CONTROL OF HEAD LICE

Head lice are wingless insects one to three millimeters in length. Exclusively parasites on man, they live on or near the scalp and attach their tiny (0.6-0.8mm) eggs called nits, to hair shafts. A head louse egg hatches in about a week, and the emerged nymph requires seven to ten days to become an adult. The adult lives another 20-30 days; females lay four or five eggs per day throughout this period.

MODES OF TRANSMISSION

Head lice are incapable of flying or jumping but can crawl fairly rapidly. Transmission may be direct from person to person, or indirect through objects such as hairbrushes, caps, scarves, coats, sheets and pillowcases. Indirect transmission is limited because head lice can live only about 48 hours away from the human host. The eggs can live away from the host for about 10 days but will not hatch at room temperature or below.

DIAGNOSIS

Head lice are completely dependent on human blood, which they suck from bite wounds in the scalp. The bites produce intense itching which is frequently the first sign of the presence of lice. Scratching may lead to secondary bacterial infection.

The diagnosis is confirmed by finding lice or nits. They are usually most common above and behind the ears and on the back of the head and neck. Nits should not be confused with dandruff, which can easily be brushed off. Nits adhere to the hair shaft, and are difficult to remove, even with tweezers.

The presence of nits does not necessarily indicate an active infestation. The female louse attaches her eggs at the junction of the hair shaft and scalp. Hair grows at a rate of about one-quarter inch per week; since lice hatch within a week, nits located one-half inch or more from the scalp are no longer viable and need not be treated unless lice (adults or nymphs) are also found.

TREATMENT

For several years the treatment of choice has been a liquid shampoo containing one percent Lindane, available only by prescription. In vitro studies of pediculocidal activity suggest that non-prescription therapeutic agents containing pyrethrins with piperonyl butoxide (such as RID and A-200 Pyrinate) are probably as effective as Kwell; no controlled clinical comparisons have been done, however. Refer to the manufacturers’ instructions for specific recommendations on use. After shampooing for the recommended time, rinse hair thoroughly, rub dry with a towel, and removal of the nits is possible with a fine-tooth comb.

It is advisable to repeat the treatment in eight (8) days to kill any newly hatched nymphs since 80-90 percent of nits may survive treatment. Total nit removal by combing is imperative. Avoid over-treatment with any agent; severe irritation of the scalp or eczematous eruptions may result. Secondary bacterial infections require treatment with systemic and topical antibiotics.
A child with head lice should be excluded from school until treatment is accomplished. Ideally, the parent should be asked to come to school to take the child home in order that the appearance and location of nits on the child’s head can be demonstrated to the parent. If this cannot be done, the student should be sent home with a note of explanation to parents. The note should define the problem, suggest methods of disinfecting, request that other family members be examined for head lice and treated simultaneously and state that the student cannot return to school until the morning after treatment. Infested children should be treated twice, at an eight (8) day interval, but should be readmitted to school the morning after the first treatment. Evidence of treatment includes: NO LICE (i.e. adults or nymphs); clean hair and scalp; pediculocidal shampoo label or physician statement stating the treatment used.

If the parent is not responsive, or if treatment has not been successful, a home visit should be made by a nurse or other trained person to explain the control methods to the family and to make sure they understand the importance of recommended measures. Reinfestations and/or treatment failures sometimes complicate control efforts. Reinfestation is more common than resistance to the chemical agents used in treatment; therefore, persons who persist in carrying lice should first be considered reinfested and control procedures should be repeated. In homes where it appears lice cannot be eradicated, resistance should be considered and a different agent used for treatment.

**EXAMINATION OF CLOSE CONTACTS**

If a person is found to have head lice, recommend all household members and close associates be screened. If other persons with lice or nits are found, they should be treated as above and their household and other close contacts checked. If an outbreak is suspected in school, the whole school may be screened.

**DECONTAMINATION OF PERSONAL ARTICLES**

Personal items, such as brushes, combs, hats, scarves, bedding, and towels may be contaminated. Washable clothing and bed linens used in the 48 hours prior to treatment should be machine-washed with hot water and detergent; drying at high heat for 20 minutes is also effective. Clothing that is not washable should be dry-cleaned. Soak combs and brushes for an hour in two percent Lysol solution or pediculocidal shampoo or heat in a pan of water at 150* F. for five to ten minutes. (Caution: heat may damage some items.) Items sealed tightly in plastic bags and stored at room temperature for two weeks will also become free of lice and viable nits.

The school nurse should be alert to situations in the school which may foster transmission of lice, i.e., shared garments, pillows, coat hooks, etc. Hats and coats should be stored separately (in individual lockers, on wall hooks 12 inches or more apart, or on seat backs). Sharing of personal articles such as combs, brushes, hats, clothing, and towels should be discouraged.

Careful vacuuming is adequate to decontaminate carpets and upholstery. Insecticidal sprays or fumigants are not recommended for the control of head lice.