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Patient information: Head lice (Pediculosis capitis)

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INTRODUCTION — There are three types of lice that infest humans: the head louse (Pediculosis humanus capitis), the body louse (Pediculosis humanus corporis), and the pubic louse or "crab" (Phthirus pubis). Head lice are usually spread from one person to another through casual contact. Although head lice can be unpleasant, there are effective treatment options available. It is important to identify and treat lice promptly to avoid spreading them to others.

This topic discusses the diagnosis and treatment of head lice. Pubic lice are discussed separately. (See "Patient information: Pubic lice (Phthirus pubis)").

DESCRIPTION — The head louse is a grayish-white insect between that is 3 to 4 millimeters (0.12 to 0.16 inches) in length (show picture 1). Female head lice typically live for about one month, during which time they lay seven to 10 eggs (or "nits") per day. Each egg is an oval-shaped capsule that is attached to the base of a hair, near the scalp. The eggs hatch after about eight days.

After the eggs hatch, the remaining empty cases become whiter in color and are easier to see. Since the eggs are firmly attached to the hair, they move away from the scalp as the hair grows. Head lice do not jump or fly, and they cannot be spread from person to person by attaching to pets.

Head lice most commonly affect children. In one study, approximately one of every four elementary level students in the United States had head lice [1,2]. This is because lice are easily spread:

- When children play together
- With cross transfer from articles of clothing on adjacent hooks in classrooms
- On shared combs, headphones, towels, and beds.

Black children are affected much less frequently than whites and others, and males less than females; the reasons for these findings are not known. Hair length is not a factor.

SYMPTOMS — Adult head lice feed on the scalp and other skin around the hair (including the face and neck). Some people experience itching or skin irritation due to a reaction to lice saliva, which is injected into the skin during feeding. However, most people with head lice do not have any symptoms.

DIAGNOSIS — Head lice are diagnosed by using a fine-toothed comb to examine the scalp (show picture 2). Special "nit combs" are available for this purpose. The hair should be brushed or combed to remove tangles, then combed thoroughly from roots to ends with the nit comb. After each stroke, carefully examine the comb for signs of lice. Finding nits without lice does not necessarily mean that there is active infestation; nits may persist for months after successful therapy.

If the person has previously been treated and only nits are found, the nits should be removed and the person should be reexamined in 3 to 4 days. If the person has not been treated previously and nits are found, lice treatment is recommended. (See "Insecticides" below").

Lice may be more difficult to see than nits since they can move and hide from view. A healthcare provider may examine the head under a special lamp, which causes nits to glow a pale blue color.

If a parent is unsure if their child has lice, the child should be examined by a healthcare provider to confirm the diagnosis. Although the diagnosis of head lice can be disturbing to children and parents, it is important to keep the following in mind:

- Lice are not a sign of being dirty or sick.
- Lice can be eliminated with proper treatment.
- There are no serious or long-term health problems associated with lice.

TREATMENT — There are several options for eliminating head lice, including creams/liquids, combing, and oral medications (pills). It is important to follow directions carefully to ensure that treatment is successful.

If a parent is certain that their child (over age 2 years) has head lice, a non-prescription lice treatment may be used (see "Insecticides" below). Family members and close contacts of an infested person should be examined at the same time and treated if necessary. Parents of children who are under age 2 years should contact the child's healthcare provider for treatment advice.

Insecticides — Topical insecticide (pediculicide) is a substance, usually a cream or gel, that is applied to the scalp to kill lice. Available insecticides include:

- Permethrin (Nix®, Rid®)
- Pyrethrin (A-200®, Pronto®, Tisit®)
- Malathion (Ovide®, prescription required in US)

Follow the manufacturer's instructions for applying the insecticide carefully. Typically, the hair is washed with shampoo, rinsed, and towel-dried. The cream/gel is applied liberally to the scalp and left on for 10 minutes before rinsing. Malathion (Ovide®) should be left on the scalp overnight.

Retreatment is often recommended after seven to 10 days due to the increasing ability of some lice to survive the first treatment. Parents should consult with their child's healthcare provider to determine if and when retreatment is necessary.

