

Public Health Recommendations for the

Prevention and Control of Head Lice Infestation in Schools and Child Care Settings

A Guide for School and Child Care Setting Administrators



For further information call or visit us on the World Wide Web
Acute Disease Service
Oklahoma State Department of Health
Phone (405) 271-4060
<http://ads.health.ok.gov>

FOREWARD

The Head Lice Control Manual is intended to: 1) provide basic information about head lice infestation, treatment, and prevention, 2) communicate the recommendations of the Oklahoma State Department of Health regarding head lice control, and 3) provide a foundation for school and child care setting head lice policies. This manual has been prepared by a joint working group consisting of: epidemiologists of the Communicable Disease Division, nurses and nurse practitioners of the Nursing Service and the Local Health Service, nurses of the School Health Program of the Maternal and Child Health Service, all of the Oklahoma State Department of Health. School nurses from several Oklahoma school systems, personnel from the Oklahoma Commission on Children and Youth, and personnel from the Oklahoma Department of Education also provided input into the document.

THE HEAD LICE CONTROL MANUAL

Introduction

Head lice, *Pediculus humanus capitis*, belong to a group of human parasitic insects. Head lice are obligate parasites of humans, which means head lice need human blood to survive. Head lice infestation (Pediculosis) has plagued humans since the beginning of recorded time. They can be found on persons of any age, race, gender, or socioeconomic class. They are not an indicator of poor hygiene or living conditions. Head lice are different insects from body lice (*Pediculus humanus corporis*) and pubic lice (*Phthirus pubis*, also known as crab lice). Human head lice are host-specific (they live and reproduce only on humans) and thus are not found on domestic pets.

Infestation is defined as harboring **any** nits, nymphs, or adult head lice. Excessive scratching of the head is often the first obvious sign of head lice infestation. Lice eggs, usually called nits, are found by close examination of the hair. Actual lice are seen infrequently as they move quickly through the hair. In cases of severe infestation, head lice may also infest the eyebrows and eyelashes.

Life Cycle of Head Lice

The life cycle of *Pediculus humanus capitis* is composed of the egg (nit), the nymph, and the adult. An entire life cycle (egg-nymph-adult-egg) occurs in approximately three weeks. The ideal temperature for the life cycle is 89.6°F.

Nits are generally silvery-white in color, however they may blend with the hair and may appear dark gray or tan. Adult female lice deposit their eggs on the hair shaft close to the scalp where it is warm, usually ¼" – ½" from the scalp. The nits are attached with a cement-like substance making them very difficult to remove. Nits can survive off the human host for approximately 10 days, but must have temperatures above 71.6° F to incubate and hatch.

Under ideal conditions, nymphs hatch from the eggs in 7-10 days, often leaving the shell of the egg attached to the hair shaft. The newly hatched nymphs must acquire a meal of blood within 24 hours or they will die. They mature to adulthood in approximately 7-13 days and are then able to reproduce.

The adult head louse is 2-4 mm long (they may be as long as one of these lines:— or—), has six claw-like legs, and a flat, wingless body. Male lice are generally somewhat smaller than female lice. They vary in color depending on their human host. Their average life span is approximately 30 days, and the female can lay 3-6 eggs per 24 hour period. The eggs are usually laid at night. The louse feeds every 3-6 hours. On average, lice can only survive for 24-48 hours off the scalp away from the human host; however, in a very few cases the adult may survive for up to one week off the scalp. The louse uses its claws to hold on to the hair shaft and to crawl from one person to another. Although they can not jump or fly, they can crawl very quickly and are often difficult to see.

Who gets Head Lice and How

Lice cannot jump or fly. They must crawl from one person to another, or use an object such as a hairbrush or pillow as a transmission vehicle. Transmission of head lice occurs in 2 ways:

- 1.) By coming into direct contact with a person harboring adult or nymph head lice, or
- 2.) By direct contact with an object that has been in contact with an infested person's head - for example hats, coats, scarves, clothing, combs and brushes, pillows and bedding, upholstered furniture, car seats, etc.

