

Head Lice: a report for Consultants in Communicable Disease Control (CCDCs)

prepared by:

The “Stafford Group”

Robert Aston, CCDC, Bolton
Harsh Duggal, CCDC, South Staffordshire
John Simpson, CCDC, West Surrey

advised by:

Ian Burgess, Deputy Director, Medical Entomology Centre

for:

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Introduction

1. This Statement should be read in conjunction with the Appendices which contain notes and guidance for involved professional groups (appendices 1-4, 8) and suggested key messages for public information (appendices 5-7). The latter are written in everyday non-technical language so as to be readily developed for distribution to the public, but should also be of value for training professional groups and for the development of protocols for them.
2. There has been insufficient research into the epidemiology of head louse infection for a high level of scientific certainty to be accorded to many aspects of the management of the problem. After careful consideration of diverse professional views, the authors, however, believe that a summary Statement will be of value to colleagues around the country and will encourage a consistent approach.
3. The Statement represents what the members of the Stafford Group believe to be a reasonable summary, based on the current state of scientific knowledge and on their own, and many colleagues', professional experience.
4. The word "infection" is used throughout these documents to be consistent with the view that the term "infestation" has pejorative, stigmatic overtones and should be avoided in public information leaflets. See also "Appendix 8: Glossary and Terminology" (page 25).
5. The Statement is lengthy because it is intended to be an explanatory document, and to serve as the basis for the development of local policies and protocols. Because readers may selectively read sections applicable specifically to themselves, there has inevitably had to be some repetition in the document as a whole.
6. Recommendations have not been separated from the main text, since the authors believe it is important that readers understand the reasoning behind them.

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Head Lice: a report for Consultants in Communicable Disease Control (CCDCs)

General

Prevalence

Although head louse infection is an infectious disease many of the problems associated with the infection are due to society's reaction to it rather than the organism itself.

The true prevalence of infection is unknown but is probably much lower than the public and professional perception.

Health implications

Head lice are not a serious health problem 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 of them:

- excessive public and professional reactions lead to an inflated perception of prevalence, to unnecessary, inappropriate, or ineffective action, and to a great deal of unwarranted anxiety and distress.
- these actions and reactions in themselves cause problems, especially from the misuse and overuse of treatments.

A problem of society

Head louse infection is more a societal than an infectious disease problem

Responsibility for control of head lice

Parents

The primary responsibility for the identification, treatment and prevention of head lice in a family has to lie with the parents, if only for reasons of practicality. Parents, however, cannot be expected to diagnose current infection, or to distinguish it from successfully treated previous infection or other conditions if they are not adequately instructed and supported by the following professionals.

Primary Care Team

(see "Appendix 1: notes and guidance for the primary care team" on page 11.)

The primary professional responsibility for the diagnosis, management, and treatment of any individual for any disease lies with the general practitioner with whom the patient is registered, as also for advice and support on disease prevention. Historically, because of a misplaced emphasis on head louse infections in schools, the former system of head inspections, and the (now discontinued) distribution of large quantities of insecticidal lotions from Health Authority clinics, primary care teams did not traditionally involve themselves to any major degree. Nowadays, for primary care workers to refuse all responsibility for the management of individuals and families registered with them is as illogical as it would be to do so for measles, impetigo, threadworms or immunisation. General practitioners (or another member of the primary care staff) should therefore be knowledgeable and competent in the control of head lice, be able to teach parents the technique of detection combing, and be prepared to advise appropriate treatment. Treatment should never be advised unless the responsible officer is convinced by physical evidence that living lice are present on the head of at least one of the family.

Pharmacists

(see "Appendix 2: notes and guidance for community pharmacists" on page 13.)

Local pharmacists should inform themselves of local district policies and protocols and should adhere to them. Every opportunity should be taken to give accurate information to the public. Customers should be dissuaded from the inappropriate, repeated, or unnecessary use of insecticidal preparations. Pharmacists (or another member of their staff) should therefore be

knowledgeable and competent in the control of head lice, be able to teach parents the technique of detection combing, and be prepared to advise appropriate treatment. Treatment should never be advised unless the responsible officer is convinced by physical evidence that living lice are present on at least one of the scalps of the family. Consideration should be given to the prescribing of insecticidal lotions by pharmacists.

School Health Services

(see "Appendix 3: notes and guidance for school nurses" on page 15.)

It is regrettable that a School Health Service is no longer available in some areas. In those where it is, the school nurses (or equivalent) have responsibility for professional advice to staff, parents and children and for carrying out local policies, which should be agreed with the Consultant in Communicable Disease Control. They should provide clear, accurate, up to date information about head lice. This should be done on a regular basis not only when parents' or teachers' concern is already raised or there is an "outbreak" in the school. It should generally be integrated with the management of other school health problems rather than as a special separate topic. School nurses should be prepared to teach detection combing to individuals, to families (at their homes if appropriate), and to groups of parents, children and staff as required, and give advice on treatment and prevention. They should not undertake head inspections as a routine screening procedure.

Head Teachers

(see "Appendix 4: notes and guidance for head teachers" on page 17.)

The head teacher should work with the School Nurse and the Consultant in Communicable Disease Control to produce a local protocol and adhere to it. The "alert letters" system should be discontinued.

The Communicable Disease Control Team

(Consultant in Communicable Disease Control and Infection Control Nurse colleagues.)

