

HEAD LICE (PEDICULOSIS) GUIDELINES FOR CONTROL

General Information

Head lice are tiny insects that live on the human scalp; they feed on human blood. In the United States, head lice infestation is seen more commonly among preschool and elementary school-aged children. Head lice are not a health hazard or a sign of poor hygiene; they are not responsible for the spread of any disease. Historically, diagnosis of head lice infestations and the easy availability of over-the-counter (OTC) pediculicides for treatment essentially removed the physician from the treatment process. However, the potential for misdiagnosis coupled with the improper use of pediculicides has raised concerns about unsafe use of these products, specifically when no lice are present or when these OTC products are used excessively. Because lice infestation is so benign, treatments must be safe so that the adverse effects of the treatment are not worse than the infestation (American Academy of Pediatrics (AAP), 2010).

Adult head lice are about the size of a sesame seed and can adapt to match the color of the hair. The female lives up to 3 to 4 weeks and can lay up to 10 eggs per day. These tiny eggs are firmly attached to the base of the hair shaft approximately 4 mm from the scalp with a glue-like substance produced by the louse. Empty egg casings (nits) are easier to see; they appear white against darker hair. The eggs (viable nits) typically hatch in 8 to 9 days (even up to 14 days depending on the climate temperature). Once hatched, a nymph leaves the shell casing and passes through a total of 3 nymph stages (instars) during the next 9 to 12 days and then reaches the adult stage (AAP, 2010).

There is no evidence that a no-nit policy prevents or shortens lengths of outbreaks (Pollack et al., 2000, Williams et al., 2001). The American Academy of Pediatrics, the National Association of School Nurses, and the Centers for Disease and Prevention are all opponents of no-nit policies (AAP, 2010; Schoessler, 2004).

Signs/Symptoms

Head lice do not transmit any disease agent. When infestations are symptomatic, itching is the primary symptom caused by an allergic reaction to the louse saliva. Rarely, scratching may cause skin infection; some skin infections could lead to local adenopathy.

Transmission

Lice cannot hop or fly; they crawl. Lice are generally transferred from one individual to another through direct head-to-head contact. While indirect spread through contact with personal belongings of an infested individual (combs, brushes, hats) is much less likely, it may occur rarely. Lice found on combs are likely to be injured or dead; a healthy louse is not likely to leave a healthy head unless there is a heavy infestation.

Diagnosis

The gold standard for diagnosing head lice is finding a live louse on the head; this can be difficult because lice avoid light and can crawl quickly. Studies suggest that diagnosis of infestation by using a louse comb is quicker and more efficient. The tiny eggs may be easier to spot; they are often found behind the ears and/or at the nape of the neck. They adhere to the hair shaft within approximately 1 cm from the scalp. It is important not to confuse eggs or nits with dandruff or other hair debris. Nits are more difficult to remove because they are firmly attached to the hair shaft. In general, eggs found more than 1 cm from the scalp are unlikely to be viable, although some researchers in warmer climates have found viable eggs farther from the scalp.

Treatment

Parents should understand that the most important components of head lice control are a single treatment of an OTC permethrin (pediculicide), then reapplication if live lice are found seven to ten days later. Because none of the pediculicides are 100% ovicidal, manual removal of nits (especially the ones within 1 cm of the scalp) after treatment is necessary to assure all viable nits are removed. Nit combing should also be performed. Nit removal can be difficult and tedious. Fine-toothed "nit combs" make the process easier. Studies suggest that lice removed by combing and brushing are damaged and rarely survive. **If live lice are found 8 – 10 days after the second treatment, it is important that the parents contact their health care provider to verify treatment failure and initiate second-line therapy.**

All household members should be checked for head lice: those with live lice or nits within 1 cm of the scalp should be treated. In addition, the AAP (2010) recommends treatment of family members who share a bed with the person with infestation, even if no live lice are found.

Screenings

Screening for nits alone is not an accurate way of predicting which children will become infested, and screening for live lice has not been proved to have a significant effect on the incidence of head lice in school over time. Because of the lack of efficacy, classroom or school-wide screening should be strongly discouraged (AAP, 2010).

Parents should be encouraged to check their children's heads for lice if the child has symptoms (school screenings do not take the place of these parental screenings); therefore it would be prudent to provide information to families of students on the diagnosis, treatment and prevention of head lice (AAP, 2010).