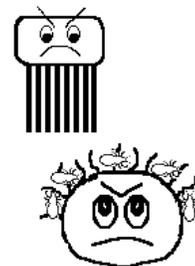
Lice can be found on persons of any age, race, gender or socioeconomic class. Head lice are not necessarily an indicator of poor personal hygiene. They can infest people with any length of hair. However, children between the ages of three and ten have the highest rates of infestation, girls are more frequently infested than boys, and in the United States, African-Americans are less frequently infested than whites, American Indians, Asians, Hispanics, and others.

Symptoms and Identification of Infestation

Itching of the scalp is the most common symptom of head lice infestation. Itching is caused by an allergic reaction to the saliva of head lice. Such allergic itching sensations generally do not occur immediately when a person becomes infested but may take several weeks to develop. Thus, by the time a person is noticeably scratching, the person has been either infested for several weeks (OR) the person has been sensitized to louse saliva by a previous infestation and experiences itching earlier in the infestation.

The scalp may appear red, and have oozing, crusting or tender areas due to scratching. These inflamed areas can lead to secondary bacterial infections such as impetigo. Impetigo may be caused by *Staphylococcus* or by group A *Streptococcus* bacteria. Impetigo infections may become serious if not treated promptly. Head lice have not been associated with the transmission of any communicable disease.

Identification of pediculosis (head lice infestation) is usually made by finding nits close to the scalp. The nits are most commonly found near the base of the neck, the crown of the head, and behind the ears. The adult lice may be difficult to see because they move quickly, however, seeing a live louse also confirms a case of pediculosis. Nits may be difficult to differentiate visually from hair artifacts (such as dandruff, skin flakes, hair casts, or hair spray), but artifacts are easily removed from the hair shaft using the thumb and forefinger whereas nits are not.



Oklahoma State Department of Health Recommendations

Background

Pediculosis (infestation with head lice) is not a reportable disease under the Board of Health Rules. Thus diagnosis of head lice infestation should neither be reported to the Oklahoma State Department of Health (OSDH) nor to the county health department. It is also important to know that Oklahoma law does not require that children be excluded from attending school for pediculosis (see Title 70 O.S. Section 1210.194). The statute does state that children who are excluded from attending school because of head lice should present certification from a health professional or an authorized representative of the OSDH that he/she “is no longer afflicted with head lice” before re-entry. Health professionals are defined in Title 63 O.S. Sect. 2601 as “any licensed physician, psychologist, dentist, osteopathic physician, podiatrist, chiropractor, registered or licensed practical nurse or physician’s assistant”. The OSDH **does not advocate exclusion** of children from school, but rather supports a cooperative effort between parents, the schools, local health care providers and public health personnel, local state human services agencies, and local child care advocacy groups to prevent and control pediculosis. Children should not be excluded from school, but should be sent home with educational materials for prompt treatment and nit removal. The ultimate responsibility for head lice treatment and control lies with the parents.

The Oklahoma State Department of Health recommends that all School administrators should evaluate their practices for infestation identification and exclusion practices annually before the beginning of the school year and adopt a common sense approach to minimize absenteeism. Absence from school is a loss of educational opportunity and an encumbrance to working parents. School head lice policies should focus on the prevention of infestation through education of school personnel and parents regarding the life cycle of head lice and screening methods. Schools may adopt a “no nit policy” which focuses on quick and thorough treatment of identified cases by giving proper treatment information to the family. A successful “no nit policy” must ensure that personnel assigned to perform head checks be thoroughly trained to minimize misidentification. Historically, poorly trained staff members and lack of information and educational materials for the parents has lead to unnecessary absenteeism. The gold standard for diagnosing a head lice infestation is finding live lice. Administrators may adopt a “one treatment and back to school” approach that has proven to be effective and minimizes loss of educational opportunities. A child with live lice should be sent home at the end of the day along with parent notification and educational materials. The child should be treated and sent back to school the next day and monitored for live lice. Parents of classmates should be notified to check children for infestation and treatment. The following references on school lice policies are to assist school administrators on deciding the best approach for their schools.