The Consultant in Communicable Disease Control (CCDC) is responsible for advising other professionals on the control of head lice in the population as a whole. Adequate guidelines and protocols should be produced for all involved professionals including school nurses, school doctors, nursery nurses, general practitioners, health visitors, practice nurses, community paediatricians, infection control teams, pharmacists, and head teachers (see appendices). It is particularly important that school nurses and other community nurses are given adequate support by the CCDC, including regular training sessions and advice about specific problems.

In the absence of suitable nationally produced information leaflets, local leaflets should be produced in consultation with the other professionals. Information should be made available to the public in whatever way possible, including the use of the local news media.

Diagnosis

Only one sure way

A diagnosis of head louse infection cannot be made with certainty (no matter how many nits are present, how many reported cases there are in school, how bad the itch is, or however dirty the pillows are) unless a living, moving louse is found.

Detection combing

The only reliable method of diagnosing current, active infection with head lice is by detection combing (the technique is described in "Appendix 5: have you got head lice? - notes for families" on page 19), though there may be other clues to their presence such as pillows being dirtier than usual in the morning. The technique should be carefully described in protocols for the public and professionals. Misdiagnosis, if detection combing is not used as the criterion, is commonly due to the factors listed below under "Imaginary lice".

Self diagnosis

Detection combing should be done by parents/family members following advice including leaflets and support. General practitioners, school nurses and other professionals should not necessarily

rely on patients' diagnosis without asking to see the evidence, e.g. a louse stuck on paper with clear adhesive tape.

Imaginary lice

Many "cases" of head louse infection are not current infections, but are:

- psychogenic itch and revulsion on hearing of other cases in the school, usually by the head teacher's "alert letter"
- resultant "louse phobia"
- itching scalp due to other causes such as eczema (which in itself may be caused by repeated treatment with insecticides)
- other conditions such as seborrhoea, "dandruff", and hair muffs
- extinct/treated infections but nits still being found
- extinct/treated infection, but itch persisting
- there are also some parents of school children who have a grievance not primarily to do with head lice.

When talks are arranged in schools there is often a low turnout of parents, and typically "the outbreak" is greatly reduced at least for a time thereafter. The "outbreak" that has been reduced is the outbreak of public concern, not of head lice, usually because there was in fact no true outbreak of infection.

Prevention and treatment

"Being seen to do something"

A clear distinction should be made between treating head louse infections and "treating" the public reaction, which can be excessive, to perceived infections and "outbreaks". Actions sometimes seem effective in reducing the prevalence of head lice when in fact there has been a reduction in public agitation and concern simply because "something has been seen to be done".

It is bad clinical practice and ethically dubious to recommend as effective those courses of action which are not known to be so on good scientific grounds, or at least on widespread professional experience. Professionals may want "to be seen to be doing something," but may in fact make the problem worse by diverting efforts in the wrong direction.

Leaflets

There are no nationally available leaflets which adequately reflect the opinions given in this Statement., including the Department of Health's leaflet "The prevention and treatment of head lice" (June 1996). Locally produced leaflets based on this Interim Statement may be the best option for the time being.

Grooming

Good hair care would seem to be sensible in terms of personal and social education and hygiene, and grooming should be encouraged. Thorough, regular grooming using a fine toothed pocket comb or bristle brush has often been recommended as a means of prevention, of reducing prevalence, and even of treatment of head lice,. There is little evidence supporting the efficacy of this practice, although there has in fact been little reliable scientific assessment made. Caution must therefore be exercised if there are to be claims that it is an effective method of prevention or treatment of head louse infection.

Mechanical removal of lice

In recent years, mechanical removal of lice by wet combing with the use of conditioner has been put forward as a way of treatment and control. Its effectiveness has to date not been substantiated by any authoritative scientific work. There are anecdotal reports of both its success and failure. If it were demonstrated to work for individuals or individual families, it is unlikely that it would be practicable as a method of community control. When a health adviser is quite sure that appropriate and thorough conventional treatment of a definitely diagnosed case of active current infection has failed, mechanical removal might be tried for individual cases and their families. It

may also be considered when patients refuse to accept conventional treatment with insecticides because of concern about their safety.

Wet combing is, of course, an important way of diagnosing current infection (see "Appendix 5: have you got head lice? - notes for families" on page 19). Its effectiveness in diagnosis should be clearly distinguished from claims that it also works as a treatment.

Repellents

Proprietary products which are claimed to repel lice are not recommended. Even if they were effective in protecting the individual from infection, they do not deal with the control of lice in the population, and do not treat existing infections.

Chemical treatment

(See also "Appendix 6: how to treat head lice - notes for families" on page 20.)

Chemical treatment should be used when current infection is definite, since this is the only method which has been demonstrated scientifically to be effective:

- the three main groups of chemicals (pyrethroids, malathion, and carbaryl) are still effective, even though there is some degree of resistance to each group reported around the country which may require a change in therapy after an initial confirmed failure. The effectiveness probably compares favourably with that of e.g. most commonly used broad-spectrum antibiotics used for other infections.
- unless demonstrated scientifically, "resistance" is more likely to be due to ovicidal failure, misdiagnosis, faulty treatment technique, and (perhaps most common) the failure to eradicate imaginary lice. See the comments under "Diagnosis - Imaginary lice". The often arduous process of determining whether there was a true active infection and whether "treatment failure" was due to misdiagnosis or inappropriate/inadequate treatment is therefore necessary.

