

Policy for Head Lice Control in Kent

Kent Health Protection Unit

March 2004

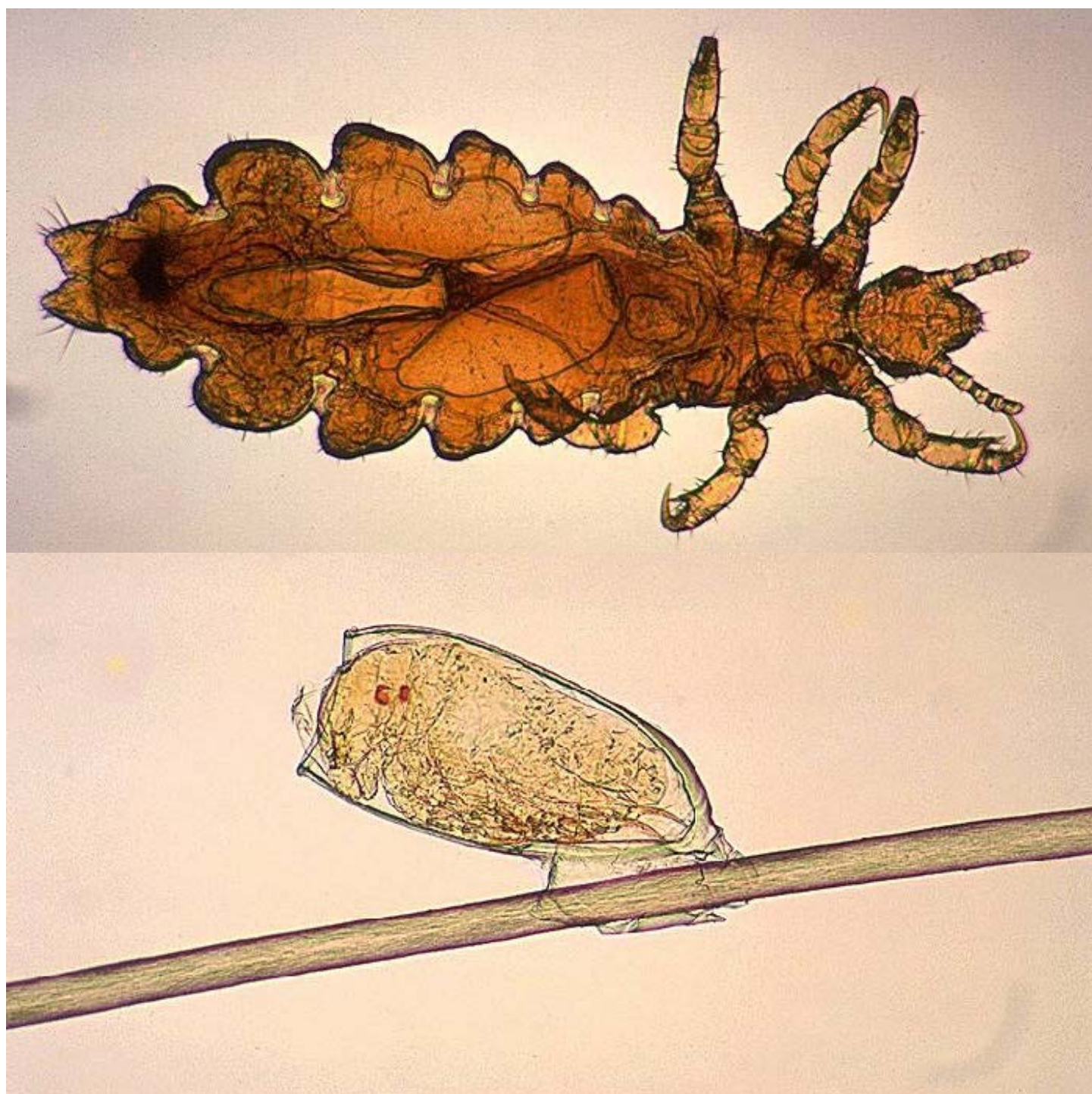


Table of Contents

SECTION 1

Introduction	3
Head Lice	3
Epidemiology	3
Clinical Features	3
Nits	4
Transmission of Lice	4