National Recommendations for school policy

- The American Academy of Pediatrics recommends that no healthy child be excluded from or allowed to miss school because of head lice, and that “no nit policies” for return to school are to be discouraged.
- The National Association of School Nurses state that nit-free policies disrupt the education process and should not be viewed as an essential strategy in the management of head lice.
- Health and Health Care in Schools – children with nits do not pose an immediate threat to the health of others, therefore, excluding these children from school and requiring them to be treated with a pesticide product is probably excessive.
- National Pediculosis Association – Advocates “no nit policies”

Recommendations

The OSDH recommends the following steps as a basic outline for a sound head lice control policy. Each school system and child care setting is unique. Therefore, the following may be considered a template for the policy each facility should write in accordance with its circumstances. It is important to write each policy locally with the input of the groups mentioned above to design a policy which “fits” the community. **It is important to know that children need not be “excluded” indefinitely from school or day care for head lice infestation.** The goal of head lice policies should be to design a system which facilitates the parent’s ability to quickly and easily eradicate lice and nits and place the child back in school/child care. Exclusion of a child from school or day care should be reserved for only the most difficult cases of infestation.

Basic Policy Template

- 1.) Each school and child care facility should have at least two persons on staff who are trained to screen children for head lice. A large school may need more than two. Schools and child care centers may request the school nurse or the local county health department public health nurse to hold a training session at the beginning of the fall semester to train personnel on how to screen for head lice and nits and how to educate parents on treatment and nit removal.
- 2.) General screenings of all students should take place a minimum of three times per year: at the start of the school year, following Christmas break, and following Spring break. A screening may also be performed immediately prior to dismissing children for the summer. The parents/guardians of infested children should be notified and the students found to be infested during screening should be sent home with information on treatment and nit removal.
- 3.) If a child is found to have lice or nits, the parents should be contacted at work or home and asked to meet with a representative of the facility when he/she picks up the child. The timing of this meeting should depend on circumstances such as severity of infestation, ability of parents to leave work, and the emotional state of the child. The child may remain in the facility until the end of the day (again depending on the individual circumstances of the case). The school nurse or one of the trained staff members should be notified so that he/she may assist in the educational efforts and answer any questions the parent/guardian may have when the child is picked up. The parent/guardian and the child should be sent home from school that day with educational materials detailing proper treatment and methods of nit removal. The parent should understand that the child is expected to return to school the following day after shampoo treatment and nit removal have been accomplished.
- 4.) When a child has been sent home for head lice treatment, the parent/guardian must understand that the following day, he/she must present the child at the school/day care for a re-check and remain present until the child has been cleared to re-enter. The trained school/child care personnel may screen children following treatment for re-entry into the school or childcare center. If significant improvement has occurred and no live lice and essentially no nits are found, the staff member may allow the child back in to the facility. A note from a medical care provider is **not** necessary to allow re-entry of the child under these circumstances, as the child has not been excluded. In this case, the parent must continue daily nit combing and the trained school staff would perform a re-check in 7-10 days to ensure the child has remained free of nits and lice. However, if infestation is still a problem, the staff member should work with the parent, demonstrate nit removal, emphasize the importance of combing, and send the child home with the parent/guardian for the day with instructions on nit removal. The parent should understand that the child is expected to return to school the following day with nit removal accomplished.
- 5.) Depending on the circumstances unique to each situation, screening of close friends, teammates, or the entire classroom may be warranted. A notice should be sent home to the parents of all classmates when a case has been identified in the classroom. The notice should detail that a case of head lice has been identified in the classroom and recommend that parents screen each child.

