Iowa School Administrator
Head Lice Update

Head lice continue to persist as a problem for Iowa school age children. Joanna Ibarra’s paper entitled “Head Lice in School Children” remains a source of insight on how best to deal with head lice.\(^1\) After studying Ibarra’s research, the Iowa Department of Public Health changed the treatment approach for head lice.

1. **Discontinue routine school-based screening.** Shift screening to parents. Request parents screen children once per week for at least 15-20 minutes in good light. School administrators and parents should assume there are head lice in the community and schools at all times.

   *Comment:* Educate parents on proper technique to screen for lice. Provide illustrations of head lice, including immature stages, and appearance of eggs. These can be readily printed from existing sources of information. School personnel are encouraged to show parents actual head lice and eggs. Actually seeing what head lice and eggs (called nits) look like will enable parents to competently screen other members of the household.

2. **Screen for head lice on an individual basis** after a referral is made by school personnel. All screening shall be completed with privacy for the child.

3. **Children shall remain in school for the balance of the day.** Notify the parents of a child with head lice through a telephone call if possible. Review with parents the protocol for treatment.

4. **Discontinue “no nit” policies.** Support school attendance during all phases of diagnosis and treatment.

5. **Do not use environmental sprays or chemical cleaners at home or in classrooms, lockers, or on gym mats or other school equipment.** Head lice do not live “off” the body. The head louse must maintain a constant warm temperature. Do not use chemical sprays on audio/video headsets, tables or mats, carpet, upholstered chairs, school bus benches, bed linens, etc. Chemical and environmental sprays create breathing problems for children and may sensitize or aggravate breathing problems for asthmatics. Some chemicals in environmental sprays may be absorbed through the skin or mucous membranes.

6. **Teach and support parents to conduct the two-week shampoo and wet combing techniques for lice removal and elimination.** The two-week shampoo and wet combing technique is effective, inexpensive and nontoxic. (This same technique is very useful in diagnosing lice as well.) Parents do not need to launder all bed linens, or vacuum all upholstery. Shampooing and wet combing is where families should focus resources and energy. All household members should be screened for the presence of lice.

7. **When lice seem impossible to treat,** physicians may prescribe head lice treatment products like malathion (Ovide\(^\text{TM}\)) or extra-label use of ivermectin (Stromectol\(^\text{TM}\)).\(^2\)

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\(^2\) Iowa physicians may contact the Iowa Department of Public Health, Russell Currier, DVM, MPH for consultation on appropriate treatment products for use with children. Telephone: 515-281-4933. Email: rcurrier@idph.state.ia.us
4 February 2002

**Revised Iowa School Nurse Lice Update**

Lice continue to persist as a problem in Iowa’s children. We can only offer our support and encouragement to deal with this problem with everyone’s interest in mind. Joanna Ibarra’s paper entitled “Head Lice in School Children” remains a profound source of insight on how best to deal with lousiness. (Copies are available on request.) After studying this paper, we have changed the paradigm on lice as summarized below.

In our new approach we advocate the following:

1. Discontinue routine screening. Maybe once or twice per year screen for general prevalence, if even that often. Shift screening to parents and request they screen kids once per week for at least 15-20 minutes in good light. Parents should assume there are lice in the community and schools at all times.

   *Comment:* School nurses are encouraged to educate parents on proper technique to screen for lice. Provide illustrations of lice, including immature stages, and appearance of eggs. These can be readily printed from existing sources of information. School RNs are encouraged to show parents lice and eggs of newly diagnosed children to enable them to more competently screen others in the household.

2. Manage lice in school children on a referral basis from staff. Perhaps screen best friends only. Allow children to remain in school for the balance of the day. Again in our view, the great majority of lice transmission occurs in households and communities and not in school environments. If transmission occurs at school, it is usually between close friends.

3. While nit removal is good, the task is very difficult. “No nit” policies do not assure treatment success. Often children miss a great deal of school because of this misguided policy.

4. Forget the environment and fomites i.e. inanimate objects. This includes headsets, kindergarten mats, school buses, lockers, etc. Environmental
spraying is not recommended for these settings. Remember the pyrethrin sprays are great sensitizers and can aggravate asthmatics.

5. Emphasize the two-week shampoo technique with wet combing discussed in Ibarra’s paper as effective, inexpensive and nontoxic. (This same technique is very useful in diagnosing lice as well.) Parents should focus on this and omit all the laundry, cleaning, and environmental spraying. More important, they need to screen all their household members for the presence of lice.

6. In instances when lice persist and appear impossible to treat, physicians may suggest use of prescription malathion (Ovide™) or ivermectin (Stromectol™). The latter product can be used orally or topically and is very effective in the elimination of lice with no further effort. However, this is “off-label” or “extra-label” usage. Topical application of 0.8% ivermectin solution for 30 minutes presents no serious risk to children as best as can be determined and assures elimination and return to school. (Note that many physicians will not prescribe ivermectin since it is not licensed specifically for lice.)

Eradication may be impossible, but to simply try for low prevalence and optimal school attendance is doable and reasonable to assure you meet the goals of your educational mission.