SECTION 2

Control of Head Lice	5
Head Lice in Schools	5
Responsibility for the Control of Head Lice	5
Detection and Prevention	6
Different Approaches to Head Lice Control	6
Chemical Treatment	6
Precautions for the Use of Insecticides	6
Safety of Chemical Treatment	7
Wet Combing	7

SECTION 3

The Kent Three Step Approach	8
Introduction	8
Step 1	8
Step 2	9
Step 3	9
Management of Treatment Failures	9

SECTION 4

Other Control Measures	10
Prevention of Re-infection.	10
Repellent	10
Contact Tracing	10
Advice for Schools	10

REFERENCES

References	11
------------------	----

APPENDIX 1

Contact Information for the Kent Health Protection Unit	12
---	----

APPENDIX 2

Head Lice Leaflet	13
-------------------------	----

APPENDIX 3

Sample letter to parents if head lice have been detected on a child	15
---	----

APPENDIX 4

Sample letter to parents to inform them that head lice have been detected in their child's class.	16
--	----

Introduction

Head Lice

1. Head lice (*Pediculus humanus capitis*) are wingless arthropods that infect the head and feed by sucking blood from the scalp.
2. Infection with head lice is widespread and most commonly affects children because they lead very social lives and are more susceptible to most contagious infections, but it also affects adults.
3. In this country, they rarely, if ever, cause physical health problems other than itching of the scalp. Adverse health effects mainly derive not from the lice themselves, but from the human perception associated with the infection. This can lead to unnecessary, inappropriate or ineffective action and to a great deal of unwarranted anxiety and distress.
4. Head lice are not a serious health problem. However, excessive public and professional reactions lead to exaggerated perception of prevalence, to unnecessary and inappropriate, or ineffective action and to unwarranted anxiety and distress.
5. Head lice are transmitted from one person to another only by relatively prolonged head to head contact.¹ Although it may be a commonly held belief that head lice are associated with inadequate hygiene, there is no evidence to support this and no social-economic group appears to be free of infection. Such beliefs can lead to difficulties when contact tracing, because parents often do not want to admit that their children have head lice because of the social stigma attached.

Epidemiology

6. There is no recent published data to demonstrate the prevalence of head lice in any country. Although the infection is perceived to be common, the prevalence is clearly variable, and a recent survey in 11 schools covering around 2,500 children revealed a point prevalence varying between 0.6% and 25%.²
7. The highest prevalence of head lice infection occurs in children between the ages of 4 and 11 years. Girls tend to show a higher incidence of rate than boys.²
8. Children are more commonly affected because they tend to be sociable, sit close together and have close contact with lots of people (eg, friends, parents and grandparents). These are opportunities for spread to occur. As children grow up these close contacts reduce and so head lice are less likely to occur.

Clinical Features

9. Head lice are very small wingless arthropod insects measuring two to three millimetres in length. Lice live close to the scalp as they require a temperature of 31°C or greater to survive. They feed by

sucking blood from the scalp. The female lays her eggs as close to the scalp as possible in order to ensure that they are at the optimum temperature for incubation. The eggs are glued to the hair strands and normally hatch within seven to ten days, during which time they will have moulted three times. The emerging nymphs reach maturity in 6 to 12 days. The full grown louse lives for about 20 days. Once a person has contracted head lice, the infection develops steadily if left unchecked.

Nits

10. The empty eggshells are known as 'nits', they are white and shiny, and remains glued to the hair shaft as it grows. They remain attached to the hair and move out from the scalp on the growing hair. They are not a sign of active infection.
11. All reactions to lice take time to show, as it takes repeated bites for a person to become sensitised and start to itch. Children about four years of age become sensitised and start reacting to lice. Also individuals (usually adults) can become de-sensitised and fail to react to lice. These individuals can carry lice and be a constant source of infection and re-infection in families and communities.
12. On average an individual will have been infected for about four months before the lice are detected.

Transmission of Lice

13. Head lice cannot jump, fly or hop. They are spread from one head to another by direct head to head contact. When two heads touch the hair caught between them must first warm up above 31° C before lice can pass from one to the other. Head lice are spread when two heads come into close contact. They clamber from shaft to shaft in dry hair and move from head to head.
14. Short hair is no protection against head lice. Transmission is from head to head contact, not from ends of hair. Head lice will dehydrate and die rapidly after being removed from the scalp. Hence, they are not spread from the environment, or from personal clothing, or grooming items.

