LICE

WHAT ARE THEY?
Lice are small wingless insects that can live on the human body. There are 3 main types of lice that specifically infest humans: head lice, body lice, and pubic lice (crabs).

HOW ARE THEY TRANSMITTED?
Lice infestation is spread by direct contact with an infested person or fomite (inanimate objects such as hats, combs, pillows, clothes, furniture, etc.). Lice move by crawling; they cannot jump, hop, or fly from person to person. Pets do not play a role in the transmission of human lice.

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. In the United States, 10-12 million people are infected each year.
  - The saliva of the insect causes an allergic reaction, resulting in itchiness of the scalp.
  - The actual insects are the size of a sesame seed and are difficult to find.
  - The diagnosis is usually made through the discovery of nits (small, white oval eggs) that are firmly attached to the hair. Nits are most commonly found close to the scalp at the sides and back of the head. After 8-10 days, the nits hatch and turn white, making them more easily visible.
  - Adult lice can live for 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.
  - Body lice can survive up to 30 days away from their human host.

- **Pubic lice** (crab lice) usually infest the pubic hairs (and on rare occasions, the armpits and eyelashes). There are up to 3 million new cases of infestation annually in the United States.
  - 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 pinhead-sized, oval, and grayish but appear reddish-brown when full of blood. Adult lice live for only 1-2 days after leaving their host.
  - Nits (eggs) can be found at the base of the pubic hair. They can live as long as 6 days and hatch in 5-10 days.

WHAT IS THE TREATMENT?
- **GENERAL ENVIRONMENTAL MEASURES**
  - Wash all contaminated clothing, head gear, bedding, towels, etc. that have been in contact with the infested person in the last 2 days in hot water, and run through a dryer on the highest heat setting.
  - Items that cannot be washed should be dry-cleaned or sealed in a plastic bag for 2 weeks for head or pubic lice and 3 weeks for body lice.
  - Ironing can kill body lice attached to the seams of clothing.
  - 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.
  - For head lice, disinfect combs and brushes in hot water (at least 130°F) for 5-10 minutes or soak in rubbing alcohol or Lysol for at least 1 hour.
  - Check eyelashes and eyebrows. If a few lice or nits are seen, you may be able to remove them with your fingernails or a fine-tooth comb. If this is not sufficient, careful application of ophthalmic-grade petrolatum ointment (available by prescription) to the eyelid margins 2-4 times a day for 10 days is effective. Regular Vaseline should not be used because it can irritate the eyes.
- For body lice, medicated treatment is generally 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 above.

**MEDICATIONS**
The most commonly used medications are as follows and should not be used near the eyes:
- **Pyrethrin**, derived from an extract of chrysanthemums, is found in several over-the-counter products (such as Pronto, Rid, Clear, and A-200). It is effective against crawling lice but not against unhatched nits (eggs). Therefore, reapplication after 7-10 days is often necessary if nits remain. Do not take pyrethrin products if you are allergic to chrysanthemums or ragweed.
- **Permethrin**, a synthetic derivative of pyrethrin, is found in a 1% over-the-counter strength (Nix). Permethrin will kill both lice and newly hatched eggs for several days following treatment. However, a second application after 7 days is recommended. Permethrin 5% (Elimite) is available by prescription but is not more effective than the over-the-counter strength. Do not use permethrin products if you are allergic to pyrethrins or ragweed.
- **Malathion** (Ovide) is a prescription lotion that kills live head lice and some nits. Because it is flammable, it should not be used when smoking or around electrical devices. It is safe and effective when used as directed. It has not been approved by the FDA for treatment of pubic lice.

Newer topical treatments, such as Benzyl Alcohol, Spinosad, and Ivermectin are available for head lice, but cost is an issue. Oral medications may be considered in cases that are resistant to shampoos and other topical treatments.

**DIRECTIONS FOR MEDICATION USE**

**Head Lice**
- Apply pyrethrin or permethrin shampoo to dry hair, rubbing it into the scalp. Leave it on for the time listed on the product (usually 10 minutes). Then add water, lather, and rinse your hair. Afterwards, use a fine-tooth comb as described below. Do not wash your hair for 1-2 days following treatment. Repeat in 7-10 days to kill nits that may have hatched.
- Apply malathion lotion to dry hair until the hair becomes wet. Because it is flammable, do not smoke or use hair dryers or other electrical hair appliances while applying the medication or while your hair remains wet. Wash your hands thoroughly following application, and allow your hair to dry naturally. Wash off after 8-12 hours. In most cases, one application is effective. Reapply in 7-10 days only if crawling lice are found.

**Body Lice**
- Medical treatment is usually not necessary. However, if a few nits are found on body hair, some experts recommend an 8-10 hour application of permethrin 5% cream to the entire body.

**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), and thighs. Wash the medication off after 10 minutes.
- Repeat in 7-10 days if nits are found on hair shafts close to the skin or if live lice are seen.

**SELF-CARE AFTER TREATMENT**
- Some shampoos come in a kit that contains a nit-capturing comb. Use the comb to search for lice in wet hair every 2-3 days for 2-3 weeks following treatment. Finding nits after treatment does not indicate continued infestation but finding living lice does. Comb out any nits that remain. If live lice are found, retreatment is necessary.
- Even though treatment kills the lice, it is not unusual for itching to persist for up to a week afterwards. Oral antihistamines (eg. Benadryl, Zyrtec, Claritin, Allegra) can help with the itching.

**WHO ELSE NEEDS TREATMENT?**
- If pubic lice are diagnosed, sexual partners must be treated.
- 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.

**RECOMMENDED WEBSITES:**
- www.cdc.gov/ncidod/dpd/parasites/lice
- www.mayoclinic.com