- 6.) When a school or child care chooses to have a treat once return to school policy, recommendations 4 and 5 would apply. The following morning staff members should screen for live lice only. Parents should bring an empty bottle of lice shampoo to school the following morning to show compliance.
- 7.) In cases of severe infestation, inability of the family to rid the child of infestation, chronic infestation, repeated infestation, (re-infestation of the same child > two times within six months), or possible impetigo (secondary bacterial infection of sores and scratches on the child's head), the parent should be referred to the county public health nurse or to the family's physician/medical care provider for treatment. In such cases, the child should be **excluded** from attending school or child care until the child is no longer infested. Depending on the circumstances of the case, Youth and Family Services or other local Department of Human Services personnel may be contacted to assist the family.
- 8.) In cases of exclusion, a note from a representative of the public health department or the child's medical provider which declares the child to be lice and nit free is necessary to allow re-entry into the facility.
- 8.) Each school and child care center should prepare informational and educational materials to distribute to parents and children. Examples of such materials are in the Appendix to this manual. These may be copied directly or altered to fit the facility's needs and copied. The facility may design its own materials.

Prevention and Control of Head Lice in Schools & Child Care Centers

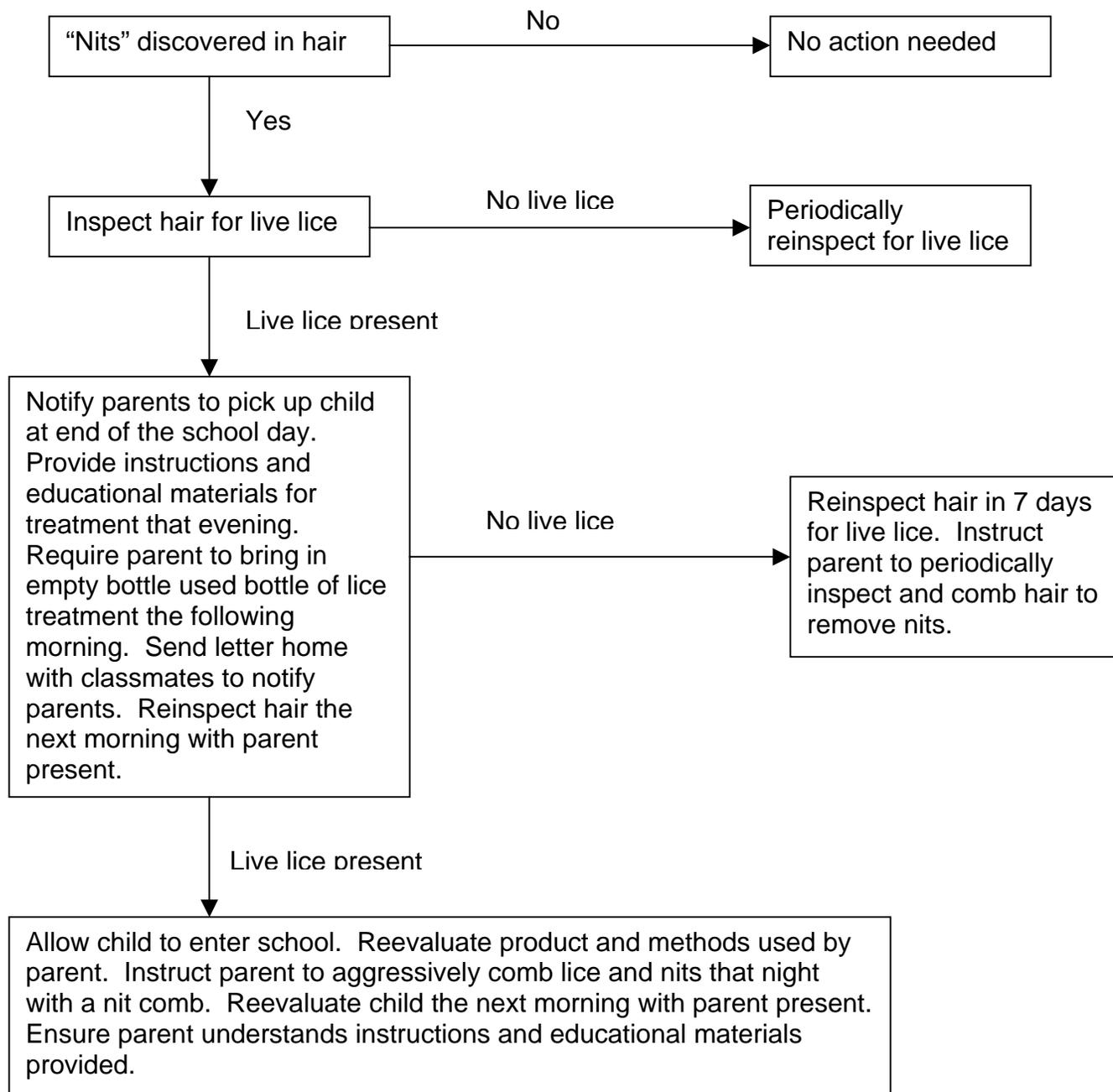
Administration

School and day care administration are responsible to prevent transmission from infested children to others by providing an environment where children's belongings are separated, by promoting screening and early detection, by ensuring personnel are trained in pediculosis screening and education, by supporting parental efforts in nit removal, and by incorporating head lice education into the general health and hygiene curriculum.

Administrators can help prevent and control head lice transmission in their facilities by implementing the following recommendations:

1. Establish a head lice control policy.
2. Educate staff about the policy and how to implement it.
3. Ensure that at least two staff members from each school or center are trained on how to screen for and identify head lice and nits.
4. Clearly communicate the policy to parents and children.
5. Announce scheduled head lice screening dates (see recommended times of year for screenings in previous section). Send notices of the screening home with children well in advance of the scheduled screening date. Recommend that parents pre-screen their children and treat if infestation is found. **The ideal outcome of a screening day would be to find no cases of pediculosis.**
