

Position Statement

SUMMARY

It is the position of the National Association of School Nurses (NASN) that the management of head lice (*Pediculus humanus capitis*) in the school setting should not disrupt the educational process. Leadership provided by the registered professional school nurse (hereinafter referred to as the school nurse) can impact reduction of the stigma associated with head lice by providing accurate health education including anticipatory guidance to the school community and implementing evidence-based strategies for the management of head lice in schools. Evidence-based strategies include abandoning “no-nit” school policies, allowing children to remain in class and participate in school-sponsored activities when live lice or nits (the eggs of head lice) are found on their heads, notifying parents/caregivers at the end of the school day when findings indicate the presence of a head lice infestation, and educating parents/caregivers about evidence-based treatment options.

BACKGROUND

In the United States, head lice infestations are most common among preschool and elementary school-age children and their household members regardless of socioeconomic status and hygienic living conditions (Centers for Disease Control and Prevention [CDC], 2013a). According to research head lice infestations predominantly affect the age group of 3-11 years (Frankowski & Bocchini, 2010), with an estimated 6 million to 12 million cases annually (CDC, 2013a). A 2004 study estimated annual direct and indirect costs associated with head lice infestations and recent treatment costs at \$1 billion (Hansen & O’Hayer, 2004). “No-nit” policies that require a child to be free of nits before he or she can return to school lack evidence of being effective, result in unnecessary absenteeism, and may violate affected children’s civil liberties (Pontius, 2014; CDC, 2013a). Unnecessary absenteeism leads to missed learning opportunities for the student and potentially lost family wages due to loss of parent/guardian workdays (Pontius, 2014).

Head lice are not known to cause disease; however, secondary bacterial infection of the skin resulting from contaminated scratching and related lesions can occur. Research has shown that the survival of head lice when not on the head is usually less than one day, and the eggs can only hatch when incubated by body heat found near the scalp (Devore et al., 2015; CDC, 2013c). Transmission occurs primarily through head-to-head contact and infrequently through indirect contact with shared personal belongings.

Even with this knowledge, the presence of head lice can negatively affect families and schools. For the student and family there can be significant social stigma and caregiver strain (Gordon, 2007). For the school, when evidence-based policies and intervention strategies are not in place, head lice can significantly disrupt the education process (CDC, 2013c; Pontius, 2014).

In the past, many schools with “no nit” policies expended innumerable hours and resources in attempts to eradicate head lice infestations. Studies have shown that control measures such as, mass screenings for nits, have not been shown to have a significant effect on the incidence of head lice in a school community, nor have they shown to be cost-effective (Devore et al., 2015; Meinking & Taplin, 2011; CDC, 2013a). Communication between school personnel and parents/caregivers highlighting cases of head lice (e.g., “head lice outbreak letters”) has been shown to increase community anxiety, increase social stigma causing embarrassment of affected infested students, and puts students’ rights to confidentiality at risk (Gordon, 2007; Pontius, 2014).

Head lice treatment success is variable, adding to confusion and frustration among students, families, and members of the school community. Some children develop persistent head lice, which requires-concentrated efforts to address treatment as well as the stress experienced by the child and family (Gordon, 2007). Head lice in some communities have developed resistance to common over-the-counter treatments, resulting in the need for a more individualized approach to management by a healthcare provider (Yoon et al., 2014; Meinking et al., 2002;

Devore et al., 2015). Treatment failures can also result from initial misdiagnosis, non-adherence to a treatment protocol, a new infestation acquired after treatment, or the lack of use of an ovicidal product (Devore et al., 2015; Pontius; 2014; Pollack, Kiszewski, & Spielman, 2000; CDC, 2013b).

RATIONALE

Evidence-based strategies for the management of head lice in the school setting can reduce the incidence of infestations, the social stigma and caregiver strain experienced by students and families, and the negative impact on students' education. The school nurse can provide leadership within the school community to effectively manage head lice by:

- Attaining knowledge and competency that reflect current evidence-based school nursing practice related to the management of head lice (American Nurses Association & National Association of School Nurses [ANA & NASN], 2011).
- Providing accurate health education to the school community focused on dispelling common myths about head lice (e.g., incidence, life cycle of the head louse, mode of transmission, importance of regular surveillance at home, recommended evidence-based treatment options, care of the environment) (ANA & NASN, 2011; Pontius, 2014).
- Advocating and providing rationale for the elimination of mass school screenings for head lice (Devore et al., 2015; CDC, 2013a).
- Educating families about how to assess their children for suspected head lice (Devore et al., 2015).
- Providing privacy when conducting student health assessment for suspected or reported cases of head lice (ANA & NASN, 2011).
- Returning affected students to class or other school sponsored activities with instruction to avoid head-to-head contact (Pontius, 2014). If live lice or nits are found,
 - Eliminating classroom-wide or school-wide family head lice notification.
 - Notifying parents/caregivers at the end of the school day to teach about evidence-based treatment options and steps to follow.
- Advocating for and providing rationale for the abandonment of "no-nit" school policies that require a child to be free of nits before he or she can return to school (Devore et al., 2015; Pontius, 2014).
- Educating parents/caregivers about the chosen evidence-based treatment option, the importance of adherence with the treatment protocol, and the importance of reassessment for recurrence (Devore et al., 2015; Pontius, 2014).

CONCLUSION

The school nurse is the health professional who provides leadership for the school community to implement evidence-based strategies for the management of head lice in the school setting. The role of the school nurse includes the following (Pontius, 2014; Devore et al., 2015; CDC, 2013a):

- Provide accurate health education to the school community about the etiology, transmission, assessment, and treatment of head lice;
- Advocate for school policy that is more caring and less exclusionary (i.e., elimination of the "no-nit" school policies);
- Implement intervention strategies that are student-centered;
- Support the current treatment recommendation of the American Academy of Pediatrics and CDC; and
- Participate in research that evaluates the effectiveness of head lice policies and educational programs.

It is unlikely that all head lice infestations can be prevented. Parents/caregivers will benefit from receiving support from the school nurse about the importance of regular surveillance at home, choosing and adhering to the protocols of evidence-based treatment recommendations, and educating to dispel head lice myths. The education mission of schools will be supported by implementing evidence-based policies and strategies under the guidance of the school nurse. The burden of unnecessary absenteeism to the students, families, and communities far outweighs the perceived risks associated with head lice.

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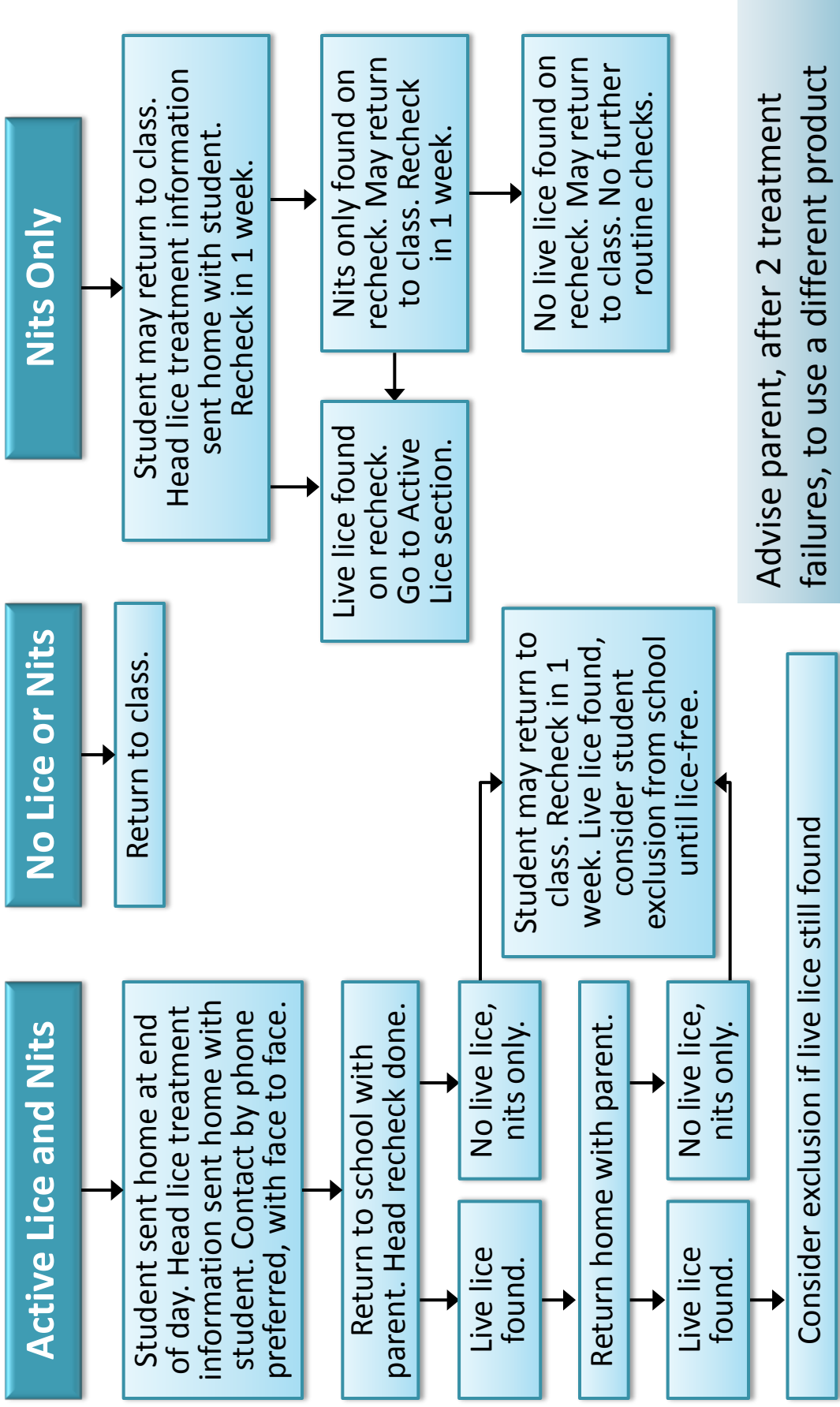
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Students With Possible Head Lice in School¹



Reference: 1. Adapted from Lowell (MA) Public Schools. 2012. www.lowellma.gov/depts/health/policies-and-protocols/lice/Head%20Lice%20Flow%20Chart.pdf. Accessed April 28, 2013.

Pershing County School District

Health Services Policy

Subject:

Pediculosis

Purpose:

To describe the policy and procedure for managing the student or staff member with pediculosis in order to prevent further dissemination and infestation of other children or staff members AND to maintain school attendance minimize the disruption of the learning process to the greatest extent possible..

Definitions:

Active infestation: finding a live louse or nymph on the scalp or a viable egg within 1 cm of the scalp

Non-viable egg: an egg found on a hair shaft farther than 1 cm from the scalp

Head Lice: small parasitic insects that live on the scalp and neck of the human host.

