



Head Lice Management

(*Pediculus humanus capitis*)

Head lice can affect people of all ages, but children are prone to infestations because they play in close physical contact with one-another, share hats, headphones, hair adornments, combs, brushes, sleeping bags, stuffed animals, and clothing. Back-to-school time is when head lice are most commonly transmitted, resulting in widespread infestations by December and January. Head lice can be common among preschool and school-aged children, and schools must work in conjunction with families to manage an infestation.

✓ HEAD LICE MANAGEMENT DEPENDS ON THE EDUCATION OF SCHOOL STAFF, FACULTY, AND STUDENTS.

What Are Head Lice and How Do They Spread?

Lice eggs are called **nits**, and typically hatch in 7-10 days. Nits are white-dark ovals (1/16 inch long), usually glued to hairs of the head near the scalp. Nits are quite often found on hair around a person's ears and back of the head. **You cannot "catch" nits; the eggs must be laid on the hair by live head lice.**

Nits hatch into nymphs, immature forms which look like small adults. Both nymphs and adults have piercing-sucking mouthparts to pierce the skin for a blood meal. Within 24 hours of hatching, a nymph will take its first blood meal, and periodically thereafter as it grows into an adult (a period of 10-12 days).

Adult head lice are approximately 1/8" in length (about the size of a sesame seed) and range in color from white to brown to dark gray. They do not have wings or powerful jumping legs, so they move about by clinging on hairs with specially adapted claw-like legs. Adult head lice are swift-moving and tend to avoid light. Females may live up to 40 days, laying 6-7 nits per day (up to a total of 50-100 eggs during their lifetime!).

People previously unexposed to head lice experience little irritation from their first bite. After additional bites, however, individuals may become sensitized and experience an allergic reaction; this includes reddening of the skin, itching, and overall inflammation. The reaction of individuals to louse bites can vary considerably!

HEAD LICE FACTS:

- ✓ Head lice **do not** prefer dirty hair.
- ✓ Head lice are **unable** to survive away from a human host for more than about 24 hours (thus, they cannot live within rugs, carpets, classes, or school buses).
- ✓ Head lice are **not** found on animals or household pets, and are **not** transmitted from pets to humans.

Checking for Head Lice

Check for the presence of head lice to avoid advanced infestations. **During the early fall months (August to November) children should be inspected *weekly*.**

Steps for head lice checks:

1. Shampoo hair first. Do not use a shampoo with conditioner incorporated if you are going to use lice treatment.
2. Begin with good lighting for your inspection (a bright lamp or good natural light).
3. Remove tangles with a comb or hairbrush.
4. Divide the hair in sections and fasten the hair that is not being worked on.
5. Use a hand lens or a magnifying glass to help detect nits and head lice.
6. For nits, look near the scalp. *Eggs that are located more than one-half of an inch away from the scalp are nearly always hatched and do not - by themselves - indicate an active infestation or need for treatment.*
7. If either adults or nits (less than a half inch from the scalp) are found, action will need to be taken.
8. Everyone else in the household needs to be checked for head lice, including all adults.

Managing Nits and Adult Lice

Managing infestations of head lice requires four critical steps: 1) the use of an effective head louse treatment; 2) head lice removal from the head by combing; 3) removal of head lice and nits from the household environment; 4) daily head checks and nit removal until all have gone, followed by weekly head checks to detect reinfestation.

1.) Head lice shampoos can be insecticidal or non-insecticidal. **An effective and safe, non-insecticidal shampoo option is Lice B Gone.** Lice B Gone is an enzymatic shampoo that aids the removal of nits during mechanical combing of the hair. We recommend that this approach be attempted first before resorting to insecticidal shampoos.

✓ Other alternatives to insecticidal shampoos are soap shampoos that contain coconut or olive oils. Begin with four shampoo applications, each 3 days apart. Each successive shampooing kills newly-hatched nymphs.

Insecticidal shampoos can be hazardous if not used properly; in all cases, follow label directions completely and carefully. Most over-the-counter products contain either pyrethrin or permethrin (NIX and Rid). We do not recommend the use of products containing lindane or malathion. Lindane and malathion products are sometimes prescribed, and have been associated with a variety of adverse reactions. Prescription shampoos should be considered a very last option after all others have been attempted. The person applying any shampoo treatment should wear rubber gloves, and body exposure should be minimized by confining the insecticide to the head hair. Never apply an insecticide to anyone who has open cuts, scratches, or inflammations, and never use these materials on infants without consulting a doctor. With pyrethrin and permethrin shampoos, head lice should die within 10 to 30 minutes after treatment. If you find live head lice after 30 minutes, resistance may be occurring and you should discontinue use of that product; to continue treatment, switch to a pyrethrin if you used permethrin the first time, or vice versa.

2.) Head lice combs (e.g. LiceMeister™ comb, or Robi Comb electronic comb), are needed for complete and effective louse removal; **20 to 30% of lice may still be alive after shampooing** with pyrethrin or permethrin products. Head lice combs are effective in eradicating head lice infestations when used diligently each day for up to two weeks. Note: using a head lice comb to remove the insects can take quite some time, but is completely safe.

