

Head Lice and Nits

Head lice are common. They can usually be cleared with treatment.

What are head lice and nits?



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- **Head lice** are tiny grey/brown insects. They are about the size of a sesame seed (the seeds on burger buns). Head lice cling to hairs but stay close to the scalp which they feed off. Head lice lay eggs which hatch after 7 to 10 days. It takes about 7 to 10 days for a newly hatched louse to grow into an adult and start to lay eggs.
- **Nits** are the empty yellow-white eggshells which are left when the lice hatch. Nits look like dandruff but stick strongly to hair. Unlike dandruff, you cannot easily brush out nits.

Who gets head lice?

Head lice are common in children but can affect anyone of any age. They are not a sign of dirty hair or poor hygiene. Close hair-to-hair contact is usually needed to pass lice on. Head lice cannot jump or fly but walk from one head to another. They soon die when away from hair, and do not live in clothes, bedding, etc. Most head lice infections are caught from family or close friends who are not aware that they have head lice.

What are the problems with head lice?

Many people with head lice do not have any symptoms. An itchy scalp occurs in some cases. This is due to an allergy to the lice, not due to their biting. It often takes about three months for an itch to develop after you are infested with lice. Therefore, you may not notice that you have head lice for a while and you may have passed them on to others by the time you are aware of them. Head lice and nits do not wash off with normal shampoo. Head lice do not usually cause any other medical problems. The number of lice that may be on one person can vary greatly. There may be just a few in some, in other cases there are more than 100. Very rarely in very severe cases there may be over 1,000. Typically in the UK, there are around 30 lice present on each affected person's head.

How can you tell if you have head lice?

Head lice are difficult to find just by looking in the hair. If you suspect that you (or your child) have head lice, it is best to comb through the hair with a detection comb. Some people advise that you do this to children's hair regularly, about once a week. This may not always be necessary but can be helpful if people you are in contact

with have head lice, or if it is a recurring problem.

Detection combing: wet hair method

This will take 5-15 minutes to check each head, depending on hair length and thickness. It is also used as a treatment for head lice - see later.

- Wash the hair in the normal way with ordinary shampoo.
- Rinse out the shampoo and put on lots of ordinary conditioner.
- Comb the hair with a normal comb to get rid of tangles.
- When the hair is untangled switch to a detection comb. This is a special fine-toothed comb. (The teeth of normal combs are too far apart and the teeth of 'nit combs' are too close together.) Most pharmacies stock detection combs.
 - Bug Buster® detection combs are available on prescription. You can also get them by mail order from Community Hygiene Concern (see below).
 - The Hedrin® detection comb is not available on prescription but can be bought from pharmacies.
- Slot the teeth of the detection comb into the hair at the roots so it is touching the scalp.
- Draw the detection comb through to the tips of the hair.
- Make sure that all parts of the hair are combed by working around the head.
- Check the comb for lice after each stroke. A magnifying glass may help.
- If you see any lice, clean the comb by wiping it on a tissue or rinse it before the next stroke.
- After the whole head has been combed, rinse out the conditioner.
- Repeat the combing procedure in the wet hair to check for any lice that might have been missed the first time.

Detection combing: dry hair method

This will take at least 3-5 minutes to check each head, depending on hair length and thickness. Although dry combing is an option to detect head lice, it is *not* useful as a treatment.

- Untangle the dry hair using an ordinary brush and comb.
- Once the comb moves freely through the hair without dragging, switch to a detection comb, as described above.
- Starting from the base or the side of the scalp, comb the hair from the scalp down to the end of the hair. Comb each section of hair 3-4 times before moving to an adjacent section.
- Look for lice as the comb is drawn through the hair.
- If a possible louse is seen, trap it against the face of the comb using your thumb. This avoids the risk of the louse being repelled by static electricity as the comb is pulled out of the hair.
- Continue combing the hair section by section until the whole head of hair is combed through.

What are the treatment options for head lice?

Treatment is needed only if you see one or more live lice. Empty eggshells (nits) do not always mean that you are infested with lice. Nits can stick to hair even when lice are gone (for example, after treatment that kills the lice).

