

# Head Lice 101

## What You Should Know About Head Lice

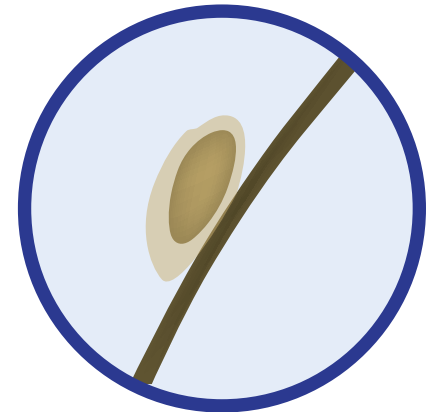
### Overview

Head lice are a common community problem. An estimated 6 to 12 million infestations occur each year in the United States, most commonly among children ages 3 to 11 years old. Children attending preschool or elementary school, and those who live with them, are the most commonly affected.<sup>1</sup>

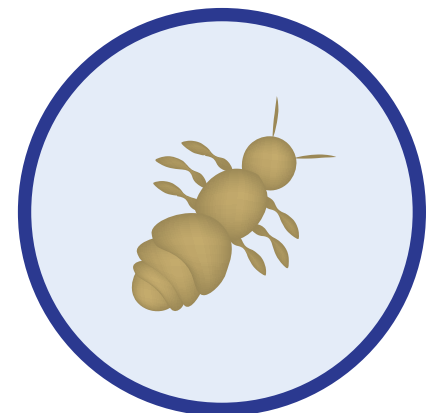
Head lice are not dangerous.<sup>1</sup> They do not transmit disease, but they do spread easily, making it a community issue.<sup>1</sup> Additionally, despite what you might have heard, head lice often infest people with good hygiene and grooming habits.<sup>2,3</sup> Your family, friends or community may experience head lice. It's important to know some basics, including how to recognize symptoms and what to do if faced with an infestation.

### What Are Head Lice?

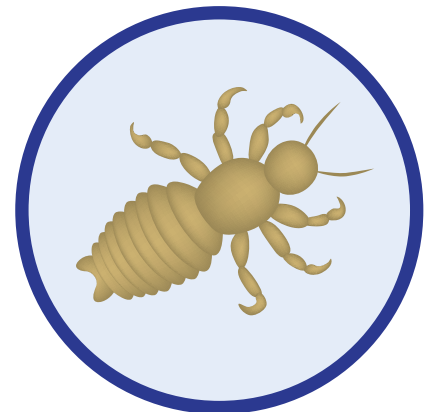
Head lice are tiny, wingless insects that live close to the human scalp. They feed on human blood.<sup>1</sup> An adult louse is the size of a sesame seed. Baby lice, or nymphs, are even smaller. Nits are the tiny, teardrop-shaped lice eggs. They attach to the hair shaft, often found around the nape of the neck or the ears. Nits can look similar to dandruff, but cannot be easily removed or brushed off.<sup>1</sup>



**NIT**



**Nymph**



**Full-Grown Louse**

### Fast Facts

- **An estimated 6 to 12 million infestations occur each year among U.S. children 3 to 11 years of age<sup>1</sup>**
- **Head lice often infest people with good hygiene<sup>2,3</sup>**
- **Head lice move by crawling; they cannot jump or fly<sup>1</sup>**
- **Head lice do not transmit disease, but they do spread easily<sup>1</sup>**
- **If you or your child exhibits signs of an infestation, it is important to talk to your doctor to learn about treatment options**

### How Are Head Lice Spread?

- Head lice move by crawling and cannot jump or fly.<sup>1</sup>
- Head lice are mostly spread by direct head-to-head contact – for example, during play at home or school, slumber parties, sports activities or camp.<sup>1</sup>
- It is possible, but not common, to spread head lice by contact with items that have been in contact with a person with head lice, such as clothing, hats, scarves or coats, or other personal items, such as combs, brushes or towels.<sup>1</sup>
- Head lice transmission can occur at home, school or in the community.<sup>1</sup>

### What Are the Signs & Symptoms of Infestation?

Signs and symptoms of infestation include<sup>1</sup>:

