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# Controlling Head Lice Guidelines

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Head lice infestations are common and can be effectively treated.

In this booklet, you will find general information about head lice and guidelines for treating and controlling, and steps to prevent a head lice infestation.

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- Adult head lice are small (1/8" in length) and usually are found in the hair close to the scalp, usually behind the ears and near the neckline.
- Anyone can get head lice under the right conditions. Personal hygiene or cleanliness in the home or school has nothing to do with getting head lice.
- Head lice infestations are most common in childcare facilities, pre-school and elementary school.
- Head lice feed on human blood several times a day. They do not survive long if they fall off and cannot feed.
- Head lice hold tightly to the hair with hook-like claws at the end of each of their six legs. They move by crawling and can move quickly. They cannot hop or fly.
- Head lice spread during close head-to-head contact with a person with head lice. They can also be spread (although it is not common) by sharing a comb, brush or hat with a person infested with lice.
- They can spread as long as they remain alive on a person or on clothing.
- Itching is the most common symptom of a head lice infestation. A person can have a head lice infestation up to a week or more before itching occurs.
- Head lice do not transmit disease and therefore are not a public health threat.
- In the U.S., head lice infestations are less common among African-Americans than among persons of other races, but African-Americans can still get head lice.

			
	<b>Nit (egg)</b>	<b>Nymph</b>	<b>Adult Lice</b>
<b>Size</b>	1/16"	1/16"-1/8"	1/8" (about the size of a sesame seed)
<b>Color</b>	white, yellow-brown, transparent	grey, tan, transparent with dark red stripe	grey, tan, transparent with dark red stripe
<b>Life Cycle</b>	Attached to hair strand, usually close to the scalp (1/8" to 1/16" from scalp). Hatches in about 7 days.	Takes 10 days to reach sexual maturity. Goes through 3 molts on way to adulthood. Looks like a smaller version of adult.	Female lice live for about 30 days and lay about 5 eggs every day. The male life cycle is not well known.
<b>Food</b>	Does not eat	5 blood meals a day	5 blood meals a day
<b>Where Found</b>	On human hair behind the ears and around the neckline.	Anywhere on human head, especially behind ears and around the neckline.	Anywhere on human head.
<b>Other Info</b>	Stuck to hair strand. May look like sand or dandruff.	Cannot live more 2 days off the human body. Usually die in less than 2 days when properly treated.	Die in 2 days or less when off the body. Usually die in less than 2 days when properly treated.

## Six Steps for Getting Rid of Head Lice

- 1 Examine** - Thoroughly examine everyone in the family and household.
- 2 Treat** - Treat only those who are infested with head lice and/or nits (eggs).
- 3 Comb** - Comb out all lice and eggs with nit/lice comb. This can take time.
- 4 Clean** - Clean using normal household cleaning measures (vacuuming, etc.).
- 5 Repeat & Recheck** - Examine everyone's head daily to ensure lice are gone.
- 6 Notify** - Notify all those affected (school, childcare, church, friends, family).

### Tips to Follow

#### Examining

- Do it in a well lighted area or room.
- Separate hair strands carefully.
- Start at the base of hair around the ears and neckline and from there work your way around the entire head.

#### When treating

- Use a lice treatment product (either over-the-counter or prescribed). Such products may not kill all of the lice and nits in one treatment, but are a good way to get started.
- Follow product's directions carefully, as well as those of your doctor.
- Using more of the treatment product, reapplying sooner than directed, or keeping the product in the hair longer than directed will not make it work better or faster.
- Use a nit/lice specific comb in combination with the treatment.

#### When combing

- Combing takes time and energy, but it is the most important step for effectively removing head lice and nits completely.
- Equipment needed - towel, brush or comb, nit comb, tissue, waste basket, water, bobby pins/hair clips, and something to keep the affected person occupied, like a book or video.
- Place a towel over the affected person's shoulders.
- Slightly damp hair is best for removing nits and lice.
- Use a regular brush or comb to comb hair and remove any tangles.
- Separate a section of hair about the width of your nit/lice comb.
- Place the nit/lice comb as close as possible to the scalp and gently pull it through length of the hair several times in all directions.
- Pin that section of hair up out of the way and separate and comb through the next section of hair.
- Rinse the comb in water and use a clean tissue to remove any lice or nits stuck in the comb after completing each section.
- Sometimes you may need to physically remove a stubborn nit by pinching it with tweezers or by cutting the single hair strand off.



