

Head Lice

Attachment – Head Lice Recommendations 2010 - Qs and As

Reviewed: November, 2010

Section: 7-20

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Please see the following pages for questions and answers for health professionals, teachers and the public.



Head Lice Recommendations 2010

Qs and As for Health Professionals

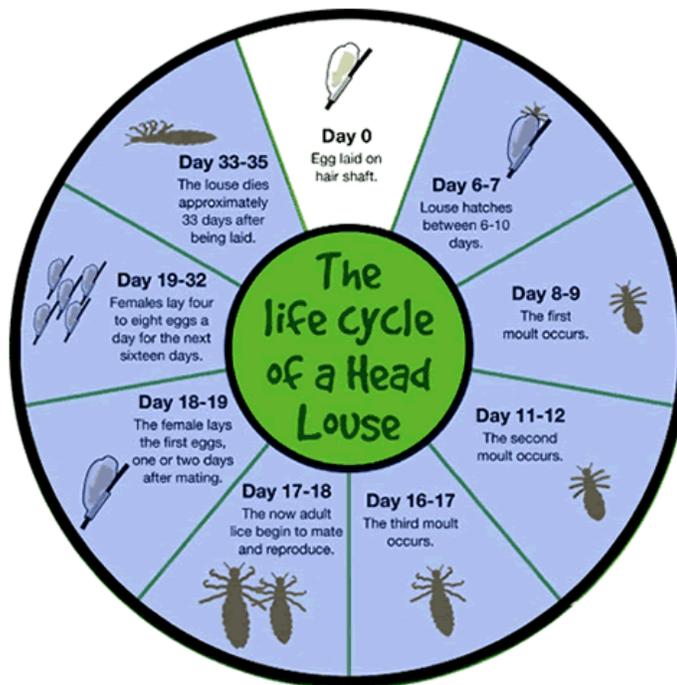
General Information

Q. What are head lice (pediculosis capitis)? What do head lice look like?

A. Head lice are small insects approximately 2 to 4 mm long (approximately the size of a sesame seed). They have six legs and are usually tan to grayish white in color. They do not have wings and cannot fly. Likewise, they cannot jump, but they move very quickly in the hair.

Q. What is the life cycle of a head louse?

- A. - The head louse feeds every 3 to 6 hours by sucking blood and simultaneously injecting saliva.
- After mating, the adult female louse can produce five to six eggs per day for 30 days, each in a shell (a nit) that is 'glued' to the hair shaft near the scalp.
 - The eggs hatch nine to 10 days later into nymphs that molt several times over the next nine to 15 days to become adult head lice.
 - The hatched empty eggshells (nits) remain on the hair, but are not a source of re-infestation.
 - Nymphs and adult head lice can survive for up to three days away from the human host.
 - While eggs can survive away from the host for up to three days, they require the higher temperature found near the scalp to hatch.



Source of Image: Pharmacy Direct

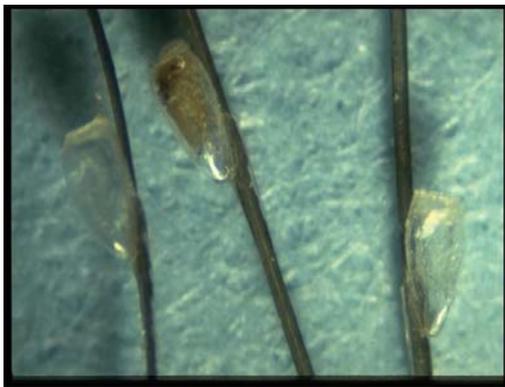
Q. What are the health implications of head lice?

- A. Head lice are not responsible for the spread of any disease. Individuals may experience itching because they are sensitized to the saliva of the head louse. Rarely, scratching may cause impetigo or other skin infections.

Because lice infestation is so benign, treatments must prove safe to ensure that the adverse effects of therapy are not worse than the infestation.

Q. What do nits (eggs) look like?

- A. Nits are attached to the shaft of the hair close to the scalp with a glue-like substance. They are not easily removed and will not fall or shake out of the hair. Nits that have already hatched are often more visible than eggs that have not because they appear white in color against dark hair. Nits that have not hatched blend into the hair color of the infested person. Nits are found more easily at the back of the head along the hair line.



<http://www.liceremovallosangeles.com/Pictures-of-lice-and-nits.html>



<http://www.headliceremediestlc.com/images/lice-size.jpg>

Q. How serious are head lice?

- A. Unlike body lice, head lice are not a health hazard, a sign of poor hygiene, nor a vector for disease. However, they are a nuisance and cause a high level of anxiety.

Q. How do you diagnose head lice?

- A. Diagnosis of head lice requires the detection of live head lice. Detection of nits alone does not indicate active infestation.

Infested children usually carry fewer than 20 mature head lice (more commonly, less than 10 head lice), each of which, if untreated, live for three to four weeks.

Misdiagnosis and over-diagnosis are common. Studies have found that many presumed “lice” and “nits” submitted by physicians, nurses, teachers, and parents to a laboratory for identification were found to be artifacts such as dandruff, hairspray droplets, scabs, dirt or other insects (e.g., aphids blown by the wind and caught in the hair).

Q. What if nits are found but we cannot find live lice?

- A. The presence of nits indicates a past infestation that may not currently be active.

Over 75% of children with nits and no live lice do not develop active infestations. Even with optimal scalp conditions, 10-30% of nits do not hatch, (Nova Scotia, 2008).

Without the ability to distinguish potentially viable from nonviable nits, conclusions on the potential for active infestation by nit detection alone are not reliable. Treatment should never be initiated unless there is a clear diagnosis of head lice (i.e., a live louse is found).

