

Head lice are tiny blood-sucking insects that live on the human head. Infestations of head lice are common in children and often spread in schools. Efforts to control head lice can cause frustration for both parents and school officials. Repeated treatments can become expensive. A better understanding of head lice infestation helps to control the problem.

## **The insect**

Head lice (*Pediculus humanus capitis*) only infest humans. They do not infest dogs or cats, and pet lice do not infest humans. The adults are less than inch long and are grayish-white wingless insects with three pairs of legs. Like mosquitos, they bite to obtain blood meals and can cause scalp itching. Adult lice live for about three to four weeks. Adult lice and their eggs are found among the hair, especially behind the ears and on the back of the neck.

The eggs, called nits, are cemented to the base of the hair shaft. Nits hatch after about one week, usually before they are inch from the scalp. It is very rare to find living unhatched nits beyond inch from the scalp. Therefore, although most schools have a 'no nit' policy, the living nits, those close to the scalp, are really the only ones of concern. However, parents need to follow the head lice policies of the school where their children are enrolled.

Head lice die quickly when away from their human host.

## **How are head lice spread?**

Head lice are spread mostly by direct head-to-head contact. Less commonly,

lice can be spread by sharing objects such as hair combs, brushes, hats, scarves, earphones, and pillows. Head lice do not fly or jump; they only crawl. The environment is NOT an important source of infection. Thus, disinfection of furniture, such as chairs and sofas, is not necessary. Treating your surroundings or environment is not helpful to control head lice. Head lice infestation is not a sign of uncleanliness and is not controlled by baths or regular shampoo. All socioeconomic groups are affected.

Head lice do not carry any diseases, but constant scratching may lead to scalp infection.

## **Recognizing head lice**

Itching is the most common symptom. Suspect head lice when a person scratches his or her hair frequently. In mild cases, there may be no symptoms. Recognition of head lice requires careful scalp examination of all persons in contact with someone who has head lice. It is important to receive training from a school or health department nurse before checking for head lice.

A common sign of head lice is a red or irritated scalp, especially around the ears or back of the neck. Adult head lice may be difficult to locate. Therefore, checking for nits is the most reliable way to find infestations.

## **Treatment and other control measures**

The best strategy to control head lice is to combine a) treatment of recognized cases with b) detection and treatment of infestation among persons in contact

with these cases (parents, brothers and sisters, playmates). It is important to do both of these at the same time so that no unrecognized cases remain untreated. When further spread occurs, people often think that the lice are resistant to treatment. However, what often occurs is "ping-pong transmission" from unrecognized cases. Resistance to treatment does happen, but should be considered only after other reasons for failure of control have been ruled out.

Some of the pediculicides (treatments) can be bought only with a doctor's prescription, while others can be bought without a prescription. Most over-the-counter products contain pyrethrin (Rid®, XXX®, A-200 Pyranate®), a natural insecticide. These and Lindane (Kwell®), a prescription drug, kill adult lice but do not kill all the nits. Therefore, a second treatment is needed about 7-10 days after the first treatment, to kill the lice born from surviving nits. Nix®, a synthetic permethrin, has the advantage of attaching to the hair and remaining active for about two weeks, killing newly hatched nits. However, because its activity is not 100%, treating again may be necessary. Other drugs, including some taken by mouth, may become licensed in the future for the treatment of head lice.

Treatment with agents that smother head lice are also effective. These consist of application of petroleum jelly (Vaseline®), mineral or olive oil, or even mayonnaise. The person's head should be covered with a shower cap overnight. If dealing with a young child, treatment can be performed during the day using a shower cap.

Do not use products for controlling animal fleas and ticks on children. This can be very harmful. Do not over treat

beyond instructions on the product being used or beyond the directions of your doctor. Overexposure to chemicals is not healthy.

Following a treatment, nits can be removed using a special fine-toothed comb. Metal combs may give better results. Several solutions may help loosen the nits from the hairs (vinegar diluted in half with water, or hair conditioner). After the first and second treatments on days 1 and 7, daily use of ordinary shampoos followed by use of a conditioner or cream rinse and wet combing for 14 days also are recommended.

Head-to-head contact between children should be discouraged during outbreaks, and children should be made aware of this. Sharing of personal items (combs, brushes) that may spread lice should be avoided, and outerwear (hats, coats, scarves) should be stored separately for each child.

Bedding, hats, scarves, and other clothing of persons being treated should be machine-washed in hot water and machine-dried using the hot cycle. Combs and brushes should be washed with a pediculicide solution or soaked in very hot water (about 130 degrees F for 5 minutes) to kill lice and eggs. Clothes which cannot be washed can be disinfected by dry cleaning. Items that may be contaminated also can be sealed in a plastic bag for 10-14 days to kill the lice. Remember that lice soon die after leaving a human head. Simple vacuuming of carpets and furniture will provide further control. Lice do not infest rooms and, as stated above, environmental chemical decontamination is not needed.

If you have more questions, contact your local health department.

## Need More Information?

Contact your local Health Department  
**or the**



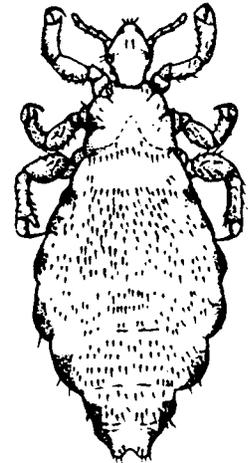
NC Department of  
Environment and  
Natural Resources  
Division of Environmental Health  
Public Health Pest Management Section  
919-733-6407

**or the**



NC Department of Health  
and Human Services  
Division of Public Health  
Communicable Disease  
Control Branch  
919-733-3419

# Head Lice



## ...Some Facts

State of North Carolina  
Department of Environment and Natural Resources

Department of Health and Human Services  
A. Dennis McBride, MD, MPH, State Health Director  
[www.dhhs.state.nc.us](http://www.dhhs.state.nc.us)

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