

## Chapter 4: Bugs, Bites and Irritations

### Athlete's Foot (Tinea Pedis)



#### **A Poem: Athlete's Foot? Stamp on it!**

*by Shelley White*

Do you have some flaky skin  
And itch between your toes?  
Chances are it's Athlete's Foot -  
That's where the fungus grows.

It's not really a mushroom  
But germs that like moist skin  
That cosy place between your toes  
Is where it will begin.

You don't have to be an athlete  
To suffer this complaint  
If it's damp between your toes you'll find  
It grows without restraint.

Or sometimes it can be passed on -  
Gyms or communal showers  
Are where infected skin flakes fall -  
And feet is where it flowers.

The skin between the little toes  
Will be affected first  
It may get cracked and red and sore  
The rash might make you curse!

Don't leave your foot to fester  
See the chemist without fail  
Or you may find the infection  
Has spread to a toenail.

There are many antifungal creams  
Which usually do the trick  
When rubbed on the affected parts -  
But, please, you mustn't pick!

Although the rash may disappear  
Before the week is out  
Keep on with cream a week or two  
Or more fungi may sprout.

So follow this advice  
Keep Athlete's Foot at bay  
Just wash your feet and toes  
And change socks every day.  
But most of all remember

Your toes must be well-dried  
Don't try to put your socks on  
With soggy skin inside!

You'll find that cotton socks  
And leather footwear's best  
Cos nylon socks and plastic shoes  
Are fungi's sweaty 'nest'.

Alternate between different shoes  
Each three days, if it's poss  
Then each pair will dry out fully  
Show fungi who's the boss!

Infected feet drop flakes of skin  
In changing rooms. Take care!  
Wear sandals or your flip-flops  
To avoid what's lying there.

Ideally take off shoes and socks  
When you are in your home  
Let fresh air play upon your feet  
And reflect upon this poem.



### Athlete's Foot - An Overview

Athlete's foot is a skin infection caused by a fungus. Treatment with an antifungal cream usually works well. The tips given below may help to prevent recurrences.

#### Who gets athlete's foot and how do you get it?

Athlete's foot is a common fungal infection of the skin on the feet. Some types of fungus germs (fungi) are commonly found on human skin. They usually do no harm. However, if conditions are right, they can 'invade' the skin, multiply, and cause infection. The conditions fungi like best are warm, moist and airless areas of skin such as between the toes.

Anyone can get athlete's foot. Athlete's foot can also be passed on from person to person. For example, this may occur in communal showers used by athletes or swimmers. A tiny flake of infected skin from a person with athlete's foot can fall off whilst showering. It may then be trodden on by others who can then develop the infection. Once a small patch of infection develops, it typically spreads along the skin.

#### What are the symptoms of athlete's foot?

The skin between the little toes tends to be affected at first. A rash develops that becomes itchy and scaly. The skin may become cracked and sore. Tiny flakes of infected skin may fall off. The rash may spread gradually along the toes if left untreated. In some cases, it spreads to the soles.

#### Is athlete's foot serious?

Usually not. Most people treat their itchy toes before it spreads. Sometimes the infection spreads to the skin on other parts of the body. These are usually the moist

and airless parts of the skin such as the groin. Fungi do not usually go deeper than the skin into the body. However, other germs (bacteria) may enter through the cracked skin of untreated athlete's foot. This can occasionally cause more serious infections of the foot or leg (such as cellulitis of the leg).

The infection sometimes spreads to a nail. This can be treated. However, it takes several weeks of antifungal tablets to clear the infection from a nail. Therefore, it is best to treat athlete's foot as soon as symptoms start.

### **What is the treatment for athlete's foot?**

You can buy an antifungal cream from pharmacies, or get one on prescription. There are various types and brands. For example; terbinafine, clotrimazole, econazole, ketoconazole, miconazole, and sulconazole. These modern creams are good at clearing fungal skin infections.

- Apply the cream to the surrounding 4-6 cm of normal skin in addition to the rash.
- Apply for as long as advised. This varies between the different creams, so read the instructions carefully. Although the rash may seem to go quite quickly, you still need to apply the cream for 1-2 weeks after the rash has gone. This is to completely clear the fungi from the skin which will prevent the rash from returning.

An antifungal tablet is sometimes prescribed if the infection does not clear with a cream, or if the infection is severe, or if the infection is in many places on the skin in addition to the toes.

You do not need to stay away from work, school or sports. However, try to keep your feet covered in communal changing areas until the rash is gone. Also, try not to scratch the affected skin, as this may spread infection to other sites.

The following tips may prevent athlete's foot recurring:

- Wash your feet and toes daily.
- Dry the skin between your toes thoroughly after washing. This is perhaps the most important point. It is tempting to put socks on when your feet are not quite dry. The soggy skin between the toes is then ideal for fungi to grow.
- Do not share towels in communal changing rooms. Wash towels frequently.
- Change your socks daily. Fungi may multiply in flakes of skin in unwashed socks. Cotton socks and leather footwear are probably better than nylon socks and plastic footwear which increase sweating.
- Ideally, alternate between different shoes every 2-3 days to allow each pair to dry out fully after being worn.
- Ideally, wear flip-flops or plastic sandals in communal changing rooms and showers. This prevents the soles of your feet coming in contact with the ground which may contain flakes of skin from other people.
- Ideally, when at home, leave your shoes and socks off as much as possible to let the air get to your feet. However, this may not be practical for some people.

## Head Lice



### A Poem: Getting Down to the Nitty Gritty

by Lesley C Hind

Look out! Look out!  
There are lice about  
They're looking for the nearest hairy heads  
On which to lay their little eggs

While kids are playing closely together  
The lice simply walk from one head to the other  
No matter how much kids poke and scratch  
The eggs to the roots will stay attached

The household need checking in case they're infected  
The little eggs can soon be detected  
"Nit busting" lotion and a "nit busting" comb  
Will soon have them packing and leaving home



### Head Lice - An Overview

Head lice are common. They can usually be cleared with treatment.

### What are head lice and nits?

- Head lice are tiny grey/brown insects. They are about the size of a sesame seed (the seeds on burger buns). Head lice cling to hairs, but stay close to the scalp which they feed off. Head lice lay eggs which hatch after 7-10 days. It takes about 10 days for a newly hatched louse to grow to an adult and start to lay eggs.
- Nits are the empty white egg shells which are left when the lice hatch. Nits can look like dandruff, but stick strongly to hair. Unlike dandruff, you cannot easily brush out nits.

### Who gets head lice?

Head lice are common in children, but can affect anyone of any age. They are not a sign of dirty hair or poor hygiene. Close 'hair to hair' contact is usually needed to pass lice on. Head lice cannot jump or fly, but walk from one head to another. They soon die when away from hair, and do not live in clothes, bedding, etc. Most head lice infections are caught from family or close friends who are not aware that they have head lice.

### What are the problems with head lice?

Many people with head lice do not have any symptoms. An itchy scalp occurs in some cases. This is due to an allergy to the lice, not due to them biting. It often takes about three months for itch to develop after you are infested with lice. Therefore, you may not notice that you have head lice for a while, and you may have passed them on to others for some time. Head lice and nits do not wash off with normal shampoo. Head lice do not cause any other medical problems. In many cases the head is not 'crawling with lice'. Commonly, there are less than 12 lice present.

**How can you tell if you have head lice?**

Head lice are difficult to find just by looking in the hair. If you suspect that your child (or you yourself) has head lice, it is best to do 'detection combing'. Some people advise that you do this to children's hair regularly, about once a week.

Detection combing:

- Wash the hair in the normal way with ordinary shampoo.
- Rinse out the shampoo and put on lots of ordinary conditioner.
- Comb the hair with a normal comb to get rid of tangles.
- When the hair is untangled, switch to a detection comb. This is a special, fine-toothed comb that you can buy at pharmacies. (The teeth of normal combs are too far apart.)
- Slot the teeth of the detection comb into the hair at the roots so it is touching the scalp.
- Draw the detection comb through to the tips of the hair.
- Repeat this in all directions until you have combed all the hair.
- Check the comb for lice after each stroke. A magnifying glass may help.
- If you see any lice, clean the comb by wiping it on a tissue or rinse it before the next stroke.
- Comb over a white surface such as white paper. This is so that any head lice that are flicked out by the comb are easy to see.
- After the whole head has been combed, rinse out the conditioner.
- While the hair is still wet, use an ordinary comb to get rid of tangles.
- Repeat the detection combing in the rinsed hair to check for any lice that you might have missed the first time.
- It takes about 15-30 minutes to do detection combing, depending on how thick the hair is.