For assistance on lice from the Iowa Dept of Public Health, please contact:

Russell W. Currier DVM
Environmental Epidemiologist
Iowa Dept of Public Health
Lucas Office Bldg
Des Moines IA 50319-0075

Tel 515/281-4933; fax 4958
Email: rcurrier@idph.state.ia.us
COLLEGE COMMUNITY SCHOOL DISTRICT
HEAD LICE MANAGEMENT PLAN

DEVELOPED BY
TASK FORCE ON PEDICULOSIS

Cedar Rapids Community School District
Five Seasons Daycare
Grand Wood AEA
DHS
PTA
Linn County Public Health
Visiting Nurse Association
Harvard School of Public Health

2005

**Revised with permission from the Task Force
For use in College Community Schools**
## COLLEGE COMMUNITY SCHOOL DISTRICT
### HEAD LICE MANAGEMENT PLAN

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### APPENDICES

- What to do with this plan
- Two-sided copy: Letter to Families and Head Lice Facts
- Two-sided copy: Head Lice Treatment Plan and Treatment Plan Calendar
- Staff Information – Not Excluding For Head Lice – Talking Points
- Staff Information – Update Your Knowledge of Head Lice
- Background of Lice Policy
- Lice Management Literature Summary
- Identification and Treatment of Head Lice
- Task Force Overview
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COLLEGE COMMUNITY SCHOOL DISTRICT

GUIDELINES FOR PREVENTION
AND MANAGEMENT OF HEAD LICE

As part of a community plan, the District will support families by emphasizing prevention and education as primary measures to control head lice.

Successful management requires that families actively participate at home in prevention and treatment of head lice. All students with lice or nits less than 1/2 inch from scalp will be encouraged to complete a treatment protocol.

Communication will be ongoing. Families in elementary classrooms where students have live lice will be provided information to monitor and screen their students.

Students with signs and symptoms of head lice will be referred to the school health office for evaluation.

The parent/guardian will be contacted for any student found to have live lice or nits less than 1/2 inch from scalp by designated school health personnel and will be provided with information to treat and monitor their student. Families will be followed throughout the treatment process.

4/05
(1.) Staff will refer students with signs and symptoms of head lice to the health office.

The health secretary will:

a. Screen referred students for indications of live lice or nits.
b. Notify parents whenever live lice or nits are found.
c. Allow children to remain in school.
d. Suggest families notify other settings the child attends outside of school.
e. Close contacts and siblings of the child with live lice may be screened (this may require notifying other schools).
f. After recommending treatment for live lice or nits, the child may be screened upon return to school and again at 7 days, 14 days and 21 days.

(2.) The health office will provide parent/guardian with oral and written instructions/demonstrations about treatment whenever either live lice or nits are found.

(3.) Notification will be sent home with children in the elementary classroom where a student is found to have live lice.

(4.) The school nurse will be consulted for recurrent or chronic cases, incidence of suspected treatment failure or for other concerns.

4/05
COLLEGE COMMUNITY SCHOOL DISTRICT

PROTOCOL FOR MANAGEMENT OF HEAD LICE OR NITS
(FLOWSHEET)

Child referred to health office with signs or symptoms.

Notify Parents

___ Provide parent/guardian and student with oral and written instructions/demonstration about treatment.
___ Suggest family notify other settings the child attends outside of school.
___ Return student to class unless their parent requests otherwise.
___ Send information to all families in the class.
___ May screen close contacts and siblings of child.
___ Recommend screening child upon return to school at 7 days, 14 days and 21 days.

Contact the school nurse 848-5225 for any questions or concerns.

4/05
Dear Parent/Guardian,

Your child ________________ was found to have head lice today. You are receiving information on the treatment of head lice. It is very important that you and your child follow these steps to eliminate head lice and prevent its’ spread.

Treatment should begin as soon as possible. You are encouraged to accompany your child to the health office for a head check following the initial treatment plan.

Please call the health office if you need assistance with the treatment plan, head lice identification or further information. Thank you for working together with your school to manage cases of head lice.

____________________
Signature

Kathy Bowersox
Cindy Fagan
Angela Ulferts
848-5225
What are Head Lice?
Head lice are insects that live and feed on the human scalp and lay their eggs by attaching them firmly to the hair. The adult louse is about the size of a sesame seed and is brown to reddish brown. They can move quickly but cannot hop or fly. They are difficult to see because they move quickly away from light. An adult female may lay between 50-90 eggs. The eggs also known as nits, hatch in 7 days and grow to adulthood in about 2 weeks. Nits are about the size of (-) are oval in shape and are tan, brown, or white.

How are Head Lice Spread?
Head lice crawl and most of the time, are spread by head to head contact, most commonly when bed-sharing and less often when kids are playing together. It is possible but less likely that they are spread by using pillows, combs, hats or clothes etc. recently used by someone with head lice.

When should I check for Head Lice?
Check hair if child is complaining of itchy head/scalp or if you see anything resembling dandruff, take a closer look. After one has had head lice for a few weeks, the head will become very itchy in most cases but not all. Head checks should be done at home as a weekly routine for pre-school and school-age children.

