Head Lice Awareness and Education

A FOUNDATION FOR ESTABLISHMENT OF POLICY, REGULATION AND PROCEDURES

THE SCHOOL DISTRICT OF THE CHATHAMS
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Head lice are to be expected on a few children in virtually any community at any time. While lice infestations do not cause illness or spread disease, the topic does inspire much emotion in the community.

Fear of an infestation and anger towards others in the community are, in large part, a result of a lack of knowledge about the condition and misunderstandings related to prevention and treatment strategies.
The nurses who serve the School District of the Chathams are committed to the health and well-being of the community. We are responsible for maximizing the potential of every student to learn by minimizing barriers to education. We are bound both legally and ethically to hold our practices to the highest standards of evidence-based care.

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And as educators, we are obligated to present information which is grounded in scientific research.
This presentation is intended to assist school staff, parents and caregivers in preventing the spread of lice, to guide parents and caregivers and to offer the best outcomes possible for the students we serve.

In all of these efforts, the nurses of the SDOC aim to support student achievement and educate the community, while becoming catalysts for minimizing tension—both inside and outside of our school walls.
Lice Basics--Biology

- The adult head louse is 2 to 3 mm long.
- It has six legs.
Biology continued...

- The female louse lives for as much as 3 to 4 weeks and can lay up to 10 eggs per day.

- After the eggs are laid, they are kept warm with body heat and hatch in about 8 to 9 days.
The eggs, when laid, are attached to the hair very close to the scalp (within about ¼ inch of the scalp), so they can develop at the proper temperature.

The egg is held firmly to the hair shaft by a special “glue” that is produced by the louse. (Frankowski, 2010)
What do they look like and where are they found?

- Lice (the bugs) are grayish brown in color.
- Once hatched, the empty egg appears to be clear or white.
- Eggs are more likely to be seen at the back of the head—near the nape of the neck and behind the ears. (Frankowski, 2010)
“Nit” vs. “Egg”

- The term “nit” refers to empty egg casings and the term “egg” refers to the object which contains growing louse.

(However, sometimes the word “nit” is used to refer to both empty eggs and eggs that hold developing lice.)

(Frankowski, 2010)
Images to assist in the identification of head lice and their eggs.
http://www.hsph.harvard.edu/headlice.html

Adult female louse on nit comb

Viable egg on hair ~2 days old

Viable egg ~1 day before hatching

Empty egg (hatched)

Dead egg (>2 weeks old)

'Pseudo-nit' (Debris often confused as eggs)

c 2000 President and Fellows of Harvard College
Can lice live off of a head?

Head lice, once removed from the head, usually survive for less than one day.

This is because they need both the blood supply and the proper temperature that are found at the scalp in order to survive. (Frankowski, 2010)
How do lice get around?

- Lice cannot hop, fly or swim. They crawl.

- They move from person to person by head-to-head contact. (Frankowski 2010)
Can I get lice from a comb or brush or a hat?

- Sometimes, lice come off the head onto brushes and combs and hats, but they usually do not get moved to another head that way. Here’s why: lice found on combs are likely to be injured or dead. (Frankowski, 2010)

Also, a healthy louse is not likely to crawl off of a head (away from its food source.) (Frankowski, 2010)
How about coats, headphones and helmets?

- The chance that a louse can be transferred by way of other objects such as coats, headphones and helmets is nearly zero. (SchoolHealth.com 2012)

- The chance that a louse can crawl from a head to a jacket to another jacket and up to another head is estimated to be less than 1 in 100,000. (SchoolHealth.com 2012)
Can I get head lice from my Pet?

- Human head lice cannot be transmitted to or by pets. (Human head lice are specific to humans.) (Aston, 2002)
How can I tell if my child has head lice?

- The diagnosis of head lice requires finding a live, crawling louse on the head.
But what if I can see eggs?

- Eggs alone are not proof of an active lice infection. (Mumcuoglu B. B., 2007)

- Eggs may be left over from an earlier infestation that is no longer active. (Pollack R., 2000)
Are you *really* seeing eggs?

- Research has shown that the naked eye cannot often tell the difference between developing eggs and empty eggs.

- And things like dandruff, dirt, scabs and even knotted hair have been mistaken for eggs. (Pollack R., 2000)
What causes the itching?

- As the louse feeds (every few hours) it injects a small amount of its saliva into the scalp of its host and sucks tiny amounts of the host’s blood from the scalp.