Cardinal rule before chemical treatment

Insecticidal preparations against head louse infection should never be recommended or used unless a living, moving louse has been found on the head of at least one family member. Ideally, if one member of the family has current infection, detection combing of all members should be undertaken, and only those found to be infected should be treated.

"Reinfection" - "treatment failure"

Many cases of "reinfection" are due to one of the following:

- "imaginary lice"; see under "Diagnosis"
- inadequate or inappropriate treatment
- misdiagnosis, e.g. itch or nits still present after successful eradication of living lice
- the finding of young lice which have not been killed whilst in the egg after the first and before the second application of lotion

True reinfection is usually from close contact in the community rather than specifically from school contact. Carriers of lice are likely not to be aware that they are infected.

Cardinal rule after chemical treatment

Insecticide preparations should not be used for more than one complete treatment of two applications, seven days apart unless a careful assessment has been made, including:

- was there in fact a true infection before application?
- is there in fact a current active infection now?
- are the detected lice simply those which have hatched after a first application
- did the first treatment (two applications) fail?
- if it did, why? (enough lotion, properly applied, all infected contacts treated, etc.)
- is it more probable that the first infection was cleared, but reinfection has occurred?

(see "Appendix 3: notes and guidance for school nurses" on page 15.)

Management of true reinfections

If it is certain that chemical treatment has failed for an individual or a particular family, then the following actions should be considered:

- retreatment with the same preparation, but ensuring that it is undertaken adequately and for all contacts simultaneously
- retreatment using a different chemical preparation
- supervision and assistance may be appropriate, such as a domiciliary visit to the family by the school nurse or practice nurse
- further thorough attempts to define if there may be a source of recurring infection e.g. a "best friend" and attempts to reduce the likelihood of reinfection of the case/family
- if the problem remains, consider teaching the process of continued physical removal of lice

Safety of chemical treatment

The three groups of chemicals currently used have a good track record for safety over many years. The number of reported side effects recorded by the Adverse Drugs Reactions section of the Committee on Safety of Medicines is small. For example, there have been only 26 reported side effects to malathion (in 18 individuals) during more than 25 years of use.

Preparations with an alcohol base are contraindicated for people with scalp dermatitis or asthma, although there has only been one reported asthma attack triggered by malathion preparations. Care must, however, be taken that they are used in well ventilated spaces, preferably in the open air, well away from sources of flame and heat such as fires, stoves, cigarettes and hair driers. Care should also be taken to prevent lotion from running over the face and into the eyes.

Nostrums

Many and varied nostrums have over the ages been claimed to be effective in preventing or treating head lice, such as tea tree oil. Some of these are usually harmless e.g. dilute vinegar, some may be dangerous. Essential oils such as tea tree and lavender oil can be quite toxic especially as concentrates.

Other "cures"

Other more eccentric "remedies" and "preventives" such as children wearing baseball caps over their heads throughout the day in school are not supported.

A special word on schools

"It's the school's fault!"

Head lice are not primarily a problem of schools, but of the community. Stigma and tradition, however, combine with inadequate public and professional knowledge to continue to hold schools responsible.

The "Nit Nurse"

Routine head inspections, usually by the school nurse, as a screening measure are without value and should not be done, though examination of an individual (not necessarily in the school) may be indicated to establish the presence of infection in a specific population group (see also Appendix 3; "Notes and guidance for School Nurses"). Before the effective control of head lice became possible with insecticidal lotions, severe cases of infection occurred and head inspections served to detect the very worst and therefore most obvious of them. Nowadays, such gross infections rarely occur. Most active infections are of only a few lice, and routine head inspections are ineffectual at identifying these.

"Alert letters"

One of the principal causes of unnecessary public alarm is the "alert letter" sent out by head teachers, typically warning parents that "we have head lice in the school". This is an illogical and unnecessary reaction:-

- it is illogical in that it is done in response to reported cases of head lice, which are not easily transmitted widely in the school, but not done for other diseases which are highly transmissible in schools, such as impetigo or chickenpox.
- it is illogical in that most schools will have a few pupils with head lice at any one time. An "alert letter" could be sent out every day of the school year.
- it often converts the usual background level of infection in the school into a pseudo-outbreak in which the parents' perception is that the school is riddled with lice.
- many parents become convinced they and their children have head lice when they in fact do not (psychogenic itch), or decide to use insecticidal lotions as inappropriate prophylaxis "just in case".

Exclusion from school

There is provision in the Education Act 1996 (Sections 521-525) for the examination and exclusion of school children by a medical officer duly appointed by the Local Education Authority (the 1944 Act was replaced by the 1996 Act). In many authorities it is not clear if there is such an officer. The process is in any case fraught with complications and doubts.

Exclusion should not be used:

- it cannot ensure the elimination of infection from the family of a child.
- it is unproductive and undesirable overreaction to a problem which is not a public health threat.
- it is inappropriate, being in fact simply an admission of the failure to deal with infection by the community and its professional advisers, but not contributing to a solution.
- it is not used for other conditions with low transmissibility such as verrucae and herpes simplex

Families with continuing or recurring infection with head lice should be assisted and supported as they would be with any other infection; by the concerted support and help of the community (including the school) and of the health professionals (including, for example, visits by the school nurse to the family home).

