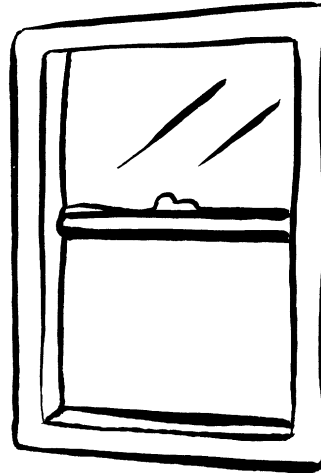


• Guidelines for • Controlling Head Lice



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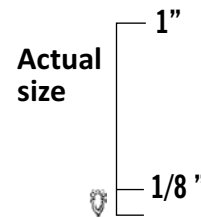


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FACTS ABOUT HEAD LICE

- ◆ Anyone with clean or dirty hair can get head lice.
- ◆ They spread from person to person, but do not spread disease.
- ◆ They are a nuisance, but not considered a health risk.
- ◆ Head lice need human blood to live; they die within 48 hours if they can't get it.
- ◆ They depend on a person's body temperature and moisture.
- ◆ Lice don't jump or fly, but they are fast crawlers.
- ◆ They only live on humans. Pets do not carry human head lice.
- ◆ They are almost always spread by head-to-head contact.
- ◆ It can be hard work to get rid of them.
- ◆ An itchy scalp is the most common symptom of having head lice and may continue for a while after treatment.

Adult Louse



	NITS (eggs)	NYMPHS (juveniles)	ADULT LICE
Size	About 1/16"	About 1/16" - 1/8"	About 1/8"
Color	Translucent, white, yellow-brown, or chocolate-brown	Grey, tan, black-translucent, may have black or deep-red stripe down back	Grey, tan, black-translucent, may have black or deep-red stripe down back
Life cycle	Laid on hair of head, 1/8 - 1/16" from scalp. If eggs are more than 1/4" from scalp, may be dead or hatched. Hatch in about 7 days.	Take 10 days to reach sexual maturity. Go through 3 molts on way to adulthood. Look like small version of adults.	Females live about 30 days. Females lay about 5 eggs every day. Life cycle of male is not well known.
Food	Do not eat	Eat 5 blood meals per day, using piercing/sucking mouth parts.	Eat 5 blood meals per day, using piercing/sucking mouth parts.
Where found	Only on human hair, most often around ears and along nape (back) of neck.	Anywhere on the human head.	Anywhere on the human head.
Transmission risk	Almost no risk. Dependent on temperature and humidity of person's body.	Little risk to others, not sexually mature. Requires person's body temperature and moisture to survive.	Almost always spread by head-to-head contact. Requires a person's body temperature and moisture to survive.
Other	Glued to hair shaft. Can be confused with sand, hair products, and dandruff.	Die in 1 day or less when off the body. Die in 2 days or less when treated.	Can hold their breath for 24 hrs. Die in 2 days or less when off the body. Die in 2 days or less when treated.

FACTS ABOUT HEAD LICE

Lice are spread from head-to-head contact:

- Head lice are almost always spread from one person to another by head-to-head contact.
- Head lice cannot survive off the human head for very long because they depend on three things: the person's body temperature, the person's moisture they give off through their skin, and many blood meals a day.
- Once off a human host, the louse may not survive even if it does get back on a head. Missing meals and becoming dehydrated while off a host quickly cripples a louse's digestive tract and can prevent it from surviving. As a result, it's not in the interest of head lice to move off a human head, except to move on to another.
- Non-living objects do not give off heat like a human does, so lice do not readily move to them.
- Human head lice are species-specific. Animals don't give off the same body heat as people do, and animal blood cannot be substituted for human blood, so animals do not carry head lice.
- Lice are built to move in hair from one person to another and not on other materials. Head lice do not have jumping legs like fleas and are wingless throughout their life cycles.

Teachers, who have students in their classrooms, rarely end up with head lice. When they do, they almost always can say "yes" to one or more of the following three questions:

- 1) If your hair is long and not kept up, do you ever lean over students so that your hair may come in contact with a student's head or hair.
- 2) If your hair is short or you keep it up, do you ever work with a student by leaning over them or sitting beside them and leaning together, giving you head-to-head contact.
- 3) Do you ever hug or console your students so that your heads or hair come in contact?

Lice are not spread from inanimate objects:

People who sit in movie theater seats, dentist chairs, and bus or plane seats don't get head lice - even if the person who sat in them before was infested.

Inanimate objects—such as sports helmets—are not suitable for head lice. Helmets are not warm or hairy. Movement of head lice from a person's head into a helmet is not likely. Head lice are not built to hold on to these materials, and inanimate materials do not make hospitable environments for them to live on.

Nits on hairs stuck in a helmet should pose no risk to multiple helmet wearers. Nits need heat and humidity, just as hatched lice do. As a result, they are not likely to hatch within a helmet. If they do hatch, they still shouldn't pose a risk to multiple wearers for a number of reasons:

- If a nit hatches in-between helmet wearers, newly hatched lice still may not get onto a new head soon enough to get their first lifesaving blood meal.
- If they were able to get onto a host and feed, nymphs would then have to survive long enough to reach adulthood.
- If they survived to adulthood and sexual maturity, they would have to find a mate in order to reproduce.

The likelihood that hairs having attached nits stranded in a helmet, hatching into nymphs, climbing onto a new host, reaching adulthood, becoming sexually mature, being of opposite sexes, and then actually producing viable offspring is very unlikely. Helmets should be put on a routine cleaning schedule if they get dirty or sweaty during use, especially if they are shared, but not because of any risk from head lice.

Brushes that are shared immediately after use probably pose the number one potential risk for indirect (non – head-to-head) transmission of head lice. It is possible that lice could be forcibly moved off the head, onto a brush and, if immediately used by another person, could be transferred to the new host. If this were to occur, it is unlikely that many lice would be moved (a single louse would have to be pregnant if moved alone), and if they were, they would have to be of both sexes. It is more likely that the intimacy of sharing brushes follows instances of head-to-head contact between two people.