Wet combing — Wet combing is a way to remove lice from the hair through careful and repeated combing. It is a good option for treating very young children (under two years of age), for whom insecticides are not recommended.

The hair should be wet and an additional lubricant added; hair conditioner/creme rinse, vinegar, and olive oil are all good options. The hair should be combed thoroughly with a fine-toothed or nit comb, and the comb (and scalp) examined for lice after each stroke. Each session should continue until no lice are found. Combing should continue every three to four days for two weeks following any session in which a large, adult louse is found.

Oral medications — Oral (pill) medications may be prescribed for people whose lice are resistant to insecticide treatment.

Other treatments — Studies have examined the use of lotions and other materials (olive oil, butter, petroleum jelly/Vaseline®) that are applied to the head, and then allowed to dry, with the goal of suffocating lice. However, lice are difficult to suffocate and studies have not shown these methods to be effective.

PREVENTING SPREAD — Household members, classmates, and other close contacts should be examined by a healthcare provider and treated if necessary. Individual school policy may dictate who at a school, if anyone, needs to be informed when a child has lice. A confidential call to or visit with the school nurse is a good place to start. Some schools have a "no nits" policy that prevents a child from returning until no nits are found. However, most expert groups state that children can return to school after the first application of insecticide or the first wet combing session.

Any clothing, bedding, towels, furniture, or carpeting that the infected person used within 48 before treatment should be washed in hot water and dried in an electric dryer on the hot setting. Alternately, the item may be avoided for 72 hours. Items that the person used more than 2 days prior to treatment are probably not infested because head lice rarely survive off the body for more than 48 hours.

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WHERE TO GET MORE INFORMATION — Your healthcare provider is the best source of information for questions and concerns related to your medical problem. Because no two patients are exactly alike and recommendations can vary from one person to another, it is important to seek guidance from a provider who is familiar with your individual situation.

This discussion will be updated as needed every four months on our web site (www.uptodate.com/patients). Additional topics as well as selected discussions written for healthcare professionals are also available for those who would like more detailed information.

Some of the most pertinent include:

Patient Level Information:

Patient information: Pubic lice (Phthirus pubis)

Professional Level Information:

Approach to the patient with a scalp eruption
Pediculosis

A number of web sites have information about medical problems and treatments, although it can be difficult to know which sites are reputable. Information provided by the National Institutes of Health, national medical societies, and some other well-established organizations are often reliable sources of information, although the frequency with which they are updated is variable.

- National Library of Medicine

(www.nlm.nih.gov/medlineplus/headlice.html, available in Spanish)

- Center for Disease Control and Prevention

(www.cdc.gov/lice/)

- Harvard School of Public Health

(www.hsph.harvard.edu/headlice.html)

- The Nemours Foundation

(http://kidshealth.org/parent/infections/common/lice.html)

[1-7]

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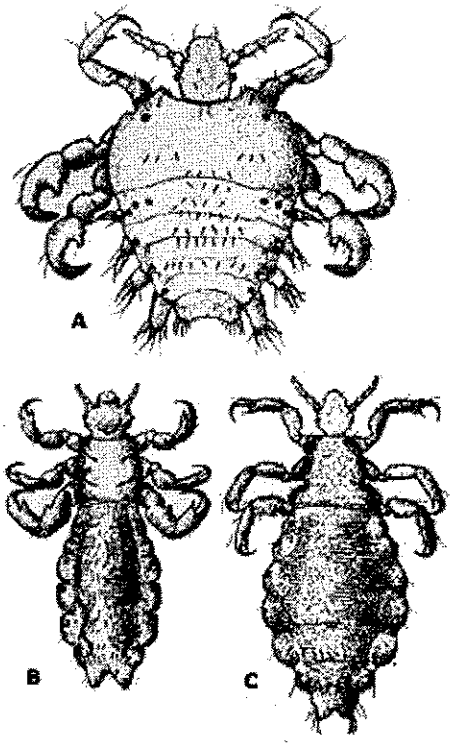
GRAPHICS

Types of lice



The three varieties of lice specifically parasitic for humans are Phthirus pubis (picture A, crab louse), Pediculus humanus capitis (picture B, head louse), and Pediculus humanus corporis (picture B, body louse). *Courtesy of John T Crissey, MD.*

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