

HEAD LICE INFORMATION

Biology

The head louse is an insect parasite that is found on the scalp, preferring the nape of the neck, and the area behind the ears. The insect is 1-2 mm long (about the size of a sesame seed), and varies in color. They are usually clear when hatched, and then develop a reddish-brown color after feeding. They do not have wings and cannot fly or jump, but can crawl very quickly. They receive nourishment by sucking blood from the scalp. They do not thrive on pets, and need human blood to survive. There is little information on the natural lifespan of the louse, but in laboratory conditions, they can live for about a month. However, lice cannot survive more than 24 hours off of the human host. The female louse will deposit around three to four eggs, called nits, per day. Louse eggs are large, gray or yellow-white, ovals and are firmly attached to the hair shaft at an angle and close to the scalp. Eggs hatch in about a week, and mature in eight to nine days. Nits must be laid by live lice; they are not “catching”. Itching, the main symptom of lice infestation is caused by the lice sucking blood. Secondary infections can occur with scratching.

Head lice can be acquired by close contact with an infested person, using infested objects such as coats and brushes, by lying on infested carpets or beds, or by resting the head against upholstered furniture used by an infested person. Fallen hairs with nits attached may also contaminate the environment. One person will usually only harbor 10 to 20 head lice.

Effective treatment can be difficult and takes perseverance on the part of the parent/guardian and excellent communication and screening on the part of the school. Families should receive education about the condition of head lice; methods of treatment; referral to healthcare provider; how to identify head lice among family members; and how to clean bedding, personal articles, clothing and the home. Keep in mind that the family’s understanding and ability to comply will be affected by factors such as emotional state, literacy level, culture, language/communication skills, previous experience, poor vision of the caregiver and condition of housing. Control of head lice infestation is a community problem that requires the involvement of schools, healthcare providers (including pharmacists), families and local public health authorities.

When an active case of head lice is found, the student should remain in the clinic or office until a family member picks them up. The student’s classmates, friends and siblings should be examined as soon as possible. If a substantial number of cases are found, screening the entire school population should be considered. Routine screenings may be done at the beginning of the school year, and after extended holidays such as winter and spring breaks. Notification of families prior to screenings provides an opportunity for education.

Treatment of head lice must include simultaneous attention to the student and his environment. All persons in the household and other close contacts of the student should be examined. Contacts should be treated only if evidence of lice or nits is found.

Manual lice and nit removal is a necessary part of treatment whether chemical or “natural” remedies are used in conjunction. Some experts now believe that lice can be eradicated with very careful lice and nit removal and environmental measures.

- Wear disposable gloves
- Use a very bright light or sunlight to inspect the hair. The process takes a while, so having the child and the examiner seated is best.
- If the examiner is farsighted or has poor vision, a magnifying glass may be necessary.
- Remove tangles from the hair with a comb or brush.
- Divide the hair into sections, examining each section individually and then fastening it away from the rest of the hair.
- Take a one-inch section of hair and use a lice comb to comb each hair section carefully. Not all lice combs work equally well; sometimes a comb with stainless steel teeth placed very close together works best.
- The comb should be dipped into water after each section is combed. A toothbrush or dental floss may be used to clean the comb as well.
- Continue combing each section of hair until all is thoroughly combed and checked.
- The parent should then continue to check each day, as long as re-infestation is possible.

Chemical/pesticide shampoos and cream rinses can also be used with some cautions.

- Refer the child and family to their healthcare provider for instructions for treatment. If the student has no healthcare provider, he may be referred to the Health Department for treatment. Several medicated shampoo and cream rinse preparations are available without a prescription. All of these products are toxic medications that need to be used with care, and only when necessary. Lice treatment should be done by an adult, not the child. Educate families to seek advice and counsel of the pharmacist and read all insert materials before using these products. Some people with *chrysanthemum* or *ragweed* allergies may be sensitive to these products.
- Before using the treatment, you should shampoo the hair vigorously with regular shampoo to soften and loosen the nits in the hair. This should be followed by a thorough combing of the hair with the special fine-tooth comb found in the treatment package. This can weaken and damage the nit capsules and help the medicated shampoo or rinse work. Use the shampoo or rinse as directed by healthcare provider, pharmacist, or as outlined on the product information. Do not get the treatment into the child’s eyes – cover the child’s eyes with a towel and instruct the child to keep eyes tightly closed. Any product that does get into the eyes should be rinsed immediately with large amounts of tap water. Keep these products out of reach of young children. Use the products over the sink,

not in the tub or shower to avoid exposure of the skin to chemicals. Medicated shampoos and cream rinses should not be left on the head longer than directed on the product label (usually ten minutes). Wash hands well after using these products.

- After using the product as directed and rinsing, nits must be removed by combing the hair with a special fine-tooth comb made for this purpose. Using a vinegar rinse after shampooing (except with Nix® crème rinse) may make it easier to remove nits. No known preparation kills all of the nits; and they must be manually removed. This process is easier with very bright light and sometimes a magnifying glass is helpful. Have the child put on clean clothing immediately after the treatment.
- A student should not miss more than one to two days from school because of head lice. On days two to six after initial treatment, wash the hair with regular shampoo and comb out any nits that are there.
- Re-treatment after 10 days may be necessary to eradicate any lice that may have hatched from nits that were not killed or removed. Never retreat before seven days. Follow the healthcare provider's recommendations.
- The medicated shampoos and rinses are not preventative and should never be used unless live lice or nits are present.
- Some people have had success using oil, such as mineral or olive oil to cover the hair, wrapping the head with a towel (not a shower cap), and leaving it on overnight. The oil is then washed out with regular shampoo. Manual removal of lice and/or nits is still necessary after this treatment.

Environmental Measures

- Machine washing in hot water, and/or drying on the hot cycle of the dryer can disinfect many personal articles, such as bed linens, clothing and headgear. Eggs can be killed in 10 -15 minutes at 120° F, and live lice at slightly lower temperatures. Allow time between loads of laundry for the water to regain its maximum water temperature.
- Dry cleaning or storing items in a tightly sealed plastic bag for 10 – 14 days is also effective.
- Vacuum mattresses, pillows, upholstered furniture, car seats and carpeting. Discard contents of vacuum bag immediately in plastic trash bags.
- Combs and brushes should be soaked in alcohol or Lysol for one hour.
- To control the spread of head lice, infested persons should not share items that come into contact with the head, neck or shoulders (e.g. combs, brushes, hats, scarves, coats, towels, stuffed animals child sleeps with). Hand washing and cleaning under fingernails is also important since nits could get under the nails when scratching and easily be spread to others.
- Animals in the home do not carry lice.
- Do not use dog shampoo, kerosene or other products such as these. They do not kill lice and can be dangerous.

- Treatment should focus on the infested person and his/her personal articles. The U.S. Public Health Service does not recommend fumigation or use of insecticides in the home, school and on school buses.

Cautions from the National Pediculosis Association:

- Don't use shower caps during treatment and never leave the product on longer than directed.
- Don't use a prescription product containing the pesticide *Lindane*.
- Don't use a chemical treatment on or near the eyes.
- Don't use a chemical head lice treatment on a baby.
- Don't use lice sprays.
- Don't treat individuals who are not infested.
- Don't use chemical treatments to prevent head lice.

Students returning to school after treatment should be examined by the clinic personnel, principal or designee before they return to class, and weekly for three weeks. Evidence of re-infestation should be a time to review with the parents the measures to be taken at home, including environmental measures. Many schools have put "no-nit" policies in place, and send children home again, if all nits have not been removed with the treatment. This policy is a controversial issue that must be thought through carefully, considering the best interests of all students.