

Wet combing more accurate than visual inspection for identifying active head lice infestation

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Combing through a child's wet hair may lead to more accurate identification of active head lice infestation than visual inspection, according to a report in the March issue of *Archives of Dermatology*, one of the JAMA/Archives journals. However, visual inspection may yield a more precise assessment of the number of children who have eggs or nits (larvae) in their hair.

Head [lice infestation](#) (pediculosis capitis) is one of the most common childhood infections, affecting between 1 percent and 3 percent of 6- to 12-year-olds in industrialized nations, according to background information in the article. "In view of the high frequency of the infestation and the importance attributed to this parasitic skin disease by caregivers, governesses, teachers and health care providers, it comes as a surprise that the diagnostic accuracy of the techniques currently in use—visual inspection and [wet combing](#)—has never been determined appropriately," the authors write. Health care professionals and lay personnel frequently overdiagnose [head lice](#) infestation and fail to distinguish between active and extinct cases.

Claudia Jahnke, M.D., of the City Health Department, Braunschweig, Germany, and colleagues compared the two diagnostic methods in 304 students age 6 to 12 attending five German primary schools with head lice epidemics in 2007. Every child attending the schools was examined first by visual inspection, where an applicator stick was used to part the

hair at the temples, behind the ears and on the neck. A second investigator, who did not know the results of the inspection, then applied a conditioner to wet the hair and combed from roots to ends with a fine-toothed comb. The conditioner was wiped on white sanitary paper and any object trapped within was examined with a magnifying glass.

Data from visual inspection were available for 304 [children](#) and from wet combing for 300 children. The presence of eggs or nits was detected in 79 children (26.3 percent) and lice in trophic stages (adults or nymphs) were seen in 21 children (7 percent).

"Visual inspection underestimated the true prevalence of active infestation by a factor of 3.5," the authors write. Wet combing had a significantly higher sensitivity for detecting active infestations, correctly identifying them in 90.5 percent of the children (vs. 28.6 percent for visual inspections). However, visual inspection had a higher sensitivity for the identification of historic infestations (86.1 percent vs. 68.4 percent).

"In contrast to settings in the developing world in which a high intensity of infestation is the rule, in industrialized countries most children carry only a few lice," the authors write. "In consequence, the optimal detection method should identify even a single louse and should have a high negative predictive value to exclude the possibility that individuals classified as negative for lice are actually false negative with the potential to spread the parasite. In this regard, wet combing is the only useful method if active infestation has to be ruled out."

More information: Arch Dermatol. 2009;145[3]:309-313

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