Campaigns

The word "campaign" suggests intense activity to combat a major problem of the moment. Since, for head lice, there is more likely to be the situation of a fairly steady background prevalence, "campaigns" might in fact fuel the fires of public concern and misapprehension. It might be more sensible to concentrate efforts on providing a regular supply of reliable information about the control of head lice, integrated with other health information. If a specific educational programme, however, is felt to be necessary, it should:

- be regular, not driven by public alarm
- provide accurate information, advice and support
- strongly discourage multiple applications of chemical treatment; an individual assessment of "problem cases" and "repeated reinfections" should be made
- avoid "being seen to do something".

National and Regional responsibilities

Rotation of insecticides

Regional rotation of insecticides in some areas has been standard practice for many years. There are, however, several objections to it, including:

- it was a reasonable hope in the former days of distribution of lotions from health authority clinics that limitation to one preparation could be achieved. This is no longer the case, and, under present health service arrangements a mosaic of treatments is inevitable
- there are doubts about the scientific grounds underlying the concept of attempting to limit treatment to one chemical agent for a period of three years. If it be granted that the chemicals are inappropriately and grossly overused, with inadequate application, then it could be argued (from parallels with antibiotic therapy e.g. against tuberculosis in the third world) that the limitation of therapy to one agent is more likely to encourage the proliferation of resistant lice than would a mosaic system.
- since two of the three chemical groups are available over the counter (only carbaryl being a prescription-only medicine) it is impossible effectively to limit their distribution. There is unnecessary and excessive use, such as by those parents who apply insecticides regularly to their children's heads "just in case".
- in the light of this, at least so long as two agents remain available off prescription, the rotation of insecticides has no value and should be discontinued.

Prescription only medicines (POMs)

All chemical insecticidal preparations against head lice should ideally be available only on prescription. This can only be realised if the vital responsibility of primary health care is recognised. The advent of nurse prescribing, and trials of pharmacist prescribing has perhaps made this more achievable. This paper recommends that chemical treatment should only be given to confirmed, active, current cases of head louse infection; this can in fact only be controlled properly if the agents are all made POMs. A further advantage would be the elimination of profit motive in the dispensing of the chemical agents.

Shampoos

Insecticidal shampoos are not effective and should be discontinued. The effectiveness of other chemical preparations should be reviewed.

Research

There has been insufficient support for population research, possibly because head louse infection has not been perceived by health professionals as a serious problem. There is an urgent need for proper peer reviewed studies using standardised techniques to be undertaken. Areas for research include:

- a validated detection method
- the size of the problem; prevalence of infection
- general epidemiology
- intervention studies of treatments
- modelling of transmission dynamics

Public information

National leaflets and information should be produced, based on the recommendations contained in this paper. They should be produced by the Working Group in consultation with other involved professionals, and printed by the Department of Health or the Health Education Authority. They should be revised regularly. (Appendix 7 "Head lice; the Truth and the Myths - Notes for Families" may be useful in providing these.)

Appendix 1: notes and guidance for the primary care team

General

- Please read the attached Statement carefully.
- Head louse infection is not primarily a problem of schools but of the wider community.
- As for any other infectious condition in their patients, primary care teams should be knowledgeable and competent in the control of head lice. They should be able to teach patients the technique of detection combing, and be prepared to advise appropriate treatment when there is confirmed infection.
- Health professionals should make sure that they are able to identify a louse at all stages of its development. It helps to have a magnifying glass to hand.
- Patients should be made aware that head lice are only transmitted by direct, prolonged, head-to-head contact.

Specific

- Do consider nominating a member of staff to be responsible for advising patients on head louse problems. This may be a practice nurse or health visitor, but other non-clinical staff may be appropriate as a first contact. If examination is thought necessary, referral can then be made.
- Do consider asking the Consultant in Communicable Disease Control to arrange training for nominated persons from local practices.
- Do liaise, as appropriate, with your local pharmacists, school nurses, health visitors, head teachers, infection control nurses, and Consultant in Communicable Disease Control. Only a concerted approach can be effective.
- Do not refer patients to the School Nurse.
- Do adhere to the following principles of control:
 - definite diagnosis; a living, moving louse found by detection combing
 - listing and examination of contacts
 - simultaneous thorough and adequate treatment of all confirmed cases with one of the standard chemical insecticidal lotions
 - repeat of the treatment after seven days
- Do make sure that the patients are provided with information, advice and support. At a first consultation, it may be sufficient to ensure that they know how to undertake detection combing and what to do if there are head lice present (See Appendices 5 and 6: "Have you got head lice" and "How to treat head lice".)
- Do not confirm a diagnosis of head louse infection unless you yourself have seen a living, moving louse, or you have physical evidence from the patients; ask them to stick one of the lice on a piece of paper with clear sticky tape and bring it in.
- Do be aware that patients are often mistaken when they believe they have lice. Recurrent scalp problems may be missed if it is simply assumed without evidence that lice are the cause.
- Do make every effort to discourage unnecessary or inappropriate treatment with insecticides.
- Do not ever recommend treatment unless a louse has been clearly identified (as described above). If you do recommend treatment, ensure that it is done adequately for the case and infected contacts.

