

ICPG1 INFECTION PREVENTION AND CONTROL SECTION 8: GUIDELINES FOR THE MANAGEMENT OF INFESTATIONS

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PROCEDURE SUMMARY
<p>These guidelines are written to enable healthcare staff working in the Trust to identify and manage infestations promptly and appropriately.</p>
<p>The Trust monitors the implementation of and compliance with this procedure in the following ways;</p>
<p>The responsibility for monitoring and reviewing this Policy lies with the Director responsible for Infection Prevention and Control. Compliance with this procedure will be audited. Audit results will be presented to the Infection Prevention and Control Group.</p>

Services	Applicable	Comments
Trustwide	✓	

**The Director responsible for monitoring and reviewing this procedure is
Director for Infection Prevention and Control**

INFESTATIONS

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INFESTATIONS

1.0 INTRODUCTION

- 1.1 These guidelines apply to ICP1 - Infection Control Policy
- 1.2 The aim of the guideline is to promote a co-ordinated approach to the prevention and treatment of insect infestations.
- 1.3 All patients admitted to inpatient units within the Trust should be examined for, amongst other infection risks, any insect infestations. This should be completed, ideally within two hours of admission. The *Infection Risk (On admission) Form* should be completed. See **Appendix 1**.

2.0 HEAD LICE AND NITS (PEDICULUS HUMANUS CAPITIS)

- 2.1 Head lice are transferred directly from person to person, most commonly by direct head to head contact lasting around one minute.
- 2.2 The head louse is a small insect which feeds by sucking blood and likes to stay close to the scalp for warmth.

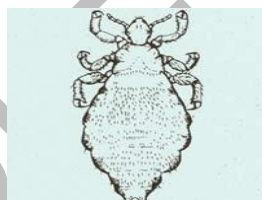


Figure 1 Adult Louse

- 2.3 Head lice spread out over the scalp quite evenly. All their eggs are glued onto hair shafts close to the scalp where it is warmer.

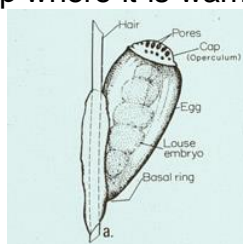


Figure 2 Louse Nit

- 2.4 The human louse cannot live on any other animal nor jump, hop or fly - it moves by crawling on hair. Nymphs (baby lice) take about 7 days to mature to adults. Adults can live up to 30 days - whilst growing it casts its skin. Cast skins and louse faeces (which look like black dust) may be found on the pillows of infected people.
- 2.5 The female lays yellowy white coloured eggs glued to the base of the hair each night. These take five to seven days to hatch. The empty egg shells, called nits, grow out with the hair at about one centimetre per month.

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- 2.6 Lice move fast and can easily be missed when a head is inspected. They have no particular preference for hair colour, length or state of cleanliness. Short hair allows easy transfer from one head to another.
- 2.7 Head lice are injured by vigorous combing. An injured louse cannot grip onto the hair and can easily be combed out.
- 2.8 Head lice infestations cause itching in most cases however it may take some months before a person reacts by itching. Itching may also occur due to an allergic reaction to the bites. Sores can develop due to scratching and can become infected.
- 2.9 Transmission is possible through infected clothes, combs or towels but extremely unlikely. The lifespan of a louse is very short once detached from the hair so fumigation is not necessary.
- 2.10 Re-infection is common.

3.0 PREVENTION AND CONTROL

- 3.1 On diagnosis of a single case of head lice infestation, report immediately to the Infection Prevention and Control Team (IPCT).
- 3.2 Staff should watch for signs of early infestation (black dust on the pillow) and use a detector comb if they suspect a case of head lice and whenever warned of a possible contact.
- 3.3 When washing hair, if the sink plug is inserted the water can be checked for any lice that may have been washed off.
- 3.4 Repellent products which claim to deter lice are not routinely recommended.
- 3.5 Head lice lotions (or shampoos) should not be used as a preventative measure, but as treatment only, when lice have been detected.
- 3.6 **Detection Combing**
When one patient has been found to have head lice, all other close contacts i.e. prolonged direct head-to-head contact, must be carefully checked using the detection comb.
- 3.7 Using a head lice detection comb through wet hair methodically, in sections. If the hair is wet, lice will be easier to detect and comb out. Wipe the comb after each stroke on a piece of paper towel so as not to miss lice or eggs.
- 3.8 If lice are found, that person should be treated.
- 3.9 Detection combing should be done at least 2x weekly if there has been an infestation reported on that ward.