- Remove tangles and divide hair into manageable portions.
- Use a head lice comb to comb hair from the scalp to the end of the hair.
- Dip the comb in a container of hot soapy water to drown head lice and remove nits after each combing.
- Look through each section of hair for remaining nits and head lice before moving on to the next section.
- Repeat all steps until all hair is systematically combed through.
- Clean nit removal comb with hot soapy water or soapy ammonia. An old tooth brush may help dislodge hair, nits, and head lice caught in the teeth of the comb.

3.) What needs to be done in the home? Once an infestation is detected, all clothes should be washed in hot soapy water. Pillowcases, sheets, blankets and other bedding material should also be washed and placed in the clothes dryer on a "high heat" cycle to kill adult head lice and eggs. Non-washable items (such as headphones) should be dry cleaned or sealed in plastic bags and placed in the freezer at 5⁰F or lower for 2 days or more. Vacuuming the home will remove hair with nits.

4.) Continue weekly head checks of the whole family for at least a month.

Information taken from:

Pest Press newsletter. September 2006. University of Arizona Urban IPM: <http://ag.arizona.edu/urbanipm/index.html>
Pollack, Richard J. August 2000. Harvard School of Public Health
Scherer, C. W., P. G. Koehler and F. M. Oi. August 1997. Head Lice. University of Florida: <http://edis.ifas.ufl.edu>.
The National Pediculosis Association,® Inc.: <http://www.headlice.org/>

Diagram of Head lice Management



Adult louse



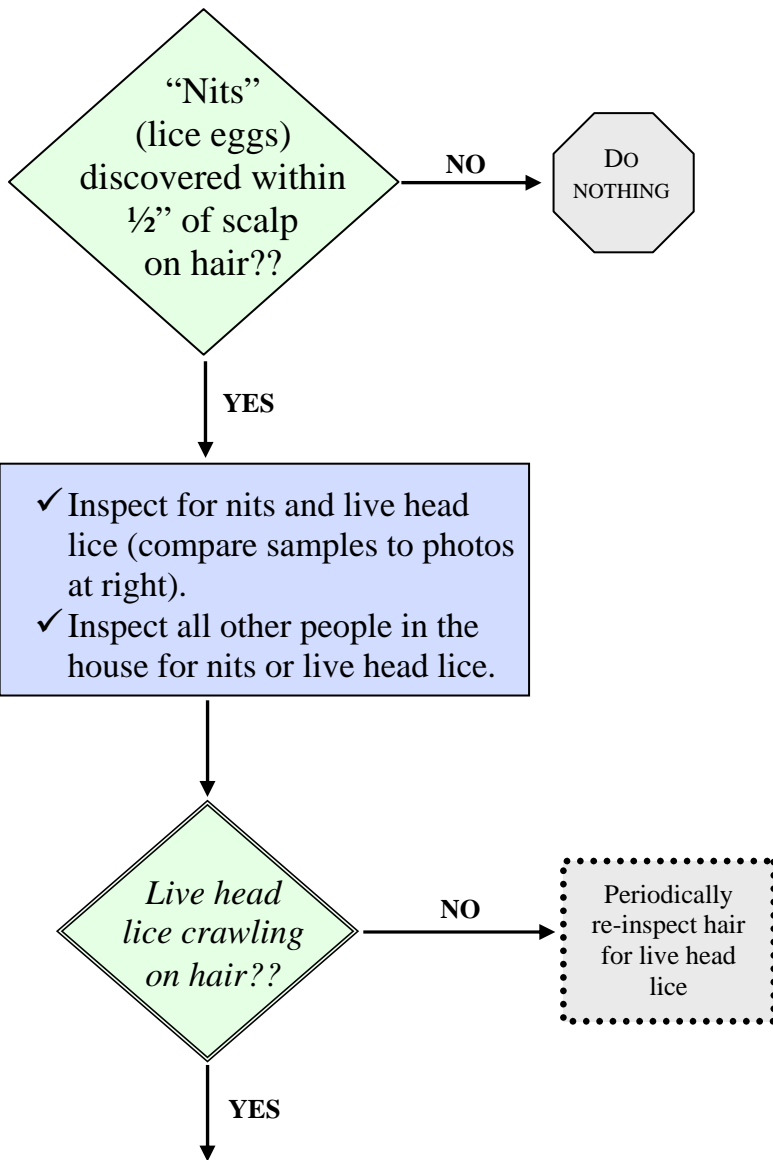
Viable egg
~1 day before hatching

“Nit”



“Pseudo-nit”
(Debris often confused as eggs)

NOT a “Nit”



Comb hair thoroughly with a louse comb (specially designed fine-toothed comb). A hair conditioner can help lubricate hair for combing. Most head lice should be removed during first combing.

Repeat combing every 2-3 days until no head lice have been seen for 1½ weeks.

Lice shampoo may be used to supplement combing (Lice B Gone is an enzymatic, non-insecticidal shampoo that can aid in the removal of nits by combing).

- If lice persist after two weeks:**
- ✓ Make sure all (human) household members are being checked regularly for head lice and nits
 - ✓ Make sure all non-washable items (helmets, headphones, brushes, etc.) are sanitized; items may also be frozen for at least 48 hours to kill head lice.
 - ✓ Make sure all clothing, bed linens, towels, etc. are washed and tumble dried on high heat