

Head Lice Treatment

Head lice are a common household problem especially in those households with young children. They do not occur in dirty households but appear anywhere. Head lice are becoming increasingly resistant to medication that is usually a pesticide. Treatment is best with a multifaceted approach. Use of medication alone does not cure head lice. **You need to comb out lice and any nits with any treatment picked. The main point – it takes persistence. Regardless of the option picked, home clean-up is needed.**

Recommended household clean-up

- The three clean up steps should be done once a week at the time of the weekly treatment. Sterilize all the family's combs and brushes. You can choose one of two methods. You may soak the combs and brushes in isopropyl (rubbing) alcohol for 10 minutes or you may put them in the dishwasher on the full hot cleaning cycle.
- Treat all bedding at the time of each lotion application. Take all sheets, pillow cases, blankets, comforters, and bedspreads from the beds in your house and run them in the dryer for 10 minutes on high temperature. Then put the bedding back on beds. You do not have to wash it.
- Patients should change to new fresh clothes after each treatment. Put dirty clothes in the laundry hamper for later laundering.

Treatment Options:

Non Drug/pesticides:

Cetaphil Lotion

Each treatment application has three main steps.

- Apply the wet lotion throughout the scalp.
- Comb out as much excess lotion as possible.
- Use a blow dryer to dry your child's hair. This dries the lotion on the scalp, and coats any lice in a shrink-wrap-like layer. The dry lotion must remain on the hair and scalp for at least 8 hours. Usually parents leave it in place until the child's usual bath or shower the next day.

The course of treatment consists of 3 applications done at one week intervals.

What you will need for one application:

- A large bath towel
- Cetaphil® Gentle Skin Cleanser (8 oz. for short hair, 12 oz. for shoulder-length or longer hair)
- A new 8 oz. condiment dispenser such as a plastic condiment dispenser
- A regular pocket comb
- If your child has long hair, you should also get a wide-toothed detangler comb
- To remove nits, use, a Licemeister® comb

How to apply the lotion-- detailed instructions.

Cover your child's shoulders with a big dry bath towel to catch the lotion which will drip from the scalp.

To boost your cure rate you must cover all the lice with lotion. We advise you to apply so much lotion that it literally overflows the totally soaked scalp and drips off onto the towel. Pour 8 oz. of Cetaphil into the condiment dispenser.

1. Begin with dry hair. Start at the left of the scalp. Make sure the nozzle is always touching the skin. Apply the lotion zigzag back and forth from front to back and then back to front. Apply to the entire scalp as you move forward until you reach the front of the scalp. Use 1/4 of the bottle. While the lotion is shown in the diagrams below as yellow, actual Cetaphil Cleanser is a translucent pearly liquid which is not visible once dried on scalp.
2. Now start at the back of the scalp. Again make sure the nozzle is always touching the skin. Change the direction of your zigzagging application now to “criss cross” the first pattern. Move zigzag front to back then back to front as you move from the right side to the left side of the scalp. Use again 1/4 of a bottle always touching the scalp with the bottle nozzle.
3. Use your fingers to thoroughly massage the lotion throughout the scalp and hair.
4. Redo steps 1, 2, and 3. Use up another 1/2 bottle of lotion. You now have used a whole bottle of the lotion.
5. Does your child have long hair that reaches to the upper back? Then apply another 1/2 bottle of lotion to that large amount of hair from roots to tips and massage in thoroughly with your fingers.
6. Wait 2 minutes for lotion to act.
7. Comb out the lotion. You should seek to comb out as much excess Cetaphil lotion as possible. You are done when you can't get out any more lotion. The more you get out, the quicker will be the blow drying step which comes next. You may choose to first use a “detangler comb” if the hair is long or thick. Otherwise you can just start with the plain comb.
8. If you need to remove nits to comply with your school’s “no nit policy,” then use the Licemeister[®] comb to carefully go through the entire scalp. It will remove many nits. If your child's school does not have such a policy, then skip this step. It adds 70% more work and is unnecessary to cure children of head lice.
9. Blow dry hair thoroughly, so that the scalp skin, hair roots, and full length of the hair are totally dry. You may use a detangler comb and/or your fingers to make the drying process easier. Anticipate that this will takes 3 times longer than drying hair that is just wet with water.
10. You may style the hair now with a sterilized comb and/or brush. Please do not apply any styling gel, mousse, hair spray, or other cosmetic products to the hair while the dried Cetaphil lotion is on the hair.
11. Leave the dried lotion on the child’s head for at least 8 hours, preferably overnight.
12. To remove the lotion at the end of the treatment phase, you just shampoo with your usual shampoo, cream rinses, etc.

