

Head lice beginning to show permethrin resistance

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Image courtesy of Blausen Medical

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(HealthDay) -- Although live head lice obtained from school-aged children in Paris remain susceptible to the insecticide malathion, approximately 14 percent have been found to be resistant to permethrin, suggesting a strong basis for future insecticide resistance, according to research published online May 24 in the *Journal of the American Academy of Dermatology*.

Sophie Bouvresse, M.D., of the Henri Mondor Hospital in Paris, and colleagues conducted a prospective, population-based observational study of 14,436 school-aged children from 74 elementary schools to evaluate the occurrence of permethrin- and malathion-resistant head lice.

Live head lice were found in 574 children. The researchers observed that no lice survived after one hour of malathion treatment, while 85.7 percent of lice died after a one-hour exposure to permethrin and piperonyl butoxide. Of the 670 lice for which DNA could be studied, 98.7 percent were homozygous for the *kdr* mutation, which confers resistance to permethrin, suggesting a strongly-established [insecticide resistance](#) in this population.

"Further studies are necessary to identify all contributors to pyrethroid resistance, such as head louse attributes and possible host factors," the authors write. "Long-term surveillance of insecticidal resistance could be important to guide [therapeutic strategy](#) for head lice."

Two authors disclosed [financial ties](#) to pharmaceutical companies.

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