



## Recommendations

### Management of Injuries Caused by Teeth

The medico-legal guidelines and recommendations published by the Faculty are for general information only. Appropriate specific advice should be sought from your medical defence organisation or professional association. The Faculty has one or more senior representatives of the MDOs on its Board, but for the avoidance of doubt, endorsement of the medico-legal guidelines or recommendations published by the Faculty has not been sought from any of the medical defence organisations.

Many injuries do not have an immediately obvious cause. Be alert to the possibility of bite marks if the history or appearance is suggestive i.e. any injury which is curved, oval or shows what could be individual tooth marks.

In such cases it is undoubtedly wise to contact an odontologist as soon as possible. If an odontologist cannot attend immediately it is vital that, in addition to your normal examination and history taking, and prior to any treatment, the following steps are taken:

- swabbing for DNA/saliva prior to any recording or measuring if the bite appears to be on exposed skin. Swabbing is using the double swabbing wet and dry technique. An adjacent area to the bite mark should also be sampled using the same swabbing technique. Skin swabbing, if the affected area has not been washed, may be relevant up to 7 days post assault
- if the bite is through clothing, note the position of the clothing in relation to the bite prior to any photography. Double swab the area of interest for potential fibre trace evidence. An adjacent area to the bite mark again should be sampled using the same method of swabbing. Note: the forensic scientist would also examine the clothing for the presence of DNA/saliva in this situation
- recording and measuring – a full description, drawing and overall dimensions should be noted

Do not attribute the injury to an adult/child perpetrator on the basis of size. This can easily be wrong.

Arrange photography as soon as possible even if an expert photographer is not available. Most cases hinge on the quality of the photography and it is not easy to get it right. Ideally, an odontologist should supervise but if not available, the following points are essential:

#### Essentials of good bite mark photography

- Take an overall locating view - no scale.
- Take close-ups preferably using a macro lens of each injury with and without scales, and with and without flash (low side-lighting may be useful).
- An L-shaped rigid scale is ideal but it must not obscure any possible part of the injury. A date written on the scale can be useful.
- The scale **must** be level with and parallel to the plane of injury.
- The camera must be directly over the injury and at right angles to it (analysis is dependent on distortion-free photographs).
- If possible and practicable, and to minimise postural distortion, try to photograph the injury with the relevant body part positioned as it was at the time of alleged biting.
- It will often be necessary to take several views when dealing with a curved surface (e.g. opposing tooth marks on an arm).
- Some injury patterns become clearer with time so repeat photography should be considered. The odontologist can advise the photographer.

#### Treatment of bites

Bites may be either from humans or animals (particularly dogs). 10-30% of dog bites and 9-50% of human bites lead to infection. The risk of infection increases with puncture wounds, hand injuries, full thickness wounds and those involving joints, tendons, ligaments or fractures. Infection may spread beyond the bite leading to a multitude of complications.

#### Pathogens

A wide range of bacteria may infect human and dog bites. Viral infections may also occur in human bites. Hepatitis B, C, HIV and Herpes Simplex should be considered. Only one case of rabies has occurred in the UK following a bat bite.

#### Initial management

Refer to hospital if wounds:

- are bleeding heavily and/or cannot be stopped with pressure
- involve arteries, nerves, tendons, muscles, hands, feet or face
- involve crush injuries

#### Secondary management

- Check current tetanus status, hepatitis B immunization status and for allergies to antibiotics.
- If the skin is breached irrigate with copious quantities of 0.9% saline or warm running water. Antiseptics may delay wound healing.
- Wound closure is only generally recommended for bites to the head and neck less than 12 hours old, which are not obviously infected.

#### Antibiotic prophylaxis

- Antibiotics are not generally needed for wounds more than 3 days old if there is no sign of infection.
- Consider antibiotics for bites involving hands, feet, ligaments, tendons, fractures or for penetrating bites in people with poor immunity, diabetes or cirrhosis.
- Co-amoxiclav (500mg/125mg tds for adults and 40mg/kg tds doses based on amoxicillin for children) should be given for 5-7 days.
- If allergic to penicillin then use doxycycline (100mg bd) and metronidazole (500mg tds) for those over 12 or erythromycin and metronidazole for those under 12 years old.

- If the wound is obviously infected then antibiotics should be given for 10-14 days.
- Treatment for tetanus should also be considered in all cases where the skin is breached

#### Viral infections in human bites

- Penetrating wounds involving saliva only may present a risk of hepatitis B.
- Hepatitis C and HIV are only a risk if blood is involved.
- Consultation with a virologist is recommended at the earliest opportunity for management.
- The risk from saliva alone for HIV and hepatitis C is considered very small. When blood is present the risk is taken as being that of a single needle stick exposure i.e. 0.3% for HIV and 1.8% for hepatitis C. current

#### The BAFO list

BAFO maintains a list of its members who are willing to undertake case work at short notice on its website at [www.bafo.org.uk](http://www.bafo.org.uk)

All BAFO members work to an agreed protocol for best practice in bite mark analysis and their charges will be in accordance with the scale of fees agreed with the Association of Chief Police Officers. There is also a link to the BAFO website from the Faculty of Forensic and Legal Medicine website: [www.fflm.ac.uk](http://www.fflm.ac.uk)

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