How do I check for Head Lice?
Under bright lighting check the hair close to the scalp for either the insects or their nits. Check especially the area at the front of the head, around the ears and the nape of the neck. You may not actually see the insects, as they hide from light and from being disturbed, but the nits or eggs do not move. Nits can be distinguished from dandruff in that they are firmly attached to the shaft of hair and cannot be removed by blowing or flicking with a fingernail.

If you check for head lice often at home and they are found on your child, you can begin treatment early and save time, effort and money in getting rid of them.
HEAD LICE
TREATMENT PLAN
(Follow this plan every day for two weeks)

DAY 1
• Treat hair over the sink (not in the shower or bathtub) using special lice-killing shampoo. **FOLLOW PRODUCT INSTRUCTIONS AND PRECAUTIONS EXACTLY AS WRITTEN. CONDITIONER SHOULD NOT BE USED AFTER SOME PRODUCTS.**
• REMOVE NITS (EGGS)

**PROCEDURE FOR REMOVING NITS:**
Apply regular crème rinse conditioner thickly. **DO NOT RINSE OUT.** Comb hair while wet and slippery with a comb designed for nit removal. Comb section by section, starting at the scalp and slowly pulling comb to end of hair. Then rinse hair with clear water. Clean comb often with tissue.

DAY 2 THROUGH 6
• Shampoo with regular shampoo
• Repeat **PROCEDURE FOR REMOVING NITS.**

DAY 7
• Repeat instructions from **DAY 1.**

DAYS 8 THROUGH 14
• Shampoo with regular shampoo.
• Repeat **PROCEDURE FOR REMOVING NITS.**

AFTER DAY 14
• Check weekly for nits and live lice.

4/05
HEAD LICE
TREATMENT PLAN

WHAT ELSE COULD BE DONE
• Check all family members’ heads for nits or lice.
• Put on clean clothes after treatment.
• Wash all bed linens in hot, soapy water.
• Wash all clothes, which have been in contact with your child’s head in hot, soapy water including hats, coats, and backpacks.
• Clean pillow either by washing in hot soapy water or placing in a hot dryer for 20 minutes.
• Vacuum mattress, carpet, cloth-like furniture, car upholstery, etc. (sprays are not recommended). Replace vacuum bags after each use and remove from the house.
• Put any items that cannot be washed in hot soapy water, dried in a hot dryer, vacuumed or dry cleaned in a plastic bag and seal for 2 weeks.
• Clean combs and brushes with hot soapy water.

PREVENTION
• Check every family member’s head once a week.
• Do not share hats, combs, hair accessories, etc.
• Notify other people your child has close contact with, if head lice are found.

4/05
Dear Parent/Guardian:

A student in your child’s classroom was found to have head lice. It is important that you check your child at home in order to prevent the spread of lice. **In fact, we highly encourage parents to routinely check school-age children’s heads at least once each week.** We are sending you some facts about head lice (see other side) as well as a treatment plan.

**Follow treatment plan ONLY if you find lice on family member’s heads.** Consult a health care provider if the child or family members are pregnant, nursing, under two years of age, have open wounds on their scalp or neck, have know allergies or if eyebrows and eyelashes are infested. These precautions apply to the persons administering the treatment as well as those receiving the treatment.

If you have questions, please contact the school nurse. We want to work with you to manage head lice in our community. Thank you for your attention and concern.
COLLEGE COMMUNITY SCHOOL DISTRICT

HEAD LICE PRECAUTIONS

1) Avoid close physical contact, specifically head to head contact.
2) Remind children not to share combs, brushes, headbands, barrettes, scrunchies, helmets, hats, scarves or personal items. Hair grooming should take place in the restroom only.
3) Keep coats separated. Do not stack, pile or hang coats on top of each other. Instruct children to keep hats and scarves stored in their coat sleeves.
4) Educate the community about head lice and its prevention. The College Community School District web site (http://www.prairiepride.org) and the Harvard web site (http://www.hsph.harvard.edu/headlice.html) are good sources of information.
5) Encourage parents to inspect children’s hair, at home weekly, for at least 10 to 15 minutes in good light.

BASIC FACTS ABOUT HEAD LICE

Schools don’t get head lice, people do!
• Scientific sources agree that the school is not a significant source of head lice infestation.
• Lice cannot survive for more than a day or so at room temperature without ready access to a person’s body.
• Lice do not fly, hop or jump; lice are crawling insects.
• “Live lice” must lay nits, the eggs of lice; you cannot “catch” nits.
• Research indicates that children may have lice for as long as 4 weeks before recognition.

4/05
COLLEGE COMMUNITY SCHOOL DISTRICT

RESOURCES FOR FAMILIES AND STAFF

If family desires in-home help: Kathy Davis/Polk Public Health Nurse 558-3551
Leann Viter/Taylor VNA 558-2140

The following books may be available in your school IMC:

- **Itchy Richard** by Jamie Bilson. A group of second graders react to a case of lice in their classroom.

- **Those Itsy-Bitsy Teen-Tiny Not So Nice Head Lice** by Judith Rice. A how-to-book written in English and Spanish.

