IN THIS ISSUE

App for That! .......................... 1
Human Bites .............................. 1
Long-Term Efficacy of Sleep Medication .......................... 2
Consultant Corner .......................... 3

Human Bites
by Deborah Liechty, DPH-4, PharmD candidate 2018

It is estimated that 3%-23% of all bite wounds are of human origin, ranking them as the third leading cause of bite wounds seen in hospital emergency departments. These injuries can stem from intentional biting, but also from closed-fist injuries or accidental injuries; more than 50% can be found in the upper extremities. Due to the complex nature of these wounds, 10%-15% of them will become infected, which is more frequent than a bite from any other animal.

One of the complicating factors of human bite wounds is their extensive bacteriology. As many as 190 species of bacteria can be found in a human bite wound with concentrations as high as 100 million organisms per milliliter. Species inoculating these wounds may include S. aureus, S. pyogenes, E. corrodens, S. anginosus, and many others. The high bacterial load found in these wounds, along with their general nature, can lead to very serious complications.

According to current clinical practice guidelines and expert recommendations, all patients with human bite wounds, regardless of appearance, should be treated prophylactically with antibiotics chosen based on their potential coverage. The current guidelines from the Infectious Disease Society of America recommend coverage for E. corrodens, which is resistant to first-generation cephalosporins (i.e., cephalaxin), penicillinase-resistant penicillins (i.e., dicloxacillin), macrolides (i.e., erythromycin and clindamycin). Clindamycin may be used for coverage of anaerobes if used in conjunction with an agent active against E. corrodens. The first-line antibiotic agent recommended for human bites is amoxicillin-clavulanate 875/125 mg (or 20 mg/kg per dose in children), given twice daily. It should be noted that some gram-negative rods are resistant to this therapy and it also misses coverage for MRSA.
Options for those sensitive to β-lactams may be treated with an agent to cover Eikenella (such as doxycycline or TMP-sulfa) and an agent to cover anaerobes (such as metronidazole or clindamycin). Prophylactic therapy should last between three and five days and be extended if further evaluation warrants.

Studies have made arguments against the necessity for antibiotic prophylaxis in human bite wounds considered low risk for infection. These wounds include those only penetrating the epidermis and not involving the hands, feet, or skin overlying joints or cartilaginous structures. However, these studies are generally small in numbers and/or have serious limitations.

When evaluating a human bite, medical care providers should also include the potential for the person who was bitten and the person who caused the bite to have been exposed to a bloodborne pathogen. While episodes of transmittal are rare, human bites have been proven to transmit hepatitis B and C, herpes simplex virus, syphilis, tuberculosis, actinomycosis, tetanus, and even HIV. Tetanus toxoid should be administered if primary immunization has been completed, but a booster has not been given for five or more years.

References are available upon request.

---

**Long-Term Efficacy of Sleep Medications**

by Deborah Liechty, DPH-4, PharmD candidate 2018

**Q:** What is the long-term (≥ 6 months) efficacy of sleep medications for the treatment of primary insomnia in adults?

**A:** Current clinical practice guidelines do not address this topic in great detail due to the lack of quality, long-term studies on this subject. In a guideline published in 2017, the American Academy of Sleep Medicine recommends basing long-term pharmacological treatment guidance on common clinical practice and consensus. In another guideline published in 2016 by the American College of Physicians, the recommendation is to use a shared decision-making approach to balance the risks and benefits of pharmacological therapy. They also recommend an initial trial of cognitive behavioral therapy before long-term use of medications for chronic insomnia, emphasizing the approval for duration of use by the FDA is only four to five weeks.

