



FUNGAL NAIL
SOLUTIONS

YOUR COMPLETE GUIDE TO FUNGAL NAIL INFECTIONS



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ABOUT FUNGAL NAIL SOLUTIONS

At Fungal Nails Solutions, we are your experts at treating fungal nail infections and understand that fungal nail infections can reduce your confidence to wearing open toe shoes and bare feet due to thickened, yellow or irregularly shaped nails. We also understand that getting rid of a fungal nail infection can be extremely difficult involving treatments that are laborious, time consuming and usually unsuccessful.

“ Cold laser therapy provides a simple, safe, and effective up to 87% success rate as well as being a pain free way of treating fungal nail infections.”

Fungal Nail Solutions is a new and innovative clinic specifically looking at the diagnosis and treatment of Fungal nails, bringing the latest technology to the Waikato to treat fungal nail infections. Our clinicians were frustrated by the lack of successful and safe treatments available, therefore, Fungal nail solutions have bought our patients the latest in fungal nail treatment which is cold laser therapy. Cold laser therapy provides a simple, safe, and effective up to 87% success rate as well as being a pain free way of treating fungal nail infections.

“ We have comprehensive treatment packages that will be tailored to your needs. ”

Our clinicians here at fungal nail solutions will take the time to diagnose and discuss the right treatment for you. We have comprehensive treatment packages that will be tailored to your needs. These include a combination of laser, topical, oral, and surgical options. Explore our website to discover your fungal nail solution.

WHAT IS A TOENAIL FUNGAL INFECTION?

Onychomycosis also known as a 'fungal infection' presents either in the finger or toenails. Fungal nail infections are an extremely common yet treatable nail pathology which makes up about 50% of all nail problems. Unfortunately, fungal infections will not go away on their own without suitable treatment. Early diagnosis and treatment of a fungal infection can certainly increase your chances of a successful cure and helps reduce the change of long-term nail damage.



Dermatophytes (fungal organisms that require keratin to grow) make up around 90% of all fungal infections. They will most commonly present at the free edge of the nail and slowly spread down the side of the nail towards the nail bed. It is possible for these dermatophytes to spread to the skin causing a fungal skin infection also known as athletes' foot and athletes' foot can also cause onychomycosis. Fungal infections prefer to grow in warm, dark, damp environments making toenails far more susceptible to an infection as your shoes and socks make a perfect environment for fungus to grow.



WHO DOES TOENAIL FUNGUS EFFECT?

Unfortunately, everybody is at risk of developing a fungal infection, however, there are certain risk factors that put some people at greater risk of infection.

“Toenail fungus infections are very contagious and are easily passed from one person to another.”

- Age, those 55yrs +
- People who lead active lives as more likely to have sweatier feet.
- Exposure to communal wet areas like swimming pools or showers
- Genetic
- Reduced blood circulation
- Previous or existing injury or infection of the nail or skin
- Weakened immune system (i.e., diabetes)

Toenail fungus infections are very contagious and are easily passed from one person to another.



WHAT CAUSES TOENAIL FUNGAL INFECTIONS?



Conditions such as athlete's foot, ringworm and jock itch can contain the same type of fungi that causes toenail infections. People that share public areas such as gym changing rooms, communal showers or swimming pools are common areas of exposure due to the moist, warm environment that these areas create, a perfect breeding ground for fungi.

People that wear socks and shoes all day also create a warm, moist, and dark environment for fungi to thrive and this suggests why toenail infections in the feet are far more common than in the hands. Additionally, we do not

tend to wash our feet as much as our hands. Our feet also have less circulating blood than our hands making it harder for our immune system to fight off a fungus infection if we are exposed. Other factors that can lead to fungal infections include:

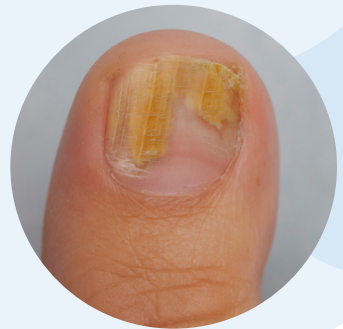
- Minor skin/nail injuries
- Nail deformities
- Prolonged exposure to moist conditions/environments
- Using tools that have been used on other people (most notably nail clippers)
- Wearing closed-in-footwear that is not breathable
- Having diabetes, poor blood circulation or a weakened immune system

"Our feet also have less circulating blood than our hands making it harder for our immune system to fight off a fungus infection if we are exposed."

ARE TOENAIL FUNGAL INFECTIONS CONTAGIOUS?

Yes, fungal nail infections are contagious, however, you do not need to panic about this. We can catch fungal nail infections by sharing communal equipment such as nail clippers or files, walking barefoot around communal areas such as public swimming pools or communal shower complexes.

"Fungal infections can transfer from person to person most notably between family members but can also transfer from one toenail to another or from skin to toenail and vice versa."



HOW ARE TOENAIL FUNGAL INFECTIONS DIAGNOSED?



