

Policy Number IP11

Title of Policy: Infection prevention management of patients affected by common UK parasites

Contents

Sections	Page
1.0 Policy Statement	2
2.0 Definitions	2
3.0 Accountabilities	2-5
4.0 Policy Detail	5-7
5.0 Financial Risk Assessment	7
6.0 Equality Impact Assessment	7
7.0 Maintenance	7
8.0 Communication & Training	7
9.0 Audit Process	8
10.0 References	8-9

Appendices:

[Appendix 1](#) *Pediculus humanus capitis* (Head louse)

[Appendix 2](#) Drug treatments of head lice

[Appendix 3](#) Preparations for the treatment of head lice

[Appendix 4](#) Instructions for treatment of head lice

[Appendix 5](#) *Pediculus humanus corporis* (body and clothing louse)

[Appendix 6](#) *Pthirus pubis* (pubic louse)

[Appendix 7](#) Management of Scabies

[Appendix 8](#) Threadworms

1.0 Policy Statement (Purpose / Objectives of the policy)

The aim of this policy is to ensure the relevant action and management of patients with ectoparasitic infestation are undertaken and to prevent further spread of infestation.

Infestations caused by ectoparasites (scabies, body, and head lice) and threadworms are often only minor irritations. Parasites can thrive because individuals are reluctant to admit to having them or to take steps to eliminate them. Infestations caused by parasites, if not detected, can create problems within healthcare facilities.

Infestations occur within all community settings periodically and can result in debilitating and distressing symptoms for those affected by them. This policy outlines the Trust response to the management of individuals and co-ordination of outbreaks which is required to prevent further transmission. Standard infection prevention precautions together with a coordinated approach to treatment must be employed so that morbidity for patients and contacts is avoided.

In adhering to this Policy, all applicable aspects of the Conflicts of Interest Policy must be considered and addressed. In the case of any inconsistency, the Conflict-of-Interest Policy is to be considered the primary and overriding Policy.

2.0 Definitions

- Body lice – *Pediculus humanus corporis*.
- Ectoparasite Infestations are caused by ectoparasites that live outside the body of the host for example scabies, body, and head lice.
- Head lice – *Pediculus humanus capitis*.
- Hyperkeratotic or crusted scabies (previously referred to as Norwegian scabies) also caused by *Sarcoptes scabiei*.
- Pubic lice – *Phthirus pubis*.
- Scabies – *Sarcoptes scabiei* (classical scabies).
- *Endoparasite*- Infestations are parasites that live within the body of its host for example Threadworm or pinworm – *Enterobius vermicularis*.

3.0 Accountabilities

Staff must take responsibility for the areas in which they work to ensure care is managed and potential infestation resulting from cross contamination is avoided.

3.0.1 Responsibility of Healthcare Professionals

The primary professional responsibility for the diagnosis, management, and treatment of any individual for any disease lies with the General Practitioner, or appropriate medical and nursing staff of The Royal Wolverhampton NHS Trust (RWT) who should be knowledgeable and competent in the control of the infestation and be able to teach where appropriate patients, carers and or parents / the technique of detection and be prepared to advise appropriate treatment.

3.1 Senior Sisters/Charge Nurses/Local Departmental Managers

3.1.1 Ensuring that all members of staff under their management control are appropriately trained and protected, adhere to safe practices, including the provision of resources, and any incidents that occur are reviewed and subsequent actions taken where appropriate.

3.1.2 Alerting the Infection Prevention Team (IPT) to patients with conditions that pose a risk to others and who may require additional precautions or isolation.

3.1.3 Ensuring a risk assessment is completed for patients who have an ectoparasite or endoparasite infestation to ensure appropriateness of their accommodation, coordinating the response / treatment required, as well as ensuring that patient rights and confidentiality are maintained.

3.1.4 Reporting any difficulties with the application of the treatment, or adherence to the manufacturer's recommendation to the IPT, Ward Pharmacist and Consultant in charge of the patient.

3.1.5 Ensuring that staff are referred promptly to the Occupational Health and Wellbeing where skin irritation is present.

3.2 Staff Members

3.2.1 Complying with the requirements of the Trust infection prevention policies, including ensuring compliance with appropriate training.

3.2.2 Ensuring that the patient rights and confidentiality are maintained.

3.2.3 Ensuring that appropriate personnel are aware of the infectious status on transfer to other care facilities.

3.2.4 Alerting the IPT to patients with conditions that pose a risk to others who may require additional precautions or isolation.

3.2.5 Reporting any difficulties with the application of the treatment, or adherence to the manufacturer's recommendation to the Ward / Department Manager or General Practitioner for community-based staff.

3.3 The Infection Prevention Team

3.3.1 Reviewing and updating this policy ensuring that it reflects current guidance, as well as providing education and support for the implementation of this policy.

3.3.2 Supporting the Senior Sisters and / Charge Nurses and local Department Managers with the risk assessment for patients who have an ectoparasite infestation to ensure appropriateness of their accommodation, coordinating the response and / treatment required, and ensuring that patient rights and confidentiality are maintained.

3.3.3 Advising Trust Directors, Capacity Management Team and Operational staff in the area affected of ward and or bed closures in the event of a confirmed or suspected outbreak of infestation ([IP Outbreak of Communicable Infection Policy IP13](#)).

3.3.4 Notification where appropriate of outbreak and / incidence will be shared with Public Health England to ensure a coordinated approach for

second treatment where required and prevention of transmission within healthcare and social care settings.

3.3.5 Alerting Occupational Health where staff contact is suspected so that appropriate treatment and / management can be implemented and coordinated.

3.3.6 Liaising with the Pharmacy Department regarding the infestations, establishing that appropriate stock levels can be acquired, especially when mass treatment is required.

3.4 The Occupational Health and Well Being Department

3.4.1 Coordination of staff affected, providing advice and treatment where staff are involved in mass treatment following an identified outbreak.

3.4.2 Liaison with the Pharmacy Department to ensure treatment is available for staff that are symptomatic and or asymptomatic so that mass treatments can be coordinated efficiently to reduce further transmission.

3.4.3 Produce a report following mass treatment, detailing quantities, and cost. This report is to be submitted to the Infection Prevention and Control Group (IPCG) for inclusion in the annual infection prevention report.

3.5 The Capacity Management Team

3.5.1 Facilitating the prompt movement of patients who present a high risk of infection to other patients.

3.5.2 Monitoring the use of single and isolation rooms during an outbreak or ward closure.

3.6 Adults with parental responsibility (when managing headlice):

3.6.1 The primary responsibility for the management of head lice in a family is with the holders of parental responsibility (hereinafter called parents for simplicity). However, without proper instruction and support by the professionals detailed in 3.7 and 3.8 they cannot be expected to diagnose a current infection or to distinguish it from a successfully treated previous infection, or other conditions.

3.7 The School Health Service

3.7.1 School nurses must provide clear, accurate, up to date information about head lice. This must be done on a regular basis not only when parents' or teachers' concern are already raised or there is an 'outbreak' in the school. It must generally be integrated with the management of other school health problems rather than as a special separate topic.

3.7.2 School nurses must be prepared to teach detection combing to individuals, to families (at their own homes if appropriate), and to groups of parents, children and staff as required, and give advice on treatment and prevention. The protocol (PGD) for the issuing of head lice lotion by school nurses is available from the Trust intranet.

3.7.3 Head inspections, as a routine screening procedure must not be undertaken.

3.8 Head Teachers (with support from School Health Service)

3.8.1 Ensuring that the school nurse is informed in confidence of cases of head louse infection. The school nurse can then assess the individual report and may decide to make confidential contact with the parents to offer information, advice, and support.