SIX STEPS TO GETTING RID OF HEAD LICE

The Issue of Resistance

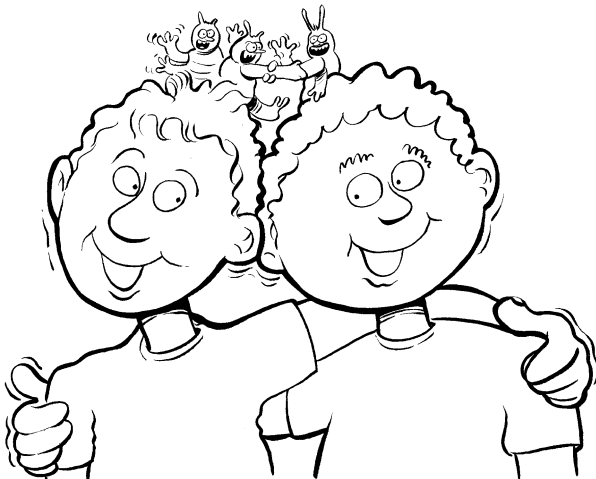
Some people have expressed concern that there are treatment-resistant head lice. So far, no published scientific studies have supported this idea in the United States. This doesn't mean that there is no resistance. There may be, but if there is, it doesn't change how you treat head lice. The bottom line is that you still have to comb the lice and nits out. If resistance exists, you will just have to work harder to get rid of your head lice problem. For example, NIX has been found through testing to be about 95% effective, leaving you 5% of the lice and eggs to deal with. If NIX were only 50% effective, it would still do half the work it would take you to do by combing alone. So treat, but also comb. Not even resistant lice can survive combing. So comb!

Different Hair Types

People of all races, hair types, colors, and lengths get head lice. Some people though may be less likely than others to get head lice based on cultural practices of hair care and hair texture.

Some people believe African Americans are immune to head lice. In fact, African Americans get head lice just like everyone else. However, some African Americans may have hair care practices that may reduce their risk for head lice, including chemical straightening, ironing, crimping and the use of heavy, oil-based products to moisturize and style their hair.

Certain hairstyles can also contribute to a reduced risk of head lice. For example, closely cropped hair, tight braids (especially when braided into rows where areas of the scalp are exposed) and hair extensions all have attributes that make infestation less likely. Hair styling and style maintenance are not reliable ways to control head lice. Using permanents or hair coloring to control head lice can result in temporary or permanent hair damage, allergic reactions and other unwanted health effects. Relaxers, perms, and hair color should not be used on anyone with an active or recent infestation since broken skin may be painfully irritated by these chemicals.



- ❶ **EXAMINE:** Examine everyone in the family and household.
- ❷ **TREAT:** Treat only those who are infested with head lice and/or their eggs.
- ❸ **COMB:** Comb out all lice and eggs you find.
- ❹ **CLEAN:** Use normal house cleaning measures.
- ❺ **REPEAT & RECHECK:** Look at everyone's head every day until one week after finding the last louse or egg.
- ❻ **NOTIFY:** Notify everyone that may be affected (school, church, daycare, friends, family).

Examine

Examine everyone in the household for lice and nits. Nits are small, white to chocolate brown, oval-shaped eggs that are glued to the hair near the scalp. Nits are more easily seen than live lice.

Make sure you examine heads with a bright light. Natural light is the best. Lice do not like light and can move through hair quickly. They will disappear as fast as you can uncover them. Separate the hair strands carefully. First, look at the base of the hair around the ears and across the back of the neck. Then carefully check the rest of the head.

Check everyone in your household. If children regularly spend time at another house, that household is an extension of yours and people living there need head checks, too. Please tell them that they need to check for lice.

Treatment should begin the same day lice are found, but only treat those household members who have head lice.

Treat

Treat the head with a lice treatment product. Lice treatment products are available over-the-counter at drugstores, grocery stores, and some medical clinics. These products will not kill all of the lice and only some of the nits, but they are the best way to get the process started. Follow the treatment's directions carefully, or those of your doctor. Some products are applied to wet hair, while others are applied to dry hair.

Using more treatment, reapplying sooner than recommended, or keeping it in the hair longer than directed will not make it work better or faster and can increase the risk of toxic side effects.

Most products recommend a second treatment 7-10 days after the first. Follow the directions, just as you did for the first treatment.

RECOMMENDED TREATMENTS

NIX (permethrin)

- Kills adults, nymphs and eggs.
- Leaves a protective residue intended to kill newly hatching nymphs and prevent reinfestation for 10 to 14 days.
- May require a second treatment.
- Is not for children under two months of age, unless you first talk to a doctor.
- Can be bought over-the-counter at your grocery store or pharmacy.
- May be prescribed by your doctor. If so, follow his or her instructions.
- Is low in toxicity, but is not non-toxic. **Do not over-treat.**

Nix must be used with “regular” shampoo *before* and after treatment. The use of crème rinses, conditioners, 2-in-1 shampoo/conditioners, hair sprays, mousse, gels, or other hair-coating care products before or for 10 days following treatment, will prevent the treatment from working properly. Clear Lice Egg Remover or Step 2 is intended to loosen eggs for easier removal. They must be used before treating with NIX. Using these products afterwards will strip NIX from the hair. Vinegar will not loosen nit glue, but it *will* strip NIX from the hair, as will chlorine in swimming pools. Using any of these products may result in the need for a second treatment 7 to 10 days after the initial treatment.

* If you, or anyone in your family, have plant allergies, especially ragweed, talk to a doctor before you buy NIX. Breathing difficulty is a rare risk with this product. If anyone has a reaction to the treatment, such as persistent skin irritation or infection, stop use and consult your doctor.

RID, A-200, Triple X, Clear, R&C and other pyrethrin-based or “RID-like” products

- Kills adults and nymphs.
- Will only kill about 50% of the eggs with the first treatment. You will need to comb all the eggs out to ensure the removal of those that aren’t killed.
- Recommends a second treatment, but wait 7 to 10 days before retreating.
- Can be bought over-the-counter.
- Low in toxicity, but not non-toxic. **Do not over-treat.**

* If you, or anyone in your family, have plant allergies, especially ragweed, talk to a doctor before you buy NIX. Breathing difficulty is a rare risk with this product. If anyone has a reaction to the treatment, such as persistent skin irritation or infection, stop use and consult your doctor.

