Northamptonshire Healthcare
NHS Foundation Trust

MANAGEMENT OF PATIENTS WITH ECTOPARASITIC INFESTATIONS (SCABIES, BODY LICE AND HEAD LICE)
ICPR009

Version No.	Date Ratified/ Amended	Date of Implementation	Next Review Date	Reason for Change (eg. full rewrite, amendment to reflect new legislation, updated flowchart, minor amendments, etc.)
1	01/03/16		01/03/2018	Changed from policy to procedure
2	01/03/2018	29/06/2018	01/03/2020	Review of procedure no changes

Table of Contents

Introduction

Ectoparasites live near the skin or in the hair (scabies and lice) or in the environment (fleas and bedbugs) and bite transiently while they are feeding. They cause disproportionate anxiety because they are visible or their effects are visible.

Scabies (Sarcoptes scabiei)

Scabies is an allergic response to an infection by the Scabies Mite.

Scabies has been a common disease for at least 3,000 years. In 1865 the scabies mite was first illustrated and described as the cause of scabies: thus it has been described as the first disease in humans with a known cause.

Scabies can affect anyone without regard to age, sex, profession, race or standards of personal hygiene. Clusters of cases are often seen in nursing homes, institutions and child care centres.

Scabies is transmitted by skin-to-skin contact when the mites and to a lesser extent larvae pass from person to person. Anyone with whom there is skin-to-skin contact can pass on the infection. This happens during prolonged direct skin to skin contact (5 – 10 minutes) e.g. when holding hands or providing personal care.

The Scabies Mite

Human scabies is caused by Sarcoptes scabiei. The mites are white, see-through with four pairs of legs; the female measures about 0.4mm by 0.3mm; the male is about half this size.

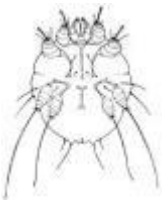
The life cycle of the scabies mite requires constant contact with human skin. The male probably does not burrow into the skin but impregnates the female either on the surface or in superficial burrows produced by the female and then dies a couple of days later.

The impregnated female remains fertile throughout her life she digs a new permanent burrow in the skin. The burrow is dug at the rate of 0.5 to 5mm per day for the duration of her life, about 30 days. She lays 2 to 3 eggs every day.

The eggs hatch in 3 to 5 days and the resulting larvae return to the skin surface and produce a fresh burrow. After a process of moulting an adult mite emerges 12 days later. Shortly thereafter the young female begins a new burrow and a new cycle.

Since each mite lays 2 to 3 eggs per day for 30 days, an enormous number of mites would be expected within a few months. Fortunately, less than 10 percent of the

eggs actually give rise to adults, and the average number of adult mites per patient is only 11 or 12.



Scabies mite (not to scale)

The Infection

Classical scabies

The rash and itch of a scabies infection are the result of an allergic response to scabies saliva and faeces. This allergic reaction usually starts about one month after the initial infection.

If a person becomes reinfected at a later date with scabies, the symptoms are seen within 2-3days as it is probable that the allergic reaction would be immediate even though fewer mites are present.

Atypical scabies

Some groups of people may not show the classical signs of a scabies infection. The very young, the elderly, those with Down's syndrome, alcoholics, or those taking immunosuppressive drugs may all show a different form of the disease. They may or may not complain of an itch or have a rash. They may develop areas of crusted skin.

This atypical form of scabies is difficult to diagnose, and the diagnosis only becomes obvious when other people around them start showing the signs of classical scabies.

Crusted scabies (Hyperkeratotic or Norwegian scabies)

This form of scabies affects people with a poor immune system, such as the elderly and in people with HIV. In the crusted form of the disease thousands of scabies mites are present all over the body. There is little or no itching. The skin becomes scaly and crusted.

Crusted scabies is highly contagious as large numbers of mites are both present and being shed all the time. Management of crusted scabies requires specialist investigation, contact tracing and advice. Therefore affected patients should be referred to a dermatologist for specialist advice and treatment, and the community Infection Control Nurse should be made aware.

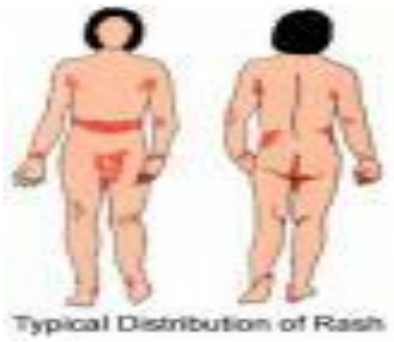
Clinical signs and symptoms

Scabies presents with a combination of itching, burrows and a symmetrical rash consisting of red papules (spots), vesicles (blisters), nodules, crusted lesions and eczematous patches. The itching is at its worst in a warm bed or when the body is warm, for example after exercise or a warm bath.