**Dimeticone lotion**

Dimeticone has recently been found to clear head lice. It is a silicone based product and is not classed as an insecticide chemical. Dimeticone has a good safety record and is widely used in cosmetics and toiletries. Dimeticone is applied in a similar way to insecticide lotions as described below. As with insecticide lotions, you need to apply the same lotion twice - seven days apart. Each application is left on for at least eight hours (overnight) and then washed off.

Dimeticone is thought to kill lice by a physical process rather than by any chemical effect. It may block the way the lice pass out water, which kills them. However, it is not thought to kill unhatched eggs, which is why two applications are needed, seven days apart. (The second application makes sure that any lice that hatch from eggs which survived the first application will be killed before they are old enough to lay further eggs.)

A recent research study showed that lice can be cleared in about 7 in 10 cases by using dimeticone lotion. The downside to dimeticone is that it is a relatively new treatment with only this one main research study to back up the claim that it works well. Hopefully, more studies will be done to confirm that it is an effective treatment.

### **What are the treatment options for head lice?**

Treatment is needed only if you see one or more live lice. Nits (empty eggshells) do not always mean that you are infested with lice. Nits can stick to hair even when lice are gone (for example, after treatment that kills the lice).

Currently, there are three main ways of clearing head lice:

- Using an insecticide lotion.
- Wet combing treatment (often called 'bug-busting').
- Using dimeticone lotion, a lotion that works in a different way to insecticides.

The method you use to treat the lice is often a personal preference. Each method has a good chance of success, but no method is 100% certain of clearing lice. Each method is now discussed further.

### **Insecticide lotion**

Treatment with insecticide lotions has been used for many years. Insecticides are chemicals that kill insects. Research studies show that lice can be cleared in about 7-8 in 10 cases by using an insecticide lotion. You can buy an insecticide lotion from pharmacies. There are various brands. The active ingredient is usually malathion or phenothrin. You can also get these on prescription. Carbaryl is another insecticide lotion that is only available on prescription. (Shampoo, mousse and cream rinse preparations of these insecticides are not recommended as they do not work as well as lotions.)

Insecticide lotions come in water or alcohol bases. In general, water based lotions are usually recommended as they are safer, and some people with asthma, eczema, or broken skin cannot use alcohol based lotions.

Note: if you do use an alcohol based lotion, remember it is flammable. Therefore, do not use near naked lights, cigarettes, fires, or flames. Be careful to keep children who have alcohol lotion in their hair away from fires.

Follow the instructions on the packet. This may include the following:

- Apply the lotion to dry hair.
- Part the hair near the top and pour a few drops onto the scalp. Rub well into the hair. Part the hair again a little further down and repeat. Repeat this until the scalp and roots of the hair are saturated. Apply down to where a pony tail band would be. Leave on for 12 hours (overnight) and then wash off. Each person needs about 50ml of lotion and up to 150ml if the hair is long and thick.
- Do not use a hairdryer to dry hair after applying lotion.
- Re-apply the same lotion after seven days. Although lice are usually killed by one application, not all eggs may be. The second application makes sure that any lice that hatch from eggs which survived the first application will be killed before they are old enough to lay further eggs. This advice - to use two applications seven days apart - may be different to what some manufacturers state on the lotion

packet. However, it is current advice from UK experts on head lice to give the best chance that the treatment will work.

- Inspect the hair by detection combing 2-3 days after the second application. If you find any live head lice, despite treatment, then see a doctor or nurse for advice.

One problem with insecticide lotions is that some lice are now resistant to some insecticides. This is one reason why the treatment is not successful in every case. Some areas of the country have policies which advise on which insecticide to use based on the known 'resistance pattern' of the lice in the area. In addition, there is a possible small risk that repeated use of insecticides may be harmful. Therefore, some parents are not happy to use repeated applications of insecticides on their children. However, one course of two applications, seven days apart, is thought to be very unlikely to cause any harm.

### **Wet combing treatment (using 'Bug Busting' or similar kits)**

Wet combing is a way of removing head lice without having to use a lotion to kill them. A wet combing kit which includes a fine-toothed comb can be bought at pharmacies and is also available on prescription. It comes with instructions. Briefly, the method is the same as wet combing (detection combing) described earlier. You will need to do this on every member of the household who has head lice. The detector comb removes the lice which cannot grip hair which is slippery with conditioner. However, you need to do the wet combing routine every four days for at least four sessions over two weeks - sometimes more.

- The first combing session should remove all hatched head lice, but does not remove eggs.
- Any young lice that hatch from eggs after the first session are removed at the second, third and fourth sessions. This is why it is important to do the full four sessions.
- If you see full-grown lice at the second, third, or fourth session, this means that some had been missed on the first session, or you have become re-infected from someone else. If this occurs, you should increase the number of sessions. In effect, following any session where you find adult head lice, you should do three further sessions at four day intervals where you do not see any adult lice.

Research studies show that lice can be cleared in about 5-6 in 10 cases by using Bug-Busting. Even higher rates of success are reported by some - and success may depend on how well and thorough the method is used. The downside to this treatment is that it is time consuming.

### **What about other treatments?**

There are a wide range of other treatments that are said to work by some people. For example, tea tree oil, quassia, other essential oils, herbal remedies, electric combs. However, there is a lack of research studies to confirm that they work well in most cases. Therefore, until more research is done, these other methods cannot be recommended.

**Do family and friends need treatment?**

Only if they have head lice. All people in the same home, and other close 'head to head' contacts of the previous 4-6 weeks should be contacted. Tell them to look for lice and treat if necessary. (It used to be advised to treat all close contacts even if they had no symptoms. This has changed to just treating people who have head lice.) All people with head lice in the same home should be treated at the same time. This stops lice being passed around again.

**What about school?**

Children with head lice should carry on going to school. Contrary to popular belief, head lice do not spread quickly through schools. Alarming 'head lice letters' from schools are unhelpful. You need close head-to-head contact to pass lice on to others. Young children who are 'best friends' and play closely together may pass lice on. If your child has head lice, a common-sense approach is to tell the parents of their close friends to look out for lice in their children.

**Can head lice be prevented?**

There is no good way of preventing head lice. Lice repellent sprays do not work very well. If you do detection combing of children's hair every week or so, you will detect lice soon after they have affected the hair. You can then start treatment quickly and reduce the risk of passing them on to others.

Some other points about head lice

- Use an anti-lice lotion only when you are sure that you or your child have head lice. Do not use them to prevent head lice, or 'just in case'. Frequent use may cause a build up of small amounts of the active ingredient in the body. The risk of harm from this is very small, but it is best to use anti-lice lotions only when lice are present.
- A common reason for head lice to recur in one person is because close contacts (family and close friends) are not checked for head lice, and not treated if they have head lice. The treated person is then likely to get head lice back again from untreated family or friends.
- After treatment and the lice have gone, it may take 2-3 weeks for the itch to go fully.
- Nits may remain after lice have gone. They are empty egg shells and stick strongly to hair. They will eventually fall out. If you prefer, a fine toothed 'nit comb' can remove them.

A final reminder - alcohol based lotions are flammable. Some children have been badly burnt as their hair caught fire whilst being treated. Keep children away from fires, cigarettes, flames, etc, whilst any alcohol based lotion is in their hair.

## Insect Stings and Bites



### A Poem: Bye-Bye Bees, Whiz Away Wasps

by Shelley White

It was a lovely sunny day  
For picnicking outdoors  
They packed the quiche and chicken legs  
The cola and some straws.

Mum found a quiet grassy spot  
All shaded by an oak tree  
She put the tartan blanket down -  
Wished them all 'Bon appetit!'

While Wanda ate her sausage roll  
A wasp came out of nowhere  
It inspected all the sandwiches  
Then flew around her hair.

When Wanda started panicking  
It stung her on the arm  
As it swelled up the pain was bad  
Mum said 'Try to stay calm.'

To give Wanda some quick relief  
Mum made a cold compress  
From a tea-towel and some ice-cubes  
After that the pain was less.

Soon Mum found some sting relief  
cream  
She kept inside the car  
She gently massaged it on the sting  
Saying 'Wanda, you're a star!'

Later it was Bertie's turn  
To catch some stinging action  
A lonesome bee landed on his leg  
And 'Yikes!' was his reaction.

The sting with tiny poison sack  
Was embedded in his skin  
Mum removed it with her tweezers  
So the poison couldn't get in.

A very small number of people  
Are allergic - stings ruin their day  
If they've difficulty with their breathing  
Seek medical help straight away.



Or if in the first ten minutes or so  
Their face looks a bit strange and swells  
Or if they suffer a collapse  
Then heed these warning bells.

It's likely what they're suffering  
Is anaphylactic shock  
Get them to a doctor quick  
Or they could end up a crock.

Their severe allergic reaction's  
Treated with an adrenaline shot  
Don't panic - this condition's rare  
And is no trouble to spot.