Lindane (1,2,3,4,5,6-hexachlorocyclohexane)

- Kills adults and nymphs.
- Will not kill eggs.
- Recommends a second treatment in 7 to 10 days.
- Is obtained by doctor’s prescription only. *
- Is safe when used strictly following your doctor’s instructions.
- **Can be toxic if misused**, such as left on too long or reused too soon or too often.

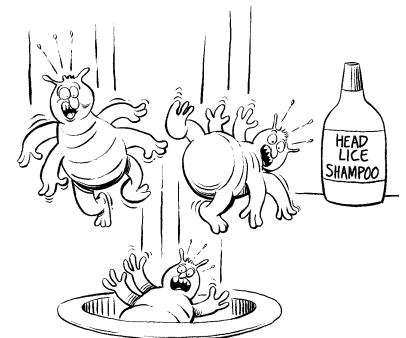
Must not be used with oil-based hair products (cream rinses, conditioners, Vaseline, mayonnaise, Miracle Whip, etc.) prior to treatment. Oils will increase product absorption into the skin and thus increase the risk for toxic side effects.

It is not advisable to “shop around” for additional prescriptions of Lindane from multiple physicians/clinics in the event you are not solving your head lice problem. This is a sure way to over treat. Negative or dangerous health effects may occur. Do not use on anyone with a history of seizures without first discussing this condition with a doctor. If anyone reacts to the treatment, stop and consult your doctor.

* If you are pregnant, think you might be pregnant, are attempting to get pregnant, are not taking measures to prevent pregnancy, or are breast feeding, you **MUST** first discuss these issues with your physician before using Lindane. Lindane is generally not recommended for use more than two (2) times during pregnancy.

DO NOT use on infants or young children (less than 2 years old) unless you have **FIRST** discussed these issues with their physician. Lindane cannot be used on premature infants as it can be too easily absorbed through their skin. **FOLLOW** your doctor’s instructions exactly and **ONLY** use these products on the person or persons for whom they were prescribed! The bottle looks similar to cough syrup, so please keep it locked away from children.

Please note: Some people refer to Lindane as Kwell. The brand name Kwell has not been manufactured for many years (it was last listed in the 1997 Physicians Desk Reference.) Like the terms “Kleenex” and “Vaseline”, it is often used to describe Lindane products made by other manufacturers. If you are prescribed Kwell, be sure to check the expiration date!



RECOMMENDED ALTERNATIVE TREATMENTS

Using a Special Nit Comb:

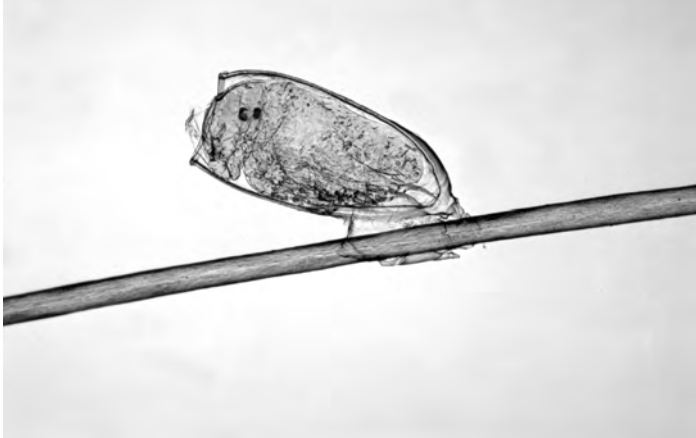
Combing alone is always recommended and is an effective way to treat head lice. Wet the hair and add a little cream rinse or conditioner to make it easier to move a nit comb through the hair. This will also stop the ability of head lice to just race through the hair and crawl out of sight. Wipe off what you comb out into a tissue or paper towel and throw it in the wastebasket or bag. Concentrate at first on removing every bug you find. Then work on the eggs and any bugs you missed as you work your way through the hair. With patience, the end result is essentially the same as if you'd used one of the recommended treatment products, except you'll be chasing down the live bugs, too. Whether you use this method or any other treatment method, you still will have to comb out every bug and nit to ensure your infestation is over. If your child is in a program with a "no nit" policy, you'll have to do so before your child can go back to school or childcare. Effective head lice removal comb products are available at schools, pharmacies, and the Spokane Regional Health District.



LiceOut® Water Soluble Gel and Combing Assistant:

LiceOut is a clear, water-soluble gel. It is not expected to kill head lice. It is sold as a combing assistant. The gel is clear so users can see through it to identify lice and their eggs for removal. By being a slippery gel, it is intended to allow the easy movement of a comb through a person's hair and immobilize or trap lice so they are easier to find and remove. Unlike KY jelly, LiceOut gel will not gum up when it dries. If LiceOut dries out, adding a little water will make it a gel once again.

Nit on hair shaft



Health care professionals generally hesitate when recommending alternative treatments to their patients, **because the safety and usefulness of most alternative therapies have not been tested using scientific methods.** Health care providers need accurate information to make informed judgments as to product safety and effectiveness. Even if some alternative treatments seem to work, they could put the people they are used on at serious risk of illness or injury.

NOT RECOMMENDED – AVOID THESE TREATMENTS



Alcohol

Never use alcohol to treat head lice. It is **flammable!** A person can become seriously ill or injured if alcohol or strong alcohol-based products are used to treat head lice.

Antibiotics - Bactrim®, Septra® (TMP-Sulfa)

Bactrim and Septra are antibiotics that are FDA approved to fight bacterial infections. These drugs are not approved for the treatment of head lice. When Bactrim and Septra are used as head lice treatments, they are intended to act as systemic poisons. The antibiotics kill microorganisms in the gut of head lice that are necessary for their survival. Bactrim and Septra do not kill nits, so you still need to comb. Repeated or prolonged antibiotic use would be required to continue killing the lice as they hatch, if relying on this treatment alone. Unapproved use of these drugs can result in antibiotic resistance, thus preventing their use to treat infections. **WARNING:** Bactrim and Septra should not be used by pregnant and/or breast feeding mothers as they can pass the placental barrier and are excreted in breast milk. These drugs should not be used on infants less than 2 months old.

