GUIDELINES ON HEAD LICE PREVENTION AND CONTROL FOR SCHOOL DISTRICTS AND CHILD CARE FACILITIES, 2009

Infectious Diseases Branch
Division of Communicable Disease Control
California Department of Public Health

These guidelines are provided to assist local health departments, elementary schools, preschools, and child care facilities in developing policies and procedures for the care of head lice cases. The California Department of Public Health (CDPH) recommends that schools and child-care facilities maintain an active educational campaign for parents on the accurate diagnosis and correct treatment of head lice cases to prevent transmission of lice in schools and reduce lost school days due to head lice infestation.

Head lice, while a significant social problem, do not transmit disease to humans. Traditionally, head lice policies in schools emphasized that a child infested with head lice could not return to school until no nits were found in their hair ("no-nit" policy). There is no evidence that a no-nit policy prevents or shortens lengths of outbreaks (Pollack et al., 2000, Williams et al., 2001). The American Academy of Pediatrics, the National Association of School Nurses, and the Centers for Disease Control and Prevention are all opponents of classical no-nit policies (Frankowski and Weiner, 2002; Schoessler, 2004). In light of current research, CDPH now recommends a no-lice policy.

The essential components of a no-lice policy are the following:

- ♦ Early detection of head lice infestations through routine screening.
- ◆ Distribution of educational material to school staff and parents on head lice, nit combing, and treatment such as "A Parent's Guide to Head Lice" brochure (available at local heath departments and online at http://www.cdph.ca.gov/HealthInfo/discond/Documents/headlice2008Eng.pdf
- ♦ Treatment of children with <u>live</u> lice.

Adult head lice are grey or brown, wingless insects approximately 1/8 inch in length. Adult females lay eggs (nits) by gluing them to the hairs near the base. Lice do not fly or jump and can be detected by parting the hair and examining near the scalp, most commonly near ears and back of neck. Children ages 3-11 years old are at highest risk for head lice infestation.

Ideally, students should be screened for head lice the first month they return to school from a school vacation, such as after summer break. Criteria and timing for screening may be determined by the school nurse or administration, based on prior history and resources. If possible, head lice screening should be performed on Fridays. For first-time infestations, parents should be called to pick up the child at the end of the school day and then given a copy of the brochure "A Parent's Guide to Head Lice". This policy allows the parent to treat the child over the weekend. The child should be re-examined and if louse-free admitted to class the following Monday. Because it takes six to nine days for nits to hatch, the infested child should be re-examined the following Friday for the presence of live lice. If live lice are present, treatment should be repeated over the weekend and the child should be checked again the following Monday.

DETECTION OF HEAD LICE. When a child is found with head lice, parents should be provided with educational material on head lice and the importance of treatment should be stressed. At home, all members of the family must be checked for head lice. While classroom or school-wide notification is not recommended after head lice have been detected in a student, this policy is at the discretion of the school nurse or administration.

CHRONIC CASES. If a child is found consistently infested with head lice, the child should be deemed a "chronic" head lice case. A chronic case is a child found infested during three separate months during a school year or for six consecutive weeks. It is important for schools to identify these children since their continuing infestations may signify other family or socioeconomic problems. These chronic cases should be reported to the school attendance review board and be addressed by a multidisciplinary work group. The work group could consist of representatives from the local health department, social services, the school (district) nurse, and other appropriate individuals to determine the best approach to identifying and resolving the family problems that impact the child's school attendance.

ENVIRONMENTAL CONTROL. Pesticide application to the school or home environment is not recommended. Adult lice usually die within two days without a blood meal. Always keep each child's hat and other clothing on separate hooks. Once a child is found infested with head lice, the classroom can be vacuumed once a day to decrease the remote possibility of transmission of head lice.

Pillows and other classroom items may have nits or lice on them but are very unlikely sources of infestation. They can be put in a dryer and run on hot for 20 minutes, drycleaned, or placed in sealed plastic bags for two weeks (nits take six to nine days to hatch) to kill hatching lice.

TREATMENT. Parents need to understand that the most important components of head lice control are a single treatment, then reapplication if live lice are found seven to ten days later. Nit combing should also be performed. Head lice that are resistant to some of the commonly used insecticides in head lice shampoos have been found in California and therefore not all lice may be killed by treatment. Combing and removal of nits may help to reduce the duration of infestation. CDPH recommends the combination of treatment and nit combing. Several brands of nit combs are available at local pharmacies. Flea combs also work well for nit combing and can be bought at pet stores. Treatment failure may be due to the misidentification of substance on the hair shaft as nits (i.e. dandruff, styling products, etc) or not realizing that it may take 8-12 hours for lice to die.