They'll go home with a special device  
That's called an EpiPen -  
A syringe filled with adrenaline  
For their use if they're stung again.

Mum's learned a good lesson  
Since the picnic with Wanda and Bertie  
'Remember to put on repellent  
So insects don't take a liberty!'



### Biting Insects - An Overview

If you are stung by a wasp, bee, hornet, etc, then scrape out the sting as quickly as possible. Do not pluck it out as this may squeeze more venom into the skin. In most cases, the sting causes pain and slight swelling, but has little other effect. Some people are allergic to stings and can develop reactions that can be life threatening. Call an ambulance immediately if you suspect an allergic reaction soon after being stung. Insect bites (not stings) rarely cause serious allergic reactions but can cause small itchy lumps to appear on the skin. Itch may be eased by a soothing ointment, antihistamine tablets, or steroid cream. Some insects infest pets, furniture, etc, and can cause repeated bites.

### Insects, stings and bites

- **Stinging insects** that are common in the UK include: wasps, bees and hornets. The sting is due to venom (like a poison) which the insect 'injects' into the skin.
- **Biting insects** that are common in the UK include: midges, gnats, mosquitoes, flies, fleas, mites, ticks, and bedbugs.

### What may happen after an insect sting or bite?

A small local skin reaction - most cases.

Most people will be familiar with the common local skin reactions caused by insects.

- **An insect sting** - typically causes an intense, burning pain. This is quickly followed by a patch of redness and a small area of swelling (up to 1 cm) around the sting. This usually eases and goes within a few hours.

- **An insect bite** - you may not notice the bite (although some can be quite painful, particularly from a horsefly). However, saliva from the insect can cause a skin reaction such as:
  - **Irritation** and itch over the site of the bite.
  - **A small itchy lump (papule)** which may develop up to 24 hours after a bite. This typically lasts for several days before fading away. Sometimes some redness (inflammation) surrounds each papule.
  - **A weal** which is like a small fluid filled lump and is very itchy. It may develop immediately after being bitten. A weal lasts about two hours, but is often followed by a small itchy solid lump which develops up to 24 hours later. This can last for several days before fading away.

Occasionally, small skin reactions following an insect bite persist for weeks or months. A persistent skin reaction is particularly likely following a tick bite. Severe allergic reactions are rare after insect bites - they are more common after insect stings.

### **A localised allergic skin reaction - occurs in some cases**

Some people have an allergic reaction to the venom in a sting. A localised reaction causes swelling at the site of the sting. This becomes larger over several hours, and then gradually goes away over a few days. The size of the swelling can vary, but can become many centimetres across. The swelling may even extend up an entire arm or leg. The swelling is not dangerous unless it affects your airway. However, if it is severe, the skin may break out in blisters.

### **A generalised (systemic) allergic reaction - rare but serious**

The venom can cause your immune system to react more strongly. This may cause one or more of the following:

- Itchy skin in many parts of the body, followed by an itchy, blotchy rash that can appear anywhere on the body.
- Swelling of your face which may extend to the lips, tongue, throat, and upper airway.
- A sense of impending doom.
- Abdominal cramps and feeling sick.
- Dilation of the blood vessels which can cause:
  - General redness of your skin.
  - A fast heart rate.
  - Low blood pressure which can make you feel faint, or even to collapse.
- Wheezing or difficulty in breathing due to an asthma attack or throat swelling.

A generalised reaction will usually develop within 10 minutes of a sting. It can be fairly mild, for example, a generalised itchy rash and some mild facial swelling. In some cases, it is severe and life-threatening, for example, severe difficulty breathing and collapse. A severe generalised allergic reaction is called anaphylaxis and is a medical emergency.

If you have many bee or wasp stings at the same time, this can also cause serious illness. This is usually due to the high dose of venom directly, rather than to an allergy.

### **Skin infection**

Occasionally, a skin infection develops following a bite. Particularly if you scratch a lot, which can damage the skin and allow bacteria (germs) to get in. Infection causes redness and tenderness around the bite. This may spread over several days, and sometimes can become serious.

### **Transmitted diseases**

Most insects in the UK do not transmit other diseases. The main exception is a type of tick which carries a germ called *Borrelia burgdorferi* which causes Lyme disease. If this germ gets into your skin it can travel to various parts of your body and cause arthritis, meningitis, and other problems. In hot countries, mosquito bites transmit certain germs which can cause diseases such as malaria.

## **What is the treatment for an insect sting or bite?**

### **Immediate first aid for a sting - scrape it out**

- Scrape out the sting left in the skin as quickly as possible. Use the edge of a knife, the edge of a credit card, a fingernail, or anything similar.
- The quicker you remove the sting the better, so use anything suitable to quickly scrape out the sting.
- Do not try to grab the sting to pluck it out as this may squeeze more venom into the skin. Scraping it out is better.

**If any symptoms of a generalised allergic reaction develop** (see above) then:

- Call an ambulance immediately.
- If you have been issued with an adrenaline pen, use it as directed straight away.
- You may be given oxygen, and injections of adrenaline, steroids and antihistamines in hospital to counter the allergic reaction.
- Some people require a fluid 'drip' and other intensive resuscitation.

**If there is a localised allergic reaction** (swelling around the site of the sting) then:

- Take an antihistamine tablet as soon as possible. You can buy these at pharmacies, or get them on prescription. (Antihistamines block the action of histamine which is a chemical that is released by certain cells in the body during allergic reactions.)
- Use a cold compress to ease pain and to help reduce swelling. For example, use a cold flannel or an ice pack.
- Painkillers such as paracetamol or ibuprofen can help to ease the pain.
- Continue with antihistamines until the swelling eases. This may be for a few days.
- See a doctor if the swelling is severe. Your doctor may prescribe a short course of steroid tablets to counter the inflammation.

**If there is no allergic reaction** (most cases) then:

- A cold compress will ease any pain and help to minimise any swelling. For example, use a cold flannel or an ice pack.
- A painkiller such as paracetamol or ibuprofen may help if you have any pain.
- If it is itchy, you may not need any treatment as itch often soon fades. However, sometimes an itch persists for hours or days. No treatment will take the itch away fully, but the following may help:
  - Crotamiton ointment (which you can buy at pharmacies) is soothing when rubbed onto itchy skin.
  - A steroid cream may be useful. For example, hydrocortisone which you can buy at pharmacies or get on prescription. A doctor may prescribe a stronger steroid cream in some cases.
  - Antihistamines tablets may be useful if you have lots of bites. In particular, a sedative antihistamine at night may help if the itch is interfering with sleep. A pharmacist can advise on which types of antihistamine are sedative and can help with sleep.

**What are my chances of having a serious allergic reaction?**

- Most people do not have an allergic reaction to insect stings or bites.
- About 3 in 100 people who are stung have some kind of allergic reaction. Only in some of these is the reaction severe.

**Some points about allergies to insect stings**

- In the UK, most allergic reactions are caused by wasp stings.
- You do not get an allergic reaction after a first sting by a particular type of insect. You need one or more stings to 'sensitise' your immune system.
- Sometimes it takes many stings to sensitise you. This is why some bee keepers who have had many previous stings may suddenly develop an allergic reaction to a bee sting.
- Bee and wasp venoms are different. People who are sensitised and 'allergic' to wasp venom are rarely allergic to bee venom.
- About 1 in 5 people who have had a previous generalised allergic reaction to a sting have no such reaction, or only a milder reaction, to a further sting. Therefore, if you have a generalised reaction to a sting, it does not necessarily mean it will happen again if you are stung again.
- However, the course can be variable. A series of stings may result in a generalised allergic reaction, no reaction, and then another generalised allergic reaction. The reason why some people have variable reactions to a series of stings is not clear.

In short, if you have an allergic reaction to a sting, you cannot predict what will happen next time you are stung. Therefore, your doctor may refer you to an allergy clinic.

**Advice and treatment following an allergic reaction**

Your doctor may refer you to an allergy clinic if:

- A sting or bite has caused a generalised allergic reaction.
- A sting or bite has caused a large local skin reaction with redness and swelling over 10cms.

An allergy clinic will be able to do tests to confirm which type of venom or insect you are allergic to. There are then two possible options which may be considered:

**To give you a supply of emergency medication to use when necessary**

Some people are given a pre-loaded syringe of adrenaline together with a written treatment plan to cope with any future reactions. You (and relatives) can be taught how and when to use the treatments provided.

**Desensitisation**

This is where you are given injections of tiny amounts of venom from the type of insect that causes your allergic reaction. Repeated doses of venom over several weeks can 'desensitise' your immune system, and so you will not react severely next time you are stung. There is some risk involved in this treatment of causing a severe reaction, so it is not undertaken lightly. It is only available in certain specialised centres.

**Preventing insect bites and stings****When out and about**

Bites and stings most commonly occur when outside, particularly in the countryside.