- **Tickling** feeling on the scalp or in the hair
- **Itching** (caused by the bites of the louse)
- **Irritability** and difficulty sleeping (lice are more active in the dark)
- **Sores on the head** (caused by scratching, which can sometimes become infected)

Finding a live nymph or adult louse on the scalp or in the hair is an indication of an active infestation. They are most commonly found behind the ears and near the neckline at the back of the head.<sup>4</sup>

### What If My Child Gets Head Lice?

If you suspect your child might have head lice, it's important to talk to a school nurse, pediatrician or family physician to get appropriate care. There are a number of available treatments, including new prescription treatment options that are safe and do not require nit combing. Other things to consider in selecting and starting treatment include:

- Follow treatment instructions. Using extra amounts or multiple applications of the same medication is not recommended, unless directed by healthcare professional.<sup>5</sup>
- Resistance to some over-the-counter head lice treatments has been reported. The prevalence of resistance is not known.<sup>6,7</sup>
- There is no scientific evidence that home remedies are effective treatments.<sup>8</sup>
- Head lice do not infest the house. However, family bed linens and recently used clothes, hats and towels should be washed in very hot water.<sup>4</sup>
- Personal articles, such as combs, brushes and hair clips, should also be washed in hot soapy water or thrown away if they were exposed to the persons with active head lice infestation.<sup>4</sup>
- All household members and other close contacts should be checked, and those with evidence of an active infestation should also be treated at the same time.<sup>4</sup>

### References

- 1 Centers for Disease Control and Prevention (CDC). Parasites: Lice: Head Lice: Frequently Asked Questions. [http://www.cdc.gov/parasites/lice/head/gen\\_info/faqs.html](http://www.cdc.gov/parasites/lice/head/gen_info/faqs.html). Accessed April 15, 2015.
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- 8 Centers for Disease Control and Prevention (CDC). Parasites: Lice: Head lice: Treatment Frequently Asked Questions. [http://www.cdc.gov/parasites/lice/head/gen\\_info/faqs\\_treat.html](http://www.cdc.gov/parasites/lice/head/gen_info/faqs_treat.html). Accessed April 15, 2015.

### Myths & Facts About Head Lice

**Myth: Only dirty people get head lice.**

**Fact:** Personal hygiene or household or school cleanliness are not factors for infestation. In fact, head lice often infest people with good hygiene and grooming habits.<sup>2,3</sup>

**Myth: Head lice carry diseases.**

**Fact:** Head Lice do not spread diseases.<sup>1</sup>

**Myth: Head lice can be spread by sharing hairbrushes, hats, clothes and other personal items.**

**Fact:** It is uncommon to spread head lice by contact with clothing or other personal items, such as combs, brushes or hair accessories, that have been in contact with a person with head lice.<sup>1</sup>

**Myth: Head lice can jump or fly, and can live anywhere.**

**Fact:** Head lice cannot jump or fly, and only move by crawling. It is unlikely to find head lice living on objects like helmets or hats because they have feet that are specifically designed to grasp on to the hair shaft of humans. Additionally, a louse can only live for a few hours off the head.<sup>1</sup>

**Myth: You can use home remedies like mayonnaise to get rid of head lice.**

**Fact:** There is no scientific evidence that home remedies are effective treatments.<sup>8</sup> A healthcare provider can discuss appropriate treatment options, including prescription products.

- 9 Parison J, Canyon DV. Head lice and the impact of knowledge, attitudes and practices – a social science overview. In: *Management and Control of Head Lice Infestations*. UNI-MED, Bremen, Germany, 2010:103-109.
- 10 Gordon SC. Shared vulnerability: a theory of caring for children with persistent head lice. *J Sch Nurs*. 2007;23(5):283-292.
- 11 Gordon S. Management of head lice in school settings. Presented at the Florida Association of School Nurses conference, Orlando, FL, February 7, 2009.
- 12 National Association of School Nurses. Pediculosis management in the school setting. Position statement. January 2011. <http://www.nasn.org/PolicyAdvocacy/PositionPapersandReports/NASNPositionStatementsFullView/tabid/462/ArticleId/40/Pediculosis-Management-in-the-School-Setting-Revised-2011>. Accessed April 15, 2015.
- 13 Schoessler SZ. Treating and managing head lice: the school nurse perspective. *Am J Manag Care*. 2004;10(suppl 9):S273-S276.
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## What are Head Lice?