- **Yikes Lice** by Donna Caffey. A book to remind children and families that head lice are a nuisance but are not something to be feared.

- **Lots of Lice** by Bobbi Katz. Reading level 3. Grades 1 and 2.

Grant Wood AEA has the following resources available:

- Head Lice: An Itchy Problem, 1998. #148042

The following video is available through your school nurse:


Website Resources:

Harvard School of Public Health: [www.hsph.harvard.edu/headlice.html](http://www.hsph.harvard.edu/headlice.html)
Iowa Department of Public Health: [www.idph.state.ia.us](http://www.idph.state.ia.us)
Linn County Public Health: [www.linncounty.org](http://www.linncounty.org)
National Association of School Nurses: [www.nasn.org](http://www.nasn.org)
American Academy of Pediatrics: [www.aap.org](http://www.aap.org)
Centers Disease Control and Prevention: [www.cdc.gov](http://www.cdc.gov)
COLLEGE COMMUNITY SCHOOL DISTRICT

HEAD LICE “PRESS RELEASE”
For use in handbooks and/or school calendars

The College Community Schools has a revised strategy on dealing with head lice. As a part of a community plan, the District will support families by emphasizing prevention, early detection and education as the best edge in controlling head lice.

Pediculosis (head lice) represents a common communicable childhood condition, an acknowledged “problem” with raising and caring for children. Community involvement is deemed very important, and families must actively participate at home in the treatment and prevention of head lice. The plan established by the College Community School District is designed to be family friendly and sensitive to individual needs. Our goal is to support families and keep kids where they need to be—in school!

Students with signs and symptoms of head lice will be referred to the school health office for evaluation and recommendations for treatment. However, no child will be excluded from school. Families in elementary classrooms where one or more students are found to have lice will be notified.

This plan emphasizes comprehensive education and community involvement. Enhanced support will be offered to families. Working together, we can minimize the impact of head lice in our schools and communities.

This plan was developed following the recommendations of the Linn County Public Health Department, Iowa Department of Public Health, National Association of School Nurses, American Academy of Pediatrics and the Harvard School of Public Health.

4/05
APPENDICES
COLLEGE COMMUNITY SCHOOL DISTRICT

What to do with the materials in the Pediculosis Plan

• If a student is found to have live lice or nits, send home the following pages:

  (1). The **Parent letter**: “Your child was found to have head lice:
  (2). **Head Lice Facts** sheet (the one-sided sheet)
  (3). **Head Lice Treatment Plan** with the **Calendar** on back (two-sided copy in the Appendix)

• In addition, the following pages should be sent home with all classmates of the child found to have live lice:

  (1). The **Parent letter**: “A student in your child’s classroom etc”, with **Head Lice Facts** sheet on the back (two-sided copy in the Appendix)
  (2). **Head Lice Treatment Plan** with the **Calendar** on back (two-sided copy in the Appendix)

• Additional suggestions:

  (1). **Head Lice Prevention Fact Sheet for Teachers and Staff** may be provided to them at the beginning of the year.
  (2). **Head Lice Press Release** can be used in handbooks, newsletters or school calendars.
  (3). **Resources For Families and Staff** is a good place to start for information on head lice for students, families or staff.
  (4). **Not Excluding For Head Lice and Update Your Knowledge of Head Lice** provide additional information for staff and parent education.

A complete College Community School District Pediculosis Plan will be available in its entirety in the Health Office.

4/05
Date____________________

Dear Parent/Guardian,

Your child ________________ was found to have head lice today. You are receiving information on the treatment of head lice. It is very important that you and your child follow these steps to eliminate head lice and prevent its’ spread.

Treatment should begin as soon as possible. You are encouraged to accompany your child to the health office for a head check following the initial treatment plan.

Please call the health office if you need assistance with the treatment plan, head lice identification or further information. Thank you for working together with your school to manage cases of head lice.

____________________
Signature

Kathy Bowersox
Cindy Fagan
Angela Ulferts
848-5225

4/05
Dear Parent/Guardian:

A student in your child’s classroom was found to have head lice. It is important that you check your child at home in order to prevent the spread of lice. **In fact, we highly encourage parents to routinely check school-age children’s heads at least once each week.** We are sending you some facts about head lice (see other side) as well as a treatment plan.

**Follow treatment plan ONLY if you find lice on family members’ heads.** Consult a health care provider if the child or family members are pregnant, nursing, under two years of age, have open wounds on their scalp or neck, have known allergies or if eyebrows and eyelashes are infested. These precautions apply to the persons administering the treatment as well as those receiving the treatment.

If you have questions, please contact the school nurse at 848-5225. We want to work with you to manage head lice in our community. Thank you for your attention and concern.
• What are Head Lice?
Head lice are insects that live and feed on the human scalp and lay their eggs by attaching them firmly to the hair. The adult louse is about the size of a sesame seed and is brown to reddish brown. They can move quickly but cannot hop or fly. They are difficult to see because they move quickly away from light. An adult female may lay between 50-90 eggs. The eggs also known as nits, hatch in 7 days and grow to adulthood in about 2 weeks. Nits are about the size of (-) are oval in shape and are tan, brown, or white.