6. Promptly inform parents when a case of head lice has been reported in the class. Recommend that each parent screen his/her children for lice and nits.
7. Work with the PTA/PTO or other parent groups to set aside funds for supplies and educational materials to control head lice. It may be necessary to assist some families who are unable to afford all of the needed treatment supplies.
8. Advise maintenance personnel to ensure that the facilities provided for storage of personal items are sufficient to prevent the transmission of lice between personal belongings. Facilities should be provided so that the children's coats and hats do not touch during storage. Coat pegs should be spaced a minimum of 12-18 inches apart.
9. Maintain a supply of educational materials detailing information on head lice transmission, infestation, treatment, nit removal, and resources with phone numbers to be distributed to parents as needed.
10. Use the following algorithm for treat once and back to school policies.

Algorithm for Managing Pediculosis Infestations for
"One Treatment Back to School Policy"



Note: Commercial homeopathic treatments may be substituted for pediculocides as long as results are successful. Parents should understand if their child continues to have live lice after these treatments, a pediculocide would be required.

Teachers

Teachers are often first to identify a potential case of head lice in the classroom. It is imperative that the teachers have a good understanding of the transmission and treatment of head lice and can communicate this information to the parents or guardians. It is extremely important to be sensitive to distraught parents and children. Discreetly alert parents that their child has signs of head lice infestation and give the parent educational material regarding treatment and nit removal, ensuring confidentiality if possible. Plan head lice screenings at the end of the day or before the lunch break so that those identified as infested can be inconspicuously notified and sent home. While awaiting parental arrival, it is not necessary to completely isolate the child from the rest of the children. Lice can not jump or fly, so solitary activities (i.e. coloring, writing, or reading at a desk) would not put the rest of the class at risk of acquiring head lice. Remember that all socioeconomic groups may be affected and infestation is not a sign of poor hygiene. Every effort should be made to prevent the child from suffering emotionally.

Teachers can help prevent head lice transmission in their classrooms by taking the following steps.