The earliest lesion is a burrow presenting as a short wavy, dirty line. Most burrows are destroyed due to the intense itching. Burrows are best observed on the finger webs and inside of wrists and elbows. Lesions are also observed under the breasts and arm pits, on the penis and around the naval area.

The classical Scabies rash is widespread, symmetrical and can affect almost any part of the body. 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. It is for this reason that the whole body must be treated.



Scabies rash

Scabies rash does not correspond with sites of Scabies mite location

Diagnosis

The most important factor in making a diagnosis of scabies is clinical suspicion by a GP 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.

Treatment

Careful and very thorough application of a scabicide is usually adequate. The first-line treatment is:

Product Name	Generic Name	Presentation	Treatment Period
Lyclear Dermal Cream	Permethrin 5%	White cream in a vanishing base.	8 hours

Other treatments include:

Product Name	Generic Name	Presentation	Treatment Period
Quellada M	Malathion 0.5%	Aqueous base	24 hours
Derbac M	Malathion 0.5%	Aqueous base	24 hours

Product Name	Indication
Oral ivermectin (as a single oral dose of 200 micrograms/kg)	Available on a named-patient basis as an adjunct to topical treatment for crusted (Norwegian) scabies (BNF 49, 2005) that do not respond to topical treatments alone.

People with scabies, or contacts of a case of scabies who have symptoms such as an itchy rash, should have a treatment with scabicide and then a repeat treatment again after a seven-day interval.

Contacts

It is important that all those who have had skin-to-skin contact with a scabies patient or a suspected scabies patient in an outbreak are treated once with scabicide at the same time. Contact tracing should include household members, and close family as well as intimate friends. Contacts may be carrying infection without showing any signs and symptoms so they are likely to be a source for transmitting the infection on.

It is important to set a treatment day and then for all concerned to be treated on the same day. Application of the scabicide before bedtime is least disruptive.

Scabicides should be applied to cool, dry skin and not after a hot bath as this may decrease their effectiveness

Crusted scabies

Crusted scabies may require 2 or 3 applications of a scabicide on consecutive days to ensure that enough penetrates the skin crusts to kill all the mites.

Infants

Infants (under 2 years of age) may have mites on the face, neck, scalp, ears and soles of the feet.

Treatment of infants requires care in the selection of Scabicide and they should only be treated under medical supervision.

The scabicide is applied to cover all parts of the body. Less than one tube will generally be needed for under 12 yr olds.

It may be useful to put mittens on the hands to prevent the scabicide from being licked by the infant.

Particular attention must be paid to the head and neck, all the flexor areas and the soles of the feet.

Adults

It is important to apply the scabicide systematically. Application must cover every part of the body below the neck. Two or more tubes may be necessary for a large or very tall person.

The scabicide must be applied to the soles of the feet, under the nails and areas such as underneath the breasts; the armpits and genitalia must be included. NB. Frail elderly clients are liable to slip and fall as application of scabicide to the feet will cause slippery feet.

Finally the scabicide must be applied and reapplied to the hands every time they are washed during the treatment period.

People who are immunosuppressed, the very young and elderly should apply the insecticide to the whole body including the face and scalp.

Group Treatment

If an outbreak is confirmed (usually 2 or more related cases) arrangements should be made to treat everyone simultaneously and this may include treating other patients/staff and close relatives of those affected. Group treatment can take an enormous amount of organisation and involve several agencies, but is necessary if

treatment is to succeed. Symptomatic relief may need to be given to the patient until treatment can commence.

Treatment Failure can occur if treatment was not applied correctly or all those who should have been treated were not. Due to the fact that itching can continue for some time after treatment; the patient should be examined to confirm the diagnosis again. If scabies is still present, treatment will have to be repeated within one week of initial treatment ensuring it is correctly applied.

Persistent itching

Anyone diagnosed as having scabies, as well as their contacts, should be aware that although the scabicide kills the mites, they are still in the skin and will continue to provoke an allergic response even though they are dead. During this time a soothing lotion can be used to control itching. Oral sedating antihistamine at night may also help. The itching stops only when the mites are shed from the skin. This can be 2-3 weeks or more after treatment.

