



HEAD LICE GUIDE

for **Doctors**

**For more information about lice,
identification and removal, please
contact:**



**LICE SOLUTIONS
RESOURCE NETWORK**

*The world's only 501(c)(3) nonprofit
Head Lice Education & Control Center*

LiceSolutions.org

6758 N. Military Trl., #110
West Palm Beach, FL 33407
P: 561-842-9969
F: 561-842-0311

1187 Vultee Blvd., #105
Nashville, TN 37217
P: 615-227-3919
F: 615-227-3920



561-842-9969 (FL) • 615-227-3919 (TN)

LiceSolutions.org



ABOUT US

Established in 1998, Lice Solutions Resource Network is an acknowledged leader in the head lice industry and the only nonprofit head lice education and control center in the world.

Executive Director Katie Shepherd, a former physician’s assistant and national television producer, has worked with other top pediculosis experts in the field, namely: John Clark, Professor of Veterinary and Animal Sciences, University of Massachusetts; Dr. Shirley Gordon, Florida Atlantic University Christine E. Lynn College of Nursing; Terri L. Meinking, President, Global Health Associates of Miami, Inc. (2002-03 Research Associate Professor, 1994-2002 Research Assistant Professor, Field Epidemiology Survey Team, Department of Dermatology and Cutaneous Surgery, University of Miami School of Medicine); and Dr. David L. Reed, Curator, University of Florida, Museum of Natural History.

She is the originator of **The Shepherd Method™** of Strand-by-Strand Nit and Lice Removal – *combing out lice and nits by working with hair in paper-thin layers, and using only safe, non-toxic products.*

Ms. Shepherd is the author of the book Lice Advice, upcoming books Head Lice 101 and Cambodia, and numerous articles in ACN and academic journals.

She is also the Founder and Principal Investigator for LSRN Research, a clinical research company (LSRNResearch.com), and the Founder of The Shepherd Institute for Lice Removal, which certifies individuals in head lice identification and methodical lice and nit removal.

Currently, more than 250 individuals have become certified in **The Shepherd Method™**, opening for-profit (non-franchise) lice removal business in the U.S., Europe, Canada, and Mexico. For more information, please visit ShepherdInstitute.com.

WHO WILL GET HEAD LICE? Three-quarters (75%) of the population has type O+ or A+. Statistics courtesy of South Florida Blood Bank

TYPE	PERCENTAGE	HOW MANY
O+	37%	1 in every 3 people
A+	36%	1 in every 3 people
B+	9%	1 in every 12 people
O-	7%	1 in every 15 people
A-	6%	1 in every 16 people
AB+	3%	1 in every 29 people
B-	1%	1 in every 67 people
AB-	1%	1 in every 167 people

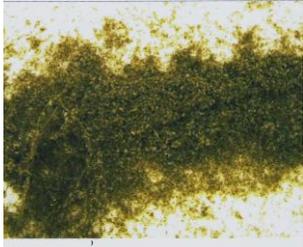


Nit



Eggs in pregnant female

100,000s of nits removed following Ovide treatment



Some form of lindane-based medication has been marketed since 1951 for the treatment of pediculosis, which is head and pubic lice and scabies, a contagious skin infection caused by the itch mite.

The Centers for Disease Control estimates that 10 to 12 million people get lice per year. In 2003, the FDA ordered the manufacturer to expand the warnings on the medicines' labels and told physicians that it should only be prescribed in doses for one treatment.

The agency believes that the more rigorous warnings and limits on the size of the dose will further protect consumers.

In its warning to physicians to prescribe only enough for a single application, the FDA wrote: "Patients are at risk for seriously neurologic adverse events and even death, particularly with early retreatment." Groups that include the Natural Resources Defense Council and the Sierra Club believe the FDA should ban lindane.

In Albany, N.Y., the Citizens' Environmental Coalition, an umbrella group, is trying to get lindane medication banned in the state. "This substance has been proven repeatedly to far too toxic to apply to our crops and our pets," said Laura McCarthy, a program associate with the group. Morton Grove Pharmaceuticals is suing the Ecology Center, a Michigan environmental group, an employee of the center and two local pediatricians, over the distribution of statements discussing lindane.