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4.0 TREATMENT - FOR WHEN HEAD LICE ARE FOUND

N.B. Only treat those with a proven head lice infection.

4.1 There are three options for the treatment of headlice:

4.2 Wet Combing

4.3 This method requires perseverance and is labour intensive, particularly if treating a number of people.

4.4 If this treatment consistently fails then insecticide shampoo may still be required.

4.5 Method:

- Wash the hair in the normal way with an ordinary shampoo
- Apply conditioner as this makes the hair easier to comb and harder for eggs to stick
- Make sure the teeth of the comb slot into the hair at the roots with every stroke. This should be done over a pale surface, such as a paper towel or the bath
- Clear the comb of lice between each stroke
- This routine should be repeated every 3-4 days for 2 weeks, so that any lice emerging from the eggs are removed before they can mature, mate and lay more eggs.

4.6 Insecticides (pesticides)

There are three chemical insecticides available. However, there is increasing resistance to insecticides. This may lead to problems with eradicating headlice from an individual's head.

4.7 Insecticides should *ONLY* be used if live lice are found.

4.8 The insecticides are Malathion and Pyrethroids (Phenothrin and Permethrin) which can be purchased over the counter. Carbaryl is by prescription only and should be used with caution.

4.9 All products must be used according to manufacturer's guidance.

4.10 Insecticides are not effective on eggs therefore a second application is required a week later to kill the newly hatched lice.

4.11 Fine combing the hair every 3-4 days between applications and for at least a further 2 weeks after the final application, is recommended.

4.12 Insecticides are available in alcohol and aqueous-based preparations. Individuals that suffer from asthma, eczema etc should avoid alcohol based products. Please check the suitability of the product with the pharmacist.

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- 4.13 Insecticides must not be used more than once a week, and not for more than 3 consecutive weeks.
- 4.14 **Non-pesticide Lotion**
The Public Health England recommended treatment of choice - Non pesticide lotion – 4% Dimeticone compound (proprietary name Hedrin). This coats head lice and smothers them. There is no resistance to this lotion.
- 4.15 However careful application is required for effective killing of the lice. It is important to follow the instructions on the pack, ensuring that the lotion is applied evenly and is combed throughout the length of the hair.
- 4.16 Two applications, one week apart, is required to kill hatching lice. To check effectiveness use a detector comb 24 hours after the second treatment. Further applications can be used if headlice remain present after the 2nd course of treatment.
- 4.17 **APPENDIX 2:** Headlice Management Chart

5.0 MANAGEMENT OF CONTACTS

- 5.1 Contact tracing, screening and treating is a vital part of the control of headlice. All close contacts (family members, partners and close friends, staff and fellow patients) should be informed so that they can check themselves for head lice by detection combing and be treated by their GP if necessary.
- 5.2 Staff should make every effort to support family and carers in carrying out a good contact tracing exercise. This should include providing them with adequate information. (See **Appendix 3** – Head lice factsheet)
- 5.3 Responsibility for contact tracing rests with the staff and patient's family. All close contacts must be considered as possible contacts.
- 5.4 A list, detailing all head to head contact of one minute or longer over the past month, should be formulated for each person with head lice. This list will be fairly short, but if the list is complete, the original donor of the head lice can be identified.
- 5.5 Everybody on the list should be contacted and advised that they have been in contact with a person who has had head lice. They should be advised to have their hair checked and commence treatment as appropriate.

6.0 PUBIC LICE

- 6.1 Also known as the Crab Louse or “Crabs”, it is often considered to be sexually-transmitted, as the pubic and perianal areas are the most frequently affected, but all coarse body hair including beards can be affected.
- 6.2 It is transmitted by person-to-person contact. Clothing, bed-linen and toilet seats do not play a role in transmission.