Downy Fabric Softener

Downy has been suggested by some people as a way to loosen nits. It has not been proven to actually loosen nits. It is more likely that it allows easy movement of combs through hair, making it easier to remove nits. Downy is a concentrated fabric softener which is intended to be diluted extensively to leave a trace residue on clothing to prevent static cling during drying. It is not intended for direct application to skin in any concentration, as unwanted health effects could occur. Proctor & Gamble, who manufactures Downy, does not endorse using the product as an assistant to head lice removal.

Elimite (permethrin)

This treatment is FDA approved **only** for the treatment of scabies (mites). It has the same chemical in it as NIX, but it is 5 times stronger. When used for head lice, it is often recommended that a shower cap or plastic wrap be used to hold the treatment in place. Since NIX is safe and effective, there is no reason to use this stronger product, nor to put people at an unacceptable risk of suffocation with the use of a plastic head covering.

Enzyme Products including Lice Arrest

Several commercial products are advertised to “dissolve” the eggs or the cement by which the eggs are attached to the hair. The Harvard School of Public Health is not convinced of the effectiveness or safety of these products. The chemical structure of the “cement” that binds the egg to the hair is not well-defined, but is a very stable substance that resists degradation by diverse chemicals. Lice Arrest is sold as an enzyme treatment to dissolve lice and nit glue. Lice Arrest’s product literature makes reference to scientific statements are not linked to the stated properties of their product. This literature also contains nonfactual and misleading information, which may lead users to spend additional time, energy, and money on the task of ending a head lice infestation. Lice Arrest is more expensive than most treatments. Lice Arrest recommends that extra products be purchased to treat the home, which is unnecessary.

Hair Styling & Treatment Processes

Perming, ironing, straightening, pressing, stripping, and dying an infested person’s hair are unacceptable methods of controlling head lice. Even if these methods appear to control head lice, they all involve harsh chemicals and/or heat that if misused can result in illness and/or injury. There is also the risk of permanent hair damage if these methods are frequently used to control lice. Cutting a child’s hair against his or her will, just to control head lice or to make head lice removal easier, is unnecessary. It can bring unwanted attention to a child and can lower a child’s self-esteem. Once the child’s hair begins to grow back, he or she will again be at risk for infestation. On the other hand, if a child finds a short hair cut socially acceptable, then this is an option to make nit combing easier.



Household & Garden Pesticides

Never use household and garden pesticides to treat head lice. **They are toxic!** There is a risk for serious illness, injury, or **death** any time household or garden pesticides are used for the treatment of head lice.

NOT RECOMMENDED – AVOID THESE TREATMENTS

Ivermectin (Stromectol)

This drug is FDA approved only for the treatment of River Blindness and Human Round Worm Infection. Some physicians use Ivermectin to treat head lice because they've found that in treating round worm infections, if a patient is also infested with head lice, it kills adult and juvenile head lice, too. Ivermectin is taken as a pill, circulates in the blood stream and is ingested by the lice when they feed on that person's blood. This drug does not kill eggs. Even though the drug kills adult and nymph lice, you still must comb to get rid of your infestation. This drug will not prevent reinfestation. Though considered safe, there is always a risk of side effects when a medication is taken internally.



Kerosene

Never use kerosene to treat head lice. **It is flammable!** There is a risk for serious illness and injury if kerosene is used to treat head lice.

Listerine

Never use Listerine to treat head lice. Listerine's product label speaks for itself: "WARNING: Do not administer to children under 12 years of age. Keep this and all drugs out of reach of children. Do not swallow. In case of accidental (oral) overdose, seek professional assistance or contact a poison control center immediately." Listerine is an alcohol-based mouth rinse. This product is not sold as a head lice treatment. Listerine contains about 27% alcohol which will burn the scalp if there are any open sores or abrasions and will burn the eyes, nose, and mouth on contact. In addition, while treating a family, the chance that an open bottle of Listerine may be accidentally consumed by a child makes the risk of use unacceptable.

Mayonnaise

People have reported both success and failure using mayonnaise to treat head lice. Even if mayonnaise were 100% effective, dead lice and nits have to be removed before your child can return to any program that has a "no-nit" policy. This treatment requires a thick application of high-fat mayonnaise to a person's head. Treatment times range from 2½ to 24 hours. In order to keep the product from staining linens, furniture, and clothing it is recommended that a shower cap or plastic wrap be worn. Suffocation of the person being treated then becomes a risk. It has also been recommended, by some sources, to gently heat the mayonnaise-covered scalp with a hair dryer. Since mayonnaise is an oil-based product, accidental overheating could cause scalp burns. As an oil-based product, mayonnaise cannot be used in conjunction with Lindane. Also, mayonnaise is a food product and could promote bacterial growth under the right conditions. If bacterial growth does occur, getting mayonnaise into the mouth or eyes could cause serious bacterial infection.

Olive Oil

One website has described scientific studies performed by the Harvard School of Public Health on the use of olive oil to kill head lice. The results were exaggerated. The study involved six head lice which were covered with olive oil. An hour later, half were removed and survived. After two hours, the remaining head lice were removed and found dead. The eggs were not tested. There were too few lice in this study to make any conclusions. Although lice die when placed in a dish of olive oil, olive oil is a thin liquid and, when on the scalp is unlikely to be deep enough to keep lice submerged. If used with a shower cap or plastic wrap, suffocation of the person being treated becomes a risk.