- The most common symptom of a lice infestation is itching on the scalp. *This itching is a reaction to the louse saliva.* (Frankowski, 2010)
I’ve had this for how long?

- It can take **4-6 weeks** to develop itching in a first case of head lice.

- In other words, once the itching begins, the lice have probably been on the head for a month or more. (Frankowski, 2010)
Most cases of head lice occur in the United States among children between the ages of 3 and 12. (Hansen, 2004)

It is difficult to know exactly how many cases of head lice occur in the US annually since cases are not generally reported to health officials (Hansen, 2004) and many others are misdiagnosed. (Pollack R. 2000)
Many people think that the beginning of the school year is the most common time for lice infestations to occur. But in reality, lice is transferred all year long. (Hansen, 2004)
Why do most people think lice comes from school?

- Because some schools monitor and report cases of lice to families, sometimes people are left with the impression that schools are responsible for the spread of lice. (Hansen, 2004)

- However, research has shown that the spread of lice is more likely to occur within homes than within schools.
How safe is my child’s classroom?

- According to the American Academy of Pediatrics, classroom floors are not a place where head lice are likely to be transmitted.

  ![Classroom floor with children]

- They conclude that the focus of controlling lice infestations should be on:
  * Lessening the chance of head-to-head contact and
  * Reducing the number of live lice on the head.

  (Frankowski, 2010)
On avoiding head lice and preventing its spread...

- The best way to avoid getting head lice is to limit opportunities for head-to-head contact (Frankowski, 2010)

- Adults should be taught how to recognize the signs and symptoms of a head lice infestation. Children with confirmed cases of lice should be treated right away to prevent spread to others. (Frankowski, 2010)
How are cases of head lice treated?

There are two ways to get rid of lice:

1. Mechanical removal (combing) and
2. Anti-lice treatments (over-the-counter or prescription)
Combing

- Head lice and their eggs may be removed from the hair by combing the hair with a louse or nit comb. The hair may need to be combed daily or at least every few days until no live lice are discovered (for about two weeks).

- Good lighting, magnification and a good louse or nit comb should be used to locate and remove the insects. (Pollack R., 2010)

- Sometimes, using water or conditioners on the hair may make combing easier, but they can also make the eggs more difficult to see. (Pollack R. 2010)
When combing is not an option

- In some situations, combing may not be the best option; in cases where the hair is very curly, the ultra-fine toothed lice comb may not work. Combing in this situation can be painful and stressful.

- In cases where the hair cannot be combed easily, the use of an anti-lice chemical product is recommended. (Pollack R. 2000)
Another non-chemical option: The LouseBuster

Another non-chemical treatment for head lice involves blowing hot air onto the scalp with a professional product called the “LouseBuster”.

One study showed using the “LouseBuster”, resulted in killing both eggs and insects. (Goates, 2006)

(This device requires special training and it is meant to be used by health care professionals—not for home use.)
How about “bug zappers”? 

- Battery-powered combs with moving teeth and combs that resemble small “bug zappers” have not been well-studied in either removing lice and eggs or killing lice.

- Some of these products warn consumers not to use these products on individuals with seizure disorders or pacemakers. (Frankowski, 2010)
Anti-Lice Chemical Treatments

- No one should be treated for head lice *unless a live louse* is detected on the head. (Mumcuoglu M. B., 2006)

- In the USA alone, 4-8 million children are treated unnecessarily for head lice, which amounts to 64% of all lice treatments. (Mumcuoglu M. B., 2006)
# Over the Counter vs. Prescription Strength

## OTC
- Include RID and NIX
- When used correctly, these products can be effective in killing the live lice. However, these products do not kill the bugs that are developing inside the eggs.
- NIX has been the most studied anti-lice product in the US. It is considered to be the least toxic to humans.
- RID is manufactured from extracts of the chrysanthemum. Its use should be avoided by anyone allergic to chrysanthemums or who are sensitive to ragweed. (Frankowski, 2010)

## PRESCRIPTION STRENGTH
- Include Ovide, Sklice, Natroba and Ulesvia
- When used correctly, these effectively kill both the live lice and the lice that are developing within the eggs.
- Another product, Lindane, has been shown to have central nervous system toxicity in humans, mainly from misuse. (Frankowski, 2010)
- Ovide, Slice, Natroba and Ulesvia have not been associated with these safety issues. These newer products are considered to be both safe and effective. (Hansen, 2004) (Lebwohl & Clark, 2007) (Meinking, Mertz Rivera, & Villar, 2013) (Stough, Shallabarger, & Quiring, 2009)
How about “Natural” products?