Lice

These wingless insects live near the skin in hairy areas. Eggs are fixed to hairs (and to clothing fibres by the body louse). Lice bite and suck blood and this causes irritation. Body lice usually are found in those who are unable to change their clothes or bath regularly. Head and pubic lice may infect anyone.

Head Lice (Pediculus capitis)

Egg cases (nits) are seen fixed to hairs near scalp or eyebrows. (Crab lice nits may be seen on lashes in children and adults as well as on pubic hairs). Visible nits are old empty egg cases and the distance of the nit from the skin reflects the length of infestation.

Transmission

Body lice are spread through direct contact with a person who has body lice. It can also be spread indirectly through shared clothing, beds, linen or towels.

Management and treatment

- If sores are seen, inform the doctor before treatment. Current insecticides are very effective against lice and eggs but itching may persist for several weeks after treatment. Do not repeat treatment unnecessarily.
- Explain procedure to patient
- Don apron
- Take patient to bathroom (if confined to bed, use plastic wash bowl), arrange shoulder cape
- Treat hair with prescribed lotion following the directions on the container
- Allow hair to dry slowly without towel or drier
- Dispose of apron (gloves) in yellow bag

- Send towel to laundry
- Wash hair 12 hours after treatment using ordinary shampoo

NOTE: A fine metal tooth comb (e.g. Saker) can be used to remove killed lice and unsightly nits from wetted hair if these are profuse. Remove any nits from lashes or brows with forceps. Clothes and bedding need not be treated. The comb can be used to check the efficacy of treatment.

Pubic (crab) lice (Phthirus pubis)

Eggs are fixed to hairs near pubic skin, or on eye lashes or eyebrows.

Transmission

This is a sexually transmitted disease and is most often seen in the Genito-Urinary medicine outpatient clinics. The guidance below is for inpatients coincidentally found to have this infestation.

Identification

Itching of the genital area especially in the evening. Visible crawling lice or nits (eggs) might be seen in the pubic area.

Management and treatment

- No isolation precautions are necessary, but good standard infection prevention and control precautions should be adhered to. Advise patient not to have close intimate contact until they and their relatives have been treated.
- Malathion preparations are usually used for treatment (See table 1) Aqueous based preparations should be used to prevent irritation of sensitive area.
- Treatment is recommended for all sexual and close contacts.
- Apply treatment to whole of the trunk and limbs, treat scalp, beards and moustaches if indicated and allow to dry naturally. Shower or bath 12 hours later and put on clean clothes.
- Launder all clothes and beddings on a high temperature wash.
- Repeat treatment 7 days later.

Body Lice (pediculus corporis)

Found on body area and seams of inner clothing. Eggs fixed to cloth fibres, in seams and sometimes to body hairs. Usually occur in patients with poor attention to personal hygiene who do not change their clothes.

Treatment

- If sores are seen, inform the doctor before treatment

- Treatment for eyelash and eyebrows works by occluding air to the lice that will kill the nymphs (baby lice) as they are hatched. Yellow soft paraffin (Vaseline) is used for this.
- Twice daily for ten days - smooth some soft paraffin along the closed eyelashes and eyebrows. Any live lice seen can be carefully removed.

Fleas

There are many species of these wingless insects. Eggs are laid in floors, carpets or pets' bedding. In Britain now, most bites are by the cat flea or the dog flea (*Ctenocephalides felis* and *C. canis*). The eggs and larvae can survive for months in an empty house and then reactivate in response to pet or human activity.

Transmission

The flea jumps from infected resting area of cat or dog onto a human, bites, feeds and jumps off again.

Treatment

- Recommended bathing and antipruritics
- At home, vaccum / suction cleaning and use of proprietary insecticides are the quickest way to eliminate fleas.
- Treat animals and their beddings with proprietary insecticide.

Bedbugs (Cimex lectularius)

These wingless insects live and lay eggs in walls, furniture and bedding. Faecal tracks may be seen on the walls, the room has a unique odour. Eggs are often laid on the floor by the wainscot. The bedbugs are active at night, causing a biting nuisance and disturbed sleep.

Transmission

Directly from infested premises on portable bedding or baggage Bedbugs are rarely found on the person, but may be brought in on patient's clothes or effects.

Treatment

- No treatment for the patient is necessary
- In hospital, Hotel services will arrange decontamination of an infested room.