The current product of choice is permethrin (i.e. Nix®*). Permethrin and pyrethrin treatments may be used to kill live lice but may need to be used again one week later to kill resistant or newly hatched lice. Results from a recent study of head lice in California indicate some lice populations are resistant to permethrin (Gao et al., 2003).

On April 9, 2009, Benzyl Alcohol Lotion (5%) received full market approval by the Food and Drug Administration as an additional prescription medication for the treatment of head lice. Benzyl Alcohol Lotion (5%) is approved for use in patients 6 months of age and older.

When two treatments with over-the-counter products have not worked, parents should be encouraged to talk to their doctor about a prescription for Ovide®*. Ovide is now available to

Medi-Cal eligible families. Research has shown that Ovide®*, a malathion product, is by far the most effective product on the market to kill lice (Meinking et al, 2001; Meinking et al, 2002).

California legislation prohibits the use of treatment products containing lindane (Kwell®*).

There is no conclusive scientific evidence to support the use of products such as vinegar, isopropyl alcohol, enzyme-based compounds, tea tree oil, or other alternative products advertised to dissolve the glue on the nits (to ease their removal) or kill the nits. Similarly, there are no conclusive scientific data to support claims that mayonnaise, olive oil, melted butter, petroleum jelly, or other current commercial products on the hair "suffocate" the nits and lice. Drowning lice is also an ineffective way to kill lice (Takano-Lee et al., 2004).

Please contact your local health department for more information. The list of references cited in this document is attached. These guidelines, the brochure "A Parent's Guide to Head Lice" and other CDPH publications can be found under the Vector-Borne Disease Section heading at the following website:

http://www.cdph.ca.gov/healthinfo/discond/Pages/HeadLice.aspx

The brochure "A Parent's Guide to Head Lice" in Spanish can be found at this link: http://www.cdph.ca.gov/HealthInfo/discond/Documents/Headlice2008SPA.pdf

*Use of this product name does not imply commercial endorsement by the California Department of Public Health.

(The next page is a list of the references cited in these guidelines. Copyright laws prevent us from making copies of these publications available to you.)

Literature Cited

- 1 Frankowski, B. L., and Weiner, L. B. 2002. Head Lice. Pediatrics. 110(3): 638-643.
- Gao, J-R., Yoon, K.S., Lee, S.H., Takano-Lee, M., Edman, J.D., Meinking, T.L., Taplin, D., J.M. Clark. 2003. Increased frequency of the T929I and L932F mutations associated with knockdown resistance in permethrin-resistant populations of the human head louse, Pediculus capitis, from California, Florida, and Texas. Pesticide Biochemistry and Physiology. 77:115-124.
- Meinking, T.L., Clineschmidt, C.M., Chen, C., Kolber, M. A., Tipping, R.W., Furlek, C.I., Villar, M.E., C.A. Guzzo. 2002. An observer blinded study of 1% permethrin crème rinse with and without adjunctive combing in patients with head lice. The Journal of Pediatrics. 141: 665-670.
- 4 Meinking, T.L., Entzel, P., Villar, M.E., Vicaria, M., Lernard, G.A, S. L. Porcelain. 2001. Comparative efficacy of treatments for Pediculus capitis infestations. Archives of Dermatology. 137: 287-292.
- Meinking, T.L., Serrano, L., Hard, B., Entzel, P., Lernard, G., Rivera, E., Villar, M.E. 2002. Comparative in vitro pediculicidal efficacy of treatments in a resistant head lice population in the United States. Archives of Dermatology. 138: 220-224.
- Pollack, R.J., Kiszeweski, A.E., A. Spielman. 2000. Over diagnosis and consequent mismanagement of head louse infestations in North America. Pediatric Infectious Diseases. 19: 689-693.
- Schoessler, S.Z. 2004. Treating and managing head lice: the school nurse perspective. American Journal of Managed Care. 10(9 Suppl): S273-6.
- 8 Takano-Lee, M., Edman, J.D., Mullens, B.A., Clark, J.M. 2004. Home remedies to control head lice: assessment of home remedies to control the human head louse, *Pediculus humanus capitis* (Anoplura: Pediculidae). Journal of Pediatric Nursing. 19(6): 393-398.
- 9 Williams, L.K., Reichert, A., MacKenzie, W.R., Hightower, A.W., P.A. Blake. 2001. Lice, nits, and school policy. Pediatrics. 107 (5): 1011-1015.