Any individual reports must be maintained as confidential, and staff encouraged to do likewise.

Together with the school nurse, provide educational material for parents and children about head lice, which must be promoted on a regular basis. Do not wait until there is a perceived 'outbreak'.

Ensuring all staff are provided with up-to-date information.

4.0 Policy Detail

4.1 Lice

4.1.1 Lice are wingless, blood-sucking insects and although there are over 500 species only three types are known to infect humans:

- *Pediculus humanus capitis* (head louse): Refer to [Appendix 1](#).
- *Pediculus humanus corporis* (body and clothing louse): Refer to [Appendix 5](#).
- *Pthirus pubis* (pubic louse): Refer to [Appendix 6](#).

4.1.2 Recognition of lice

The human louse is less than 4mm long and is grey with dark markings. The head and body louse are elongated, whereas the pubic louse is crab-like in appearance. They are host specific and have developed gripping claws on their legs to enable them to move. They lay their eggs on clothing fibres or hair depending on the species. The female deposits a glue-like substance with the eggs to prevent them falling off the host. The eggs are pinhead size, oval, in shape and take 5-10 days to hatch.

4.1.3 Contact tracing

Contact tracing for lice must be completed thoroughly to identify any close contacts who may require treatment, this is usually over a 4–8-week period.

This is an essential part of the management and control of spread. If one member of the family is identified as having a current infection, detection combing of all other family members must be undertaken. Head lice are spread by head-to-head contact with an infected person. Spread occurs within families as well as between children in school etc. Advice must be given to parents that all those with head-to-head contact with an infected person (e.g., grandparents, aunts and uncles, child-minders, and friends both in and out of school) need to be checked for signs of active infection. Frequently adults are the carriers but may be unaware that they are infected. Only those found to be infected must be treated (CKS 2012).

4.2 Scabies

This policy has been developed to aid the management of cases of scabies and reduce the risks of transmission. Healthcare workers need to be alert to the possibility of an outbreak of scabies if an itchy symmetrical rash appears on the patient's body. Prompt recognition and treatment of a single case can pay dividends. Outbreaks of scabies causes considerable misery to those affected and the disease is associated with significant stigma. It is both time consuming and expensive to manage. Refer to [Appendix 7](#).

- Scabies – *Sarcoptes scabiei* (classical scabies).
- Hyperkeratotic or crusted scabies (previously referred to as Norwegian scabies).

4.2.1 Infants

Infants (under 2 years of age) may have mites on their face, neck, scalp, ears, and soles of their feet. Treatment requires care in the selection of scabicide; it needs to be applied to all parts of the body.

4.2.2 Adults

It is important to apply the scabicide systematically. Application must cover every part of the body below the neck.

4.2.3 Contact tracing

It is important that all those who have had skin-to-skin contact with a patient who has or had scabies must be contacted; this must go back at least 6 weeks and must include household members and close family as well as intimate friends.

4.3 Threadworm

Threadworms or pinworms (*Enterobius vermicularis*) are a common intestinal infestation, particularly in children. The female worm emerges from the anus at night to deposit eggs on the peri-anal skin, which causes irritation. Infestation is often present in more than one family member at the same time. Refer to [Appendix 8](#).

4.4 Infestations in relation to pests

Refer to [Appendix G, Cleaning Strategy](#).

5.0 Financial Risk Assessment

1	Does the implementation of this policy require any additional Capital resources	No
2	Does the implementation of this policy require additional revenue resources	No
3	Does the implementation of this policy require additional manpower	No
4	Does the implementation of this policy release any manpower costs through a change in practice	No
5	Are there additional staff training costs associated with implementing this policy which cannot be delivered through current training programmes or allocated training times for staff.	No
	Other comments	

6.0 Equality Impact Assessment

This policy has been screened using the equality and diversity checklist. No issues have been identified which would adversely affect any racial or diverse group.

7.0 Maintenance

The Infection Prevention Team will be responsible for the maintenance and review of this policy in accordance with national guideline and best practice at least every 3 years.

8.0 Communication and Training

Divisional Directors, Matrons, Ward / Department Managers of clinical areas and Occupational Health and Wellbeing Department will be informed of the revision included within the policy. This policy will be accessible for all Trust employees via the Trust intranet. Training will be available to support areas where outbreaks of infestation occur.

9.0 Audit Process

Criterion	Lead	Monitoring method	Frequency	Committee
Outbreak of scabies	IPCG	Post outbreak report and analysis	As required	IPCG

10.0 References - Legal, professional, or national guidelines

- Anderson. B., Haugen. H., Rasch. M. (2000) *Outbreak of scabies in Norwegian nursing homes and home care s: control and prevention*. Journal of Hospital Infection. Vol. 45. p. 160-165.
- Joint Formulary Committee. (2021) *British National Formulary, 73*. London: BMJ Group and Pharmaceutical Press. British National Formulary. 2021. BMA. London.
- Burgess. I. (2002) *Detection combing*. Nursing Times Infection Control Supplement Vol. 98. No. 46. p.57.
- Burgess. I. (2003) *Commentary: How to advise a patient when over the counter products have failed*. British Medical Journal. Vol. 326. p. 1257.
- Burgess I (2006) *Medical Entomology Centre Insect R&D Ltd Cambridge*.
- Clinical Knowledge Summaries, CKS 2012: Head Lice, Scabies, Pubic louse.
- Damani. N. (2003) *Manual of infection control procedures*. Greenwich Medical Media Limited. London.
- Dawes. M. (2002) *Head Lice: Evidence-based guidelines based on the Stafford Report*. The Journal of Family Health Care. Vol. 12. No. 5. p. 1-21.
- Department of Health (2015) *The Health and Social Care Act 2008: Code of Practice on the prevention and control of infections and related guidance*.
- Gould. D. (2010) Nursing Standard Prevention, Control, and treatment of scabies Vol.25 No.9 P42-46.
- Johnston.G. Sladden. (2005) Scabies: diagnosis and treatment. British Medical Journal.331. 7517. 619-622.
- Mercier. C. (1997) *Infection control. Hospital and community*. Stanley Thornes. Padstow.
- Nash. B. (2003) *Treating Head Lice*. British Medical Journal. Vol. 326. p. 1256-1257.
- National Institute for Health and Care Excellence Clinical Knowledge Summaries (2017) *Management of Scabies* cks.nice.org.uk/scabies.
- NHS England and NHS Improvement (March 2019) *Standard infection control precautions: national hand hygiene and personal protective equipment policy*.
- Public Health Medicine environmental group. (2012) Headlice: evidence- based. Based on the Stafford report. Accessed at <https://www.nhsggc.org.uk/media/239960/stafford-head-lice-2012.pdf>. [Accessed 18/11/2021].
- Public Health England. (2013) West Midlands West Public Health Team Information Pack for the management of scabies.
- Public Health England. (2018) Infection Prevention and Control: An Outbreak Information Pack for Care Homes - The “Care Home Pack” Accessed at

<https://www.england.nhs.uk/south/wp-content/uploads/sites/6/2019/10/phe-sw-care-home-pack-oct19.pdf>. [Accessed 18/11/2021].

Wilson. J. (2002) *Infection control in clinical practice*. Baillière Tindall. Chain.

Wilson. J. (2006) *Infection control in clinical practice* third edition Baillière Tindall. Chain.