Ways to avoid bites and stings include:

- Wear long sleeved clothing and long trousers in places where insects are common.
- Avoid brightly coloured clothes, cosmetics, perfumes or hair sprays, which attract insects.
- Rub an insect repellent onto exposed areas of skin.
- Be alert when you cook or eat outdoors as food attracts insects, especially wasps.
- Some people wear a complete head covering with a plastic viewer when out where midges are common. For example, when camping next to lakes and rivers. Many camping shops sell them.

There is no evidence that eating garlic, vitamin B1 or other foods will repel insects.

**Infestations**

Various types of fleas, mites, and bedbugs can infest (live on) pets, furniture, bedding, etc. These can cause recurring bites. You may realise that if you develop itchy spots or weals they are due to insect bites. However, some people do not realise that their 'skin rash' is caused by insect bites. They think they have some other skin disease. It may come as a surprise to find that their itchy spots are due to fleas living on their favourite pet!

If you have recurring insect bites, you should try to identify the source of the infestation and deal with it. For example, have pets checked for fleas. Your pet and/or your soft furnishings may need treatment with insecticide. See a vet for advice if you suspect that your pet is infested with fleas.

## Scabies



### **A Story: No Ifs, No Buts, No Maybes - It's Scabies**

*by Shelley White*

I had a bit of a scare the other day. I'd set up home in Mrs Scott's nice warm skin, just under her wedding ring, for a few weeks. She spotted me, worst luck, and panicked.

'Help! I'm covered in mites,' she screamed.

What a load of twaddle! There was only tiny me, Scabbyscaby, and a couple of my tiny friends, Sillyscaby and Sulkyscaby. It was her allergy to us that was making her itch all over and that caused her rash to appear on her tummy and legs.

After her little discovery, she headed to the pharmacy for advice. Mr Nowall, the pharmacist, is too clever by far. 'That's definitely the rash of Scabies disease you've got there.'

'Scabies?' Her voice rose an octave and she went pink. 'I've heard of that but I don't know what it is exactly,' she managed.

'It's caused by a parasite - a tiny insect called a mite,' he explained.

'Who does this know-all think he's calling a parasite?' cried Sulkyscaby, quite affronted.

'He's right, Sulky, that's our whole purpose in life, feeding off humans and burrowing tunnels through their skin,' I answered.

'But I object to that term. Just listen to him now giving her advice on how to kill us. The cheek of it!' said Sulky spinning his head in anger.

'Yes, he's a nasty man!' Sillyscaby threw in. 'I'd love to get cracking boring holes into his nether regions. They look most appetising.'

Mr Nowall was spot on though with the advice:

'You need to treat yourself plus all household members and your sleeping partners.'

'What do you mean?' snapped Mrs Scott. 'Are you suggesting I'm having an affair?'

'Of course not. That's what I tell everybody with Scabies.'

'Oh, all right. But why does the whole family have to be treated? I'm the only one with the symptoms.'

'Well, this is because it can take up to six weeks to develop symptoms after you become infected. Close contacts may be infected but have no symptoms, and may pass on the mite to others and know nothing about it. That way the disease keeps going.'

'He's right about that, you know,' reflected Sulky. 'We're a crafty lot us mites, aren't we, Scabby?'

'Yes, we certainly are. We only pick the best places to live. We love nurseries and residential homes where people are in close contact. They're our favourite places to break out!'

'And we're easily passed on when the kiddies hold hands,' said Sulky. 'They're so affectionate.'

'Too right,' added Silly. 'And we're on to a winner if our victims are in the habit of sharing the same bed all nice and cosy.'

'Oh, I see,' said Mrs Scott, the colour draining from her cheeks. 'I feel really dirty. They're disgusting creatures. How will I get rid of them?'

'Who does the old bat think she is, calling us disgusting?' cried Sulky. 'We've seen some of the habits these humans have got - now those are disgusting.'

'Yes, we've all got a right to live haven't we?' added Silly.

'Try this cream containing permethrin. It should finish them off. If that doesn't do the trick come back for some lotion containing malathion,' Mr Nowall salivated. 'You'll show those pests who's boss.'

That got some of us worrying a bit. Sillyscaby and Sulkyscaby started to say their prayers there and then but I was prepared for a good fight. I don't scare that easily.

'You'll need several tubes of the stuff to make sure there's enough to treat everyone in the house. And another thing. Everyone who's treated should be treated at the same time. Don't worry, Mrs Scott, you're not alone.'

You're right there, old chap, she isn't. There are plenty of us mites to keep her company. Ha! Ha!

As she was leaving the pharmacy, he called her back. 'You're not pregnant or breastfeeding are you? You've not got a baby under six months?'

'No to all of those, Mr Nowall. Why?'

'Well, you'd need to check with your doctor what treatment would be best,' he explained. 'Oh and there's one more thing I should tell you. You have to re-apply the same treatment 7 days after the first application - just to make sure you zap the little blighters.'

I resent being called a 'little blighter' All God's creatures have a right to life, don't they? With a bit of luck we'll find another dumb host before the seven days are up. I can't wait. I love a bit of new juicy flesh to get my jaws into.

As soon as we arrived home, Mrs Scott set to work. Boy, was she thorough. She spread that disgusting cream all over her skin, including in between her fingers and toes, under nails, scalp, neck, face and ears.

'Hey, do you mind?' cried Sulkyscaby. 'I can't breathe. Scabbyscaby, help! This cream is choking me. Where can I run?'

'Calm down, Sulkyscaby, there are plenty of nooks and crannies where you can hide. You could tunnel in her armpits or her groin. It's lovely and warm there and you'll be well hidden. Take care not to get stuck in the cream on the way though. She's used a whole 30 gram tube of the stuff so it could be dangerous.'

'Well, I think this cream smells rather nice,' Sillyscaby piped up. 'I'm staying put.'

There's always one, isn't there?

'Don't be daft, you silly scaby. Do you want to be killed? Head for her back. She's missed a bit there. And while you're at it, try not to let the punters see your tunnels. Keep your lines about 2-10mm long, nice and fine and silvery, not too dark or they'll spot you. Got that?'

'All right. You don't need to shout.'

'And don't forget, you've got to drive her mad with the constant itching. Make her dance about like she's got ants in her pants! That's always good for a laugh.'

After Mrs Scott had been coated in the yuck, they started plastering Mr Scott in the goo, too - and the kiddies. The little darlings complained but it didn't get them anywhere. They didn't even get to stay off school. Even the toddler didn't escape. They put mittens on her so she couldn't lick the cream off her hands but she wasn't too pleased about that. She made her parents' lives a misery mithering them to death to take her

mittens off: she couldn't pick up her toys for the mittens getting in the way, you see. It was funny really - well we all had a good laugh.

Mr and Mrs Scott seemed a bit cheesed off too. When Mr Scott started nibbling Mrs Scott's ear, you should have seen the face he pulled. I suppose it was the nasty taste of the cream. He had another try. He's a glutton for punishment. But Mrs Scott had cooled off by then and said something about giving the treatment a chance to work. Shame. We could have started burrowing into him too.

The Scotts followed the instructions on the packet of cream to the letter and kept it on for the recommended time - at least 8 hours. If ever they washed their hands or any other part of their bodies, they re-applied the cream to those areas. That was so annoying. I could hear Sulky and Silly making choking noises in the squidgy stuff so I called over to them:

'Silly, Sulky. Now listen carefully to me. Run away as quickly as you can. Find a bit of skin the Scotts have forgotten to treat and lie low.'

But the poor little mites were stuck fast in the cream and bit the dust before they had a chance to escape. Luckily, I'm made of sterner stuff. I managed to survive a week to the next application of cream.

After the first application of cream, the Scott household became a hive of activity. All the clothes, towels and bed linen were machine washed at 50 degrees Celsius. That was to prevent re-infestation and transmission to others. If there was anything that couldn't be washed, such as large duvets, she put those in plastic bags for at least 72 hours. My other poor mite friends couldn't get out and died in the bags. What a cheek! I'll get my own back, you'll see. They can't get rid of me that easily.

During the week, Mrs Scott was still scratching like a crazed Dervish. I love making people itch, the itchier, the better! It starts off in one place - often the hands, and then spreads to other parts of the body. I like to try and make it worse at night so that it's harder for them to sleep. And I love to watch them wriggle after they've had a hot bath. What good fun! Soon after the itch starts, a rash usually appears. You should see some of these rashes - lovely red blotches that pop up anywhere on the body - but the inside of the thighs, parts of the abdomen and the ankles tend to be the most obvious places. So attractive in my humble opinion.

