

Head Lice

Head lice are small parasitic insects that live mainly on the scalp and neck of their human host. Only humans get head lice and their presence does not indicate a lack of hygiene or sanitation. If taken away from the human scalp, head lice die within hours. This is because they must feed on human blood every six hours to survive.

What do head lice look like?

There are three stages in the life cycle of lice - the nit, the nymph and the adult.

Nits

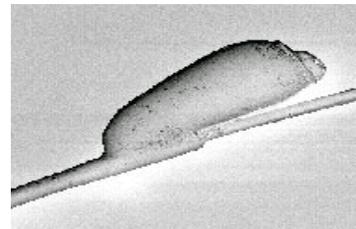
Nits are eggs that are hardly visible, are often confused with dandruff, and are firmly attached to the base of the hair shaft. They appear oval and generally yellowish to white in colour. They take about seven to ten days to hatch.

Nymph

Nymphs are baby lice, and look like adult lice but smaller in size. They mature into adults within seven days after hatching and feed on blood to survive.

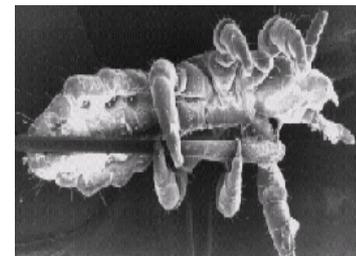
Adult

An adult louse is about the size of a sesame seed. A louse has six legs and is light to brown in colour. Females, which are larger than males, lay nits. An adult louse lives up to 30 days on a person's head.



Above: A nit on hair shaft

Below: An adult louse



What are the signs and symptoms?

In Australia, head lice are mainly an annoyance and rarely cause any significant medical condition. Most head lice infestations cause no symptoms at all, and probably less than half cause an itch. They are more of a nuisance, and often an embarrassment, to those affected.

You can tell whether your child has head lice by looking closely through the hair and scalp for nits, nymphs and adult lice. The presence of adult lice and evidence of nits confirms infestation. The nits are tiny white specks often stuck near the root of a hair. You may also notice fine black powder on pillows. This is lice faeces. Other signs and symptoms that may occur are frequent head scratching, tickling, and itching caused by allergic reaction to bites which can become infected.

How are head lice spread?

Head lice are usually transmitted by close head-to-head contact with an infested person. Apart from hair, lice have been found on combs, hairbrushes and pillowcases but will only spread if used immediately after use by an infected person. Head lice do not live on furniture or carpet.

Children are more susceptible because they are more likely to have close contact in homes, playgrounds, schools, kindergartens and childcare centres. Adults may become infested without being aware of it and can become a source of infestation for others.

Re-infestation of family members commonly occurs mainly because of close head-to-head contact.

How do I treat head lice?

Treatment options include non-chemical treatment (i.e. the conditioner and comb method below) and chemical treatments. Treatment should only be considered when eggs or active lice are observed.

The conditioner and combing method is the easiest way to find head lice or eggs and remove them without using chemicals. It is a safe and cheap alternative to other treatments and the head lice cannot develop resistance to being physically removed.

Detection of head lice – conditioner and comb method

To detect head lice you will need pale-coloured hair conditioner, a head lice comb (which is a fine toothed comb), an ordinary comb, hair clips, white paper tissues, and an old tooth brush or safety pin.

Follow these steps:

1. Apply enough hair conditioner to dry hair to thoroughly cover the whole scalp and all hair.
2. Using an ordinary comb and hair clips, divide the hair into several sections. Combing the hair with an ordinary comb can help evenly distribute hair conditioner and untangle hair, so the head lice comb can slide through easily.
3. Change to a head lice comb and start combing a section at the back of the head first. Place the teeth of the comb flat against the scalp and comb the hair from the roots through to the tips.
4. Wipe the comb on the white tissue after each stroke and check the tissue and the comb for head lice or eggs. If the comb becomes clogged, use the old tooth brush or safety pin to remove the head lice or eggs.
5. Repeat the combing of every section of the hair at least five times. If any lice or eggs are found, your child's hair should be treated using either of the two methods described below.
6. Wash hair thoroughly to remove all traces of the conditioner.

