



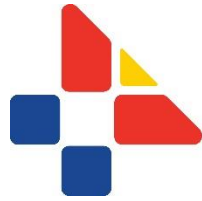
NL Health
Services

MANAGING HEAD LICE AT HOME



Managing Head Lice at Home

Introduction	2
Head Lice Life Cycle	3
Facts About Head Lice	4
Prevent the Spread of Lice	5
How to Find Lice on a Head	5
Option 1: Inspection	6
What you need:	6
A Note about Lice Combs	6
Steps:	6
Option 2: Wet Combing	7
What you need:	7
A Note about Lice Combs	7
Steps:	7
When to Treat for Head Lice	8
Treatment products:	8
Using Products (Repeat after 7-10 Days).....	8
General directions for permethrin, pyrethrin (Nix, R&C Shampoo)	8
General directions for myristate/cyclomethicone (Resultz) include:	9
Using dimethicone (NYDA), generally, the directions include:	9
Has the Product Worked?	10
Check to see if the product has killed the lice	10
Next Steps	10
Removing Nits by Hand	11
What you need:	11
When Treatment Does Not Seem to Work	12
Poor application of the product	12
Applying the product only once	12
Resistance to products	12
Picked up lice again	12
House and Personal Belongings	13
Toys and other items that can't be washed	13
Hats, pillowcases, and pyjamas.....	13
Combs, brushes and hair accessories	13
Pets	13
Reference List.....	14



NL Health Services

Introduction

We, at Newfoundland and Labrador Health Services, value the physical and emotional health of everyone in our community.

When we deal with any issue, such as head lice, we consider:

- The need for accurate information.
- How to address the myths and avoid blame.
- The importance of feeling good about ourselves and others.
- The need for everyone to work together.

Families are responsible for finding and treating head lice within your household, and we support you with this evidence-based information resource.

Please contact your local community health nurse with further questions or concerns.



Take a Peek, Every Week
Check your child's head weekly,
and more often after sleepovers.

Head Lice Life Cycle

The life cycle of the head louse has three stages: nit, nymph, and adult.

1. Nit

Nits are head lice eggs. They are hard to see and can look like dandruff or hair spray droplets. Nits are laid by the adult female and glued to the base of a hair nearest the scalp. They are 0.8 mm by 0.3 mm, (tiny, about the size of 1 grain of salt), oval, and usually yellow to white, but can be gray, dark brown, or see-through. Nits take about one week to hatch (range 7 to 10 days). Nits need to be within 6 mm of the scalp to hatch. If nits are more than 6mm (about the width of the top of your pinky finger) away from the scalp, they are most likely dead or hatched. Nits need the warmth of the scalp to hatch.

2. Nymph

After 7 to 10 days, the nit opens to release a nymph. The nit shell is then easier to see, is dull yellow and stays attached to the hair. The nymph looks like an adult louse but is about the size of a pinhead. Nymphs grow to be adults anywhere from 9-15 days after hatching.

3. Adult

The adult louse is about the size of a sesame seed, has six legs with claws, and is usually tan to grayish-white, but can be dark brownish. In dark hair, the adult louse will appear darker. Females are larger than males and can lay up to 8 nits per day. Adult lice can live up to 30 days on a person's head and need to feed on blood several times daily. Without blood meals, the louse will die within 1 to 2 days.



Size of an adult louse on a cotton-tipped applicator. (Photo by Eran Finkle)

Facts About Head Lice

Head lice live on the scalp and **cannot jump or fly**. You get head lice from others by head-to-head contact of at least 30 seconds. The lice can crawl from one head to another head anytime people are close together, e.g., children playing, selfies, and sleepovers. Sharing items like combs, brushes, headbands, and hats may also spread lice.

Anyone can get head lice. It does not mean that the person is unclean, has little money, or that a child has terrible parents. Lice do not discriminate.

Itching and scratching do not mean that a person has head lice. A person could have head lice and not have any itching. Checking the head every week is the only way to find head lice.