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- 6.3 To make a diagnosis all hairy parts of the body must be examined and combed.
- 6.4 **Treatment:**
For treatment, all hairy parts of the body must be treated. All head louse formulations can be used but aqueous lotions are most effective.
- 6.5 For those on the eyelashes or eyebrows, smooth petroleum jelly among the closed lashes twice a day for 10 days. This kills the nymphs as they hatch. No attempt should be made to remove the eggs or nits which will be eliminated fairly quickly as the lashes they are attached to fall and re-grow.

7.0. CLOTHING / BODY LICE

- 7.1 These are seen primarily where there is overcrowding and poor sanitation. In this country it is most commonly seen in vagrants and street dwellers.
- 7.2 The body louse lays its eggs and resides in the seams of clothing rather than on the skin of the host. The body louse leaves the clothing only to obtain a blood meal from its host.
- 7.3 Nits present in the clothing can live for up to one month. When mature lice have no access to the body they die of starvation in 5 days at low temperatures and more quickly in high temperatures. Adult lice live for 13-30 days.
- 7.4 Most transmission occurs during contact between fully clothed persons.
- 7.5 Signs and symptoms can take 10 days (of continuous exposure) to weeks in a bite itself and/or a pruritic inflammatory wheal, caused by the host immune response.
- 7.6 This is diagnosed by finding the lice or eggs in clothing or bedding. The bite pattern usually follows the seam-lines of the underwear.
- 7.7 **Treatment:**
Tumble dry clothes, turned inside out, at 50 degrees centigrade for at least 30 minutes. Then wash clothes in the usual way. Dry cleaning is also effective against lice and eggs, but expensive.
- 7.8 If no tumble dryer available, wash clothes on a hot cycle. This should kill lice and eggs.
- 7.9 Affected individuals should brush, shower or bath to remove any lice left on the body after removal of infested clothing.

8.0 SCABIES

- 8.1 Scabies is an allergic response to an infestation of the skin by the mite *Sarcoptes scabiei*. The mites penetrate through the skin and excavate burrows at the epidermal/dermal junction. The female mite lays eggs which hatch after 3-4 days. Newly hatched larvae exit the burrows and appear on the surface of the skin before forming their own tunnels. The burden of mites can range from 10-20 to several thousand in people who are severely immuno-compromised (Norwegian Scabies).

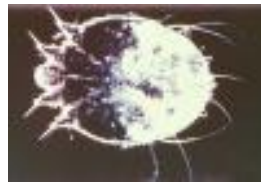


Figure 3 Scabies mite

8.2 Recognition of Symptoms

The most frequent symptom is itching which may affect all parts of the body and is particularly severe at night.

- 8.3 There may be no sign of infection for 2-6 weeks after exposure.
- 8.4 Occasionally small vesicles may be visible along the areas where the mites have burrowed. Pale burrows described as a “greyish line resembling a pencil mark” may be present in the skin between the fingers, but are less commonly seen than textbooks suggest. Failure to find burrows does *not* exclude scabies as a diagnosis.
- 8.5 A papular rash may be visible in areas such as around the waist, inside the thighs, lower buttocks, lower legs, ankles and wrists. Firm nodules may develop on the front folds of the axillae and around the naval and in males around the groin. The rash is a reaction to the mite and is not related to sites where the mite burrows. It is usually bilateral.
- 8.6 It should be emphasised that scabies may be difficult to recognise and is often misdiagnosed as a drug or allergic reaction, particularly if scratching, inflammation or infection have obscured the presentation. Also scabies can look atypical in anyone with immature or impaired immunity such as very young children, those with Down’s syndrome, alcoholics or the very elderly. In immunosuppressed people, such as those with AIDS or those on immunosuppressive therapy, a more severe hyperkeratotic form may develop (Norwegian Scabies).
- #### 8.7 Mode of Transmission
- 8.8 Mites are passed directly from the skin of one person to another with prolonged contact especially via the hands. The likelihood of transmission increases with the duration and frequency of skin to skin contact.