Part A - Document Control

Policy number and Policy version: IP 11 Version 6.0	Policy Title IP 11 -Infection Prevention management of patients affected by common UK parasites	Status: Final		Author: Infection Prevention Nurse Director Sponsor: Director of Infection Prevention and Control
Version / Amendment History	Version	Date	Author	Reason
	V1	Oct 2007	Lead IPN	1 st Version
	V2	Feb 2011	Lead IPN	3- Year review
	V3	Nov 2012	Infection Prevention Nurse	Rationalisation required due to TCS
	V4	Dec 2015	Infection Prevention Nurse	Review date
	V5	Dec 2018	Infection Prevention Nurse	Review Date
	V6	Jan 2022	Infection Prevention Nurse	Review Date
Intended Recipients: Trust Wide				
Consultation Group / Role Titles and Date: Infection Prevention Team November 2021 Consultant Microbiologists November 2021 Infection Prevention and Control Group (IPCG) November 2021				
Name and date of Trust level group where reviewed		Trust Policy Group – January 2022		
Name and date of final approval committee		Trust Management Committee – January 2022		
Date of Policy issue		February 2022		
Review Date and Frequency (standard review frequency is 3 yearly unless otherwise indicated)		January 2025 and every 3 years		
Training and Dissemination: The approved policy can be found on the Trust Internet System Managers and Matrons will be informed of the launch and any revisions to the policy Basic Training will be provided on induction through the local induction process Further Training will be arranged in response to audit findings				

<p>To be read in conjunction with: Hand Hygiene Policy IP01 Standard Precautions IP12 Glove Policy IP09 Outbreaks of Communicable Infection/ Infection Prevention/Serious Incident policy IP13</p>	
<p>Initial Equality Impact Assessment (all policies): Completed Yes / No Full Equality Impact assessment (as required): Completed Yes / No / NA If you require this document in an alternative format e.g., larger print please contact Policy Administrator 8904</p>	
<p>Monitoring arrangements and Committee</p>	<p>Infection Prevention and Control Group</p>
<p>Document summary/key issues covered.</p> <p>To ensure the relevant action and management of patients with ectoparasitic infestation is undertaken and to prevent further spread of infestation.</p> <p>Infestations caused by ectoparasites (scabies, body, and head lice) and threadworms are often only minor irritations. Parasites can thrive because individuals are reluctant to admit to having them or to take steps to eliminate them. Infestations caused by parasites, if not detected, can create problems within healthcare facilities.</p> <p>Infestations occur within all community settings periodically and can result in debilitating and distressing symptoms for those affected by them. This policy outlines the Trust response to the management of individuals and co-ordination of outbreaks which is required to prevent further transmission. Standard infection prevention precautions together with a coordinated approach to treatment must be employed so that morbidity for patients and contacts is avoided.</p>	
<p>Key words for intranet searching purposes</p>	<p>Parasites, Scabies</p>
<p>High Risk Policy? Definition:</p> <ul style="list-style-type: none"> • Contains information in the public domain that may present additional risk to the public e.g., contains detailed images of means of strangulation. • References to individually identifiable cases. • References to commercially sensitive or confidential systems. <p>If a policy is considered to be high risk, it will be the responsibility of the author and director sponsor to ensure it is redacted to the requestee.</p>	<p>Yes/ No (delete as appropriate) If yes include the following sentence and relevant information in the Intended Recipients section above – In the event, that this is policy is made available to the public the following information should be redacted:</p>

Part B

Ratification Assurance Statement

Name of document: Policy Number IP-11 Infection prevention management of patients affected by common UK parasites

Name of author: Michelle Bonney-Wheate

Job Title: Infection Prevention Nurse

I, _____ the above-named author confirms that:

- The Strategy/Policy/Procedure/Guidelines (please delete) presented for ratification meet all legislative, best practice and other guidance issued and known to me at the time of development of the said document.
- I am not aware of any omissions to the said document, and I will bring to the attention of the Executive Director any information which may affect the validity of the document presented as soon as this becomes known.
- The document meets the requirements as outlined in the document entitled Governance of Trust- wide Strategy/Policy/Procedure/Guidelines and Local Procedure and Guidelines (OP01).
- The document meets the requirements of the NHSLA Risk Management Standards to achieve as a minimum level 2 compliance, where applicable.
- I have undertaken appropriate and thorough consultation on this document, and I have detailed the names of those individuals who responded as part of the consultation within the document. I have also fed back to responders to the consultation on the changes made to the document following consultation.
- I will send the document and signed ratification checklist to the Policy Administrator for publication at my earliest opportunity following ratification.
- I will keep this document under review and ensure that it is reviewed prior to the review date.

Signature of Author: Michelle Bonney-Wheate

Date: November 2021

Name of Person Ratifying this document (Director or Nominee):

Job Title:

Signature:

- I, the named Director (or their nominee) am responsible for the overall good governance and management of this document including its timely review and updates and confirming a new author should the current post-holder/author change.

To the person approving this document:

Please ensure this page has been completed correctly, then print, sign, and email this page only to: The Policy Administrator

IMPLEMENTATION PLAN

To be completed when submitted to the appropriate committee for consideration/approval

Policy number and policy version IP11 V6.0.	Policy Title Infection prevention management of patients affected by common UK parasites	
Reviewing Group	Infection Prevention and Control Committee	Date reviewed: November 2021
Implementation lead: Print name and contact details		
Implementation Issue to be considered (add additional issues where necessary)	Action Summary	Action lead/s (Timescale for completion)
Strategy; Consider (if appropriate) 1. Development of a pocket guide of strategy aims for staff 2. Include responsibilities of staff in relation to strategy in pocket guide.	Policy available for staff to refer to on the Trust Intranet	Completed
Training; Consider 1. Mandatory training approval process 2. Completion of mandatory training form	Policy awareness delivered as part of monthly IP Trust induction session	Infection Prevention Team at Trust Induction and Mandatory Training
Development of Forms, leaflets etc; Consider 1. Any forms developed for use and retention within the clinical record MUST be approved by Health Records Group prior to roll out. 2. Type, quantity required, where they will be kept / accessed/stored when completed	Not applicable	
Strategy / Policy / Procedure communication; Consider 1. Key communication messages from the policy / procedure, who to and how?	IPCG / Senior Managers Operational Group meetings Trust Intranet in Infection Prevention Policy suite Staff Team Meetings for local launch and implementation Staff Bulletin	Head of Nursing – Corporate Support Services Senior Matron – Infection Prevention
Financial cost implementation Consider Business case development	None Identified	
Other specific Policy issues / actions as required e.g., Risks of failure to implement, gaps or barriers to implementation	N/A	

Appendix 1

Pediculus humanus capitis (head louse)

1.0 What are head lice?

Head lice are a common problem, which can affect the whole community, adults, and children alike; however, head lice infestation is most common amongst children. Infestation of head lice is known as pediculosis. Fortunately, they do not transmit disease, although their presence can be very bothersome.

Head lice are tiny flat six-legged wingless insects, measuring 2-3mm in length. They are mainly found near the scalp especially behind the ears and at the back of the neck. They may also be found in the axillae, beard, eyelashes, and eyebrows. They inject saliva into their hosts as they feed to prevent the blood clotting, this results in itching, which at best is annoying and at worst can result in infection if scratched too vigorously.

Head lice are transmitted by prolonged head-to-head contact, they cannot hop or jump. They do not willingly leave a head except to walk directly onto another head. If a louse falls onto a hat, hairbrush, or chair back, it is almost certainly dead or dying and will not cause problems.