Nymph: young, recently hatched louse

Pediculicide: chemical which kills nymph stage and adult lice

Ovicide: chemical which kills lice eggs/nits

Nits: eggs of lice, attached to hair shaft

Louse: singular of lice

Pediculosis: having the condition of infection from lice

Policy:

The presence of lice does not connote a lack of hygiene or sanitation by rather close contact with another infected person. Lice can neither fly nor jump, and are species specific so are not transmitted from other animals to humans. A nymphal louse hatches from its egg after about 8 days of development, and begins to feed, grow and develop until it attains the adult stage about 9-12 days after hatching. A female louse lays about six eggs per day. (NCG, 2008; Pollack, 2000)

Treatment for lice should be considered only when active lice or viable eggs are observed. (NGC, 2008, Pollack, 2000; Elstoi, 2005; Mumcuoglu et al., 2006; Roberts & Burgess, 2005). Head lice do not transmit any known human pathogens and the risk of exposure to the chemicals necessary for elimination lice and subsequent exclusion from school are not merited unless absolutely necessary. Mass screenings are neither effective nor necessary and should be discouraged. The vast majority of transmissions occur in the household or among children who play together often, sharing clothing, grooming supplies, linen and/or clothing. In school transmission is extremely rare. There is no data that demonstrates that exclusion policies and non nit polices are effective in reducing the transmission of lice. (Pollack, 2000)

Pediculosis is a communicable condition which may or may not require exclusion from school. All parents of students and staff members with evidence of head lice (Pediculosis) shall be notified at the end of the school day. "The discovery of lice or their eggs on the hair should not cause the child to be sent home or isolated. Furthermore, treatment is not indicated if the infestation is not active." (Pollack, 2000).

Persons excluded for pediculosis shall be provided with a copy of a parent information sheet which describes the PCSD Pediculosis policy and procedure for readmission to school, as well as information on how to treat the condition.

Infested persons must be examined and cleared by a nurse prior to return to school.

Recognizing the greater risk of in-home transmission, and the lesser likelihood of classroom transmission, especially in older students, PCSD policy is to check all the siblings of the infested student n all grades/schools in the district will be checked. Mass or classroom screening will **not** be performed when a single case of lice is confirmed in a classroom,

It will be up to the school nurse's discretion as to when or if mass or classroom screening will occur. The school nurse may choose to mass screen if there is more than one child in the same classroom with a confirmed infestation, and there is no evidence that the child had contact with the student outside of school. The school nurse may screen individual students at parent request. The school nurse has the responsible to screen any child she determine may be at risk for infestation. All students and staff members in the classroom will be screened in a confidential and sensitive fashion .

The following treatment regimens are recommended (NCG< 2008):

(Evidence Good-Recommendation A)

- 1 % permethrin due to efficacy and lack of toxicity
 - Apply 1% permethrin (NIX or generic equivalent) to dry hair and scalp for 10 minutes then rinsed off.

- Permethrin remains in the hair after shampooing out, so newly hatched nymphs may be killed.
- A second treatment is advised 7-10 days later to ensure cure.
- Remove all nits by wet combing. Spraying vinegar may be used to help loosen the bonds holding the nits, but if used, it MUST be used PRIOR to using permethrin, as to not interfere with the pediculocide action.

(Evidence Good-recommendation B)

- Pyrethrin 0.33% and piperonyl butoxide 4% (RID, Pronto, generic versions)
 - Lotion is applied to the hair that is first shampooed and then towel dried, left on for 10 minutes, then rinsed off.
 - These are not ovicidal and application should be repeated 7 days later to ensure cure.

Pershing County School District understands that nit-removal is a laborious and tedious task, and that there will be certain cases in which the removal of all nits will be so onerous that the child would be excluded from school for an excessive amount of time. In order to insure school success, it is in the best interest of the child to return to school as quickly as possible. Therefore, removal of all nits is not a requirement for re-entry. However, the school nurse may institute and individualized “no-nit” policy as described below:

School Nurse may institute and individualized “no-nit” policy in the following situations.:

1. Student does not show evidence of treatment or continued reinfestation.
2. Student is in preK or Kindergarten class.
3. School nurse or other designated person shall check the student daily for evidence of new infestation and progress on nit removal.
4. Student will be immediately excluded if any evidence of a new infestation is found (*nits closer than ½ inch from scalp or lice themselves*) and will not be readmitted until ALL nits are removed (*no further attendance will be allowed*).

Pershing County School District

Health Services Procedure

Subject:

Pediculosis Management Procedure

Purpose:

To describe the procedure for management of pediculosis infestation at school and recommendations to parents for home treatment. This procedure is based on the “Guidelines for the diagnosis and treatment of pediculosis capitis (head lice) in children and adults 2008” from *National Guidelines Clearinghouse* and the management scheme as outlined in “Head lice information” from *Harvard School of Public Health*.

Definitions:

Head lice: small parasitic insects that live on the scalp and neck of the human host.

Louse: singular of lice

Nymph: young, recently hatched louse

Active infestation: finding a live louse or nymph on the scalp, or a viable nit within 1 cm of the scalp

Pediculosis: an active infestation of head lice

Nit: an egg of a female louse, attached to hair shaft

Non-viable nit: an egg found on a hair shaft FARTHER than 1 cm from the scalp. Already hatched.

Viable nit: an egg found on a hair shaft CLOSER than 1 cm from the scalp. Considered to be unhatched.

Ovacide: chemical which kills lice eggs/nits

Pediculicide: chemical which kills nymph stage and adult lice

Procedure:

Inspection:

When a member of school staff suspects a child or adult staff member is infested with head lice, the following procedure should be followed:

- Wash hands. Use separate sticks OR gloves for each child.
- Using sticks, comb or fingers, separate hair in to small sections and inspect for live lice.
 - If live lice are discovered OR If nits CLOSER than 1 cm to the scalp are discovered,
 - Contact responsible party at the end of the school day and inform of suspected infestation.
 - Provide information on the biology of head lice and methods to eliminate infestation.
 - Inspect suspected infested person’s siblings and close contacts, if possible, for possible infestation
 - Contact responsible party at the end of the school day and inform of suspected infestation. Provide information on the biology of head lice and methods to eliminate infestation.
 - If nits FARTHER than 1 cm to the scalp are discovered, it is not necessary to contact responsible party.
- Return child to class
- The child should be encourage to refrain from activities involving close contact (i.e., hugging) or sharing personal items (i.e., hats, clothing, brushes) with other children.
- The student’s teacher should notified, and the parents must be contacted (verbal communication is preferred).
- If the child has lice, they probably have been infested for weeks and prompt removal of the child could lead to embarrassment and ridicule. The child can be sent home at the end of the day. Children should be allowed to ride the school bus home. Transmission via school bus seats is not likely because of the biology of head lice.

Treatment Recommendations:

PEDICULOCIDES

First Line Treatment

(Evidence Good-Recommendation A)

- 1 % permethrin due to efficacy and lack of toxicity
 - Apply 1% permethrin (NIX or generic equivalent) to dry hair and scalp for 10 minutes then rinse off.
 - Permethrin remains in the hair after shampooing out, so newly hatched nymphs may be killed.
 - A second treatment is advised 7-10 days later to ensure cure.
 - Remove all nits by wet combing. Spraying vinegar may be used to help loosen the bonds holding the nits, but if used, it **MUST** be used **PRIOR** to using permethrin, as to not interfere with the pediculocide action.
 - Approved for use on children 2 months of age and older

(Evidence Good-recommendation B)

- Pyrethrin 0.33% and piperonyl butoxide 4% (RID, A-200, Pronto, generic versions)
 - Lotion is applied to the hair that is first shampooed and then towel dried, left on for 10 minutes, then rinse off.
 - These are not ovicidal and application should be repeated 7 days later to ensure cure.
 - Approved for use on children 2 years of age and older.

Prescription Second Line Treatments.

Recommended as second line of treatment should either of the above treatment regime fail.

- Benzyl alcohol lotion, 5% (Ulesfia lotion)
 - Lotion applied to dry hair and left on for 10 minutes
 - Kills lice but is not ovicidal. Second treatment required 7 days later to kill newly hatched nymphs
 - Approved on children age 6 months and older.
- Ivermectin lotion, 0.5% (Sklice)
 - Lotion applied to dry hair. Leave on for 10 minutes.
 - Is not ovacidal, Prevents nymphs from surviving
 - Usually only one dose is required
 - Approved for children age 6 month and older
- Malathion, 0.5% (Ovide)
 - Lotin is applied to dry hair, leave in 8-12 hours
 - Pediculicidal and partially ovicidal. A second treatment is recommended if live lice still present 7-9 days after treatment
 - Can be irritating to the skin, and is flammable, so no smoking or using of electrical sources while the hair is wet.
 - Approved for children 6 years of age and older.
- Spinosad 0.9% (Natroba)
 - Lotion applied to dry hair and left on for 10 minutes.
 - Is both ovacidal and pediculocidal
 - Retreatment, if necessary, in 7 days if crawling lice still seen
 - Approved for children age 4 years and older

ALTERNATIVE REGIMENS

(Evidence Good, Recommendation B)

- Combing of wet hair using a conditioner of choice and a fine-tooth louse comb
 - Wet combing is treatment of choice for children younger than 2 years of age
 - Repeat combing needs to be done over 2 weeks on days, 1, 5, 9 and 13 to break the life cycle
- Lidane-no longer recommended for use.

Other Management Considerations:

- Family members should only be treated with pediculocides if infected and not “just in case” or “to be sure”.
- Personal hair care items should be treated with pediculocides or soaked in hot water
- Bedding should be laundered in hot water and towel dried on the hot cycle for 40 minutes, or dry cleaned within 48 hours of contact of head of an infested person.
- If a person has been treated for lice, parents need to inform the school nurse
- Towel dry hair before using treatment as too much water dilutes the pediculicide, decreasing its efficacy. Do not wash hair for 1 to 2 days after treatment.
- Long hair may require more than 1 bottle of product per treatment.
- The use of environmental insecticides such as RID, Raid or others on inanimate objects is NOT recommended.

Rating scheme for strength of the recommendations:

Grading of Recommendations:

- A. There is good evidence that the recommendations improve important health outcomes. Benefits substantially outweigh harms.
- B. There is at least fair evidence that the recommendations improve important health outcomes. Benefits outweigh harms.
- C. There is at least fair evidence that the service can improve health outcomes but the balance of benefits and harms is too close to justify a general recommendation.
- D. There is at least fair evidence that the recommendation is ineffective or that harms outweigh benefits.
- I. Evidence that the service is effective is lacking, of poor quality or conflicting and the balance of benefits and harms cannot be determined.