Additionally, health care providers and lay personnel have frequently over-diagnosed and misdiagnosed head lice. Many failed to distinguish active from extinct infestations, particularly if they were relying only on nit detection.

Q. Is there a way to determine if nits are viable or not?

- A. Although nits are attached to the hair shaft close to the scalp when they are laid, the distance from the scalp when the nit is found is not a good predictor of an active infestation.

Having nits close to the scalp does not necessarily indicate that a live lice infestation has occurred or will occur. A study in the USA found that children with 5 or more nits within 0.6 cm of the scalp were more likely to develop an infestation than those with fewer nits (32% versus 7%). However, only 1/3 of all children with 5 or more nits within 0.6 cm of the scalp developed an active infestation.

Q. What are the symptoms of head lice?

- A. A person may experience a tickling feeling on their head. When lice bite the scalp, they may cause itching. With a first case of head lice, it can take up to 4-6 weeks for a person to become sensitized to the louse saliva and experience itching. Itchiness can develop within 24-48 hours of future infestations.

Itchiness post-treatment with a topical insecticide is not an indicator of re-infestation as the treatment may cause scalp irritation. Finding live lice is the only way to determine if a re-infestation has occurred.

Screening

Q. How often should I check my child's hair?

- A. Check for live lice once a week throughout the school year, before and after a sleepover experience, and daily during an outbreak.

Q. What is the best way to find lice?

- A. Combing with a fine tooth lice comb has been shown to be 4 times more effective than and twice as fast as direct visual examination for the detection of live head lice.

Nova Scotia Public Health Services (2008) identifies the following as steps to detect head lice:

1. Apply ample conditioner to dry hair, enough to soak from the scalp to the end of the strands.
2. Remove tangles with a regular comb.
3. Start behind the ears and comb the hair section by section. Separating the hair with hair clips is helpful.
4. Place the lice comb against the scalp and pull to the end of the hair.
5. Check the comb for lice after each pull.
6. Wipe the comb with a tissue each time and look for lice.
7. Place the tissue in a bag.
8. Check all the hair over the entire head.
9. Repeat combing for every part of the head at least 5 times.
10. Once finished, tie the bag with the soiled tissues and throw it in the garbage.
11. If lice are detected and treatment is required, make sure that all conditioner is washed from the hair prior to treatment.

Q. What sort of screening should be done routinely by Public Health Nurses or in schools?

- A. Screening in schools has not been shown to be cost effective. In a study done of 1,729 school children screened for head lice, only 31% of the 91 children with nits had simultaneous live lice. Only 18% of those with nits alone converted to having an active infestation during 14 days of observation.

Prevention:

Q. What is the best way to prevent head lice?

- A. The major focus on control activities should be on reducing the number of lice on the head and to lessen the risk of head-to-head contact.

Q. How do head lice spread?

- A. Transmission in most cases occurs by direct contact with the head of an infested individual. Indirect spread through contact with personal belongings of an infested individual (combs, brushes, hats, etc.) is much less likely but may occur rarely. This is because a louse found on a comb is likely to be injured or dead and a healthy louse is not likely to leave a healthy head unless there is a heavy infestation.

Treatment

Q. Who should receive treatment?

- A. Anyone with an active infestation of head lice (live lice) should receive a treatment that is appropriate for them. This means that siblings, parents or bed mates should only be treated only if live lice are found upon inspection. More frequent checking of household members may be beneficial.

Q. What is the approved treatment?

- A. Health Canada recommends treatment with a topical insecticide (pyrethrins, permethrin 1% or lindane) or a recently approved non-insecticidal product called Resultz[®]. The treatment course for each of these products involves an initial application followed by a second application in 7 days.

Q. For those who have been diagnosed with head lice, why is a second treatment required in 7 days?

- A. Most approved treatments will kill the lice, but are not effective against the nits. A second treatment in 7 days will kill the lice that have hatched since the first treatment before they are mature enough to lay new eggs.

Q. Why not automatically treat all household and classroom members for head lice?

- A. Misdiagnosis and over treatment are common. When a case of head lice is detected in a classroom, parents of other children should respond by checking their children's heads on a regular basis and treat only when live lice are detected.

Treatments involve chemicals that will kill the lice. It is not recommended to expose individuals to these chemicals unless they have live lice because of the potential for side effects. Additionally, there is a concern that over use of medications could increase the potential for the head lice to develop resistance to the products making treatment choices more limited.

Q. If a child in school has head lice, why aren't they sent home?

- A. Head lice infestations have been shown to have low contagion in classrooms. Studies have shown that children without active infestations were excluded from school because of presumed lice infestation more frequently than were children who were infested.

A child with an active head lice infestation likely has had the infestation for a month or more by the time it is discovered and poses little risk to others from the infestation. They should remain in school, but be discouraged from close direct head contact with others.

Q. Do the lice "zapper" combs work, such as LiceGuard or Robi Comb[™]?

- A. The American Academy of Pediatrics (2010) indicates that there have been no randomized controlled studies performed with the electronic or bug zapping combs. Their use is not recommended. These "bug zapper" combs seem to offer little advantage over a well-designed traditional louse comb. Their instructions warn not to use on individuals with seizure disorders or a pacemaker.

Q. How do I know if I need to treat again?

- A. All approved products recommend treating again in 7 days with the same product. If live lice are found within 24-48 hours of the first treatment, the individual should be treated again with a different product. This product should be used again in 7 days for the second treatment.

Q. How do I know if the treatment is working?

- A. Effective treatment will eliminate live lice. Most products have residual effects so live lice may be found shortly after the first application. If live lice are found 24-48 hours after the first treatment, the first treatment was ineffective and a second product should be used.