"They have defamed and libeled Morton Grove and done damage to its business and reputation by publishing and distributing information that is totally false and completely without scientific or medical merit," said Dobie.

The suit lists 28 specific statements that Morton Grove Pharmaceuticals says are false. Most were in a "briefing package" of excerpts from government and medical studies the center gave to a Michigan legislative committee considering a statewide ban of the medication.

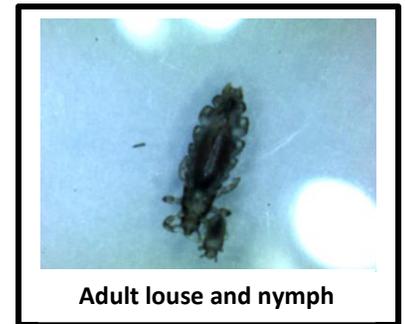
The Ecology Center's lawyer would not allow its staff to discuss the suit. But Kristin Schafer, program coordinator for the San Francisco-based Pesticide Action Network, said, "The lawsuit is a clear case of harassment."

Schafer said she has examined the source of each statement that Morton Grove Pharmaceuticals insists is false. "The Ecology Center has taken those statements from scientific literature, direct quotes from government agencies and, in one case, from Morton Grove's own Web site," she said Friday.

TEST YOURSELF – DO YOU KNOW ...

HEAD LICE SYMPTOMS?

- Rash at the nape of the neck
- Swollen glands, including those that may look like mumps
- Low-grade fever
- Bags under the eyes
- Daytime sleepiness
- Itching (occurs only in approximately 50% of the population)
- General feeling of "lousiness"
- Hair loss (on rare occasions)
- Enlarged nodules at base of neck



WHERE HEAD LICE CAN LIVE?

- Anywhere on the head
 - Scalp
 - Eyebrows
 - Beard
 - Mustache

It is also possible, though unlikely, for head lice to live in eye lashes. However, if you see eggs in the eyelashes, especially in those of young children, chances are it is pubic lice.

THE DIFFERENCE BETWEEN PUBIC, BODY AND HEAD LICE; AND BED BUGS?

- Body lice live in clothing and go to the body to feed. They are generally found in homeless populations.
- Head lice only live on the head. They do not travel to other parts of the body.
- Pubic lice can go up to the head. They are often found in eyelashes of children and may look like dark or sun spots at the hairline of the forehead.
- Bed bugs live in mattresses and go to the body to feed.
- All these insects (aka human parasites) are related.

HEAD LICE IN BRIEF

SUMMARY

As much as we hate to admit it, head lice are amazing insects. They have the ability to shut down their nervous system and can remain submersed and unharmed, for up to two hours, even in products intended to kill them. During laboratory testing, head lice were found to play dead, fooling even the researchers conducting the experiments; only to get up and run again if they were submersed for less than two hours.

Head lice are tiny, six-legged, blood-sucking, parasites. Each leg is equipped with a claw, enabling the louse to grasp onto the shaft of the hair. They range in size from 2 to 4mm; approximately the size of a sesame seed. Females are generally longer and wider than males and have a more rounded stomach. Male lice, unlike the female, have a brown band across their back. They can vary in color from grayish white to reddish brown. Head lice, like chameleons, have the ability to adapt to their environment. Therefore, head lice found on dark-haired or dark-skinned individuals will most likely be darker than those found on blond-haired or lighter-skinned individuals. Other factors that can affect the color of the louse are temperature, sunlight, even blood intake. A louse will appear darker in warm temperatures or bright lights than those found in cooler climates. Additionally, a louse with a full stomach may also appear darker than its hungry counterpart. In some cases the lice will have a bright red appearance, especially if they have recently fed.