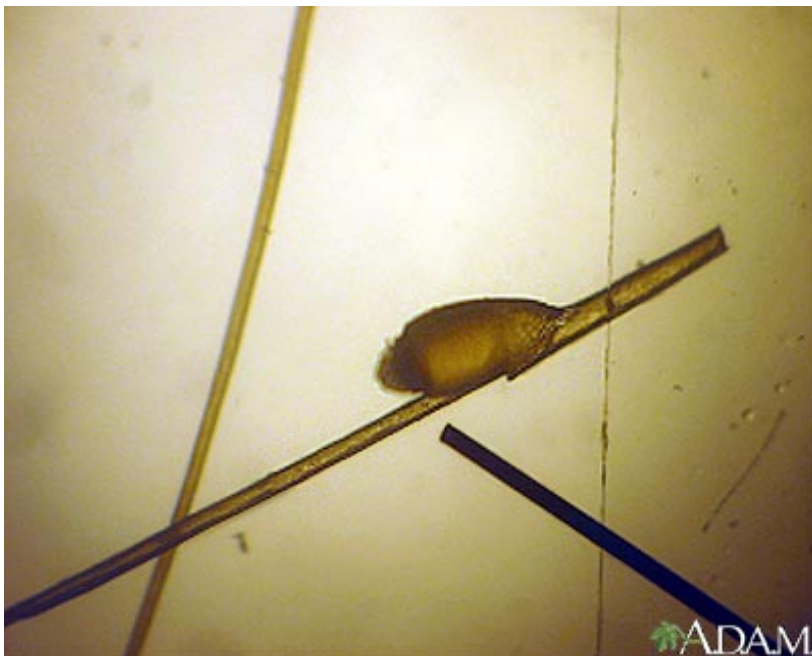
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<http://www.hph.harvard.edu/headlice/photos.html>

Photo of adult head lice next to the head of a match stick.



Photo of head lice egg on hair shaft.



Drawing of head louse egg.

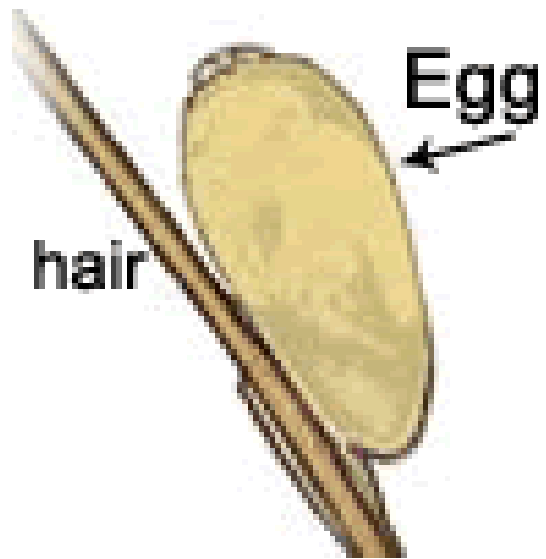


Photo of nymph, young head lice (left) next to an adult lice (right)



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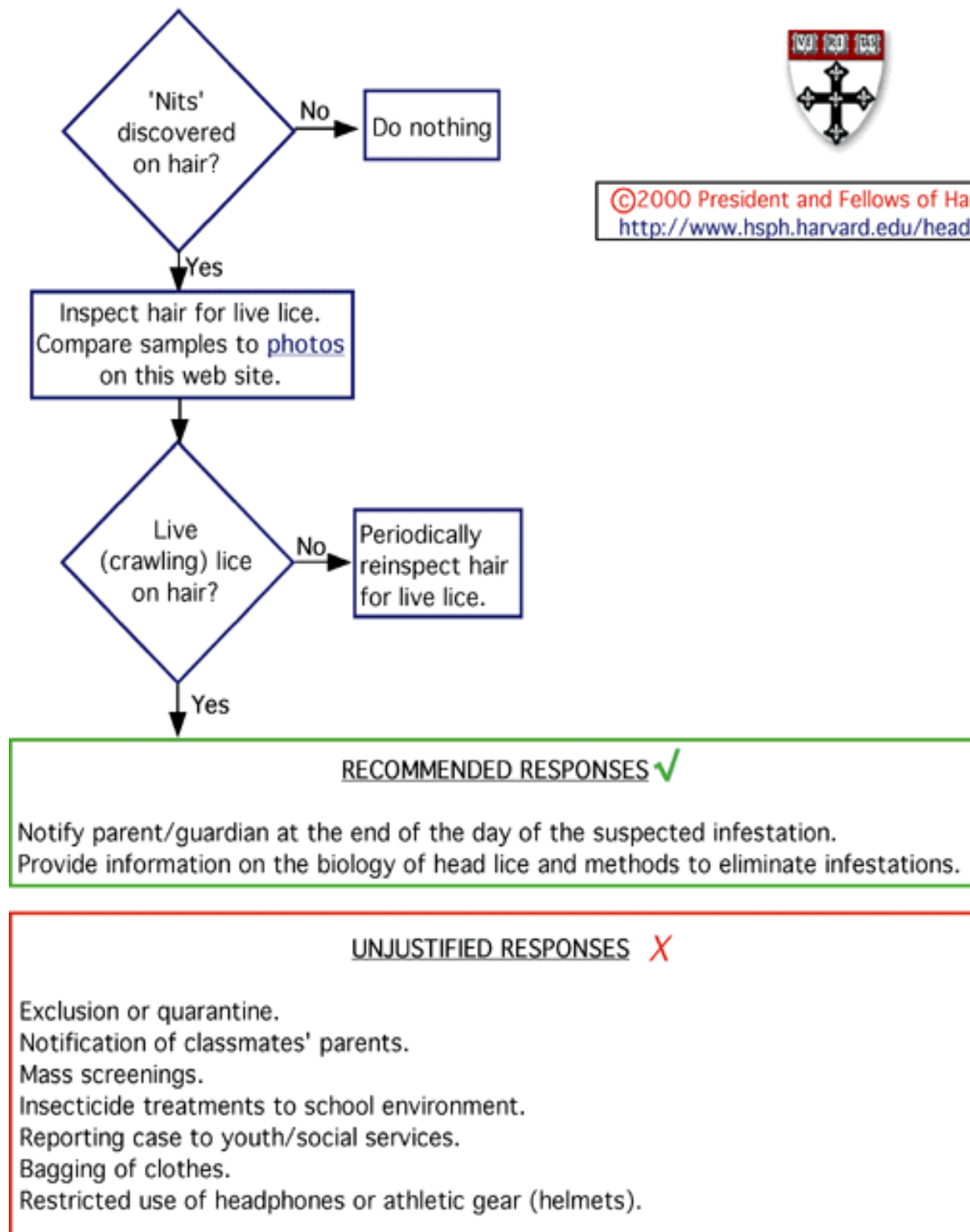
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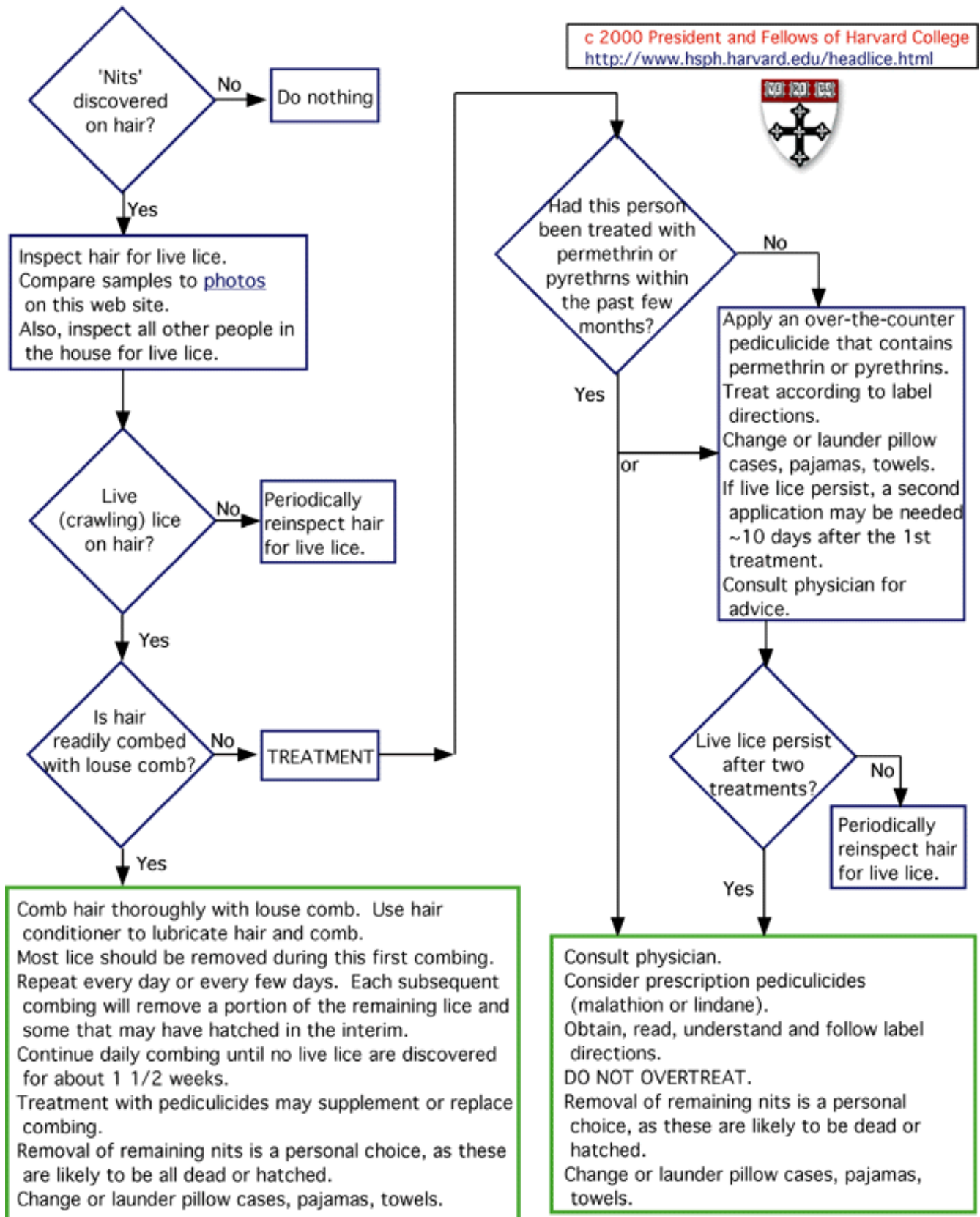
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Scheme for managing presumed head louse infestations in schools



Scheme for managing presumed head louse infestations

c 2000 President and Fellows of Harvard College
<http://www.hsph.harvard.edu/headlice.html>



Ways to Kill Head Lice

NOTE: Home remedies, such as baby oil or olive oil, do not work. They may “stun” the lice for a while, but they may come recover. Also tea tree oil or other natural products do NOT prevent lice.