Control of Head Lice

Head Lice in Schools

1. Previously, it had been argued that head lice are a school rather than a community problem. However, it is now recognised that head lice are spread into schools from the wider community and that children of school age are the group most likely to become infected. These children spread the infection to their families and into the community. Children known or thought to have had head lice infection should not be sent home from school or excluded. Neither is it recommended to issue, 'alert letters' when an individual case has been identified. This is because:
 - a) for every case identified, several others may be present but undetected;
 - b) on average a child will have been infected for about four months before the infection is identified;
 - c) it can lead to stigmatising the individual child and family;
 - d) many suspected cases do not have head lice infection at all; and
 - e) it can give a false impression that head lice is a big problem.
2. Recent concerns about outbreaks of head lice have lead to calls for a return to routine inspections of children in schools, but there is no evidence that routine surveillance of this kind has ever made an impact on the prevalence of head lice. For this reason there will not be a return to inspection in schools.

Responsibility for the Control of Head Lice

3. The responsibility for effective control of head lice infection lies with the whole community. This includes health professionals (general practitioners, health visitors, practice nurses, school nurses and others), parents, families and school teachers. Public information should be available in a variety of settings
4. The primary responsibility for the identification, treatment and prevention of head lice in a family has to be with the parents.
5. A clear distinction should be made between treating head lice and treating the public reaction, which can be excessive.
6. It is essential that parents receive consistent and clear advice from health professionals.
7. Parents should be prepared for the possibility of head lice infection when their children begin to mix with a large social group at school. Health visitors and school nurses should provide information to parents.

Detection and Prevention

8. Detection should be carried out regularly within all families, ideally once a week. A fine tooth plastic detector comb and an ordinary grooming comb is required.
9. Hair should be combed each day with an ordinary good quality grooming comb, ensuring the comb is taken down to the scalp.
10. A plastic detector comb should be used every week on wet hair to search for live lice. Beginning at the top of the head, the detector comb should be applied to the scalp. The teeth of the comb should be drawn slowly to the end of the hair.
11. Head lice lotion should not be used as a preventative treatment as it does not work and encourages resistance.

Different Approaches to Head Lice Control

12. The underlying principle of the Kent Action Plan is that head lice are a normal part of life, which can affect anybody but especially young children and their contacts. As such, the management of head lice should not receive special attention. However, information about head lice should be provided as one element of a broad range of public health information.

Chemical Treatment

13. Chemical treatments known as insecticides should be used when current infection is definite. This is the only method which has been demonstrated to be effective.³
14. The three main groups of insecticides (malathion, pyrethroids and carbaryl) are still effective when used correctly, even though some evidence of resistance to each group has been reported.

Precautions for the Use of Insecticides

15. Aqueous based products are preferable to alcohol solutions because they are less likely to irritate and are not flammable.
16. Shampoos alone are inadequate since they become too diluted and are not in contact with the hair for long enough. A minimum contact time of 12 hours is recommended for lotions and liquids.
17. Preparations with an alcohol base are contraindicated for individuals with scalp dermatitis or asthma.
18. Care must be taken if alcohol preparations are used to avoid source of flame and heat such as fires, stoves, cigarettes and hair dryers. Care must be taken to prevent lotion running over the face and into the eyes.

Safety of Chemical Treatment

19. Concerns regarding the toxicity of some of the insecticides used to treat head lice have been expressed by members of the public and the media.
20. The three groups of chemicals recommended in this policy have a good safety track record over many years. The number of reported side effects recorded by the Adverse Drugs Reactions section of the Committee on Safety of Medicines (yellow card scheme), is small. For example, there have been only 26 reported side effects to malathion (in 18 individuals) during more than 25 years of use.
21. Preparations with an alcohol base are contraindicated for individuals with scalp dermatitis or asthma, although there has only been one reported asthma attack triggered by malathion preparations.
22. In order to avoid unnecessary treatment and to prevent insecticide resistance, the Kent Three Step Approach should be followed.

