Dr. Cynthia DiLaura Devore, MD, FAAP

Dear Dr. Devore:
A parent representative from the PTA talked to my building Principal about new guidelines regarding head lice. She heard from her pediatrician that we cannot send home identified children any more. I have done some initial research, but I wanted to know from you just what has happened in the medical world and how we can begin to craft new policies to decrease the spread of head lice and still allow children to remain in school.

(signed)
Scratching My Head Over This One

• • • • • • • • • • • • • • • • • • • •

Dear Scratching:
An estimated six million elementary school-age students — one in every four, have had head lice nationally or have head lice each year. Add in parents, and it is estimated that nearly ten million Americans have head lice each year. Head lice are a community-wide problem, since research shows children acquire only perhaps 10% of lice infestations in school. Head lice infestation is a highly emotionally charged issue, particularly when it occurs on the head of one's own child. Often emotions get in the way of rational thinking by parents and day care providers, and sometimes even school administrators, dealing with an angry parent or upset teacher. It is the responsibility of a soundly coordinated school health team, consisting ideally of the school nurse and school physician or nurse practitioner, to be sure that everyone has an understanding of the science behind the policy statements that advocate keeping children with head lice in school, such as the one recently released by the American Academy of Pediatrics (AAP). In particular, protocols that state "No healthy child should be excluded from school or allowed to miss school time because of head lice" and "No nits' policies should be abandoned" can spark controversy among those who do not understand the life cycle of the head louse and the scientific basis for the policy statements.

Simply stated, children should not miss school because of head lice.

Having said that, even in districts that attempt to follow this guideline, any policy is only as good as the people on the front lines interpreting it. Some school nurses feel as strongly about a no-nit policy, as do some parents and ignore protocols established by their district physicians or nurse practitioners. However, the protocols established by the medical directors should use standards that are evidence-based, yet sensitive to the concerns of teachers, administrators and school nurses as well as parents, of both infested and uninfested children.

To begin to understand the rationale behind keeping children in school with nits or even live lice, it is important to understand the relative risk of transmission of head lice. [Even if you already consider yourself a long-time expert in this area, please continue to read the details provided here. Give yourself permission to react emotionally, and then reread it for content and guidance professionally. This information has changed based on evidence and research, and you will need to feel competent to help effect change. - Ed]

Head lice are crawling creatures, not jumping, running, or hopping insects. They do not have wings. They do not fly. They do not harbor or transmit disease. Direct, prolonged, and close head-to-head contact, as during a sleepover, or a sleep-away camp, or close cuddling with a sibling, friend or parent is necessary for head lice to transfer from the hair of one child to the hair of another. Classroom transmission, therefore, in general, is negligible.

Head lice are not highly contagious in the classroom setting.

To understand the issue of contagion, it may be helpful to explain the life cycle of the head louse. We do well to remember that we are dealing with lice, a nuisance and an esthetic problem, not a life-threatening condition. Lice are transmitted through direct contact from one person to another. It appears somewhat unlikely that they are transmitted by sharing combs, brushes or hats or other inanimate objects or objects that touch the hair, such as headphones, helmets, backpacks, and so on. However, as a precautionary rule, we should advise parents

and school personnel to teach children not to share personal items, to decrease whatever small risk of any contagion may exist. Shared protective helmets should be wiped with a damp paper towel between usages, but even if not possible, children should always wear protective headgear when needed, regardless of the fear of head lice. Head lice are treatable. Brain injury might not be. Ideally, theater costumes, especially wigs, should be cleaned between usages, but lacking that, close inspection between use, shaking out, and wiping with damp paper towels might prevent inadvertent spread in a school setting. Items that cannot be washed can be placed in a sealed bag, or simply not used for 72 hours to allow the few surviving lice to die.

Despite cited precautions, however, it is important to remember inanimate objects are not a high source of contagion for head lice.

Once a pregnant female or a male and female louse take residence in a head of hair, the reproduction process begins. A female lays about 6 to 10 eggs per day. The eggs are attached close to the scalp where they can incubate from the heat of the body. They are attached with a sticky substance that literally cements the eggs to the hair shaft, so that they will stay where they were laid until they hatch. The attached egg is called a nit. One cannot catch nits; the nit is only an egg. Nits farther away from the scalp than about ¼ inch generally are unable to survive, because there is not enough heat from the body for incubation, despite occasional reports suggesting otherwise. Eggs hatch in anywhere from 3 to 10 days. Once the egg hatches, the empty egg casing remains cemented to the shaft as an empty nit. The newly hatched louse enters the nymph stage. A nymph looks just like the adult, only it is smaller, stays close to the scalp for heat and food, and cannot reproduce. It takes another 7-21 days for the nymph to grow into a mature adult that can reproduce.

Critically important to understanding why it makes little sense to exclude a child found with lice: the child usually has had an infestation for about six weeks prior to initial diagnosis. It takes that amount of time for a child to develop the sensitivity to the saliva of the louse that results in characteristic itchiness. Even then, often only one or two children in a class have head lice. If lice were highly contagious, after 6 weeks, one would expect that the entire class would be infested, and that is generally not the case.

In virtually all cases, it makes sense to allow a child with nits or even live lice to finish a school day.

