Application of leeches
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Issues to consider in the application of leeches to humans outside standard medical practice

The medicinal leech, *Hirudo medicinalis*, is used in medical settings for a specific and narrow range of defined and scientifically evidenced clinical applications, most commonly in the relief of localised venous congestion or haematoma.

The following advice is intended to contribute to properly informing those persons intending to provide or receive any service involving the use of leeches outside standard medical practice and medically supervised settings.

The application of leeches could be considered an invasive procedure. In the absence of informed consent this could be interpreted as assault. An offer to provide any service involving the use of leeches should be based on informed consent which would include making clear the known risks of the procedure, and areas where there is uncertainty regarding potential risk.

Note: Informed consent also requires an understanding of the basis for any expected benefit which would include the diagnosis, the confidence of this diagnosis, and the evidence for effectiveness in this setting.

Individuals and non-medical practitioners may wish to consider the following:

1. **Contamination of leeches with human pathogens:** The close contact of leeches with blood and other tissues means that after application leeches may carry a wide range of human pathogens including blood borne viruses. Any direct contact between leeches that have already been applied to humans with either further people, or with leeches for future use, poses a direct risk of transmission of infection, as may indirect contact (e.g. via gloves or other equipment). Leeches that have been applied to humans need to be treated as clinical waste and disposed of appropriately.

2. **The likely entry of foreign proteins when a leech is feeding on the person** creates a risk of allergy and anaphylaxis with the associated requirements for the availability of appropriate treatment and information to those undergoing the leech application. Note that this risk of allergy may not have been previously recognized by the individual.

3. **The natural gut flora of the leech includes *Aeromonas hydrophila* and other *Aeromonas* species which can cause wound and bloodstream infections in humans.** The application of leeches is associated with such a high risk of *Aeromonas* infection that in medical settings, where leech use is mainly on surgical wounds, antibiotics are often given routinely to patients to reduce the risk of infection. The hazard of *Aeromonas* carriage will be present in leeches applied outside medical settings. The
level of risk in community settings and for other indications is not quantified. Appropriate information to patients and assurance of the availability of informed medical assessment and treatment of infection should be in place.

4. Leech proteins act as anticoagulants so that leech bites can continue to ooze and bleed for some time after the leech has been removed. Those offering leech applications should ensure that measures are in place to deal with continued oozing or bleeding.

5. There are many potential contraindications to leech use, such as different forms of immunosuppression and immunodeficiency, and blood disorders or treatments affecting risk of bleeding. These require competent assessment.

6. The basis for any therapeutic claims would require both competence in diagnosing the condition for which the therapy is offered and the basis for assessing that the treatment is likely to provide benefit in such a condition.

7. Leeches do not have a marketing authorisation as a medicinal product. Although products can be used within conditions regulated by the Medicines and Healthcare Products Agency without such a marketing or equivalent authorisation, they cannot be marketed in relation to medical conditions or the treatment of adverse conditions. See Health Protection Advice Bulletin 2013 No3: Marketing authorisation for medicinal products.

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