The following are the recommended treatments for lice that DO work, in order of how well they work/cost, according to the National Guidelines Clearing House, CDC and the Harvard School of Public Health

Try One of These **First** (available at Lovelock Pharmacy, Safeway and the Dollar Store)

- **NIX**, also known as **permethrin** (it works well and has low side effects)
 - Slightly recommended over Pyrethrin (below)
 - Apply to dry hair and scalp for 10 minutes then rinse off.
 - Permethrin remains in the hair after shampooing out, so newly hatched nymphs *may* be killed.
 - **Use again 7-10 days later to make sure you kill any newly hatched lice.**
 - Remove all nits by wet combing. Add cream rinse to help with coming. Cream rinse does NOT kill lice.
 - OK for use on children 2 months of age and older
- **RID, A-200, Pronto**, or generic versions of **Pyrethrin**-(easy to find, usually works well and low side effects)
 - Apply lotion to hair that is already shampooed and then towel dried, leave on for 10 minutes, then rinse off.
 - These do not kill the nits (eggs). **You must use again in 7-10 days to kill any new ones that hatch.**
 - Remove all nits by wet combing. Add cream rinse to help with coming. Cream rinse does NOT kill lice.
 - OK for use on children 2 years of age and older.

Try **these** if the above ones don't work after two times, (need to see the doctor)

- **Sklice**
 - Apply lotion to dry hair. Leave on for 10 minutes.
 - Does not kill nits (eggs) but does keep newly hatched lice from surviving
 - Usually only one time treatment is required
 - OK for children age 6 month and older
- **Natroba**
 - Apply lotion to dry hair. Leave on for 10 minutes.
 - Kills both lice and eggs (nits)
 - Treat again, if necessary, in 7 days only if crawling lice are still seen
 - OK for children age 4 years and older
- **Ulesfia lotion**
 - Apply lotion to dry hair. Leave on for 10 minutes
 - Kills lice but not eggs (nits). **You must use again in 7-10 days to kill any new ones that hatch.**
 - OK on children age 6 months and older.

If the above ones do not work, then consider **this** one

- **Ovide**
 - Apply lotion to dry hair, leave in 8-12 hours
 - Kills lice and some eggs. Use again if you still see some lice 7-10 days after first treatment
 - Can be irritating to the skin, and is flammable, so no smoking or using of electrical sources while the hair is wet.
 - OK for children 6 years of age and older.

Other ways to get rid of lice

- Combing of wet hair using a conditioner of choice and a fine-tooth louse comb
 - Use this for children UNDER the age of 2 years of age
 - Comb every 4 days over entire head for 2 weeks. Comb on days, 1, 5, 9 and 13 to break the life cycle
 - **This does not kill the lice**, but you remove them and their eggs by combing.
 - Metal lice combs work much better than plastic ones.
- Cleaning the ENTIRE HOUSE is NOT necessary and does not help get rid of lice. Wash clothes and bed linen that has touched the child with lice in the last 48 hours. Vacuum floors and couches the child has been on. That is enough.

LICE 101

Everything you really didn't want to know about lice!

Definitions	
Lice- more than one <i>louse</i>	Nit-eggs, dead or alive of a louse
Louse-small insect that lives on the scalp	Parasite-lives off another, in this case the blood of humans
Pediculosis-having an infestation of lice	Infestation-having an insect present, in this case, in your head
Myths	Truths
Lice are easy to get	Lice are spread only by head to head contact. They are much harder to get than a cold, flu, ear infection, pink eye, strep throat, food poisoning or impetigo.
You can get lice from your dog, guinea pig or other animal	Lice are species specific. You can only get human lice from another human. You cannot get another animal's lice
Lice are often passed via hats and helmet	Rarely, but possible. Hairbrushes, pillows and sheets are much more common modes of transmission
School is a common place for lice transmission	School is a VERY RARE source of transmission. Much more common are family members, overnight guests and playmates who spent a large amount of time together
Poor hygiene contributes to lice	Hygiene makes absolutely no difference. Lice actually like clean hair more than dirty. You get lice by close personal contact with someone else who has lice, not by being dirty
Lice can jump or fly from one person to another	Lice can only crawl. They can neither fly nor jump. They must crawl from one person to another
Any nits left in the hair can cause lice to come back	Any nits farther away than ¼ to ½ on the hair shaft are ALREADY HATCHED and pose no risk to others
Eggs or nits can fall out of the hair, hatch and cause lice in another person	Nits are cemented to the hair and very hard to remove. They cannot fall off. Newly hatched larvae must find a head quickly or will die.
Lice can live a long time	Lice live only 1-2 days off the head
All members of a family should be treated if one person has lice	Only the person with lice should be treated. Lice shampoos are INSECTICIDES and can be dangerous if used incorrectly or too frequently. Household members and close contacts should be checked, but only treat those who actually have lice. The house should NOT be sprayed with insecticide, nor used on clothing or other items.
Checking a classroom when one student has lice can prevent lice from spreading	Classroom transmission is EXCEEDINGLY RARE and a waste of valuable teaching time. Checking family members and close playmates is much more appropriate
Avoiding lice is important as they spread disease	Lice do not spread any known disease. They are annoying and icky, but cause no disease.

Pershing County School District, Lovelock, NV

Created by Deborah Pontius, MSN, RN, NCSN
Health Services Coordinator/School Nurse

Date:

To: Superintendent Fox and Pershing County School Board Trustees
From: Debbie Pontius, RN, MSN, NCSN; Health Services Coordinator
Re: Proposed revision of “no-nit” lice policy

In past, exclusionary “no-nit” lice policies were based on emotional reactions to the concept of lice infestation and a misunderstanding of the path of transmission rather than scientific research based evidence. In the last 10 years multiple studies have proven exclusionary policies do NOT influence the transmission of head lice and in fact are detrimental to the health, well-being, emotional and educational status of students.

Although in an adult, even the word “LICE” causes mental discomfort, even to the point of panic, an infestation of head lice is generally a minor and temporary annoyance to a child. Head lice are not associated with poor hygiene or parental neglect. Head lice are not a medical problem, and do not pose a public health threat. They are not known to spread any disease agents. The greatest danger from head lice is from secondary infection due to scratching the skin with dirty fingernails (rare). Head lice cling to hair. They cannot jump from one person to another. They are species-specific and not spread from animals to people. Head lice are passed by direct, close, head to head contact. Schools are not a common source of spread of head lice. In fact, in the 10 years of my employment at PCSD, I have less than 5 cases of possible in-school transmission.

Head lice cause unnecessary absence from school and work, millions of dollars misspent on remedies, and unnecessary treatment of misdiagnosed infestations. Studies demonstrate that screening for head lice in schools does not decrease the incidence of head lice and are not cost effective. Results of studies suggest that education of parents in identifying and managing head lice is more effective and that class-wide or school-wide screening and such screenings should be discouraged.

The American Academy of Pediatrics, the National Association of School Nurses, the Centers for Disease Control, and the Harvard School of Public Health have all recommended that students with nits and/or head lice REMAIN in school and NOT be excluded.

The proposed revisions to the Head Lice Policy follow the recommendations of national experts and provide a structure based on the model from the *Harvard School of Public Health*. This approach to head lice will reduce unnecessary school absences, limit embarrassment of students, decrease unnecessary exposure to potentially toxic chemicals to treat head lice, and calm anxiety on the part of parents and school staff.

This policy revision is a cooperative effort of the Chief School Nurses in Nevada. It is current national standard of care and based on scientific, evidence-based practice.

Thank you for this consideration of policy revision,

Deborah J. Pontius

All About Lice

The District has recently changed its lice management policy. You may wonder why. This letter is to explain the reasons for this change and help you understand why this does NOT put your child at more risk for getting head lice.

Why did the District make a change?

Pershing County School District lice policy has been changed to reflect standard practice as recommended by the *Center for Disease Control (CDC)*, *American Academy of Pediatrics*, the *National Association of School Nurses*, the *American School Health Association*, the *Harvard School of Public Health*, and many others. They all recommend that students with eggs and/or head lice REMAIN IN SCHOOL and not be immediately excluded. When lice is found on a child at school, that child's parent will, of course, be informed. The school nurse will follow up to make sure the child is treated appropriately. If the student is not treated appropriately, then she or he will not be able to come to school.

Why Would These Medical Organizations Recommend This?

1) **Although lice are “icky,” they do not cause disease and are not dangerous to the child or others.** It didn't make sense that children with the common cold, which is easily passed from student to student and can make them very sick, are kept in school. But children with lice, who are not sick, and which can only rarely be given to another child in school, and are in no way dangerous, were kept out of school.

2) **No matter how careful staff is to protect the privacy of students, when a student leaves a class and does not come back, most students figure out the child has lice.** This can be very embarrassing for the child and the family. In fact, the school usually does not know of most cases of lice because families are too embarrassed to tell us.

3) **By the time lice is discovered, the child has usually had them for 3-4 weeks.** They have been in school this whole time, and no one else in school has gotten lice from them. It doesn't make sense to immediately take them out school as soon as the lice are found.

§) **And most important, school is NOT a high risk area for getting lice!** Over the last 10 years multiple studies have proven the school RARELY is the place of lice transmission. In the rare case at school it is only among very young children, as in preschool or kindergarten, when they play very close together. The vast majority of cases of lice are spread by friends and family members who often play or live together.

Lice cause an emotional reaction. Old fashioned “no-nit” policies were based on that reaction, not on scientific evidence of how lice were passed. In the last 10 years MULTIPLE studies have proven keeping kids with eggs, or even lice, out of school do NOT reduce the amount of lice. “No-nit policies” are bad for the health, well-being, emotional and educational status of students.

(over for more)

What WILL the school do if a case of possible lice is reported or found?

- The school nurse will check any student reported to possibly have lice. If active lice or nits (eggs) are found, the parent will be confidentially notified at the end of the school day. The teacher will be informed immediately, and the child will not use any shared headphones, helmets, hats or clothing. The school nurse will provide information to the parents about proper treatment.
- Parents of children with head lice will be encouraged to talk to other parents of close playmates.
- If no lice or nits are found, but the parent or child reports he or she has recently been treated for lice, the child will be checked again in one week.
- Household members and close playmates of the person with lice will also be checked. Parent will be informed if their child has lice. Parents will NOT be informed of other children who have lice in school, as that is a privacy concern AND the risk of getting lice from a classmate is very small.
- Students with lice will be checked when they return to school and one week later to make sure all the lice are gone.
- If the child with lice is very young, the school nurse may choose to check classmates in preschool and kindergarten.
- If a parent does not follow through with the proper treatment, then the child with lice will be excluded from school until proper treatment has been completed.
- Lice are very common. They always exist in children and in schools. No school is ever lice-free, just like no school is free of head colds.

Back to School withOUT lice



Returning to school is a good time to think about checking your children regularly for lice. Summer overnights and vacations with family may have spread unwanted visitors, and now that we are back in school they become more noticeable. Although it is not possible for protect your child from getting lice, it is possible for **parents** to find them early. Finding lice early makes treatment easier. On the back are directions by Dr. Gordon on how to self-screen for lice. **This should be done weekly** or any time you think your child may have been exposed.

Below are some important things to remember about lice. More information can be found on the school nurse website at: www.pershing.k12.nv.us. Select “district” from the top menu, then “health services/school nurse,” then find the “lice and communicable disease” link on the left panel.