Nits and Adult Lice
(Enlarged)

• How is Head Lice Spread?
Head lice crawl are spread by head to head contact, most commonly by bed-sharing and less frequently by playing together. It is possible but less likely that they are spread by using pillows, combs, hats or clothes etc. recently used by someone with head lice.

• When should I check for Head Lice?
Check hair if child is complaining of itchy head/scalp or if you see anything resembling dandruff, take a closer look. After one has had head lice for a few weeks, the head will become very itchy in most cases but not all. **Head checks should be done at home as weekly routine for pre-school and school-age children.**

• How do I check for Head Lice?
Under bright lighting check the hair close to the scalp for either the insects or their nits. Check especially the area at the front of the head, around the ears and the nape of the neck. You may not actually see the insects, as they hide from light and from being disturbed, but the nits or eggs do not move. Nits can be distinguished from dandruff in that they are firmly attached to the shaft of hair and cannot be removed by blowing or flicking with a fingernail.

If you check for head lice often at home and they are found on your child, you can begin treatment early and save time, effort and money in getting rid of them.

4/05
HEAD LICE
TREATMENT PLAN
(Follow this plan every day for two weeks)

DAY 1
• Treat hair over the sink (not in the shower or bath tub) using special lice-killing shampoo. FOLLOW PRODUCT INSTRUCTIONS AND PRECAUTIONS EXACTLY AS WRITTEN. CONDITIONER SHOULD NOT BE USED AFTER SOME PRODUCTS.
• REMOVE NITS (EGGS)

PROCEDURE FOR REMOVING NITS:
Apply regular crème rinse conditioner thickly. DO NOT RINSE OUT. Comb hair while wet and slippery with a comb designed for nit removal. Comb section by section, starting at the scalp and slowly pulling comb to end of hair. Then rinse hair with clear water. Clean comb often with tissue.

DAY 2 THROUGH 6
• Shampoo with regular shampoo
• Repeat PROCEDURE FOR REMOVING NITS.

DAY 7
• Repeat instructions from DAY 1.

DAYS 8 THROUGH 14
• Shampoo with regular shampoo.
• Repeat PROCEDURE FOR REMOVING NITS.

AFTER DAY 14
• Check weekly for nits and live lice.

4/05
HEAD LICE
TREATMENT PLAN

WHAT ELSE COULD BE DONE
• Check all family members hair for nits or lice.
• Put on clean clothes after treatment.
• Wash all bed linens in hot, soapy water.
• Wash all clothes, which have been in contact with your child’s head in hot, soapy water including hats, coats, and backpacks.
• Clean pillow either by washing in hot soapy water or placing in a hot dryer for 20 minutes.
• Vacuum mattress, carpet, cloth-like furniture, car upholstery, etc. (sprays are not recommended). Replace vacuum bags after each use and remove from the house.
• Put any items that cannot be washed in hot soapy water, dried in a hot dryer, vacuumed or dry cleaned in a plastic bag and seal for 2 weeks.
• Clean combs and brushes with hot soapy water.

PREVENTION
• Check every family member’s hair once a week.
• Do not share hats, combs, hair accessories, etc.
• Notify other people your child has close contact with, if head lice are found.

4/05
NOT EXCLUDING FOR LICE – TALKING POINTS

REASONS TO NOT EXCLUDE:
- Exclusion is not recommended by the American Academy of Pediatrics, the CDC, and the National Association of School Nurses, the Iowa Department of Health and the Linn County Health Department.

NOT EXCLUDING IS RESEARCH BASED:
- Exclusion contributes to absenteeism.
- Lice are not a health threat, do not carry or cause disease.

INFORMAL SURVEY OF IOWA SCHOOL NURSES - 47 DISTRICTS RESPONDED:
- 55.5% Do not exclude for any reason
- 35.5% Exclude for live lice only
- 9% Exclude for live lice or nits

MYTHS

CARRY DISEASE

FACTS
- Lice do not carry or transmit disease.
- Lice are a nuisance to humans, not a health hazard.
- Lice infestations are not a medical condition or disease but a social condition.

JUMP AND FLY

- Lice have 6 legs with claws for grasping hair.
- Do not have wings so cannot fly.
- The claws prevent jumping.
- Lice crawl, grasp hair and swing from hair to hair like a trapeze artist.
- Need close hair-to-hair contact to transfer to a new head.
- Without head to head contact the lice will not be transferred. Bed sharing is the most common situation for the transference of lice.
- Must acquire a male and female louse or an inseminated female for an infestation to occur.
CONDITIONS CONTRIBUTING TO LICE: DIRTY HAIR, LONG HAIR, UNKEPT HOUSE, AND LOW SOCIOECONOMIC STATUS.

LICE CAN BE TRANSFERRED BY INANIMATE OBJECTS.

HATS, COMBS, COATS HANGING IN SAME SPACE, HEADPHONES, HELMETS.

CARPETS IN HOMES / CLASSROOMS

- No preference for any particular group, for dirty or clean, long or short hair. As long as there is a warm, moist scalp and a blood supply as a food source, it's a good home for lice. That means everyone's scalp is a potential home for lice.

