

Prescribing...

Antibiotics for Animal Bites

- This month's bulletin looks at the management of animal bites in primary care.
- Dog bites are the most common mammalian bite and wound infection is the most frequent complication.
- Prophylactic antibiotics have a role in some patient groups, in high-risk bites or human bites where the skin is broken.
- They are **not indicated routinely**, or if the wound is more than two days old and is showing no signs of infection.

What are the complications?

Wound infection is the most common complication of mammalian bites, occurring after 2-30% of dog bites, 15-50% of cat bites and 9-50% of human bites. This compares with 1-12% of non-bite wounds managed in A & A. Less frequent complications are tetanus, rabies, septicaemia, septic arthritis, peritonitis, meningitis and disfiguring wounds from severe "mauling".

How should the wound be managed ?

1. If the area is bleeding, apply pressure.
2. Irrigate the wound thoroughly with sodium chloride 0.9% (with a syringe)
3. For most minor bites -cover the wound with a sterile non-adhesive dressing
4. For facial wounds and large lacerations -consider either referral or closure with sterile closure strips (if the wound is less than 6 hours old)
5. For bites to the hand (other than very minor bites); wounds with extensive crush injuries that require debridement ; and facial wounds and large lacerations more than 6 hours old - refer.
6. Pain relief may be necessary - paracetamol or ibuprofen is usually adequate.
7. Antiseptic cleansers are **not** usually necessary -they may further damage tissue and delay wound healing.

When are antibiotics appropriate ?

The top priority is to achieve satisfactory wound healing with a good cosmetic outcome. A recent Cochrane review found no evidence that antibiotic prophylaxis is effective after cat and dog bites, but it reduces the risk of infection after human bites.

PRODIGY recommends the use of prophylactic antibiotics for

- Human bites where there has been clear penetration of the skin.
- People with high-risk animal bites i.e. hand, foot or facial injuries; puncture wounds (particularly likely with cat bites) ; wounds requiring surgical debridement ; wounds involving joints, tendons ligaments, or suspected fractures.
- Wounds that have undergone primary closure.
- People who are at risk of serious wound infection complications e.g. diabetics, patients with cirrhosis, who are asplenic or immunocompromised.
- People with a prosthetic heart valve or who have suffered a bite proximal to a prosthetic joint.

Prophylactic antibiotics are **not** usually needed if the wound is more than two days old **and** there are no signs of infection. Antibiotics **are**, of course, clearly appropriate and should be prescribed when the wound is clinically infected.

Which drug ?

The following are currently recommended for immediate treatment of adults **and** for treating mild-to-moderate established infections.

First-line antibiotic (if indicated)	Co-amoxiclav 375-625 mg tds for 7 days.
Antibiotic for cat /dog bite if penicillin allergic	Oxytetracycline (250-500mg qds for 7 days) PLUS Metronidazole (400mg tds for 7 days)
Antibiotic for human bite if penicillin allergic	Erythromycin (500mg qds for 7 days) PLUS Metronidazole (400mg tds for 7 days)

- Co-amoxiclav is also the first choice agent for children , who are not hypersensitive to penicillin.
- Consult the microbiologist if the patient is hypersensitive to penicillin **and** is under 12 years, pregnant or breastfeeding.
- Patients who have been bitten and present with a severe infection or are systemically unwell should be referred to A & A as IV antibiotics may be needed.

What about tetanus prophylaxis?

PRODIGY recommends that tetanus immunisation status should be checked for all bite wounds. A total of five doses of the vaccine (at appropriate intervals) is considered to give lifelong immunity. Following a bite prophylaxis should be given as follows

- Patient fully immunised (i.e. has received 5 doses of vaccine at appropriate intervals): no booster needed.
- Primary immunisation complete, boosters incomplete but up to date: tetanus booster not needed but may be given if booster is due and it is convenient to give it now.
- Primary immunisation incomplete or boosters not up to date: give tetanus booster and further doses as needed to complete the recommended schedule (if the primary course is interrupted, it should be resumed, not repeated).
- Not immunised or immunisation status uncertain: give an immediate dose of vaccine followed by completion of the full primary course if records confirm the need. Add tetanus immunoglobulin if it is a tetanus-prone wound.

What about rabies?

People who have been bitten or scratched by an animal overseas (or a bat in the UK) should wash the wound thoroughly with soap and water (even if vaccinated) and seek immediate medical attention. Even if the patient cannot get urgent attention while away, this should be sought on return, even if it is sometime after the event.

Are Hepatitis B, Hepatitis C or HIV significant concerns?

All human bite injuries should be taken seriously and enquiry made into the risk status of the perpetrator. Blood-borne viruses are potentially transmissible by a human bite if the skin is broken. There have been a small number of cases where hepatitis has been transmitted through bites. Several studies have followed up people bitten by HIV-infected individuals; no one in these studies seroconverted. PRODIGY recommends that if there is any risk or genuine uncertainty the Public Health Department should be consulted urgently.

In summary

- Otherwise healthy people only need antibiotics for **human** bites, where the skin is broken or for **high-risk animal** bites.
- People at risk of serious wound infection complications (diabetic, asplenic, cirrhotic or immunocompromised) should also be given antibiotics after **any** bite .
- **Oral Co-amoxiclav** for seven days is the agent of choice for adults and children.
- If allergic to penicillin , prescribe **oxytetracycline(or erythromycin) plus metronidazole** (unless under 12 , pregnant or breast feeding)

Reference: Prodigy Guidance on Animal and Human Bites (January 2006)

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