Most products are not effective against nits and they will continue to hatch. This means that live lice may be found close to a week following the first treatment. This does not mean the first treatment was ineffective, but rather that the lice are newly hatched and will be susceptible to the second application of the treatment that is required 7 days after the first. This second treatment will kill the immature lice before they are able to lay eggs.

Q. Why would a treatment fail?

- A. Head lice treatment products have specific directions to ensure they are working properly. Depending on the product, this may mean it should be applied to wet hair or dry hair. It may mean that regular shampoo should not be used for a defined period of time after treatment or there may be restrictions on the use of conditioners. Some products must be left on the hair for a defined period of time. It is very important to read and follow the instructions carefully to ensure the product will be most effective.

Q. What about the other treatments that people say work (mayonnaise, essential oils, etc.)?

- A. A number of household products, such as mayonnaise, petroleum jelly, olive oil, tub margarine and thick hair gel, have been suggested as treatment for head lice. Application of a thick coating of such agents to the hair and scalp left on overnight will theoretically occlude lice spiracles and decrease respiration. However, these products show little killing of lice and are less effective than topical insecticides. There are no published trials on the safety or efficacy of these home remedies.

Other products such as gasoline or kerosene are flammable, toxic and dangerous. While a number of 'natural' agents, such as tea tree oil and aromatherapy, have been used for the treatment of head lice, efficacy and toxicity data are not available for these agents. One small study in Israel noted that a natural product, which contained coconut oil, anise oil and ylang ylang oil, applied to hair three times at five-day intervals, was as successful as the control pediculicide but this is not encouraged practice.

These treatments may in fact interfere with the approved head lice treatment and are therefore not recommended for that reason as well.

Q. What kind of cleaning is recommended for the household?

- A. Cleaning of items in prolonged or intimate contact with the head (e.g., hats, pillowcases, brushes and combs) may be warranted. Washing the item in hot water, drying in a hot drier for 15 minutes, or storing the items in an occlusive plastic bag for two weeks or in the deep freeze for 24 hours will also kill lice and nits.

Excessive cleaning of classrooms and households is not warranted as demonstrated by studies in Australia:

1. When carpets were examined from 118 classrooms, no lice were found despite more than 14,000 live lice found on the heads of 466 children using the classrooms.
2. Live lice were found on only 4% of pillowcases used by infested volunteers (American Academy of Pediatrics, 2009).

Q. Should all the nits (eggs) be picked out?

- A. “No nit” policies in schools are not recommended as they lack a rational medical basis. Individuals may choose to remove nits for the following reasons:
- nit removal can decrease diagnosis confusion;
 - can decrease the possibility of unnecessary re-treatment;
 - can decrease the risk of self re-infestation.

Q. Is shaving all the hair off a recommended treatment?

- A. Shaving the head may be effective in removing head lice and nits, but is not recommended for the psychological impact that this may have on the child.

Q. What are the side effects of the treatments?

- A. Each product has different risks and side effects. It is important to review each product before choosing to determine if there are contraindications for use (either based on age of the individual, medical conditions, including pregnancy or breastfeeding, or history of allergies).

Reactions range from scalp irritation including itching or burning sensation, to allergic reactions to the products, to possibility of neurotoxicity and seizures.

Q. What if a child cannot receive a treatment because of age or medical condition? What should a parent use on them?

- A. Individual circumstances should be considered when recommending the most appropriate treatment. Different products are acceptable for different ages. Further consultation with a paediatrician or pharmacist should be considered if there are contraindications or precautions.

When treatment with an insecticide is not feasible, wet combing is a non-chemical alternative however, this treatment method is not as effective as topical insecticides. Wet combing follows the same steps outlined in the Screening section under “What is the best way to find live lice?” When being used as the sole treatment method, it is recommended to be performed every 3-4 days for 2 weeks.

Q. What is a pregnant woman to use?

- A. Treatment options are available. Pregnant women should consult their physician or a pharmacist when choosing the appropriate treatment regimen.

References

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Head Lice Recommendations 2010

Qs and As for Teachers

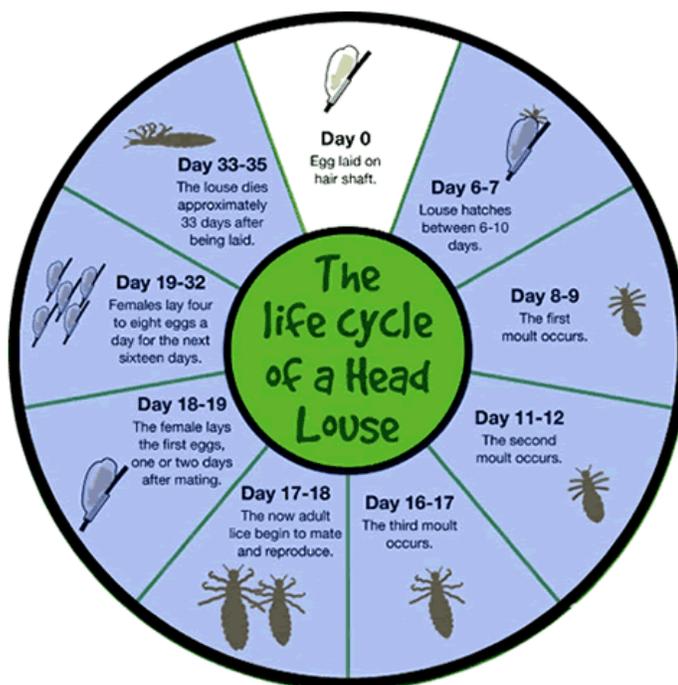
Head Lice

Q. What do head lice look like?

A. Head lice are small insects; approximately 2 to 4 mm long (approximately the size of a sesame seed). They have six legs and are usually tan to grayish white in color. They do not have wings and cannot fly. Likewise, they cannot jump, but they move very quickly in the hair.

