



## Lice (Pediculosis Capitis)

### What are head lice?

- Small, tan/gray/white-colored insects (less than 1/8" long) that
  - Live on blood they draw from the scalp.
  - Live for days to weeks depending on temperature and humidity.
  - Crawl. They do not hop or fly.
  - Deposit tiny eggs (smaller than half a grain of rice), known as nits, on a hair shaft 3 to 4 mm (1/4") from the scalp. They are attached to a hair shaft by female lice with a glue that holds them tightly in place. The eggs need the warmth from the scalp for hatching. The nits that are more than 1/4" from the scalp have already hatched or have died. Removing nits requires fine-tooth combing that is tedious and difficult to do, especially when a person who is infested with head lice has long hair, hair extensions, or a hair style that involves extensive braiding.
  - Cannot live as adult insects for more than 48 hours away from the scalp.
  - Spread primarily by direct head-to-head contact, and less commonly by direct contact with clothing recently worn by someone who has head lice.
- Having an infestation with lice may cause irritation and scratching, which can lead to secondary skin infection.
- Families and educators often get very upset about lice. However, head lice do not carry disease. Head lice infestations occur in all socioeconomic groups and do not represent poor hygiene.
- Often, normal activities are disrupted because people become upset about these insect pests.

### What are the signs or symptoms?

- Itching of skin where lice feed on the scalp or neck or complaints about itchiness by older children.
- Nits attached to hair, most easily seen behind ears and at or near the nape of the neck.
- Scratching behind ears and the nape of the neck.
- Open sores and crusting from secondary bacterial infection may cause swollen lymph nodes (glands).

### What are the incubation and contagious periods?

- Incubation period: 7 to 12 days from laying to hatching of eggs. Lice can reproduce about 2 weeks after hatching if they are getting their blood meals from the scalp.



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Child with nits on hair behind ears and at nape of neck

- Contagious period: Until live lice are no longer present.

### How are they spread?

- Primarily through direct head-to-head contact with infested hair. Shared objects (hats, headgear, and other objects) that contact the head are a possible but uncommon cause of spread of lice because the insects prefer to stay close to the blood supply on the scalp.
- Nits hatch best when they are kept warm by being on strands of hair that are within 3 to 4 mm (1/4") of the scalp. However, research shows eggs can be laid on other surfaces and hatch more than 50% of the time.

### How do you control them?

- By using medications (pediculicides) that kill lice and nits. Resistance of lice and nits to these chemicals has been reported, but the extent of resistance to the chemicals varies. Some chemicals may require 2 treatments. These chemicals are toxic to lice and may have some toxicity to humans, especially if used for age-groups for which the product is not recommended or without following the manufacturer's instructions. If a particular chemical fails to work, repeated use of that chemical is unlikely to be successful, and an alternative chemical that has been shown to be effective should be tried.

- Herbal and “natural” remedies, like ylang-ylang, tea tree, and lavender oils are not regulated by the US Food and Drug Administration, so their content, safety, and effectiveness cannot be assumed.
- Remedies using common household products (eg, salad oils, mayonnaise, petroleum jelly) have not been shown to be effective, and some (eg, kerosene) are dangerous.
- Some non-insecticide-based occlusive agents (dimethicone and isopropyl myristate) have shown promise.
- Mechanical removal of the lice and nits by combing them out of wet hair with a special fine-tooth comb may have some benefit compared with no treatment. It also may reduce confusion about whether the child has been successfully treated or is re-infested with lice. This treatment is tedious and very time-consuming, but it does damage and remove live lice. It requires washing the hair, applying conditioner, separating the hair into small sections to comb it thoroughly, and then repeating until no new nits are seen within ¼" from the scalp. It is unknown whether combing improves treatment success rates if the child is already receiving a chemical treatment at the same time.
- Household and close contacts should be examined and treated if they have infestations. Individuals who share the same bed with the infested child may also be treated, even if no live lice are found.
- Discourage activity that causes head-to-head contact. Avoid sharing clothing and headgear, like hats, bike helmets, or dress-up costumes.
- The following supplemental measures are options, not requirements, because spread is primarily from head to head:
  - Laundry articles that were in contact with the infested individual, exposing them for 5 minutes to temperatures greater than 128.3 °F (53.5 °C) and then drying them in a dryer on the hot setting. Alternately, clothing and bedding can be dry-cleaned.
  - Toys, personal articles, bedding, other fabrics, and upholstered furniture that cannot be laundered with hot water and dried in a dryer or dry-cleaned can be kept away from people (eg, in a plastic bag) for 1 to 2 weeks if there is concern about lice having crawled from an infested child onto these articles.

- Floors, carpets, mattresses, and furniture can be vacuumed (a safe alternative to spraying) to remove any strands of the infested person’s hair that might have viable lice eggs. Chemical treatment of the environment is not necessary.

## What are the roles of the educator and the family?

- Report the infestation to the staff member designated by the early childhood education program or school for decision-making and action related to care of ill children. That person, in turn, alerts possibly exposed family and staff members to watch for symptoms.
- Have parents/guardians consult with a health professional for a treatment plan.
- Check children observed scratching their heads for lice; if lice are found, check all contacts.
- Teach educators and families how to recognize lice and nits.

## Exclude from educational setting?

- By the end of the day, families should consult the child’s health professional to discuss whether treatment is indicated. If treatment is indicated and started before the next day, no exclusion is necessary. However, the child may be excluded until treatment has started.
- Some treatments must be repeated 7 to 10 days after the first treatment. Until the treatment course is completed, avoid any activity that involves the child in head-to-head contact with other children, such as group block building, art projects, games that involve head-to-head contact, or sharing of headgear in a dress-up corner, while using riding toys, or playing sports. Do not resume these activities until no new lice are seen and there are no nits within ¼" of the scalp for anyone in the group.

## Readmit to educational setting?

**Yes**, when the child has received the treatment recommended by the child’s health professional, even if nits are still present.

## Comments

- The Centers for Disease Control and Prevention (CDC) recommends not using shampoo for several days after a lice-killing product has been applied to give the residual lice-killing product on the hair a chance to work on any live lice or viable nits. Also, the CDC suggests not using conditioner, oil, or any other occlusive product before applying the lice-killing product because these act as a barrier and may make the lice-killing medicine ineffective.
- No-nit policies that require children to be nit free are not recommended because they have not been shown to be effective in controlling outbreaks, may keep the child out of the program needlessly, and unduly burden the child's parents/guardians, who must implement this measure.
- Education of families and educators about the relatively benign consequences of head lice infestations should be attempted to reduce the level of disruption for the infested child and all others involved in the program. It may be necessary to arrange for a health professional to provide this education to overcome the widespread incorrect beliefs about this problem.
- Itching results from an allergic reaction to the lice saliva and, sometimes, from the treatment itself; itching often persists for weeks after the infestation has resolved.
- Schools and programs should work with a Child Care Health Consultant to create a lice protocol to ensure children are treated safely and effectively.