Mrs Scott's hands were as red and plump as ripe tomatoes. The poor dear - not! When some dirt got in, it got infected. She had to take antibiotics for the infection and put some soothing cream on for the itch. That'll teach her to scratch. It was nearly 3 weeks before the itch went completely. That'll teach her to try and kill us. She might have succeeded in killing Sillyscaby and Sulkyscaby but she's got a tougher battle to fight with me, the Braveheart of Scaby mites the world over.

The little Scotts were making their parents' lives a misery too. It's best when the little cherubs start scratching. Once they begin, they find it hard to stop. Sometimes they damage the skin and it becomes infected by bacteria. Ha! They're so stupid. That makes their skin red, inflamed, hot and tender. Itch, scratch, itch, scratch - it's a vicious circle. Then they find they can't sleep, you see, for scratch, scratch, scratch all night long. They drove Mummy and Daddy Scott nuts. Antihistamine medicine seemed to help them sleep, though, worst luck.

On Wednesday, Grandma came to visit. When Mrs Scott was helping Grandma get her Zimmer frame over the front step she got hold of Grandma's hand to guide her in. Here was my chance to escape! Grandma's fingers were soft and pudgy. It was so easy to settle down in between them and start a new family. That's my favourite pastime - tunnelling into skin and laying eggs. Oh yes, and of course making people scratch. I filled with pride when I saw my eggs start hatching after a few days. It made all my efforts worthwhile. You must admit, I'm a clever mite.

Fancy them forgetting to treat cuddly Grandma. Well, that's their problem. Tee hee! Or should I say, Grandma's problem now?



### Scabies - An Overview

Scabies is a skin condition caused by a tiny mite. It usually causes a typical itchy rash. It can affect anyone of any age. It can be passed on to others by close skin-to-skin contact, most commonly by holding hands. Treatment with a cream or lotion will usually cure scabies, but you need to apply it properly to every part of your body. Two applications of treatment are needed, seven days apart.

### What is scabies?

Scabies is a skin condition caused by a mite (like a tiny insect) called *Sarcoptes scabiei*. The female mites tunnel into the skin and lay eggs. The eggs hatch into mites after a few days. Most of the symptoms are due to a skin reaction to the mites. Scabies is common. In the UK, about 1 in 1,000 people develop scabies each month.

### How do you get scabies?

You need close skin-to-skin contact with an infected person to catch scabies. Most cases are probably caught from holding hands with an infected person. The hand is the most common site to be first affected. Close skin-to-skin contact when having sex is another common way of passing on the mite. The skin-to-skin contact needs to be for a reasonable time to catch the mite. Therefore, you are unlikely to catch scabies from an infected person by casual short contact such as a handshake or a hug.

The mites live in skin but die after a short time if they are away from the skin. Therefore, you are unlikely to catch scabies from bedding, towels, etc, unless you use them immediately after being used by someone with scabies. However, to play safe, it is best to treat bedding, towels, etc, as described later on.

Sometimes outbreaks of scabies occur in nurseries, residential homes, etc, where people are in regular close contact.

### What are the symptoms of scabies?

- **Mite tunnels (burrows)** may be seen on the skin as fine, dark, or silvery lines about 2-10 mm long. The most common areas where they occur are the loose skin between the fingers, the front of wrists, and the hands. However, they can occur on any part of the skin. You may not notice the burrows until a rash or itch develop.
- **Itch** is often severe. Itch tends to be in one area at first (often the hands), and then spreads to other areas. The itch tends to be worse at night and after a hot bath.

- **A rash** usually appears soon after the itch starts. It is typically a blotchy, lumpy red rash that can appear anywhere on the body. The rash is often most obvious on the inside of the thighs, parts of the abdomen and buttocks, armpits, and around the nipples in women. The look of the rash is often typical of scabies. However, some people develop unusual rashes which may be confused with other skin conditions.
- **Scratching** sometimes causes slight skin damage. In some cases the damaged skin becomes infected by bacteria - a 'secondary' skin infection. If skin becomes infected with bacteria, it becomes red, inflamed, hot, and tender.

Note: the itch and rash of scabies are due to an allergy (reaction) to the mites. These symptoms usually take 2-6 weeks to occur after you are first infected (as the allergy develops). The itch and rash can develop on any part of the skin, away from where the mites are actually burrowing. So, at first, you may not know that you are infected until a widespread itch and rash develop. You may pass the mite on to others before you have any symptoms.

Some people believe that they are 'covered in mites'. This is usually not so. Commonly, there are just a few mites on the skin and just a few burrows. However, the allergy to the mites can cause you to itch all over, and for a rash to appear on many parts of the body.

### **Symptoms with a recurring infection**

As mentioned above, the itch and rash normally take 2-6 weeks to develop when you have a first scabies infection. However, if you have a bout of scabies, have it treated and cleared, and then get it again, the symptoms may be slightly different. The itch and rash tend to develop within 1-3 days of being infected with the mite. This is because you are already sensitised to the mite from the first infection. So, your body reacts with the itch and rash much sooner than after a first infection.

### **How is scabies diagnosed?**

Scabies is usually diagnosed by the typical symptoms and skin rash described above. Often, a doctor will find one or more mite burrows on the skin to confirm the diagnosis. It is sometimes difficult to tell the difference between the rash caused by scabies and some other skin conditions. Therefore, a scraping from the skin is sometimes sent to the lab to look for mites under the microscope if there is doubt about the diagnosis.

If itching and a rash develop in several people who live in the same home at about the same time then scabies is a likely cause.

### **Who should be treated?**

Scabies will persist indefinitely if not treated. Treatment is needed for:

- Anybody who has scabies AND ...
- All household members, close contacts, and sleeping / sexual partners of the affected person - even if they have no symptoms. This is because it can take up to six weeks to develop symptoms after you become infected. Close contacts may be infected, but have no symptoms, and may pass on the mite.

**Note: everyone who is treated should be treated at the same time - that is, on the same day.**

### What is the treatment for scabies?

Scabies is curable. The usual treatment is with **permethrin 5% dermal cream**. Permethrin is an insecticide that kills the mites. If permethrin cannot be used, an alternative is to use a lotion called **malathion 0.5% aqueous liquid**. (For example, some people may be allergic to permethrin.) You can buy both of these products from pharmacies. You can also get them on prescription. They are easy to apply and normally work well if used properly. **Re-apply the same treatment seven days after the first application**. This helps to make sure that all the mites are killed.

The following is a general guide about treatment which gives tips for success:

- You need to treat all the skin of your body (including the back, soles of the feet, between fingers and toes, under fingernails, scalp, neck, face, ears, and genitals). This may be different from what is said on the the package information. The package may say to only apply from the neck down for adults. However, national guidelines recommend that all the skin is treated. Pay special attention to the areas where mite burrows most commonly occur. That is, the front of the wrists and elbows, beneath the breasts, the armpits, and around the nipples in women.
- An adult needs at least 30g of cream or 100ml of lotion to cover the whole body. So, for two applications you will need at least 60g of cream or 200ml of lotion per adult.
- Apply cream or lotion to cool dry skin (not after a hot bath).
- The cream or lotion should be left on for the full recommended time. This time can vary depending on which one you use. For example, it is 8-12 hours for permethrin cream and 24 hours for malathion lotion.
- Children should stay off school until the first application of treatment has been completed.
- If you wash your hands or any other part of your body during the treatment period, you should re-apply the cream or lotion to the washed areas.
- Breastfeeding mothers should wash off the lotion or cream from the nipples before breastfeeding, and re-apply treatment after the feed.
- Put mittens on babies to stop them licking the cream or lotion off their hands.
- Clothes, towels, and bed linen should be machine washed at 50 degrees Celsius (50°C) or above after the first application of treatment. This kills any mites that may be present. Keep any items of clothing that cannot be washed in plastic bags for at least 72 hours to contain the mites until they die. An alternative option to kill any mites on clothes and linen are: ironing the item with a hot iron, dry cleaning, or putting items in a dryer on the hot cycle for 10-30 minutes. It is not necessary to fumigate living areas or furniture, or to treat pets.
- Some people who develop a secondary skin infection may also need antibiotics.

See a doctor if the itch persists longer than 2-3 weeks after treatment. Sometimes the first treatment does not work, and a different one is then needed. However, the common reasons why treatment fails, or for scabies to recur are:

- The cream or lotion is not put on correctly for the full time, or
- A close contact is not treated at the same time, and the infection is passed back.  
Note: you will still be itchy for a while after successful treatment.

It is normal to take up to 2-3 weeks (and sometimes up to six weeks) for the itch to go completely after the mites have been killed by treatment. Also, even after successful treatment, in a small number of cases there remains some itchy brownish red lumps (nodules) up to 2cm in diameter. If these remain, they most commonly occur on the genitals and arm pits. These lumps are not infectious or mean that the mite is still present. They occur in some cases as a prolonged skin reaction to the scabies mite. If they occur, they usually go within three months, but occasionally last up to one year.

