds of years in human medicine for a variety of diseases, most recently including venous congestion following reconstructive surgeries (skin flaps and reimplantations), excessive lingual and periorbital swelling, and non-traditional treatments for osteoarthritis, compartment syndrome and sialoadenitis. The treatment of venous congestion in animals using leeches has been mentioned anecdotally, but the only published report pertains to the use of leeches in a cat suffering from polycythemia vera.

We report the use of medical grade leeches in a one-year-old male castrated Domestic Shorthaired cat presenting with severe swelling of the paw after sustaining a constrictive injury from a bandage. The limb use had become compromised and the swelling was not responsive to compression bandages so leech therapy was instituted for four days and the swelling dramatically improved. The patient's limb use improved back to normal and the constrictive wound went on to heal without complication.

**The use of leeches in this case allowed for resolution of severe venous congestion and a full return to function in this patient with no continued skin loss.** The mechanism of action of hirudotherapy for venous congestion is to allow for an alternative egress of pooled venous blood leading to a reduction in capillary pressure and increases in arterial reperfusion of capillary beds. The human and veterinary applications, method, and potential complications with hirudotherapy are discussed in this review.