Before beginning any medicated head lice treatment, be sure that a correct diagnosis of a head lice infestation is made. An old or prior head lice infestation that is noticeable only by the presence of hatched nits, is not considered a cause for treatment. Treatment should only be considered when active live lice and/or viable nits (unhatched eggs) are noticeable and present.

There are many options available for head lice treatment. Treatments include: over-the-counter medicated treatments, prescribed medicated treatments, non-medicated treatments such as nit combing and other alternative treatments (many alternative treatments are not recommended).

Regardless of the treatment option you choose, you will likely have better success by integrating nit combing along with medicated treatment. You should follow all treatment instructions carefully, be thorough and have patience.

NOTE: Do not use more than one type of medicated head lice treatment at a time.

## Over-the-Counter Medicated Treatments

There are two main options for over-the-counter head lice treatments, **pyrethrin-based** shampoos or **permethrin-based** cream rinses. Over-the-counter head lice products containing pyrethrins or permethrins are approved by the FDA and are not harmful to children when used properly.

**What are pyrethrins?** Pyrethrins are naturally occurring and extracted from the chrysanthemum flower. They are safe and effective when used as directed. Pyrethrins kill live lice, not unhatched eggs (nits). A second treatment is recommended after 7-10 days to kill any newly hatched lice before they can produce new eggs. Pyrethrin-based shampoos dissipate quickly. The day after treatment, it is nearly impossible to detect the product in the hair.

Pyrethrin-based products are low in toxicity, but are not "non-toxic." It is important to follow the directions on the product label or use according to a doctor's instructions. Do not over-treat.

Brand name products that are pyrethrin-based include: RID, A-200, Triple X, Clear, R&C, and Pronto.

**What are permethrins?** Permethrins are made from synthetic pyrethroid similar to naturally occurring pyrethrins, but have a lower human and animal toxicity than do pyrethrins. Permethrin is safe and effective when used as directed. Permethrin kills adults, nymphs and eggs.

Permethrin products leave a protective residue intended to kill newly hatching nymphs and prevent re-infestation for 10-14 days. Permethrin may continue to kill newly hatched lice for several days after treatment. A second treatment often is necessary after 7-10 days to kill any newly hatched lice before they can produce new eggs. Permethrin is not approved for use in children less than 2 years of age. Permethrin is low in toxicity, but is not "non-toxic." It is important to follow the directions on the products' label or use according to a doctors instructions. Do not over-treat.

Brand permethrin-based product: Nix





## Prescription Medicated Treatments

The following lice treatment medications are available only by prescription.

**Malathion lotion 0.5%** - Malathion is an organophosphate. The formulation of malathion approved in the United States for the treatment of head lice is a lotion that is safe and effective when used as directed. Malathion kills live lice and partially kills some lice eggs. A second treatment is recommended if live lice still are present 7-9 days after treatment. Malathion is intended for use on persons 6 years of age and older. It can be irritating to the skin and scalp; contact with the eyes should be avoided. It is flammable; do not smoke or use electrical heat sources, including hair dryers, curlers, and curling or flat irons, when applying malathion lotion and while the hair is wet.

Visit CDC's website for additional information about treating head lice with Malathion lotion at: [https://www.cdc.gov/parasites/lice/head/gen\\_info/faqs\\_malathion.html](https://www.cdc.gov/parasites/lice/head/gen_info/faqs_malathion.html).

Brand name product: Ovide.

**Lindane shampoo 1%** - Lindane is an organochloride. Although lindane shampoo 1% is approved by the FDA for the treatment of head lice, it is not recommended as a first-line therapy. Overuse, misuse, or accidentally swallowing lindane can be toxic to the brain and other parts of the nervous system; its use should be restricted to patients who have failed treatment with other medicated products or cannot tolerate other medications that pose less risk. Lindane should not be used to treat premature infants, persons with a seizure disorder, women who are pregnant or breast-feeding, persons with easily irritated skin, persons with sores where the lindane will be applied, infants, children, the elderly, and persons who weigh less than 110 pounds. Retreatment should be avoided.

Brand name product: none.

## Lice and Nit Combing

Nit or lice combing is always recommended even in combination with another treatment method. If done properly, nit combing can be an effective way to treat head lice, even when it is done as a stand alone treatment. But be warned, nit combing takes time, patience, and energy.