The female louse lays the eggs in sacs, which are very small, dull in colour and well camouflaged. These are securely glued to hairs as close as possible to the scalp, in order, to ensure that they are at the optimum temperature for incubation. They hatch after 7 to 10 days, and then turn pearly white. The young louse is mature after 10 days, during which it will have moulted three times, and lives for 4-6 weeks.

The empty eggshell is called the 'nit' and is sometimes the first sign of infestation. As the hair grows the hatched-out nits become more obvious and can be seen further from the scalp. Nits that are a long way from the scalp will have hatched out several weeks before. On average an individual will have been infested for 4 months before lice are detected. Nits are often easier to see than the head lice themselves. Many people mistake the nits for head lice or believe that it is evidence of an active head lice infestation. This may only be evidence of a previous infestation; it doesn't exclude current infection.

All reactions to lice take time to show, as it takes repeated bites for an individual to become sensitised and start to itch. Anyone can acquire head lice. They much prefer clean heads to dirty ones, so even the cleanest person can be affected.

1.1 Do head lice only affect the hair?

No. Head lice can also be found in the eyelashes and / or eyebrows. If only a few nits are found, it may be possible to remove live lice and nits (fingertip removal). If additional treatment is required, apply an ophthalmic-grade petrolatum ointment to the eyelids 3 times a day for 2-3 weeks (e.g., simple eye ointment; soft yellow paraffin based or lacrilube eye ointment; soft white paraffin based). This blocks the louse's respiratory system and causes them to suffocate. Insecticide lotions are not licensed for use on eyelashes and eyebrows.

NB: a head lice infestation cannot be diagnosed unless a living louse has been found on the head.

2.0 How are head lice detected?

The Stafford Report update (2012) highlighted that, weekly checks, by 'wet combing' is the most effective method of detection.

'Wet combing' involves washing the hair and applying conditioner, then combing through with a wide tooth comb to remove tangles.

- Examine the hair meticulously by taking a section at a time, using a fine-tooth plastic detection comb. The comb must be fine enough with flat teeth 0.2-0.3mm apart to catch the lice.
- Pull downwards through each section from the top of the head to the edge of the hair in all directions, keeping the comb close to the scalp (where the head lice are often located). This takes at least 30 minutes each time (BNF 2015).
- Comb the hair over white paper or a light colour towel.
- Check for lice on the comb or white surface after combing each section. Look behind the ears, nape of neck and at the hair close to the scalp for nits. These are tiny cream-coloured empty eggshells, glued to the hair.
- Lice become dormant when wet. However, as they dry out on the tissue they start to move after 1-2 minutes. This is an easy way of detecting live lice.
- Check pillows and collars for little black specks, which are the droppings and shed skins of lice.
- A significant proportion of lice are damaged or killed by the action of a comb moving vigorously through the hair. This is a very important prophylactic measure and an ordinary grooming comb is recommended for this. This process must be completed weekly. If head lice are found all other family members must be checked and, if necessary, treated. Checks must be continued following treatment to ensure that it has been effective and to detect any re-infestation.

3.0 What infection prevention measures are required?

Head lice can be spread quickly. If a patient has lice, then everyone who has had close contact with them must be assessed, even if they do not have signs of lice.

- Patient treatment.
- Clothing, routine laundering.
- Bedding, routine laundering.
- Environmental, routine cleaning.
- Members of the family or close contacts could be infested. If there is evidence of live walking lice it may be necessary for them to undergo concurrent treatment.

4.0 What is the treatment for head lice?

Once infestation is detected, there are two treatment approaches. One option is the use of insecticide lotions, and an alternative is removal by wet combing, sometimes called 'bug-busting'. Both methods require continued combing to remove any un-hatched eggs.

The aim of the treatment is to remove the lice from the scalp and hair in order to prevent secondary infections from scratching and skin conditions such as impetigo etc. and to prevent infestation spreading to close contacts and staff. A louse takes between 3-5 days to die; they may be more visible on the head after treatment as they move from the scalp, but they are not viable. Aston et al (1998) recommend that wet combing must be discouraged as a treatment and only used for detection purposes. The exception to this is pregnant and breast-feeding mothers and children less than 6 months of age.

4.1 Chemical treatment

Chemical treatment ([Appendix 2](#)) is currently the only method that has been demonstrated scientifically to be effective (Dawes 2002). This must be offered as a first line treatment when current infestation is definite.

The application of an insecticidal product must only be made if evidence of live moving lice is found. Finding nits (empty eggshells) is not an indication for treatment; they can persist after successful treatment. If the lice persist after a second application, which must be applied after 7 days, then a change to a different product must be made using the same criteria for the first treatment approach. Nobody must ever be treated with the same insecticide repeatedly.

When using insecticides, it is important to emphasise to the patient not to use conditioner at all, as this has been found to prevent the insecticide working effectively (Burgess 2003).

Insecticide treatment must **never** be used as a preventative measure as the use of insecticidal products on a regular basis may result in insecticidal resistance. Insecticide lotions must only be used when a living louse has been found on the head.

Chemical treatments may be flammable and must be kept away from naked flames.

4.2 Shampoo

Shampoo treatment must not be used as shampoos are diluted too much in use to be effective. A contact time of 8–12 hours or overnight treatment is recommended for lotions and liquid (BNF 2018).

4.3 Wet combing

An alternative option for dealing with head lice is wet combing, sometimes called

'bug busting'. This is a non-chemical approach that involves mechanical removal of all lice from the hair after the hair has been washed and conditioned. With the conditioner still in, the hair is combed gradually using a fine-toothed comb, section by section, in order to remove the lice. Wet combing is time consuming and to be effective, must be carried out every 4 days for a minimum of 2 weeks and confirmed until no lice are found on 3 consecutive sessions to remove newly hatched lice. Hair conditioner or vegetable oil can be used to facilitate the process (BNF 2015).

Insecticide treatments offer a more immediate solution to a head lice infestation, but some individuals may have concerns about using these sorts of treatments. However, some individuals especially children may be sensitive to chemicals in conditioners so wet combing is not necessarily a wholly 'natural' treatment.

4.4 Other remedies

There is currently no scientific evidence to support the use of electric combs and homeopathic remedies (Nash 2003).

5.0 What if treatment failures?

Some cases appear difficult to eradicate, and there are various causes.

- Failure to apply lotion according to instructions.
- Re-infestation this is likely if full-sized adult lice are found on detection combing 7 days following treatment.
- Resistance before assuming resistance, it is important to ensure that all the steps as outlined [Appendix 4](#) have been followed.

In each case a full assessment, including diagnosis and contact tracing is required before further treatments are applied. Insecticide preparations must not be used for more than one complete treatment of two applications, 7 days apart, unless a careful assessment has been made. Insecticidal shampoos are not effective.

5.1 Poor treatment technique

Where treatment technique is thought to be inadequate supervision and assistance with treatment may be appropriate. Re-treat with the same preparation, ensuring that all contacts with proven infection are treated simultaneously (CKS 2012).

5.2 Re-infestation

Re-infestation occurs as a result of contact with an unidentified or untreated case. Cases of re-infestation can be distinguished from resistant cases within 7 days of treatment because only adult lice and third stage nymphs (those approaching adulthood) can have the ability to move to a new host and will be present when there is re-infestation. Whereas resistant cases will have lice at all stages of development.

5.3 Resistant

If poor treatment technique and re-infestation has been excluded, insecticide resistance must be considered. Genuinely resistant cases need to be treated with a second insecticide from a different class and pharmacy advice should be sought. Also see [Appendix 2](#).