- The life cycle of a louse must be completed on a head.
- Lice die very quickly off the head. Lice must suck blood every six hours or they will dehydrate and die.
- Eggs need the warmth and moisture of the scalp. Lice need the warmth, moisture and food source of the scalp to live and breed.

- Healthy lice do not leave healthy heads.
- Lice are unable to grasp anything but human hair.
- They cannot grasp anything but human hair.
- They cannot grasp objects such as helmets, headphones.
- The fillers of hats, coats, etc. are too long for lice to grasp.

Researchers have tried to transfer lice by inanimate objects but have not had success.

Hats worn by 1000 students were examined and no head lice were found even though many lice were found on the children's heads.

- Lice die without a blood source.
- Lice that are not on a scalp are usually damaged and not viable.

118 carpeted classrooms were examined. No live lice or eggs were found, even though 14,563 lice were found on the heads of students in these classrooms.
Update Your Knowledge of Head Lice

1. **Myth:** Head lice carry disease.
   
   **Fact:** Lice neither carry nor transmit disease. Lice are a nuisance to humans, not a health hazard. Lice infestations are not a medical condition or disease but have become a social disease.

2. **Myth:** Lice jump or fly from one head to another.
   
   **Fact:** Lice have 6 legs with claws for grasping hair. They do not have wings so cannot fly. The claws prevent jumping. Lice crawl, grasp hair and swing from hair to hair like a trapeze artist.

3. **Myth:** Lice are easily transmitted in the school setting.
   
   **Fact:** Close hair-to-hair contact is necessary to transfer lice to a new head. Bed sharing is the most common situation for the transference of lice. In order for an infestation to occur a male and a female louse or an inseminated female must be acquired.

4. **Myth:** An unclean house, dirty or long hair, and low socioeconomic status contribute to lice infestations.
   
   **Fact:** Lice have no preference for any particular group, dirty or clean, long or short hair. As long as there is a warm, moist scalp, and a blood supply as a food source, it’s a good home for lice. That means everyone’s scalp is a potential home for lice.

5. **Myth:** Lice can be transferred by inanimate objects such as hats, combs, coats hanging in the same place, furniture, headphones, or helmets.
   
   **Fact:** The life cycle of a louse must be completed on a head. Lice die very quickly off the head. Lice must suck blood every six hours or they will dehydrate and die. Eggs (nits) need the warmth and moisture of the scalp. Lice need the warmth, moisture and food source of the scalp to live and breed. Healthy lice do not leave healthy heads. Lice are unable to grasp anything but human hair. They cannot grasp objects such as helmets or headphones. The fibers of hats, coats or furniture and the teeth of a brush or comb are too large for the lice to grasp.

   Researchers have tried to transfer lice by using inanimate objects but have not had success. Hats worn by 1000 students were examined and no head lice were found on the hats even though many lice were found on the children’s heads.
6. **Myth:** Lice can be picked up off of carpets.

   **Fact:** Lice that fall off the scalp are usually damaged and not viable. Lice cannot grasp the carpet fibers and die without a blood source. In one study 118 carpeted classrooms were examined. No live lice or eggs were found, even though 14,563 lice were found on the heads of students in these classrooms.

7. **Myth:** Itching is often a sign of lice.

   **Fact:** Itching due to lice is a result of the saliva that mixes with the blood as the lice feed on the scalp. This saliva is what causes the itching sensation but may not develop for 4-6 weeks when the host develops sensitivity to the saliva. Itching may also result after treatment with a lice shampoo and is a result of the irritation of the shampoo and not a sign of treatment failure.

Additional information regarding prevention, identification and treatment of lice will be coming in the future. If you have any questions please contact your school nurse.

4/05
Background of Lice Policy

In 2001 the Cedar Rapids Community School District (CRCSD) formed a task force to review and revise the lice management program for the district. At that time the practice was a no-nits policy meaning students with live lice or nits were excluded. The task force revised the policy so that only those students who had live lice present were excluded from school until they had received treatment.

The task force reconvened in January 2005 to again examine the exclusion policy. The purpose was to review the policy in light of current recommendations of professional health organizations and to improve continuity regarding lice management practices throughout the district. Practice regarding the exclusion of students based on the current CRCSD policy had become inconsistent. A major concern was the increase in absenteeism that exclusion creates.

The recommendations of many health organizations mimic the following policy statement from the American Academy of Pediatrics (AAP): “No healthy child should be excluded from or allowed to miss school time because of head lice”. These organizations include The Centers for Disease Control and Prevention (CDC), The National Association of School Nurses (NASN), the Iowa Department of Public Health (IDPH), and the Linn County Department of Public Health.

Based on a review of the current medical literature and recommendations of the aforementioned health care organizations, the task force revised the CRCSD Lice Management Plan, recommending elimination of the practice of student exclusion for live lice. The overall management plan continues to promote and support family, community and school district participation in the control of lice infestations.