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- 8.9 Fomites (objected touched by/in contact with an affected person) and animals are not implicated in transmission. However Transfer from underclothes or bed linen may occur if these items have been contaminated by an affected person immediately before contact; mites do not survive away from their host, as it is too cold for them outside the skin.
- 8.10 The incubation period is up to 8 weeks after contact with an affected person in a person who has never had a scabies infestation previously. However for a second infestation symptoms may occur 1 – 4 days after contact with an affected person.
- 8.11 **Outbreaks**
Outbreaks occur particularly in residential/nursing homes, mental healthcare establishments, long-stay hospital wards and pre-school nurseries.
- 8.12 The Infection Prevention and Control Team will advise on the need for treatment and the treatment programme.
- 8.13 **Treatment**
When a single suspected case of Scabies occurs in a ward/residential establishment the IPCT should be alerted immediately to investigate. It may be necessary to treat all residents and anyone with whom they have had close contact. Out of Hours, contact the on-call manager.
- 8.14 If this action is required, it is important that all staff who have come into direct contact with residents also treat themselves because they may be incubating the disease without showing any symptoms. Family members of asymptomatic staff need not be treated routinely but asked to report any later symptoms.
- 8.15 As far as possible all staff members should receive the treatment on the same day that their unit is treated. Staff should not work in any other area until treatments have been completed throughout the unit.
- 8.16 Symptomatic people should be treated using 2 applications of insecticidal cream at 7-day intervals. The IPCT will make an individual assessment and advise.
- 8.17 It is not uncommon for a person to have itching for up to 4 weeks after successful treatment. Antihistamines may be helpful.
- 8.18 Lyclear dermal cream is the treatment of choice.
- 8.19 Lyclear dermal cream is suitable for use by adults, including the elderly. Children between 2 months and 2 years should be treated under medical supervision. Pregnant women should seek medical advice.

(See **Appendix 4**)

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8.20 Method:

- Ensure that the entire surface of the body is covered from the hairline on the head to the soles of the feet. This should include the area behind the ears and the face, avoiding the area around the eyes, otherwise the treatment may not be effective. If the person to be treated has little or no hair the scalp should also be included
- Areas of skin normally covered by extensive dressings should be exposed, and Lyclear cream applied onto the intact skin up to and around the wound. The dressing may then be replaced
- Apply the cream to clean, dry and cool skin. Do not apply following a bath or shower
- Pay particular attention to the areas behind the ears, between the fingers and toes, wrists, under the arms, external genitalia, buttocks and under finger and toe nails
- The whole body should be washed thoroughly 8 - 12 hours after treatment, with warm water
- Be sure to reapply any lotion washed off during the treatment period e.g. after hand washing, or cleaning of the skin
- Directly after treatment, change bed linen and wear freshly laundered clothes
- Lyclear Dermal Cream disappears when rubbed gently into the skin. It is not necessary to apply the cream until it is undetectable on the surface
- Where possible, the cream is best applied by someone other than the person receiving treatment. This makes it easier to get to difficult to reach parts of the body.

8.21 It may be necessary to prescribe two tubes of cream to ensure all areas of the body are covered thoroughly bearing in mind very dry areas of skin will absorb more of the cream.

8.22 The following table shows the approximate amount of cream to be used as a single application:

Adults and children over 12 years	Up to 1 tube, may require up to 2 tubes but no more than 2 tubes
Children aged 5 to 12 years	Up to half a tube
Children aged 1 to 5 years	Up to one quarter of a tube
Children aged 2 months to 1 year	Up to one eighth of a tube

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- 8.23 NB: Following discussions with the Insect Research Centre in Cambridge, it is now recommended to apply scabicial lotions/creams to the face avoiding the area around the eyes.
- 8.24 This may conflict with some manufacturers' guidance. However, there is increasing evidence that scabies may also affect the face and failure to treat this area could result in an incomplete and therefore unsuccessful treatment.
- 8.25 Benzyl Benzoate has been shown to have reduced efficacy compared to other scabicides. BNF caution that it is an irritant to skin therefore not recommended for elderly and sensitive skins.

9.0 MONITORING AND REVIEW

- 9.1 The responsibility for monitoring and reviewing this Procedural Guideline shall be with the Director with responsibilities for Infection Prevention and Control

10.0 REFERENCES

Community Infection Control Guidelines.

Essex Health Protection Unit – Issued November 2003, reviewed April 2005 and January 2009

WILSON J. 2006 *Infection Control in Clinical Practice*, 3rd edition, Bailliere Tindall, London

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Public Health England, Health Protection Team (Previously Essex Health Protection Unit), Factsheet on Scabies, 2014.

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