A dermatologist's response to the American Academy of Pediatrics guidelines on head lice

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The American Academy of Pediatrics (AAP) allows a small committee of its members to formulate and publish policy statements for the entire specialty. In one of these quorums, a few pediatric delegates recently addressed the subject of head lice in their publication, Pediatrics. Although I commend the participants for their efforts and enthusiasm, I wish to address six shortcomings of their mandate in this letter to the editor. I fear that these demerits will severely affect how our communities handle outbreaks and possibly put us all at more risk of more serious consequences than just itchy scalps.

Initially I will admit my passion (or sensitivity) and knowledge regarding the topic of head lice. I had a free head lice clinic for 5 years on Tuesday afternoons in my office to obtain enough specimens for our work on this parasite. Our studies included flash pyrolysis/gas chromatography-mass spectrometry of the sheath, genomic studies of the head lice symbiotes, analysis of the protein analysis of the protein sheath, and various clinical and epidemiological studies, to which we have received four research grants. I have worked with schools experiencing epidemics, examined hundreds of infested individuals, attended PTA meetings, and have dealt with the physical, social, and psychological concerns of numerous infested individuals.

A major deficiency is that the AAP guidelines trivialize the disease of head lice. In truth, they don't consider head lice to be a medical disease. Is it a public health nuisance? Do they consider it a cosmetic problem? Indeed, there are inferences that pediatricians, physicians, and school nurses should no longer be bothered by such a petty problem. The onus of diagnosing, treating, and controlling epidemics lies with the parents as outlined by the AAP guidelines. But if one defines disease as "making one uncomfortable," head lice certainly fits. If one suggests the need of a medical treatment to address the problem, then one would infer that one is dealing with a medical ailment. If one considers the psychological ramifications, excoriations, and infection that can accompany head lice, then head lice registers as a disease. Do these authors consider warts, herpes, acne, small stature, delusions of parasitosis, hay fever, and poison ivy diseases? These physicians are trivializing the disease head lice, inferring that it should not be part of what a physician should take care of.

Entomologists have found all the blood-born pathogens within the guts of these insects including tuberculosis and HIV virus, and most of these infectious organisms multiply within the gut of the louse. Several authors have suggested that head lice may have been vectors of disease epidemics. For example, if you acquire a head louse from a patient with tuberculosis, then scratch your head causing some bleeding, might not some of the louse excreta find its way into the body of the new host and cause the disease? Another example would be if a patient with some rickettsial disease has head lice and takes his sweater off at school dislodging some of the head lice excreta from the scalp, might not someone breathe in these organisms into their lungs and acquire the disease? This latter example is the method by which body lice have been reported to spread some rickettsial diseases. Suggested readings would include "Human pathogens in body and head lice" by Fournier in Emerging Infectious Diseases, 2002;8:1515-8; "Potential role of head lice, pediculus humanus capitis, as vectors of Rickettsia prowazekii" by Robinson in Parasitology Research, 2003;90:209-11; "Lice: the spectrum of disease in animal and man with special emphasis on whether head lice are possible vectors for systemic infections" by Burkhart in Journal of Clinical Dermatology, 1998;1:10-14.

Secondly, there was lack of appreciation, and lack of discussion of fomite control. By way of review, the normal infested scalp of a patient with head lice houses 20 female lice. These females during their 30-day life have been demonstrated to lay 2,652 eggs (Bacot in Parasitosis 1915;9:228-58). Remember, lice have 2 ovaries, each with 5 ovarioles, each with 2 to 3 developed oocytes along its length at any one time. The female louse can store sperm in a spermatotheca so that a single mating is all that is required for lifetime fertility. The sheer number of lice hatching suggests that many nymph must be taking chances of survival besides their present niche. Besides direct contact, lice have a natural "flea response" (as discussed in Journal of Clinical Dermatology, 1998;1:10-14), can be transmitted by static electricity, and can crawl along infested pillows and towels (International Journal of Dermatology, 2003;42:626-9).
Anyone who has vigorously combed the hair of infested patients is aware of the high number of lice that cover one's shirt or blouse after performing the nit-picking combing session.

Thirdly, there is poor appreciation of the developing resistance to pyrethroids as a result of natural selection. Lice, like all insects, have a certain amount of their genome allocated to modifying themselves to the environment. Thus, resistance eventually occurs to all insecticides, and new agents must be developed (and available to infested individuals). In some communities, the resistance to standard over-the-counter insecticides is as high as 80%. Thus, even with following the directions to these previously effective agents such as Nix and Rid, individuals remain infested and contagious.

The fourth point addresses their suggestion that one should only diagnose head lice when one finds a live louse. This parameter is not reasonable. No study has ever been performed by using these standards. The sensitivity of such testing would be too low. It is very difficult to find live lice in the vast majority of patients. To obtain adult lice for our studies we had to comb the patients' hair laboriously to eventually displace some of the lice from their strong grip to the hair follicle. Such testing requires the availability of lice combs and 15 minutes to search for lice in suspected patients. To require the finding of an adult lice before treating infested individuals would mandate more time than a hypothetical standard requiring identification of a scabetic mite under the microscope or by biopsy prior to treating any patient for suspected scabies. Nits are much easier to see, and this is the standard for all health professionals. There is, however, a need for better education of school nurses and physicians to be able to identify the viability of nits when located on the scalp of a treated individual.

The fifth point deals with the sensitivity of the AAP to missed school days as the most serious consequence of the paranoia surrounding a head lice epidemic. It is easy to look at the no-nit policy as a black and white issue, but there is some gray involved. First, there is the occasional patient who is literally infested with hundreds of lice.

Additionally, there are a considerable number of persons who are resistant to OTC pediculocides. These people know that they are spreading to others, and they are unable to solve the problem. These persons normally do not want to socialize until their condition is resolved because of the chastising they receive at school for continually causing outbreaks of head lice among others. Such persons are contagious and should probably be isolated until their condition is addressed. Indeed, my initial experience with lice was going to a school in my city in which 12 teachers had become infested, and all the teachers denied having had their head next to any of their students head (for direct transfer of lice). Moreover, this particular family of lice were resistant to the standard over-the-counter remedies.

The last issue deals with the AAP position that mass screenings for head lice are not beneficial. I add that there are many articles and many school nurses who would suggest they are effective. I have been involved with similar examinations of the public for melanoma, prostate cancer, diabetes, as well as head lice. My perusal of the literature reveals no substantiation for this AAP viewpoint.