Since this time more and more schools are adapting this new form of policy regarding lice management, College Community included. With the focus on prevention, early detection and education we are able to keep kids where they need to be – in school!
Lice Management Literature Summary

Many current beliefs regarding head lice are based on myths and misconceptions. Head lice have been documented in the medical literature dating back to 1500BC but there have been no widespread outbreaks. Head lice do not cause disease nor are they responsible for the transmission of disease. Body lice are known to transmit disease contributing to the inaccurate belief that head lice do the same. The only associated infection with head lice is that of infrequent secondary infections due to the child itching. The resulting abrasions become infected from normal body flora, often strep or staph.

According to the CDC the annual occurrence of head lice in the United States is 6-12 million cases. At any given time 1-3% of the U.S. population are affected by lice. It is most common in the 3-12 year old range and affects girls more then boys. This is because girls tend to have more close physical contact with their heads together. In the U.S. African Americans are infested less often then other races. This is due to the oval shape of the hair shaft in African Americans versus the rounder hair shaft in whites. The lice in the U.S. are structurally unable to grasp the shafts of the African-American hair while the lice in Africa have adapted and are able to do so. The incidence of head lice is not influenced by the length of the hair or how often it is shampooed. Daily brushing, which is a common practice in the U.S. does decrease the number of lice present. In cultures where daily brushing is not common there are often hundreds of lice present while there are usually less then a dozen in a U.S. case of lice.

As stated earlier, head lice are not a health hazard or a sign of uncleanliness. Lice occur as often in a clean house as in one that is not so tidy. Head lice can be a cause of embarrassment and misunderstanding resulting in lost school and workdays, with millions spent on remedies.

The adult louse is 2-3mm long, about the size of a sesame seed. It is most often pale gray in color, lives about 3-4 weeks and the female lays approximately 10 eggs per day. The female produces a glue-like substance to make eggs or nits stick to the hair shaft. When the eggs are first laid they are dark, refract light and take on the color of the environment, making them difficult to see. The empty casings or shell remnants are white and translucent which are easier to spot. These shells remain stuck to the hair shaft and grow out with the hair.

After the nits hatch, they grow for 9-12 days, mate and the females lay eggs. If left untreated this process repeats every three weeks. The newly hatched nits or nymphs feed off the scalp sucking blood every few hours. They inject saliva mixing it with the blood of the host. This saliva is what causes the itching sensation of an
infestation but may not develop for 4-6 weeks when the host develops sensitivity to the saliva. The nits will survive less than one day away from the scalp at room temperature and cannot hatch at a temperature lower than near the scalp.

Transmission

Contrary to common belief transmission of lice is not that easy. They have no wings so cannot fly or hop; they crawl. An infestation will not occur unless the new host acquires a male and female louse or a female that has already been inseminated. The journey from one host to another is not easy. They must travel from the host’s scalp, through the hair, up the hair shaft of the new host and make it to that scalp. The most common mode of transmission is by head to head contact. The probability of transmission increases in direct proportion to the length of time of head to head contact. That is why bed sharing is the most common situation to acquire a lice infestation.

Much concern is expressed over the transference of lice through inanimate objects. The key here is that a healthy louse tends to stay on a healthy scalp. There is very little chance of transferring lice by brushes, combs, or hats. The same is true of coats hanging next to each other at school. Lice present on such objects tend to be damaged or dead and of little threat to cause an infestation. Protective headgear, as in helmet use, should never be avoided because of the fear of lice. A head injury can be life threatening and lead to long-term consequences, while head lice are not.

Identification and Treatment of Lice Infestations

Identification

The diagnosis is based on the presence of a live, mobile louse. These can be difficult to identify as they are fast moving at 6-30cm per minute. If an insect is identified but has wings it is not a louse. Eggs or nits are easier to see especially at the nape of the neck and behind the ears. Only nits less then 1 cm. from the scalp are of concern as these are viable. Nits are often confused with debris, dandruff and empty shells of former nits.

Treatment

Pediculicides are used in the treatment of head lice including pyrethrins with piperonyl butoxide (RID, Clear Lice System) and permethrin 1% (NIX).

Pyrethrins have a low neurotoxic effect in mammals. Since they are made from chrysanthemums they should not be used in those who are allergic to that plant or to roses. An allergy to ragweed may also cause a reaction but with improvements in filtering this has become less of a problem. The shampoo is applied to dry hair, left on for 10 minutes and rinsed out in a sink. Pyrethrins are not ovicidal since newly
laid eggs do not have a functioning nervous system for several days. Twenty to thirty percent of the eggs will remain viable requiring treatment to be repeated in 7-10 days.

Permethrins are the current treatment of choice. This substance is virtually harmless to humans and has a lower toxicity in mammals then pyrethrins. This cream rinse product is applied after using a non-conditioning shampoo and towel drying hair. It is left on for 10 minutes and then rinsed out. Permethrins leave a residue to kill the 20-30% of eggs that survive. Re-treatment in 7-10 days is recommended by some. A conditioner or conditioning shampoo should not be used on the day of treatment as they will emulsify the insecticide and remove it from the hair. Another problem results if the hair is too wet and the insecticide becomes diluted. Less resistance has been reported with permethrins versus pyrethrins.