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- Do make sure that patients know that the correct use of insecticidal lotions is the scientifically confirmed way to treat head louse infections.
 - Do follow the British National Formulary's recommendation of two applications of lotion (not shampoo) seven days apart.
 - Do not assume that "reinfections" or "treatment failures" are truly infections. Make sure that a louse is found or produced.
 - Do not ever recommend retreatment without first of all establishing that living, moving lice are still present after two applications of lotion seven days apart and after a full professional assessment as to the ways in which the family may not have complied carefully with the first attempt.
 - Do resist the temptation to agree with parents' suggestions that a first course of treatment has failed, that "it must be a resistant strain", and that a further course of treatment should be given. There is no substitute for a proper professional assessment.
 - Do seek the advice of the local Consultant in Communicable Disease Control on appropriate insecticidal lotions. Generally, malathion or one of the pyrethroids is considered as first line treatment, and carbaryl as second line treatment.
 - Do consider using carbaryl for cases in which true resistance to one of the other agents has been established (see above). There is so far little resistance to carbaryl, but it is available only on prescription.
 - Do bear in mind that different formulations of the same active ingredient may have different efficacies. When a first treatment has definitely failed, it may be useful to try the same agent in a different formulation.
 - Do not recommend or support any mass action, including wet combing campaigns.
 - Do not support the use of electronic combs, repellent sprays, or chemical agents not specifically licensed for the treatment of head louse infections.

Appendix 2: notes and guidance for community pharmacists

General

- Please read the attached statement carefully.
- Head louse infection is not primarily a problem of schools but of the wider community.
- Pharmacists are an important source of advice on the management of head louse infection. They should be knowledgeable and competent on the subject, be able to teach patients the technique of detection combing, and be prepared to advise appropriate treatment.
- Pharmacists have an especially important role in limiting chemical treatment to true cases of infection, reducing unnecessary and inappropriate treatment, and thereby reducing the risk of further development of resistant strains of lice.
- Health professionals should make sure that they are able to identify a louse at all stages of its development. It helps to have a magnifying glass to hand.
- Patients should be made aware that head lice are only transmitted by direct, prolonged, head-to-head contact.

Specific

- Do consider nominating a member of staff to be responsible for advising patients on head louse problems.
- Do consider asking the Consultant in Communicable Disease Control to arrange training for nominated staff from local pharmacies.
- Do liaise, as appropriate, with your local family practices, school nurses, health visitors, head teachers, infection control nurses, and Consultant in Communicable Disease Control. Only a concerted approach can be effective.
- Do not refer patients to the School Nurse.
- Do adhere to the following principles of control:
 - definite diagnosis; a living, moving louse found by detection combing
 - listing and examination of contacts
 - simultaneous thorough and adequate treatment of all confirmed cases with one of the standard chemical insecticidal lotions
 - repeat of the treatment after seven days
- Do make sure that the patients are provided with information, advice and support. At a first consultation, it may be sufficient to ensure that they know how to undertake detection combing and what to do if there are head lice present (See "Appendix 6: how to treat head lice - notes for families" on page 20, and "Appendix 5: have you got head lice? - notes for families" on page 19.)
- Do not assume a patient has head lice unless you yourself have seen a living, moving louse, or you have physical evidence from the patients; ask them to stick one of the lice on a piece of paper with clear sticky tape and bring it in.
- Do be aware that patients are often mistaken when they believe they have lice. Recurrent scalp problems may go undiagnosed if it is simply assumed without evidence that lice are the cause.
- Do make every effort to discourage unnecessary or inappropriate treatment with insecticides.

- Do not ever recommend treatment unless a louse has been clearly identified (as described above). If you do recommend treatment, ensure that it is done adequately for the case and infected contacts.
- Do make sure that patients know that the correct use of insecticidal lotions is the scientifically confirmed way to treat head louse infections.
- Do follow the British National Formulary's recommendation of two applications seven days apart.
- Do not assume that "reinfections" or "treatment failures" are truly infections. Make sure that a louse is found or produced.
- Do not ever recommend retreatment without first of all establishing that living, moving lice are still present after two applications of lotion seven days apart and after a full professional assessment as to the ways in which the family may not have complied carefully with the first attempt.
- Do resist the temptation to agree with parents' suggestions that a first course of treatment has failed, that "it must be a resistant strain", and that a further course of treatment should be given. There is no substitute for a proper professional assessment.
- Do seek the advice of the local Consultant in Communicable Disease Control on appropriate insecticidal lotions. Generally, malathion or one of the pyrethroids is considered as first line treatment, and carbaryl as second line treatment. There is little resistance so far to carbaryl, but it is available only on prescription.
- Do bear in mind that different formulations of the same active ingredient may have different efficacies. When a first treatment has definitely failed, it may be useful to try the same agent in a different formulation.
- Do not generally recommend "wet combing" techniques claimed to prevent or control head lice, as their effectiveness in the community has not to date been supported by any authoritative scientific research. They may, however, have a place for individual families if, for example, they are not prepared to use an insecticidal preparation.
- Do not support the use of electronic combs, repellent sprays, or chemical agents not specifically licensed for the treatment of head louse infections.
- Do ensure that you provide patients with an effective detection comb. This will have rigid plastic teeth set not more than 0.3mm apart.

Appendix 3: notes and guidance for school nurses

(or other responsible school health officer)

General

- **Please read the attached Statement carefully.** It is your professional duty to ensure that you are fully informed and up to date with current scientific knowledge and practice.
- Health professionals should make sure that they are able to identify a louse at all stages of its development. It helps to have a magnifying glass to hand.
- Parents and staff should be made aware that head lice are only transmitted by direct, prolonged, head-to-head contact.