The female louse lays her eggs by gluing them to the hair shaft. This glue is so fast-drying that in some instances she has even glued herself to the hair. She lays twice a day and can lay as many as 5 eggs at a time; a production rate that will generate some 200 eggs in her lifetime. Eggs, or nits as they are commonly called, generally hatch in 7 to 10 days. Newly hatched nymphs then take approximately an additional 7 to 10 days to reach adulthood. Once hatched, they have a life expectancy of approximately 30 days.

Lice do not have jointed bodies, hind legs or wings. It is anatomically impossible for them to jump or fly. They can, however, move at amazing speed. An adult louse can travel as fast as 9 inches per minute. An antenna located in front of the eyes enables the louse to detect odor, humidity, temperature, and it is assumed, even certain blood types, in an attempt to seek out a favorable blood supply. When head lice find a desirable environment they will literally run to seek out the new host. Depending greatly on their natural survival instincts, they literally run to avoid exposure to bright lights or offensive odors. While they will move quickly towards a favorable environment, they will move just as quickly to avoid an undesirable one.

Some Itchy Over FDA Policy on Lice Treatment

By Andrew Schneider

Tribune Newspapers: The Baltimore Sun

Published August 14, 2006

Copyright © 2006, Chicago Tribune

http://articles.chicagotribune.com/2006-08-14/business/0608140133_1_lindane-lotion-jim-gulliford-lice-and-mites

After more than half a century of use and reports of illness and deaths blamed on the pesticide, the federal government has banned all uses of lindane -- except by children and adults who rub it on their scalps and bodies.

Earlier this month the Environmental Protection Agency banned all uses of lindane as a pesticide, but the Food and Drug Administration has decided to allow its continued use in medicines for treating lice and mites. Many public health advocates and environmental activists are angry, and some are gathering petitions to send to the FDA.

“Lindane is a known cause of seizures and has no role in the routine management of lice or scabies,” said Dr. Joshua Sharfstein, Baltimore city health commissioner. “FDA should re-examine the question of whether it needs to be on the market at all.”

Morton Grove Pharmaceuticals of Illinois, the only U.S. manufacturer of the medical products, markets Lindane Shampoo and Lindane Lotion. No one from the company would be interviewed, but Gordon Dobie, an outside lawyer for the company, said that the claims of harm are overblown. He said that there have been just 22 reports of adverse reactions “and just one lawsuit” since Morton Grove Pharmaceuticals began marketing the products in 1995.

The EPA issued the ban on lindane and other pesticides this month as it concluded a congressionally ordered 10-year review of 231 agricultural poisons and their components.

Lindane “is recognized internationally as one of the most toxic, persistent, bio accumulative pesticides ever registered,” said Jim Gulliford, assistant administrator for EPA’s Office of Prevention, Pesticides and Toxic Substances.

But Jim Jones, who heads EPA’s pesticide office, said his agency has no control over the medical uses of any pesticide that the FDA may authorize.

The FDA says it has no plans to take action.

“As lindane has been deemed safe and effective for its intended use, FDA does not have any plans to take further action with this product at this time,” said Kimberly Rawlings, an FDA spokeswoman.

Reports of Suspected OVIDE Side Effects/Adverse Reactions

http://www.druglib.com/druginfo/ovide/side-effects_adverse-reactions/

Reports condensed

Possible Ovide side effects/adverse reactions in 29 year old female; Reported by a consumer/non-health professional from United States on 2011-10-12

Patient: 29 year old female weighing 71.7 kg (157.7 pounds)

Reactions: Burning Sensation, Muscle Atrophy, Pain in Extremity, Peroneal Nerve Palsy, Oedema Peripheral, Gait Disturbance, Hypoaesthesia

Suspect drug(s): Ovide; **Other drugs received by patient:** Oxycodone HCL; Xanax

Possible Ovide side effects/adverse reactions in 35 month old female; Reported by a health professional (non-physician/pharmacist) from United States on 2011-11-10

Patient: 35 month old female weighing 14.5 kg (31.9 pounds)

Reactions: Burns Second Degree, Incorrect Dose Administered, Application Site Burn, Skin Infection

Suspect drug(s): Ovide



Burns found on a Lice Solution's client one week following Ovide treatment

At Lice Solutions, we have seen children with severe burns after parents treated them with malathion (Ovide). Also, in our experience, the prescription does not work. In one case, a parent treated her daughter with malathion for three consecutive weeks and we still combed out more than 18,000 live lice.

