

Guidance on the Treatment and Control of Head Lice and Pubic Lice in Congregate Living Settings

This guidance document is provided by California Department of Public Health (CDPH) to assist local health departments, medical personnel, and employees/staff of congregate living settings, such as long-term care facilities, non-acute care hospitals, jails, and prisons, in developing policies and procedures for the care of residents found to have head and/or pubic lice. Effective management of lice requires a comprehensive approach.

- Train employees/staff how to identify head and pubic lice infestations.
- Screen incoming residents for lice infestation upon intake or entry into the facility.
- Treat residents found to have live lice to prevent spread.

Head lice (*Pediculus humanus capitis*) and pubic lice (*Phthirus pubis*) infest only humans, and anyone can be affected, regardless of race, ethnicity, or social class. Cats, dogs, and other animals do not play a role in the transmission of human lice.

Head Lice

Head lice are tan or greyish-white wingless insects approximately $\frac{1}{8}$ inch in length when fully grown (similar in size to a sesame seed) that live in people's hair and feed on blood. Adult female lice lay yellow to white-colored eggs (nits) close to the scalp by gluing them to the base of hairs. Head lice most commonly spread from person to person by head-to-head contact, and less commonly from sharing personal items that come in contact with a person's head, such as hairbrushes. Head lice, while a significant nuisance, do not transmit disease to humans.

The most common symptoms of head lice include:

- "Tickling" feeling of something moving in the hair
- An itchy head or scalp
- Irritability, frequent scratching, or trouble sleeping, as head lice are most active at night

Head lice infestations can also be asymptomatic, and it may take weeks for itching to appear the first time a person has head lice. Signs that a resident has head lice include:

- Nits stuck on the hair, especially near the scalp (not to be confused with flakes, dirt, or dandruff that can easily be brushed away)
- Lice crawling in the hair

Pubic Lice

Pubic lice (also known as crabs) are tiny tan or greyish-white wingless insects approximately $\frac{1}{16}$ inch in length when fully grown, with large front legs that look like the pincher claw of a crab. Like head lice, pubic lice feed on blood, but live primarily on hairs in the genital area. Occasionally, pubic lice may spread to hairs on other parts of the body,

but rarely to hair on the head. Adult female lice lay yellow to white-colored nits near the base of hair shafts. Pubic lice are usually spread through close or sexual contact, but are sometimes spread by sharing clothes, bedding, or towels used by someone who has pubic lice. Pubic lice, while a significant nuisance, do not transmit disease to humans. Signs and symptoms of pubic lice include visible nits or crawling lice and itching in the genital area.

Detection of Head and Pubic Lice

Head and pubic lice are often difficult to detect. A bright light source and magnifying glass may be necessary to find lice and nits in the hair. Proper identification and position of nits on hair shafts must be carefully interpreted to determine if an active infestation is taking place.

Head lice and nits are typically found on or near a person's scalp (sometimes on the eyebrows and eyelashes), usually behind the ears and near the neckline. Nits that are found glued to hair shafts close to the scalp (less than ¼ inch from the scalp) are usually alive and developing, indicating an active infestation. Nits glued to hair further away from the scalp are usually empty (meaning the lice have already hatched) or are dead and could indicate a past infestation that has since been treated and eliminated.

Pubic lice and nits are found in the pubic hair of the genital area and less commonly on the eyebrows, eyelashes, beard, moustache, armpit, perianal area, trunk, or scalp (lice found on the head are usually head lice). Pubic lice may be difficult to find because there may be only a few present on the body. Pubic lice do not crawl as quickly as head lice and may be found clinging to more than one hair.

Environmental Control

Lice will die within one to two days if removed or fallen off a person's body.

If a resident has lice:

- Any fabric items, such as clothing, bedding, and towels, that the resident may have had contact with two days prior to treatment should be laundered.
 - These items can be machine washed in hot water and dried using the high heat cycle, as exposure to temperatures >130°F kills lice and nits within 5 minutes.
- Belongings that cannot be laundered may be dry cleaned or placed in sealed plastic bags for two weeks to kill hatching lice (nits take 6–9 days to hatch and are unlikely to hatch away from the body).
- Combs, brushes, picks, and other hair care items can be soaked in hot water (>130°F) for 5–10 minutes.
- Furniture, carpeting, and other fabric-covered items that an infested resident sat or laid on can be vacuumed.

Pesticide application to the facility is not recommended.