There might be rare exceptions to the recommendation not to exclude a child with head lice when a given situation falls outside the norm. Here are some examples:

- When there is an epidemic of more than 20% of infested children in a given classroom, it is important for the school nurse to confer with the district medical officer and county Health Department to determine whether there should be special precautions taken. These may include sending out notices to families to discuss prophylactic use of permethrin rinse on children who are free from head lice to prevent their infestation in a room with epidemic numbers of head lice.
- If a school nurse is dealing with an uncooperative family that fails or refuses to treat a child, or in a situation of chronic re-infestation, or during an epidemic outbreak, then the primary provider, the school medical officer, and school nurse should determine whether special management is indicated. In that case, exclusion for untreated cases following detection by the school nurse should be a last resort.

School nurses should make every attempt to render as much care and empathy to a child as possible, to facilitate the child's continued presence in the school building and preserve the privacy and dignity of the child, even during a stubborn or persistent case of head lice.

Other earlier considerations might include the school's requesting a visiting nurse from the primary care provider to evaluate the home, check the heads of all the family members, and treat family members as needed. It might include having the school nurse (under a patient-specific order from the school physician or nurse practitioner as allowed by law in your specific state, or the private provider) invite the parent into the building after school to educate and assist the parent directly to ensure that treatment is done properly and adequately.

Once the school nurse has confirmed that a child has head lice, the parent must treat the child adequately, meaning four ounces of chemical per six inches of hair, applied exactly

according to manufacturer's instructions. Parents should avoid use of other hair products such as conditioners or detanglers, cream rinses, or conditioning shampoos for 2 weeks so as not to deactivate the therapeutic chemicals. Wet combing with a fine-tooth comb can be very effective at denitting a child without using special products or equipment that might inactivate the chemicals and cause needless expense to families. For all over-the-counter products, retreatment must be carried out between days 7 and 10, ideally at day 9. In persistent cases, a third treatment should occur at day 14 to 20. In communities with known resistance to common over-the-counter medicines like permethrin or pyrethrin, school nurses should encourage families to confer with private healthcare providers to follow AAP guidelines and use prescribed medicines and decrease needless exposure to chemicals that are unlikely to help the child.

For 2 weeks after each treatment, in order to continue to have calm among teaching staff and administrators, it sometimes helps to have the child pass through the health office for quick examination by the nurse before going to the classroom. If the child has live lice after treatment, the school nurse, as a caring health professional, needs to make a clinical judgment. In a treated head, the rare surviving louse is generally near death and unable to reproduce. Are one or two live, sluggish lice found that move slowly and are easily removed? Are there only nits? Is the head crawling with vigorous live lice? Does the child's head appear clean, confirming treatment, and has the parent attempted to remove as many nits as feasible? If the nurse's assessment indicates that a parent made a good-faith effort, the nursing professional should determine the child is safe to be in school. If a child's head is crawling with insects as if untreated, the nurse may feel the need to send the child home instead of to class.

The issue of resistance is of some concern; however, in the United States, the scientific and medical communities generally agree that treatment failure is more often due to inappropriate use of the pediculicides rather than to chemical resistance. This is why it is important for nurses to monitor the heads of identified children very closely during treatment. If a nurse detects live lice within the 14 to 21 days treatment cycle, the nurse must make a determination as to whether the child was adequately treated by the appearance of the hair, or whether there is treatment failure. In general, if a head is clear of lice 7 to 10 days after the last treatment, and the child then is found with lice in the subsequent weeks or months, it is most likely a reinfestation, not treatment failure or resistance. Therefore, the nurse's chronicle of the child's serial examinations can be very helpful to the treating physician who sees a child after re-emergence of lice following over-the-counter treatment.

> Any exclusion should be a rare exception based on a child's comfort level and dignity in the classroom rather than extreme worry over contagion.

As angry as parents may be who think their children are at risk for catching head lice from an infested child, parents of infested children who are treating their children are equally angry when their child is sent home with nits and even live lice. There are cases (despite sound protocols based on medical evidence), in which children have illegally been excluded from school for months because of non-viable nits in their hair. This is a violation of a child's right to a free and appropriate education. When parents challenge schools, in many instances, they have been supported in the courts for their children's right to enter schools, because head lice are not a reportable public health disease.

Dealing with head lice infestation in the school setting is not easy. Most likely it never will be!

> The single most important way to prevent a head lice problem in school is to educate parents of the importance of surveillance at home, especially early in the fall when children return to school following summer sleep-away camp programs.

In virtually every case, children with lice and nits are safe to be in school. Decisions to exclude a child with head lice should be rare, should involve the school medical officer, and should include the private healthcare provider. Calm and reason, decision making based on fact rather than emotion, and professionalism of the school nurse go a long way in defusing a potentially emotionally charged issue like head lice.

EDITOR'S COMMENT:

I would like to thank Dr. Devore for summarizing this material in a way that makes it useful to us as school nurses, and to our administrators and policy-makers. If you would like to see a sample Parent Letter and other ideas to prepare your community for policy changes, please see our website, www.schoolnursenews.org.

-Deb

ABOUT THE AUTHOR

Cynthia DiLaura Devore, MD, FAAP is a pediatrician in Rochester, NY, where she specializes exclusively in school health. She lives with her husband, Carl, an occupational physician, who covers employee health with her districts, has two grown sons, Michael and Adam, and a Maltypoo named Cookie.