- **Lice is always around in a community**, including Lovelock. Just like a cold, someone always has lice. Research says usually 3-5% of any elementary school have lice. That means it is **normal** for up to 19 children to have lice at any one time at LES. LES has **NEVER** had that many children with lice at one time, so we are WAY below normal. **It is impossible for a community (or school) to be lice free.**
- Research proves that lice are **RARELY** caught at school. (about 10%of the time, so 10% of 19 children mean a maximum **of 1 child per year** may get lice from another child at LES.) The **most common places** that a child may get lice is at a sleepover, from family members or other people in the same household, or when spending a lot of time with another child with lice, **with their heads very close together**. Occasionally, lice can travel from one child to another on hairbrushes, scrunches and fuzzy hats. Preschool is a notable exception, because kids are much closer together for longer periods of time, lice are occasionally passed in preschool.
- **Lice cannot jump or fly, they must crawl.** So a louse must have enough time to crawl from one child to another.
- Lice do not live off a child’s head for more than a few hours. **So places**, like school, or houses, or even pets, **do not spread lice**. Only a *person* with lice can give lice to someone else.
- **If the school knows** of a child with lice, the school nurse will help the family with the proper treatment. Students are allowed to stay in school with lice, as long **as they are being treated**. The student with lice is no danger to other children. If your child or you know of a child who may possibly have lice, please let the school know so the school nurse can do a confidential check. You can report anonymously.

For more information about lice, got to:

http://www.cdc.gov/parasites/lice/head/gen_info/faqs.html

<https://identify.us.com/idmybug/head-lice/head-lice-FAQS/>

http://www.nasn.org/portals/0/resources/HFLL_101_parents.pdf

Demystifying Pediculosis: School Nurses Taking the Lead

Deborah J. Pontius

Consider this scenario common five years ago: Nathan, a second grade student, was sent to the school nurse's office for a "head check" after his teacher noticed him frequently scratching his head. The nurse finds several tiny white objects on Nathan's hair, about an inch from the scalp. The nurse does not see any evidence of nits closer to the head, nor does she find any live lice. Per school policy, the nurse immediately calls his parents and requests they come to pick him up. His belongings are brought to the nurse's office. When his parents arrive, the nurse explains there is evidence that Nathan might have lice, and that he needs to be treated. She also explains the "no-nit" policy, meaning all nits must be removed from his hair before he returns to school. The nurse describes a treatment program that includes washing all the linen in the house, washing all of Nathan's clothing, putting all items that cannot be washed, such as stuffed animals, in a plastic bag for 10 days, and spraying an aerosol pediculicide or vacuuming all hard and soft household surfaces. The nurse also recommends the student and all members of the family be treated with a pediculicide. As an alternative, the nurse suggests a regime that includes either a mayonnaise treatment or a commercial lice removal service. The nurse proceeds to check the heads of all the students in Nathan's classroom and sends a letter home to notify the parents of Nathan's classmates of a case of lice in the classroom. Nathan's

The treatment of *Pediculosis capitis*, or head lice, is fraught with misinformation, myths, and mismanagement. Common myths include the need to exclude children from school, the need to remove all visible nits ("no-nit" policies), the need for massive environmental cleaning, that head lice live for long periods of time, and that schools are a common location for lice transmission. Head lice are a common childhood nuisance, causing embarrassment and emotional trauma in both children and families. This article explores and challenges the commonly held beliefs about the identification, management, and treatment of *Pediculosis* by presenting current recommended evidence-based practice. It also challenges pediatric nurses, and school nurses in particular, in alignment with the National Association of School Nurses (NASN) Position Statement on *Pediculosis* Management in the School Setting, to act as change agents for reasonable and effective school policies and practices.

teacher asks the nurse to check her head and to sanitize headphones in her classroom.

The problem with the scenario described above is that *not one* of the health care provider interventions is evidence-based best practice. Many school nurses across the county have successfully advocated their school boards to update their treatment of *Pediculosis* to reflect the current state of knowledge. Unfortunately, the scenario above is still all too common. This article will evaluate common head lice myths or traditional practices and present current evidence-based *Pediculosis* practice.

For the school community, *Pediculosis capitis*, or head lice, is a time consuming, seemingly never-ending problem. School children (presumed to be) with lice have been estimated to lose an average of four days of school per year in schools where "no-nit" policies are enforced (Gordon, 2009). This represents not only a loss of the opportunity for learning, but a loss of funding for schools and loss of parent work days as well. Nationwide, it has been estimated that schools lose between \$280 to \$325 million in annual funding, and families lose up to of \$2,720 in wages per active infestation (Gordon, 2009).

Myth #1. Lice Are Easy To Get; They Are Easily Passed via Hats, Helmets, Or Hair Care Items; And Can Jump or Fly From One Person to Another

A head louse is a wingless insect with six legs; therefore, it cannot jump, fly, or even crawl long distances (Centers for Disease Control and Preventions [CDC], 2013a). Lice possess pincher-like grasping structures that allow them to hold on to the hair shaft quite tenaciously. Bathing, shampooing, or simple daily hair brushing cannot easily dislodge them (see Figure 1). The pincher actually adapts to hair shafts. In the U.S., the most common form of head lice species has adapted to the round Caucasian hair shaft (Frankowski & Bocchini, 2010). Lice are much less common among the oval-shaped hair shaft of the African-American child. A louse is mostly readily transmitted via head-to-head contact.

There is a very small theoretical possibility that hair care items may assist in the transmission of lice, although these insects are likely to be dead or injured. Therefore, it is pru-

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dent to recommend not sharing hairbrushes, combs, or hair retainers, such as “scrunchies” or ponytail holders. Slick helmets (e.g., bicycle helmets, football helmets, or baseball hats) pose no risk of transmission (Burgess, Pollack, & Taplin, 2003; CDC, 2013a; Frankowski & Bocchini, 2010; Pontius, 2011). Although bed linen may be a source of transmission, one study found live head lice on only 4% of the pillow cases used by an infested person (Speare, Cahill, & Thomas, 2003). Sharing beds is noted to be a significant risk factor for transmission. The extended time with heads being close to each other when bed sharing presents an opportunity for adult lice to crawl from one head to another (Burgess et al., 2003; Frankowski & Bocchini, 2010; Meinking & Taplin, 2011).

Symptoms of lice include tickling sensations, difficulty sleeping, sores on the head from scratching, and itching. Pruritus is caused by sensitization to components of the louse’s saliva. With a first case, itching may not develop for three to six weeks, but with repeated cases, the pruritus develops much more quickly (Frankowski & Bocchini, 2010).

Myth #2. You Can Get Lice From Your Dog, Guinea Pig, or Other Animal

Human head lice (*Pediculus humanus capitis*) are small parasitic insects that live on the scalp and neck hairs of *human* hosts. Although there are a number of other types of mammalian lice, they are all species-specific. Only humans can spread human lice. Humans can only acquire human lice (CDC, 2013a).

Myth #3. Head Lice Breed In Furniture, Carpets and Other Household Objects; You Must Treat the House To Eliminate Lice

People are infested with head lice, not things or places. A louse’s entire existence is dependent upon the human host, and without this host, lice typically die within 24 hours (Meinking & Taplin, 2011). Eggs remain viable a bit longer, but as soon as hatched, they must feed on the human host, or they will die within hours. According to Richard Pollack, PhD, noted expert on para-

Figure 1.
Gripping “Claw” of the Head Louse



Source: CDC Public Health Image Library, 2014.

sitology and entomology, “I’ve seen nothing of an objective nature to suggest that fomites play any significant role in the transmission of head lice” (Burgess et al., 2003, p. 4).

If a child is determined to have a lice infestation, only items that have been in contact with the head of the person with the lice in the previous 24 to 48 hours prior to treatment should be considered for cleaning (Frankowski & Bocchini, 2010). This may include items of clothing worn near the head and possibly carpeting or rugs if the child was lying on them. Washing, soaking, or drying items at temperatures greater than 130° F will kill stray lice or nits. Cloth or carpeted items may be vacuumed. Although the risk is low, it is prudent to not share combs, brushes, or other hair care items. Pediculicide spray in the home is *not* necessary and should *not* be used. It provides unnecessary exposure to pediculicides to both infested and uninfested persons in the household, and can be dangerous to infants (CDC, 2013a; Frankowski & Bocchini, 2010). The American Academy of Pediatrics (AAP) finds no benefit in “herculean cleaning measures” (Frankowski & Bocchini, 2010, p. 398).

Myth #4. Poor Hygiene And Low Income Are Associated with Head Lice

Head lice often infest people with good hygiene and grooming habits (CDC, 2013a). There is some evidence that *more* lice will be found on the head that is shampooed or brushed *less* often (Frankowski & Bocchini, 2010). However, regular hair hygiene will not eliminate nor prevent head lice, but may remove lice that are probably dead or dying (Pollack, Kiszewski, & Spielman, 2000). All socioeconomic groups are affected, and infestations are seen throughout

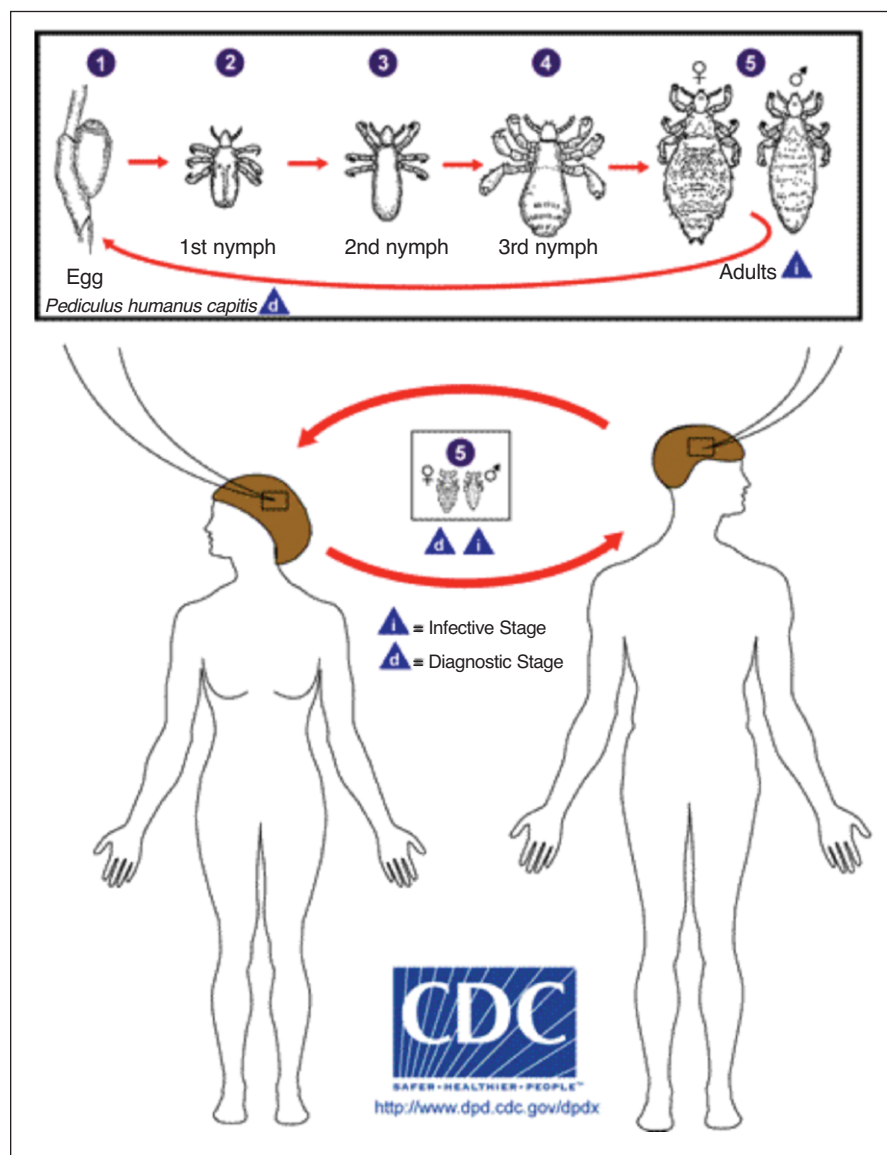
the world. In the U.S., children in preschool and primary grades are affected more often, as are their caregivers and housemates. This is due to the opportunity for close, head-to-head contact (Burgess et al., 2003).

