New Device for Killing Head Lice

"LouseBuster" Said to Kill Lice in 30 Minutes Without Chemicals
By Kathleen Doheny
WebMD News Center

Nov. 6, 2006 -- A hairdryer-like device kills head lice in 30 minutes without the use of chemicals, University of Utah scientists report.

Called the LouseBuster, it kills 98% of head lice eggs (or nits) and 80% of hatched lice -- enough to keep them from reproducing, researchers report in the November issue of the journal Pediatrics.

"We think it's killing the lice and eggs by desiccating them -- drying them out," says Dale Clayton, PhD, co-author of the study. Clayton is a professor of biology at the university and co-director of the university's Center for Alternate Strategies of Parasite Removal.

He says the device could be on the market in two years or less.

The Pest Problem

Head lice are more of a nuisance than a health threat.

They affect more than 6 million Americans each year, often children, Clayton estimates, accounting for 12 million or more missed school days.

The pests are about the size of a sesame seed and can spread quickly through a school as children's heads come into contact during play, or as they share hats, combs, and brushes.

Parents often use multiple shampoo treatments or special combs to rid their children of lice so they will be allowed back in school.

The LouseBuster

The new device blows out twice as much air as a normal hair blow dryer, Clayton says.

The temperature is about 138 degrees Fahrenheit, he says, a little cooler than a typical blow dryer.

Attached to the hose of the LouseBuster is a molded plastic hand piece with coarse teeth, which is pulled through the hair slowly while hot air blows in the opposite direction. This exposes the hair roots, where the nits attach.

"This is quite an assault on a tiny insect," he says. He compares it to the louse standing in a hurricane-force wind.

Once off its host, the louse can't survive more than 24 hours, Clayton says.

The Study

Clayton's team compared six different methods of hot air treatment on 169 people infested with head lice and found the LouseBuster with the hand piece worked best.

A handheld blow dryer, for instance, killed nearly 98% of the eggs just like the LouseBuster but only 55% of the lice, compared with the LouseBuster's 80%.

A week after treatment, Clayton examined 11 of the 18 patients treated with the LouseBuster.

He found 10 had no lice. The other person had one male louse, meaning the infestation was doomed, since the male could not lay eggs.
The Future

Clayton is chief scientific officer at Larada Sciences, a University of Utah spin-off company that is developing the LouseBuster commercially.

He says the device could be sold to clinics and schools, where staff can be trained to operate it.

Second Opinions

"We're excited about finally developing an approach that is safer than chemicals and has claims of efficacy that we feel are coming from reliable research," says Deborah Altschuler, president of the nonprofit National Pediculosis Association, based in Needham, Mass. The association helped fund Clayton's research.

Early detection of lice and manual removal are recommended by the association, Altschuler says. "Shampoos are not 100% effective and lice have developed resistance."

Another expert, W. Steven Pray, PhD, says he wishes the study had been done differently. "They didn't test [the LouseBuster] against proven therapies," says Pray, the Bernhardt Professor of Nonprescription Products and Devices in the College of Pharmacy at Southwestern Oklahoma State University in Weatherford.

An example is the LiceMeister Comb, already endorsed by the National Pediculosis Association.