OVIDE Lotion (malathion)

OVIDE's active ingredient is malathion, a potentially neurotoxic insecticide that can be absorbed through skin and mucous membranes. The malathion contained in a single OVIDE treatment can be up to 30 times the recognized safe one-time dose for young children. OVIDE, an alcohol-based lotion, requires prolonged contact (8–12 hours) with hair to be effective. OVIDE is flammable when wet. Therefore, blow dryers, curling irons, cigarettes and other ignition sources pose a fire risk until hair dries. Covering hair will slow product evaporation and increase risk of skin absorption. Hair wet with OVIDE may also increase adverse effects in treated children, or others, if it gets into or near their eyes. The safety and effectiveness of this product in children under six years of age has not been established. OVIDE is not intended for use in infants, especially premature infants, because of their increased skin permeability. The manufacturer recommends caution in handling or use of OVIDE by pregnant or nursing mothers. This product is sold by prescription only.

Pet Shampoos & Dips

Some of the same chemicals found in human head lice products can be found in dog and cat flea and lice treatments. As a result, some people find the greater quantity at a cheaper price appealing. You may get more product for your money, but the product will generally be five times weaker than those made for people. Putting more of these animal products on you or your household members will not make it stronger, and a weaker product increases the risk that human head lice will become resistant! Also, some animal treatments contain chemicals that are not approved for humans and may be unsafe.

NOT RECOMMENDED – AVOID THESE TREATMENTS

Petroleum Jelly (Vaseline; Poreline)

People have reported both success and failure using petroleum jelly to treat head lice. Even if this product were 100% effective, dead lice and nits must be removed before your child can return to any program that has a “no-nit” policy. This treatment requires a thick application of Vaseline to a person’s head for several days. To keep the Vaseline from staining linens, furniture, and clothing, it is recommended that a shower cap or plastic wrap be worn. Suffocation of the person being treated then becomes a risk. It has also been recommended, by some sources, to “gently” heat the Vaseline-covered scalp with a hair dryer. Since Vaseline holds heat, accidental overheating could result in scalp burns. Vaseline should not be used in conjunction with Lindane. Vaseline is not easy to get out; sending a child to school with a greasy head will probably be viewed as socially unacceptable to the child and other students. Dish soap is generally recommended for speeding the removal of Vaseline. Dish soaps, though generally mild, are not intended for concentrated application to the skin and may pose, at a minimum, a severe eye irritation risk. Removal frustrations may lead to the use of hazardous grease-cutting chemicals.

Robi Comb

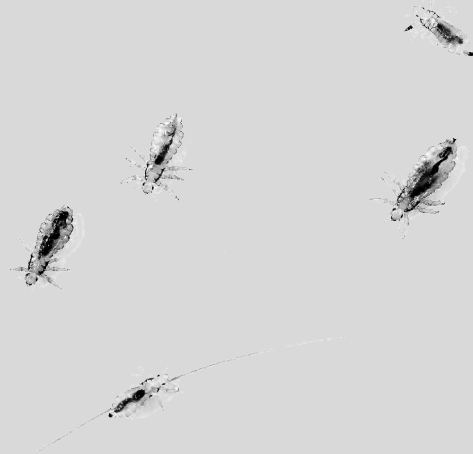
The Robi Comb is a battery-powered comb that can be five times more expensive than the best hand-powered combs, such as Lice Meister and Lice Out. The Robi Comb makes a high-pitched buzzing sound until it comes in contact with a louse. When the buzzing stops, an electrical shock is produced to kill the louse, but not eggs. If you drop the angle of the comb so that the handle is closer to the scalp, the infested person’s scalp will be shocked. These shocks hurt, especially on the sensitive skin behind the ears and along the nape of the neck. If the comb is pulled back along bare or sparsely covered skin at this low angle, it will produce continuous shocks that hurt for several minutes. As a precaution, the manufacturer advises that Robi Comb not be handled by or used on persons with epilepsy, seizure disorders, heart disease, pacemakers, or other neuro-stimulators. The teeth on the Robi Comb are short and less efficient than combs with longer teeth. Since this comb depends on an electrical discharge “to be effective,” use on wet hair will short out the “buzz” until the unit dries. Robi Comb’s directions follow general recommendations for combing daily until an infestation is over. An expensive electric comb is not necessary for this good practice. NOTE: Using Robi Combs for head lice screening, whether at home, child care, or school, can easily produce poor results: 1) Robi Combs will stop buzzing whenever the angle of use is shortened; 2) they will also stop buzzing whenever used on damp or wet hair, or in highly humid environments, and when the battery goes dead; 3) identifying a child as having head lice based only on whether the Robi Comb buzzes is not effective; and 4) shocks to individuals being screened while using a Robi Comb are unnecessary.

Tea Tree Oil (Melaleuca Oil)

People have reported both success and failure with Tea Tree Oil-based products. They are expensive, especially with ongoing purchase and use. Even if these products were 100% effective at killing lice and their eggs, dead lice and nits have to be removed before your child can return to any program that has a “no-nit” policy. These products are oil-based and should not be used in conjunction with Lindane. These products have not been scientifically proven to be medically safe and effective for the treatment of head lice. Some of the products include an alcohol-based rinse, which is flammable.

Trimethoprim-Sulfamethoxazole (TMS; TMP-Sulfa)

TMP-Sulfa is an antibiotic intended to treat bacterial infections. This drug is prescribed on the premise that head lice have bacteria living in their guts which help them digest blood. Lice would ingest blood along with this antibiotic. The antibiotic would then kill the gut bacteria, and thus kill the lice. TMP-Sulfa is a good drug for killing bacterial infections in people. The use of this drug can result in allergic reactions and/or the growth of drug-resistant bacteria. If you were to develop an allergy to this antibiotic in the course of treating head lice, you would never be able to use this particular drug to fight off bacterial infections in the future. Different or stronger antibiotics would need to be used to fight future infections.



COMB

Combing the hair with an effective, metal lice-removal comb is the most important step in treating head lice.

Your goal is to remove every nit and louse on the person's head. Combing alone can be an effective treatment option.

You will need to continue checking for lice and eggs for up to two weeks. Remember, everyone in the household needs to be checked daily until at least seven days after the last nit or louse was found.