Malathion resistance in head lice has been documented in the US and England.

Head lice depend on human blood for survival. A louse separated from its human host will rarely survive more than 24 hours. Newer research, however, has found that while head lice can physically survive for up to 24 hours off the human head, after approximately 10 to 12 hours the bugs become dehydrated. Even if the lice were to find their way onto a new host they would not be able to secrete saliva. Since they must secrete saliva to feed, the inability to do so will ultimately result in death. Eggs found on an abandoned strand of hair have even a lesser chance of survival. Eggs need the warmth of the body to incubate, much like a chicken sitting on an egg. To survive off the head would require the egg to be close to hatching, similar to a woman who is 9 months pregnant compared to 2 months pregnant. Once hatched, they must feed within the first two hours, as they require immediate feeding for survival. Like any newly hatched creature, they are not very agile at birth. Therefore, for a newly hatched nymph to find its way to your head would require that your head be at the exact spot and at the exact moment that the egg hatched! Recognizing these facts allows us to better understand why the environment is not as big an issue as once thought. The real problem is the lice that remain on the head and the heads of those around us.

Head Lice Transmission

In most all cases head lice are transmitted from one human to another, brought about mainly as a result of head-to-head contact. While most references report them as most commonly found on children ranging from ages 3 to 11, newer research shows a larger number of cases in children ranging from ages 9 to 16.

While it is possible to pick up a hitchhiker (an abandoned strand of hair with a louse still attached) it is suspected that **less than 2%** of all active cases are actually contracted in this manner. Nits also are of little concern as they cannot reattach themselves to a new head of hair. Furthermore, it should be noted that the majority of abandoned nits are damaged and never reach the stage of hatching, thus reducing the chances of exposure through this means. Even if they do manage to hatch, they require blood almost immediately or they will starve to death.

An adult louse rarely leaves the security of a warm, generous host unless it has already identified a newer and more desirable environment to move onto. Head lice feed every three to four hours. It is for that reason that they are not likely to willingly leave their food supply. It is also worth noting that lice prefer round shafts of hair as it is easier to wrap their claw-like feet around it. The hair of Afro-Americans tends to be kinkier and is generally oval in shape, making it more difficult for the lice to maneuver, thus making that type of hair less desirable.

This would also hold true for any individual with extremely curly hair. It is important to remember that although the shape of certain hair shafts reduces the risk of getting head lice, it does not make the person immune. One obvious reason would be the wide variety of hair textures, due in part to the increased number of interracial relationships.

Lice are more commonly found on girls than on boys, it is presumed because their hair mass offers a more secure and attractive breeding ground. Additionally girls tend to be more affectionate than boys, resulting in more head-to-head contact. One more fact to note is that, by majority, boys have much shorter hair than their female counterparts. Because the girls generally have longer hair, it becomes a bridge of opportunity, offering a mode of transportation from one head to another, particularly if the child's hair is down loose. The smaller volume of hair on many boys also allows for more sun exposure causing the skin to have a much tougher texture, making it more difficult for the louse to feed.

Because head lice, for the most part, are lazy, they will tend to look for a head that requires less work to obtain their needed food supply. We cannot emphasize enough that while these reasons allow for more cases of head lice to be found on certain sexes or races, they are not a guarantee that other individuals are immune from them. While it is more commonly spread among children, parents and other adults are not immune.

There is some truth in the fact that certain people just seem to attract head lice. While nothing personal, it is just that head lice are always on the lookout for a favorable environment.