Myth #5. The Presence Of Nits/Eggs Indicates An Active Case of Lice

The three stages of the louse life cycle are egg/nit, nymph, and adult, and altogether, the life cycle lasts approximately 45 days (CDC, 2013a) (see Figure 2). The adult female louse lays up to 8 to 10 brown to yellowish colored eggs per day, which are cemented to the base of the hair shaft, most commonly found behind the ears or at the nape of the neck (see Figure 3). The color of the eggs may vary to match the color of the hair, making them very difficult to discover (Frankowski & Bocchini, 2010; Meinking & Taplin, 2011). Because of the cement-like attachment, they cannot “fall” off. Nymphs hatch in about one week, leaving behind a white-colored shell or nit. The nymph stage is also about one week in length, going through three molts to achieve adulthood (see Figure 4). The adult is the size of a sesame seed, is brown to gray or whitish in color, and will live for as many as 30 days (CDC, 2013a). Although some authorities refer to the “nit” as the non-viable shell only because it is difficult to ascertain true viability of a nit without microscopic examination, this article will use the more commonly ascribed definition of nit to include both viable eggs and hatched egg shells.

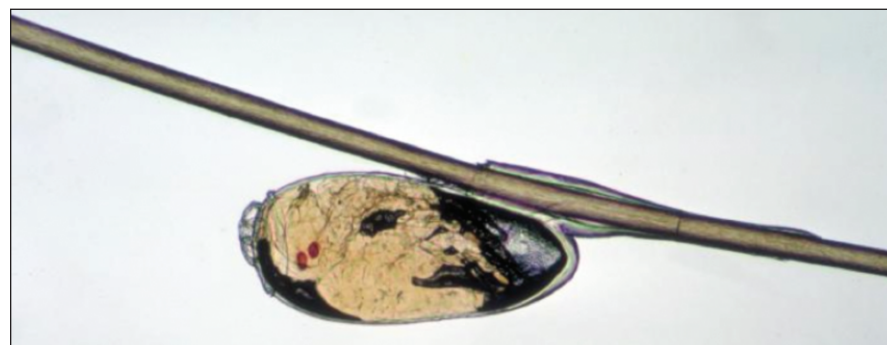
The presence of a live louse is considered the gold standard for an active infestation, not the mere presence of nits (Pollack et al., 2000; Meinking & Taplin, 2011). A viable nit is one that is closer than six millimeters (mm) to the scalp (CDC,

Figure 2.
Lifecycle of the Louse



Source: CDC, 2013c.

Figure 3.
Viable Nit



Source: CDC Public Health Image Library, 2014.

2013a). Considering that nits do not move after being laid, that nits hatch in approximately seven days, and that hair grows and average of 13 mm (Caucasian) to 10 mm (African American) per month (Loussouari, Rawadi, & Genain, 2005), and generously doubling the viability estimate (as it can be longer in warmer climates (Meinking & Taplin, 2011), most experts concur that nits found farther than one-fourth to one-half inches (6 to 12mm) from the scalp are non-viable (Frankowski & Bocchini, 2010; Mumcuoglu et al., 2007; National Association of School Nurses (NASN), 2011; Pollack et al., 2000). Lice are more common among girls, which may be due to longer hair hiding the infestation or a greater likelihood of playing with heads closer together (Burgess et al., 2003; Frankowski & Bocchini, 2010). By the time a case of lice is found, the child has generally had them for a month or more (Frankowski & Bocchini).

Myth #6. No-Nit Policies Reduce the Transmission Of Head Lice in Schools

Over the past decade, there have been important recommended changes in the management of head lice in schools: *No student should ever miss school time because of head lice, and no-nit policies should be eliminated* (CDC, 2013a; Frankowski & Bocchini, 2010; Mumcuoglu et al., 2007; NASN, 2011). Many schools have traditionally had “no-nit” policies, which require the removal of all nits, viable or not, before a child returns to school. To school personnel unfamiliar with the life cycle of the louse, school exclusion for an infestation or for the evi-

Figure 4.
Comparison of Egg, Nymph, and Adult



Source: CDC Public Health Image Library, 2014.

dence of nits seems logical. Their rationale may be that by excluding those who have head lice, others will not catch it. However, there is no evidence that these policies reduce the transmission of head lice in schools. Moreover, there is significant evidence they increase absenteeism, shame, stigma, and unnecessary treatment.

The Cost of “No-Nit” Policies

It has been estimated that school children with lice lose an average of four days of school per year in schools where “no-nit” policies are enforced (Gordon, 2009). The loss of the opportunity for learning, funding for schools, and parent/guardian work days result. Our nation’s schools lose between \$280 to \$325 million in annual funding, and families lose up to \$2,720 in wages per active infestation (Gordon, 2009). One study found that while the presence of more than five nits closer than one-quarter inch from the scalp *was* a risk factor for the development of an active infestation, most of these children did not actually become infested (Williams, Reichert, MacKenzie, Hightower, & Blake, 2001). Just the presence of nits does not indicate the presence of an active case of lice, especially if the nits are more than approximately one half inch (1 cm) from the scalp.

Even viable nits do not transmit lice. Eggs cannot be transmitted from one head to another, nor can they fall off the hair shaft. Even if hair with a viable nit falls off, it will not hatch at temperatures lower than the human head (Meinking & Taplin, 2011). Should environmental temperatures stay warm enough that the nymph actually hatches *off* the head, as an obligate ectoparasite and blood feeder, it must find a human host or rapidly succumb within 24 to 48 hours (Frankowski & Bocchini, 2010). There is no medical need to eliminate empty egg cases, but removal for esthetic reasons may reduce stigma (Burgess et al., 2003; Gordon, 2007). Additionally, the evidence shows both lay and health care personnel, even school nurses (who generally spend the most time of any health care professional assessing for lice) actually identify hair casts, hair product debris, dandruff, and other items found in the hair erroneously as lice or nits equally as often as they do so correctly (Pollack et al., 2000).

Exclusion for Live Lice

It also is no longer recommended to exclude children *immediately* for live lice or viable nits, but rather, to wait to notify parents/guardians at the end of the day. In most situations, the child has probably had lice for a month or more and possesses little risk to others (CDC, 2013a; Frankowski & Bocchini, 2010; Mumcuoglu et al., 2007). Any exposure to his or her classmates has already occurred, and immediate exclusion provides no further prevention. No exclusion from any activities is necessary, including riding the school bus or participating in sports.

Shame and Stigma

When a child is called to the nurse’s office and does not return, and then a note goes home at the end of the day to check children for possible lice, it only takes a few questions from parents/guardians to determine which of their child’s classmates has lice. For the child with persistent lice, the shame and stigma can be devastating not only to the child, but to the family as well. Children may be told they cannot play, sit by, or even be friends with the child who had/has lice. Head lice are not a health threat. Unlike body lice, head lice cause no known disease other than the occasional topical infection from persistent scratching, yet can cause a child to be socially ostracized (Gordon, 2007)

The Call for the Discontinuance

The following groups all call for elimination of “no-nit” policies:

- American Pediatrics Association (AAP) (Frankowski & Bocchini, 2010).
- Centers for Disease Control and Prevention (CDC, 2013a).
- International Guidelines for the Treatment of Pediculosis (Mumcuoglu et al., 2007).
- National Association of School Nurses (NASN, 2011).

According to D. Taplin, “If no nit policies were that effective, why do we still have so many head lice?” (Burgess et al., 2003, p. 11). However, eliminating “no nit” policies does not mean eliminating a need to treat the infestation. Whether by chemical or mechanical means, treatment to eliminate the head lice remains a high priority. Although not dangerous, infestation may be uncomfortable and should be managed.

Myth #7. Schools Are a Common Place for Lice Transmission

Surprisingly, schools rarely provide an opportunity for close head-to-head contact, except for very young children, such as preschool and kindergarten students. For that reason, schools are rarely a source for lice transmission. Head lice are most often a community health issue brought into the school setting. Speare, Thomas, and Cahill (2002) found that while 14,000 live lice were found on the heads of 466 children, no lice were found on the carpets of 118 classrooms. Hootman (2002) mapped classrooms of infested students, and found all students in the same classroom with lice shared time together outside of school with relatives, or household members, or had participated in a recent sleepover. Clothing stored next to each other, classroom headphones, riding on the bus together, and playing on the playground or in sports are also *not* sources of transmission (Burgess et al., 2003). The evidence indicates 1% to 10% of U.S. children (in kindergarten to fourth grade) have an infestation of head lice at any one time (Pollock et al., 2000). It is estimated that 10% of those may actually be transmitted in school. It does not make sense to exclude children when the likelihood of transmission in school is only 1%, far less than the common cold.

Schools often see a spike in cases after a school break, such as the beginning of the school year, after Christmas, and again after spring break. This is often falsely attributed to a return to the school environment, but is actually due to *being in the community* for an extended period of time (Gordon, 2007). These break times are commonly when children have sleepovers, go to camp, or visit relatives. They then return to school, and the teacher or school nurse who is familiar with the symptoms identifies the infestation. The school, rather than being the proximate cause of infestation, is the location of its identification.

Current recommendations include notifying parents at the *end* of the school day and providing education on the proper treatment. The child should be checked again the next school day. Should the parents be unable to provide necessary follow

through, further follow up, which may include financial assistance with pediculicides, additional education and how to check and comb out lice and viable eggs, referral for prescription treatment, or as a rare, very last resort, exclusion for non-compliance, may be appropriate (Frankowski & Bocchini, 2010; Pontius, 2011). A child should never lose a day at school because of lice.

