

HEAD LICE (PEDICULOSIS) GUIDANCE FOR SCHOOLS

General Information

Head lice are tiny insects that live on the human scalp; they feed only on human blood several times a day. They do not feed on or infest other kinds of animals. Head lice have been found on the human scalp since ancient times. It is important to understand that head lice are not a health hazard or a sign of poor hygiene and are not responsible for the spread of human disease. Once lice are separated from the human head, they quickly suffer from starvation and water loss and generally die in 24 to 48 hours. In the United States, head lice infestation is seen more commonly among preschool and elementary school-aged children. 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. This has resulted in increased physician involvement in the diagnosis and treatment. Because lice infestation is benign, the American Academy of Pediatrics (AAP) and the Harvard School of Public Health stress that treatment should only be used on those individuals on whom live lice are confirmed or who share a bed with a person with infestation.

Adult head lice are about the size of a sesame seed and are usually tan to grayish-white. They have 6 legs. The female lives up to 3 to 4 weeks and can lay about 6 to 10 eggs per day once matured. 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. Viable eggs can be camouflaged with pigment to match the hair color of the person with lice and are often seen more easily at the back of the hair line near the nape of the neck. 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. Remember, head lice usually live less than 1 day away from a scalp. Their eggs cannot survive or hatch when temperatures are lower than those near the scalp.

The AAP notes that no healthy child should be excluded from school because of head lice or nits. They further state that, because a child with active head lice has most likely had head lice for 1 month or more by the time it is discovered, they pose little risk to others.

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. With the first case of head lice, itching may not develop for 4 to 6 weeks, as it takes that much time to develop the sensitivity and subsequent allergic reaction, i.e. itching.

Transmission

Lice cannot hop or fly; they crawl. They are also unlikely to leave their preferred habitat, the human head. Lice and their eggs cannot burrow into the scalp. Lice are generally transferred from one individual to another through direct head-to-head contact. Contrary to commonly held beliefs, indirect spread through contact with personal belongings of a person with head lice (combs, brushes, hats) is much less likely. The Harvard School of Public Health reports that these inanimate objects are insignificant in harboring or transmitting head lice. 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. The AAP noted 1 study that live lice were found on only 4% of pillowcases used by infested volunteers, and therefore suggest that the focus of control measures should be on reducing the number of lice and to lessen the risk of head-to-head contact.

Diagnosis

The AAP notes that the identification of viable eggs (eggs found within 1 cm from the scalp), nymphs, or adult lice with the naked eye establishes the diagnosis. Lice avoid light and can crawl quickly, so diagnosis can be difficult. Studies suggest that diagnosis of infestation by using a louse comb in dim lighting 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, hairspray droplets, dirt or other insects possibly blown by the wind and caught in the hair. 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.

Treatment

Parents should understand that the most important components of head lice control are a single treatment with an OTC permethrin (pediculicide), and then reapplication as directed on the package label. 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. Combing should also be performed daily for 20 minutes for 2 to 3 weeks. 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 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 recommends treatment of family members who share a bed with the person with infestation, even if no live lice are found.

Screenings

Head lice screening programs have not been proven to have a significant effect on the incidence of head lice in school settings over time. Because of the lack of efficacy, classroom or school-wide screening should be discouraged. The AAP suggests that parent education programs may be helpful in managing head lice in the school setting.

Parents should be encouraged to check their children's heads for lice regularly. **School screenings cannot replace the more careful parental checks, therefore it would be prudent to provide information to families of students on the diagnosis, treatment and prevention of head lice.**

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 with symptoms or 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.

Management of the Day of Diagnosis

If a child is assessed as having head lice, confidentiality is important. Children found with live head lice should be referred to parents for treatment. The AAP 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 lice do not cause or transfer disease, 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). After treatment, the child should be able to return to school the next day. Encourage families to remove as many nits as possible.

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. It is prudent to check other children who are symptomatic.

The AAP suggests that, while studies examining the efficacy of alert letters are not available, some experts propose that it may make more sense to notify parents in a classroom with young school-aged children only if a high percentage of children in that classroom are infested. They stress, however, that although a head lice infestation may not pose a public health risk, it may create a public relations dilemma for the school. It is important not to breach confidentiality or violate a child's civil liberties.

Remember, the data do not support school exclusion for nits. Because no disease process is associated with head lice, the AAP and 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 (checking weekly for 3 weeks for example). The school nurse may assist families by rechecking the student's head after proper treatment and during the 3 week period following treatment.

Procedure for Checking Student(s) for Head Lice Infestation

- A brief explanation is to be given related to what will be done.
- Dim light, when available and a magnifying glass (remember, lice avoid light) 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 may 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 screened.
 - Recheck upon return to school and weekly at nurse's discretion.

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 checked.

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), (4-27-2015). AAP Updates Treatments for Head Lice.

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National Association of School Nurses (NASN), (Revised 2016). Position statement: Head lice management in the school setting. Retrieved on June 16, 2016, from <https://www.nasn.org/PolicyAdvocacy/PositionPapersandReports/NASNPositionStatementsFullView/tabid/462/ArticleId/934/Head-Lice-Management-in-the-School-Setting-Revised-2016>.