

HEAD LICE



What are head lice?

The head louse, or *Pediculus humanus capitis*, is a parasitic insect that can be found on the head, eyebrows, and eyelashes of people. Head lice feed on human blood several times a day and live close to the human scalp. Head lice are not known to spread disease.

Who is at risk for getting head lice?

Head lice are found worldwide. In the United States, infestation with head lice is most common among preschool children attending child care, elementary schoolchildren, and the household members of infested children. Although reliable data on how many people in the United States get head lice each year are not available, an estimated 6 million to 12 million infestations occur each year in the United States among children 3 to 11 years of age.

Head lice move by crawling; they cannot hop or fly. Head lice are spread by direct contact with the hair of an infested person. Anyone who comes in head-to-head contact with someone who already has head lice is at greatest risk. Spread by contact with clothing (such as hats, scarves, coats) or other personal items (such as combs, brushes, or towels) used by an infested person is uncommon. Personal hygiene or cleanliness in the home or school has nothing to do with getting head lice.

What do head lice look like?

Head lice have three forms: the egg (also called a nit), the nymph, and the adult.



Actual size of the three lice forms compared to a penny. (CDC Photo)

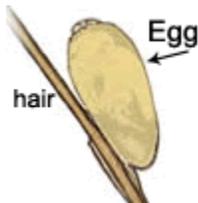


Illustration of egg on a hair shaft. (CDC Photo)

Egg/Nit: Nits are lice eggs laid by the adult female head louse at the base of the hair shaft nearest the scalp. Nits are firmly attached to the hair shaft and are oval-shaped and very small (about the size of a knot in thread) and hard to see. Nits often appear yellow or white although live nits sometimes appear to be the same color as the hair of the infested person. Nits are often confused with dandruff, scabs, or hair spray droplets. Head lice nits usually take about 8-9 days to hatch. Eggs that are likely to hatch are usually located no more than $\frac{1}{4}$ inch from the base of the hair shaft. Nits located further than $\frac{1}{4}$ inch from the base of hair shaft may very well be already hatched, non-viable nits, or empty nits or casings. This is difficult to distinguish with the naked eye.



Nymph form. (CDC Photo)

Nymph: A nymph is an immature louse that hatches from the nit. A nymph looks like an adult head louse, but is smaller. To live, a nymph must feed on blood. Nymphs mature into adults about 9-12 days after hatching from the nit.



Adult louse. (CDC Photo)

Adult: The fully grown and developed adult louse is about the size of a sesame seed, has six legs, and is tan to grayish-white in color. Adult head lice may look darker in persons with dark hair than in persons with light hair. To survive, adult head lice must feed on blood. An adult head louse can live about 30 days on a person's head but will die within one or two days if it falls off a person. Adult female head lice are usually larger than males and can lay about six eggs each day.



Adult louse claws. (CDC Photo)

Where are head lice most commonly found?

Head lice and head lice nits are found almost exclusively on the scalp, particularly around and behind the ears and near the neckline at the back of the head. Head lice or head lice nits sometimes are found on the eyelashes or eyebrows but this is uncommon. Head lice hold tightly to hair with hook-like claws at the end of each of their six legs. Head lice nits are cemented firmly to the hair shaft and can be difficult to remove even after the nymphs hatch and empty casings remain.

What are the signs and symptoms of head lice infestation?

- Tickling feeling of something moving in the hair.
- Itching, caused by an allergic reaction to the bites of the head louse.
- Irritability and difficulty sleeping; head lice are most active in the dark.
- Sores on the head caused by scratching. These sores can sometimes become infected with bacteria found on the person's skin.



Diagnosis

- Examination of hair and scalp for head lice. Close examination of the hair and scalp is necessary to determine head lice infestation. (CDC Photo)
- Misdiagnosis of head lice infestation is common. The diagnosis of head lice infestation is best made by finding a live nymph or adult louse on the scalp or hair of a person.
- Because adult and nymph lice are very small, move quickly, and avoid light, they may be difficult to find. Use of a fine-toothed louse comb may facilitate identification of live lice.
- If crawling lice are not seen, finding nits attached firmly within $\frac{1}{4}$ inch of the base of hair shafts suggests, but does not confirm, the person is infested. Nits frequently are seen on hair behind the ears and near the back of the neck. Nits that are attached more than $\frac{1}{4}$ inch from the base of the hair shaft are almost always non-viable (hatched or dead). Head lice and nits can be visible with the naked eye, although use of a magnifying lens may be necessary to find crawling lice or to identify a developing nymph inside a viable nit. Nits are often confused with other particles found in hair such as dandruff, hair spray droplets, and dirt particles.
- If no nymphs or adults are seen, and the only nits found are more than $\frac{1}{4}$ inch from the scalp, then the infestation is probably old and no longer active -- and does not need to be treated

General Guidelines

Treatment for head lice is recommended for persons diagnosed with an active infestation. All household members and other close contacts should be checked; those persons with evidence of an active infestation should be treated. Some experts believe prophylactic treatment is prudent for persons who share the same bed with actively-infested individuals. All infested persons (household members and close contacts) and their bedmates should be treated at the same time.

