A systematic approach to the assessment of bite wounds

5 ESSENTIAL CHECKPOINTS

**BITEs**

**Section 1: Bite Features (Species/site)**

Factors to consider when assessing bite wounds and possible complications include the species responsible and the site (location) of the bite.

**Species**

- **Dog:** Bites are generally located on the head, neck and upper body in children and on the arms and legs in adults.
- **Cat:** Bites can involve small scratches and deep lacerations, sometimes associated with lower infection risk than cat bites, as large wounds often result in earlier presentation and more thorough irrigation.
- **Bat:** Bites often present as fine puncture wounds on the hands and arms.
- **Human:** Bites may cause obvious wounds. However, wounds from dog bites, cats, humans and bats can be managed using the same principles. The basic principles can also be applied to other kinds of bite injuries.

**Site**

- **Head:** Bites often involve the forehead, scalp, and face.
- **Shoulder/Lower neck:** Bites may cause obvious injuries. Pressure irrigation can be achieved simply by using an 18-19G Teflon cannula (needle removed) attached to a 20mL syringe.

**FIGURE 1:** Bites associated with high-risk bite wounds

**TABLE 1:** Common pathogens and empirical treatments

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CAT</th>
<th>DOG</th>
<th>HUMAN</th>
<th>BAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pathogen</td>
<td>Pasteurella spp., staphylococci, streptococci</td>
<td>Pasteurella multocida, multiple mixed anaerobes</td>
<td>Viridians and group A streptococci, eikenella, hepatica, hepatitis</td>
<td>Phyllospora and hepatica</td>
</tr>
<tr>
<td>Antibiotics</td>
<td>Penicillin or amoxicillin, clavulanate (or if resistant, second-generation cephalosporins)</td>
<td>Gentamicin or amikacin, metronidazole</td>
<td>Ceftriaxone or cefuroxime</td>
<td>Amoxicillin plus clavulanate</td>
</tr>
</tbody>
</table>

**Section 2: Infections/Injections**

The specific organism(s) involved will depend on the bite features, and antibacterial therapy and immunoglobulin or immunotherapy are necessary considerations.

**INFECTIONS (TABLE 2)**

- **Dog:** Up to 10% of all dogs may become infected. MRSA can be transmitted from human to animal (ingesting) and back to human.
- **Cat:** Up to 80% of all cats become infected. Bites are less likely to have been caused by a cat or dog.
- **Bat:** Bites are associated with lower infection risk than cat bites, as large wounds often result in earlier presentation and more thorough irrigation.

**Injections**

- Consider immunisation status in all cases of mammalian bites.
- Rabies post-exposure protocol is indicated. If an animal is not available for observation, consider the bite as if it were from a wild animal.

**FIGURE 2:** Treatment timeline

- **Primary closure of scalp laceration**
- **Methicillin-resistant Staphylococcus aureus**
- **Streptococcus pneumoniae**

**Section 3: Treatment/Time**

- **Treatment options for specific species should be considered along with the time from injury to treatment to reduce infection risk and optimize outcomes.**

**FIGURE 3:** Time to injury

- **Primary closure of scalp laceration**
- **Methicillin-resistant Staphylococcus aureus**
- **Streptococcus pneumoniae**

**Section 4: Existing Health considerations**

- **Consortiums and medications may predispose a patient to your outcome:**
  - **THE THREE DI**
    - **Diabetes**
    - **Dyslipidemia**
    - **Chronic kidney disease**
- **Disease:**
  - **Cardiovascular disease**
  - **Chronic kidney disease**
  - **Diabetes**
  - **Dyslipidemia**

**TABLE 2:** Local vs systemic infection treatment

<table>
<thead>
<tr>
<th>Local therapy</th>
<th>Systemic therapy (if needed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typhus</td>
<td>Erythromycin</td>
</tr>
<tr>
<td>Trench fever</td>
<td>Chloramphenicol</td>
</tr>
<tr>
<td>Plague</td>
<td>Penicillin G</td>
</tr>
</tbody>
</table>