6.0 How can they be prevented?

The best way to stop the spread of infestation is for families to learn how to check their own heads, by detection combing. This way they can find any lice before they have a chance to breed. Infestations can be treated quickly and reduce the risk of spread to other members of the family. National guidance no longer recommends the use of alert letters (except at the discretion of the head teacher) as parent perceptions of a background level of infection could be altered into one of a pseudo-outbreak. This may lead to an increase in parents using insecticidal lotions as an inappropriate prophylactic.

7.0 Contract tracing

Prevention of recurrence is based mainly on identifying and treating those who have had contact, and those who are unsuspecting carriers, as they may pass the infestation back to treated individuals. Individuals and their families must be encouraged and advised to positively look for the source of the head lice infestation. This must include checking all those individuals who have social close contact with the individual, wherever possible this exercise must go back 2-4 weeks.

8.0 Exclusion from school

Children who are being treated for head lice can still attend school. The rationale behind this advice is as follows:

8.1 Exclusion from school cannot ensure the elimination of infection from the family of a child.

8.2 It is an unproductive and undesirable overreaction to a problem which is not a public health threat.

8.3 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.

8.4 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 must 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).

Appendix 2

Drug treatments of head lice:

Depending on the preference of the individual or parent and on the treatment history, treat with:

- Dimeticone 4% lotion (Hedrin®).
- Wet combing using the Bug Buster® comb and method.
- Isopropyl myristate and cyclomethicone solution (Full Marks Solution®).
- Coconut, anise, and Ylang Ylang spray (Lyclear Spray Away®).
- Malathion 0.5% aqueous liquid.

All treatments need more than one treatment session.

No treatment can guarantee success.

Treatment has the best chance of success if it is performed correctly and if all affected household members are treated on the same day.

Advise people to check whether treatment was successful by detection combing on day 2 or day 3 after completing a course of treatment, and again after an interval of 7 days (day 9 or day 10 after completing a course of treatment).

- Dimeticone 4% lotion (Hedrin® lotion), a physical insecticide

A physical insecticide coats the head lice and interferes with the water balance. Suitable for all ages, those with skin conditions, and those with asthma. It cannot be purchased over the counter for children younger than 6 months of age. It must be applied twice with 7 days between applications. Dimeticone is left on the hair and scalp for 8 hours or overnight and is then washed-out using shampoo.

- Wet combing using the Bug Buster® comb and method

Suitable for all ages, those with skin conditions, and those with asthma. Unlike other treatment options, the Bug Buster® comb is reusable; one comb can be used to treat the whole family. Treatment involves methodically combing wet hair with the fine-toothed Bug Buster® comb to remove lice. This is undertaken for four sessions over 2 weeks. Wet combing must be continued until no full-grown lice have been seen for three consecutive sessions.

- Isopropyl myristate and cyclomethicone (Full Marks Solution®), a physical insecticide

Suitable for those with asthma. Not suitable for children younger than 2 years of age or people with skin conditions. It must be applied twice with 7 days between applications. It is left in place for 10 minutes. The hair is then systematically combed with a fine-toothed comb to remove lice and is then washed using shampoo to remove the solution.

- Coconut, anise, and Ylang Ylang spray (Lyclear Spray Away®), a physical insecticide

Not suitable for children younger than 2 years of age, people with skin conditions, or

those with asthma.

It must be applied twice with 7 days between applications. The spray is left in place for 15 minutes. The hair is then washed using shampoo to remove the spray, and then systematically combed with a fine-toothed comb to remove lice.

- **Malathion 0.5% aqueous liquid, a traditional insecticide**

Suitable for all ages and those with skin conditions. It cannot be purchased over the counter for children younger than 6 months of age.

It must be applied twice with 7 days between applications. The insecticide is applied to the hair from the roots to the tips, left on the hair and scalp for 12 hours or overnight, and then washed-out using shampoo.

- **Pregnancy and breastfeeding**

For women who are pregnant or breastfeeding, treat head lice with wet combing or Dimeticone lotion.

If a traditional insecticide is required as an alternative in treatment failure, Malathion is recommended.

Selecting treatment

	Drug	Age	Dose	Quantity
Insecticides	Malathion 0.5% aqueous lotion	6 months on wards	Apply to dry hair and scalp. Leave to dry naturally. Wash off using shampoo after 12 hours or overnight. Repeat after 7 days.	Two 50 ml bottles
	Isopropyl myristate and cyclomethicone solution	2 years of age onwards	**Do not use for people with eczema and broken skin Apply to dry hair and scalp. Leave to dry naturally. After 10 minutes, systematically comb the hair with a fine-toothed comb to remove lice and then wash off using shampoo. Repeat after 7 days.	
	Dimeticone 4% lotion	6 months on wards	Apply to dry hair and scalp. Leave to dry naturally. Wash off using shampoo after 8 hours or overnight. Repeat after 7 days.	Two 50 ml bottles
	Coconut, anise, and Ylang Ylang spray	2 years of age onwards	**Do not use for people with asthma, eczema, and broken skin	
Wet combing	Bug Buster Kit	1 month on wards	Wet comb every 4 days for at least 2 weeks. If lice are detected, continue until no full-grown lice have been found for three consecutive sessions	One kit

Treatment options for pregnancy and breastfeeding women

Women who are pregnant or breast-feeding must wear protective clothing e.g., rubber gloves if applying head lice treatment to themselves or other individuals.

Treatment	Dose	Quantity
Wet combing Bug Buster Kit	Wet comb every 4 days for at least 2 weeks. If lice are detected, continue until no full-grown lice have been found for three consecutive sessions	One kit
Dimeticone 4% lotion	Apply to dry hair and scalp. Leave to dry naturally. Wash off using shampoo after 8 hours or overnight. Repeat after 7 days.	Two 50 ml bottles
Malathion 0.5% aqueous lotion	Apply to dry hair and scalp. Leave to dry naturally. Wash off using shampoo after 12 hours or overnight. Repeat after 7 days.	Two 50 ml bottles

Appendix 3

Preparations for the treatment of head lice:

Malathion: is an organophosphate insecticide. Unlike other pediculicides it is active against both hatched lice and their eggs. It is safe and effective. It must only be used at repeated intervals of 7 days or applications for a maximum of 3 consecutive weeks. Medical supervision is required in children under 6 months old.

Malathion (Derbac-M®) is an aqueous based solution and must be used for individuals with severe eczema, asthma, and children under 6 months of age.

Dimeticone: acts on the surface of the organism. It coats head lice and interferes with water balance in head lice, preventing the excretion of water. It is less active against eggs. Repeat the treatment after 7 days. Patients/Parent must be told to keep hair away from heat e.g., fire and flames during treatment. Medical supervision is required in children under 6 months old.

Children under the age of 6 months or children with allergic conditions such as asthma etc. (2 years for Lyclear) must be treated under medical supervision.

Appendix 4**Instructions for treatment of head lice:****Step 1:**

- The hair must be clean before applying treatment, free from chlorine, conditioners, gels, and mousse.
- Apply the lotion to dry hair.
- Use one bottle of head lice treatment per person for each application applied.
- Wear appropriate Personal Protective Equipment (PPE) such as apron and gloves.
- Part the hair into sections and rub in the lotion all over the scalp. 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 for a contact time of 8-12 hours or overnight according to the manufacturer's instruction.
- Rinse thoroughly with water.
- Wash hair and dry in the normal way.
- Although the head lice treatment will kill head lice and their eggs, they will not remove dead eggs.
- Comb hair each day with an ordinary good quality comb ensuring the comb is taken down the scalp.
- Check the head ten days after treatment if live lice are still present repeat the treatment with the same lotion.
- 10 days after the second treatment, if live lice are present, proceed to step 2.

