



## BACK-TO-SCHOOL ISSUE: FIND OUT ABOUT HEAD LICE!

**In the US, there are between 6 to 12 million cases of head lice each year, most commonly among children three to twelve years of age.** Pediculosis, or "lousiness", is one of the most prevalent communicable conditions in the country.

### *DON'T PANIC! IT CAN HAPPEN TO ANYONE!*

Many families with young children have at least one encounter with the head louse, *Pediculus capitis*. Head lice can infest people of all ages, but children are prone to infestations because they play in close contact, share hats, headphones, combs and brushes, sleeping bags, stuffed animals, and clothing. In fact, the problem of head lice can be so rampant among preschool and school-aged children that often schools work in conjunction with many families to control an infestation.

Head lice (*Pediculus capitis*) are not a sign of uncleanness and do not vector disease organisms. The most common symptoms are itching and sleeplessness. Scratching can lead to secondary bacterial skin infection. Head lice cases can result in extreme anxiety, embarrassment, unnecessary days lost from school and pesticide exposure. Millions of dollars are spent on remedies annually.

Back-to-school time seems to be when lice are most commonly transmitted, resulting in widespread infestations by December and January. With September being National Head Lice Prevention Month, we are encouraging parents, teachers, and childcare professionals to be aware of this "lousy pest" and know how to manage it.

**Head lice Facts:** The adult louse is 2 to 3 mm long; color varies. The female lives for 3 to 4 weeks and lays approximately 10 eggs (nits) a day. The eggs are firmly attached to the hair shaft close to the scalp. Viable nits are camouflaged with pigment to match the hair color of the infested person. They are most easily seen at the hairline at the back of the neck. Empty egg casings are easier to see, appearing white against the hair.

Eggs are incubated by body heat and hatch in 10 to 14 days. After hatch, nymphs leave the shell casing grow for about nine to twelve days before reaching the adult stage. If left untreated, the life cycle may repeat every three weeks.

Lice feed by injecting small amounts of saliva and removing tiny amounts of blood from the scalp every few hours. The



saliva may create an itchy irritation. A first case of head lice may not result in itching for four to six weeks. Once sensitized, subsequent infestations may cause itching almost immediately.

Head lice usually survive for less than two days away from the scalp, at normal room temperature. Eggs cannot hatch at an ambient temperature lower than that near the scalp. Laundering and drying clothing and bedding at 130°F will kill all stages.

Head lice are **not** found on animals or household pets, and are not transmitted from pets to humans.

### **Checking for Head Lice...**

Periodic inspections and early detection of individual lice, are far easier to deal with than advanced infestations. **During the early fall months (August to November) children should be inspected weekly by parents.**

An adult louse can move six to 30 cm per minute. They are hard to see and very difficult to remove. Nits are easier to spot, especially at the nape of the neck or behind the ears. Unhatched eggs will be within 1 cm of the scalp. In general, nits found more than 1 cm from the scalp are unlikely to be viable. In warmer climates however, viable nits can occur farther from the scalp.

Generally, around 30% of school children with nits will also have adult lice. Screening for nits alone is **not** an accurate way of predicting which children will become infested. Results from one research study found that only 18% of children with nits alone converted to an active infestation.

The presence of active lice in a child's head is the only definitive indication of an infestation that should trigger a head treatment. If an active infestation is noted, the child's parent or guardian should be notified immediately. Treatment options may be suggested. Other members of the family should inspect each other along with children who regularly sleep-over or share hair apparel (hair clips, headsets, hats, etc.). Parents and school nurses should be encouraged to recheck the student's head for lice after treatments have occurred if the child is still symptomatic or live adult lice can be seen.