Ticks

Adult and larval ticks live on low shrublands and climb onto animals (e.g. deer) for a blood meal. The tick, measuring 1.8 mm in length, has the appearance of a small grey pea firmly attached to the skin. It should be removed with care to avoid leaving the legs and mouth parts behind in the wound, and sent to the Microbiology Laboratory for identification. Infections transmitted by the sheep tick include Lyme disease (*Borrielia burgdorferi)* and Louping ill (a form of viral encephalitis); preliminary data suggests that these infections are less common after sheep tick

bites here than in some other parts of the UK, but they should be considered in the management and follow up of patients with ticks.

Equality considerations

The author has considered the needs of the protected characteristics in relation to the operation of this policy and protocol to align with the outcomes with IP&C Assurance Framework. We have identified that ensuring that communication reaches all vulnerable groups. The service has been designed to ensure communication relevant to any outbreaks or other healthcare associated infections reaches all sections of the community. This includes taking into consideration communication barriers relating to language or specific needs to reach the whole population. IP&C work closely with multi agency groups and community partners where appropriate we will undertake engagement and outreach activity. We targeted action to relevant groups follow public health England's communication framework. Some groups are particularly vulnerable in relation to their protected characteristics, e.g. age, ethnic minority communities and disability and where we identify that, the expectation is that staff will meet the needs appropriately.

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Public Health Laboratory Service (2000) Lice & Scabies. A health professional's guide to epidemiology and treatment

Appendix 1 - Infection Control Precautions for Patients with Scabies

Infection Control Precautions	Classical /Atypical Scabies	Crusted (Norwegian) Scabies
Isolation	Patients with scabies do not normally require isolation.	Patients with crusted scabies are highly contagious and require isolation precautions until treatment has been completed.
Protective clothing	Aprons and gloves should be worn for personal care of known and suspected cases.	Aprons and gloves should be worn for personal care of known and suspected cases.
Environment	Mites die if they fall off the body and do not survive in the environment.	There are so many mites which may fall off as 'crusts' (like flakes of skin) that all soft furnishings, which have cloth coverings, should be kept out of use for 24hours after treatment in order to allow the mites, which may be on the fabric to die. These items should then be vacuumed. Those covered in vinyl should be wiped down with detergent and water, rinsed and dried following treatment. Vacuuming and damp dusting of the environment is essential.
Laundry	Scabies is NOT spread by clothing or bedding. However, it is aesthetically advisable to put all worn clothing and used bed linen and towels into a machine hot wash (50 degrees, as tolerated by the materials involved) after application of the scabies treatment and the correct treatment time has elapsed.	Care should be taken with personal clothing and bedding belonging to cases of crusted scabies. Any items that cannot be washed should be set aside and not used for 24 hours Clothing and bedding should be washed in a hot wash.

Non-compliance by even one individual can make the difference between treatment success and failure

Appendix 2 -Instructions for application of cream or lotion for Treatment of Scabies (for external use only)

Do not bathe or shower before putting on the cream or lotion. Make sure you have been supplied with enough product before starting to apply it.

1. Application of the cream or lotion is best done in the evening.
2. Remove all clothing. Remember to take off all jewellery, including watches and rings. If it is not possible to remove a ring, move it to one side, then treat the skin surface that is normally underneath the ring. Wait for the skin to dry before returning the ring to its normal position.
3. The cream or lotion needs to be applied to the whole body surface including the scalp (apply externally all over the body from head to toe), only avoiding the eye area.
4. Squeeze the cream into the middle of your hand or tips of fingers. If a lotion has been prescribed, this is best applied using a small paint or pastry brush which should be disposed of after completion of the treatment.
5. Apply to the skin.
6. Take special care to get it into all the external skin creases of the body, e.g. nipples (scabies treatment should be washed off nipples before breast feeding then re-applied after breast feeding), scrotum and between the buttocks (bottom). Particular attention needs to be paid to the skin between the fingers and toes, under the nails and behind the ears. You will need someone to apply the cream or lotion to your back.
7. Let the cream or lotion dry before getting dressed or it may rub off. This takes 10–15 minutes.
8. Do the soles of your feet last after the body treatment has dried. This is best done with your feet resting on top of or dangling over the side of the bed. 9. Do not bathe or shower during the treatment period.
9. Apply more cream or lotion on any body parts that you may have to wash, e.g. hands, during the treatment period. Depending on the treatment used, this may be for up to 24 hours after first applying the cream or lotion.