Making Nit Combing Easier

When using NIX:

Consider doing your nit combing **before** you treat. If you comb first, wet the hair and towel it dry. Then add a little cream rinse or conditioner to the hair to make combing easier. Before using NIX, you will have to strip out the cream rinse or conditioner by using a regular shampoo with no conditioner or oil in it.

When using RID and RID-like products:

Do your nit combing **after** you treat. RID must be applied to dry hair if it is to work. Nit combing is most easily done on wet hair. After the treatment, put a small amount of hair conditioner or creme rinse in the hair to make combing easier.

When using Lindane:

First thoroughly wash out any oil-based hair care products using a shampoo that does not contain oils or conditioners (using oil-based conditioners or hair care products with Lindane may increase the risk of unwanted toxic effects). Then, dry the hair thoroughly before applying Lindane. You can use oil-based products after the Lindane is thoroughly washed out. According to some medical professionals, consumers have reported successes with Clear's enzymatic nit glue softening agent, which is intended to make combing easier. If you do nothing else, comb when the hair is wet. This will help slow the lice down for easier removal.

Recommended Combs

Head lice removal combs vary in effectiveness. Two combs that are recommended by many health departments are:

- ◆ **Lice Out Comb** by Wal-Med, Inc.
- ◆ **LiceMeister Comb** by the National Pediculosis Association.

These combs have round, stainless-steel teeth that pass through the hair more easily and are less likely to pull or tear than other combs. The teeth are close together and collect the lice and nits better than other plastic and metal combs. Some people use the comb alone without chemical treatments to remove all of the lice and nits from the head. The comb can also be used as a screening tool. Many schools and youth groups have these combs onsite to lend to parents.



Metal Lice Removal Comb

Spokane Area Assistance (for a fee):

Trisha Lutey • (509) 993-1978

- Examinations, treatment & combing
- Hair cutting & shaving
- Head lice education

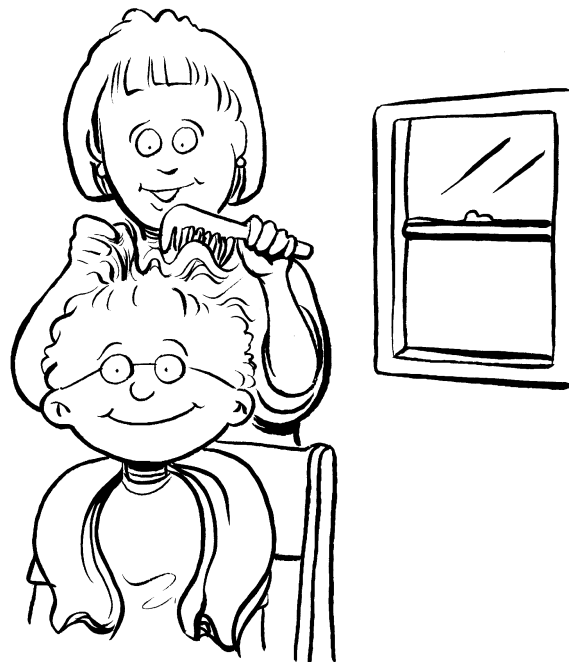
COMB

Combing Set Up and Supplies

Combing takes time, energy, and patience! It is the most important step.

You will want to comb where there is a lot of light—natural light works best—and you will need the following items:

- Towel
- Regular brush or comb
- Nit comb
- Kleenex or paper towel
- An “old” toothbrush
- Waste basket or paper or plastic bag
- Magnifying glass
- Tweezers
- Distractions (magazine, coloring book, radio, TV)



Combing: Step By Step

- 1** Have the person who is being combed watch TV or a video, listen to the radio, read a book, or play a game. A distraction will make the time go faster for both of you. Sitting still will make it easier to find the lice and nits.
- 2** Drape a towel around the person's shoulders.
- 3** Before you use the nit comb, use a regular comb or brush to remove any tangles.
- 4** Use the nit comb that came with the product or one of the recommended nit combs that can be purchased separately. Comb slowly and carefully taking only several strands at a time. Too much hair at once will make it impossible to get the comb next to the scalp where the eggs are laid. Combing in the opposite direction of normal brushing may help you find more eggs. Be gentle—it will go a long way toward successful combing.
- 5** Comb the entire length of the hair strands, starting directly next to the scalp. If this is impossible, comb for at least the first 6 inches from the scalp to get eggs away from where it's warm. If you only comb the first 6 inches, you will still have to completely remove all adults and nymphs and then go back later to finish removing the remaining eggs.
- 6** Using bobby pins or hair clips, pin back each section after you have combed through it thoroughly.
- 7** Non-prescription reading glasses or a magnifying glass may help you find all of the nits. You can use your fingers or tweezers to remove the lice and eggs.
- 8** Keep a small wastebasket or bag next to where you are working. Wipe off what you comb out into a tissue or paper towel and throw it in the wastebasket or bag.
- 9** When you're done, change your clothes. Put the towel that was draped over the individual and your clothes in the laundry basket.
- 10** After combing, vacuum up the area where you worked and wash the nit comb in warm, soapy water.

Spending a lot of time on extensive house cleaning for lice is common, but unnecessary. The way to get rid of head lice and their eggs is to get them off the heads of those who have them. Your house and clothing pose a very low risk for transmission. The risk is head-to-head contact. Head lice cannot live long off the human head. When your child has lice, you must complete the process of combing out all nits before you spend time and energy cleaning your home. If you do clean the house, you do not need to do anything out of the ordinary. However, if you feel you must clean the house, follow these guidelines:

Chemicals

Evidence shows that lice sprays and bombs are not effective in killing lice or nits. They only put poisons into the air and on the surfaces of your furniture.

House and car

Vacuuming is very effective. Lice can't survive in the carpet or crevices of your furniture. They require body heat to survive. Vacuum the carpet, rugs, floors, furniture, car seats, and any other item or area that has been in contact with the head. What you are trying to do is pick up hairs that might have eggs on them and any lice that might have hatched out from fallen hairs. You will also be vacuuming up any lice that may have fallen off the person's head.

Throwing away partially filled vacuum bags because they might contain head lice or nits is a waste of resources. They will not get out of the bag, let alone the vacuum cleaner.