*The American Academy of Pediatrics and the National Association of School Nurses ([www.nasn.org/Default.aspx?tabid=237](http://www.nasn.org/Default.aspx?tabid=237)) discourage "no nit" policies in schools. There is no need to send students home.*

### **Controlling Nits and Adult Lice...**

Due to the short time period that head lice can survive off the head, transmission may occur most commonly with head-to-head contact which should be avoided. To further reduce potential for transmission, discourage sharing of combs, brushes, headbands, barrettes, pillows, hats, scarves, coats, backpacks or other objects that may come in contact with the head. Where possible, place hats, scarves and coats on hooks or in separate lockers or cubbies to avoid contact. If hooks are shared or clustered, have children place their coats and hats in sealed plastic bags, especially if head lice are present.

Manual removal of nits close to the head is always recommended. Fine-toothed "nit combs" are helpful. Combing and brushing hair damages lice and eggs significantly. Use of a hair dryer further injures adults, nymphs and nits.

Manual removal steps:

1. Comb and divide hair into sections, use a metal fine toothed louse comb to remove nits and lice. After combing each section dip the comb in a container of hot soapy water to remove lice and nits.
2. Repeat until all the sections of hair have been systematically combed.
3. Clean nit removal comb, clips, brushes, headphones, hats, etc. with hot soapy water.

Unfortunately, there are no independent studies indicating the benefits of nit removal aids or occlusive substances including "petrolatum shampoos". Other occlusive substances have been suggested (mayonnaise, tub margarine, herbal oils, olive oil) but benefits have not been demonstrated.

**Head lice shampoos** contain insecticides and if they are not used properly can be very hazardous. Most treatments for lice are shampoos left on the head for no more than 10 minutes. Most will not kill eggs, so a second treatment is often necessary.

Removing nits close to the head is usually included in the treatment instructions. Most products warn against using the products on broken skin which is practically impossible

given that lice-related itching usually leads to excoriation of the scalp which may be severe.

If repeated treatments fail, some physicians will prescribe higher levels of permethrin (5%), Lindane or malathion, or even scabies treatments (e.g. crotamiton, sulfamethoxazole, trimethoprim, ivermectin, etc.). These may be **extremely** hazardous to children, despite being FDA approved.

**Ulesfia (benzyl alcohol) is a relatively new prescriptive treatment for head lice on children 6 months or older. Risks are minimal compared to some of the alternatives, and the product has proven to be extremely effective.**

When using a head louse shampoo, minimize body exposure by confining the insecticide to the head hair. Wash the infested person's hair in a basin or sink so insecticide residues do not reach other parts of the body. The person applying the treatment should wear rubber gloves. Never apply an insecticide to anyone who has open cuts, scratches, or inflammations, and never use these materials on infants without consulting a doctor. **In all cases, follow label directions completely and carefully.**

With pyrethrin and permethrin shampoos, lice should die within 10 to 30 minutes after treatment. If you find live lice after 30 minutes, resistance may be occurring and you should discontinue use of that product.

**Never resort to dangerous practices such as applying general use insecticides, or materials such as kerosene!**

**Special combs** are needed for louse removal and will be effective in eradicating head lice infestations only if used diligently each day for up to two weeks.

Combing is critical to controlling head lice because **20 to 30% of lice can still be alive after shampooing.**

**What needs to be done in the home?** Once an infestation is detected, all clothes should be washed in hot soapy water. Pillowcases, sheets, blankets and other bedding material should also be washed and placed in the clothes dryer on the "high heat" cycle to kill the lice and their eggs. Any non-washable items should be dry cleaned or sealed in plastic bags and placed in the freezer at 5<sup>0</sup>F or lower for 10 hours or more. Vacuuming the home will remove shed hair and nits.

**Continue weekly head checks of the whole family.**

To find out about YOUR school's policy and procedures for children discovered with lice, check with your school nurse's office.

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**Information taken from:**

Pollack, Richard J. August 2000. Harvard School of Public Health.

Green, T. A., and D. H. Gouge, eds. 2010. School IPM 2015: A Strategic Plan for Integrated Pest Management in Schools in the United States.

<http://www.headlice.org/>