

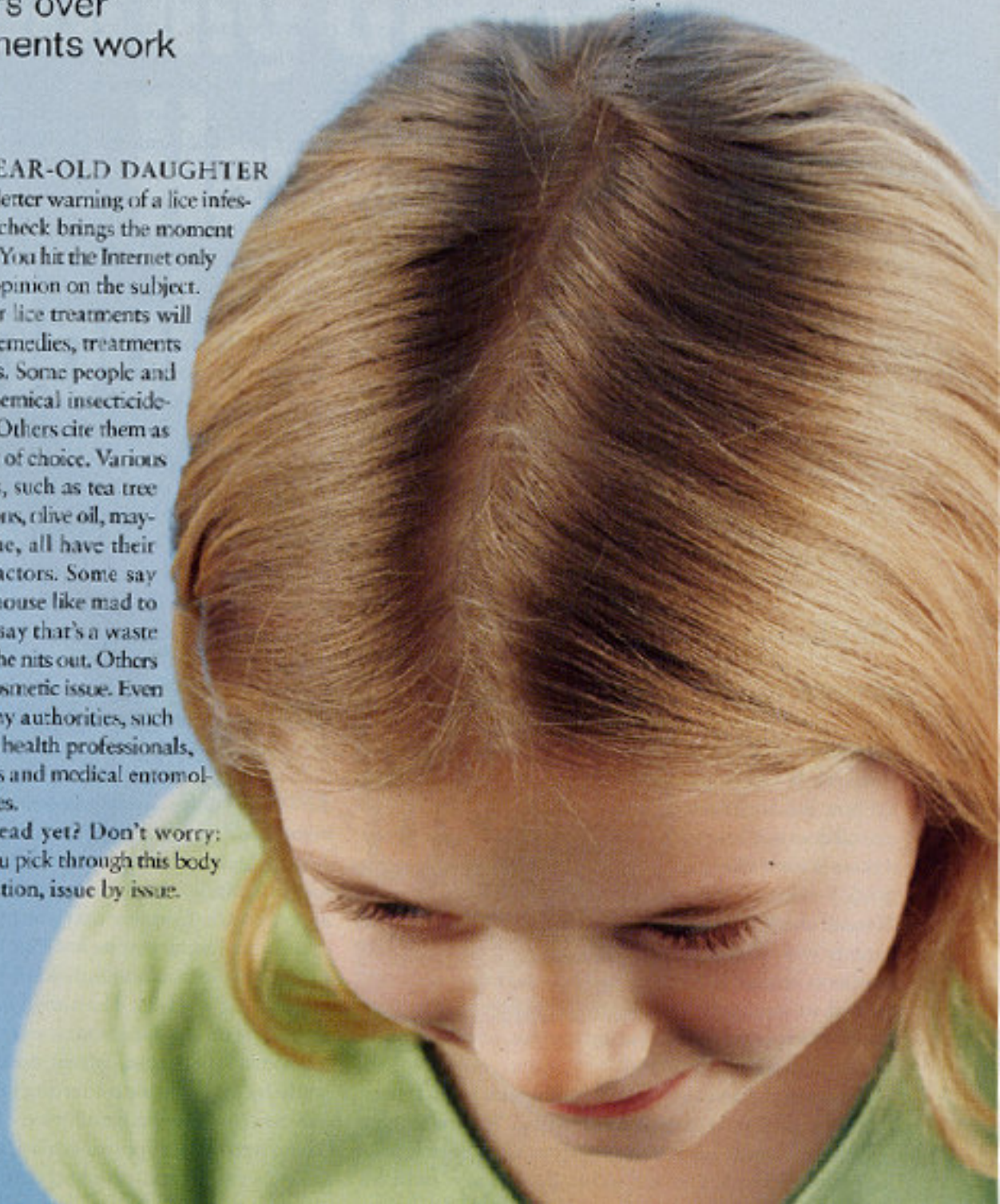
Got Lice?

Splitting hairs over which treatments work

by JOHN HOFFMAN

YOUR EIGHT-YEAR-OLD DAUGHTER brings home a school letter warning of a lice infestation. A quick scalp check brings the moment you've been dreading. You hit the Internet only to find a diversity of opinion on the subject. An Internet search for lice treatments will yield dozens of new remedies, treatments and lice removal tools. Some people and groups are against chemical insecticide-based lice shampoos. Others cite them as the first-line treatment of choice. Various alternative treatments, such as tea tree oil, enzyme-based lotions, olive oil, mayonnaise, even Vaseline, all have their proponents and detractors. Some say you must clean your house like mad to eliminate lice. Others say that's a waste of time. Many say get the nits out. Others say nits are largely a cosmetic issue. Even supposedly trustworthy authorities, such as medical and public health professionals, professional nitpickers and medical entomologists, disagree at times.

