

# HEAD LICE

Head lice is common in the United States among children 3 to 12 years of age; approximately 6 to 12 million have lice each year. Head lice are not a health hazard or a sign of uncleanliness and are not responsible for the spread of any disease. Head lice are the cause of much embarrassment and misunderstanding, many unnecessary days lost from school and work, and millions of dollars spent on remedies.

Head lice affect all socioeconomic groups. Head lice infestation is not influenced by hair length or by frequent brushing or shampooing. Lice cannot hop or fly; they crawl. Transmission in most cases occurs by direct contact with the head of another infested individual. Indirect spread through contact with personal belongings of an infested individual is much less likely but cannot be excluded.

Head lice are tiny six-legged, wingless, pale gray insects, (about the size of a sesame seed). Head lice are human parasites and require human blood to survive. They cannot hop, jump, or fly. Head lice do not come from the dirt or air. You cannot give head lice to your pets or get it from your pets. The female louse lives up to 3 to 4 weeks and lays approximately 10 eggs, or nits, a day. These tiny eggs (nits) are firmly attached to the hair shaft close to the scalp with a glue-like substance produced by the louse. The eggs are incubated by body heat and hatch in 10 to 14 days. Once the eggs hatch, nits leave the shell casing, grow for about 9 to 12 days then lay eggs. If not treated, this cycle may repeat itself every 3 weeks. While the louse is living on the head, it feeds by injecting small amounts of saliva and taking tiny amounts of blood from the scalp every few hours. The saliva may create an itchy irritation. With the first case of head lice, itching may not develop for 4 to 6 weeks, because it takes time to develop a sensitivity to louse saliva. Head lice off their human host will starve, in most cases head louse will not survive for more than 24 hours off of its human host.

## How will I know if my child has head lice?

The diagnosis of head lice requires evidence of both adult lice and their eggs. This can be difficult because lice can crawl fast and they shy away from light (during a head check). The tiny eggs or nits may be easier to spot, especially at the nape of the neck or behind the ears. It is important not to confuse nits with dandruff, hair casts, or other hair debris: nits are more difficult to remove because they are “glued” on. It is important not to confuse live nits with dead or empty egg cases. In general, nits found more than 1 cm from the scalp are unlikely to be viable. The presence of nits is not sufficient proof of an active infestation; egg remnants can persist even after treatment. The most common symptom is itching. Itching is the body’s reaction to the insect’s bite. Check for lice if your child is scratching often, especially at the nape of the neck and behind the ears. A magnifying glass may be helpful when checking your child’s head for lice.

## What is the treatment for Head Lice?

No treatment for head lice is 100 percent effective, and the search for a solution to head lice is ongoing. Many pediculicides are available to kill lice. The pyrethrins and permethrin are the agents used most commonly in the United States. Parents should follow the advice of their health care professional before treating their child for lice. Keep in mind that most of the lice treatments sold are pesticides. Research is proving that some lice have developed a resistance to these standard treatments. There are many home remedies that have been tried. Some of these are petroleum jelly, margarine, mayonnaise and olive oil, which can suffocate adult lice but may not kill all nits. These alternative treatments are difficult to remove from the hair, and can extend absence from school. Heat from a hair dryer is too low to be effective. Some attempts to fight head lice are desperate and dangerous. Some of these are the use of garden insecticide sprays; animal insecticides used to kill fleas and ticks, these are not intended for human use and could cause serious illness or even death. Never use gasoline or kerosene, which can lead to serious injury. Let your health care provider help you choose a treatment that is safe and appropriate for your situation. Talk with your doctor before using a lice-killing product on a person who has allergies, epilepsy, open wounds, preexisting medical conditions, sores on the head, or scalp infections. Pediculicides should not be used on any child under 6 months of age. They should never be used on women who are pregnant or nursing.