Clothes and other items

Wash dirty clothes, coats, hats, bedding, and bath towels as you normally would. There is no need to bag household items. If you cannot wash something, you can carefully vacuum it. Don't throw combs and brushes away. If they have hairs on them, pull them off and throw them away. Soak brushes and nit combs in the sink in hot, soapy water for 30 minutes. The water should be as hot as the tap will make it. It only takes 120°F water (tap water temperature) to kill lice and eggs. Use an old toothbrush to remove any leftover residue between the teeth of the nit combs.



FAQs

Should my pets be treated for head lice?

No. Head lice do not live on pets. Pets do not play a role in the spread of head lice.

Should household sprays be used to kill adult lice?

No. Using fumigant sprays or fogs is NOT recommended. Fumigant sprays and fogs can be toxic if inhaled or absorbed through the skin and they are not necessary to control head lice.

Should I bag items for 2 weeks?

It is unnecessary. Head lice survive less than one or two days if they fall off the scalp and if nits hatch, new nymphs die within several hours without human blood. Routine house cleaning, including vacuuming is sufficient.

REPEAT, RECHECK, NOTIFY

Repeat

Repeat treatment if necessary and continue checking heads daily. Combing out lice is to be expected. Treatments may kill lice immediately or may short circuit their nervous systems resulting in a slower death, over minutes to hours, by suffocation. Treated lice, not immediately killed, will die in two days or less of starvation. Even when people describe a product as working less effectively than in the past, they still describe lice as “slowing down” when treated. Untreated lice are lightning-quick. Slower moving lice make removal by hand and by comb much easier. Treated lice cannot mate or lay eggs. Eggs treated but not killed by any head lice treatment product will hatch, if not combed out. If you used RID, RID-like products or Lindane, you will need to retreat in seven to ten days. Nymphs may be present for your second treatment. With NIX, nymphs are killed within hours of hatching by the residue left behind by the initial treatment, and so should not require a second treatment.

Recheck

Combing out all adult lice, nymphs and eggs, dead or alive, will end the infestation. Even after removing all of the bugs and eggs from everyone in your household, check everyone in your household every day for at least another week (seven days) to be sure nothing was missed and to catch any reinfestation. If you are working hard to remove lice for a number of days and suddenly find large lice about $\frac{1}{8}$ " and/or new eggs placed close to the scalp, it is likely that a reinfestation has occurred.

Notify

Let everyone in your family and circle of friends, schools, child care, church, etc., know that they or their children might have been exposed to head lice. You and/or your children got them from someone, just as you and your family might have shared them. Don't blame anyone—lice happen! Let people know of their exposure so they can check and treat themselves and their children. Everyone should be treated the same day they discover having head lice.

If you or your children spend time in another household on a regular basis, that household is an extension of yours and the people in these households should be checked for head lice and be treated if infested. When household members are being treated correctly, reinfestation is almost always the result of having missed someone that should have been notified.

Reinfestations

When there is a reinfestation, you will often, after having seen no large lice for a number of days, see full-grown lice. You may also notice new eggs laid close to the scalp, where you had previously removed them all. If this occurs, review the following questions before assuming you have done something wrong or that a treatment product has failed:

- Was everyone in your household carefully examined for head lice, including yourself? If not, someone in your home may be the source of reinfestation.
- Is everyone in your household, including those that were initially found not to be infested, being examined on a daily basis? If not, someone who was not initially infested may now be infested.
- Did you notify everyone, including schools, day cares, etc.? If not, the original source of your infestation may be causing the reinfestations.
- Have you made assumptions as to where your family got their infestations? Don't. If you do, you are likely to miss reinfestation sources. Schools may seem the most likely source for infestations, but this is not always true. You will not always find the source of your family's infestation. reinfestations do not always require re-treatment.
- Have you limited contact with other infested households until you have gotten your infestations under control? Take care not to pass infestations back and forth while trying to get things under control.

Children sent home with head lice need to receive treatment before returning to school. If daily head checks are being made on those under treatment, a reinfestation should be easy to comb out without the use of chemicals.



SETTING UP A LICE CONTROL PROGRAM/POLICY

A good head lice program covers screening procedures, follow-up of infested children, letters and educational materials, confidentiality, use of a comb loan system, and community resources.

Communicate your policy to your staff and teach them how to properly identify lice and nits. Staff should understand the reason for enforcing a head lice policy and be prepared to respond to children's and parents' questions. We recommend a yearly, one-hour in-service to cover head lice control policy, recommendations for assisting families, and the proper hand-outs and resources to use.

Communicate your policy to parents through written materials. The information should cover your policy, prevention, detection, and treatment of head lice. Parents should be encouraged to make checking for head lice a part of routine hygiene just like brushing teeth. By screening regularly (once a week should be fine), parents can detect lice and nits as early as possible, remove them immediately, and avoid a serious infestation.

Agencies can refer parents to the Spokane Regional Health District's recorded Health Information Line at (509) 323-2847, and can freely copy and distribute any of the printed materials listed on the cover of this guide.

Screening (Head Checks)

When designing your screening process, consider the following:

- How extensive a program does our school need?
- Who is responsible for conducting the head checks?
- What tools are going to be used to check heads?
- Who should be screened and how often?
- What process would be the least obtrusive, take the least amount of time, and keep children's absence to a minimum?
- What process is the most discrete and confidential?

A screening program for detecting head lice on children begun at the beginning of the school year can reduce the possibility of further spread in classrooms. Regular screening dates set up in advance begin to "normalize" the process of checking children for head lice. Screenings can be done throughout the school/agency, throughout the school year. For example, screenings could be conducted on the day before a weekend or vacation begins or as a case is discovered. Screenings conducted close to dismissal time minimize disruption and loss of learning time.

According to the Office of the Superintendent of Public Instruction, students should not have to miss any school on the day of the screening. Remind parents in advance of the screening schedule.