The following supplies are recommended for nit and lice combing:

- Towel
- Nit specific comb
- Regular brush or comb
- Hair clips or bobby pins (for long hair)
- Box of tissues
- Old tooth brush (suggested)
- Bowl/bucket of water or running water
- Spray bottle
- Magnifying glass (suggested)
- Tweezers
- Waste basket or plastic bag



Image courtesy of the University of Nebraska-Lincoln

## Procedures for properly combing through hair to remove lice and nits

Your goal is to remove every nit and louse on the person's head. To do this, you will need to do it properly and thoroughly. You will need to keep checking for lice and nits for up to two weeks. Everyone in the house (not just the person infested) should be checked daily until at least seven days after the last nit or louse was found.

Since lice do not survive long off of the human body, physically removing lice and nits using a nit and lice specific comb is an effective treatment method.



### NOTE:

- If you are using a pyrethrin-based medicated product, do the nit/lice combing after you treat. Pyrethrin-based products must be applied to dry hair to work. Nit/lice combing is easier to do on wet or damp hair.
- If you are using a permethrin-based medicated product (such as Nix), you can do the nit/lice combing before or after using the treatment product. However, you may want to consider doing your nit/lice combing before you treat. Since nit/lice combing is easiest with wet or damp hair, it will be easier to comb before applying treating with the permethrin cream.

The following steps will help you to do a good job:

- Set yourself up in an area with plenty of light (natural light works best).
- Occupy the person who is being combed with another activity (TV/movie, book, etc.) that will allow him/her to sit still while being combed.
- Place a towel around the person's shoulders.
- Before going through the hair with the nit/lice comb, go through the hair with a regular comb or brush and remove any tangles, and use a spray bottle to lightly wet down the hair.
- Separate a section of hair about the width of your nit/lice comb (too much hair will make it difficult to get the comb next to the scalp and won't allow you to pull the comb through the entire length of the hair).
- Place the comb as close to the scalp as possible and gently pull it through the entire length of hair several times.
- Using a hair clip or bobby-pin, pin the hair up out of the way by curling it flat against the head and move on to the next section of hair.
- While a nit/lice comb should remove most nits and lice, you may encounter a stubborn nit that is difficult to remove. Use a magnifying glass and tweezers (or your fingernails) to pinch the nit and remove it. If you can't get it with the tweezers, you can simply cut the hair strand off.
- Use a tissue to wipe off the comb regularly. Throw the tissue away in a wastebasket or bag.
- When you're finished, you and the person being combed should change clothes and place your clothes in the laundry along with the towel that was used.
- Vacuum the floor around the area where you worked and use an old toothbrush and soapy water to clean the regular brush or comb used, as well as the nit/lice specific comb.

## Treatment Effectiveness

Sometimes people report that the product or method they are using is not effective in getting rid of head lice. Because of this, they may be tempted to do one or more of the following:

- Use more of the treatment product than is recommended.
- Leave the treatment product in the person's hair for a longer period of time than is recommended.
- Use more than one medicated treatment at the same time.

DO NOT be tempted to misuse or over-use a medicated head lice treatment product. Medicated head lice treatment products are insecticides and can be dangerous if not used as instructed. Carefully follow any and all instructions.

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## Common Errors When Treating Head Lice

- The treatment is not repeated 7-10 days later as directed by instructions. Medicated treatment products will not kill all unhatched nits (lice eggs), and treatment must be repeated to kill lice that have hatched after the first treatment.
  - Using less product than is recommended. Medicated head lice treatments are expensive, so in an effort to save money parents may use less of the product than is recommended in order to treat another child or save it for the follow up treatment.
  - Medicated head lice treatment products may appear similar to regular shampoos, so people have a tendency to use it like a shampoo. It is not a shampoo, and should be left in the person's hair for the recommended amount of time.
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## Preventing Re-Infestation

It is very frustrating to spend the time and money to successfully treat your child only to have a re-infestation occur a couple of weeks down the road. Often, a child does not get re-infested from other children; instead, the initial treatment and follow-up treatment may not have completely eliminated the head lice. Missing only a few tiny lice or nits will be enough to start the infestation all over again.

To prevent re-infestation, it is important to continue to examine all family members' hair every couple of days to ensure that all lice and nits are gone. If lice or nits are found, then continue with follow-up treatment and nit combing.

If you are sure that your treatment was successful, make sure you have notified all the people (and places) possible that could have been affected by the head lice infestation (schools, childcare facilities, church, friends, family, etc.). It is possible that the original source of the infestation may be causing the re-infestation.