Treatment

Upon diagnosis of a lice infestation in an individual(s), all residents that may have had close contact with the individual(s), including head-to-head contact or shared personal items, should be checked for lice and treated as needed. Treatment should be initiated for all infested residents at the same time whenever possible.

Employees/staff must follow the label instructions when administering lice-killing products for head lice or pubic lice. **Some treatments kill only live lice, thus a second treatment 7–10 days after the first treatment may be necessary to kill any lice that recently hatched.** Reports of resistance to some over-the-counter treatments have been reported in California and therefore, not all lice may be killed by treatment. Combing and removal of nits can help reduce the duration of infestation. CDPH recommends a combination of treatment with lice-killing products and nit combing. Several brands of nit combs are available at local pharmacies. Metal flea combs also work well for nit removal and can be purchased at pet stores. For further instruction on nit combing, please review the [CDPH Nit Combing Guide](#).

Nit combing may also be useful with a pubic lice infestation if nits are observed; nits may also be removed with fingernails.

All available treatment options for head lice are listed below and in **Table 1**. Not all products are approved for the treatment of pubic lice.

Over-the-counter (OTC) Treatments

When using any OTC treatment, always read and follow the label instructions.

- **Pyrethrin / Permethrin Treatments**

- **Pyrethrins** with piperonyl butoxide shampoo (i.e. A-200® *, Pronto® *, R&C® *, RID® *, Triple X® *) for individuals 2 years of age and older
- **Permethrin** (1%) lotion (i.e. Nix® *) for individuals 2 months of age and older)

These products can be used for the treatment of both head and pubic lice.

For head lice: Prior to treatment with a permethrin lotion, hair should be washed with a non-conditioning shampoo and towel dried. Permethrin lotion should be applied to damp hair. Pyrethrin with piperonyl butoxide shampoo should be applied to dry hair.

Apply the product starting at the scalp and working outward to the ends of the hair (ensure hair is saturated). Leave the product on for 10 minutes and then rinse off. Hair should not be shampooed for 24 to 48 hours after the initial treatment.

These products kill live lice but will not kill nits. A second treatment is recommended 9–10 days later if newly hatched lice are seen.

For pubic lice: Wash the infested area and towel dry. Thoroughly saturate the pubic hair and other infested areas with the lice-killing product. Leave the product on for 10 minutes and then rinse off. Repeat treatment 9–10 days later if newly hatched lice are seen. Put on clean underwear and clothing after treatment.

Note** Studies have indicated that some populations of head lice in California are resistant to permethrin and pyrethrins. If live lice are still observed after a full treatment course (two treatments), another chemical class option should be used.

- **Ivermectin**

- **Sklice®** * (0.5% ivermectin lotion) for individuals 6 months of age and older

This product can be used for the treatment of both head and pubic lice.

For head lice: The lotion should be applied to dry hair. Apply the product starting at the scalp and working outward to the ends of the hair (ensure hair is saturated). Leave the product on for 10 minutes and then rinse off. Hair should not be shampooed for 24 to 48 hours after the initial treatment.

Only one application is required, as this product will kill any newly hatched lice. If live lice are still observed after treatment, another chemical class option should be used.

For pubic lice: Wash the infested area and towel dry. Thoroughly saturate the pubic hair and other infested areas with the lice-killing product. Leave the product on for 10 minutes, and then rinse off. Put on clean underwear and clothing after treatment.

Available by Prescription Only

When using any prescription treatment, always follow the instructions given by a healthcare provider or pharmacist.

- **Malathion**

- **Ovide®** * (0.5% malathion lotion) for individuals 6 years of age and older

This product is approved only for the treatment of head lice.

The lotion should be applied to dry hair. Apply the product starting at the scalp and working outward to the ends of the hair (ensure hair is saturated). Let the hair dry naturally after product application. Leave on 8 to 12 hours and then rinse off. Hair should not be shampooed for 24 to 48 hours after the initial treatment.

This product will kill live lice but will not kill nits. A second treatment is recommended 7–9 days later if newly hatched lice are seen. If live lice are still observed after a full course of treatment (two treatments), another chemical class option should be used.

Note** Ovide® * is highly flammable, so residents and employees/staff must not smoke or use hairdryers when applying this product. Additionally, the product has a strong odor and may be best applied in a well-ventilated room or outdoors if odor is not tolerable.

- **Spinosad**

- **Natroba®** * (0.9% spinosad topical solution) for individuals 6 months of age and older

This product is approved only for the treatment of head lice.