Alternative procedure to physically screening every student:

Examine at least two-thirds of the classes (at least 100 students) in grades K-2. Based on the number of children in this group with evidence of current infestations, the maximum percent of children you can expect to find infested in the rest of the school can be estimated from the table below. Infested children from the same family should be considered as a single case when using the table. The decision to continue the search for cases in grades 3-6 will depend primarily on the availability of personnel to carry out such a task. However, as a practical guide, continue the search in all instances where results from the initial screen of K-2 indicate a potential infestation rate for the school of 5% or greater.

Number of active cases found in K-2	Maximum percent expected in school; by the number of students screened in K-2		
	100 students	200 students	300 students
1	3%	2%*	1.5%
2	5	3	2
3	6	4	3
4	8	5	4
5	9	6	5
6	11	7	5
7		8	6
8		9	7
9		10	7
10		11	8

*Example: If you screen 200 students in grades K-2 and find one active case, you can expect to find no more than 2% of children in the rest of the school infested. In all probability the number will be less than 2% since the prevalence of head lice tends to decrease with age. (Juranek, 1995)



Some schools set up a parent volunteer program to conduct the screenings. Other schools have designated staff to perform the screenings. Educate the staff and volunteers on the true risks of infestation from head lice and the screening process. Head lice do not transmit disease and the risk of getting lice from an infested student is associated only with head-to-head contact with the infested student, not through the screening process.

Group inspections can be done with disposable sticks or gloves. The diagnosis is made more often by seeing the attached nits than by finding crawling lice. Nits can be confused with hair debris, especially dandruff. Check the entire scalp. Nits may be found throughout the hair.

When an infested student is found, staff should discreetly obtain the names of the student's close school associates. These close contacts should be promptly examined for evidence of infestation. If this procedure discloses three or more currently infested students in a classroom, all children in the classroom should be examined.

Treatment instructions should be provided as well as the policy for returning to school the following day. Make sure that parents/guardians know what lice and nits look like by showing them what you have found on their child's head. The student should be sent home with a note of explanation. The note should define the issue, request that other family members be examined, and state the return policy. Remind them to check their children carefully during this process, including one week beyond the last louse or nit found.

Letters to Parents

The first identified case in a school should result in a notice to all parents as an awareness tool and reminder to begin regular checking. The notice could be a letter, flyer, or newsletter. After the first notification, you can just inform the parents of a particular classroom when there is a case of head lice found. Here is a sample letter to parents:

Dear Parents:

A case of head lice has been reported in your child's class. Head lice continue to be one of the most common communicable conditions among children, and outbreaks are possible whenever and wherever children gather. Screen your child regularly and notify _____ immediately if head lice or their nits (eggs) are found. We welcome the opportunity to teach you, if you do not know how to check your child for head lice. Working together helps protect all of the children, including your own. Thank you for your cooperation.

Confidentiality

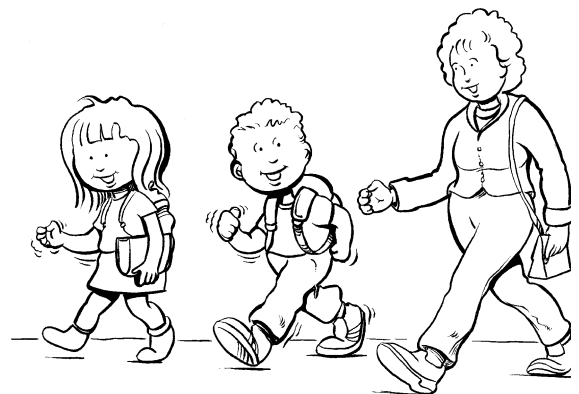
Encourage all individuals to respect and protect others anonymity. Ask the teacher to quietly send children to a designated room for inspection in order to minimize teasing and to maintain confidentiality.

Comb Loan System

The head lice removal combs that come in treatment packages are not always effective in removing lice and nits. Special metal combs have been proven to be more effective. Due to the cost involved in purchasing special head lice removal combs, schools/agencies have begun to set up comb loan systems. Depending on the size of the organization, 10-20 combs may be needed for a loan program with some combs available for purchase. The combs can be loaned to families to take home, use, and return when finished. Some agencies require a check deposit covering the cost of the comb and then tear up the check when the comb is returned. Staff should clean the returned combs using hot, soapy water and a toothbrush if residue remains in the comb's teeth.

Student Return Policies

Some schools have "no nit" policies which state that students who are sent home with head lice cannot return unless all lice and nits have been removed. **SRHD does not recommend "no nit" policies.** These policies only increase absenteeism, rather than the expected benefit of reducing head lice in schools. It is unreasonable to believe that "no nits" are universally feasible, even for diligent parents. Most schools allow students to return the following day as long as the parent/guardian is actively getting rid of the lice/nits by using appropriate treatments and/or combing. By far the best tools for reducing or eliminating head lice in schools are training staff and families on the contents of this guide, making good lice combs available to families whenever possible, and providing a supportive environment for everyone involved.



Spokane Regional Health District provides these head lice resources:

FREE PRINTED MATERIALS:

- ♦ **This Booklet:** *Guidelines for Controlling Head Lice*
- ♦ **Brochure:** *Head Lice: Examine, Treat, and Comb*; available in English, Spanish, Russian, Bosnian, Hmong, and Vietnamese
- ♦ **Coloring Book:** *No More Lice*; available in English, Spanish, Russian, Bosnian, and Vietnamese

To order: Call: (509) 324-1530, or
Email: nhawley@spokanecounty.org, or
Download and print from: www.srhd.org

VIDEO: *How to Comb Out Head Lice*; 8-min. DVD, \$5 ea.

To order: Call: (509) 324-1530, or
Email: nhawley@spokanecounty.org, or
View at: www.srhd.org

PHONE: Recorded Health Information Line: (509) 323-2847

HEAD LICE EXAMS:

Call our Public Health Clinic for information or an appointment: (509) 324-1600



REVISED - AUGUST 2008

Disclaimer: The head lice treatments in this handbook may not include all available treatment options. Descriptions of brand name products do not constitute endorsement by the Health District, even when the advantages of one product over another are described. If anything in this handbook is significantly different than what you have read or have been told by others, call the Health District at 509-324-1530 for clarification.

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