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## Non-Recommended Home Remedy Treatments

Some treatment options, such as home remedy treatments, are less likely to work and can pose a level of risk for injury or toxicity.

- Home remedies that are flammable: alcohol, kerosene, and Ovide lotion.
- Home remedies that can be toxic or cause injury, burns, or skin irritation: Downy fabric softener, household/garden pesticides, and Listerine.
- Home remedies that can cause suffocation due to the need to wrap the head/hair in plastic for an extended period of time: mayonnaise, olive oil, petroleum jelly and Vaseline.

## Control and Prevent Head Lice

There really isn't any prevention you can take to completely eliminate the risk of getting head lice, but there are steps you can take to reduce your risk of becoming infested and other control measures you can put in place to quickly identify a head lice infestation before it becomes worse.

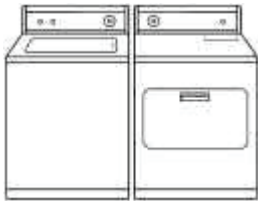
### Household Cleaning

Spending a lot of time and money on extensive house cleaning for head lice is not necessary to prevent re-infestation, since head lice soon die once separated from their human host.

To clean effectively, all you really need to do is vacuum carpets, rugs, furniture, and possibly your vehicle. You should also wash clothing, bedding, and towels in hot water in the washing machine and dry on high heat. For items that cannot be placed in the washing machine (stuffed animals, etc.), you can place them in a sealed plastic bag for a couple of days, though that may not be necessary.

Place combs and brushes in hot water (130°F) for 5-10 minutes.

The use of fumigant sprays or fogs used for killing head lice are not recommended and unnecessarily expose your family and pets to toxic chemicals.



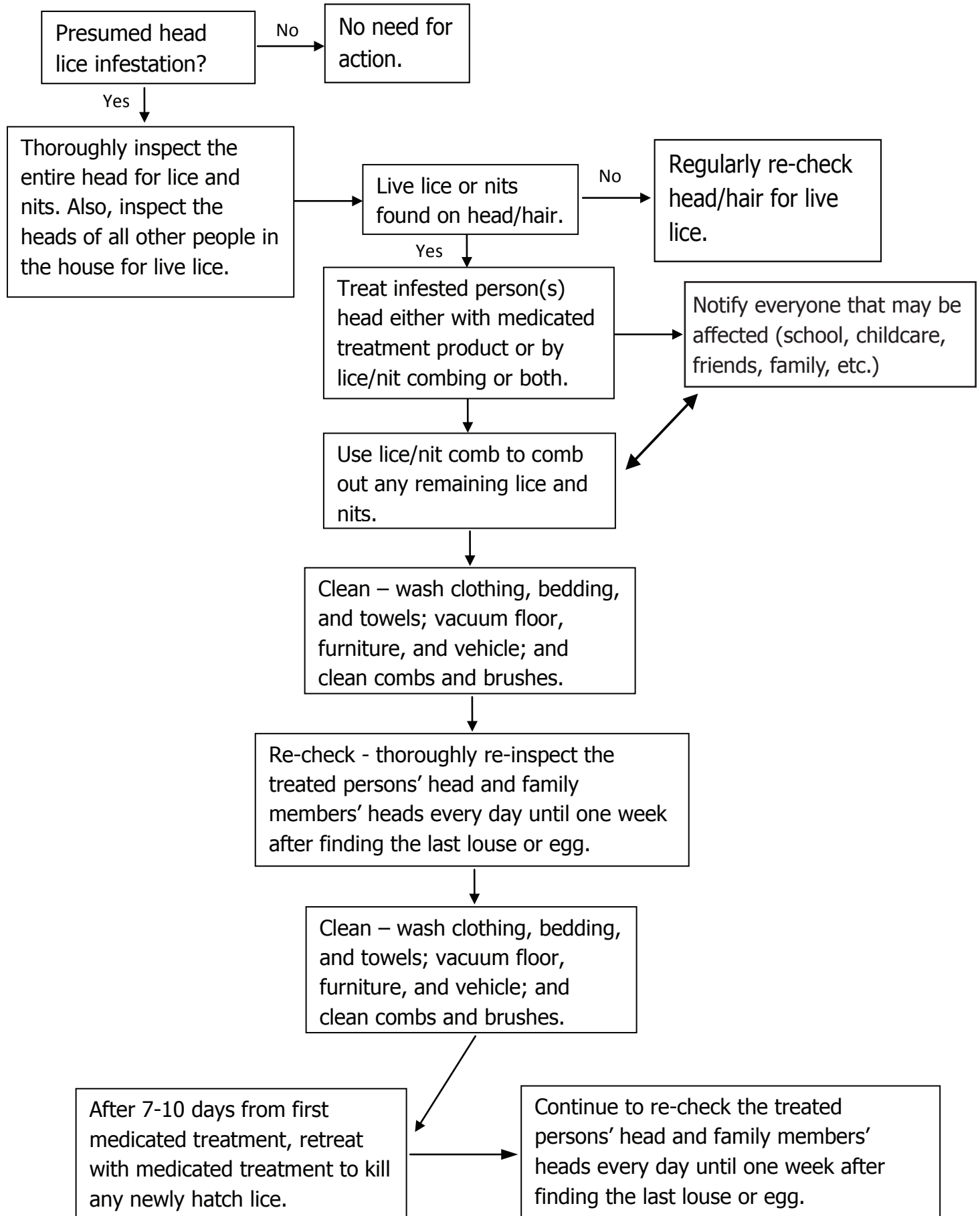
Many families have pets (a dog or cat) and wonder if their pet also needs to be treated to prevent head lice. Pets such as dogs or cats, do not play a role in transmitting head lice and do not need to be treated. Head lice cannot survive on a dog or cat.



