CONDITION

Head lice

Head lice are tiny insects that live in scalp hair and spread mainly through direct head-to-head contact.

WHAT IT IS
Infestation of scalp hair by tiny insects

BODY SYSTEM
Skin and hair

MAIN SYMPTOMS
Scalp itching, tickling, scratch marks, visible lice

WHAT CAUSES IT
Head lice spread mainly through head contact

HOW IT IS DIAGNOSED
Finding a live crawling louse in scalp hair

MAIN TREATMENT
Thorough combing and approved lice-killing treatments

CAN IT BE CURED?
Yes - complete removal ends the infestation

IS IT AN EMERGENCY?
No - head lice need routine care

LONG-TERM OUTLOOK
Usually clears with treatment, though reinfestation can occur

Overview

Head lice are tiny insects that live close to the scalp and feed on small amounts of blood. The medical name for a head lice infestation is pediculosis capitis . A single insect is called a louse.

Head lice can affect anyone with scalp hair. They are especially common among children because children often play with their heads close together. Having lice is not a sign of poor hygiene or a dirty home.

Lice crawl from one person's hair to another. They cannot jump, fly or burrow into the skin. They do not live on pets, and household pets do not spread them.

Adult lice lay eggs on hair shafts near the scalp. These eggs are called nits. They are firmly attached to the hair, unlike dandruff, which usually brushes away. Finding nits does not always

mean there is an active infestation. Empty egg cases can remain after successful treatment.

Head lice are unpleasant and may disrupt sleep, school or family life, but they are not usually medically serious. They are not known to spread infections between people.

Symptoms

Some people have no symptoms, especially during a first infestation. Itching may take several weeks to appear because it is caused by a reaction to louse saliva.

Possible signs include:

Adult lice are about the size of a sesame seed. They may look grey, tan or brown and can move quickly away from light. Young lice, called nymphs, are smaller and harder to see.

Nits are oval and may appear yellowish, brown or white. Those close to the scalp are more likely to contain a developing louse. White cases farther along the hair are often empty or no longer viable.

Repeated scratching can break the skin. This may cause soreness, crusting or, less often, a bacterial skin infection.

- Itching, especially behind the ears and near the back of the neck
- A crawling or tickling feeling in the hair
- Small red bumps or scratch marks on the scalp
- Irritability or difficulty sleeping
- Live lice moving through the hair
- Nits firmly attached to hair shafts

Causes and risk factors

Head lice are caused by infestation with the human head louse, Pediculus humanus capitis . They spread mainly through prolonged, direct contact between one person's hair and another person's hair.

Lice may sometimes spread through shared items that have recently touched the hair, such as combs, brushes, hats or hair accessories. This is less common because lice do not survive well away from a human scalp.

You may be more likely to encounter head lice if you:

Hair length, cleanliness and household income do not protect someone from lice. Lice can hold onto clean, dirty, straight, curly, short or long hair.

- Live with or have close contact with someone who has active lice
- Attend childcare, school, sleepovers or activities involving close head contact
- Share a bed or recently used hair items with an affected person

Diagnosis

An active infestation is best confirmed by finding a live, crawling louse. Looking at nits alone is less reliable because they may be empty, dead or left over from an earlier infestation.

Good lighting and a fine-toothed detection comb make lice easier to find. Hair can be checked when dry or wet. Work through small sections from the scalp to the ends, paying particular attention behind the ears and around the back of the neck. Wipe the comb on a light-coloured tissue or cloth after each pass.

Dandruff, dried hair products, scabs and natural material around hair shafts are often mistaken for nits. Most of these slide or brush off. Nits are glued firmly to one side of a hair.

A pharmacist or healthcare professional can help if you cannot tell whether you have found lice. Treatment is generally not needed unless active lice are confirmed.

Treatment and management

Head lice can be removed with repeated combing, an approved lice-killing product, or a combination of methods. The best option may depend on age, local product availability, previous treatment and whether lice in the area are resistant to certain products.

Wet combing uses a special fine-toothed lice comb. Conditioner may make the hair easier to comb and help keep lice from moving. The hair must be divided into small sections and combed carefully from the scalp to the ends. Several sessions are usually needed because newly hatched lice may be missed during the first session.

Lice-killing products are sometimes called pediculicides. Depending on the country, they may kill lice through insecticides or by physically coating them. Some products kill eggs as well as crawling lice, while others do not.

Always follow the product label. The timing of a second treatment is product-specific and is often planned to kill lice that hatch after the first treatment. Do not apply extra amounts, combine products or repeat treatment more often than directed. These actions may irritate

the scalp without improving the result.

Ask a pharmacist or healthcare professional before choosing a product for a young child, during pregnancy or breastfeeding, or when there is broken or inflamed skin. Prescription treatments may be considered when correctly used non-prescription options have not worked.

