

# Resistant strain of head lice prevalent in North America

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Head louse (left) and body louse.  
Images courtesy: CDC

(HealthDay)—Widespread use of pyrethrins- or pyrethroid-based products appears to have resulted in selection pressure for a highly-resistant strain of human head lice in North America, according to research published in the March issue of the *Journal of Medical Entomology*.

Kyong Sup Yoon, of the University of Massachusetts in Amherst, and colleagues performed genotyping on DNA extracted from samples of human [head lice](#) collected from 32 locations in the United States and Canada.

The researchers found that the frequency of a knockdown-type resistance allele T917I (TI) was high in North American lice (88.4

percent). In U.S. lice, TI frequency overall was 84.4 percent from 1999 to 2009 and increased to 99.6 percent from 2007 to 2009. In Canadian lice, TI frequency was 97.1 percent in 2008. The [high frequency](#) of the TI mutation in human head lice in North America may be the result of selection pressure caused by the widespread use of pyrethrins- or pyrethroid-based pediculicides for many years.

"The frequencies of TI in North American head louse populations were found to be uniformly high, which...is likely a main cause of increased pediculosis and failure of pyrethrins- or permethrin-based products in Canada and the United States," the authors write. "Alternative approaches to treatment of head lice infestations are critically needed."

Head louse collections were provided by Nycomed Canada and Topaz Pharmaceuticals.

**More information:** [Abstract](#)  
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