Head Lice (Pediculosis)

What are lice?

Lice (singular *louse*) are tiny, wingless insects that survive by feeding on human blood. They cannot jump or fly, and they do not burrow under the skin. Adult head lice or their eggs (nits) are found in the hair and are most often found behind the ears and at the base of the neck. Head lice usually lay their eggs on strands of hair about 4 mm or ¼ of an inch from the scalp.

Who gets head lice?

Anyone can get head lice, but in the United States, head lice are most common in children 3-12 years of age. Having lice is referred to as an "infestation." An infestation with head lice does not mean someone is dirty. Head lice have special "claws" on their legs to help them cling to the hair. Washing with plain soap and water does little to disturb them.

How are head lice spread?

Head lice are most commonly spread by direct head-to-head contact with hair of other people who have head lice. Head lice are less commonly spread through contact with an infested person's personal items, such as hairbrushes and combs, hats, unwashed clothing, bedding, or towels. Head lice are commonly spread within households. Children often spread head lice to each other during close contact while playing. Head lice can crawl from an infested person or object to a non-infested person. People with head lice can continue to spread head lice to other people until they complete a course of treatment that kills all the head lice and their eggs. Pets cannot spread head lice.

What are the symptoms of head lice?

A person who has head lice may feel itching caused by a reaction to the louse's saliva and feces, but many children have no symptoms. Head lice are not known to spread infectious diseases from person to person and should not be thought of as a medical problem. However, there is some risk of skin infection from scratching. Head lice are certainly a nuisance, but they are not generally considered a health hazard.

How are head lice diagnosed?

The best way to determine if someone is infested with head lice is to find a living adult louse. However, adult head lice are rarely seen because they are fast and hide well. Identification of a head lice infestation is usually made by detecting nits attached to the hair close to the scalp. Nits are tiny, grey, oval specks that do not come off the hair easily like a speck of dandruff would. Behind the ears and near the hairline at the base of the neck are common places to find nits. Nits found within ¼ of an inch from the scalp usually mean the nits are alive and treatment is needed. If the nits are more than ¼ of an inch from the scalp, you should ask your doctor if treatment is necessary.

How do you prevent head lice?

Children should be checked regularly and treated when head lice are found. Parents should learn to recognize head lice and teach their children not to share hats and scarves or personal hair care items such as brushes, combs, and hair ties.

What is the treatment for head lice?

Treatment for head lice usually consists of shampooing the hair with a medicated shampoo or cream rinse containing one of the following ingredients:

permethrin, pyrethrin, malathion, benzyl alcohol, Spinosad, or ivermectin. Shampoos containing *lindane* are no longer recommended.

As safety is a concern, these products should be used with care, under the supervision of a health care provider (though some treatments do not need a prescription) and in accordance with the label instructions. This is especially important for women who are pregnant or nursing, and for infants with head lice. Be sure to follow the package or label instructions very carefully. Permethrin and pyrethrin-based products have a good safety record, but resistance has been documented in the United States. For treatment failures, malathion, benzyl alcohol lotion, or Spinosad suspension can be used. Hair should be checked daily for the 10 days following treatment for newly hatched head lice. If these are present, an additional treatment may be necessary. Many of these agents require a reapplication of the treatment 7-10 days later to kill immature lice that may have hatched from eggs that were not inactivated during the initial treatment.

Data are lacking to determine whether suffocation of lice by application of products such as petroleum jelly, olive oil, butter, or fat-containing mayonnaise, are effective methods of treatment of head lice. Manual removal of nits after successful treatment is a difficult and time-consuming process, but may be desired to satisfy "no-nits" policies at some schools and daycare centers (see below), or to avoid diagnostic confusion.

Additional precautions:
Household and other close contacts should be examined and treated if head lice are found. Remember, head lice do not survive for long periods of time off the scalp. Even though head lice are not commonly spread by contact with personal belongings, the following steps can be taken as added precautions to avoid re-infestation by lice that have *recently* fallen off the head of an infested person.

- Machine wash and dry clothing, bed linens, and other items that an infested person wore or used during the 2 days before treatment using a hot water (130°F) laundry cycle and the high heat drying cycle. Clothing and items that are not washable can be dry-cleaned OR sealed in a plastic bag and stored for 2 weeks.
- Soak combs and brushes in **hot** (128.3°F/53.5°C) water for 5 minutes.
- Thoroughly vacuum rugs, upholstered furniture, and mattresses.
- **DO NOT USE INSECTICIDE SPRAYS.**

What is a "no nits" policy?

Many school departments and child care sites require that children be free of nits before returning to school and parents should be familiar with their own school or day care's head lice policy. However, both the American Academy of Pediatrics and the National Association of School Nurses advocate that "no-nit" policies should be abandoned. Head lice are not a health hazard or a sign of poor hygiene and are not responsible for the spread of any disease. No healthy child should be excluded from school because of head lice.

Where can I find more information?

- Your doctor, nurse, health clinic, or local board of health
- The Massachusetts Department of Public Health (MDPH) Division of Epidemiology, (617) 983-6800
- The Centers for Disease Control and Prevention: www.cdc.gov/parasites/lice/head/index.html
- American Academy of Pediatrics: http://pediatrics.aappublications.org/content/110/3/638.full.pdf