Check people who live with or have close hair-to-hair contact with the affected person. Those with confirmed live lice should generally be treated at the same time to reduce reinfestation. Preventive treatment of someone who has no lice is not usually helpful.

Environmental cleaning should remain limited and practical. Wash or dry recently used bedding, clothing and towels as appropriate for the fabric. Clean combs, brushes and hair accessories, and vacuum places where the affected person recently rested their head. There is no need for extensive house cleaning. Insecticide sprays or fogs are unnecessary and may be harmful.

Complications

Head lice rarely cause serious health problems. The most common complication is irritated or broken skin from repeated scratching.

Bacteria can enter damaged skin and cause an infection. Signs may include increasing pain, warmth, swelling, spreading redness, pus or crusting. Swollen glands in the neck can sometimes occur with a scalp infection.

Itching may disturb sleep and concentration. Stigma, teasing and anxiety can also affect children and families. Clear information can help: lice are a common human infestation and are not caused by poor cleanliness.

Incorrect use of treatment products can cause scalp irritation, eye exposure or poisoning. Household insecticides, fuels, animal treatments and other unapproved remedies should never be applied to the hair or scalp.

Prevention

Head lice cannot always be prevented. They can spread before anyone notices symptoms, and ordinary social contact is part of everyday life.

You can lower the chance of spread by avoiding direct hair-to-hair contact when an infestation is known. Children can be encouraged not to share combs, brushes, hair accessories, hats or items that have recently touched another person's hair.

Regular preventive use of lice treatments is not recommended. It can expose the scalp to unnecessary chemicals and may contribute to treatment resistance. There is not enough reliable evidence that essential oils or lice-repellent sprays prevent infestation, and some can irritate the skin.

If one household member has live lice, check close contacts carefully. Early detection and coordinated treatment of confirmed cases are more useful than deep-cleaning the home.

Living with it and what to expect

Head lice continue to reproduce until the infestation is successfully treated. With careful, correctly timed treatment, most infestations clear. More than one combing or treatment session is often needed because eggs can be difficult to remove or kill.

Itching may continue for several days after effective treatment. This does not automatically mean that live lice remain. Nits may also stay attached to growing hair for weeks. Finding a live crawling louse is a better sign of ongoing infestation.

If live lice remain after treatment, possible explanations include incomplete application, missed follow-up treatment, resistance to the product, or renewed contact with someone who has lice. Sometimes flakes or empty egg cases have been mistaken for an active infestation.

Reinfestation can occur months or years later and does not mean the earlier treatment failed. It simply means there has been another exposure.

Children generally do not need to remain away from school longer than necessary. Public health and paediatric guidance does not support excluding a child solely because nits remain after treatment. Local school or childcare procedures may still differ.

When to get medical help

Arrange routine advice from a pharmacist or healthcare professional if:

Seek prompt medical advice if scratching has caused increasing pain, warmth, swelling, pus, heavy crusting, spreading redness or fever. These may be signs of a skin infection.

Head lice themselves are not an emergency. Seek emergency help after using a treatment if there is trouble breathing, severe wheezing, fainting, or swelling of the face, mouth or throat. Contact your local poison service promptly if a lice product is swallowed or seriously misused.

- You are unsure whether you have found live lice

- Live lice remain after treatment was used exactly as directed
- The scalp is badly irritated or treatment causes a persistent rash
- Lice or nits appear on the eyelashes or eyebrows
- Treatment is needed for a very young child
- You are pregnant or breastfeeding and need help choosing a product

Common questions

Can head lice jump or fly?

No. Head lice have legs adapted for gripping hair, and they move by crawling. Most spread happens when two people's hair is in direct contact.

Does having head lice mean my hair is dirty?

No. Head lice can live in clean or unwashed hair. An infestation reflects exposure to someone with lice, not personal hygiene.

How can I tell nits from dandruff?

Dandruff and loose debris usually move or brush away. Nits are small, oval structures glued firmly to one side of a hair shaft. Even so, finding a live louse is the most reliable way to confirm an active infestation.

Can my child go to school with head lice?

Children can usually return after appropriate treatment has begun. Empty nits can remain after lice are gone, so "no-nit" rules may keep children out without preventing spread. Follow the practical procedures used by your school or childcare setting.

Can dogs or cats carry head lice?

No. Human head lice are adapted to people and do not live on household pets. Pets do not need lice treatment when a person in the home has head lice.

Why do the lice keep coming back?

Possible reasons include missing a required repeat treatment, incomplete combing, incorrect product use, resistance, or new contact with someone who has lice. Another possibility is that nits or dandruff are being mistaken for live lice. A pharmacist or healthcare professional can help check.

Sources

- Centers for Disease Control and Prevention. About Head Lice
- Centers for Disease Control and Prevention. Treatment of Head Lice
- National Health Service. Head lice and nits
- American Academy of Pediatrics. Head Lice. Pediatrics . 2022;150(4):e2022059282
- U.S. Food and Drug Administration. Treating and Preventing Head Lice