### **Treatment for itch**

While waiting for the itch to go after killing the mites, you may wish to try something to ease the itch. A pharmacist can advise. Options include the following:

- Crotamiton cream or lotion has soothing qualities and may help to relieve itch. Apply crotamiton 2-3 times a day (but only once a day for children under three years old).
- Hydrocortisone cream. This is a mild steroid cream that may ease any inflammation and help ease itch.
- An antihistamine medicine that makes you drowsy such as chlorphenamine. This does not ease the itch directly, but can help you to sleep if itching is a problem at night (particularly for children).

### **Crusted scabies (Norwegian scabies)**

This type of scabies is unusual, and most people who develop scabies do not get this more severe form. Crusted scabies is an infection with many thousands of mites. It mainly occurs in people who have a poor immune system. For example, people with HIV/AIDS, people on chemotherapy, etc. It occasionally develops in frail people who are elderly or ill with other conditions. The condition causes a crusting skin rash similar to psoriasis. It can be extensive and severe and lead to serious secondary bacterial infections.

Because of the heavy infestation with the mite, people with crusted scabies are very contagious. However, healthy people will normally develop 'normal' scabies (described earlier) if they become infected from someone with crusted scabies.

To find out what patients have written about this condition please see page 552

## Threadworms



### A Poem: A Ticklish Tale

by Lesley C Hind

Emma and Thomas caught threadworms  
How their bottoms itched and squirmed  
Deep in the night while they lay asleep  
The tiny worms crawled out to peep

Most children some time catch these creatures  
They're one of the childhood infectious diseases  
Wash hands well, keep them nice and clean  
It protects you from germs that cannot be seen

All the household must be treated  
To get rid of these tiny creatures  
They won't make you ill, they just make you itch  
Syrup from the chemist gets rid of them quick

Hooray! The threadworms have been defeated  
Emma and Thomas are comfortably seated



### Threadworms - An Overview

Threadworms are common but are not usually serious. Threadworms infect the gut and lay eggs around your anus which causes itch. Treatment usually includes medication plus hygiene measures. Medication kills the worms, but not their eggs which can survive for two weeks. Therefore, you also need strict hygiene measures for two weeks after taking medication to prevent you from swallowing eggs which may cause a new infection. All household members should be treated at the same time, including those without symptoms.

### What are threadworms?

Threadworms are small, thin, white, thread-like worms between 2 and 13 mm long. They infect human guts (intestines). They are common in children, but anyone of any age can be affected.

### The life cycle of threadworms

Threadworms live about 5-6 weeks in the gut, and then die. Before they die the female worms lay tiny eggs around the anus (back passage). This tends to occur at night when you are warm and still in bed. The eggs are too small to see without a microscope, but cause itching around the anus. You then scratch around the anus to relieve the itching. You often do this without realising while you are asleep. When you scratch, eggs get onto your fingers and under your nails. You may then swallow some eggs if you put a finger into your mouth.

Also, threadworm eggs can survive for up to two weeks outside the body. They fall off the skin around the anus and can fall onto bedding, clothes, etc. They can then get 'wafted' in the air as you change clothes, bedding etc, and become part of the dust in a home. Some eggs may settle on food or toothbrushes. So, children may swallow some

eggs at first by playing with other children who have eggs on their fingers or from food, drink, toothbrushes, or dust that has been contaminated with threadworm eggs.

Any eggs that you swallow then hatch and grow into adult worms in the gut. So a 'cycle' of threadworm infection can go on and on.

### **Are threadworms harmful?**

Not usually. Often, the worst thing about them is the itch and discomfort around the anus. This sometimes wakes children from sleep. Scratching may make the anus sore. Large numbers of threadworms may possibly cause mild abdominal (tummy) pains and make a child irritable. In girls, threadworms can wander forwards and lay their eggs in the vagina or urethra (the tube through which you pass urine). A doctor may check for threadworms in young girls with a vaginal discharge, bedwetting, or problems with passing urine. Rarely, threadworms can cause other problems such as loss of appetite and weight loss.

### **How can I tell if my child has threadworms?**

Threadworms look like thin, white, cotton threads. Sometimes you can see them in faeces (stools or motions) in the toilet. If you cannot see threadworms in the faeces, but suspect your child has threadworms (if they have an itchy bottom), try looking at the child's anus. You can do this with a torch in the late evening after the child has gone to sleep. Part the child's buttocks and look at the opening of the anus. If the child has threadworms you can often see one or two coming out of the anus. Do not be alarmed! Ask a pharmacist for advice on treatment in the next day or so.

Your doctor may ask you to do a 'sticky tape test' to confirm the presence of threadworms. To do this you press some clear see-through tape onto the skin around the anus first thing in the morning, before wiping or bathing. You then place the tape on a glass slide or put it in a specimen container. The tape is then sent to the 'lab' to be looked at under a microscope to see if any threadworm eggs are stuck to the tape.

### **What is the treatment for threadworms?**

All household members, including adults and those without symptoms, should be treated. This is because many people with threadworms do not have any symptoms. However, they will still pass out eggs which can then infect other people. If one member of a household is infected, it is common for others also to be infected. So, everyone needs treatment!

The common treatment is:

- To take a medicine to kill the worms in your gut, AND
- Hygiene measures to clear eggs which may be around your anus or in your home.

Note: for babies under the age of three months, only hygiene measures alone are possible as no medicine is licensed for this age group.

### **Medication**

You can buy the following medicines from pharmacies. You can also get them on prescription. If you are pregnant or breastfeeding then see the notes later.

- Mebendazole is the usual treatment for people aged over six months. All household members, including adults and those without symptoms, should take a dose at the same time. Just one dose kills the worms. A second dose two weeks

after the first is sometimes needed if the infection has not cleared (which may occur if you swallow some eggs after taking the medication).

- Piperazine is an alternative medicine. It can be used by anyone aged over three months. You need to take two doses, 14 days apart.

### Hygiene measures

Medication will kill the worms in the gut, but not the eggs that have been laid around the anus. These can survive for up to two weeks outside the body on underwear, bedding, in the dust, etc. So, hygiene measures aim to clear any eggs from the body and the home, and to prevent any eggs from being swallowed. This will then break the cycle of 're-infection'. After taking the first dose of medication for threadworms ...

Firstly, as a 'one off', aim to clear eggs from where they may be in your home. This means:

- Wash sleepwear, bed linen, towels, and cuddly toys. This can be done at normal temperatures so long as the washing is well rinsed.
- Thoroughly vacuum and 'damp-dust' the whole home. Throw out the cloth after use. Pay particular attention to the bedrooms including vacuuming mattresses, and where children play.
- Thoroughly clean the bathroom by 'damp-dusting' surfaces, washing the cloth frequently in hot water. Throw out the cloth after use.

Then, every member of the household should do the following for two weeks:

- Wear close-fitting underpants or knickers in bed, and change every morning. This is so that if you scratch in your sleep, you will not touch the skin near the anus. (Also, consider wearing cotton gloves at night as this may also help prevent night-time scratching with fingernails.)
- Every morning have a bath, or wash around the anus, to get rid of any eggs laid overnight. You must do this straight away after getting up from bed.
- Ideally, change and wash nightwear each day.

And general hygiene measures which you should always aim to do to prevent getting threadworms again:

- Wash hands and scrub under the nails first thing in the morning, after using the toilet or changing nappies, and before eating or preparing food.
- Try not to bite your nails or suck fingers, and discourage children from doing so.
- If possible, avoid sharing towels or flannels.
- Keep toothbrushes in a closed cupboard. Rinse well before use.

However, it may not be your home which is a main source of threadworm eggs. Your children may come into contact with eggs in schools or nurseries, particularly in the toilets if they are not cleaned properly. This is why your child may have recurring threadworms, even if your home and personal hygiene is of a very high standard.

## What if I am pregnant or breastfeeding?

### Pregnancy

If you are pregnant, during the first third of the pregnancy (first trimester) you should not take medicines which kill worms. However, hygiene measures alone may work.

The worms die after about six weeks. Provided that you do not swallow any new eggs, then no new worms will grow to replace them. So, if you continue the hygiene measures described above for six weeks, this should break the cycle of 're-infection', and clear your gut of threadworms.

If treatment with medication is considered necessary in the second or third trimester of pregnancy, then your doctor may advise mebendazole. However, strictly speaking, mebendazole is not licensed to be used during pregnancy.

### Breastfeeding

If you are breastfeeding, again, six weeks of hygiene measures alone is the preferred treatment. If treatment with medication is considered necessary then your doctor may advise mebendazole. However, strictly speaking, mebendazole is not licensed to be used for breastfeeding mothers.