Q. What is the life cycle of a head louse?

- A. - The head louse feeds every 3 to 6 hours by sucking blood and simultaneously injecting saliva.
- After mating, the adult female louse can produce five to six eggs per day for 30 days, each in a shell (a nit) that is 'glued' to the hair shaft near the scalp.
 - The eggs hatch nine to 10 days later into nymphs that molt several times over the next nine to 15 days to become adult head lice.
 - The hatched empty eggshells (nits) remain on the hair, but are not a source of re-infestation.
 - Nymphs and adult head lice can survive for up to three days away from the human host.
 - While eggs can survive away from the host for up to three days, they require the higher temperature found near the scalp to hatch.



Source of Image: Pharmacy Direct

Q. How serious are head lice?

A. Unlike body lice, head lice are not a health hazard, a sign of poor hygiene, nor do they spread disease. They are a nuisance and cause a high level of anxiety, however.

Q. What are the health implications of head lice?

A. Head lice are not responsible for the spread of any disease. Individuals may experience itching because they are sensitized to the saliva of the head louse. Rarely, scratching may cause impetigo or other skin infections.

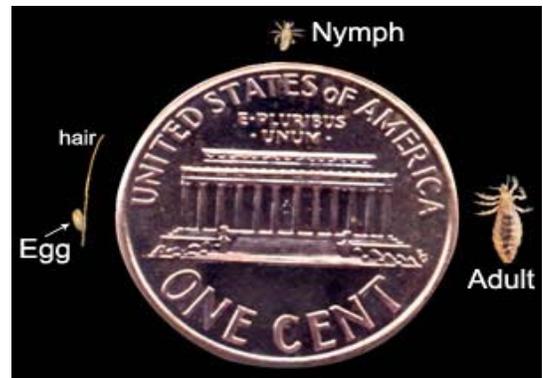
Because lice infestation is so benign, treatments must prove safe to ensure that the adverse effects of therapy are not worse than the infestation.

Q. What do nits (eggs) look like?

A. Nits are attached to the shaft of the hair close to the scalp with a glue-like substance. They are not easily removed and will not fall or shake out of the hair. Nits that have already hatched are often more visible than eggs that have not because they appear white in color against dark hair. Nits that have not hatched blend into the hair color of the infested person. Nits are found more easily at the back of the head along the hair line.



<http://www.liceremovallosangeles.com/Pictures-of-lice-and-nits.html>



<http://www.headliceremediestlc.com/images/lice-size.jpg>

Q. How do you establish that a person has head lice?

A. Determining that a person has head lice requires the detection of live head lice. Detection of nits alone does not indicate active infestation.

Infested children usually carry fewer than 20 mature head lice (more commonly, less than 10 head lice), each of which, if untreated, live for three to four weeks.

Misdiagnosis and over-diagnosis are common. Studies have found that many presumed “lice” and “nits” submitted by physicians, nurses, teachers, and parents to a laboratory for identification were found to be artifacts such as dandruff, hairspray droplets, scabs, dirt or other insects (e.g., aphids blown by the wind and caught in the hair).

Q. What if nits are found but we cannot find live lice?

- A. The presence of nits indicates a past infestation that may not currently be active.

Over 75% of children with nits and no live lice do not develop active infestations. Even with optimal scalp conditions, 10-30% of nits do not hatch (Nova Scotia, 2008).

Without the ability to distinguish potentially viable from nonviable nits, conclusions on the potential for active infestation by nit detection alone are not reliable. Treatment should never be initiated unless there is a clear diagnosis of head lice (i.e., a live louse is found).

Additionally, health care providers and lay personnel have frequently over-diagnosed and misdiagnosed head lice. Many failed to distinguish active from extinct infestations, particularly if they were relying only on nit detection.

Q. Is there a way to determine if nits are viable or not?

- A. Although nits are attached to the hair shaft close to the scalp when they are laid, the distance from the scalp when the nit is found it not a good predictor of an active infestation.

Having nits close to the scalp does not necessarily indicate that a live lice infestation has occurred or will occur. A study in the USA found that children with 5 or more nits within 0.6 cm of the scalp were more likely to develop an infestation than those with fewer nits (32% versus 7%). However, only 1/3 of all children with 5 or more nits within 0.6 cm of the scalp developed an active infestation.

Q. What is the best way to find live lice?

- A. Combing with a fine tooth lice comb has been shown to be 4 times more effective than and twice as fast as direct visual examination for the detection of live head lice.

The following steps are effective in detecting head lice:

1. Apply ample conditioner to dry hair, enough to soak from the scalp to the end of the strands.
2. Remove tangles with a regular comb.
3. Start behind the ears and comb the hair section by section. Separating the hair with hair clips is helpful.
4. Place the lice comb against the scalp and pull to the end of the hair.
5. Check the comb for lice after each pull.
6. Wipe the comb with a tissue each time and look for lice.
7. Place the tissue in a bag.
8. Check all the hair over the entire head.
9. Repeat combing for every part of the head at least 5 times.
10. Once finished, tie the bag with the soiled tissues and throw it in the garbage.
11. If lice are detected and treatment is required, make sure that all conditioner is washed from the hair prior to treatment.