Scratching your head yet? Don't worry: We're going to help you pick through this body of conflicting information, issue by issue.



ISSUE: Some say that insecticide-based lice shampoos don't work; others say the problem is that people don't use them properly.

ANSWER: There is some truth in both camps.

The resistance is well documented in several countries, and lots of parents and practitioners report anecdotal evidence. However, that does not mean the pediculicide (lice-killing) products *never* kill *any* lice, and it's possible that improper use is one reason lice shampoos and lotions don't always work.

Since at best, pediculicides kill only some lice eggs, a second treatment is necessary to get the lice that hatch a few days later. The general advice is to do the second treatment after seven to 10 days. However, Kosta Mumcuoglu, a medical entomologist and researcher at Hebrew University-Hadassah Medical School in Jerusalem, says the second treatment is best done on the 10th day. "Lice eggs can hatch up to 11 days after they are laid," he says. "That may be why clinical trials where treatments were spaced six to eight days apart generally show poorer results than studies where the interval between treatments is 10 days."

If you use a lice-killing product, it's worth following Mumcuoglu's advice. Beyond that, here are a few don'ts about pediculicide treatment:

- Don't overexpose your child by using more than the prescribed amount, leaving it on for longer than directed, or treating your child over and over again. Although short-term, low-level exposure to the amounts of permethrin and pyrethroids (the lice-killing chemicals found in most Canadian over-the-counter lice shampoos) is generally safe, these are insecticides. It's sensible to limit children's exposure to them. Plus, increasing exposure to an agent that doesn't work well will not make it effective.
- Finally, don't count on lice shampoo alone to do the job (see section on nitpicking below).

ISSUE: Does tea tree oil really keep lice away?

ANSWER: Don't count on it.

Anecdotal reports of tea tree oil used as lice repellent have been around for years. However, Ian Burgess of Insect Research & Development Ltd. in the UK, who has studied how lice are affected by various compounds, says tea tree oil does not have any significant repellent effect. "Even if there is some effect, the active ingredients evaporate too quickly — even if the concentration is very high," he says. "I recall checking children in one school where one of the parents was hawking her aromatherapy treatments and repellents around to prevent infestation. Her own daughter had so much tea tree oil on her hair that you could smell her across the room. That girl also had one of the heaviest infestations in the school!"

However, Burgess says certain compounds in tea tree oil *can* kill head lice, at least in a lab setting. What is lacking is data on exactly what concentration is necessary, how long it should be left on and so on. Burgess says most tea

tree oil shampoos and rinses are too diluted to be effective. Even if parents added lots of the stuff to regular shampoo, it likely wouldn't work because the amount of shampoo you use on a child is small to begin with, and chemicals in shampoo can reduce the dose of tea tree oil that reaches the louse. And if that weren't enough, overuse of tea tree oil can irritate the skin. Burgess adds that resistance to tea tree oil is already showing up in some countries where it is used in small amounts in various hair products.

ISSUE: Does drowning lice with olive oil, Vaseline or mayonnaise work?

ANSWER: Maybe.

Many people say you can drown lice by putting vegetable oil, mayonnaise, Vaseline or a "vinaigrette" of olive oil and vinegar on the hair, and covering it with plastic wrap for a few hours (or overnight). It seems plausible but, in terms of proof, all we know is that scientists at the Harvard School of Public Health drowned several lice in a petri dish of olive oil. There is no clinical evidence that it works on human heads.

ISSUE: If so many new products and treatments are scientifically unproven, why are people so convinced that they work?

ANSWER: There are several possible reasons.

For one thing, all experts agree that lice are often misdiagnosed. So it's possible that some people who used an alternative treatment may have ended up lice-free because they didn't have live lice or eggs in the first place. Another possibility is that the treatments actually do work some of the time, possibly with low-level infestations. Another is that the substance stunned (but didn't kill) the lice, making them easier to find, and then the person did a good job removing them with a nit comb. So many variables exist that it's possible to misinterpret success or failure of any given treatment.

ISSUE: Are there any new mainstream treatments that seem promising and safe?

ANSWER: Some new non-insecticide remedies are being introduced.