Head lice do not carry disease, but dealing with head lice can be frustrating. Some families are embarrassed, so it helps to talk to the local community health nurse for information.



Not everyone experiences itching, but if they do, it will most likely occur in the area around the ears and the back of the neck at the hairline.

Prevent the Spread of Lice

There are things you can do to help prevent the spread of head lice:

- Check your child's head weekly, after every sleepover, and **every day** during lice outbreaks at school or in the community.
- Treat immediately and properly (instructions are given in this booklet) if head lice are found.
- Notify the school or community group that you have found head lice and that your child has been treated.
- Keep long hair tied back or braided.
- Teach the whole family not to share personal items that are used on the head, such as hats, helmets, hair accessories, and headphones.
- Teach the whole family to put their hats and scarves in their coat sleeves or backpacks when they are hanging these in a locker, dressing room, or closet.

There are many products on the market that claim to prevent head lice infestation. There are no approved preventative lice products in Canada.

How to Find Lice on a Head

It is best to check your child's head carefully at least once every week. If they have been on a sleepover, it will be best to check every day for a week.

Finding head lice is not an easy thing; they are tiny and can move very quickly. You may see nits. If nits are found, wet combing can help to find live lice.

Head lice spread easily. If one person in the household has lice, others may have it too. Check everyone in the household on the same day.

There are 2 options to help you find lice on the next pages.

Option 1: Inspection

What you need:

- bright light
- hair clips
- regular comb
- white tissues
- lice comb, available at any drug store
- bag for garbage
- magnifying glass (optional)

A Note about Lice Combs

The nit comb cannot be used in all hair types, but hair types are not addressed in package inserts. There are eight different hair types (I, II, III, IV, V, VI, VII, and VIII), type I is the straightest hair and VIII has the most curl, kink, or twist. Hair types V-VIII are more susceptible to breakage, and a nit comb should not be used.

Steps:

1. Untangle dry hair with a regular brush or comb.
2. Section the hair with the hair clips. Start with a section at the back of the head.
3. Using a head lice comb, place the teeth of the comb flat against the scalp.
4. Comb the hair from the roots through to the tips.
5. Wipe the comb on the tissue after each stroke. In bright light, check the tissue for head lice. A magnifying glass may help.
6. You may see eggs/nits in the hair.
7. Comb each section twice until you have combed the whole head.
8. Throw away all tissues using the bag. Tie it tightly and throw it out with regular household garbage.
9. Soak brush, combs, and hair clips in soapy hot water (just after boiling) for at least 30 seconds to ensure head lice are killed (this should be done by an adult). When the water has cooled, remove all debris from the combs and clips. Rinse.

Option 2: Wet Combing

What you need:

- bright light
- hair clips
- regular comb
- white tissues
- old toothbrush
- white conditioner
- lice comb, available at any drug store
- bag for garbage
- magnifying glass (optional)

A Note about Lice Combs

The nit comb cannot be used in all hair types, but hair types are not addressed in package inserts. There are eight different hair types (I, II, III, IV, V, VI, VII, and VIII), type I is the straightest hair and VIII has the most curl, kink, or twist. Hair types V-VIII are more susceptible to breakage, and a nit comb should not be used.

Steps:

1. Apply hair conditioner to **dry hair**. Cover the whole scalp and all hair from the roots to tips.
2. Section the hair with the hair clips.
3. Using a head lice comb, place the teeth of the comb flat against the scalp at the back of the head, and comb the hair from the roots to the tips.
4. Wipe the comb on the tissue after each stroke. In bright light, check for lice. You may see eggs/nits in the hair.
5. Comb each section twice until you have combed the whole head. If the comb becomes clogged, use an old toothbrush to remove the debris.
6. Throw out all used tissues and toothbrush in the bag. Tie it tightly and throw out with the regular household garbage.
7. Soak combs and hair clips in soapy hot water (just after boiling) for at least 30 seconds to ensure head lice are killed (this should be done by an adult). Remove all debris from the combs and clips when the water has cooled. Rinse.