Head lice are tiny wingless insects that live on the head and scalp of people, especially children. They are 1/16 to 1/8 inch in length which is about the size of a sesame seed and vary in color from tan to grey/white.



Picture is enlarged for visibility of head lice. Image courtesy of the National Pediculosis Association, [www.headlice.org](http://www.headlice.org)

### Remember These Key Points:

- Anyone can get head lice
- Lice require blood to live
- Off the scalp, head lice rarely survive beyond two days
- Lice crawl very quickly
- Lice **do not** jump, fly or hop
- Lice is spread through direct contact, mainly head to head contact
- Sharing combs, brushes, hats, barrettes, etc. can also spread lice
- Pets **cannot** get or spread human head lice
- Lice is a nuisance but **not** a health hazard

## What are Nits?

Nits are lice eggs that are very tiny and difficult to see. They vary in color from yellowish-brown to pearly white and are teardrop shaped.



Picture is enlarged for visibility of nits. Image courtesy of the National Pediculosis Association, [www.headlice.org](http://www.headlice.org)

### Additional Key Details:

- Nits are firmly attached to the hair shaft close to the scalp, at the back of the head, and behind the ears with a waterproof glue-like substance
- The glue-like substance is so strong that the nits **cannot** be washed or flicked off with a fingernail
- Nits hatch in 7-10 days and become adult lice in 9-12 days
- As long as nits remain alive, head lice can be spread
- **Nits must be removed daily**

## What are the Symptoms?

- Itching
- Tickling feeling of something crawling in the hair
- Scratch marks or red bite marks behind ears or back of the neck
- Irritability and sleeplessness because head lice are active at night

## Steps to Treat Head Lice

1. Check every member of the family for live lice and nits.
2. Treat family members who have head lice with a lice-killing product. Products are available at stores that carry hair care products. Ask the pharmacist if you need help in choosing or locating a product.
3. It is important to **follow the label directions** on the product **EXACTLY**.
4. Remove all lice and nits with either a lice comb or by picking them out.
5. Check hair everyday for at least 14 days for any missed lice and nits and remove if present.
6. Repeat treatment **according to package directions**, usually in 7-10 days.
7. Remind individual **not to share** combs, hair barrettes, hats, scarves, helmets, or coats with other people.
8. If problems with lice persist, **call** your health care provider.

## Steps to Clean the Home

1. Wash **all** pillows, bed sheets, stuffed animals, and clothing that the individual has used in hot water (at least 130 degrees).
2. Place items in the dryer at the hottest setting for at least 20 minutes.
3. Dry clean items that cannot be washed.
4. Place items that **cannot be cleaned or run through the dryer** (i.e. stuffed animals and toys) in a tightly sealed plastic bag for 10-14 days.
5. Wash **all** hair care items (combs, brushes, hair clips, etc.) in hot water (130 degrees) for 20 minutes.
6. Vacuum the **entire** house including rugs, furniture, floors, mattresses, and car including car seats to get rid of any hairs that may have viable nits attached.
7. After **all individuals** with head lice have been treated and the **entire** house has been cleaned, then bedding can be reapplied to the beds.
8. Sprays **should not** be used in the home. Sprays can be toxic. They are not safe for humans or the environment. Sprays can also be a trigger for individuals with breathing conditions such as asthma.

## Resources

- Centers for Disease Control  
<http://www.cdc.gov/lice/head/treatment.html>
- Harvard School of Public Health  
<http://www.hsph.harvard.edu/headlice.html>
- National Pediculosis Association  
[www.headlice.org](http://www.headlice.org)
- Tree of Life (image on front cover)  
<http://tolweb.org/Anoplura/13871>

## Head Lice: The Facts

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Image courtesy of V. Smith, 1996



[www.health.state.pa.us](http://www.health.state.pa.us)

PA Department of Health

1-877-PA-HEALTH

## HEAD LICE INSTRUCTIONS

Head lice is an easily treated condition that is not associated with any serious medical complications. This will acquaint you with the nature of this condition and what should be done to get rid of it.