Altana Pharma, a drug company based in Oakville, Ont., has introduced Resultz — the first Health Canada-approved lice treatment that is not insecticide based. Used much in the same way as lice shampoos, Resultz is made from ingredients commonly found in cosmetics and dermatological creams. The active ingredient is isopropyl myristate, an emollient that breaks down the wax on the exoskeleton of a louse, causing death by dehydration. One study by an independent testing lab found that 28 of 29 subjects treated with Resultz were lice-free after 21 days. There were some reports of minor skin irritation and redness (as can be the case with pediculicides). Resultz is



Tools of the Trade

Those who preach the merits of nit removal say you need a good stainless-steel comb, like the one on the left, to do the job properly. Dawn Mucci from Innisfil, Ont., who takes nits out of people's hair for a living, recommends these:

Nit-Free Terminator "Its teeth have rounded ends so they are easy on the scalp," says Mucci, "and the tines have little microgrooves that tear the nits and lice as you pull them out." Available by mail order for \$23.95, plus shipping and taxes, from Mucci's website, licesquad.com.

The Licemeister This high-quality nit comb is also on Mucci's website. "Stainless-steel combs remove the lice and nits more effectively than plastic combs," Mucci says, "without tearing a child's hair."

available in most major Canadian pharmacies and Zellers.

Other non-insecticide lice products, not yet available in Canada, use dimethicone — another common component of cosmetics — as the active ingredient. One, RID Pure Alternative, is available only in the US. Ian Burgess was involved in the testing of another dimethicone-based product called Hedrin, which is available only in Europe. He says it's an effective alternative to pediculicides. His study showed a success rate of 70 percent.

Researchers at the University of Utah have developed a device called the LouseBuster, a sort of mini blow dryer that, according to an article in *Pediatrics* last November, kills lice and nits in a 30-minute treatment by drying them out. The LouseBuster delivers about twice as much air as a conventional hair dryer, though the air is cooler (30 minutes of treatment with a hot blow dryer could cause burns). It is not yet on the market, but when it is, it will have a hefty price tag — they "hope" it will be less than \$1,000 US.

ISSUE: Do I really have to do all that washing, vacuuming and storing stuff in the freezer?

ANSWER: Nope, but you can if it makes you feel better.

Lice-treatment advice often includes instructions to vacuum couches, wash clothes and bedding in hot water, chuck hats in the freezer and bag stuffed toys for two weeks to rid your home of lice. But, really, it doesn't help.

"Lice are very well adapted to survive on a human head, and not anywhere else," says Julia Wallace, former parasitologist and lice researcher now in Dwight, Ont. "Even their little claws are adapted to cling to human hair as opposed to any other type of hair or fibre. If lice are off the head, they are most likely dead or dying."

In the 1980s, Wallace was involved in UBC studies that helped to prove it took two pediculicide treatments to get rid of lice, contrary to what manufacturers were saying at the time. She treated several dozen families with two applications of standard lice shampoos plus removing lice and nits with a lice comb. "We told our families *not* to do laun-

dry or housecleaning, and we didn't have a single treatment failure," Wallace says.

One Australian study, which examined the pillows of subjects with known lice infestations, did find two pillowcases (out of 48) with one live louse nymph each. OK, so wash the bedding. But you'd probably do that anyway.

ISSUE: How important is nitpicking really?

ANSWER: Very.

Most lice-treatment instructions include a section on getting out the nits (lice eggs). However, some sources, like the Canadian Paediatric Society, don't mention it. And at least one prominent expert, Richard Pollack of the Harvard School of Public Health, says nit removal is not necessary. "Because most [head lice] eggs will be non-viable, their removal is often impractical and unjustified," Pollack states on the school's website, hsph.harvard.edu/headlice.html#children.

Here are four good arguments in favour of nit removal.

- Anecdotal and scientific evidence suggests that you can't depend on any single lice treatment to do the job.
- Though removing lice and nits by hand (with a comb) requires diligence and a good nit comb, it can be done. And if the lice and nits are gone from your child's head, she doesn't have lice anymore. For sure.
- "Nit removal makes it easier to monitor lice outbreaks in schools," Wallace says. "It's very hard for volunteers to tell the difference between viable and unviable nits, and live lice can be hard to find, so lice are usually diagnosed based on the presence of nits."
- Weekly nit combing, even after you are certain that your child is lice-free, is the best way to catch a new infestation at an early stage when it's easier to deal with. ♥

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