There are many factors that draw head lice to one individual over another. Blood type is among them. They seem to have a sharp sense of smell as well as excellent eyesight. Head lice know what they need and will rarely move outside that environment. Only when faced with sure death will they willingly cross over to an undesirable environment. Newer research has shown that lice avoid incompatible blood types unless they have reached the point of starvation. Even then, to feast on a new blood type, can cause their intestinal tract to explode. While this sure means of death may slow down an infestation, it doesn't necessarily prevent one. Once a female louse crosses over she will often lay her first batch of eggs prior to feeding. Thus as newly hatched nymphs feed, they adapt to the new blood type.

Even still, some individuals are fortunate enough to only supply a bridge between others. For this reason, you will in some instances find a case where there is an absence of live bugs and only a few eggs exist. The host was merely a bridge between two more desirable environments.

TESTIMONIALS

If you are concerned about exposing your children to harsh chemicals that don't work; if you want to get your kids back to school and you back to work as quickly as possible, Katie Shepherd and Lice Solutions are the answer. Lice Solutions is where I send my patients, and yes, unfortunately my family, too.

- **Cheryl E. Wayne MD, F.A.A.P., Palm Beach Pediatrics, West Palm Beach, Florida**

Katie Shepherd's understanding of protocol needs, her experience, enthusiasm and attention to detail were all factors that led to valuable contributions to the design and implementation of our successful clinical study program.

- **William Ryan, Development Leader for Sklice Lotion**

Katie has been at the forefront of her field for many years now, and has set up the preeminent model for louse-removal facilities. Katie has been a source of knowledge for my research group at the University of Florida for many years, and I go straight to her when I need the most up-to-date information about head lice. ... Katie is among the leaders in the field of debunking myths and dangerous home remedies, and is incredibly well respected among her patients, colleagues, scholars, and peers.

- **David Reed, Curator, Florida Museum of Natural History, Department of Natural History, University of Florida**

I am writing in support of Katie Shepherd's expertise and long experience in the field of battling head lice. Her method of combing out head lice is extremely effective. I have known Katie and worked with her now for several years. She and her staff are among the best in the business.

- **Dale H. Clayton, Prof. of Biology, Department of Biology, University of Utah; Founder, Chief Scientific Officer, Larada Science, Inc.**

The *Shepherd Method*™ is a safe alternative treatment to prescription medicines for head lice.

It is a strand-by-strand technique that ensures every hair has been examined and all *Evidence* of lice has been removed. It also incorporates many safety procedures to ensure that the hair has been *Checked* and *Re-Checked*, allowing each individual (child, teen and adult) to be treated effectively only one time, and to be monitored after that. *Only safe, non-toxic products that have been clinically tested in our laboratories are used to facilitate the combing out of lice and nits.*

WHAT CLIENTS SHOULD EXPECT

When coming into *Lice Solutions* for the first time, clients should expect to have a:

- **Head Check** -- examination of head to determine if lice or nits are present.
- **Treatment** -- if lice or nits are found, product should be applied and a thorough **treatment** to remove all lice and nits needs to be administered. **Treatment** starts with an **Initial Comb-Out** and ends with a **Final Recheck**.
- **Initial Comb-Out** -- actively combing through hair to remove as many lice and nits as possible prior to manual **Nit Picking**.
- **Nit Picking** -- the manual removal of lice and nits, usually done in a **Strand-By-Strand** process throughout the hair.
- **Final Recheck** -- done upon completion of **Treatment** to ensure nothing was missed during the **Treatment Process**. This is most effective on a dry head of hair.
- **Final Comb-Out** -- combing of the hair with additional product upon completion of **Final Recheck**. This is especially critical if newly hatched nymphs exist as they live directly on the scalp and can be easily missed.
- **2 Follow-Up Rechecks** -- the examination of the treated individual's hair once a week for 2 weeks after **Treatment**. **Follow-up rechecks** should be continue for at least 14 days after **Treatment** and stopped only after 2 clean **Rechecks** with no further lice or nits found. **Follow-up Rechecks** are necessary to ensure all lice and nits have been removed; and that there is no further contact with other active cases of head lice.