School nurses should check a student's head if he or she is demonstrating symptoms such as frequent scratching of head. It may be prudent to assess other children who most likely were to have direct head-to-head contact with the child diagnosed with head lice. Siblings of the child found to have head lice/nits close to scalp should be checked and the nurse in other schools where siblings attend should be notified.

Management of the Day of Diagnosis

If a child is assessed as having head lice, it is essential that confidentiality be maintained. Children found with live head lice should be referred to parents for treatment (National Association of School Nurses Position Statement). The AAP (2010) suggests that (within reason and using proper judgment) because a child with an active head lice infestation likely has had the infestation for 1 month or more by the time it is discovered and poses little risk to others from the infestation, he or she may remain in class but be discouraged from close direct head contact with others **if feasible**. The child's parent or guardian should be notified that day by telephone stating that prompt, proper treatment of this condition is in the best interest of the child and his or her classmates. Common sense and good nursing judgment must be used in these cases when deciding how “contagious” the student may be (a student with hundreds versus a student with 2 live lice for example) when making the decision for the student to remain in school. The parent will need to pick up their child during the school day or at the end of the day, depending on the school nurses judgment (AAP, 2010).

The nurse may determine the necessity to assess other children who most likely were to have direct head-to-head contact with the child diagnosed with head lice. The AAP (2010) suggests that, in an elementary school, it may be wise to notify the parents or guardians of all children in the child’s classroom, encouraging that all children be checked at home and treated of appropriate before returning to school the next day. Again, nursing judgment must prevail.

Remember, data does not support school exclusion for nits. Because no disease process is associated with head lice, the NASN position is that schools are not advised to exclude students when nits remain after appropriate lice treatment, although further monitoring for signs of re-infestation is appropriate.

Procedure for Checking Student(s) for Head Lice Infestation

- A brief explanation is to be given related to what will be done.
- Direct sunlight or a high intensity lamp should be used to observe the scalp and hair.
- Pay particular attention when examining above and behind the ears and at the back of the head near the nape of the neck (the most common areas that nits are found).
- The hair should be separated using craft sticks so that the scalp and base of hair shaft is visible.
 - New craft sticks are to be used for each child screened.
 - The use of gloves is optional.
 - It is not recommended that bare fingers be used in lieu of craft sticks when more than one student is being screening.

School attendance guidelines

- Students with definitive live lice may be sent home during the school day for appropriate treatment, depending on the school nurse's assessment and findings. If the nurse, after contacting the parent and assessing the student, determines it is reasonable for the student to remain in school, the parent must pick the student up at the end of the school day. Students with live lice may not ride the bus home.
- If the parent/guardian discovers his/her child has live lice, the child may not return to school until appropriately treated by the parent. The parent should contact the school notifying attendance and the school nurse that the student is home for treatment of head lice. The absence will be excused. The student should return to school the next day and report to the school nurse for clearance.
- Remember, the student may not return to school until appropriately treated. Treatment should occur the day the student has a confirmed case of live lice to minimize absences from school. Students should return to school the day after appropriate treatment and go directly to the school nurse for clearance. The student must be cleared by the school nurse before going to class.
- The student will be checked for viable nits every week for up to three weeks after initial treatment.
- The majority (but not all) of the nits will be killed by the appropriate treatment. Removal requires fine tooth combing using special metal combs, or mechanical removal using fingernails in order to prevent the possibility of re-infestation.

Control of spread guidelines

Learn to recognize live lice and viable nits in order to make a definitive diagnosis. A definitive diagnosis will help eliminate the unnecessary use of and potential resistance to pediculicides.

If a case is identified, follow recommended treatment procedures closely. Parents should report confirmed infestations of lice/nits to the school nurse so that close contacts can be screened.

Educate teachers, parents, and students about "head-to-head" contact, not to share hats, hairbands, combs or brushes.

Additional information will be posted on the school division web site.

References

American Academy of Pediatrics (AAP), (2010). Clinical report: Guidance for the clinician rendering pediatric care, head lice. *Pediatrics*, 110(3) September 2002, 638-643. Retrieved January 5, 2011, from <http://aappolicy.aappublications.org/cgi/content/full/pediatrics;110/3/638>.

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