## Treatment

Most treatment products are shampoos, lotions or crème rinses. All treatment products developed to kill head lice are pesticides and must be used correctly. Even when used as directed, some products may be ineffective or toxic to some people. Whichever product you use, *carefully follow instructions on the label or those given by your health care provider; and do not use more than the recommended dose or leave it on the head longer than directed.*

- Lice killing products should never be used on or near the eyes. The eyes should be kept covered.
- Treatment should be done over the sink, not in the tub or shower where other parts of the body could be exposed to the pesticide.
- Most treatments should be applied on dry hair, as lice have the ability to “hold their breath” for hours when moisture hits them.
- Treatment should never be done “just in case”, only treat when you have live lice or viable eggs present.
- None of these treatments are 100 percent effective, so a second treatment may be necessary after an interval of 7 to 10 days when viable eggs will begin hatching lice.
- Manual removal of the nits is the surest way to avoid reinfestation. The only way to be absolutely sure there are no live lice on the head is to remove all the nits, then see if any new nits appear on the head. If new nits appear, you can be sure there is a louse on the head laying them. You are not clear of head lice until you have had absolutely no new nits on the head for ten consecutive days.
- Manual removal of all nits can be time-consuming, but frequent screening and early detection can lessen the task. Head lice glue their eggs to hair shafts with a cement-like substance, so they do not come off easily. A fine-tooth louse comb—which may come with the treatment product or can be purchased separately must be used to remove the nits. Nits are removed most easily when the hair is slightly damp. Combing the hair may be easier when a hair conditioner, or a half-and-half solution of white vinegar and water is applied to the hair.
- Using the fine-tooth comb, start with a few strands in the first section and comb upward from the scalp. Rinse off nits that the comb removes. Continue combing until every section of hair has been combed, pinning or tying back each section completed. Nits can be removed also by pulling them off between your thumbnail and a fingernail. Live lice may be caught with tweezers or your fingernails, or by sticking them with scotch tape.
- After treatment, put clean clothing on the individual treated.
- Avoid using hair care products such as sprays, shampoos and gels for one week after treatment.

## Clean up

Adult lice are commonly thought to survive less than 48 hours when not on a human. To avoid continuing the cycle of reinfestation, all personal articles that have been in contact with the infected person must be deloused and the household must be thoroughly cleaned. Cleaning should be done immediately after the treatment.

- Machine wash for 10 minutes in the hottest water (130 degrees) possible—with detergent—all washable clothing, hair ribbons, towels and bed linens, and pillows which have been in contact with the infested individual within the past 48 hours.
- Dry the clothes in a dryer for 20 minutes on high heat.
- Dry clean clothing that is not washable, such as coats, hats, and scarves.
- Scrub all combs, brushes, hairbands, “scrunchies”, and hair clips with a brush and detergent, then soak them in hot water for 15 minutes.
- Thoroughly vacuum the entire home. Pay special attention to floors, play areas, stuffed animals, toys, upholstered furniture, removable cushions, pillows, mattresses and carpeting. Don’t forget car seats, headrests, and child seats. Use a new bag for better suction; when finished, place the vacuum bag in a plastic bag and throw it away. (If stuffed animals, toys or other items cannot be washed or vacuumed, place and tightly seal them in plastic bags. Store the bags for two weeks.
- Lice sprays are ineffective and some products can cause serious side effects. Vacuuming is the safest and most effective way to remove lice and fallen hair that may have nits attached.

## Steps to Prevent a Recurrence

Head lice are a community problem that requires the cooperation of home, school and community to control. They can return at any time. Prevention *in the home* is the most important step in the ongoing effort to control head lice. Remember the process of transferring lice generally comes from *direct head-to-head contact*. Therefore, transmission of lice is more likely to occur in the home setting versus the school setting. To prevent reinfestation:

- Examine daily the hair and scalp of the child treated for two weeks after treatment and at regular intervals thereafter. Look for and remove any nits missed following treatment. If new nits are found, *live lice* may be present.
- Check all family members at least once a week. Do not use a product as a preventive on someone who does not have head lice.
- Repeat the treatment in 7 to 10 days if directed by product instructions or the advice of your health care professional.

- Remind your children not to share personal items belonging to others, such as hats, coats, scarves, earmuffs, combs, brushes, or any hair decorations. Do not share ear or headphones, bicycle or batting helmets.
- Children should hang coats and hats in separate cubbies or in plastic bags.
- Parents should inform the school and parents of your child's playmates if you discover head lice on your child.

It is probably impossible to totally prevent head lice infestations as young children frequently come into close head-to-head contact with each other. As parents we ask that you be aware of the sign and symptoms of head lice infestation and you do your part at home with routine screening, early detection, accurate identification and thorough treatment of lice and nits. If parents do this at home it will greatly help to minimize the spread to others.

Parents may contact the school nurse for suggestions on safe methods of treatment for head lice and nits. School nurses can answer questions, give assistance and provide resources for parents.