This policy has been developed through review of medical literature, consideration of medical necessity, generally accepted medical practice standards, and approved by the IEHP Pharmacy and Therapeutics Subcommittee.

**Drugs:** permethrin (Nix), pyrethrin plus piperonyl butoxide (RID Kit), benzyl alcohol (Ulesfia), malathion (Ovide), spinosad (Natroba), ivermectin (Sklice), lindane

**Formulary Medication(s):** permethrin (Nix), pyrethrin plus piperonyl butoxide (RID Kit), benzyl alcohol (Ulesfia), malathion (Ovide)

**Class:** Topical Pediculicides

**LOB:** Non-Medicare

**Effective Date:** February 17, 2016

**Revision Date:** February 17, 2016

**Policy/Criteria:**
1. Non-formulary Medication: Natroba, Sklice
   - Diagnosis of head lice
   - Trial and failure of formulary alternative

2. Requests for non-formulary medications will be limited to quantities based on standard treatment

**Clinical Justification:**

Based on the American Academy of Pediatrics (AAP) 2015 clinical update, treatment should be based on efficacy, safety, accessibility, local patterns of resistance, and ease of use.

While no current pediculicide is 100% ovicidal, Nix (permethrin 1%) or Rid (pyrethrin plus piperonyl butoxide) are the recommended treatments of choice for head lice and are available over-the-counter (OTC). Permethrin and RID are neurotoxic to lice but are well-tolerated in humans and have an extremely low toxicity profile. Both should be used with caution in patients allergic to ragweed. In addition, RID (pyrethrin plus piperonyl butoxide) also should not be used in individuals who are allergic to chrysanthemum. Most product labels for OTC permethrin recommend a second application at least 7-10 days following initial treatment. In fact, the Centers for Disease Control and Prevention (CDC) and AAP recommend a second treatment after 9 days given that an egg or nit will typically hatch after 8 to 9 days.

Ulesfia (benzyl peroxide 5%) is non-neurotoxic to lice and resistance is unlikely. Like pyrethrin plus piperonyl butoxide, a second treatment is required. It should not be used in neonates because it has been associated with neonatal gasping syndrome. The amount of lotion required for each treatment is dependent on the length of hair treated. Individuals with short hair may require up to 16 ounces per treatment, while medium and long hair may require up to 48 and 96 ounces, respectively.

Ovide (malathion 0.5%), is highly ovicidal and requires reapplication in 7-10 days if live lice are present. Resistance to malathion has not been reported. However, it is highly flammable due to its...
alcohol content and may cause respiratory depression if ingested. If resistance is proven to first line therapy, benzyl alcohol 5% or malathion 0.5% may be prescribed.

Natroba (spinosad) appears to be both ovicidal and pediculicidal by disrupting neural activity. Clinical studies show superiority to permethrin and a second treatment is given at 7 days if live lice are seen. Sklice (ivermectin) increases the chloride ion permeability of muscle cells. The medication induces pharyngeal muscle paralysis, causing treated eggs to be no longer viable, and therefore only one application is required. AAP states that spinosad and ivermectin may prove useful in difficult cases, but the cost of these preparations should be considered.

Manual removal via wet combing or an occlusive method is acceptable option and may be preferred if there is known resistance to OTC products in the region, if the parents do not wish to use a pediculicide, or if the child is too young. Lastly, lindane is not recommended by AAP or the Medical Letter for use in head lice.

General adverse reactions from topical therapies include mild burning and itching of the scalp, erythema, and ocular irritation. Symptoms may continue to persist days after treatment. In general, 50 milliliters is sufficient for one treatment. Individuals with longer hair may require up to 150 milliliters.

<table>
<thead>
<tr>
<th>Drug Name</th>
<th>Age Restriction</th>
<th>Pkg Size</th>
<th>Treatments</th>
<th>Quantity Limitation per 30 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nix (permethrin 1%)</td>
<td>≥2 months</td>
<td>59 mL</td>
<td>1-2</td>
<td>236 mL</td>
</tr>
<tr>
<td>RID (pyrethrin plus piperonyl butoxide)</td>
<td>≥2 years</td>
<td>1 each 59 mL</td>
<td>2</td>
<td>2 each (kit) 472 mL (shampoo)</td>
</tr>
<tr>
<td>Ulesfia® Lotion (benzyl alcohol 5%)</td>
<td>≥6 months</td>
<td>227 gm</td>
<td>2</td>
<td>1362 gm</td>
</tr>
<tr>
<td>Ovide® Lotion (malathion 0.5%)</td>
<td>≥6 years old</td>
<td>59 mL</td>
<td>1-2</td>
<td>236 mL</td>
</tr>
</tbody>
</table>

*Cost based on WAC 1/7/16

References:

8. University of Texas, School of Nursing, Family Nurse Practitioner Program. Guidelines for the diagnosis and treatment of pediculosis capitis (head lice) in children and adults. Austin (TX): University of Texas, School of Nursing; 2008 May. 17 p. [19 references]