Specific

- Do not undertake routine head inspections as a screening procedure. Detection combing should be done by parents, but it is important that they are given proper information, advice and support by you. This should be in accordance with the Statement.
- Do especially always adhere to the following principles of control (see Appendices Appendix 5, Appendix 6, and Appendix 7):
 - definite diagnosis; a living, moving louse found by detection combing
 - listing and examination of contacts by the family
 - simultaneous thorough and adequate treatment of all cases
 - repeat of the treatment after seven days
- Do make a professional assessment of reported cases of head louse infection of any child in the school. If the report is from the child's parent, make sure that the parents are provided with information, advice and support. If the report is from a teacher, for example that the child is scratching continuously or that a moving louse has been seen on the head, it may be necessary to examine the child to establish a diagnosis. If your knowledge of the parents is good, it may be sufficient to make contact with them to ensure that they know how to undertake detection combing and what to do if there are head lice present.
- Do not diagnose head louse infection unless you yourself have found a living, moving louse, or you have physical evidence from the parents; ask them to stick one of the lice on a piece of paper with clear sticky tape and bring it in to you or one of their other health advisors.
- Do not recommend the head teacher to send out "alert letters" to other parents. In fact, encouragement should be given not to do so.
- Do yourself understand and teach your families and school staff that the correct use of insecticidal lotions is the scientifically confirmed way to treat head louse infections.
- Do not ever recommend treatment unless a louse has been clearly identified (as described above). If you do recommend treatment, ensure that it is done adequately for the case and infected contacts.
- Do make every effort to discourage unnecessary or inappropriate treatment with insecticides.
- Do not assume that "reinfections" or "treatment failures" are truly infections. Make sure that a louse is found or produced.
- Do not ever recommend retreatment without first of all establishing that living, moving lice are still present after two applications of lotion seven days apart and after a full professional assessment as to the ways in which the family may not have complied carefully with the first attempt.

- Do resist the temptation to agree with parents' suggestions that a first course of treatment has failed, that "it must be a resistant strain", and that a further course of treatment should be given. This may be an easier approach in a busy schedule, but is not in the best interests of the family. There is no substitute for a proper professional assessment.
- Do be prepared to do a domiciliary visit if that is the most tactful and effective way of dealing with a family problem, especially for a "problem family". You have the professional skills and training to educate, persuade, inform, guide and support them.
- Do not recommend or support any mass action, including wet combing campaigns.
- Do not support the use of electronic combs, repellent sprays, or chemical agents not specifically licensed for the treatment of head louse infections.
- Do play an active part in providing regular accurate information about head lice to parents and staff. This should be done in conjunction with your local Consultant in Communicable Disease Control and the head teacher, and should preferably be integrated into a package along with information on other health issues.
- Do not wait until there is a perceived major outbreak and corresponding agitation in the school. A regular educational programme rather than a reactive "campaign" is more sensible.

Appendix 4: notes and guidance for head teachers

General

- **Please read the attached Statement carefully.** You may worsen the problem in your school if you are under the same misapprehensions as many of your parents.
- Head louse infection is not primarily a problem of schools but of the wider community. It cannot be solved by the school, but the school can help the local community to deal with it.
- Head lice are only transmitted by direct, prolonged, head-to-head contact.
- Transmission of lice within the classroom is relatively rare. When it does occur, it is usually from a "best friend".
- Head lice will not be eradicated in the foreseeable future, but a sensible, informed approach, based on fact not mythology, will help to limit the problem.
- At any one time, most schools will have a few children who have active infection with head lice. This is often between 0% and 5%, rarely more.
- The perception by parents and staff, however, is often that there is a serious "outbreak" with many of the children infected. This is hardly ever the case.
- The "outbreak" is often an outbreak of agitation and alarm, not of louse infection; a societal problem not a public health problem.

Specific

- Do have a written protocol on the management of the head louse problem, based on the Statement and this Appendix. If possible, agree a protocol for your area in consultation with the Local Education Authority, the local Consultant in Communicable Disease Control, Infection Control Nurses, the School Nurses, and, if appropriate, your colleagues in other schools.
 - Do make sure that your school nurse is informed in confidence of cases of head louse infection. The school nurse will assess the individual report and may decide to make confidential contact with the parents to offer information, advice and support.
 - Do keep individual reports confidential, and encourage your staff to do likewise.
 - Do collaborate with your school nurse in providing educational information to your parents and children about head lice, but do not wait until there is a perceived "outbreak". Send out information on a regular basis, preferably as part of a package dealing with other issues.
 - Do consider asking your school nurse to arrange a talk to parents at the school if they are very concerned. Be present yourself and encourage your staff to attend; they are just as likely to be misinformed about head lice as the parents. You may prefer to arrange a separate talk for the staff.
 - Do ensure, with the school nurse, that your parents are given regular reliable information, including instructions on proper diagnosis by detection combing, the avoidance of unnecessary or inappropriate treatments, and the thorough and adequate treatment of definitely confirmed infections and their contacts using an insecticidal lotion.
 - Do advise concerned parents to seek the professional advice of the school nurse, the family practice, or the local pharmacist.
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- Do not send out an "alert letter" to other parents.
 - Do not exclude children who have, or are thought to have, head lice.
 - Do not recommend or support any mass action, including wet combing campaigns.

- Do not agree with angry parents that routine head inspections should be reintroduced. They were never effective.
- Do not refer parents directly to the Consultant in Communicable Disease Control. The appropriate clinical advisors are the school nurse, the local pharmacist, the health visitor, and the general practitioner.
- Do not take, or support, actions simply “to be seen to be doing something” (such as sending out “alert letters”).