**HOW YOU GET IT:** Head lice are usually transmitted through direct head-to-head contact with another affected individual (usually where they sleep). It can also be spread by use of shared combs, brushes, or hats. Some people have the impression that lice like to be on people who are unclean. This NOT true. Frequent bathing will neither prevent or get rid of head lice.

**WHAT TO LOOK FOR:** Mature head lice are about this ( — ) long and are grayish-white to dark brown. Lice do not have wings and cannot fly. They do not jump. They do move quickly in hair which makes them difficult to find in a child's hair. Lice legs are specifically formed to hold onto a circular hair shaft. And they cannot hold onto other objects very well.

Since lice can be difficult to see, the diagnosis of head lice is frequently made on the basis of finding nits. A nit is a louse (lice) egg. Nits are teardrop in shape, about this size ( ' ) and vary in color from dark brown to yellowish-white. Head lice attach each nit to a hair shaft with a waterproof, cement-like substance. Thus, nits cannot be washed out or brushed out of the hair like dandruff. Clusters of nits may be found in any section of hair, but in mild infestations a careful examination of the entire scalp may be necessary to detect them.

**TREATMENT:** Treatment is targeted at the individual found to have lice and his/her personal articles, e.g., caps, combs, brushes, clothing, towels, and bedding.

A. Individual Treatment:

1. Remove all of your child's clothing and place him or her in a bath or shower stall and the clothing in a plastic bag. Wash clothing according to the directions below.
2. Apply and rinse the head louse treatment according to the manufacturer's instructions. Then allow the hair to dry before removing the nits. There are treatments available that you can get at the drugstore such as Nix, Rid, Vamousse and Lice Free. If you have private insurance for prescriptions or a medical assistance card, the cost of the medication may be covered by insurance. Contact your doctor to order these.
3. Examine the hair strand by strand and remove the nits either with your finger nails or with a nit comb. A comb is usually included with the shampoo treatment. Use a rubber band to gather the hair you have already cleaned so you can take breaks as needed, and know exactly where you left off. You can put newspapers down on the floor to collect nits you remove, and then fold the newspapers and put them in the garbage.
4. Have your child put on clean clothing after treatment.
5. All family members and close friends of your child should be checked for lice, and treated if lice or nits are found. Be extra careful checking siblings or parents who share a bed with the child who has lice. However, other family members should NOT be treated preventatively if lice or nits are not found.

## B. Decontamination of Personal Articles and Environment:

Heat kills lice and their eggs, so many personal articles can be disinfected by machine washing in hot water and drying using the hot cycle of the dryer. Eggs are killed in 5 minutes at 51.5 degrees Celsius (125 degrees Fahrenheit), and lice die at slightly lower temperatures. Home water heaters keep water at about 60 degrees celsius when the heat selector is set on medium or high. However some water heaters are not able to sustain the 60 degrees celsius water temperature when several loads of laundry are processed one after the other or when other demands for hot water ( bathing ) are made at the same time. To maintain the water at 60 degrees celsius or higher, allow time between loads of laundry or baths for the water heater to regain its maximum water temperature. If total reliance is placed on the clothes dryer for disinfection, dry articles for at least 20 minutes at the high heat setting. Some non-washable articles may be disinfected in the dryer if the heat will not harm them.

1. Machine wash all washable clothing and bed linens that have been in contact with your child with the previous days.
2. Personal articles of clothing or bedding that cannot be washed or dried may be left in a plastic bag and sealed for 10 days.
3. Combs, brushes, and similar items can be disinfected by soaking them in one of the pediculicide liquids for 1 hour or by soaking them in a pan of water heated on the stove to about 150 degrees Fahrenheit for 5-10 minutes (caution: heat may damage some combs and brushes).
4. Mattresses and upholstered furniture and carpeting should be vacuumed carefully to pick up living lice or nits that attached to recently fallen hairs. Repeat daily for 7 days. It is not recommended, to spray furniture and rugs with insecticides, as these can be dangerous to children and pets.