Based on the current published literature on the long-term use of several commonly used sleep medications, the following recommendations can be made:

- Prolonged-release melatonin is effective for decreasing sleep latency. (Strength of recommendation = B, based on one randomized controlled trial with patient-oriented outcomes with several limitations.)
- Ramelteon is effective for decreasing sleep latency. (Strength of recommendation = B, based on one randomized controlled trial with patient-oriented outcomes and several limitations.)
- Zolpidem is effective for decreasing sleep latency and decreasing time awake after sleep onset. (Strength of recommendation = B, based on two randomized controlled trials with patient-oriented outcomes and several limitations.)
- Zolpidem is effective for increasing total sleep time. (Strength of recommendation = B, based on one randomized controlled trial with patient-oriented outcomes and several limitations.)
- Eszopiclone is effective for decreasing sleep latency and time awake after sleep onset, and increasing total sleep time. (Strength of recommendation = A, based on two randomized controlled trials with patient oriented outcomes and few limitations and one cohort study with several limitations.)
- Zaleplon is effective for decreasing sleep latency and increasing total sleep time. (Strength of recommendation = C, based on one cohort study with several limitations.)

Strength of recommendations are based on the American Academy of Family Physicians’ Strength of Recommendation Taxonomy (SORT), a patient-centered approach to grading evidence in the medical literature.
One of the top questions out there regarding pharmacy regulations that take effect November 28 involves PRN antipsychotics. The regulation and guidance state:

CFR § 483.45(e)(4) PRN orders for psychotropic drugs are limited to 14 days. Except as provided in CFR § 483.45(e)(5), if the attending physician or prescribing practitioner believes that it is appropriate for the PRN order to be extended beyond 14 days, he or she should document their rationale in the resident’s medical record and indicate the duration for the PRN order.

CFR § 483.45(e)(5) PRN orders for anti-psychotic drugs are limited to 14 days and cannot be renewed unless the attending physician or prescribing practitioner evaluates the resident for the appropriateness of that medication.

### PRN Orders for Psychotropic and Antipsychotic Medications

In certain situations, psychotropic medications may be prescribed on a PRN basis, such as while the dose is adjusted, to address acute or intermittent symptoms or in an emergency. However, residents must not have PRN orders for psychotropic medications unless the medication is necessary to treat a specific diagnosed condition. The attending physician or prescribing practitioner must document the specific diagnosed condition and indication for the PRN medication in the medical record.

The table below explains additional limitations for PRN psychotropic (other than antipsychotic medications) and PRN antipsychotic medications.

<table>
<thead>
<tr>
<th>Type of PRN Order</th>
<th>Time Limitation</th>
<th>Exception</th>
<th>Required Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRN orders for psychotropic medications, excluding antipsychotics</td>
<td>14 days</td>
<td>Order may be extended beyond 14 days if the attending physician or prescribing practitioner believes it is appropriate to extend the order.</td>
<td>Attending physician or prescribing practitioner should document the rationale for the extended time period in the medical record and indicate a specific duration.</td>
</tr>
<tr>
<td>PRN orders for antipsychotic medications only</td>
<td>14 days</td>
<td>None</td>
<td>If the attending physician or prescribing practitioner wishes to write a new order for the PRN antipsychotic, the attending physician or prescribing practitioner must first evaluate the resident to determine if the new order for the PRN antipsychotic is appropriate.</td>
</tr>
</tbody>
</table>

The required evaluation of a resident before writing a new PRN order for an antipsychotic entails the attending physician or prescribing practitioner directly examining the resident and assessing the resident’s current condition and progress to determine if the PRN antipsychotic medication is still needed. As part of the evaluation, the attending physician or prescribing practitioner should, at a minimum, determine and document the following in the resident’s medical record:

- Is the antipsychotic medication still needed on a PRN basis?
- What is the benefit of the medication to the resident?
- Have the resident’s expressions or indications of distress improved as a result of the PRN medication?

**NOTE:** Report of the resident’s condition from facility staff to the attending physician or prescribing practitioner does not constitute an evaluation.

*continued*
**Q:** If a practitioner evaluates the patient in person and determines that the PRN is beneficial beyond a 14-day duration, can they extend this beyond an additional 14 days? Or, does that evaluation need to take place every 14 days?

**A:** Based on CMS guidance noted above for psychotropics, a practitioner can extend the PRN order beyond 14 days by providing rationale. The practitioner must document a specific timeframe for the extended duration. Some have asked if the duration can be indefinite. The rationale provided for the extended duration and the length of the duration should correlate. For antipsychotics, at each subsequent 14 days there **must** be a practitioner evaluation and a new order for the 14-day PRN antipsychotic. Currently, there are no exceptions for this requirement.