Appendix 5: have you got head lice? - notes for families

Detection combing - how to do it

You need: **plastic** detection comb (from the chemist)
 good lighting
 ordinary comb

- Wash the hair well, then dry it with a towel. The hair should be damp, not dripping.
- Make sure there is good light. Daylight is best.
- Comb the hair with an ordinary comb.
- Start with the teeth of the detection comb touching the skin of the scalp at the top of the head. Draw the comb carefully towards the edge of the hair.
- Look carefully at the teeth of the comb in good light.
- Do this over and over again from the top of the head to the edge of the hair in all directions, working round the head.
- Do this for several minutes. It takes 10 to 15 minutes to do it properly for each head.
- If there are head lice, you will find one or more lice on the teeth of the comb.
- Head lice are little insects with moving legs. They are often not much bigger than a pin head, but may be as big as a sesame seed (the seeds on burger buns).
- Clean the comb under the tap. A nail brush helps to do this.
- If you find something and aren't sure what it is, stick it on a piece of paper with clear sticky tape and show it to your school nurse or family doctor. There can be other things in the hair which are not lice.

Notes

- You can buy a plastic detection comb from the chemist.
- If you need help and advice, ask your local chemist, health visitor, school nurse, or family doctor.
- Don't treat unless you are sure that you have found a living, moving louse

Appendix 6: how to treat head lice - notes for families

Notes

- Please read the paper "Head lice - have you got them?"
- Don't treat unless you are sure you have found a living, moving louse.
- Don't ever use head louse lotions on your family "just in case". It's never a good idea to use chemicals if they aren't really needed.

If you are sure you have found a living louse:

- check the heads of all the people in your home.
- only treat those who have living, moving lice.
- treat them all at the same time with a head louse lotion (not shampoo).
- ask your local chemist, school nurse, health visitor or family doctor which lotion to use, and how long to leave it on.
- put the lotion on to dry hair.
- use the lotion in a well ventilated room or in the open air.
- part the hair near the top of the head, put a few drops on to the scalp and rub it in. Part the hair a bit further down the scalp and do the same again. Do this over and over again until the whole scalp is wet.
- you don't need to put lotion down long hair any further than where you would put a pony-tail band.
- use enough lotion - at least one small bottle for each head, more if the hair is thick. Use all the lotion up.
- keep the lotion out of the eyes and off the face. One way is to hold a cloth over the face.
- let the lotion dry on the hair. Some lotions can catch fire, so keep well away from flames, cigarettes, stoves, and other sources of heat. Don't use a hair dryer.
- treat all of them again seven days later in the same way with the same lotion.
- check all the heads a day or two after the second treatment. If you still find living, moving lice, ask your local chemist, health visitor, school nurse, or family doctor for advice.

Appendix 7: head lice; the truth and the myths - notes for families

The lice

- Head lice are small insects with six legs. They are often said to be “as large as a match head”; in fact, they are often not much bigger than a pin head, and rarely bigger than a sesame seed (the seeds on burger buns).
- They live on, or very close to the scalp, and don’t wander far down the hair shafts for very long.
- The louse’s mouth is like a very small needle. It sticks this into the scalp and drinks the blood.
- They can only live on human beings; you can’t catch them from animals.
- Nits are not the same thing as lice. Lice are the insects which move around the head. Nits are egg cases laid by lice, stuck on to hair shafts; they are smaller than a pin head and are pearly white.
- If you have nits it doesn’t always mean that you have head lice. When you have got rid of all the lice, the nits will stay stuck to the hair until it grows out.
- You only have head lice if you can find a living, moving louse (not a nit) on the scalp.

Who and where?

- Anybody can get head lice but they are much rarer in adults.
- Head louse infection is a problem of the whole community, not just the schools.
- Infection is common during school holidays as well as during term time. Parents start to worry more about lice when children go back to school because they think the lice are being caught there.
- A lot of infections are caught from close family and friends in the home and community, not from the school.
- It’s not just children who have them; adults get them too.
- It’s often said that head lice prefer clean, short hair. In fact, they probably don’t much care whether hair is dirty or clean, short or long. Short hair may make it easier for them to get from one head to another.

How you get them

- Head lice can walk from one head to another when the heads are touching for some time.
- You are very unlikely to pick up head lice from brief contact with other people. The longer you have head to head contact with someone who has lice, the more likely it is you will get them too.
- They can’t swim, fly, hop or jump. The idea that they can jump may have come from the fact that, when dry hair is combed, a head louse caught on the teeth of the comb is sometimes flicked off by static electricity (this is one reason why detection combing should be done with the hair damp).
- You don’t get them from objects such as the chair back. Although it’s just possible that a louse might get from one head to another if a hat is shared, this is very unlikely. It’s not the way infection is usually caught.

What happens next

- If you catch one or two lice, they may breed and increase slowly in number. At this stage, most people don't have any symptoms and won't know they have lice unless they look very carefully for them.
- For the first two or three months, there is usually no itch, but then the scalp may start to itch badly. This is due to an allergy, not to the louse bites themselves.
- Most people only realise they have head lice when this itch starts. By then they've had lice on their head for two or three months without knowing it.
- In most infections, there aren't more than a dozen or so lice on the scalp at any one time.
- Some people never get the itch, including adults. They may have a few lice on their heads for years without knowing it, and can pass them to other people.
- Louse droppings may fall on to the pillow during the night. Pillows may then get dirty more quickly than usual.

Prevention - can you stop them?