Lindane (Kwell) is neurotoxic in humans if used incorrectly as it is readily absorbed through the skin. Cases of severe seizures have been reported. Lindane is available by prescription only and should never be left on for more then 10 minutes. It has an low ovicidal rate with 30-50% of eggs surviving and therefore needs to be repeated in 7-10 days. Lindane has shown a high rate of resistance.

Malathion (Ovide) is a prescription lotion that is applied to dry hair, allowed to air dry and washed out in 8-12 hours. This product has a high ovicidal rate but if lice are seen in 7-10 days the treatment should be repeated. The solution has a strong smell and is highly flammable. Severe respiratory depression occurs with ingestion and can be fatal.

All products can cause topical reactions that should not be confused with a continued infestation. Itching and a mild burning sensation of the scalp are common which are due to inflammation of the skin and can last for days. These symptoms are not a reason to retreat. Topical steroids or antihistamines are sometimes used to treat the side effects.

The antibiotics Bactrim or Septra have been employed to treat head lice as an off label use. These carry the potential for the severe allergic reaction of Stevens-Johnson Syndrome. This is in addition to the concern of the development of resistant bacteria making it a poor choice for treating a non life-threatening condition.

Ivermectin (Stromectal) is an oral antifungal agent utilized in veterinary medicine. It is currently not approved by the FDA for the treatment of head lice. Ivermectin should never be used in young children.

Multiple products identified as natural products are on the market and do not require FDA approval requiring proof of efficacy. Many of these contain ingredients that appear natural and harmless but in fact can be harmful in some situations. These products have not been proven to effectively eliminate head lice.
Occlusive substances such as mayonnaise, margarine and olive oil have also been used. These substances would have to remain on the hair for at least 24 hours and are not ovicidal so would need to be repeated in 7-10 days. Other substances that have been utilized but carry a great risk are vodka, bleach, WD-40, acetone and kerosene.

Manual Removal

Complete removal of nits is not necessary since only live lice cause infestations. The time commitment and distress of the child and parent in accomplishing a combing protocol need to be considered when recommending a plan. In some studies there was no significant difference in treatment effectiveness between those that combed post treatment versus those that did not. Combing is not necessary to prevent spread to others. However, combing does damage nits and live lice making them nonviable. Combing to remove nits does have the benefit of decreasing diagnostic confusion, preventing unnecessary treatment (if no live lice are found), and for aesthetic reasons. Some advocate eliminating nits less then 1 cm for the scalp to decrease the risk of re-infestation.

Issue of Resistance

The actual prevalence of resistance to OTC treatment products is not known. No current product on the market is 100% ovicidal. It remains imperative though, that health professionals continue to recommend safe and clinically tested products.

Possible problems with treatment failure are many. It may be related to the product in that it has inadequate ovidical or residual killing properties. There may have been a misdiagnosis because no active infestation was actually present or there was misidentification of debris as lice or nits. The person may have been infested from another source after treatment, which often happens when all affected family members are not treated. The product may have been applied incorrectly in that it was too diluted by wet hair, not enough product was applied or the product was not left on long enough.

It may still be more appropriate to continue the use of permethrin or pyrethrin products even if resistance is suspected. This would be preferred over the use of less safe or more toxic products. Some cases may warrant the use of malathian.

Environmental Controls

All household members should be examined when an infestation has been identified and all affected members treated. In addition, those that share a bed with the initial person with lice should be treated.
Extensive household cleaning is not necessary and takes time away from the important aspects of control, identification and treatment of affected individuals. Nits cannot survive without a host and will dehydrate and die within 6-20 hours while live lice die within 24 hours without a blood source. Vacuuming extensively is also not important for the same reasons. Insecticide sprays should not be used since exposure to the pesticide cannot be controlled.

One approach that is useful is to change bed linen and pajamas from the night before the infestation was found. These can be washed in water greater then 130 degrees but the lice will also die within 24 hours in the hamper if left there.

School Role

When live lice are found the parent should be notified and treatment information provided. This should be done with the utmost sensitivity to not single out and embarrass the student. Confidentiality needs to be maintained and no one other then the parent needs to know.

It should be remembered that by the time live lice are found the student has had the lice for a month or more and is of little risk to others, negating the need to send them home. Children are not excluded for more contagious conditions such as colds, pinworms or influenza so there is no reason to exclude them for such a non-threatening condition. Some advocate sending a class note home with instructions regarding identification and treatment, without loss of confidentiality.

Screening of whole classrooms is never warranted and is not cost effective, nor has screening proven to have any effect on the incidence rate of head lice in schools. Routine education of all parents regarding the identification and management of head lice is helpful. The most effective screen is that done by a parent.

The health office may have a role in screening a symptomatic student and rechecking students post treatment if the parent requests. The nurse can also offer help to those families with chronic lice, possibly offering a home visit and the services of the public health nurse if appropriate. Reviewing proper use of products and screening of other family members, as well as providing accurate information to dispel misconceptions, will have the most positive effect in eradicating infestations.

The school should take the lead in reassuring parents, teachers and classmates by reacting in a calm manner. This will help alleviate the stress for the parent and allow them to instead concentrate on the appropriate treatment.
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