A Final Caution

To achieve cure, it is important to follow the directions carefully. We have seen the treatment fail when parents do not follow instructions. Avoid these four common mistakes:

Parents skimp on amount of Cetaphil Cleanser used. You must use precisely the amount recommended in the detailed instructions or you will fail to coat all the lice with lotion. An uncoated louse will survive the treatment and may go on to reproduce. This is especially important for children with shoulder length or longer hair. You must remember to add an extra half bottle because of the long hair.

Parents apply the lotion incorrectly to the scalp. Sometimes parents just squirt it on top of the hair and try to massage it in. This is NOT the way we explain in the instructions. You must achieve a uniform coverage of the entire scalp to be effective. It is critical to be touching the scalp with the nozzle the

entire time you apply the lotion. The “criss cross” pattern of application assures even, complete coverage.

Parents do not completely dry the lotion on the scalp. You must dry the scalp so that it is totally dry. The lotion works by drying onto the louse and plugging up its breathing holes. If you leave the scalp and hair partly wet then the lotion can be accidentally rubbed off when your child changes his shirt, lies down on his pillow, rubs his hair, or lies on the carpet or couch. By thoroughly drying the lotion in the scalp, the lotion adheres to the lice and kills them.

The timing between the applications is wrong. You must use the treatment in three applications done at one-week intervals. The dried lotion kills lice and disrupts their life cycle. If you wait too long for the next application, then baby lice can grow into adults and lay eggs and continue the cycle.

Great resource for Cetaphil instructions - http://nuvoforheadlice.com/test/?page_id=9#acceptLicense

Suffocation:

Comb and Oil Treatment:

1. Coat the hair with oil – olive or almond oil. Vaseline and mayonnaise also work but are much messier and hard to get out. You can comb in the oil with a fine toothed comb, applying more oil as you go. Separate the hair into small sections, using a hair clip to move them out of the way. Work under a good light so you can see what you’re doing. Rinse out the comb often under running hot water often as you go.
2. Once you have completely combed out your child’s hair, use their regular shampoo, rinse, and repeat. Make sure you wash all the towels used and clean out the lice comb. You can soak it in a 10 percent bleach solution or 2 percent Lysol solution for 30 minutes and rinse very well. Alternatively, you can soak the comb in vinegar for 30 minutes or boil it in water for 10 minutes.

Follow this procedure every day for a week. For the next two weeks comb through your child’s hair every night to remove nits and lice with the Licemeister comb.

Essential Oil Treatment

A number of essential oils have been shown to be effective—along with combing—in eliminating head lice. Before you use any essential oil, put a small drop on the back of your child’s hand. Although it’s rare, some kids have allergic reactions to these oils—specifically tea tree oil. If your child is allergic to one, move on to the next oil on the list.

1. In order of most to least effective, the essential oils to try include:

- tea tree oil
- lavender oil
- neem oil
- clove oil
- eucalyptus oil
- aniseed oil
- cinnamon leaf oil
- red thyme oil
- peppermint oil
- nutmeg oil

Mix 2 ounces of olive oil with 15 to 20 drops of the essential oil. Apply to the scalp using cotton balls. Leave this mixture on the scalp and hair overnight—at least 12 hours. Alternatively, mix the 15

to 20 drops of essential oil in 4 ounces of rubbing alcohol. Place the mixture in a spray bottle and saturate the hair with it, leaving in 12 hours.

2. The following morning, comb out your child's hair. Then, shampoo, rinse, and repeat. Once the lice have been eliminated, the alcohol – essential oil spray can be used as a preventive treatment. Remember—combing out the hair is absolutely essential to removing the lice!

Lice MD

A 4 oz. of treatment of LiceMD and patented lice comb are sold for a suggested retail price of \$14.49. LiceMD is available over-the-counter at food, drug and mass retail outlets such as Wal-Mart, Rite-Aid.

- Apply LiceMD to hair and wait **10 minutes**.
- While hair and scalp are wet with LiceMD, use the enclosed comb to comb out dead lice, eggs and nits.
- Wash hair thoroughly with your regular shampoo and warm water.
- LiceMD contains dimethicone, a synthetic lubricant that makes it easy to comb through even the thickest, curliest hair to remove lice, eggs and nits.
- Repeat treatment again in 1 week.