- Combing is an important part of good personal care, but head lice are not easily damaged by it. Good hair care may help to spot lice early and so help to control them. There is no evidence that the old slogans "Break its legs, so it can't lay eggs" or "A legless louse is an eggless louse" have any truth in them.
- The best way to stop infection is for families to learn how to check their own heads. This way they can find any lice before they have a chance to breed. They can then treat them and stop them going round the family.
- The way to check heads is called "detection combing". It can be done as often as families want to. The way to do it is in the sheet "Have you got head lice? Detection combing - how to do it."
- If a living, moving louse is found on one of the family's heads, the others should be checked carefully. Then any of them who have living lice should be treated at the same time.

How to treat head lice

- You should only ever treat someone for head lice if you have found a living, moving louse.
- The best treatment is to use lotion (NOT shampoo) from the chemist or your local doctor's surgery.
- The way to use the lotion is given in "How to treat head lice"
- If you are sure you have found living lice after proper treatment, don't keep putting more lotion on; ask advice from the local chemist, the health visitor, your family doctor, or the school nurse.

The problem won't go away

- The problem may not be head lice at all. Often we think there are lice when there aren't really any there. We all start to itch as soon as head lice are mentioned.
- There are other causes for itching of the scalp. Using head louse lotion can make these worse.
- Using lotion over and over again can cause dermatitis, which itself makes the head itch.
- When living, moving lice are found, they can almost always be cleared by using the right lotion. This will only work if enough of it is used, if it is put on in the right way, and if any other family members who have lice are treated properly at the same time.

- A day or two after using the lotion, you sometimes find little lice still there. These have hatched out of the eggs since you put the lotion on, and will be killed if you put the lotion on again after seven days.
- When you have got rid of the lice, you might still itch for two or three weeks. This doesn't mean you still have lice. Check the head carefully. Remember, you don't have head lice if you can't find a moving living louse.
- When you have got rid of all the lice, the nits (empty egg cases stuck on the hairs) will still be there. This doesn't mean you still have lice, and you shouldn't treat again no matter how many nits there are if you can't find a living louse.
- People who think their children keep on getting head lice may have made the mistakes listed above, and may keep on "treating" lice which have long since been cleared, or were never even there in the first place.
- If children do really keep on having living lice, this is most likely to be due to not doing the treatment properly and not treating all those close contacts who have also been found to have lice. Remember, if infection really does keep on happening, it is almost always from a member of the family, or a close friend. It is rarely from other children in the classroom except from a "best friend".
- If you still have problems, ask your family doctor, health visitor, local chemist, or health visitor if a wet-combing method to remove the head lice might help.

What the schools can do

- Schools must remember that most lice are caught in the family and the local community, not in the classroom.
- "Nitty Norah" head checks will not help, but the School Nurse can advise and support parents to check their own families.
- "Alert" letters should not be sent out. These can cause an "outbreak" of imaginary lice.
- Children who may have lice should not be excluded from school; if they do have lice, they will probably have been there for weeks already. The School Nurse can help the parents to make sure whether there really are lice there, and how to get rid of them if they are.
- The school should give information on lice for parents and staff including regular detection combing and how to do it. This should be on a regular basis, not just when there is thought to be an "outbreak", and should be done with the School Nurses.
- Talks for parents by the School Nurse can be helpful.

What families can do

- Make sure that all family members know about good hair care, including regular, thorough combing.
- The only way to control head lice which works is for the family to check their own heads.
- Check all the family's heads every now and then with a special plastic detection comb from the chemist's shop. Read the sheet "Have you got head lice? Detection combing - how to do it."
- All the family means everyone (adults as well as children) in the same household.
- **Only If you are sure you have found living, moving head lice in your family**, tell your relatives and close friends so that they can check their own heads. Treat any of your family you are sure have lice at the same time. Ask the at the chemist's, the surgery, or the School Nurse which lotion you should use.
- Remember, never use the lotions unless you are sure you have found living, moving head lice (not nits).

- Try not to worry too much about head lice. They are unpleasant, but they rarely do any harm other than causing an itchy scalp.

Appendix 8: Glossary and Terminology

Glossary

Head louse An insect parasite, *Pediculus capitis*, which can only survive on the human scalp and with has a needle-like mouthpart with which it pierces the scalp to feed on blood.

Incidence

The proportion of people who develop new infection in a given group over a period of time, usually one year (compare "prevalence").

Prevalence (point prevalence)

The proportion of people with active infection in a given group at a given time (compare "incidence").

Nit The empty egg shell of the head louse left stuck to a hair shaft after the insect has hatched.

"Nit nurse"

Also known as "Nitty Norah", this was formerly a nurse who was expected to inspect the heads of all children in schools regularly.

Detection comb

A special **plastic** comb which should have rigid teeth no further than 0.3mm apart, each tooth preferably having at least one flat surface.

Terminology

The following are recommended for use in policies and leaflets:

Head louse / head lice. The form headlouse / headlice is non-standard.

Head louse problem/prevention/treatment/lotion etc. The widespread use of the plural as modifier ("head lice problem...etc.") is not standard usage in other similar constructions in English. For example, "The rat problem.." and "rat poison..", not "the rats problem" or "rats poison. It is not clear why this usage has crept in, but it may be due to the common mistake of considering a plural strong noun like "lice" as singular, as in "one pence" rather than "one penny".

Infection. "Infestation", though correct, has unpleasant overtones and tends to reinforce social stigma.

Lotion. For simplicity the term lotion used in this document includes all types of licensed products, except shampoos (which are ineffective).