1. Ensure that coats are hung separately and spaced so that they do not touch.
2. Make sure hats, mittens, scarves, etc., are tucked into coat sleeves.
3. Each child should have his or her own storage place for mats, towels or other items brought from home.
4. Carpeted floors should be vacuumed daily. Tile and linoleum floors should be swept daily.
5. "Dress-up corners" with shared smocks, hats, etc., can facilitate the spread of lice and should be limited, especially during periods when there are known cases of head lice infestation in the class.
6. Observe children carefully for symptoms of head lice infestation. Early detection of cases will limit spread.
7. As part of the health and hygiene curriculum, children should be taught basic information regarding head lice. The importance of each child using only his or her own hair care items and the importance of not sharing other children's hats and scarves should be emphasized as methods to prevent transmission.
8. Distribute educational materials as needed to parents. Template letters to parents for a variety of situations may be found in the Appendix. Following a head lice screening in your classroom in which one or more children are found to have head lice, each child might be sent home with a sealed envelope of appropriate information to the parents regarding the status of their child. This might help to maintain anonymity for the infested child(ren).

Prevention and Control of Head Lice in the Home

The prevention and control of head lice begins at home. **The parent or guardian has the ultimate responsibility to ensure children are free of lice and nits.** Through incorporating head lice screening into the basic hygiene routine in the home, cases of head lice infestation may be identified early in their course when treatment and eradication is easier to accomplish.

Parents & Guardians Should:

1. Educate himself/herself about the life cycle of head lice, the modes of transmission, and the signs and symptoms of head lice infestation.
2. Educate their children about head lice. Teach children not to share combs, hats or clothing with other children.
3. Include head checks for lice and nits as part of a weekly hygiene program. Early detection of lice infestation is the key to rapid eradication of lice and nits.

4. Contact the school if the child has been found to have lice or nits. Consult with the trained school personnel regarding treatment methods and for educational materials. Begin the steps of head lice treatment that day.
5. Administer the appropriate medical treatment to eliminate head lice from the child. **Focus on manual removal of all nits on the hair shafts after treatment. No chemical treatment (shampoo or rinse) is 100% effective in killing all lice and nits, so tireless efforts to physically remove all nits through proper combing and “nit picking” are necessary.**
6. Adhere to the school’s guidelines regarding head lice control.
7. Support the efforts of the school, the day care center, PTA/PTO or other organizations working to reduce the burden of head lice in the community.

Treatment of the Infested Person

There are many over-the-counter treatments for head lice. Caution should be taken when using these chemicals. They are pesticides, and adverse effects from using these products have been reported. **Please note that none of these treatments is 100% effective in killing lice and nits. Therefore, it is extremely important to remove all remaining lice and nits manually by combing following treatment. Special nit combs facilitate removal of nits.**

When Head Lice or Nits are Found on a Family Member

Examine all other family members, and treat those that are infested with head lice or nits at the same time. Treat family members only if there are signs of infestation. Prophylactic treatment of persons without signs of head lice infestation is not recommended. However, bed-mates of the infested child are at greatest risk of also being infested with head lice and should be examined very carefully for any lice or nits.

Treatment

1. Consult with a nurse, pharmacist or physician and purchase treatment.
2. Read enclosed product directions before initiating treatment.
3. Remove clothing from the upper body of child, and provide him/her with a towel to protect the face and eyes.
4. Have the child lean over a sink. Do not use treatment in the shower or bathtub.
5. **Do not wet the hair.** Apply medicated shampoo or rinse to dry hair. **Do not dilute the treatment.** Apply treatment directly to **dry hair** and scalp according to the product instructions. If possible, wear plastic or rubber gloves to limit your exposure to the chemicals, especially when treating multiple children.
6. Do not use this treatment on the eyebrows or eyelashes. If the eyebrows or eyelashes are infested, consult with a physician for safe treatment methods.

Nit Removal

1. Nits may be loosened from hair shaft by wrapping the hair in a towel soaked with white vinegar (3%-5% acetic acid) for at least 30 minutes. The vinegar does not kill lice or nits, but helps to loosen the “cement” which attaches the nits to the hair, making nit removal easier.
2. While hair is wet, separate into sections.
3. Comb through each section of hair, and remove all nits with a lice comb or fingernails.
4. Rinse hair and scalp with running water. Allow hair to air dry.
5. Once hair is dry, recheck entire head and remove any remaining nits.
6. Allow the child to put on clean clothes.