Myth #8. Classroom Checks Can Limit Spread Of Head Lice in Schools

It is the position of NASN, the CDC, and AAP that school screenings, either routine or after an identified classroom case, are not productive, cost-effective, or merited, and are wasteful of education time (CDC, 2013a, Frankowski & Bocchini, 2010; NASN, 2011). School screenings are not an accurate way of assessing or predicting which children are or will become infested, and such screenings have not been proven to have a significant effect on the incidence of head lice in a school (Frankowski & Bocchini, 2010; Meinking & Taplin, 2011). One study found that misdiagnosis is so common that non-infested children were excluded from school *more* often than actually infested children (Pollack et al., 2000). Anecdotally, prior to the elimination of “no-nit” policies and classroom screening in her district, the author had conducted classroom screens whenever one student was found to have head lice. During eight years of such screenings, no further cases of lice were ever found that could not be attributed to close contact outside of school.

Screenings also have significant potential to violate the children’s privacy. In schools, parents or guardians have a right to control access to their child’s body. This could be violated by routinely screening students without parent/guardian permission. The National Pediculosis Association, a lay pediculosis interest group, continues to recommend the strict adherence to “no-nit” policies via nit combing and routine screenings as a way to eliminate the need any pediculicides. There is no published, reviewed evidence to support these claims (R. Pollack, personal communication, May 21, 2014).

It is prudent, however, to check close contacts of a child found to have

head lice (Frankowski & Bocchini, 2010). A close contact includes all members of the household; those who have recently spent the night; family members who travel between households in blended families; children who spend large amounts of time outside of school with each other, such as day care, camp, or at babysitters; and preschool and kindergarten children who both sit near each other and play often together.

Myth #9. Letters to Parents Or Guardians When a Case Is Identified at School Are A Good Way to Control The Spread of Head Lice

There is no evidence to support the claim that letters sent home prevent head lice transmission, and they may, in fact, be a violation of privacy and confidentiality (American School Health Association [ASHA], 2000; Frankowski & Bocchini, 2010). There is no known method to *prevent* lice (other than by shaving the scalp hair). Sending home a letter may, as it should, cause parents to check their students to see if they are currently infested. However, this may also create a false sense of security because parents may believe their child is lice-free. There may be undetected, unhatched viable nits or one pregnant louse in the hair, or the child may spend the next night with friend who unknowingly has an infestation. Some parents/guardians will treat prophylactically, causing unnecessary use of pediculicides or time-consuming combing and environmental cleaning. Sending letters home often results in panic and emotional distress among caregivers. Letters home not only provoke a crisis situation and unjustified panic, but they perpetuate the myth that lice are transmitted in schools (Mumcuoglu et al., 2007). However, some schools continue to send alert letters because while they may understand head lice are not a public health risk, they are concerned about a public relations dilemma and community backlash (Frankowski & Bocchini, 2010).

Confidentiality Violations

Parents or guardians often insist they have a right to know when a case of head lice is discovered in a classroom. Parents have also insisted they have a right to know when a child has

HIV or other communicable condition in school. However, they do *not* have a legal right to such information. Although no school would send home a letter with a specific child’s name in it, families can easily determine which child is suspected to have lice. This right to confidentiality in schools is protected by the Family Educational Rights and Privacy Act (FERPA), and by state and national ethical health care and education standards.

The Family Educational Rights and Privacy Act

FERPA requires that medical and educational records cannot, without parental/guardian consent, be released to others without a legitimate educational interest. This is regardless of whether the information is written, oral, or electronic (ASHA, 2000; Bergren, 2001). Even without disclosing the actual name, if another person can easily determine the identity of a child, then student privacy and confidentiality has been violated. For example, if the nurse were discussing an issue at school about a child in a wheelchair and only one child is in a wheelchair at school, enough information has been provided to identify that child and breach his or her privacy, without ever mentioning a name. In a pediculosis situation, if after parents receive a lice alert letter they ask their own child who went home from school today and their child knows the answer, a similar breach has occurred.

National Ethical Standards And State Laws

Both the professions of education and nursing have developed codes of ethics that stipulate not disclosing information about students obtained within the course of professional service. For example, provision #3 in the American Nurses Association (ANA) Code of Ethics states “the nurse promotes, advocates for and strives to protect the health, safety and rights of a patient, which includes both privacy and confidentiality” (ANA, 2001, p. 6). Failure to uphold national professional standards can leave the nurse open to charges of malpractice.

Harm vs. Duty to Warn

According to ASHA (2000), when contemplating a disclosure of confidential health information even if by default, two ethical criteria must be met. The criteria and related consider-

ations as they pertain to head lice include:

Ethical Criteria 1: *Do no harm.* Consider the following:

- *Can the truth of the information be confirmed?* The literature reveals how frequently health care professionals error in the identification of head lice. True confirmation must be made by microscopy.
- *How much will the individual and his or her family's privacy be violated by this disclosure? Will it harm them?* Stigma, embarrassment, and social humiliation are common for those with head lice.
- *Will a decision to disclose do MORE harm than good to the individual with head lice?* Head lice are annoying, but they are not life threatening. Stigma, however, can change lives forever.

Ethical Criteria 2: *Duty to warn.* Consider the following:

- These circumstances are limited to very few situations when the potential for harm is high.
- Examples include child abuse, self-injury, or possible life-threatening or serious harm to another person.

Because head lice are not dangerous and do not cause disease, an infestation does not rise to the level of "duty to warn." Further, because disclosure, however inadvertent, may cause great harm to the family with head lice through social stigma, the right to privacy and confidentiality must be upheld for the student and family experiencing lice. Parents/guardians are better served rather than receiving alert letters, receiving regularly scheduled head lice information letters several times during the year (most appropriately at the times when children are returning from the community after school breaks). Suggested contents include reminders to regularly check their children's hair (weekly for elementary age students) for any evidence of head lice, how to check, and treatment instructions (Gordon, 2009).

Myth #10. If One Member Of the Household Has Lice, Everyone Should Be Treated

Treatment should be initiated only when there is clear evidence of head lice. When lice are identified in

one family member, all household members and close contacts should be examined. Treat only those contacts that actually have crawling lice or viable eggs. Prophylactic treatment is unnecessary and time-consuming, and exposes persons to medications unnecessarily. All persons with head lice should be treated at the same time, otherwise they could re-infest each other (CDC, 2013a).

Myth #11. Pediculicides Are Dangerous and Should Be Avoided

Treatment choices for lice should be based on any local patterns of resistance, ease of use, and cost. Figure 5 describes a suggested treatment regimen. If the hair is fine and untangled, and the caregiver is motivated, using a fine-toothed comb and methodically combing through all hair on the head, both to examine the head for live lice, and to remove the viable nits and the lice, can be effective. This process must be repeated every few days for at least two weeks, to eliminate each new louse as it hatches. Because this is so time-consuming, and most families want the problem solved immediately, use of Federal Drug Administration (FDA)-approved pediculicides, which are safe when used as directed, can be used as an adjunct or to replace combing (Burgess et al., 2003; CDC, 2013a). The safety and effectiveness of home or "natural" remedies, such as olive oil, tea-tree oil, lavender oil, or mayonnaise, are not regulated by the FDA and have not been shown to be effective in any known double-blind studies, and are therefore not recommended (Frankowski & Bocchini, 2010)

Pediculicides

Over-the-counter (OTC) preparations or permethrin (e.g., Nix[®]) and pyrethrins (e.g., RID[®], Clear[®], Pronto[®]) remain as the first line choice for pediculicidal treatment. Even in light of some developing resistance to pyrethrins, they remain very effective. They are inexpensive and have extremely low toxicity. Pyrethrins are a natural chrysanthemum extract, and permethrin is a synthetic pyrethroid. Both are neurotoxic to lice (Frankowski & Bocchini, 2010).

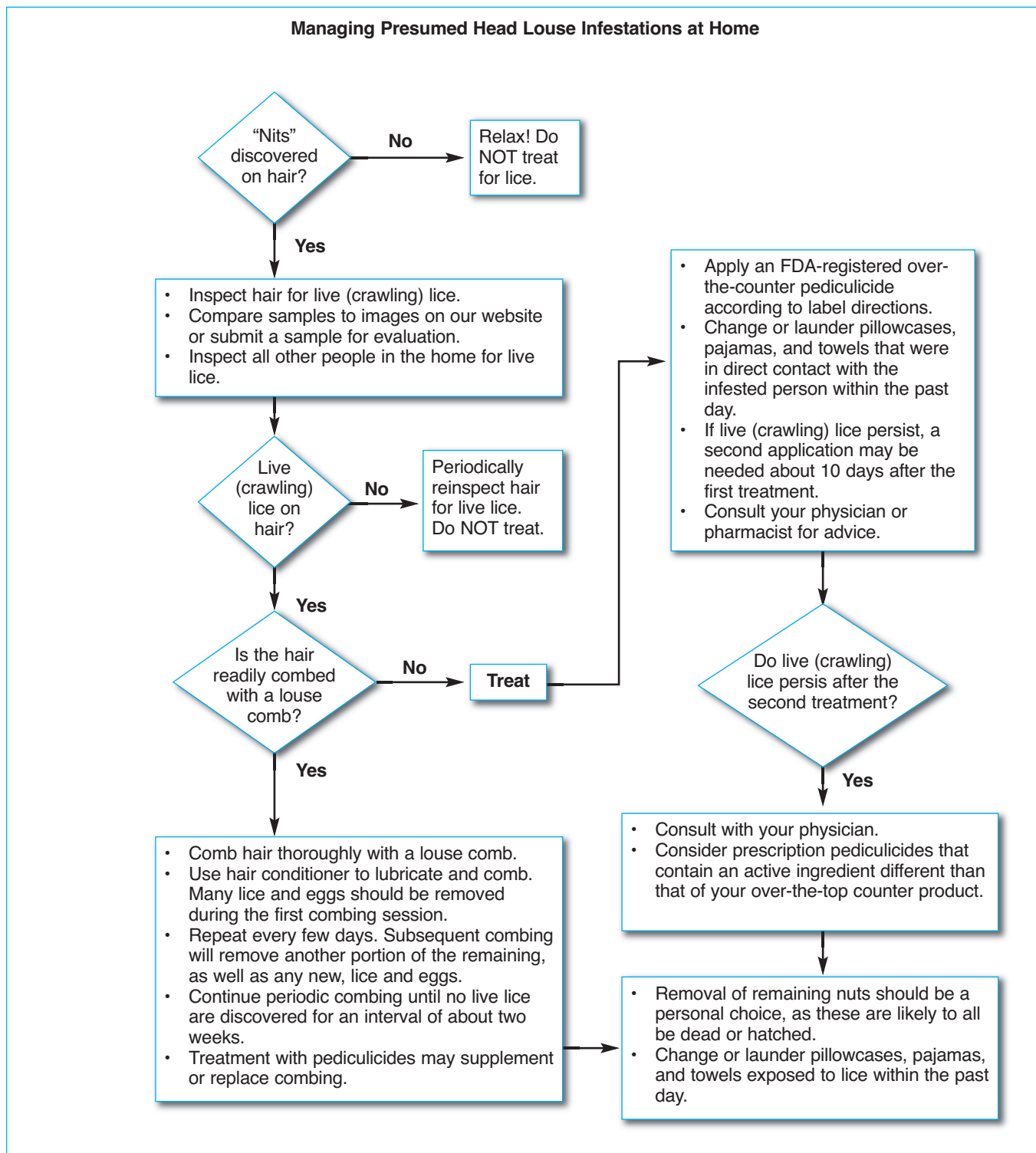
Evidence has shown that many families rely on peers, and increasingly, the Internet, for their treatment

information. In addition, families will self-treat an average of five times before seeking the help of a health care professional (Gordon, 2009). The cost of seeing a health care provider, plus the additional cost of a prescription medication and the stigma associated with head lice, are often the reasons many families will initially seek alternative information and treatments. Experts recommend referral to a health care provider after two treatment failures (Burgess et al., 2003). According to the treatment protocol recommended by the American Academy of Pediatrics (2012), "For treatment failures not attributable to improper use of an over-the counter pediculicide, malathion, benzyl alcohol lotion, or spinosad suspension should be used" (p. 4). Several prescription medications exist, with three new medications receiving FDA approval in the last five years (see Table 1). Each of these pediculicides must be used according to the directions. Some require a second treatment to ensure eradication of newly hatched nymphs. Others require an extended time on the head. The school nurse can help assure treatment success by making sure explanations of options and instructions for use are clear and understood by the caregiver. Finally, there is some evidence that a device that uses hot air to desiccate the insects may be effective (Frankowski & Bocchini, 2010). However, the device is expensive and not readily available.