Q. What are the symptoms of head lice?

- A. A person may experience a tickling feeling on their head. When lice bite the scalp, they may cause itching. With a first case of head lice, it can take up to 4-6 weeks for a person to become sensitized to the louse saliva and experience itching. Itchiness can develop within 24-48 hours of future infestations.

Itching is not a good predictor of treatment failure as a number of the treatment products can cause scalp irritation which may cause itching.

Prevention:

Q. What is the best way to prevent head lice?

- A. The major focus on control activities should be on reducing the number of lice on the head and to lessen the risk of head-to-head contact.

Q. How do head lice spread?

- A. Transmission in most cases occurs by direct contact with the head of an infested individual. Indirect spread through contact with personal belongings of an infested individual (combs, brushes, hats, etc.) is much less likely but may occur rarely. This is because a louse found on these items is likely to be injured or dead and a healthy louse is not likely to leave a healthy head unless there is a heavy infestation.

Q. What measures should be taken to prevent spread of head lice in the classroom?

- A. It is good practice to discourage head-to-head contact among children on a regular basis, especially since a case of head lice can go undetected for quite some time.

Screening

Q. What sort of screening should be done routinely in schools?

- A. Screening in schools has not been shown to be effective. In a study done of 1,729 school children screened for head lice, only 31% of the 91 children with nits had simultaneous live lice. Only 18% of those with nits alone converted to having an active infestation during 14 days of observation.

Q. If a case of head lice is detected in my classroom, should I check all the children's heads?

- A. It is not necessary to check the children's heads. It is recommended to send a letter to the parents of the children so they can check their child's head at home. It is important to maintain confidentiality when communicating to parents about head lice and to be sensitive to the stigma that others may associate with individuals with an active infestation.

Misdiagnosis is common, so it is important to provide parents with information on how to check their child's head, what to look for, and what the appropriate management is if they find live lice. A study was done to evaluate how often school children were inappropriately diagnosed and treated:

- Children without active infestation were treated almost as often as children with active infestations (62% versus 70%).
- Non-infested children were excluded from school because of presumed lice infestation more frequently than were children who were infested.

Q. How often should parents be instructed to check their child's hair?

A. Parents should be encouraged to check their children's heads for live lice regularly. It may be beneficial to do an inspection once a week throughout the school year, before and after a sleepover experience, and daily during an outbreak.

Exclusion

Q. I don't want an issue of head lice in my classroom – can I exclude the child until they have been treated?

A. Head lice infestations have been shown to have low contagion in classrooms. Children with an active infestation have likely had the infestation for one month or more by the time it is discovered and poses little risk to others from the infestation. Children should remain in school, but be discouraged from close direct head contact with others.

Q. If a child has head lice, why aren't they sent home?

A. A child with an active head lice infestation likely has had the infestation for a month or more by the time it is discovered and poses little risk to others from the infestation. Studies have shown that children without active infestations were excluded from school because of presumed lice infestation more frequently than were children who were infested.

Q. What about "no nit" policies?

A. "No nit" policies in schools are not recommended as they lack a rational medical basis. Anecdotal information about a school that had a zero tolerance program reported an average of 20 missed days per student dismissed for infestation.

Individuals may choose to remove nits for the following reasons:

- nit removal can decrease diagnosis confusion;
- can decrease the possibility of unnecessary re-treatment;
- can decrease the risk of self re-infestation.

Treatment

Q. Who should receive treatment?

A. Anyone with an active infestation of head lice (live lice) should receive a treatment that is appropriate for them.

Q. What are approved treatments?

A. Health Canada recommends treatment with a topical insecticide (pyrethrins, permethrin 1% or lindane) or a recently approved non-insecticidal product called Resultz[®]. The treatment course for each of these products involves an initial application followed by a second application in 7 days.

Q. Why is a second treatment required in 7 days?

A. Most approved treatments will kill the lice, but are not effective against the nits. A second treatment in 7 days will kill the lice that have hatched since the first treatment before they are mature enough to lay new eggs.

Q. Why not automatically treat all household and classroom members for head lice?

- A. Misdiagnosis and over treatment are common. When a case of head lice is detected in a classroom, parents of other children should respond by checking their children's heads on a regular basis and treat only when live lice are detected.

Treatments involve chemicals that will kill the lice. It is not recommended to expose individuals to these chemicals unless they have live lice because of the potential for side effects. Additionally, there is a concern that over-use of medications could increase the potential for the head lice to develop resistance to the products making treatment choices more limited.

Q. Do the lice “zapper” combs, such as Robi Comb™ work?

- A. There have been no randomized controlled studies performed with the electronic or bug zapping combs. Their use is not recommended. These "bug zapper" combs seem to offer little advantage over a well-designed traditional louse comb. Their instructions warn not to use on individuals with seizure disorders or a pacemaker.

Q. How do I know if I need to treat again?

- A. All approved products recommend treating again in 7 days with the same product. If live lice are found within 24-48 hours of the first treatment, the individual should be treated again with a different product. This product should be used again in 7 days for the second treatment.

Q. How do I know if the treatment is working?

- A. Effective treatment will eliminate live lice. Most products have residual effects so live lice may be found shortly after the first application. If live lice are found 24-48 hours after the first treatment, the first treatment was ineffective and a second product should be used.

Most products are not effective against nits and they will continue to hatch. This means that live lice may be found close to a week following the first treatment. This does not mean the first treatment was ineffective, but rather that the lice are newly hatched and will be susceptible to the second application of the treatment that is required 7 days after the first. This second treatment will kill the immature lice before they are able to lay eggs.