Retreatment of head lice usually is recommended because no approved pediculicide is completely ovicidal. To be most effective, retreatment should occur after all eggs have hatched but before new eggs are produced. The retreatment schedule can vary depending on whether the pediculicide used is ovicidal (whether it can kill lice eggs).

When treating head lice, supplemental measures can be combined with recommended medicine (pharmacologic treatment); however, such additional (non-pharmacologic) measures generally are not required to eliminate a head lice infestation. For example, hats, scarves, pillow cases, bedding, clothing, and towels worn or used by the infested person in the 2-day period just before treatment is started can be machine washed and dried using the hot water and hot air cycles because lice and eggs are killed by exposure for 5 minutes to temperatures greater than 53.5°C (128.3°F). Items that cannot be laundered may be dry-cleaned or sealed in a plastic bag for two weeks. Items such as hats, grooming aids, and towels that come in contact with the hair of an infested person should not be shared. Vacuuming furniture and floors can remove an infested person's hairs that might have viable nits attached.

Treat the infested person(s): Requires using an over-the-counter (OTC) or prescription medication. Follow these treatment steps:

1. Before applying treatment, it may be helpful to remove clothing that can become wet or stained during treatment.
2. Apply lice medicine, also called pediculicide, according to the instructions contained in the box or printed on the label. If the infested person has very long hair (longer than shoulder length), it may be necessary to use a second bottle. Pay special attention to instructions on the label or in the box regarding how long the medication should be left on the hair and how it should be washed out.

WARNING:

Do not use a combination shampoo/conditioner or conditioner before using lice medicine. Do not re-wash the hair for 1-2 days after the lice medicine is removed.

3. Have the infested person put on clean clothing after treatment.
4. If a few live lice are still found 8-12 hours after treatment, but are moving more slowly than before, do not retreat. The medicine may take longer to kill all the lice. Comb dead and any remaining live lice out of the hair using a fine-toothed nit comb.
5. If, after 8-12 hours of treatment, no dead lice are found and lice seem as active as before, the medicine may not be working. Do not retreat until speaking with your

health care provider; a different lice medicine (pediculicide) may be necessary. If your health care provider recommends a different pediculicide, carefully follow the treatment instructions contained in the box or printed on the label.

6. Nit (head lice egg) combs, often found in lice medicine packages, should be used to comb nits and lice from the hair shaft. Many flea combs made for cats and dogs are also effective.
7. After each treatment, checking the hair and combing with a nit comb to remove nits and lice every 2-3 days may decrease the chance of self-reinfestation. Continue to check for 2-3 weeks to be sure all lice and nits are gone.
8. Retreatment generally is recommended for most prescription and non-prescription (over-the-counter) drugs on day 9 in order to kill any surviving hatched lice before they produce new eggs. However, if using the prescription drug malathion, which is ovicidal, retreatment, is recommended after 7-9 days ONLY if crawling bugs are found.

Supplemental Measures: Head lice do not survive long if they fall off a person and cannot feed. You don't need to spend a lot of time or money on housecleaning activities. Follow these steps to help avoid re-infestation by lice that have recently fallen off the hair or crawled onto clothing or furniture.

1. Machine wash and dry clothing, bed linens, and other items that the infested person wore or used during the 2 days before treatment using the 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.

2. Soak combs and brushes in hot water (at least 130°F) for 5-10 minutes.
3. Vacuum the floor and furniture, particularly where the infested person sat or lay. However, the risk of getting infested by a louse that has fallen onto a rug or carpet or furniture is very small. Head lice survive less than 1-2 days if they fall off a person and cannot feed; nits cannot hatch and usually die within a week if they are not kept at the same temperature as that found close to the human scalp. Spending much time and money on housecleaning activities is not necessary to avoid reinfestation by lice or nits that may have fallen off the head or crawled onto furniture or clothing.
4. Do not use fumigant sprays; they can be toxic if inhaled or absorbed through the skin.

Prevention & Control

Head lice are spread most commonly by direct head-to-head (hair-to-hair) contact. However, much less frequently they are spread by sharing clothing or belongings onto which lice have crawled or nits attached to shed hairs may have fallen. The risk of getting

infested by a louse that has fallen onto a carpet or furniture is very small. Head lice survive less than 1-2 days if they fall off a person and cannot feed; nits cannot hatch and usually die within a week if they are not kept at the same temperature as that found close to the scalp.

The following are steps that can be taken to help prevent and control the spread of head lice:

- Avoid head-to-head (hair-to-hair) contact during play and other activities at home, school, and elsewhere (sports activities, playground, slumber parties, and camp).
- Do not share clothing such as hats, scarves, coats, sports uniforms, hair ribbons, or barrettes.
- Do not share combs, brushes, or towels. Disinfest combs and brushes used by an infested person by soaking them in hot water (at least 130°F) for 5-10 minutes.
- Do not lie on beds, couches, pillows, carpets, or stuffed animals that have recently been in contact with 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 the 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.
- Vacuum the floor and furniture, particularly where the infested person sat or lay. However, spending much time and money on housecleaning activities are not necessary to avoid reinfestation by lice or nits that may have fallen off the head or crawled onto furniture or clothing.
- Do not use fumigant sprays or fogs; they are not necessary to control head lice and can be toxic if inhaled or absorbed through the skin.

To help control a head lice outbreak in a community, school, or camp, children can be taught to avoid activities that may spread head lice.