Step 2:

- 10 days after step 1, if live lice are present then step 2 must be implemented.
- A different type of insecticidal lotion or liquid must be used in the same manner as step 1 for 24 hours, with two treatments 10 days apart, if necessary.
- If live lice are still found 10 days after the second treatment, proceed to step 3.

Step 3:

- If live lice are still present 10 days after the completion of step 2, and the existence of live head lice confirmed then step 3 must be implemented.
- A different type of insecticidal lotion or liquid must be used in the same manner as step 1.
- Use two applications, 10 days apart.

Leaflet: Removed no longer published.

Replaced by NHS website.

<https://www.nhs.uk/conditions/head-lice-and-nits/>.

Appendix 5

Pediculus humanus corporis (body and clothing louse)

1.0 What are body lice?

Body lice are uncommon in Britain. They are mainly found in clothing but can also be found on body surfaces especially around the waist and in the axillae. They lay their eggs in clothing, especially the seams and visit the skin to feed. They can survive in clothing away from the host for up to one month. Transmission occurs in overcrowded conditions by person-to-person contact and, or contact with infested clothing, especially if clothing is shared. Body lice are easily eradicated, as they will die if the clothing is not worn for at least 4 weeks. Diagnosis depends upon seeing live lice in the seams of clothing, which may also contain large number of eggs.

1.0 What infection prevention measures must be implemented?

- Where body lice are suspected an opinion must be sought from a dermatologist at the earliest opportunity.
- Treatment is of the clothing rather than the patient.
- Clothes must be washed at temperature above 60°C for at least 15 minutes.
- **OR** turn dry clothes inside out and tumble dry for at least 45 minutes on a hot setting, then wash as normal.
- **OR** turn dry clothes inside out and dry clean.
- Hospital linen, treat the same as for fouled / infected linen.
- No specific treatment is required for the patient, apart from bathing and putting on clean clothes.
- Environmental, routine cleaning.
- Advise sexual partner to seek medical attention for advice.

Appendix 6

Pthirus pubis* (pubic louse)*1.0 What are pubic lice?**

Pubic lice are usually spread through sexual contact. Rarely, infestation can be spread through contact with an infested person's bed linen, towels, or clothes. A common misunderstanding is that 'infestation is spread by sitting on a public toilet'. This is very unlikely since the lice cannot live for long away from the warmth of the human body; also, they do not have feet designed for walking or holding onto smooth surfaces.

Pubic lice although generally found in the genital area on the pubic hair, can be found on any part of the body where there is coarse hair, for instance axillae, chest, beard, eyelashes, and eyebrows; they are extremely itchy.

There are three stages in the life of a pubic louse:

- **Nits:** are pubic lice eggs, they are hard to see and are found firmly attached to the hair shaft, they are oval and usually yellow to white. They take about 7 days to hatch.
- **Nymphs:** the nit hatches into a body louse called a nymph. It looks like an adult but is smaller; they mature in about 7 days. To live, the nymph must feed on blood.
- **Adults:** resembles a miniature crab when viewed through a strong magnifying glass. They have six legs, but their two front legs are very large and look like the pincher claws of a crab. They are tan to greyish white in colour. To live they must feed on blood, and if they fall off, an individual they die within 1-2 days.

1.1 Do you only find pubic lice in hairy parts of the body?

No, you can also find pubic lice in the eyelashes and the eyebrows. If only a few nits are found, it may be possible to remove lice and nits (fingertip removal). If additional treatment is required, apply an ophthalmic-grade petrolatum ointment to the eyelids 3 times a day for 2-3 weeks (e.g., simple eye ointment; soft yellow paraffin based or lacrilube eye ointment; soft white paraffin based). This blocks the louse's respiratory system and causes them to suffocate. Insecticide lotions are not licensed for use on eyelashes and eyebrows.

2.0 How are pubic lice detected?

A pubic lice infestation is diagnosed by looking closely through the pubic hair for nits, nymphs, or adults. It may be difficult to find nymph or adult; there are usually a few of them and they can move quickly away from the light. If crawling lice are not seen, finding nits confirms that a person is infested and must be treated.

3.0 What is the treatment of pubic lice?

Treatment is by aqueous preparations, which must be applied to all hairy parts of

the body, not just the pubic region. Suitable effective preparations include Malathion 0.5% such as Derbac-M® and Permethrin 5% dermal cream such as Lyclear Dermal Cream®. When selecting a preparation, it is important to choose one that does not contain alcohol, as they will irritate the sensitive skin.

3.2 What is the treatment for pubic lice found in eyelashes?

Insecticide lotions are not licensed for use on eyelashes. It is recommended to apply soft white paraffin to the eyelids and lashes 3 times a day for 2-3 weeks. This blocks the louse's respiratory system and causes them to suffocate.

3.3 How is the treatment is applied?

- Bathe thoroughly and towel dry.
- Apply suitable preparation over all the body surfaces, including the scalp, neck, and face, paying particular attention to eyebrows and other facial hair.
- The preparation must be applied to clean but cool and dry skin.
- Leave to dry naturally, for the recommended time as indicated in the manufacturer's instructions.
- Wash off after 12 hours, or after leaving on overnight according to manufacturer's instructions.
- Comb pubic and coarse hair with a fine-tooth comb to remove any eggs.
- Wear clean underwear and clothing.
- Wash all linen and clothes used during the 3 days prior to commencement of treatment on the hottest cycle the fabric can tolerate, and tumbler dry cleaning can also be used if necessary).
- The itch may persist for a few days after successful treatment.
- Repeat treatment after 7 days to kill emerging lice from surviving eggs.
- A different insecticide must be used if a course of treatment fails.

4.0 Contact tracing

Prevention of recurrence is based mainly on identifying and treating those who have had contact, and those who are unsuspecting carriers, as they may pass the infestation back to treated individuals. Individuals and their partners must be encouraged and advised to positively look for the source of the pubic lice infestation, wherever possible this exercise must go back 2-4 weeks.

- Inform any sexual partners that they are at risk for infestation.
- Do not have sex until treatment is completed.
- Do not have sex with infected partners until partners have been treated and infestation has been cured.
- Advise referral to GUM clinic for full screen due to possibility of other infections.

Appendix 7

Management of Scabies**1.0 What is scabies?**

Scabies is an inflammatory disease of the skin caused by a tine mite, *Sarcoptes scabiei*, which burrows through the stratum corneum, tunnelling 5 mm a day (Wilson 2002). Although scabies is a systemic disease, the major symptoms are dermal. The burrow (thin white lines a few mm in length) behind the mite is progressively carried outwards towards the surface of the skin as it renews itself. As the mite advances, faecal pellets and eggs are laid in the burrow – the female mite lays 2-3 eggs in the burrows each day and lives for around 6 weeks.

The mites produce faecal pellets from which an allergen diffuses into the dermis and eventually enters the bloodstream, causing the symptoms of scabies. As with all allergies the appearance of symptoms is delayed, usually appearing 4-6 weeks after infection (Gould 2010). In re-infection, the incubation period is much shorter, with fewer mites present; it is possible that the allergic reaction will be immediate (Wilson 2002, Damani 2003).

During the asymptomatic period transmission of the mite to close contacts can occur. This can make the spread very difficult to contain and is the reason for treating contacts and cases at the same time.

Scabies can affect anyone without regard to age, sex, race, or standards of personal hygiene. The appearance, severity of symptoms and their precise nature are influenced by the immune status of the individual.