Non-chemical treatment

Using the conditioner and comb method for treatment, follow the six steps outlined above and repeat the routine every second day until no live lice are found for ten consecutive days.

Chemical treatment

It is important to note that in a small percentage of cases, sensitivity to head lice treatments may occur and cause dermatitis, rashes or other adverse symptoms. Pregnant women and children under the age of six months should receive medical clearance before using any head lice treatments.

Always follow the instructions provided with head lice treatment products. You may wish to consult your general practitioner or your community pharmacist on the use of head lice treatments.

No chemical treatment kills 100% of the lice eggs, so treatment **must** involve two applications of the solution, seven days apart.

The first treatment is to kill the lice and the second treatment is to kill young lice hatched over the previous six days. It is important that only those family members and friends who have lice are treated with the solution.

How do you tell if the chemical treatment worked?

If the head lice product works, the lice will be dead within 20 minutes after the treatment is completed. Insecticide resistance is common, so you should test to see if the lice are killed by following the steps outlined below.

Six steps to test resistance

1. Wait 20 minutes after treatment is completed and use a head lice comb to comb the hair from the roots to the tips. Wipe combings onto a white tissue after each stroke.
2. Repeat this until the whole head has been combed at least twice and little treatment formulation is visible on hair.
3. Examine the tissue to see if lice are alive or dead. Check lice for movement (use a magnifying glass if you need to).
4. If the lice are dead (no movement), the product has worked and the lice are sensitive to the treatment. Re-treat in seven days.
5. If lice are inactive but alive (lice are stationary, but moving legs and antennae), regard them as sensitive and re-treat in seven days.
6. If lice are active (crawling on the tissue), the treatment has been unsuccessful and another option should be tried.

If lice are not killed by the chemical what should I do?

If live head lice are found in the combings after treatment, alternative treatment is required. Treatment can often fail due to: incorrect or inadequate application of treatment onto the hair; not completing follow up treatment seven days later; or the head lice being resistant to the product used and all products containing that active compound.

- Wash off the first product prior to the new treatment.
- You may wish to revisit the 'conditioner and comb' method (see page 2).
- If you still prefer chemical treatment, retreat the child's hair as soon as possible using a product from a **different active group**. There are many head lice products commercially available and they belong to different groups based on the active compound e.g. pyrethrins, synthetic pyrethroids (permethrin and bioallethrin), organophosphates (malathion and maldison), and dimethicone.

How to minimise the risk of infestation?

- Tying back long hair can help prevent the spread of head lice.
- If a family member is infested, examine all members of the family for head lice using the conditioner and comb method (see section “How do I treat head lice”). Treat them only if necessary.
- Notify friends and the school if your child has head lice. The *Public Health Regulations 2000* require that children be excluded from school until effective treatment against head lice has begun.
- Check children’s hair regularly – anyone can catch head lice where people live, play or work together. Using the conditioner and comb method once a week will help in early head lice detection. Avoid head-to-head contact with other children or sharing hats.

How to reduce the risk of re-infestation?

- In addition to the measures outlined above, place all brushes, combs, and hair accessories in very hot water (i.e. near-boiling, not standard hot water from taps) for at least 30 seconds.
- Pillow slips of infected persons should be washed in a hot water cycle and dried in a hot clothes dryer for 15 minutes.

Further information

For more information about head lice, contact your general practitioner, community pharmacist or phone the Health Protection Service during business hours on (02) 6205 1700.

Acknowledgments

1. NSW Health, Head Lice Information, 2012.
<http://www.health.nsw.gov.au/environment/headlice/Pages/default.aspx>.
2. Department of Health, Victoria, Head Lice Information, 2014, <http://health.vic.gov.au/headlice/>.

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