Follow Up

1. Do daily head checks for the next 10 days, and remove any nits or lice found.
2. If no nits or lice are found on days 7-10, a second treatment with a lice-killing product is not necessary. If any lice or nits are still present on or after day 7, a second treatment should be performed following the steps outlined in the "Treatment" and "Nit Removal" sections. Continue with daily head checks for the next 10 days.
3. After the child is free of lice and nits for 10 days, continue head checks as a part of routine hygiene.

Treatment Precautions

1. Gasoline, kerosene, or any other petroleum-based products which could be flammable must not be used for head lice treatment or nit removal.
2. Petroleum jelly (e.g. Vaseline) must not be used for head lice treatment or nit removal.
3. Products containing insecticides that are not labeled for use on humans must not be used for head lice treatment or nit removal. Some examples of products which must not be used on people are pet shampoos, dog and cat flea dip, and lawn and garden insecticides or pesticides.
4. The treatment times of over-the-counter lice shampoos and rinses must not be extended beyond the package insert recommendations.
5. The over-the-counter lice shampoos or creams must not be applied too frequently.

Treating the Environment

1. At the same time medicated shampooing and nit removal are performed, machine wash on the hot cycle (130°F or hotter) all bed linens and clothing that have been in contact with the infested person within the last three days. Also, wash the soft toys and stuffed animals that accompany the child to bed.
2. Use a hot dryer setting for at least 20 minutes to dry clothes, linens, and soft/stuffed animals after washing.
3. All of the child's brushes, combs, and hair implements (barrettes, ponytail holders, and headbands) must be treated as well. The following methods are suggested:
 - a) Soak items in a mild bleach solution (one tablespoon of bleach per quart of cool water), rubbing alcohol, or Lysol for one hour, or
 - b) Scrub items with soap and hot (130° F) water.
4. Non-washables can be vacuumed or dry-cleaned.
5. If there are **items which can not be washed, vacuumed or dry cleaned**, items can be "bagged" and sealed in plastic garbage bags for a period of two (2) weeks.* Lice and nits can not survive off the human body for this length of time without a blood meal.
6. Vacuum carpet, upholstered furniture, mattresses, box springs, and car seats.
7. The use of lice sprays, house "bombs", exterminator services, or treatment of household pets are also unnecessary and could be harmful.

* "Bagging" objects that can't be washed, dry cleaned or vacuumed should be done with care and under parental supervision. These bags can suffocate small children who are trying to get to their belongings.

Additional Precautions

1. Any woman who is pregnant or nursing should avoid exposure to chemical agents in lice killing treatments and contact her physician for advice. Without speaking first to her physician, she SHOULD NOT use her bare hands to apply lice shampoo to a child's head and she SHOULD NOT use lice shampoo on herself. She may however use nit combs to manually remove nits from the hair.
2. Over-the-counter lice killing remedies should only be used on the advice of a nurse or physician for children under two years of age. If children under two years are infested, remove all lice and nits by hand with thorough combing.
3. People with pre-existing medical conditions (i.e. asthma, epilepsy, neurological disease) should contact their physician before treating themselves or others.
4. Never use lice killing products on or near the eyes.
5. Do not treat individuals prophylactically – do not treat people who have no signs of infestation “just as a precaution”. Examine bed-mates of an infested person closely and treat only the bed-mates that are currently infested with lice or nits.
6. Do not use products containing lindane unless prescribed specifically by a physician.
7. Use of lice sprays on bedding, furniture, etc., or hiring an exterminator to treat the home are unwarranted and not recommended.
8. Spraying/fogging the home with insecticides is not recommended.
9. Household pets are not carriers of head lice and do not require treatment.
10. “Bagging” objects that can't be washed, dry cleaned or vacuumed should be done with care and close parental supervision. These bags can suffocate children who are trying to get to their belongings.