Wet Combing

23. In the UK, a physical method of wet combing known as “Bug Busting” is often used to control head lice. This method requires the hair to be wet combed, using a plastic detector comb and conditioner, for at least 30 minutes every four days for two weeks.
24. There is currently no reliable evidence to indicate that this method is effective as a means of treating and curing head lice infection.
25. Similarly, there is no reliable evidence to indicate the effectiveness of other complementary therapies. Such therapies include herbal and essential oil treatments. Therefore these methods are not recommended.³

The Kent Three Step Approach

Introduction

40. The Kent Three Step Approach is based on a mosaic approach, whereby, if a course of treatment fails to cure, a different insecticide is used for the next course. If a course of treatment with either permethrin or phenothrin fails, then a non-pyrethroid parasitocidal product should be used for the next course.⁴
41. Physical evidence of living lice is necessary prior to the commencement of treatment.
42. There is no need to treat the entire family if head lice are detected in one person.
43. If one member of the family has head lice, detection combing of all members should be undertaken, and only those found to be infected should be treated.
44. Shampoos are not effective and must not be used. They are diluted too much in use to be effective.
45. If the individual has been swimming, then the hair should be washed and dried to ensure chlorine residue is eliminated. In addition, there is a need to remove conditioner, mousse, gel or other hair preparations prior to treatment as they could reduce efficacy of insecticide.
46. The treatment should be carried out strictly adhering to the full three Step regime. **For most cases only Step 1 is required.**

Step 1

47. Treat with an aqueous malathion 0.5% product (Derbac-M or Quellada -M). Apply to dry hair and scalp, allow to dry naturally. (Aqueous preparations are preferable to alcoholic lotions).
48. Use a lotion and ensure sufficient for adequate treatment. (approximately 50 mls. per head). Avoid contact with eyes, do not use on broken skin.
49. Leave the lotion on for a minimum of 12 hours before washing off.
50. Comb hair each day with an ordinary good quality grooming comb ensuring the comb is taken down to the scalp, to remove dead and remaining live lice out of the hair.
51. Check the head seven days after treatment and if live lice are still present, repeat the treatment with the same lotion.
52. Do not use lotion more than once a week or for more than three consecutive weeks.
53. Seven days after the second treatment repeat Step 1. If live lice are still present, proceed to Step 2.
54. Remember, lice take between three and five days to die after exposure to insecticide. They may be more visible on the head after treatment as they move away from the scalp, but they are not viable and cannot reproduce.

Step 2

55. Seven days after Step 1, if live lice are still present, then Step 2 should be implemented.
56. A permethrin 1% product (Lyclear Cream Rinse), or a phenothrin 0.5% preparation, in an aqueous base (Full Marks), should be used. Apply to clean dry hair, allow to dry naturally, shampoo after a minimum of 12 hours. Use two treatments seven days apart, if necessary.
57. After seven days following second treatment, if live lice are still found, then proceed to Step 3.

Step 3

58. If live lice are still present seven days after the completion of Step 1 and 2, then the head should be examined by a health professional (ie, a practice nurse, school nurse, health visitor or general practitioner).
59. If live lice are detected then Step 3 should be implemented.
60. An aqueous based carbaryl 1% product (Caryl-derm) should be used in the same manner as Step 1. Carbaryl based products are only available on prescription.
61. Apply to clean dry hair, and the scalp, and allow to dry naturally.
62. Use two applications, seven days apart, if necessary.

Management of Treatment Failures

63. If at the end of Step 3 live lice are still detected, and the health professional is certain that all three steps have been followed correctly, then the following actions should be considered:
 - a) Repeat with the same preparation as used for Step 3, but ensuring that it is undertaken adequately and for all infected contacts simultaneously.
 - b) Retreatment using a malathion preparation as used in Step 1.
 - c) Supervision and assistance may be appropriate such as a domiciliary visit to the family by a school nurse, health visitor, or practice nurse.
 - d) Further discussion with the family in an attempt to define if there may be a source of recurring infection eg, a close friend or grandparent.
 - e) If the problem remains, consider teaching the process of continued physical removal of lice using wet combing. However, this treatment has not been reliably shown to be effective.
 - f) Contact the Kent Health Protection Unit (Appendix 1) to discuss an individual case or family. This should only take place if all the above actions have been fully implemented and supervised
64. Treatment failure is often caused by misdiagnosis and inadequate, or inappropriate application of treatment, eg, not using sufficient lotion.

Other Control Measures

Prevention of Re-infection.