Nit removal is needed daily until no further nits remain

OTC Drug Treatment with pesticides

Follow these treatment steps:

- Before applying treatment, it may be helpful to remove clothing that can become wet or stained during treatment.
- Apply lice medicine, also called pediculicide, according to the instructions contained in the box or printed on the label. If the infested person has hair longer than shoulder it may be necessary to use a second bottle. Pay special attention to instructions on the label or in the box regarding how long the medication should be left on the hair and how it should be washed out.

WARNING: Do not use a combination shampoo/conditioner or conditioner before using lice medicine. Do not re-wash the hair for 1–2 days after the lice medicine is removed.

- Have the infested person put on clean clothing after treatment.
- If a few live lice are still found 8–12 hours after treatment, but are moving more slowly than before, do not retreat. The medicine may take longer to kill all the lice. Comb dead and any remaining live lice out of the hair using a fine-toothed nit comb.
- If, after 8–12 hours of treatment, no dead lice are found and lice seem as active as before, the medicine may not be working. Do not retreat until speaking with your health care provider; a different pediculicide may be necessary. If your health care provider recommends a different pediculicide, carefully follow the treatment instructions contained in the box or printed on the label.
- Nit (head lice egg) combs, often found in lice medicine packages, should be used to comb nits and lice from the hair shaft. Many flea combs made for cats and dogs are also effective.

- After each treatment, checking the hair and combing with a nit comb to remove nits and lice every 2–3 days may decrease the chance of self-infestation. Continue to check for 2–3 weeks to be sure all lice and nits are gone. Nit removal is not needed when treating with spinosad topical suspension.
- Retreatment is meant to kill any surviving hatched lice before they produce new eggs. For some drugs, retreatment is recommended routinely about a week after the first treatment and for others

only if crawling lice are seen during this period. Retreatment with lindane shampoo is not recommended.

Supplemental Measures: Head lice do not survive long if they fall off a person and cannot feed. You don't need to spend a lot of time or money on housecleaning activities. See above for housecleaning activities.

Over-the-counter Medications

Many head lice medications are available "Over-the-counter" without a prescription at a local drug store or pharmacy. Each Over-the-counter product approved by the FDA for the treatment of head lice contains one of the following active ingredients:

Pyrethrins combined with piperonyl butoxide;

Brand name products: A-200*, Pronto*, R&C*, Rid*, Triple X*

Pyrethrins are naturally occurring pyrethroid extracts from the chrysanthemum flower. Pyrethrins are safe and effective when used as directed. Pyrethrins can only kill live lice, not unhatched eggs (nits). A second treatment is recommended 9 to 10 days after the first treatment to kill any newly hatched lice before they can produce new eggs. Pyrethrins generally should not be used by persons who are allergic to chrysanthemums or ragweed. Pyrethrin is approved for use on children 2 years of age and older.

Permethrin lotion, 1%;

Brand name product: Nix*

Permethrin is a synthetic pyrethroid similar to naturally occurring pyrethrins. Permethrin lotion 1% is approved by the FDA for the treatment of head lice. Permethrin is safe and effective when used as directed. Permethrin kills live lice but not unhatched eggs. Permethrin may continue to kill newly hatched lice for several days after treatment. A second treatment often is necessary on day 9 to kill any newly hatched lice before they can produce new eggs. Permethrin is approved for use on children 2 months of age and older.

When treating head lice

1. Do not use extra amounts of any lice medication unless instructed to do so by your physician and pharmacist. The drugs used to treat lice are insecticides and can be dangerous if they are misused or overused.
2. All the medications listed above should be kept out of the eyes. If they get onto the eyes, they should be immediately flushed away.
3. Do not treat an infested person more than 2–3 times with the same medication if it does not seem to be working. This may be caused by using the medicine incorrectly or by resistance to the medicine. Always seek the advice of your health care provider if this should happen. He/she may recommend an alternative medication.

4. Do not use different head lice drugs at the same time unless instructed to do so by your physician and pharmacist
5. Do not use fumigant sprays; they can be toxic if inhaled or absorbed through the skin.

Resources:

- <http://www.headlice.org/>
- Combing instruction video <http://www.headlice.org/video/kitvideo.htm>
- <http://www.consumerreports.org/cro/news/2014/09/to-get-rid-of-head-lice-comb-them-out-instead-of-using-nix-rid-or-other-chemicals/index.htm>