- **Natural products** are not required to meet FDA efficacy and safety standards for pharmaceuticals. (Frankowski, 2010) There are many “essential oil” products on the market but because their make up is so varied, it is hard to prove their effectiveness. (Frankowski, 2010)

- How about lice “repellants”? The use of rosemary and citronella as *lice repellants* has been tested. The results: Only one study demonstrated that the use of a citronella formula was effective as a louse repellant. (Mumcuoglu B. B., 2007)
Can head lice be treated by suffocation?

- Products that are applied to the hair to suffocate lice have recently been tested for effectiveness in scientific studies. Ulesvia (prescription) and LiceMD (over the counter) have been shown to be effective in killing lice and eggs by suffocation. (Meinking T. L., 2010) (Burgess, 2009)

- However, the effectiveness of household products for this purpose has not been proven by scientific studies....
How effective are home remedies?

- Recent research has shown that overnight treatments with petroleum jelly along with other home remedies (mayonnaise and olive oil) may appear to kill lice at first, but after rinsing, the lice can start breathing again.

(Meinking T. L., 2010)
The use of vinegar or vinegar-based products that claim to loosen the “glue” that attaches the nits to the hair have not been shown to be effective in scientific studies. (Frankowski, 2010)

In addition, the vinegar may interfere with the activity of certain over the counter chemicals, when used together. (Frankowski, 2010)
Is it true that over the counter products don’t work anymore?

There is evidence that, over time, lice have been able to “outsmart” over-the-counter products and survive these treatments.

This is called “resistance” and it results from misuse and overuse of these products.
Then, why use them?

Even though scientists have proven that some lice can resist the effect of these treatments, products such as RID and NIX are still recommended because:

- 1. They are easy to get (they do not require a prescription)
- 2. They are inexpensive (compared to prescription products)
- 3. They have been shown to be safe (when used properly)
- 4. They are often effective (when used properly)

(Hansen 2004)
More about “Resistance”

- It should be mentioned that many researchers note that products are not always used correctly. In addition, the incorrect diagnosis of lice infections is common. (Pollack R., 2000)

- Some experts believe that what some people think is “resistance” to lice treatments may actually be a result of misuse of the product itself and/or the incorrect diagnosis of lice. (Pollack R., 2000)

Resistance or Ineffectiveness due to Misuse?
There are many services that offer treatment and/or removal of lice either in your home or in free standing clinics. This is an industry, while growing, is currently unregulated.

“We are certified as head lice removal clinicians....”
“We will send a certified lice specialist directly to your home ....”
“As a Certified Lice Specialist...”

“Certified” by whom?
Implications for School Practice

The following practices of many school nurses are not recommended by experts. And they are not supported in scientific research:

- Excluding a student from school when lice, eggs or nits are found on the head (Frankowski, 2010)

- Screening all children in a class when a case of lice has been reported and/or identified in that classroom (Frankowski, 2010) (Pontius, 2011)

- Sending “alert” notes to parents about the identification of a lice infestation in their child’s classroom (Aston, 2002)
How Can School Nurses Help?

School nurses, when well informed, can offer valuable support to parents, care givers, colleagues and students:

- By assisting parents in identifying the signs and symptoms of head lice infestations
- By offering educational support in how to manage these infestations at home.
- By counseling parents on prevention strategies.
- By encouraging open communication between parents in the community
- By educating administrators, teachers and staff in their schools regarding prevention strategies that can be utilized in classrooms (Aston, 2002)
Establishment of consistent approaches to responding to cases of lice which are based in scientific research are essential to insure that students are not unnecessarily excluded from school.
Conclusion

The SDOC nurses have identified a need in our school community for access to evidence-based information pertaining to identification of infestations, treatment of infestations and prevention of transmission.

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We have responded with a community-wide approach to education that will assist administrators, teachers, staff, nurses and students in working together to establish common, best-practice approaches to responding to head lice infestations in school.

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Ongoing access to educational materials will assist the entire community in becoming more informed and less susceptible to emotional responses with regard to the presence of lice infestations in our midst.
Conclusion

Ultimately, as educators, our mandate is to minimize barriers to education by informing, educating and leading the community to a better understanding of this issue.
Bibliography