65. Prevention of recurrence is based mainly on identifying and treating relatives and other close contacts of the family, who are unsuspecting carriers, and are passing the infection back to treated individuals.

Repellent

66. A head lice repellent, containing piperonal 2% (Rappell) is on sale to the public, but its value is uncertain. It is not a treatment for existing infection.

Contact Tracing

67. Individuals and families should be encouraged and advised to positively look for the source of the head lice infection. This should include checking all those people who have social close contact with the infected person with whom they could have had moderately close head to head contact. Wherever possible this exercise should go back two to four weeks.
68. Someone close to the person who has caught head lice will be the original source of the infection. The donor may be unaware of the head lice infection and have no symptoms.
69. Children about 5 years of age become sensitised and start reacting to lice. Also individuals (usually adults) become de-sensitised and fail to react to lice. These individuals can carry lice and can be a constant source of infection and re-infection in families and communities.

Advice for Schools

70. Although schools are not generally where transmission of head lice takes place, there are often the place where it is first identified. Head lice infections are usually caught from close family and friends in the home and community, not from the school.
71. Leaflets giving guidance on checking for head lice and treating head lice infection are available from the Kent Health Protection Unit . A copy of the leaflet is attached to this policy (Appendix 2).
72. Parents should be encouraged to inform staff at the school if their child has head lice. If a child is found to have head lice at school, the parents of that child should be informed either verbally or by letter from the school (Sample letter see Appendix 3). Individual reports should be kept confidential by the school.
73. Children who have, or are thought to have head lice, should not be excluded from school. By the time head lice are detected, they will have had the infection for up to four months. Exclusion cannot ensure the elimination of infection from the child. Head lice infection is not a public health threat.

74. If several children in a class have head lice, then the School Nurse or Health Visitor can be contacted for advice.
75. Letters informing parents of a problem with head lice in a class should be used 'sparingly' otherwise parents may not take them seriously nor act on them (Sample letter see Appendix 4).

References

1. Aston R, Duggal H, Simpson J. *Head lice: a report for consultants in communicable disease control (CCDCs)*. Stafford: Public Health Medicine Environmental Group, 1998.
2. Burgess I. Head lice – developing a practical approach. *The Practitioner* 1998;242:126-9.
3. Roberts DT, editor. *Lice and scabies: a health professional's guide to epidemiology and treatment*. London: Public Health Laboratory Service, 2000.
4. *British National Formulary 46*. London: British Medical Association, Royal Pharmaceutical Society of Great Britain, 2003. Available at www.BNF.org .
5. Medicines Control Agency. *Toxicology of medical products for lead louse control*. London: Medicines Control Agency, 1997

Appendix 1.

Contact Information for the Kent Health Protection Unit

Dr M Chandrakumar

Director

Dr Jeremy Lissamore

Consultant in Communicable Disease Control

Dr James Sedgwick

Consultant in Communicable Disease Control

Mrs Rita Simmons

Senior Nurse Specialist

Mrs Sarah Fielder

Health Protection Specialist Nurse

Miss Anita Jenkins

Health Protection Specialist Nurse

Mrs Sheena Fenn

Health Protection Specialist Nurse

Mrs Gillian Ashford

Health Protection Specialist Nurse

Mrs Katy Allen

Health Protection Specialist Nurse

Miss Joanne Pullen

Health Protection Specialist Nurse

Health Protection Agency

Kent Health Protection Unit

Preston Hall

Aylesford

Maidstone ME20 7NJ

Tel 01622 710161

Fax 01622 791644

www.hpa.org.uk

Appendix 2

Kent Health Protection Unit Head Lice Leaflet

What are head lice?

Head lice are tiny six-legged insects, grey/brown in colour, the size of a pin head.

How do you find head lice?

This is best done on wet hair using a plastic detector comb every week.

Part the hair into sections and comb with the detector comb over a sheet of white paper or a towel. Lice may fall out.

Wipe any lice or other debris onto a white tissue. The lice do not move when wet, but, as they dry out on the tissue they will start to move. This is an easy way of finding live lice.

How do head lice spread?

Lice are only spread by direct head to head contact, usually between close friends or within families. Head lice live close to the warm moist scalp. They have built in 'heat detectors' keeping them within the warm area.

