Virginia Commonwealth University

UNIVERSITY STUDENT HEALTH SERVICES • Fact Sheet

LICE

WHAT ARE LICE?

Lice are small wingless insects that can live on the human body and cause significant itching. Head lice, body lice, and pubic lice (crabs) are the 3 main types known to infest humans. It is important to find and treat lice quickly to decrease spread to others. However, head lice and pubic lice are not known to transmit disease.

HOW ARE THEY TRANSMITTED?

Lice infestation is spread by direct casual contact with an infested person. Lice move by crawling; they cannot jump or fly. Pets do not play a role in the spread of human lice. There is mixed evidence on the possibility of transmission by fomites (inanimate objects like hats, combs, pillows, clothes, furniture, etc).

Pubic lice are almost always spread by sexual contact but may also be spread by sharing towels and clothing. A common misunderstanding is that pubic lice can be easily spread by toilet seats. This would be extremely rare because lice cannot live long away from the human body and they do not hold on well to smooth surfaces like toilet seats.

WHAT ARE THE SIGNS AND SYMPTOMS?

- Head lice usually only affect the scalp but can rarely be found in beards, eyelashes, and eyebrows. Head lice occur worldwide in people of all socioeconomic backgrounds, most commonly children.
 - The saliva of the insect causes an allergic reaction, which leads to itchiness of the scalp. This response may be delayed by 4-6 weeks in persons who have not been previously infested.
 - The actual insects are the size of a sesame seed and difficult to find. They are grayish-white and 2-3 mm in length.
 - The diagnosis is usually made through the discovery of nits (small, white oval eggs) that are firmly attached to the hair, usually within one-quarter inch (6.5mm) of the scalp. Nits are most commonly found in the hair at the sides and back of the head. After 8-10 days, the nits hatch and turn white, making them more easily visible.
 - The life cycle of a female louse is about one month, in which time she will lay 7-10 eggs per day.
 - Adult lice can live up to 55 hours away from a host but usually die in 2 days due to dehydration.
- Body lice are slightly larger than head lice. Contrary to their name, body lice are rarely found on the body; instead, the insect and its eggs live in the seams of clothing. Lice are found on the body only when they are feeding.
 - Often the only symptom is generalized itching, most commonly of the truncal region.
 - Body lice can survive up to 3 days without a blood meal.
- Pubic lice (crab lice) usually infest the pubic hairs (and on rare occasions, the armpits and eyelashes). Because they are mostly transmitted through sex, pubic lice are more common in teens and young adults.
 - Itching in the pubic area is primarily an allergic reaction to the bites and may not develop until weeks after the initial infestation.
 - Pubic lice have a crab-like appearance and measure approximately 2 mm in length. They are oval and grayish but appear reddish-brown when full of blood.
 - The life cycle of an adult female crab louse is 3-4 weeks, in which time she will lay 3 eggs per day. Adult lice live for only 1-2 days after leaving their host.
 - Nits (eggs) can be found at the base of the pubic hair and typically hatch in 6-8 days.

HOW IS IT DIAGNOSED?

Finding live (crawling) lice in the hair is necessary for the diagnosis of head lice. This is best done by systematically combing wet or dry hair with a fine-toothed comb. Please refer to "Wet Combing" on the next page for details.

Nits are found more easily than lice. However, finding nits without lice does not confirm active infestation.

- Nits may be confused with other debris found in hair. Unlike flakes of skin or hair spray residue, nits are quite difficult to remove from the hair shaft.
- <u>Nits found within one-quarter inch (6.5 mm) of the scalp may indicate an active infestation</u>. In one study, having 5 or more nits this close to the scalp increased the likelihood of developing an active infestation.

WHAT IS THE TREATMENT?

Most patients diagnosed with an active lice infestation opt for treatment with a topical insecticide. Manually removing lice by wet combing is another treatment option but much more time intensive. Less commonly, oral medications may be used in cases resistant to topical treatments.

♦ WET COMBING

- <u>Manual removal of lice and nits by wet combing is a treatment option</u> for patients who cannot or do not want to use topical medicines to kill lice.
- Wet combing is often recommended following treatment with topical insecticides. Many lice treatment kits include a nit comb for this purpose. Finding nits after medication treatment (especially if they are more than one-quarter inch or 6.5 mm away from the scalp) does not indicate continued infestation but finding living lice does. If crawling lice are found, retreatment is necessary.
- Instructions for wet combing:
 - Apply a lubricant such as hair conditioner to wet hair.
 - Remove tangles with a brush or comb.
 - Insert a fine-toothed comb near the crown, gently touching the scalp. Then firmly draw the comb down through the hair, examining for lice after each stroke.
 - To diagnose an active infestation, comb and examine the entire head systematically at least twice. Finding living lice confirms the diagnosis. Finding multiple nits (without lice) less than one-quarter inch (6.5mm) from the scalp may indicate an active infestation.
 - To treat an infestation, continue wet combing until no lice are found in each session, which can take 15-60 minutes depending on the length and thickness of hair.
 - Repeat wet combing every 3-4 days for several weeks.
 - > Continue combing for 2 weeks after any session in which a large adult louse is found.

* MEDICATIONS

The most commonly used treatments are topical insecticides, which work by paralyzing and killing lice. Some products also kill nits. These treatments are available over-the-counter (OTC) and by prescription. They should not be used near the eyes.