Notification of Other Parents: You should contact your child's closest friends, and notify them to check their children as well. This is really important if the children have slept over houses or participated in activities involving close body contact. Feel free to contact the school nurse to check close contacts at school.

Returning to School: Your child may return to school after he or she has been treated with a head louse product, and there are no live lice present. The school nurse will check the child returning to school and make sure treatment with the product was successful.

## **Head Lice Procedure**

Our procedure on lice comes from recommendations made by the CDC, the American Academy of Pediatrics and the National Association of School Nurses based on latest research. All resources agree that the management of head lice should not disrupt the educational process. There are no diseases associated with head lice, and in-school transmission is considered to be rare.

Our procedure is that once a live louse is detected, the parents are called and asked to take the student home and they are instructed about proper treatment of the student and their home. The classroom teacher of the student will be notified to help them take proper prevention measures to manage the classroom, but the information is to remain confidential and not be shared with anyone outside of the classroom. The student may return back to school once the student has been treated and the school nurse will recheck the student's head to ensure they have been treated and that there are no live lice. If only nits (eggs) are detected, but no live lice, the parent is notified and the student is sent home normally at the end of the day. The parents are to retreat the student in 7 to 10 days (or according to the lice product directions) to ensure treatment is effective in breaking the life cycle of the lice.

In 2007, international guidelines established for effective control of head lice infestations reinforced that policies that require a student to be free of nits to attend school, known as "no nit" policies were based on misinformation rather than objective science and were therefore unjust and should be discontinued. The CDC cites the following reasons to discontinue "no nit" policies in school:

- \* New treatment options kill both live lice and nits.
- \* Many nits are more than a 1/4 inch from the scalp. Such nits are usually not viable and unlikely to hatch to become crawling lice, or many in fact may be empty shells, also known as casings. Nits need the warmth and humidity of the scalp to hatch.
- \* Nits are cemented to hair shafts and unlikely to be transferred successfully to other people.
- \* The burden of unnecessary absenteeism to the students, families and communities far outweighs the risks associated with head lice.
- \* Misdiagnosis of nits is very common during nit checks conducted by non-medical personnel.

The other research to keep in mind is that by the time a child with an active head lice infestation (which means they have live lice) has been identified, he or she may have had the infestation for one month or more and, therefore, poses little additional risk of transmission to others.

The following steps can be taken to help prevent and control the spread of head lice:

- Check everyone in the house and only treat those who have lice or nits. Some treatments have chemicals in them, and it is not recommended to be used if no lice or eggs are seen.
- Avoid head-to-head (hair-to-hair) contact during play and other activities at home, school, and elsewhere (sports activities, playground, slumber parties, camp).
- Do not share clothing such as hats, scarves, coats, sports uniforms, hair ribbons, or barrettes.
- Do not share combs, brushes, or towels. Disinfect combs and brushes used by an infested person by soaking them in hot water (at least 130°F) for 5–10 minutes.
- Do not lie on beds, couches, pillows, carpets, or stuffed animals that have recently been in contact with an infested person.
- Machine wash and dry clothing, bed linens, and other items that an infested person wore or used during the 2 days before treatment using the hot water (130°F) laundry cycle and the high heat drying cycle. Clothing and items that are not washable can be dry-cleaned OR sealed in a plastic bag and stored for 2 weeks.
- Vacuum the floor and furniture, particularly where the infested person sat or lay. However, spending much time and money on housecleaning activities is not necessary to avoid re-infestation by lice or nits that may have fallen off the head or crawled onto furniture or clothing.
- Do not use fumigant sprays or fogs; they are not necessary to control head lice and can be toxic if inhaled or absorbed through the skin.

To help control a head lice outbreak in a community, school, or camp, children can be taught to avoid activities that may spread head lice.

When managing head lice, remember that lice are around all year long and these precautions mentioned would be beneficial all year long.