When to Treat for Head Lice

If you find lice during your check, don't worry. Head lice are a normal part of life and nothing to be embarrassed or panicked over. You will need to use a treatment product.

You may only find eggs (nits). These are stuck to the hair within 6 mm of the scalp. Nits found more than 6mm away from the scalp are not alive and unlikely to hatch. You will need to use a treatment product.

Apply a treatment method to members of the household, **who have lice/nits**, on the same day, and treat bedmates of those who have lice/nits as well.

Treatment products:


Consider the person's age when choosing a product to use. Not all products are suitable for young children or pregnant women, **read the product label**.

- **Permethrin**, e.g., Nix, Kwellada-P
- **Pyrethrin**, e.g., R&C Shampoo/Conditioner
- **Resultz**
- **NYDA**

Each product is used differently, so carefully follow the instructions included with the product you are using.

Using Products (Repeat after 7-10 Days)

General directions for permethrin, pyrethrin (Nix, R&C Shampoo) include:

1. Comb hair with a regular comb to remove tangles.
2. **Conditioners can reduce effectiveness.** If you have used the wet combing method to check for lice, ensure the conditioner has been thoroughly washed out before applying this product.
3. Shampoo with a **conditioner-free** product.
4. Rinse with water.
5. Towel dry hair, so it is damp but not wet.
6. Shake the bottle of the product.
7. Be sure that the product covers all the hair, from the scalp to the ends. Protect the eyes with a washcloth or towel. (Continues on next page) 

The first application kills the live lice and the second kills lice that have hatched since the first application.

8. Leave the product on the hair for as long as the package recommends and no longer.
9. Over a sink, rinse out the product with warm water. **Do not rinse in a bathtub or shower** where the product can get onto other body parts.
10. Towel dry the hair with a clean towel.
11. Do not blow-dry the hair. The heat will reduce the effectiveness of the product.
12. Use a **conditioner-free** shampoo for the next 7-10 days, then repeat the above steps.

No product currently available will kill all nits. This is why you treat again in 7-10 days, to kill the lice that hatch since the first treatment.

General directions for myristate/cyclomethicone (Resultz) include:

1. Protect the eyes.
2. Apply an adequate amount of the product to dry hair.
3. Leave the product on the hair for as long as the package recommends.
4. Rinse the product off the hair using warm water.

After 7-10 days, repeat the above steps.

Using dimethicone (NYDA), generally, the directions include:

1. Apply to dry hair.
2. The solution should be massaged well until the hair is completely wetted with the product.
3. Leave the product on the hair for 30 minutes.
4. Comb the hair carefully with the lice comb to remove the suffocated lice and nymphs.
5. The hair should be left to dry for at least 8 hours (e.g., overnight).
6. The hair can then be washed with regular commercial shampoo.

After 7-10 days, repeat the above steps.

No product currently available will kill all nits.

You will need to remove nits by hand. See page 11 for instructions.

Has the Product Worked?

Check to see if the product has killed the lice

- After using a product and following all the directions and timelines, look through the hair using Option 1 on page 8.
- You may not find any lice.
- If lice are found, observe for movement, and decide if the treatment worked or not.

It did not work if:



The lice are still moving,
they may be slower

Start the steps again with
a product which has a
different ingredient

It worked if:



The lice are not moving at
all

Remember to take a peek
every week.

Next Steps

Continue checking household members at least once a week after the second application is done. Make sure everyone is free of live lice and nits.

After the application of any product, eggs/nits will still be present, remove these by hand.

If you find live lice after the second application, then repeat the treatment using a different product (with a different ingredient). This means applying the product on one day and reapplying 7-10 days later.

NOTE: Do not mix head lice products for use at the same time.

If you continue to find live head lice after following these steps, contact your family physician, pharmacist, or community health nurse.