When two heads touch, the hair between has to warm up so that the lice can cross the 'warm bridge' to the other head. This head to head contact needs to be quite long for the hair to warm up.

Some people, mainly adult women and young children, can be carriers of lice without knowing they have them.

How do you prevent head lice?

Comb hair every day with a normal grooming comb, ensuring the comb is taken down to the scalp.

Use a plastic detector comb every week on wet hair to search for live lice.

Head lice lotion should not be used as a preventative treatment as this does not work and encourages resistance.

What do you do if you find live head lice?

Head lice can be treated and it is important that the right treatment is used. Ask your local chemist or doctor for advice. Other people can also help, including school nurses, health visitors or practice nurses.

Treatment should only be carried out if live lice are found. Finding nits (empty egg shells) is not a good reason to treat an individual. However, continue to check for live lice every week.

There is no need to treat the entire family if head lice are detected in one person.

You also need to check where the lice have come from. Remember, someone close to your family can carry head lice without knowing they have them and may spread the lice again after treatment.

How do you treat head lice?

A number of insecticides are available, but because of resistance and concerns about safety, they must be used with care.

Your local chemist, doctor, practice nurse, school nurse or health visitor will have information about the treatments. You may ask them for their advice before you treat yourself or your family.

Treatment consists of the application of insecticide (usually two applications one week apart).

Alternative products including herbal and essential oil treatments, e.g. tea tree oil, have not proved to be effective and are not recommended.

Nits are empty egg shells and do not need to be treated.

Lotions must be used - shampoos do not work.

How do you apply the treatment?

The hair should be free from chlorine, hair conditioner, gels and mousses as these can prevent head lice treatments from working properly. You may need to wash and dry the hair before applying the treatment.

You will need about 50 mls of lotion to treat each head.

Part the hair into sections and rub in the lotion all over the scalp with fingers. All the hair and the scalp must be soaked.

Make sure that the back of the neck and the areas behind the ears are treated.

Leave the hair to dry naturally. DO NOT dry with a hair dryer. Leave the lotion on for at least 12 hours.

Keep away from naked flames such as fires and cigarettes. Some of the lotions are alcohol based and inflammable.

It can take five days for lice to die after treatment. The lice may be more visible on the hair in the days immediately after treatment but they are unable to lay eggs or infect others at this stage.

Remember, regular combing will help to prevent re-infection as it damages the lice and breaks the life cycle.

Is there anything else I should do?

You need to trace the source of infection – tell close friends and relatives – they might also have head lice, often without knowing.

All people, who have had close head to head contact with the person found to have live lice need to check for lice and treat if necessary. Otherwise you and your family may be re-infected from the same source.

Children who are thought to have head lice should not be excluded from school or nursery.

Appendix 3.

Sample letter to parents if head lice have been detected on a child

Dear Parent

I am writing to inform you that your child has been found to have head lice.

Your local chemist, health visitor, school nurse or family doctor will be able to advise you about treatment and which lotion you should use.

You should also examine the heads of all other members of the household. If live head lice are found on any other person they should also be treated. You should inform all those people who have had close head-to-head contact with your child so that they can check for head lice. There is no need to keep your child away from school, but please seek advice and treat your child.

I am enclosing a leaflet giving guidance on checking for, and treatment of head lice.

If you would like more information, you can contact the school nurse

.....
(name and telephone number).

Thank you for your co-operation.

Yours sincerely,

Appendix 4.

Sample letter to parents to inform them that head lice have been detected in their child's class.

Please use SPARINGLY, otherwise parents will not take letters seriously

Dear Parent

I am writing to inform you that a member of your child's class has been found to have head lice.

I am not suggesting your child is necessarily at risk, as head lice are seldom spread in school, but asking for your support in helping to control the problem.

Please inspect your child's head and, if you find head lice, your local chemist, health visitor, school nurse or family doctor can advise on treatment and which lotion to use.

If you find your child has head lice, you will also need to examine the heads of all other members of the household. If head lice are found, they should also be treated. Also please inform other close contacts, so they too can check for head lice.

I am enclosing a leaflet giving guidance on checking for and treatment of head lice.

If you would like more information, you can contact the school nurse

.....
(name and telephone number).

Thank you for your co-operation

Yours sincerely,

Kent Health Protection Unit
Preston Hall
Aylesford
Maidstone
Kent
ME20 7NU