4 stages of lice (3 nymphs, 1 adult)

Why is safely removing lice important? While lice in themselves are not considered dangerous and are not known to carry disease, there are many secondary dangers related to having lice. Many people have died; been burned; gone into a coma; been poisoned; or had other severe reactions, such as autism and leukemia because of unsafe treatment options – whether prescription, OTC, or alternative – or because of no treatment at all. No person should suffer harm, or even discomfort, because of lice.

The following pages illustrate the available head lice treatments, their risks and approximate cost. For documentation, please contact Lice Solutions at 561-842-9969.



Applying safe product

Methodical combing in sections

HEAD LICE TREATMENTS	TYPE	RISKS	NUMBER OF APPLICATIONS	APPROXIMATE COST
Kwell (Lindane)	Prescription	Pesticidal; banned by EPA, some US States, 55 Countries	One 4 or 10 minute treatment, depending on source	Covered by Medicaid
Ovide (Malathion)	Prescription	HIGHLY FLAMMABLE ; toxic	8-12 hours/multiple treatments	Covered by Medicaid
Bactrim	Prescription	Diarrhea; although can kill lice this is best used only for extreme open sores due to scratching as unnecessary use of an antibiotic can lead to future resistance; should be reserved for significant bacterial infections; needs combing	Generally 2 pills a day for 10 days	\$157/100 tablets
Ulesfia	Prescription	Not safe for infants < 6 months; not ovicidal; not safe for people allergic to Benzyl Alcohol	2 treatments applied approximately 1 week apart	\$50/bottle; long hair may need up to 6 bottles
Sklice (Ivermectin)	Prescription	Not safe for infants < 6 months; not totally ovicidal	1 treatment, but may have to re-treat	\$320.00 w/o insurance; \$186 w/ insurance
Lycelle	Prescription	Not safe for infants < 6 months; not ovicidal	Multiple treatments	\$190 for 3.4 ounces
Natroba (Spinosad)	Prescription	FDA approved for children approximately 4 years of age or older; not approved for infants ≤ 6 months; not totally ovicidal	1 treatment, but may have to re-treat	\$250
Rid™ (Pyrethrin)	OTC	Pesticidal; bug resistance; not ovicidal; ragweed ingredient may cause severe allergic reaction; contains neurotoxins	2-3 treatments	\$20/bottle; long hair needs more bottles
Nix™ (Permethrin)	OTC	Pesticidal; bug resistance; contains neurotoxins; 20-50% of eggs hatch after treatment	2-3 treatments	\$20/bottle; person with long needs more bottles
Lice Shampoo/ Mousse/Spray	OTC	Little to no ovicidal effect; needs combing	2 treatments	\$15-20
AirAllé	OTC	Not totally ovicidal; combing recommended	One 30 minute treatment in conjunction with 1 hour of combing	\$250
Electric Lice Comb	OTC	Not ovicidal; needs combing	3 treatments	\$35
Dimethicone	OTC	Not ovicidal; needs combing	3 treatments	\$30
Cetaphil	OTC	Not ovicidal; needs combing	3 treatments using numerous bottles	\$10 per bottle
Mayonnaise/Wrapping Head	Alternative	Not ovicidal; messy; smelly; difficult to get out; needs combing; VERY DANGEROUS as plastic could slip and smother the child; risk of salmonella poisoning	Every day for 3 weeks	\$3
Petroleum Jelly	Alternative	Not ovicidal; messy; difficult to get out; needs combing	Every day for 3 weeks	\$3
Kerosene	Alternative	EXTREMELY FLAMMABLE	Never	\$20 per quart
Vinegar & Water	Alternative	Not ovicidal; smelly; difficult to comb hair when using; needs combing	Every day for 3 weeks	\$3.50
Coconut/Olive/Tea Tree/ Essential Oils	Alternative	Not ovicidal; messy; difficult to get out; needs combing; oily hair makes it difficult to see lice and nits	Every day for 3 weeks	\$10-15
COMBING	Alternative	Possible, but unlikely, allergic reaction to natural, safe products	One 2 hour* treatment; two 15 min. follow-up visits	Average cost at Lice Solutions -- \$160