### Can a child with threadworms go to school?

Yes. There is no need to keep a child with threadworms off school, nursery, etc. The hygiene measures described above will mean that children will not have any eggs on their fingers when they go out from the home each day, and so are unlikely to infect others.

To find out what patients have written about this condition please see page 553

## Dog Bites



### A Poem: John's Dog Bite

*by Rosie Peters*

An angry dog gave John a bite  
When he tried to stop a canine fight.  
Teeth sank firmly into his shin  
Leaving blood, bruise and broken skin.

When John saw what the dog had done  
He called for help from Ben his son.  
The lad said he would do his best  
And sat his father down to rest.

Ben got some water from the tap.  
He kept quite calm and didn't flap.  
The wound he cleaned with greatest care  
But saw the need for a nurse's flair.

To the hospital Ben took his dad.  
The doctor said, "This bite is bad.  
Canine teeth can cause infection.  
You were wise to come for inspection.

At present the wound looks rather grim.  
There's damaged skin I need to trim.  
Then further cleaning of the bite  
Will cut the risk of a septic site."

Doctor and Nurse were very kind  
And tried to calm John's anxious mind.  
The doctor showed much dedication  
Explaining all the medication.

A tetanus jab was agreed.  
John understood the urgent need.  
He didn't fuss; he was no fool.  
Prevention of problems was the rule.

Nasty germs, they were potential.  
Antibiotics were essential.  
The wound was cleaned and then was dressed.  
Nurse gave advice that was the best.

She said to keep the dressing dry,  
And explained to John the reason why.  
"A soggy wound could get much worse  
And need lengthy treatment from a nurse.

Your wound is deeper than some we see.  
We'll send a note to your GP.  
Visit your Practice Nurse for care,  
Of your needs she'll be well aware."

The doctor had some more to say  
Before the pair were on their way.  
"Thank goodness there's no rabies here.  
In Britain at least, there's little fear.

But if you're bitten overseas  
Be well aware of this disease.  
And if your skin has any nicks  
Beware of even animal licks.

Seek treatment with enormous speed.  
With all creatures show great heed.  
Any mammals wild or not  
Can scratch and bite, perhaps a lot.

At home, a pet can be great fun,  
Especially after training's done.  
Very rarely, and it's quite sad  
A dog can be extremely bad.

Tell the police, be very brisk  
If a dog's behaviour causes risk."  
The pair was glad of much advice  
From doctor who seemed very nice.

John, at last, was on his way  
And thankful he hadn't had to stay.  
Since the dog bite and nasty scare,  
Of animals now he'll be more aware.



## Dog Bites – An Overview

About 200,000 dog bites occur each year in the UK. Cat bites are less common. This article gives a guide as to what you should do following a bite.

### Clean the wound

You should clean the wound no matter how small the cut to the skin. There are many bacteria (germs) in animal mouths. Cleaning will reduce the chance of infection. If the wound is small, you can clean it yourself. Just use ordinary tap water. (There is concern that antiseptics may damage skin tissue and delay healing.) Wounds that are large, deep, or dirty are best cleaned by a nurse or doctor. After cleaning, cover the wound with a sterile, non-sticky dressing.

### Consider going to hospital or seeing a doctor

#### Wound care

If part of the wound has dead or damaged skin then it may need to be 'trimmed' or removed. This is because dead skin is ideal for infection to develop. Gaping wounds may need to be stitched, glued, or pulled together with sticky tape. Open cuts to the face or head will usually be closed as soon as possible. For cuts to other parts of the body, sometimes a doctor may advise to wait for a few days before closing the wound, particularly if the wound is more than six hours old. This is to make sure the wound is not infected before closing it up.

#### Antibiotics

A short course of antibiotics may be prescribed to prevent infection developing in wounds which are large, deep, or 'punctured'. A puncture wound may not look large but may go deep into the tissues. Antibiotics may also be prescribed for small bite wounds if:

- The bite wound is on the face, hand or foot.
- Your resistance to infection is low. For example, if you: are on chemotherapy; have no working spleen; have diabetes; have an immune system problem such as AIDS, etc.
- You have an artificial heart valve (and sometimes, if you have an artificial joint).

#### Tetanus

Are you up to date with your tetanus immunisations? If not, you may need a booster dose.

## Rabies

This is a serious illness passed to humans from some animal bites. At present the UK is free from rabies. Animal bites (particularly dog bites) that occur abroad have a risk of rabies. When abroad, take seriously even the most tiny of dog bites, or a lick from a dog over a cut or wound. If needed, treatment straight after a bite can prevent rabies from developing.

### What to look out for after a dog or cat bite

The most common complication following a bite is an infection of the wound. See a doctor if the skin surrounding a wound becomes more tender, painful, swollen, or inflamed over the next few days. Rarely, some bacteria can get into the bloodstream through a wound and cause a serious infection in the body. See a doctor if you become generally unwell with fever (high temperature), shivers, or other worrying symptoms within a week or so after a dog or cat bite.

## Tick Bites



### A Story: A Tick can be Cross Too!

*by Shelley White*

I'd been laying low biding my time in the long grass on the moors for months waiting for a sheep, cow, dog or even a human to come along to latch on to. Our family aren't really all that partial to humans but sometimes there isn't much choice.

Many walkers when they passed by me were well protected with long-sleeved shirts and trousers and by the smell of them I think they'd been using insect repellent. I have to admit, their unpleasant aroma did put me off biting them a bit. My patience was rewarded, however, when a lady came along with her dog for an early morning stroll. The dog was one of those intelligent spaniels and stayed to the middle of the path away from the grass, but the lady - ah, she brushed against the grass with her bare legs. That was my chance. I very quickly managed to jump onto one of her legs - and boy was that a treat for a blood sucker like me! I'm small and light as a feather and because my teeth are extremely sharp, I'm very gentle when I bite. The poor dear didn't feel a thing.

I had a great time for about 12 hours making my way around her body till I got to a really warm fleshy part on her midriff that looked quite safe. I then quenched my thirst in blood - ah, bliss! It was an absolute joy for me to luxuriate on living and breathing flesh for a change after spending so long on that blade of grass waiting for my luck to change.

We arrived at her house in time to hear the ten o' clock news, after which she decided to go to bed. Hey, what was she doing? I wasn't expecting this. She was getting undressed but she must have spotted me - though I don't know how because I'm as small as a poppy seed when I just start my meal - and she started to try and brush me off with her fingernail. But I wouldn't budge - I made sure that my six legs and two antennas were gripping her skin tightly. I think she panicked when I wouldn't move because she started screaming and swirling round like a crazed dervish which was totally unnecessary in my opinion. Her ravings were the signal for another human to run upstairs shouting "Teresa, whatever's the matter?" The next minute, to my horror, she'd found some tweezers.

Help! Mind my head! Thank goodness she didn't just yank me out - that might have snapped my head off completely. She grasped me with the tweezers very close to her skin and gently she pulled me upward steadily. Oh well, it was nice while it lasted.

You'll never guess what she did after that. She put me in a plastic bag and made sure I couldn't get out.

I could still see what she was doing through the bag. I'd left a red mark on her skin so she disinfected it with antiseptic and inspected the rest of her body for any of my friends who might be hiding. I noticed she paid particular attention to folds of skin such as her armpits and groin. Then she got in the shower and gave herself a good scrub all over.

The next day Teresa took me to the Environmental Health Office at the Town Hall and asked the Pest Control Officer what kind of insect I was. He examined me under a microscope and couldn't wait to give her the spiel about me being a sheep tick. I thought at least he'd have given me my proper name, *Ixodes Ricinus*, but maybe he assumed that wouldn't interest her.

I think she was rather stunned by this information because she never said anything and I noticed the colour drain from her face. He went on about how I was an insect found in woodland and heathland areas and how I usually feed on blood from mammals and birds but occasionally bite humans. Yeah, right, but at least sheep, cows and birds don't rush for the tweezers to pull me out of their skin.

Teresa had to sit down at this point but the gentleman didn't seem unduly perturbed - he'd seen lots of my friends on dogs and cats on many occasions. I didn't think he'd go into such detail but he insisted on dropping the bombshell about how occasionally I can be infected with *Borrelia Burgdorferi*, a bacterium that can cause Lyme Disease. Now, personally, I don't have that bacterium, but some of my friends in the woods can't wait to infect someone.

Well, when she heard him mention Lyme Disease it must have sent her blood pressure up because she started breathing very fast and fired lots of questions at him about it. He seemed to relish telling her that it was a nasty disease which can affect the nervous system and joints. He forgot to say that occasionally the heart and other tissues can be affected too. Tee hee - that's painful!