2.0 What is the *Sarcoptes scabiei* life cycle?

The scabies mite life cycle requires constant contact with human skin. The impregnated female remains fertile throughout her life, approximately 30 days. She lays 2-3 eggs per day, these hatch after 3-5 days, and the larvae establish a fresh burrow off the maternal burrow, becoming adult's 10-15 days later (Gould 2010). Since each mite lays 2-3 eggs per day for 30 days, an enormous number of mites would be expected within a few months. Fortunately, less than 10% of the eggs, give rise to adults, and the average number of adult mites per person is 10-20 (Wilson 2002). Burrows are not easily seen but may be visible as tiny white lines, 15-30mm and with a brown spot (Johnston & Sladden 2005).

3.0 How are scabies transferred?

The mite is slow moving, and transmission is by prolonged direct contact, skin-to-skin contact for 2 to 6 minutes or more, this happens most frequently whilst holding hands or by other intimate contact (Johnston & Sladden 2005). The mite does not survive for long periods outside of the body, as its basic requirements for survival are dependent upon the humidity and heat of their host.

Classical scabies: clothing, bedding or upholstery does not readily transmit classical scabies, and these can be cleaned and, laundered as per normal (Gould 2010).

Crusted scabies: during outbreaks the focus for prevention must be around treatment of case contacts. There is some evidence to suggest that contact with bedding, clothes and upholstery may result in transmission, as there can be large numbers of mites present in the exfoliating scales (Gould 2010), therefore in these circumstances regular environmental vacuuming and frequent changes of clothes and bedding is recommended. Clothes and bedding must be laundered at normal washing temperature for the fabrics. Isolation precautions are recommended until treatment has been completed (Wilson 2006).

4.0 What is Classical scabies?

This is the form of scabies, which is generally found in healthy individuals with normal immune systems (Gould 2010). Burrows may appear anywhere, with 80% of them being found on the hands, particularly in the finger webs and wrists. When the person becomes sensitised, the major symptom is a maculo-papular rash, which is extremely itchy, especially at night (Gould 2010). The rash can be so severe that people often scratch until they bleed; often this is the only clue to diagnosis. The distribution of the rash is characteristic and is always bilaterally symmetrical; it does not affect the centre of the chest, the back of the head. It usually affects the genitalia, shoulder blades, axilla, forearms, inner thighs and around the waist. Secondary skin lesions are quite common and include papules, excoriations, and crusts.

5.0 What is Hyperkeratotic / Crusted scabies (Norwegian Scabies)?

This form of scabies is extremely rare and occurs in those whose immune systems are severely impaired (Gould 2010). In the absence of a normal immune system the body cannot control the mite infestation and the mite multiplies rapidly, causing many thousands of mites to spread all over the body, including the head (Wilson 2006). There is no allergic response, the itchy rash does not appear, and the disease is not uncomfortable. This form is extremely contagious and is often at the centre of an outbreak and may result in many patients and staff becoming infected (Johnston & Sladden 2005). Contacts with a normal immune system may develop conventional classical scabies (Wilson 2006). Typically, the skin becomes crusted, thickened, and reddened due to the large number of mites present. This can be very unsightly, and the condition can often be misdiagnosed as eczema or psoriasis. The patient is usually immunocompromised in some way, and frequently elderly.

6.0 What is atypical scabies?

Scabies is atypical in any individual with immune or impaired response. Symptoms are variable; scaling or crusting may be present but is usually slight. Itching may also be very slight or absent, and it may be some time before the infestation is diagnosed (Johnston & Sladden 2005).

A high proportion of atypical cases occur in people in various long-term establishments such as care homes.

7.0 What are the clinical signs and symptoms of scabies?

The main symptoms of scabies infestation are caused by an allergic response to the presence of the mite (Wilson 2006). Scabies presents with a combination of itching, burrows, and a symmetric rash consisting of red papules, vesicles, nodules, crusted lesions, and eczematous patches. The itching is often worst when the body is warm, for

example after exercise, during the night or following a warm bath (Gould 2010). The earliest lesion is a burrow, presenting as a short white, wavy line. Most burrows are destroyed due to the intense itching. Burrows are best observed on the finger webs and flexor aspects of the wrists and elbows. Lesions are also observed under the breasts and armpits, on the penis and around the navel area (Wilson 2002).

The classical scabies rash is widespread, symmetrical and can affect almost any part of the body (Wilson 2006). In adults the head is usually spared, whereas in infants the rash may be generalised. The distribution of the rash is not related to the location of the mites and burrows (Maunder 1983), it is for this reason that the whole body must be examined and treated. Rashes on the palms of the hands are rare, but scabies must always be considered as part of the differential diagnosis if skin lesions appear on the palms (Wilson 2006).

8.0 How are scabies transmitted?

The mite is transmitted from person-to-person by sustained (2-6 minutes or more) unbroken skin-to-skin contact.

9.0 What is the incubation period?

The incubation period can be up to 6 weeks.

10.0 How is scabies diagnosed?

It may be difficult to diagnose but the key to detecting the infestation is to include scabies in the differential diagnosis of any skin rash, especially if they are itchy. The most important factor in making a diagnosis of scabies is clinical suspicion based on the combination of severe itching, typical distribution of a symmetrical rash, and presence of itching in family members and or other close contacts (Mercier 1997).

Patients, - who have an undiagnosed rash on admission, must be examined carefully by a doctor as soon as possible. The patient can be referred to a Consultant Dermatologist if there are still problems with the diagnosis. In **all suspected cases** the Infection Prevention Team must be informed. If the patient has been admitted from a Care Home, the Infection Prevention Team will inform Health Protection Agency, the patient's GP, and the Care Home.

Diagnosis can be confirmed by:

- A clinical history of an itchy symmetrical rash, which is worst at night on the hands, wrists, upper arms, waist, thighs, and ankles:
- A history of having close contact with a person with a similar rash within the previous 6 weeks:
- It is not always necessary to have laboratory confirmation if a clinician is confident of the diagnosis.

An outbreak of scabies is defined as two or more people that have been diagnosed as probable scabies (Gould 2010).

11.0 What is the treatment for scabies?

Source isolation precautions must be implemented for all suspected and confirmed cases, including the use of long sleeve gowns / barrier which protects the forearms where prolonged skin-to-skin contact during clinical activity is anticipated. Hand hygiene is essential and must include the forearms. Electrical fans are not a suitable method for cooling patients with hyperkeratotic or crusted scabies (Norwegian Scabies), as any dispersal of skin scales must be limited as much as possible (extremely large numbers of mites can be shed with skin scales).

Scabicial lotion must be applied to cool dry skin; the skin does not need to be washed first, and in fact the lotions are more effective if the skin is not washed first. It is important not to wash during the treatment period, which is defined in the preparation information. If the skin should happen to be washed, then the lotion must be reapplied after the skin has been dried. A careful and very thorough single application is usually adequate. In instances of heavy scabies infestation, a second application may be necessary, and is best applied after an interval of 5-6 days, the time interval for eggs to mature but not too long for them to develop into adults.

If crusted scabies is suspected it is important that the patient is referred to a Consultant Dermatologist, as specialist systemic treatment combined with intensive treatment of the crusted lesions is required.

During an outbreak of scabies there may be both symptomatic and asymptomatic people. Therefore, it is very important that close contacts are treated irrespective of signs and symptoms. It is important to set a treatment day and then for all concerned to be treated on the same day. **Aqueous solutions are preferable to alcoholic lotion as they are less likely to irritate excoriated skins.**

Itching will not disappear immediately and may take 10-14 days (in some cases longer), it is important that this is explained to the patient. If the itching persists for longer than 14 days, antihistamines and emollient will usually relieve symptoms.

