



Nit (egg), nymph (baby louse), adult louse



What are head lice? They are parasitic insects found on the heads of people. Having head lice is very common. Head lice are also called *Pediculus humanus capitis*.

Who is at risk for getting head lice? Anyone who comes in close contact (especially head-to-head contact) with someone who already has head lice is at greatest risk. Occasionally, head lice may be acquired from contact with clothing (such as hats, scarves, coats) or other personal items (such as brushes or towels) that belong to an infested person. Preschool and elementary age children, 3-11, and their families are infested most often. Girls get head lice more often than boys, women more than men. In the United States, African-Americans rarely get head lice. Personal hygiene or cleanliness in the home or school has nothing to do with getting head lice.

What do head lice look like? There are three forms of lice: the egg (also called a nit), the nymph, and the adult. **Egg/Nit:** Nits are head lice eggs. They are very small, and are often confused for dandruff. Nits are laid by the adult female, at the base of the hair shaft nearest the scalp. They are firmly attached to the hair shaft. Nits take about 1 week to hatch. **Nymph:** The nit hatches into a baby louse called a nymph. It looks like an adult head louse, but is smaller. Nymphs mature into adults about 7 days after hatching. To live, the nymph must feed on blood. **Adult:** The adult louse is about the size of a sesame seed, has six legs, and is tan to grayish-white. In persons with dark hair, the adult louse will look darker. Females, which are usually larger than the males, lay eggs. Adult lice can live up to 30 days on a person's head. To live, adult lice need to feed on blood. If the louse falls off a person, it dies within 2 days.

Where are head lice most commonly found? They are most commonly found on the scalp, behind the ears and near the neckline at the back of the neck. Head lice hold on to hair with hook-like claws found at the end of each of their six legs. Head lice are rarely found on the body, eyelashes, or eyebrows.

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. Irritability. Also, there can be sores on the head that are caused by scratching.

How did my child get head lice? Contact with an already infested person is the most common way to get head lice. Head-to-head contact is common during play at school and at home (sports activities, on a playground, slumber parties, at camp). Less commonly: 1) Wearing clothing, such as hats, scarves, coats, sports uniforms, or hair ribbons, recently worn by an infested person. 2) Using infested combs, brushes, or towels. 3) Lying on a bed, couch, pillow, carpet, or stuffed animal that has recently been in contact with an infested person.

How is head lice infestation diagnosed? An infestation is diagnosed by looking closely through the hair and scalp for nits, nymphs, or adults. Finding a nymph or adult may be difficult; there are usually few of them and they can move quickly from searching fingers. If crawling lice are not seen, finding nits within a 1/4-inch of the scalp confirms that a person is infested and should be treated. If you only find nits more than 1/4 inch from the scalp (and don't see a nymph or adult louse), the infestation is probably an old one and does not need to be treated.

How can I treat a head lice infestation? The most important step in treating a head lice infestation is to treat the person and other family members with head lice with medication to kill the lice. Wash clothing and bedding worn or used by the infested person in the two days period just before treatment is started.

Treat the infested person: Requires using an over-the-counter (OTC) or prescription medication. Follow these treatment steps: 1) before applying treatment, remove all clothing from the waist up. 2) Apply lice medicine, also called "pediculicide," according to label instructions. If your child has extra long hair (longer than shoulder length), you may need to use a second bottle. Pay special attention to instructions on the bottle regarding how long the medication should be left on and whether rinsing the hair is recommended after treatment. **WARNING:** Do not use a cream rinse or combination shampoo/conditioner before using lice medicine. Do not re-wash hair for 1-2 days after treatment. 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. Comb dead and remaining live lice out of the hair. The medicine may take longer to kill lice. 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. See your health care provider for a different medication; follow treatment directions. 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 treatment, check hair and comb with a nit comb to remove nits and lice every 2-3 days. Continue to check for 2-3 weeks until you are sure all lice and nits are gone. **8)** If using OTC pediculicides, retreat in 7-10 days.

Treat the household: 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)** To kill lice and nits, machine-wash all washable clothing and bed linens that the infested person wore or used during the 2 days before treatment. Use the hot water (130°F) cycle. Dry laundry using high heat for at least 20 minutes. **2)** Dry clean clothing that is not washable, (coats, hats, scarves, etc.). **OR 1)** Store all clothing, stuffed animals, comforters, etc., that cannot be washed or dry-cleaned into a plastic bag; seal for 2 weeks. **2)** Soak combs and brushes for 1 hour in rubbing alcohol, Lysol, or wash with soap and hot (130°F) water. **3)** Vacuum the floor and furniture. The risk of getting re-infested from a louse that has fallen onto a carpet or sofa is very small. Don't spend a lot of time on this. Just vacuum the places where the infested person usually sits or lays. Do not use fumigant sprays; they can be toxic if inhaled or absorbed through the skin.