Currently, there are five main recommended options for clearing head lice, which work in three ways:

- Mechanical method: wet combing using the Bug Buster® comb and method.
- Insecticides which work in a physical way, by coating the lice and smothering them. Treatments which work this way include:
 - Dimeticone 4% lotion (trade name: Hedrin®).
 - Dimeticone 92% (trade name: NYDA®).
 - Isopropyl myristate and cyclomethicone solution (trade name: Full Marks Solution®).
- Insecticides which work in a chemical way by poisoning the lice. In the UK the only one currently used is malathion 0.5% liquid (trade name: Derbac-M®).

The treatment chosen may depend on your personal preference and what you have tried before (if appropriate). Each treatment has a good chance of clearing head lice if applied or done correctly **and** if all affected people in the household are treated at the same time. Each treatment is briefly discussed below. However, for details of how to use each treatment, read the instructions that come with the packaging.

Dimeticone 4% lotion

Dimeticone is a silicone-based product. Dimeticone 4% (trade name Hedrin®) has a good safety record and is

widely used in cosmetics and toiletries. You should apply the lotion to dry hair. This needs to be done twice - seven days apart. Each application is left on for at least eight hours (overnight) and then washed off with shampoo and water.

Dimeticone is thought to kill lice by a physical process rather than by any chemical effect. It is thought to work by blocking the tubes used by the lice to breathe and by blocking the way the lice pass out water, which kills them. However, it is not thought to kill unhatched eggs. This is why two applications are needed, seven days apart. The second application makes sure that any lice that hatch from eggs which survived the first application will be killed before they are old enough to lay further eggs.

Dimeticone is suitable for all ages, those with skin conditions and those with asthma. It is suitable for women who are pregnant or breast-feeding. It is available on prescription. You can also buy dimeticone over-the-counter (although not for children younger than 6 months of age). Over the counter, it comes in other formulations, such as a spray and a gel.

Dimeticone 92% spray

Dimeticone 92% spray (trade name NYDA®) is stronger than the 4% lotion and is thought to be more effective. It seems to be better at destroying eggs as well as killing adult lice. However, it should not be used if you are pregnant or breast-feeding. It also should not be used in children under the age of 2. It is available over-the-counter and on prescription.

It should be applied to dry hair and left for 30 minutes. After this, hair should be combed through with the comb provided to remove the lice. It is then left on for eight hours, before being washed off. Again, this should be repeated after seven days.

Isopropyl myristate and cyclomethicone solution

The trade name for this treatment is Full Marks®. It works in a similar way to dimeticone. You apply the solution to the scalp and leave in place for 10 minutes. The hair is then combed with a fine-toothed comb to remove lice. Then wash using shampoo to remove the solution. Treatment should then be repeated in seven days' time. The second application makes sure that any lice that hatch from eggs which survived the first application will be killed before they are old enough to lay further eggs.

This treatment is suitable for those with asthma. It is not suitable for children younger than 2 years of age or for people with skin conditions. It is not suitable for pregnant or breast-feeding women. It is available on prescription and also to buy over-the-counter.

Malathion 0.5% liquid

Malathion is a chemical insecticide that has been used for many years to treat head lice. The malathion kills the lice. There are various brands but the one available on prescription is Derbac-M®. You can also buy malathion over-the-counter (although not for children younger than 6 months of age).

It is suitable for all ages and those with skin conditions. It may be used in pregnancy but is only advised if you have tried wet combing and dimeticone 4% and they have not worked.

You should apply the lotion twice - seven days apart. Each application is left on for at least 12 hours (overnight) and then washed off with shampoo and water. The second application makes sure that any lice that hatch from eggs which survived the first application will be killed before they are old enough to lay further eggs.

Wet combing treatment (using 'bug busting' or similar kits)

Wet combing is a way of removing head lice without having to use a lotion to kill them. Briefly, the method is similar to wet combing (detection combing) described earlier. But, you need to do this several times, four days apart. You will need to do this on every member of the household who has head lice.