Q. Why isn't the treatment working?

- A. Head lice treatment products have specific directions to ensure they are working properly. Depending on the product, this may mean it should be applied to wet hair or dry hair. It may mean that regular shampoo should not be used for a defined period of time after treatment or there may be restrictions on the use of conditioners. Some products must be left on the hair for a specific period of time. It is very important to read and follow the instructions carefully to ensure the product will be most effective.

Q. What about the other treatments that people say work (mayonnaise, essential oils, etc.)?

- A. A number of household products, such as mayonnaise, petroleum jelly, olive oil, tub margarine and thick hair gel, have been suggested as treatments for head lice. Application of a thick coating of such agents to the hair and scalp left on overnight will theoretically occlude lice spiracles and decrease respiration. However, these products show little killing of lice and are less effective than topical insecticides. There are no published trials on the safety or efficacy of these home remedies.

Other products such as gasoline or kerosene are flammable, toxic and dangerous. While a number of 'natural' agents, such as tea tree oil and aromatherapy, have been used for the treatment of head lice, efficacy and toxicity data are not available for these agents. One small study in Israel noted that a natural product, which contained coconut oil, anise oil and ylang ylang oil, applied to hair three times at five-day intervals, was as successful as the control pediculicide.

These treatments may in fact interfere with the approved head lice treatment and are therefore not recommended for that reason as well.

Q. What kind of cleaning is recommended for the classroom?

- A. Excessive cleaning is not warranted since head lice do not live far away from the scalp, and nits are unlikely to hatch at room temperature.

Australian studies found that when carpets were examined from 118 classrooms, no lice were found despite more than 14,000 live lice found on the heads of 466 children using the classrooms.

Q. What kind of cleaning is recommended for the household?

- A. Cleaning of items in prolonged or intimate contact with the head (e.g., hats, pillowcases, brushes and combs) may be warranted. Washing the item in hot water, drying in a hot drier for 15 minutes or storing will kill lice and nits. Alternatively, storing the items in an occlusive plastic bag for two weeks or in the deep freeze for 24 hours will also kill lice and nits. Excessive cleaning in the house is not necessary since head lice and nits cannot survive for long periods of time away from a host.

Q. Does shaving work?

- A. Shaving the head may be effective in removing head lice and nits, but is not recommended for the psychological impact that this may have on the child.

Q. What are the side effects of the treatments?

- A. Each product has different risks and side effects. It is important to review each product before choosing one to determine if there are contraindications for use (either based on age of the individual, medical conditions, including pregnancy or breastfeeding, or history of allergies).

Reactions range from scalp irritation including itching or burning sensation, to allergic reactions to the products, to possibility of neurotoxicity and seizures.

**Q. What if a child cannot receive a treatment because of age or medical condition?
What should a parent use on them?**

- A. It is recommended to consult with a health care provider to determine which product is most appropriate based on individual circumstances.

Consultation with a Public Health Nurse is suggested if treatment with a chemical-based product is contraindicated or is not feasible.

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- American Academy of Pediatrics. (2010). Clinical report – Head lice. *Pediatrics*, 126(2) 392-403.
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Head Lice Recommendations 2010

Qs and As for Public

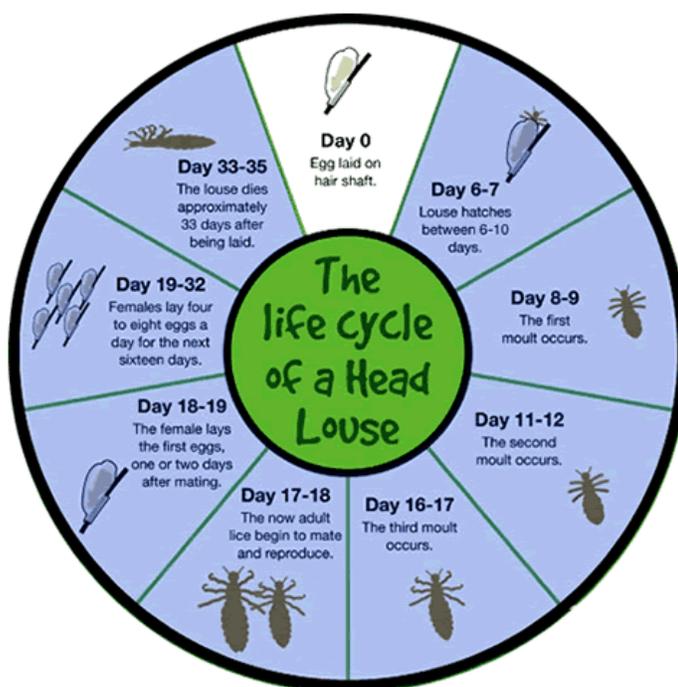
General Information

Q. What are head lice (pediculosis capitis)? What do head lice look like?

A. Head lice are small insects approximately 2 to 4 mm long (approximately the size of a sesame seed). They have six legs and are usually tan to grayish white in color. They do not have wings and cannot fly. Likewise, they cannot jump, but they move very quickly in the hair.

Q. What is the life cycle of a head louse?

- A. - The head louse feeds every 3 to 6 hours by sucking blood and simultaneously injecting saliva.
- After mating, the adult female louse can produce five to six eggs per day for 30 days, each in a shell (a nit) that is 'glued' to the hair shaft near the scalp.
 - The eggs hatch nine to 10 days later into nymphs that molt several times over the next nine to 15 days to become adult head lice.
 - The hatched empty eggshells (nits) remain on the hair, but are not a source of re-infestation.
 - Nymphs and adult head lice can survive for up to three days away from the human host.
 - While eggs can survive away from the host for up to three days, they require the higher temperature found near the scalp to hatch.