- **Pyrethroids** (pyrethrins and permethrin) are the preferred initial treatment because they are well-tolerated, inexpensive, and available over-the-counter. However, repeat treatment is necessary.
 - **Pyrethrin**, derived from an extract of chrysanthemums, is available OTC as RID, A-200, Pronto, Triple X, and R&C. It is effective against crawling lice but not nits. <u>Do not take</u> pyrethrin products if you are allergic to chrysanthemums or ragweed.
 - **Permethrin**, a synthetic derivative of pyrethrin, kills both lice and newly hatched eggs for several days following treatment. Cream rinses and lotions containing 1% permethrin are available over-the-counter (Nix) and by prescription. <u>Do not use permethrin products if you are allergic to pyrethrins, chrysanthemums or ragweed</u>.
- In areas where resistance to pyrethroids have been documented, other topical treatments are preferred. These agents tend to be more expensive, but repeat treatment is usually not needed.
 - <u>Ivermectin 0.5% lotion (Sklice)</u> is available by prescription but may be found OTC in a limited capacity (visit <u>www.sklice.com</u> to search for pharmacies with OTC Sklice).
 - Malathion (Ovide) and spinosad (Natroba) are available by prescription only.

Head Lice

- Basic principles for topical treatments:
 - Avoid using hair conditioner prior to treatment, as this can decrease medication efficacy.
 - Rinse the medicated product out of your hair over a sink (rather than in the shower or bath) to limit skin contact. Rinse with warm water, not hot water, to minimize unnecessary absorption of the medication through the skin.
 - Do not wash your hair for 1-2 days following treatment (except for Spinosad).
 - Consider wet combing after treatment (not necessary with Ivermectin).
- Follow package instructions carefully:
 - Topical treatments should be applied thoroughly to the scalp and dry hair.
 - Most are left on for 10 minutes, then rinsed out with water.
 - Malathion should be left on for 8-12 hours before being washed off with a non-medicated shampoo. Some people have difficulty tolerating Malathion because of its strong odor.
 Malathion is also flammable, so it should not be used around fire (lit cigarettes) or electrical devices (hair dryers, etc).

Head Lice (continued)

- Repeat treatments are recommended depending on the product used:
 - Pyrethrin/Permethrin: Treatment should be repeated in 7-10 days (day 9 is optimal) to kill lice that may have hatched after the first treatment.
 - Ivermectin: Wet combing and repeat treatment is typically not required.
 - Malathion: Repeat treatment in 7-9 days only if crawling lice are found.
 - Spinosad: Repeat treatment in 7 days only if crawling lice are found.

Body Lice

- Medical treatment is usually not necessary. A thorough cleaning of the body and hair with soap is usually sufficient. Remove any nits manually. Clothing must be laundered as described below (refer to "General Environmental Measures").
- If a few nits are found on body hair, some experts recommend treatment with permethrin 5% cream (Elimite), which requires a prescription. It should be applied to the entire body (usually at bedtime) then washed off after 8-10 hours.

Pubic Lice

 Apply pyrethrin or permethrin 1% cream to dry hair in the pubic area, the skin of the pubic area (avoiding the vagina and the tip of the penis), the skin around the anus, and thighs. Wash the medication off after 10 minutes. Repeat in 9-10 days if live lice are found.

Itching

Even though treatment kills the lice, it is not unusual for itching to persist up to a week afterwards. Oral antihistamines can be taken to relieve symptoms:

- A 24-hour non-sedating antihistamine is commonly taken during the day. Examples include cetirizine (Zyrtec), fexofenadine (Allegra), loratadine (Claritin), etc.
- A sedating antihistamine, like diphenhydramine (Benadryl) can be added at bedtime if needed for nighttime itching.

CARE OF EYELASHES & EYEBROWS

- If lice or nits are found in the eyelashes and/or eyebrows, you may be able to remove them with your fingernails, a fine-toothed comb, or tweezers. Repeat this process daily for 8-10 days if needed.
- If this is not sufficient, carefully apply ophthalmic-grade petrolatum ointment (available by prescription) to the eyelid margins 2-4 times a day for 10 days. Regular Vaseline or petroleum jelly should not be used because it can irritate the eyes.

✤ GENERAL ENVIRONMENTAL MEASURES

- Wash all clothing, hats, bedding, towels, etc. that have been in contact with the infested person within the last 48 hours in hot water, and run through a dryer on high heat for at least 20 minutes.
- Items that cannot be washed should be dry-cleaned or sealed in a plastic bag for 2 weeks.
- Ironing can kill body lice attached to the seams of clothing.
- For head lice, disinfect combs and brushes in hot water (at least 130°F) for 5-10 minutes or soak in rubbing alcohol for at least 1 hour.
- Thoroughly vacuum rugs and upholstered furniture. Dispose of the vacuum bag immediately after use.
- Insecticide sprays are not recommended, as they can be toxic if absorbed through the skin or inhaled.

WHEN CAN I RETURN TO CLASS?

Per the CDC, patients diagnosed with head lice may return to class after appropriate treatment has begun.

WHAT ABOUT MY CLOSE CONTACTS?

- For head and body lice, household contacts should be checked and treated only if lice or nits are seen. However, bedmates of a person infected with head lice should receive treatment even if they do not have symptoms. Those affected should be treated at the same time to prevent reinfestation.
- For pubic lice, all sexual partners within the last 30 days should be notified and treated.

RECOMMENDED WEBSITES: www.cdc.gov, www.mayoclinic.org