The solution should be applied to dry hair. Apply the product starting at the scalp and working outward to the ends of the hair (ensure hair is saturated). Leave the product

on for 10 minutes, and then rinse off. Hair should not be shampooed for 24 to 48 hours after the initial treatment.

This product will kill live lice but will not kill nits. A second treatment is recommended 7 days later if newly hatched lice are seen. If live lice are still observed after a full course of treatment (two treatments), another chemical class option should be used.

- **Ivermectin**

- **Stromectol®** * (ivermectin 3-mg tablet) can be given at any age (if weight \geq 33 lbs)

This product is approved only for the treatment of head lice.

This product should be used only if head lice are resistant to all other topical treatments. Treatment with 2 single oral doses should be given 9–10 days apart.

Table 1. Products available for the treatment of head lice §

Product	Brand Name	Retreatment Interval (if needed)	Availability	Approved for the Treatment of Pubic Lice
Permethrin 1% lotion	Multiple products	9–10 days if live lice are seen after initial treatment	OTC	Yes
Pyrethrins + piperonyl butoxide shampoo	Multiple products	9–10 days if live lice are seen after initial treatment	OTC	Yes
Ivermectin 0.5% lotion	Sklice® *	Single use	OTC	Yes
Malathion 0.5% lotion	Ovide® *	7–9 days if live lice are seen after initial treatment	Prescription	No
Spinosad 0.9% topical solution	Natroba® *	7 days if live lice are seen after initial treatment	Prescription	No
Ivermectin 3-mg tablet	Stromectol® *	9–10 days	Prescription	No

§ modified from the [American Academy of Pediatrics Head Lice Clinical Report](https://publications.aap.org/pediatrics/article/150/4/e2022059282/189566/Head-Lice?autologincheck=redirected) (https://publications.aap.org/pediatrics/article/150/4/e2022059282/189566/Head-Lice?autologincheck=redirected)

Note** If pubic lice or nits are present on the eyelashes, an ophthalmic-grade petroleum ointment, available by prescription only, should be used. Follow the label instructions or

advice provided by a healthcare provider prior to application.

Potential treatment failure observed:

Sometimes it may seem that the treatment used has failed when actually: 1) the substance on the hair shaft was misidentified as nits (i.e., dandruff, styling products, etc.), 2) treatment instructions were not followed properly, or 3) re-infestation with lice has occurred.

- If a few live lice are still found 8–12 hours after treatment but the lice are moving more slowly than before, the product is probably working. Different products may take more time to kill lice. Comb dead and any remaining live lice out of the hair using a nit comb.
- If after 8–12 hours, no dead lice are found and lice are as active as before, the treatment may have been applied incorrectly or may not be effective against this population of lice. Do not retreat until speaking with a healthcare provider; a different chemical class option may be necessary.

Important points to remember:

- Always follow the label instructions of a particular chemical treatment. Do not treat residents with extra product, do not split treatments between residents, and do not retreat except as indicated.
- Treatment products should be kept out of the eyes. If a product gets into the eyes, immediately flush the eyes with water.
- Do not treat an infested resident more than 2–3 times with the same lice-killing product if the treatment does not seem to be working. Failed treatments may be caused by using the product incorrectly or because of resistance to the product. Always seek advice from a healthcare provider when treatments appear to be failing.
- Never use different lice-killing products at the same time unless specifically instructed to do so by a healthcare provider.
- Rinse all topical products from the hair of the head into a sink rather than in a shower or bath. This limits skin exposure on other parts of the body. Use warm water rather than hot water to minimize absorption.

Please contact your local health department for more information. These guidelines, educational materials, and other CDPH publications can be found on the [CDPH Head Lice webpage](#) and the [CDPH Body and Pubic Lice webpage](#).

The information provided in this document was derived from the [U.S. Centers for Disease Control and Prevention](#) (<https://www.cdc.gov/parasites/lice/index.html>) and the [American Academy of Pediatrics](#) (<https://publications.aap.org/pediatrics/article/150/4/e2022059282/189566/Head-Lice?autologincheck=redirected>).

Recommendations by state and federal experts and existing standards of practice outlined in this document are intended to provide guidance to individuals and agencies involved with

head lice and/or pubic lice prevention and control in California. The information provided in this document are recommendations provided for informational purposes only and are not intended to be regulatory in effect.

* Use of this product name does not imply commercial endorsement by the California Department of Public Health.

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May 2023