Source of Image: Pharmacy Direct

Q. How serious are head lice?

A. Unlike body lice, head lice are not a health hazard, a sign of poor hygiene, nor do they spread disease. However, they are a nuisance and cause a high level of anxiety.

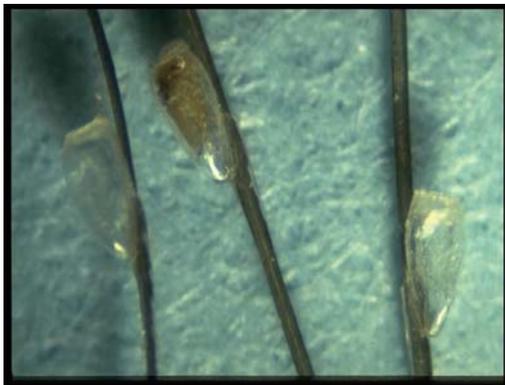
Q. What are the health implications of head lice?

A. Head lice are not responsible for the spread of any disease. People may experience itching because they are reacting to bites of the head louse. Rarely, scratching may cause skin infections that can be treated with antibiotics.

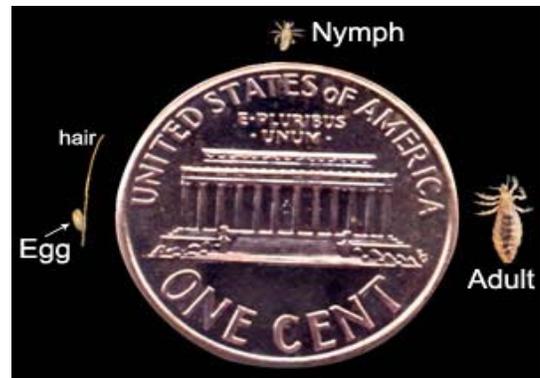
Because lice infestations are so benign, treatments must prove safe to ensure that the adverse effects of therapy are not worse than the infestation.

Q. What do nits (eggs) look like?

A. Nits are attached to the shaft of the hair close to the scalp with a glue-like substance. They are not easily removed and will not fall or shake out of the hair. Nits that have already hatched are often more visible than eggs that have not because they appear white in color against dark hair. Nits that have not hatched blend into the hair color of the infested person. Nits are found more easily at the back of the head along the hair line.



<http://www.liceremovallosangeles.com/Pictures-of-lice-and-nits.html>



<http://www.headliceremediestlc.com/images/lice-size.jpg>

Q. How do I know if my child has head lice?

A. Diagnosis of head lice requires finding live head lice. Detection of nits alone does not indicate active infestation.

Infested children usually carry fewer than 20 mature head lice (more commonly, less than 10 head lice).

Misdiagnosis and over-diagnosis are common. It is common to mistake dandruff, hairspray drops, scabs, or dirt for lice and nits.

Q. What if nits are found but we cannot find live lice?

A. Finding nits indicates a past infestation that may not be active at this time.

Over 75% of children with nits and no live lice do not develop active infestations. Even with optimal scalp conditions, 10-30% of nits do not hatch.

Without the ability to tell the difference between nits that have hatched and those that have not, one cannot be sure that a person has an active infestation by nit detection alone.

Treatment should never be initiated unless there is a clear diagnosis of head lice (i.e., a live louse is found).

Q. Is there a way to determine if nits are viable or not?

A. Although nits are attached to the hair shaft close to the scalp when they are laid, the distance from the scalp when the nit is found is not a good indicator of an active infestation.

Q. What are the symptoms of head lice?

A. A person may experience a tickling feeling on their head. When lice bite the scalp, they may cause itching. The first time a person has head lice, it can take up to 4-6 weeks for a person to become sensitized to the louse saliva and experience itching. Itchiness can develop within 24-48 hours of future infestations.

Itchiness alone is not a reason to believe a person has head lice or that a treatment did not work because some of the treatments can cause itching. Finding live lice is the only way to determine if a re-infestation has occurred.

Screening

Q. How often should I check my child's hair?

A. Check for live lice once a week throughout the school year, before and after a sleepover experience, and daily during an outbreak.

Q. What is the best way to find lice?

A. Combing with a fine tooth lice comb has been shown to be 4 times more effective than and twice as fast as direct visual examination for the detection of live head lice.

Nova Scotia Public Health Services (2008) identifies the following as steps to detect head lice:

1. Apply ample conditioner to dry hair, enough to soak from the scalp to the end of the strands.
2. Remove tangles with a regular comb.
3. Start behind the ears and comb the hair section by section. Separating the hair with hair clips is helpful.
4. Place the lice comb against the scalp and pull to the end of the hair.
5. Check the comb for lice after each pull.
6. Wipe the comb with a tissue each time and look for lice.
7. Place the tissue in a bag.

8. Check all the hair over the entire head.
9. Repeat combing for every part of the head at least 5 times.
10. Once finished, tie the bag with the soiled tissues and throw it in the garbage.
11. If lice are detected and treatment is required, make sure that all conditioner is washed from the hair prior to treatment.

Prevention:

Q. What is the best way to prevent head lice?

- A. The main way to prevent the spread is to reduce the number of lice on the head of a person who has lice and to reduce the frequency of head-to-head contact with others.

Q. How do head lice spread?

- A. Head lice are spread, in most cases, by direct contact with the head of an infested person. Spread through contact with personal belongings of an infested person (combs, brushes, hats, etc.) is much less likely but may occur rarely. A louse found on a comb is likely to be injured or dead and a healthy louse is not likely to leave a healthy head unless there is a heavy infestation.

Treatment

Q. Who should receive treatment?

- A. Anyone who has an active infestation of head lice (live lice) should be treated with a treatment that is appropriate for them. This means that siblings, parents or bed mates should be treated only if live lice are found when they are checked. Checking of household members more often may be helpful to identify people with live lice early.