12.0 Oral treatment

Ivermectin has been shown to be effective against crusted or Norwegian scabies unresponsive to topical treatment alone. Used in combination with a topical application, dose of 200 micrograms/kg for one single dose, (BNF 2021, Anderson et al 2000). Further doses of 200 micrograms/kg may be required. Ivermectin is unlicensed and non-formulary but is available on a named patient basis from special order manufacturers or specialist importing companies.

13.0 Prescribing

Where a course of treatment fails to cure, a different insecticide is used for the next course. Medical supervision is required in children aged 2 months to 2 years old for the use of Permethrin and in children under 6 months old for Malathion. There must be discussion with a pharmacist regarding the current recommended treatment. The two most commonly used effective topical treatments currently available are permethrin and malathion.:

- **Permethrin 5% (Lyclear Dermal Cream®)** – Licensed for use in children 2 months of age and over. Multiple packs may be required for treatment in bariatric patients.
- **Malathion 0.5% (Derbac-M®)** – licensed for use in children 6 months of age and over. This must be used if Permethrin is inappropriate.

Patients with hyperkeratotic scabies may require 2 or 3 applications of Acaricide on consecutive days to ensure enough penetrates the skin crust to kill all the mites.

13.1 Prescribing in Pregnancy and Breastfeeding

- **Permethrin 5% (Lyclear Dermal Cream®)** – Licensed for use in children 2 months of age and over. Multiple packs may be required for treatment in bariatric patients. First line choice of treatment for pregnant or breastfeeding women.
- **Malathion 0.5% (Derbac-M®)** – This must be used if Permethrin is not appropriate, for example due to a chrysanthemum allergy.

Breast feeding mothers must remove liquid/cream from nipples before breast feeding and reapply treatment afterwards.

14.0 How is the treatment applied?

- Remove all clothing, watches, and rings, if possible; if it is not possible to remove rings, ensure that the lotion is applied under the rings.
- Nails must be cut short to reduce damage to skin.
- Do not take a bath prior to applying the lotion / cream.
- Apply the lotion / cream evenly all over the body, including the scalp, neck, face, and ears but avoiding eyes, nose, and mouth.
- Pay attention to between the toes, under the nails and behind the ears.
- Ensure all creases of the body are covered.
- Let the lotion / cream dry before getting dressed.
- Treat the soles of the feet.
- If hands are washed during the period between application and bathing / showering reapply the lotion / cream.
- If the patient is incontinent during the treatment period, the lotion / cream must be reapplied to the genitals, perineum, and buttocks area.
- It is preferable to apply the lotion / cream prior to going to bed.
- Leave the lotion / cream on for the dedicated time; Permethrin 8-12 hours and Malathion 24 hours.
- Shower off lotion / cream with cool water, this prevents absorption of the scabicide associated with vasodilatation during contact with hot water.
- After treatment the patient must put on clean clothing, all bedding and towels must be changed.

- Routine washing of clothing is sufficient for disinfection.
- If indicated by the preparation used, the application **must** be reapplied in the time frame directed (7 days for both Permethrin and Malathion).
- Ensure all family members and sexual contacts of the infected person, with or without symptoms are treated.
- If other patients / staff have been exposed by prolonged skin-to-skin contact, all must be treated simultaneously. Asymptomatic contacts will only require one application of the treatment.
- Staff who are symptomatic **must** report this to Occupational Health and receive appropriate treatment.
- A co-ordinated approach to treatment is essential to limit the transmission of scabies.

15. Action plan for mass treatment of scabies

The Infection Prevention Team will request the Senior Sister/ Nurse in Charge /Charge Nurse to prepare a list of staff and patients who will require treatment, as well as informing the pharmacy that a mass treatment of scabies is required.

The list of all staff that requires treatment must include all staff in the patient's location (identifying who are symptomatic and those that are not), and those members of staff who are not based exclusively in that area, but who have direct patient contact, such as doctors, physiotherapists, occupational therapists etc. It is the responsibility of the Senior Sister/ Nurse in Charge /Charge Nurse to issue the treatment to all staff members and ensure they understand how to apply the lotion.

The doctors will prescribe the appropriate Scabicial lotion treatment for the following people:

- Patients who are thought to have had direct contact with the symptomatic patient(s) or staff member.
- If there is just one patient who is symptomatic, this will usually be just the other patients in the bay, or patients who have been in that bay while the symptomatic patient has been in there but have subsequently moved to another bay.
- If more than one patient or member of staff is symptomatic, or there has been a lot of patient movement in the area, this will be for every patient in the area, including those who have been transferred to other areas within the Trust.

Pharmacy will dispense the prescribed Scabicial lotion:

- Individually labelled for in-patients.
- Supply enough treatment (not individually labelled) for asymptomatic staff members listed.
- Individual labelled for symptomatic staff.
- The labelled supplies will be provided with enough treatment for the second application.

Treatment must be applied to both symptomatic and asymptomatic individuals on the

same day. The Scabicial lotion is applied to the whole body and washed off after 8-12 hours if using Permethrin and 24 hours if using Malathion (refer to the manufacturers instruction, as the time frame may differ between products). Re-application to the hands is required after each hand washing during the time frame after the initial application of the Scabicial lotion. The Scabicial lotion must be applied to cool skin; do not apply following bathing / showering, as increased body temperature can increase skin absorption away from the treatment area of the skin surface.

16. Itching

The *itch* and *eczema* of scabies persists for some weeks after the infestation has been eliminated and treatment for pruritus and eczema may be required. Application of **crotamiton** can be used to control itching after treatment with more effective acaricides; apply once daily if child under 3 years and 2-3 times daily for all other age groups. A topical corticosteroid (e.g., hydrocortisone 1% applied once or twice a day for no more than 7 days) may help to reduce itch and inflammation after scabies has been treated successfully; however, persistent symptoms suggest that scabies eradication was not successful. Oral administration of a **sedating antihistamine** (e.g., chlorphenamine or hydroxyzine) at night may also be useful (BNF 2021), these are also available, as over the counter medications.

Appendix 8

Threadworms or pinworm (*Enterobius vermicularis*)

1.0 Recognition of threadworm

Infestation is often asymptomatic.

Peri-anal itching, vaginal irritation and or discharge, disturbed sleep, irritability, and sometimes secondary infection of the scratched skin.

The patient may notice the small white threadworms in the faeces and laboratory confirmation may not be necessary.

May be easily diagnosed by taking a moistened swab from around the anus and sending to the microbiology laboratory for microscopy.

2.0 Transmission

Direct transfer of infective eggs by hand from the anus to the mouth of the same or another person.

Indirectly through clothing, bedding, food, or other articles contaminated with the eggs of the parasite.

Dust borne infection is possible in heavily contaminated households.

3.0 Infection Prevention Control Measures

Personal hygiene, particularly hand washing before eating and preparing food.

Separate hand and bath towels must be provided.

Keep nails short, discourage anal scratching and nail biting.

Daily showers or baths.

Frequent change of clean underwear, nightclothes and bedding preferably after showering or bathing.

Nurse in a single room for 24 hours after treatment.

Daily changes of bed linen and treat as infected linen.

4.0 Treatment

All cases require treatment.

Use of effective de-worming drugs such as Mebendazole.

Treatment for threadworms must not be used in pregnancy or young infants. Refer the patient or parent to the doctor.