Lice Removal Services

Delousing/nit picking services have expanded across the county in the last decade. These primarily for-profit businesses espouse to provide relief for families who are either unable or unwilling to do mechanical lice and egg removal, and/or prefer not to use pediculicides. However, unlike barbers and beauticians who also manipulate hair, such businesses are unregulated. Workers are not health care professionals and are generally trained by the establishment (Pollack, 2012). Noted lice expert Richard Pollack (personal communication, May 21, 2014) is unconvinced of the need for such services, and believes when the nature of the business is to sell head lice control services and proprietary supplies, it is not surprising to see these salons aggressively arguing in favor of no-nit policies, and perhaps suggesting that "out-

Figure 5.
Suggested Scheme for Head Louse Infestations



Source: © 2010 IdentifyUS, LLC. Used with permission. Retrieved from <https://identify.us.com/idmybug/head-lice/head-lice-documents/lice-mgmt-chart-home.pdf>

Table 1.
Medications

	Age	Notes
Over-the-Counter Medications		
Permethrin lotion, 1%	2 months and older	<ul style="list-style-type: none"> • Kills live lice but not unhatched eggs. • A second treatment often is necessary on day 9 to kill any newly hatched lice before they can produce new eggs.
Pyrethrins	2 years and older	<ul style="list-style-type: none"> • Generally should not be used by persons who are allergic to chrysanthemums or ragweed. • A second treatment is recommended 9 to 10 days after the first treatment to kill any newly hatched lice before they can produce new eggs.
Prescription Medications		
Benzyl alcohol lotion (0.5%)	6 months and older	<ul style="list-style-type: none"> • Kills lice but not eggs. • A second treatment is needed 7 days after the first treatment to kill any newly hatched lice before they can produce new eggs.
Ivermectin lotion, 0.5%	6 months and older	<ul style="list-style-type: none"> • Kills live lice and appears to prevent nymphs (newly hatched lice) from surviving. • It is effective in most patients when given as a single application on dry hair without nit combing. • It should not be used for retreatment without talking to a health care provider.
Malathion lotion, 0.5%	6 years and older	<ul style="list-style-type: none"> • Kills live lice and some lice eggs. • A second treatment is recommended if live lice still are present 7 to 9 days after treatment.
Spinosad 0.9% topical suspension	4 years and older	<ul style="list-style-type: none"> • Kills live lice and unhatched eggs. • Retreatment usually not needed and should be given only if live (crawling) lice are seen 7 days after first treatment.

Source: Adapted from CDC, 2013b.

breaks” or “epidemics” of head lice are occurring. The cost can be quite expensive, with a session costing several hundred dollars or more. There is no evidence to support recommending these services.

Myth #12. Head Lice Are Becoming Increasingly Resistant to Pediculicides

Several studies have reported some increase in local resistance to OTC pediculicides in the last 20 years, receiving prominent lay press coverage. However, the prevalence of actual resistance is unknown because clinical trials have used different inclusion criteria, resulting in different conclusions (Frankowski & Bocchini, 2010; Pollack et al., 2000). Most recently, Yoon et al. (2014) found by DNA typ-

ing of lice in several locations in the U.S. and Canada, the rate of T1 mutation (the gene mutation most responsible for permethrin resistance) varied between 84.4% and 99%. While this suggests increasing resistance to permethrin and pyrethrins-based pediculicides, one must be careful in extrapolating these results because their study examined a small number of lice from only 12 U.S. states and studied the potential for resistance, rather than a clinical measurement of actual resistance. What matters most is the degree to which head lice have become resistant in each community (Burgess et al., 2003). Studies on resistance and efficacy are ongoing.

Resistance is often branded as the proximate cause of treatment failure when head lice are not eradicated by a pediculicide. However, these treat-

ment failures are more commonly the result of:

- Misdiagnosis (no active infestation, or misidentification).
- Non-compliance (not following treatment protocol).
- New infestation (lice acquired after treatment).
- Lack of ovicidal (egg-killing) or residual properties of the product (Burgess et al., 2003; Frankowski & Bocchini, 2010).

Pollack et al. (2000) found the most common reason for a conclusion of “resistance” was actually misdiagnosis; therefore, it could not be effectively treated with a pediculicide. Of the 555 samples sent in and initially identified as head lice, only 57.5% were correctly diagnosed and confirmed as such by an entomologist. Family identifications were only 47% correct, and physicians had the worst identification rate at 11% correct. The health care provider should consider resistance *after* assuring oneself the above factors have not contributed to the treatment failure.

Nurses as Change Agents

Pediatric nurses working both in and out of schools can lead the charge to help schools design evidence-based policies that respect the privacy and confidentiality of students yet promote successful treatment of infestations. NASN, in its position statement regarding pediculosis (NASN, 2011), described that school nurses are the key health care professionals in the provision of education and anticipatory guidance in all aspects of the management of pediculosis in the school setting. Additionally, school nurses play an important roll in helping local pharmacists, health care providers, and community health districts in updating their knowledge of current state of pediculosis science. Providing education to reduce the stigma of lice, clarify myths, and provide accurate information about effective treatment options, as well as appropriate referrals to health care providers, is important nursing care. Table 2 gives an example of a parent-teaching tool, designed by the author using the principles of health literacy to effectively dispute the common myths of lice management. NASN provides free, professionally produced, evidence-based parent and nurse educational tools in their *Lice Lessons* program (visit <http://www.nasn.org> for more information).

Table 2.
Lice 101: Myths and Realities about Head Lice

Definitions	
Lice: More than one louse.	Nit: Eggs, dead or alive, of a louse
Louse: Small insect that lives on the scalp.	Parasite: Lives off another, in this case the blood of humans.
Pediculosis: Having an infestation of lice.	Infestation: Having an insect present, in this case, in your head.
Myths	Truths
Head lice are easy to get.	Lice are spread only mainly by head-to-head contact. They are much harder to get than a cold, flu, ear infection, pink eye, strep throat, food poisoning, or impetigo.
You can get lice from your dog, guinea pig, or other animal.	Lice are species-specific. You can only get human lice from another human. You cannot get another animal's lice.
You can get head lice from hats and helmets.	Rarely, but possible. Hairbrushes, pillows, and sheets are also uncommon modes of transmission.
School is a common place for lice transmission.	School is an unlikely source of transmission. Much more common are family members, overnight guests, and playmates who spent a large amount of time together.
Poor hygiene contributes to lice.	Hygiene makes absolutely no difference. You get lice by close personal head-to-head contact with someone else that has lice, not by being dirty.
Lice can jump or fly from one person to another.	Lice can only crawl. They can neither fly nor jump. They must crawl from one person to another.
Any nits left in the hair can cause lice to come back.	Any nits farther away than one quarter to one half on the hair shaft are ALREADY HATCHED and pose no risk to others.
Eggs or nits can fall out of the hair, hatch, and cause lice in another person.	Nits are cemented to the hair and very hard to remove. They cannot fall off. Newly hatched lice must find a head quickly or will die.
Lice can live a long time.	Lice live only 1 to 2 days off the head. Each louse only lives about 30 days on the head.
All members of a family should be treated if one person has lice.	Only the person with lice should be treated. Lice shampoos are INSECTICIDES and can be dangerous if used incorrectly or too frequently. Household members and close contacts should be checked, but only treat those who actually have lice. The house should NOT be sprayed with insecticide, nor used on clothing or other items.
Checking a classroom when one student has lice can prevent lice from spreading.	Classroom transmission is EXCEEDINGLY RARE and checking students is a waste of valuable teaching time. Checking family members and close playmates is much more appropriate.
Avoiding lice is important as they spread disease.	Head lice do not spread any known disease. They are annoying and irritating, but not dangerous.

Even in light of evidence to the contrary, the lay public, including teachers and school administrators, often remain unconvinced of the need to remove “no-nit” policies and will be unmotivated to do so on their own. Further, some experts believe the only hope for true success is to focus on the children. “Teach them to think, to evaluate conflicting bits of information and to form logical and rational conclusions, and to be compassionate and caring” (R. Pollack, personal communication, May 21, 2014) to help children develop a new reality about head lice. Armed with the evidence,

school nurses are the perfect change agent to promote policy improvement to match what the evidence shows about the transmission and treatment of pediculosis. Not only can nurses provide education with every interpersonal encounter, they can lobby their school board. Following the examples set by leaders in school districts such as Oakland Unified, the author did just that (see Figure 6). Because many health care professionals are unaware of the realities of lice and newer lice treatments regimens, school nurses, as well as pediatric nurses in general, are in the ideal position to lead the charge!

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Figure 6.
Real Life Application

Using the evidence presented here, the author's district now allows both nits and live lice, does not send home specific alert letters, informs and educates parents/guardians at the end of the school day, and most importantly, provides copious teaching to families and children. In the four years hence, there has been no increase in infestation incidence, and although there is the occasional upset parent, overall the community has accepted these policies.

Source: Pontius, 2011.

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Instructions For Continuing Nursing Education Contact Hours

Demystifying Pediculosis: School Nurses Taking the Lead

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Goal

To provide an overview of head lice and demystify the common misperceptions surrounding it.

Objectives

1. Define *Pediculosis capitis*.
2. List the common myths about head lice and nits.
3. Explain the implications these myths have on school children and their families.
4. Discuss ways school nurses may educate their community and schools about lice and nits, and thus, discourage the enforcement of "no-nit" policies.

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