Pesticide Resistant Head Lice

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The head louse, *Pediculus humanus capitis,* is a tiny insect that causes significant problems. This human ectoparasite (a parasite that lives on the surface of its host) causes scalp itching, sleepless nights, and scratching that can lead to secondary skin infections. But more significant is the amount of stress, school days missed by students, and workdays missed by parents and guardians.

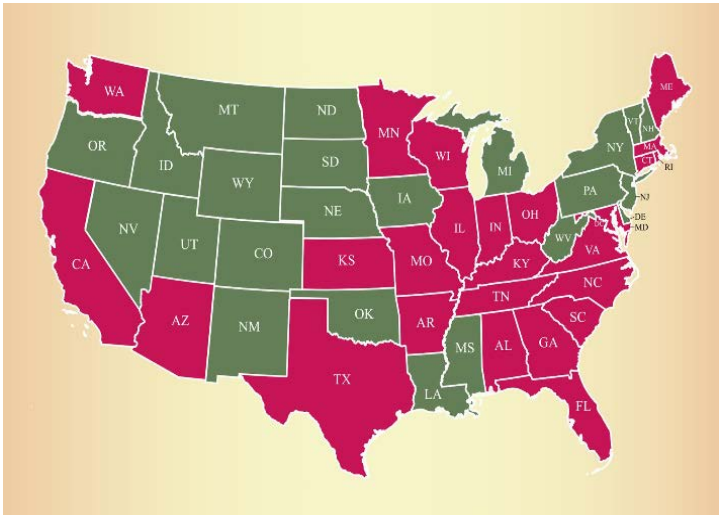
Head louse
Pediculus humanus capitis
Dani Barchana, Bugwood.org

Pediculosis, or "lousiness", is one of the most prevalent communicable conditions in the United States. Head lice can infest people of all ages, but children are prone to infestations due to their play activity and close physical contact. According to the Centers for Disease Control and Prevention (CDC), “an estimated 6 million to 12 million infestations occur each year in the United States among children 3 to 11 years of age.”

Back-to-school time seems to be when the number of lice cases peak each year. According to a new paper (Yoon, 2015) delivered at the American Chemical Society (Smithsonian.com) head lice are now tougher to control than ever.

In 25 states head lice have become highly resistant to the most commonly used lice shampoo treatments, including pyrethrins and the pyrethroid insecticide permethrin. In fact, most states (104 out of 109 samples) tested so far have lice that are resistant to these over-the-counter lice treatment options (Yoon, 2015).

DON’T PANIC! YOU CAN STILL DITCH THE ITCH!!!



Lice populations in the pink states have developed a high level of resistance to some of the most common head lice treatments. (Kyong Yoon, Ph.D.)

But it's more important than ever to use an integrated pest management (IPM) strategy to battle this "lousy" pest. An IPM strategy would include an ongoing monitoring plan, the use of a comprehensive control approach, and evaluation of results. Using multiple complementary control tactics and paying careful attention to results is critical. Relying on a one-step / one-tactic "fix" has little chance of success.

Include in your management strategy:

1) **on-going head lice monitoring of family members,**
2) **laundering of bedding and clothing,**
3) **nit-combing,**
4) **dry-hair brushing,**
5) **use of hair conditioners,**
6) **use of hair-dryers,**
7) **prescription treatments.**

Additionally, there are new prescription treatment options, so investigate the pros and cons associated with each. Very effective prescription options include Ulesfia® (benzyl alcohol), and Natroba™ (spinosad, and benzyl alcohol).

Pros: Ulesfia® and Natroba™ are highly effective treatment options and can be used to treat head lice on children as young as 6 months old.

Cons: Both products contain benzyl alcohol, and are flammable. You should not use either if you are allergic to benzyl alcohol (relatively few people are). Benzyl alcohol products should not be used on infants younger than 6 months.

In general, most lice treatment products have limited ovicidal (egg-killing) activity, so two treatments are needed. **The second treatment is required to kill lice that hatch after the first treatment has occurred. Typically the second treatment follows 7 - 9 days after the first depending on the product used.**

Skipping the second treatment often leads to re-establishment of head lice, and that necessitates an additional two treatments.

Know Lice = No Lice

1) Know what works
2) Know the limitations
3) Know how to use it

With September being National Head Lice Prevention Month, we are encouraging parents, teachers, and childcare professionals to be aware of this pest and know how to

manage it.

If you want to read more about the resistant head lice, please view: http://www.smithsonianmag.com/science-nature/lice-can-resist-drugs-have-infested-half-states-us-180956308/?no-ist

Know more about other pests and management, please view School and Home IPM Newsletter: http://cals.arizona.edu/apmc/public-health-IPM#newsletter; http://cals.arizona.edu/apmc/westernschoolIPM.html#newsletter

For more information about School IPM in Arizona, visit: http://cals.arizona.edu/apmc/westernschoolIPM.html

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