Removing Nits by Hand

(For children 6 months and younger, for those who are less than 2 years [depending on the product used], those who are pregnant, or those with allergy to the products)

What you need:

- bright light
- hair clips
- regular comb
- white tissues
- lice comb, available at any drug store
- bag for garbage
- magnifying glass (optional)

A Note about Lice Combs

The nit comb cannot be used in all hair types, but hair types are not addressed in package inserts. There are eight different hair types (I, II, III, IV, V, VI, VII, and VIII), type I is the straightest hair and VIII has the most curl, kink, or twist. Hair types V-VIII are more susceptible to breakage, and a nit comb should not be used.

Note: Do not use vinegar to help remove nits as it can reduce the effectiveness of some products.

The following steps need to be done daily during treatment:

1. Untangle dry hair with an ordinary comb or brush.
2. Section the hair with the hair clips.
3. Start with a section at the back of the head. Place the teeth of the head lice comb flat against the scalp.
4. In a well-lit area, inspect each hair for nits.
5. Remove nits by pulling each one off the hair to which it is attached. **This is very time-consuming.** You may have to use your fingernails. This is a difficult process for a child. They may need to have several sittings versus one long session.
6. Focus on removing those nits within 6 mm from the scalp. Nits found more than 6mm from the scalp are unlikely to hatch.
7. Wipe the lice comb on the tissue after each stroke.
8. Throw all used tissues into the bag. Tie tightly and throw out with regular household garbage.
9. Soak combs and hair clips in soapy hot water (just after boiling) for at least 30 seconds to kill head lice (this should be done by an adult). Remove all debris from the combs and clips when the water has cooled. Rinse.

When Treatment Does Not Seem to Work

It is very frustrating when you are doing everything that is recommended, and nothing seems to work. Some possible reasons for this may include:

Poor application of the product

Head lice products are expensive. Apply the product properly, or it will cost more money in the long run. The product must be applied to all hairs, from the roots to the tips. The product must be in contact with the head lice for the right amount of time. Leave the product on the hair for the time stated in the directions.

Applying the product only once

Using any product only once will fail. Even if the lice are killed or removed, the eggs will continue to hatch. Reapply the product 7- 10 days later, paying careful attention to the instructions on the package.

Resistance to products

Resistance is when the product used for treatment does not kill the head lice. You will not know if the head lice are resistant to the product you are using before you try it. The only way to know is to check for effectiveness after you have used it (see *Has the Product Worked* on page 13).

Picked up lice again

This means that a case of head lice was successfully treated, but adult lice are found again. If no head lice or nits are found in the hair when checking daily for one week but are present when checking the following week, it is most likely that lice were picked up again.

House and Personal Belongings

Even though cleaning the house is important, excessive cleaning, such as scrubbing the walls, is not necessary. Concentrate on heads, where the lice live and feed. **Daily head checks and nit removal are more useful for the management of head lice.** Regular household cleaning is appropriate. Vacuum mattresses, furniture and car seats. Household sprays are not recommended and can be toxic if inhaled or absorbed through the skin.

Toys and other items that can't be washed

- Place in a tightly sealed plastic bag for two weeks
- Place in the freezer for at least 24 hours.

Hats, pillowcases, and pyjamas

Wash in hot, soapy water and dry in a hot dryer each day. Dry clean anything that is not washable. Iron items that are safe to iron.

Combs, brushes and hair accessories

Soak in very hot, just boiled, water for at least 30 seconds after each use.

Pets

Animals do not carry or spread human head lice. No treatment is needed.



Take a Peek, Every Week
Check your child's head weekly,
and more often after sleepovers.

