

# They're living deep under your nails.

"I'M DIGGER THE DERMATOPHYTE."



 NOVARTIS

## Introduction

One of the many great wonders in life is the sight of 20 perfectly formed nails on a newborn baby who is otherwise devoid of embellishments, i.e. toothless and hairless. Why we need nails is fairly obvious: just imagine trying to unpick a knot without your finger and thumb nails, or dancing with a clumsy partner who keeps treading on your toes. Of course, in times past, nails were used as ancillary weapons. Even now, *"I'll scratch your eyes out!"* is a favourite quote for jealous rivals in Mills and Boon type stories.

Nails, like hair, are made from the firm material, keratin, which consists of dead cells. But don't let that fool you: the cells, under the skin, that produce keratin are very much alive and must remain so if you are to have glossy hair and smooth, shiny nails - our equivalent of our canine friends' wet nose and glossy coat. To ensure this our nutrition must be good.

Before the days of 'tests', the physician of yesteryear could tell a lot about a person's health by examining the eyes, tongue and nails. If the eyes are the window of the soul the nails are as an open book which records our state of well being or otherwise. Many diseases can give rise to a nail disorder and it may be this that leads a person to consult their doctor. For example, iron deficiency anaemia can cause the nails to be spoon-shaped; the thyroid gland controls our metabolism and, if it is over- or underactive, it can cause nails to thin and grow fast, or be brittle and slow growing; lack of oxygen in chronic airways disease causes the nails to become clubbed in appearance. Long before forensic toxicology, physicians recognised that transverse grooves in the nails (Mee's lines) indicated chronic arsenic poisoning. Arsenic may be identified in nails and hair after death and so, dead men can tell tales after all!

Going back to the open book theory, what else can one tell by looking at someone's finger nail?

Nicotine staining gives the game away on the surreptitious smoker; smooth translucent nails with attractive half moons and seamless cuticles suggest success, money and a job (if one has to work) in merchant banking or on the silver screen. By contrast, the nails of someone engaged in hard manual toil will be coarse and chipped, though such nails may also be due to a passion for gardening or a zealous approach to housework without rubber gloves.

Nails were ever a fashion accessory - think of the age-old custom of applying henna to nails in eastern lands. Before the advent of colourless nail polish, the Victorians buffed their nails until they gleamed with silver nail buffers. That nails can make a fashion statement was never more so than it is today as witnessed by the mushrooming of nail parlours and salons.

When it comes to nail diseases, some are difficult to treat. For example, if the disorder is due to a growth defect of the nail, e.g. psoriasis, it cannot easily be treated. But by contrast, with the medication currently available, treatment of nail fungal and yeast nail infections is very effective. And so, if without the least provocation from you - no faddy diet, no sudden burst of spring cleaning or house painting - your nails become lacklustre, or even yellow and crumbly, consult your doctor.

And finally, if small white spots appear in your nails don't listen to well-meaning friends and start swallowing calcium tablets. Whatever they are due to, it's not lack of calcium and you wouldn't want to end up with kidney stones, would you?

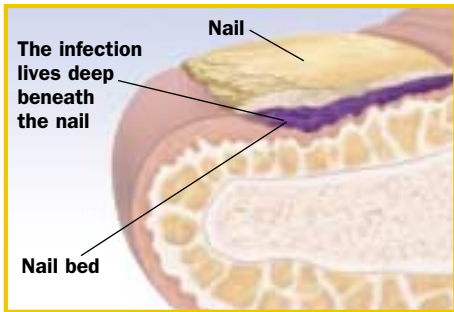
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**8th. August, 2004**

**A fungal nail  
infection is  
an active, live  
infection.**

"I'M DIGGER  
THE  
DERMATOPHYTE."





### **What is fungal nail infection?**

Fungal nail infection can make nails appear thick, discolored, or brittle. The infection begins when living fungus gets under the nail and continues living there —deep down, where the nail starts to grow. The fungi that primarily cause this infection are called *dermatophytes* (der-mah-to-fites). You can't see these dermatophytes or the active infection beneath your nail. But, unfortunately, you can see the effects.

### **Did you know?**

Fungal nail infection is more common under toenails than fingernails. That's because shoes and socks create warm, moist conditions that can help dermatophytes, or fungi, to grow.

**Fungal nail  
infection is  
not caused  
by bad  
grooming  
or poor  
hygiene.**



"IT'S ME."

### **How to recognise a fungal nail infection:**

- Nails that look “different”
- Discolouration - your nail loses its healthy pink colour and may become yellow or greyish in colour.
- Thickness - your nail may become thicker and less transparent. They can become oddly shaped.
- Crumbly nails - your nail may crack and break easily. Small pieces of nail may also crumble away.
- Sore, tender nails - your nail can become sensitive to pressure and tender to touch.
- Lack of growth - infected nails grow more slowly.

### **How does fungal nail infection begin?**

Dermatophytes, or living fungi, are the primary cause of fungal nail infection. They live in many common places such as locker rooms, around swimming pools, showers, even your garden; and on unsterilized manicure or pedicure tools that have been used on others with the infection.

Most infections are caused when dermatophytes get under the nail following an injury—for example, dropping a heavy object on your foot, stubbing your toe, or trimming nails too closely.

Fungal nail infection is not caused by bad grooming or poor hygiene. Simply stubbing your toe or wearing too-tight shoes can weaken the nail and expose the nail bed to infection.

### **Did you know?**

Acrylic nails, nail polishes - even the nail itself - may provide a protected place for an infection to grow.

### **Who gets fungal nail infections?**

Millions of people suffer from fungal infections of the toenails or fingernails. It is more common in people with a history of athlete's foot. It is known that patients with psoriasis, diabetes and a weakened immune system are more prone to fungal nails. The risk of fungal nails increases with age and also amongst those who are involved with sport activities.

### **Is fungal nail infection contagious?**

Yes. Because it is an infection, it can spread to other nails. Something as ordinary as an emery board can carry the fungi, or dermatophytes, from an infected nail to an uninfected one. That's why it is so important to seek treatment from your doctor as soon as you think you may have a fungal nail infection.



## **Won't a fungal nail infection just go away on its own?**

No. If not treated effectively, fungal nail infection may become painful or spread to other nails.

## **Is it difficult to treat?**

A fungal nail infection won't go away on its own. It may get worse.

Because fungal nail infection lives deep under the nail bed, it can be very difficult to treat. Some people try creams and other surface treatments on their own, as well as other home remedies - unsuccessfully. Some even have the nail removed. But even this doesn't kill the infection.



Treatment is best begun at the early stages of infection. Treatments include tablets or capsules taken by mouth or a treatment that needs to be applied regularly to the affected nails.

Only your doctor can determine if you have a fungal nail infection. If you think you may have an infection, talk to your doctor.

## Caring for your nails

It is important that you care for your nails during treatment *and* after nails have grown in clearer and healthier.

- Don't apply polish to nails that might be infected.
- Don't share shoes, nail clippers, or emery boards.
- Air out shoes regularly and use an antifungal spray or powder daily.
- Be sure to change your socks daily. Avoid shoes that are too tight.
- Wear shower shoes in public swimming and shower areas.
- Seek treatment for athlete's foot or other foot infections.
- Use sterile manicure and pedicure instruments.
- Check your nails regularly and report any problems to your doctor.

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