Q. What is the approved treatment?

- A. Health Canada recommends treatment with a topical insecticide (pyrethrins, permethrin 1% or lindane) or a recently approved non-insecticidal product called Resultz[®]. The treatment course for each of these products involves a first application followed by a second application in 7 days. You should consult with your physician or a pharmacist to find out what the best treatment choice is for you or your child.

Q. For those who have been diagnosed with head lice, why is a second treatment required in 7 days?

- A. Most approved treatments will kill the lice, but are not effective against the nits. A second treatment in 7 days will kill the lice that have hatched since the first treatment before they are mature enough to lay new eggs.

Q. There are head lice in my child's classroom. Shouldn't I just treat my child now?

- A. Misdiagnosis and over treatment are common. When a case of head lice is detected in a classroom, parents of other children should respond by checking their children's heads on a regular basis and treat only when live lice are detected.

Treatments involve chemicals that will kill the lice. It is not recommended to expose individuals to these chemicals unless they have live lice because of the potential for side effects. Additionally, there is a concern that over use of medications could increase the potential for the head lice to develop resistance to the products making treatment choices more limited.

Q. If a child in school has head lice, why aren't they sent home?

- A. Head lice in classrooms do not spread as much as previously thought. Studies have shown that children without active infestations of head lice were excluded from school because of presumed lice infestation more frequently than were children who were infested.

A child with an active head lice infestation likely has had the infestation for a month or more by the time it is discovered and poses little risk to others from the infestation. They should remain in school, but be discouraged from close direct head contact with others.

Q. Do the lice "zapper" combs work, such as LiceGuard or Robi Comb™?

- A. The American Academy of Pediatrics (2010) indicates that there have been no randomized controlled studies performed with the electronic or bug zapping combs. Their use is not recommended. These "bug zapper" combs seem to offer little advantage over a well-designed traditional louse comb. Their instructions warn not to use on individuals with seizure disorders or a pacemaker.

Q. How do I know if I need to treat again?

- A. All approved products recommend treating again in 7 days with the same product.

Treating with a different product is recommended if live lice are found within 24-48 hours of the first treatment. This product should be used again in 7 days for the second treatment.

Q. How do I know if the treatment is working?

- A. Effective treatment will kill live lice. Most products have lingering effects. This means that live lice may be found shortly after the first application. If live lice are found 24-48 hours after the first treatment, the first treatment didn't work and a second product should be used.

Most products are not effective against nits (eggs) and they will continue to hatch. This means that live lice may be found close to a week following the first treatment. This does not mean the first treatment was ineffective; instead the lice that are being found are newly hatched and will be at risk to the second application of the treatment that is required 7 days after the first. This second treatment will kill the immature lice before they are able to lay eggs.

Q. Why would a treatment fail?

- A. Head lice treatment products have specific directions to make sure that they are working properly. Depending on the product, this may mean it should be applied to wet hair or dry hair. It may mean that regular shampoo should not be used for a defined period of time after treatment or there may be restrictions on the use of conditioners. Some products must be left on the hair for a defined period of time. It is very important to read and follow the instructions carefully to ensure the product will be most effective.

Q. I've heard about using mayonnaise or tea tree oils. Are these not safer for my child?

- A. A number of household products, such as mayonnaise, petroleum jelly, olive oil, tub margarine and thick hair gel, have been suggested as treatment for head lice. Application of a thick coating of such agents to the hair and scalp left on overnight are thought to block the breathing holes in lice and suffocate them. However, these products show little killing of lice and are less effective than chemical treatments (topical insecticides). There are no published trials on the safety or usefulness of these home remedies.

Other products such as gasoline or kerosene are flammable, poisonous and dangerous. While a number of 'natural' agents, such as tea tree oil and aromatherapy, have been used for the treatment of head lice, effectiveness and information on harmful effects are not available for these agents.

These treatments may get in the way with the approved head lice treatment so they are not recommended.

Q. What kind of cleaning do I need to do around my house?

- A. Cleaning of items in prolonged or intimate contact with the head (e.g., hats, pillowcases, brushes and combs) may be warranted. Washing the item in hot water, drying in a hot drier for 15 minutes or storing it in an air tight plastic bag for two weeks or in a deep freeze for 24 hours will kill lice and nits.

Excessive cleaning of classrooms and households is not needed. Studies results showed:

1. When carpets were examined from 118 classrooms, no lice were found despite more than 14,000 live lice found on the heads of 466 children using the classrooms.
2. Live lice were found on only 4% of pillowcases used by infested volunteers.

Q. Should all the nits (eggs) be picked out?

- A. "No nit" policies in schools are not recommended. Individuals may choose to remove nits because this can help decrease diagnosis confusion; can decrease the possibility of unnecessary re-treatment; and can decrease the risk of self re-infestation.

Q. Should I shave my child's hair off?

- A. Shaving the head may be effective in removing head lice and nits, but is not recommended because of the emotional impact that this may have on the child.

Q. What are the side effects of the treatments?

A. Each product has different risks and side effects. It is important to ask your health care provider for assistance in choosing the right product for you.

Reactions range from scalp irritation including an itching or burning sensation, to allergic reactions to the products, to possibility of effects on the nervous system including seizures.

Q. What if a child cannot receive a treatment because of age or medical condition? What should a parent use on their young child?

A. Your health care provider can help you to choose the right treatment for your child.

Q. What is a pregnant woman to use?

A. Treatment options are available. Pregnant women should consult their physician or a pharmacist when choosing the right treatment procedure.

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