Reference List

- Goldstein, A., Goldstein, B. (2021) Pediculosis capitis. UpToDate. Retrieved September 1, 2021 from <https://www.uptodate.com/contents/pediculosis-capitis>.
- Burgess IF, Brunton ER, French R, et al. Prevention of head louse infestation: a randomised, double-blind, cross-over study of a novel concept product, 1% 1,2-octanediol spray versus placebo. *BMJ Open* 2014;4:e004634. doi: 10.1136/bmjopen-2013-004634C. D. Devore and G. E. Schutze, "Head Lice," *Pediatrics*, United States, 2015.
- F. Burgess, E. R. Brunton and N. A. Burgess, "Single Application of 4% Dimeticone Liquid Gel Versus Two Applications of 1% Permethrin Creme Rinse for Treatment of Head Louse Infestation: A Randomised Controlled Trial," *BMC Dermatology*, vol. 13, no. 5, 2013.
- G. J. Martinez-Diaz and A. J. Mancini, "Head Lice: Diagnosis and Therapy," *Dermatology Nursing*, vol. 22, no. 4, pp. 2-7, 2010.
- B. Bohl, J. Evetts, K. McClain, A. Rosenauer and E. Stellitano, "Clinical Practice Update: Pediculosis Capitis," *Pediatric Nursing*, vol. 41, no. 5, pp. 227-234, 2015.
- H. Feldmeier, "Pediculosis Caitis: New Insights into Epidemiology, Diagnosis and Treatment," *European Journal of Clinical Microbiology and Infectious Disease*, vol. 31, pp. 2105-2110, 2012.
- K. Gunning, K. Pippett, B. Kiraly and M. Sayler, "Pediculosis and Scabies: A Treatment Update," *Indian Journal of Clinical Practice*, vol. 24, no. 3, pp. 211-217, 2013.
- R. Durand, S. Bouvresse, Z. Berdjane, A. Izri, O. Chosidow and J. M. Clark, "Insecticide Resistance in Head Lice: Clinical, Parasitological and genetic aspects," *Clinical Microbiology and Infection*, vol. 18, pp. 338-344, 2012.
- M. Connolly, "Current Recommended Treatments for Head Lice and Scabies," *Prescriber*, vol. January, pp. 26-38, 2011.
- J. Heukelbach, D. Canyon and R. Speare, "The Effect of Natural Products on Head Lice: In Vitro Tests and Clinical Evidence," *Journal of Pediatric Infectious Diseases*, vol. 2, pp. 1-10, 2007.
- P. G. Audino, C. Vassena, E. Zerba and M. Picollo, "Effectiveness of Lotions Based on Essential Oils from Aromatic Plants Against Permethrin Resistant *Pediculus Humanus Capitis*," *Archives of Dermatological Research*, vol. 299, pp. 389-392, 2007.
- Centers for Disease Control and Prevention, Head Lice, Atlanta, November 2010
- Heymann, D., *Control of Communicable Diseases 19th Edition*, 2008.
- Pollack, R.J., *Journal of Pediatric Infectious Disease*, 2007.
- Queensland Government a Health Promoting Schools Approach to Managing Head Lice (2007).
- Ghalandari N, Edalatkhah Tatafi A, Mohammadnezhad G, Nasimi M, Esmaily H. Comparing the efficacy of three methods of permethrin application in pediculosis capitis: A randomized clinical trial. *J Cosmet Dermatol*. 2023;00:1-7. doi:10.1111/jocd.15817
- Leung AKC, Lam JM, Leong KF, et al. *Drugs Context*. 2021;11:2021-11-3. <https://doi.org/10.7573/dic.2021-11-3> ISSN: 1740-4398
- Nolt D, Moore S, Yan AC, Melnick L; AAP Committee on Infectious Diseases, Committee on Practice and Ambulatory Medicine, Section on Dermatology. Head Lice. *Pediatrics*. 2022;150(4): e2022059282
- Shea LA, Lourenco Freitas E, Nguyen T, Salawu DW, Soquinase, N; Over-the-counter *Pediculus humanus capitis* treatment: The nit comb is not appropriate for all hair types, *Journal of the American Pharmacists Association*. 2022; 63 46-49

Reviewed August 2023