My child has head lice. I don't. Should I treat myself to prevent being infested? No, although anyone living with an infested person can get head lice. Check household contacts for lice and nits every 2-3 days. Treat only if crawling lice or nits (eggs) within a 1/4-inch of the scalp are found.

Should my pets be treated for head lice? No. Head lice do not live on pets.

Common problems when the instructions are not fully followed, include: **1)** Making the hair too wet with water before applying a pediculicide, this dilutes the pediculicide. **2)** Using a cream rinse or conditioner shampoo before applying a pediculicide — this interferes with the medication. **3)** Failure to leave the pediculicide on long enough. - Follow drug label instructions. **4)** Re-shampooing the hair again immediately after applying the pediculicide — don't rewash hair for 1-2 days after treatment. **5)** Inadequate amount of medication — extra long hair may require two bottles of pediculide to fully wet the hair. **6)** Not combing. Using medication alone may not be enough to cure a head lice infestation. Combing the hair to remove lice and eggs has been shown to help.

There are currently 2 types of head lice pesticides that you can find here

1. Permethrins - These pesticides usually kill lice on contact and may continue to kill lice and newborn lice for 7-10 days. The Health Clinic carries Nix® - 1% permethrin, it is a handout item, so you can go straight to the pharmacy and ask for it. **Tips for using these products (Permethrins):** **1)** Permethrins are the treatment of choice by the Center for Disease Control (CDC), although they report that treatment failure is common. **2)** Always carefully follow the instructions on any head lice treatment product. **3) Do not shampoo the head for at least 24 hours after treatment.** **4)** Do not reapply any pesticide product for at least seven days after the first pesticide treatment. Using treatment products more frequently than recommended can cause serious side effects. Remember, these are pesticides! **5)** Use only a baby shampoo or a regular shampoo without conditioner for 2 weeks after the lice treatment. Do not use hair coloring, mousse, gel or hair spray for at least 2 weeks after lice treatment. **6)** When using Nix®, use the entire 2 ounce bottle on the infested head. If the person has extremely short hair, only use half the bottle. If the person has long hair, use one and a half to two bottles of Nix®. The German pharmacies (Apotheke) carry InfectoPedicul®, it falls under this category, it costs about 14 Euros; I have no information in English for this product.

2. Pyrethrums - These pesticides usually kill lice on contact but have no long-lasting effect on lice that may hatch later. Some PX have Rid® available in a kit. The kit comes with a lice spray for the rugs and furniture; use of lice spray is discouraged. **Tips for using these products (Pyrethrums):** **1)** Always carefully follow the instructions on any head lice treatment product. **2)** If you see lice moving 10 minutes after the treatment, don't assume the treatment didn't work. It may take up to 20 minutes after a treatment for lice to die. **3)** Using treatment products more often than recommended can cause serious side effects. Remember, these are pesticides! **4)** One treatment will not kill all of the lice. You must continue to check the hair and pick the nits. Do not reapply any pesticide product for at least seven days after the first pesticide treatment.

Things to wash in a washing machine: Bath towels, coats, hats and scarves, washable rugs, Sheets, blankets, and pillowcases. Wash items using very hot water **or** dry items in the dryer using **high heat** for 30 minutes. The heat will help kill the lice and nits.

REMEMBER! HOT WATER OR HIGH HEAT

Things to sanitize: Brushes, combs, and special nit loosening combs, barrettes, other hair holders, detachable foam pads inside bike and sport helmets. To sanitize these items, soak the item in 1/4-cup bleach to 1-quart cold water for one hour.

Things to vacuum: Rugs and carpets, car seats, chairs and couches, pillows from a couch or bed (wash the pillowcases), bed mattresses, stuffed animals in contact with head and neck.

Another cleaning option: Items exposed to lice, such as stuffed animals, can be placed in a plastic bag and closed tightly for two weeks. During these two weeks the lice and nits will not have food (blood) and will die.

Reference: http://www.cdc.gov/ncidod/dpd/parasites/lice/factsht_head_lice.htm ; <http://www.doh.wa.gov/publicat/PaperPubs/lice.htm>,
<http://www.lib.uiowa.edu/hardin/md/licepictures.html>, <http://www.hoptechno.com/headlice.htm>