

## HEAD LICE INFORMATION

Head lice (*Pediculus apitis*) are small parasitic insects exquisitely adapted to living mainly on the scalp and neck hairs of their human host.

Head lice spend their entire life on the hairy part of the head. The six-legged, wingless adult head louse is about the size of a sesame seed and ranges in color from tan to gray. Each of its six legs ends in a claw that is used to grasp the hair shaft. While head lice can crawl relatively quickly, they cannot hop, fly, or jump.

The eggs of the louse are laid on the head hairs, usually at the junction of the scalp and hair shaft. The egg is coated with glue like substance that cements it to the hair shaft base near the skin. Most eggs are laid at night. Each female produces about three to five eggs in a 24-hour period and lives for about 7 to 10 days. Most of the eggs hatch within 7 to 11 days. To survive, a newly hatched louse must have a blood meal within minutes of birth. Developing lice, or nymphs, take about 7 to 10 days to mature; after an additional day, adult females start laying eggs. The total life span of a head louse from egg through adult averages about 25 days. Because head lice live and breed completely in human hair, they only survive for about 1 to 2 days if they drop off a person. They cannot live on family pets.

### What to look for

The most common symptom of infestation is intense itching on the back of the head or neck. The itching occurs when the lice bite and suck blood from the scalp. Immediately examine children who repeatedly scratch their heads. With a good light source, look for tiny, [white eggs \(nits\)](#) glued to the hair near the scalp and for small, quickly crawling, flat insects. [Hatched and unhatched eggs](#) can be differentiated with the aid of a magnifying lens: developing eggs are somewhat dark in color but after hatching the egg cases are white. An empty egg case can be distinguished from a flake of dandruff because it sticks to the hair, while other particles can be flicked or washed off. (See photos)

### Inspecting a Child's Head and Hair Combing

Daily removal of lice and their eggs (“nits”) from a child’s hair with a metal nit or flea comb is the most important lice control measure. It is important to inspect the child’s and sibling’s hair thoroughly, especially close to the scalp at the neckline and behind the ears.

Combing the hair to remove nits and lice that survived the shampoo treatment is the key to successfully controlling this pest. This process is time consuming but critical for success. If you do not completely remove all nits, re-infestation will most likely occur. Complete nit combing of the entire head has to be performed every day until no more lice or nits are found. Clean the comb frequently to remove any caught lice or eggs.

It may require several hours each night for several nights to tackle the problem. An entertaining video may help keep the child occupied during this exercise. Sit behind the child, and use a suitably bright light (and magnification if available), to inspect and comb through the hair, one small section at a time. Repeat until no more active lice are observed.

## Treatment for Head Lice

Follow the label directions carefully of medicated lice killing shampoo; do not go beyond the recommended time for application without consulting a physician. You must treat a second time; however, do not treat the second time until 7-10 days following the first treatment. Comb daily (with metal comb) until no live lice are discovered for about two weeks. Treatment “failures” usually result from the following: 1) incorrect identification (not lice), 2) incomplete combing out or removal of the nits (eggs), 3) not realizing it may take 8-12 hours for the lice to die, 4) lice re-infestation, or 5) not strictly following labeled directions.

[Should everyone in the home be treated?](#) Only those with live lice or viable eggs should be treated. Each person (adults as well as children) within the home should be inspected to determine if live lice are present. All those found to be infested should be treated simultaneously.

## Washing Recommendations

Since it is possible for nits or lice to be on items used by the child prior to treatment, clothing and bedding should be washed in hot water. It is important to wash the clothing and bedding of the infested person at the time he or she is initially treated. Head lice will be killed if infested articles are washed in hot water (at least 140°F) and dried in a hot dryer. Dry on hot cycle for at least 20 minutes. Items that are not washable should be dry cleaned or put in a sealed plastic bag for two weeks to prevent hatched lice from getting a blood meal. Another alternative that works well for headgear such as earphones and bike helmets is to place them in a plastic bag and put them in a freezer. If the freezer is 5°F or lower, all lice and eggs should be dead within 10 hours. Also clean other personal items such as stuffed animals, car seats—any object that might have come in contact with the infested person's head.

## Contacting Friends and the School

It is important to contact anyone your child has had close contact with in the recent past to let them know of a head louse infestation. The reason for this is simple: the infestation came from somewhere, and if the source or other recently infested people are not treated, your child can become re-infested when contact is renewed. That means you will need to go through all of the above treatment procedures again.

If head louse infestations are occurring at your child's school, check your child's head nightly using a metal lice comb and a good light source. The earlier an infestation is discovered, the easier it will be to treat. Avoid unnecessary treatments with head louse insecticides; use them only when lice or louse eggs have been found on a child's head to minimize the child's exposure to these materials.

Images to assist in the identification of head lice and their eggs.

<http://www.hsph.harvard.edu/headlice.html>



Adult female louse  
on nit comb



Viable egg  
on hair  
~2 days old



Viable egg  
~1 day before hatching

c 2000 President and Fellows of Harvard College



Empty egg  
(hatched)



Dead egg  
(>2 weeks old)



'Pseudo-nit'  
(Debris often confused  
as eggs)

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Nymph

hair  
Egg

Adult