It takes up to an hour to do a wet combing session properly. You need the correct toothed detection comb as described earlier. You can buy these over-the-counter at pharmacies. The Bug Buster® comb and method have been tested in research studies and the kit is available on prescription as well as over-the-counter. Only one kit is needed for a family, as it is washable and reusable.

- Wash the hair in the normal way with ordinary shampoo.
- Rinse out the shampoo and put on lots of ordinary conditioner.
- Comb the hair with a normal comb to get rid of tangles.
- When the hair is untangled switch to the detection comb.
- Slot the teeth of the detection comb into the hair at the roots so it is touching the scalp.
- Draw the detection comb through to the tips of the hair.
- Make sure that all parts of the hair are combed by working around the head.

- Check the comb for lice after each stroke. A magnifying glass may help.
- If you see any lice, clean the comb by wiping it on a tissue, or rinse it before the next stroke.
- After you have combed the whole head, rinse out the conditioner.

You need to do the above routine **at least** four times, every four days. The number of sessions required depends on the last time you see lice:

- The first combing session should remove all hatched head lice but does not remove eggs. Therefore lice that hatch from eggs after the first session may still be present.
- Subsequent sessions clear newly hatched lice. Keep doing the combing sessions every four days until you have had three sessions where no lice are detected.
- Once you have had three sessions where you do not see any lice, it usually means that you are then free of lice.

Anybody of any age can have this treatment and it does not involve any chemicals. The downside to this treatment is that it is time-consuming.

Fuller details of wet combing (bug busting) treatment can be obtained from Community Hygiene Concern (contact details below).

What about other treatments?

Various other insecticides have been used in the past. For example, permethrin is no longer recommended for head lice because there are concerns that many lice are now resistant to it. Phenothrin and carbaryl are no longer available in the UK.

There are various other treatments that are said by some people to work. For example, tea tree oil, quassia, other essential oils, herbal remedies and electric combs. However, there is a lack of research studies to confirm that they work well in most cases. Therefore, until more research is done, these other methods cannot be recommended.

Do family and friends need treatment?

Only if they have head lice. All people who live in the same home and other close head-to-head contacts of the previous 4-6 weeks should be advised to look for lice. These people should only be treated if live head lice are found. They do not need 'in case' treatment. All people with head lice in the same house should be treated at the same time. This stops lice being passed around again.

Checking for treatment success

The wet combing method of treatment discusses above how to check for success. For other methods of treatment (lotions, sprays, etc), check that treatment was successful by detection combing 2-3 days after completing a course of treatment. Check again after a further seven days. Treatment has been successful if no lice are found at both sessions.

What about school?

Children with head lice should carry on going to school. Contrary to popular belief, head lice do not spread quickly through schools. Alarming head lice letters from schools are usually unhelpful. You need close head-to-head contact to pass lice on to others. Young children who play closely together may pass lice on. If your child has head lice, a common-sense approach is to tell the parents of their close friends to look out for lice in their children.

Can head lice be prevented?

There is no good way of preventing head lice. Lice repellent sprays do not work very well. If you do detection combing of children's hair every week or so, you will detect head lice soon after they have affected the hair. You can then start treatment quickly and reduce the risk of passing them on to others.

Some other points about head lice

- Use an anti-lice treatment only when you are sure that you have, or your child has, head lice. Do not use them to prevent head lice.
- A common reason for head lice to recur in one person is because family and close friends are not

checked for head lice. The treated person may then get head lice back again from untreated family or friends.

- After treatment and when the lice have gone, it may take 2-3 weeks for the itch to go fully.
- Nits may remain after lice have gone. They are empty eggshells and stick strongly to hair. They will eventually fall out. If you prefer, a fine-toothed 'nit comb' can remove them.

Further help & information

Community Hygiene Concern Bug Busting

22 Darin Court, Crownhill, Milton Keynes, MK8 0AD

Tel: 01908 561928

Web: www.chc.org

Further reading & references

- Head lice; NICE CKS, February 2015 (UK access only)
- Head lice: Evidence-based Guidelines based on the Stafford Report; Public Health Medicine Environmental Group, 2012
- Head lice (Pediculosis); Public Health England

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