### Head Lice Prevention Tips

- Avoid head-to-head (hair-to-hair) contact during play and other activities (sports, playground, slumber parties, camp, etc.) at home, school, and elsewhere.
- 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 (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 head lice treatment.
- Vacuum the floor and furniture, particularly where the infested person sat or has laid.
- Do a quick check of your child's head for lice regularly (every couple of weeks). By doing this, you will be more likely to catch a head lice infestation as early as possible.
- Recognize the signs and symptoms of a head lice infestation. If your child has head lice, treat it before allowing them to go to school, childcare, or to play with friends.
- If your child has head lice, notify the school, childcare, church, friends, family members, etc.
- Teach these tips and behaviors to your child.

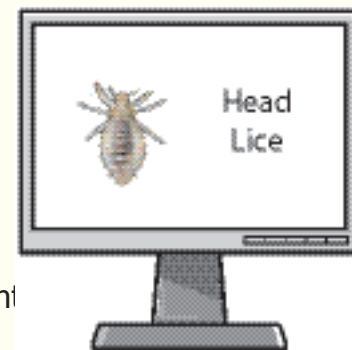




## Head Lice Resources

General head lice information

- [http://health.utah.gov/epi/diseases/head\\_lice/](http://health.utah.gov/epi/diseases/head_lice/)
- <https://www.cdc.gov/parasites/lice/head/index.html>
- <https://srhd.org/health-topics/environmental-health/head-lice>
- <http://www.ndhealth.gov/head-lice>
- <http://lancaster.unl.edu/pest/lice/headlice018.shtml>
- <https://www.epa.gov/managing-pests-schools/about-lice-and-their-cont>



Instructional videos for removing/treating head lice

- <http://lancaster.unl.edu/pest/lice/video.shtml>
- <https://youtu.be/zY4Nvab6uLM>

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## For Schools

Sample Head Lice Policy for Schools

Many school districts have head lice policies and procedures. While head lice do not always originate in schools and schools cannot prevent the spread of head lice, schools can be helpful in controlling the spread of head lice through education and certain control measures such as these listed below.

- A student is found to have a head lice infestation. The parent or guardian of the student is notified.
- The parent/guardian is given some form of head lice notification that has instructions for treating, controlling, and preventing head lice, as well as the schools' head lice procedures and policies.
- There is no need to send the student home early from school; the student can go home at the end of the school day, be properly treated, and return to school after appropriate treatment. Nits (eggs) may persist after treatment, but successful treatment should kill live lice. The student should receive follow up treatment 7-10 days after the initial treatment. This should kill nits that have hatched that were not killed during the initial treatment.
- Parents/guardians may be asked to report treatment procedures used to the school.
- Parents/guardians of other students within the same classroom should be notified and be provided with information about identifying, treating, controlling and preventing head lice.

Note: Current evidence does not support the efficacy and cost-effectiveness of classroom or school wide screening for decreasing the incidence of head lice among school children. Schools are encouraged to help educate parents and staff about the diagnosis, treatment, and prevention of head lice.