He tried to reassure her by saying that early treatment with antibiotics usually helped to prevent complications and that if she noticed a spreading rash that looks like a target (bull's eye) developing from the site of the bite or felt unwell with flu-like symptoms in the next few weeks, she should see her doctor. But Teresa needn't have worried because as far as I've already mentioned, I don't happen to be an infected tick, unlike some of my friends in the woods. I think he must have been getting a bit bored, or maybe it was nearly lunchtime because he started to usher her out.

"Don't worry, madam, I'm sure you'll be fine. You haven't got a rash and you removed the tick from your skin within twenty four hours. I'll dispose of the tick for you madam."

That's what he thought - but he wasn't going to get rid of me that easily. Ouch! He was a bit rough tipping me back into the bag. Then he headed for the men's toilets. He was probably intending to flush me down the toilet to get rid of me. Boy, did that make me cross. I had to think of something quick.

Luckily, I managed to make my escape quite easily. I found the tiniest hole in the corner of the bag and squeezed myself through it. Freedom at last. I was falling fast but I had a lovely soft landing - right inside that horrible man's trouser turn-up. It would only

take a few hours for me to reach his juicy leg. That'll teach him for trying to get one over on me. Yummy, I could hardly wait!



## Lyme Disease – An Overview

Lyme disease is an infection with a bacterium (germ). Humans can get Lyme disease if they are bitten by an infected tick. The first and typical symptom is usually a rash that spreads out from the site of the tick bite. Left untreated, the bacteria can spread to other areas of the body. In some cases this can cause serious symptoms - often months after the initial tick bite. A course of antibiotics will usually clear the infection.

### What is Lyme disease?

Lyme disease is an infection with a bacterium (germ) called *Borrelia*. There are various subtypes of *Borrelia* bacteria but *Borrelia burgdorferi* causes most cases of Lyme disease. The bacterium is passed to humans from infected ticks. It is called Lyme disease because in 1975 in a town called Old Lyme in the USA, there was an outbreak of arthritis in young children which was found to be due to this infection. This was the first time that this bacterium was proved to be the cause of a medical condition.

### Where is Lyme disease a problem?

Since 1975, thousands of cases have been reported in the USA. However, Lyme disease is quite rare in the UK. About 600 cases are reported in the UK each year. Most cases in the UK occur where infected ticks are found - mainly in Exmoor, the New Forest, the South Downs, parts of Wiltshire and Berkshire, Thetford Forest, the Lake District, the Yorkshire moors and the Scottish Highlands. Most people affected are forestry workers and other outdoor workers, but visitors and holiday makers to these areas are at risk.

### How do humans get Lyme disease?

The bacterium that causes Lyme disease lives in certain animals. This is mainly rodents such as mice and deer. The bacterium is usually harmless to the animals.

Ticks are small insects, about the size of a pin head. Ticks feed by biting the skin and sucking blood from animals such as mice and deer, and sometimes humans. In this way, some ticks get infected with the bacterium that causes Lyme disease. If an infected tick bites a human, then the bacteria may be passed into the human. The bacterium that causes Lyme disease is not passed from person to person.

Note: most ticks in the UK are not infected by the bacterium that causes Lyme disease. Therefore, most tick bites will not cause Lyme disease.

It normally takes 24-48 hours for bacteria in the tick to pass into the human after being bitten. (Ticks are tiny and 'cling on' to you once they bite you. They then suck blood and 'engorge' with blood which they feed off. The bacteria are normally carried in their gut, and only travel up to their mouth and into your skin once they have been feeding for more than 24 hours and are engorged.) Therefore, if you remove a tick soon after being bitten - within 24 hours - you are very unlikely to develop Lyme disease, even if it was an infected tick.

So, it is only certain infected ticks that bite, and are not noticed clinging onto your skin, that can cause Lyme disease. However, ticks are very small, and often do not hurt when they bite. It is quite easy to have a tick bite without you noticing. For example, on your leg or back. Many people who develop Lyme disease cannot remember being bitten by a tick.

Once bacteria are passed from the infected tick into your skin, they then multiply and travel in the bloodstream to other parts of the body to cause symptoms. The parts of the body that are mainly affected by this bacteria are: skin, joints, nerves and heart.

## **What are the symptoms of Lyme disease?**

The symptoms and effects of Lyme disease can be divided into three stages.

### **Stage one - early reaction to the local skin infection**

This can develop anytime between 2 and 30 days after being bitten by an infected tick.

*Rash.* The classical symptom of Lyme disease is a typical rash called erythema migrans. This occurs in about 8 in 10 cases. The rash is usually a single circular red mark that spreads outwards slowly over several days. The circle gets bigger and bigger with the centre of the circle being where the tick bite occurred. As it spreads outward, a paler area of skin emerges on the inner part of the circle. So, the rash is often called a 'bulls eye' rash. The rash may just be a few centimetres in diameter, but in some cases grows to up to 30 cm. It is not usually painful or particularly itchy. You may not even notice it if it is on your back. Without treatment, erythema migrans typically fades within 3-4 weeks.

Note: many insect bites cause a small, red, blotchy, 'allergic' rash to appear soon after the skin is bitten. These soon go away. The rash of erythema migrans is different in that it usually develops several days after the bite, and has a typical spreading circular appearance.

*Flu-like symptoms* occur in about half of cases. Symptoms include tiredness, general aches and pains, headache, fever, chills and neck stiffness. These symptoms are often mild and go within a few days even without treatment (but the infection may not have gone).

In some cases, the infection does not progress any further, even without treatment, as the immune system may clear the infection. However, in about half of cases that are not treated, the disease progresses to stage two.

### **Stage two - early disseminated disease**

This may develop in untreated people weeks or months after the bite. Symptoms are variable but can include one or more of the following.

*Joint problems* in one or more joints. They most commonly affect the knee joint or jaw joint (temporomandibular joint). The severity of joint problems can range from episodes of mild joint pains, to severe joint inflammation (arthritis) causing a lot of pain. Episodes of joint inflammation last, on average, three months.

*Nerve and brain problems.* Some affected people develop inflammation to nerves, particularly the nerves around the face. This may cause the nerve to stop working and cause facial weakness. Meningitis and encephalitis (brain inflammation) may occur.

*Heart problems.* Some affected people develop inflammation of the heart (myocarditis) and other heart problems. This may cause symptoms such as dizziness, breathlessness, chest pain and palpitations.

*Rash.* Several areas of the skin (not where the tick bite occurred) may develop a rash similar to erythema migrans (described above). These 'secondary' rashes tend to be smaller than the original stage one rash. These tend to fade within 3-4 weeks.

Rarely, other organs such as the eyes, kidneys and liver are affected.

### **Stage three - chronic (persistent) Lyme disease**

This may develop months to years after infection. It may develop after a period of not having any symptoms. A whole range of symptoms have been described in joints, nerves, brain and heart. The brain problems may include mild confusion, and problems with memory, concentration, mood, sleep, personality and/or language. There is controversy as to whether Lyme disease may cause depression, anxiety, schizophrenic-like illness, bipolar disorder and dementia.

### **How is Lyme disease diagnosed?**

In most cases, Lyme disease is diagnosed in stage one of the disease by the typical symptoms. That is, the typical rash, sometimes also with a flu-like illness, in someone who has been bitten by a tick. Other tests are not needed in this situation and treatment is usually given. The diagnosis of stage two or three is more difficult. Blood and urine tests and skin tests are helpful (but not foolproof) in diagnosing the disease if it is suspected from the symptoms.

### **What is the treatment for Lyme disease?**

A course of antibiotics will usually clear the infection. Most people are diagnosed in stage one when treatment will clear the symptoms and prevent the development into stages two or three.

### **Can Lyme disease be prevented?**

The following will reduce your risk of developing Lyme disease:

- If possible, avoid areas where infected ticks live - particularly in the summer months.
- If living or visiting a tick prone area, when outdoors wear appropriate clothing. That is: long-sleeved shirts and trousers and tuck them in whenever possible. Inspect your entire body each day to check for ticks and remove any that are on the skin.
- Consider using a tick repellent spray, cream, etc, on your skin that contains N,N-diethyl-m-toluamide (DEET).

### **What is the outcome (prognosis)?**

If you are treated with antibiotics in stage one of the disease, you should expect a complete cure with no further problems.

If you are not treated in stage one, about 8 in 10 develop some symptoms of stage two or three. However, these are often mild and transient symptoms such as a skin rash or mild joint pains. Some people develop more severe symptoms if they progress to stage two or three. Treatment with antibiotics during stage two or three is also usually curative.

However, some people report ongoing symptoms that may be triggered by Lyme disease even when the infection has been cleared by antibiotics. This has been called 'Post-Lyme Disease Syndrome'. It may be due to a reaction of the immune system that does not 'switch off' even when the bacteria causing the infection have been cleared. Symptoms that have been reported include: tiredness, joint or muscle pains, headaches, hearing loss, vertigo, mood disturbances, pins and needles and difficulty sleeping.