A temporary change to the appearance of your nail should not cause immediate concern as the nails are also a common place of injury or trauma. Although it is estimated that fungal infections account for almost 50% of all presenting nail pathologies, there are also other nail pathologies that present and resemble fungal infections but are different pathologies requiring completely different treatment protocols. Other similarly presenting nail pathologies can include:

- Trauma (onychauxis or onycholysis)
- Punctate leukonychia
- Psoriasis
- Lichen planus
- Yellow nail syndrome
- Anaemia
- Chronic eczema
- Chronic renal failure
- Peripheral vascular disease

If the nail appearance does not return to its normal state in two weeks, it is a good idea to consult with a fungal nail solutions clinician who will...

"To test a nail, we need to take a sample of the nail and a sample from beneath the nail which is a pain free process."

PERFORM A PHYSICAL EXAM

Our clinicians may be able to easily diagnose a fungal infection with a simple examination. However, the clinician will look at physical signs such as

- Discoloration of the affected nail
- Brittleness of the nail
- Yellowish and crumbling of the nail
- Debris under the nail
- Mild thickening of the nail

TAKE A SAMPLE FOR TESTING

Fungal nail solution clinicians are trained to confirm our diagnosis with 99% accuracy of a fungal nail

infection using a diafactory tinea unguium fungal nail test kit. To test a nail, we need to take a sample of the nail and a sample from beneath the nail which is a pain free process. The test will confirm within five minutes whether it is in fact a fungal infection so that the right treatment can be prescribed.

REFER YOU TO A SPECIALIST (IF REQUIRED)

If our clinicians are unable to correctly diagnose and treat your nail pathology, we may recommend and refer you to a skin and nail specialist (dermatologist) for further care to ensure your nail pathology can be resolved.

DO YOU HAVE A TOENAIL FUNGAL INFECTION?

Toenail fungal infections can not only be a cosmetic problem, but these infections can also cause pain, mobility issues, problems fitting footwear and can lead to serious complications. Sometimes you can determine whether you do have a fungal nail infection by examining your own nails for changes in its appearance. Here are a few simple questions that you can ask yourself to help determine whether you need to seek medical treatment for your nail infection.

- Do your nails look brittle?
- Has the nail shape changed?
- Are the nail edges crumbling?
- Is there debris trapped under the nail?
- Does the nail seem to be loose or lifting?
- Is the nail thicker than before?
- Do you notice white or yellow streaks?
- Are your nails dull and lacking shine?



If you have answered yes to any of the questions above and have noticed changes in your nails appearance that have been present for longer than two weeks, it is advised that you seek medical advice from a clinician at fungal nail solutions for a proper diagnosis and course of treatment. Fungal infections become progressively more challenging to treat over time and therefore, seeking early treatment for fungal nail infections is critical. If left untreated, fungus can permanently damage the affected nail leaving it discoloured and thickened making it harder to self-manage your own toenails and potentially leading to pain and other types of skin infections.

WHAT ARE THE APPROACHES TO DEALING WITH TOENAIL FUNGAL INFECTIONS AT FUNGAL NAIL SOLUTIONS?



PREVENTION

Several factors related to modern life have resulted in an increase in the prevalence of nail fungal infections as well as health factors such as skin infections, nail trauma/injury, age, poor circulation, smoking and specific medical conditions. However, fungal infections for the most part

are preventable by following key advice such as

- Keep feet clean and dry (especially between the toes)
- Avoid nail polish and acrylic nails (prevent air from reaching the surface)
- Avoid walking barefoot in public showers, pools etc. (wear jandals/sandals when able)
- Change shoes and socks frequently (washed at 60 degrees)
- Keep nails clipped short/straight across
- Wear well-fitting moisture wicking socks and shoes made of breathable materials
- Disinfect clippers and other instruments used to treat nails (especially if they are communal)

TREATMENT

Fungal nail solutions offer numerous ways to treat fungal nail infections. Our treatment protocols often involved a combination of approaches to get the best results for our clients. The following guide will provide you with the various treatment protocols that we offer at the fungal nail solutions which can be grouped into the following three categories:

1. Topical Treatments
2. Systemic or Oral Treatments (through GP prescription)
3. Laser and Physical Treatments

Some evidence does suggest that a combined treatment protocol of both topical and oral or laser and oral or topical, laser and oral

may increase the effectiveness of your treatment protocol. At Fungal Nail Solutions, we recommend that certain cases of fungal nail infections that are more than 70% infected or whereby the infection involves the nail bed that a surgical approach is appropriate before undertaking a course of topical, laser or oral treatment protocols.

TOPICAL TREATMENTS

Topical treatments have a local effect applied as a lacquer to the affected nails acting against the fungi in the nail and nail bed. The lacquer works by penetrating through the nail.

At fungal nail solutions, we recommend our clients using Rejuvenail as our lacquer of choice. It is easy to use, there is no filing of the nail required and only requires a once daily application.

The advantage of lacquers such as Rejuvenail is that it is not absorbed in large quantities and therefore, does not have interactions with other medications being taken making it a much safer option than oral medication. The side effects are





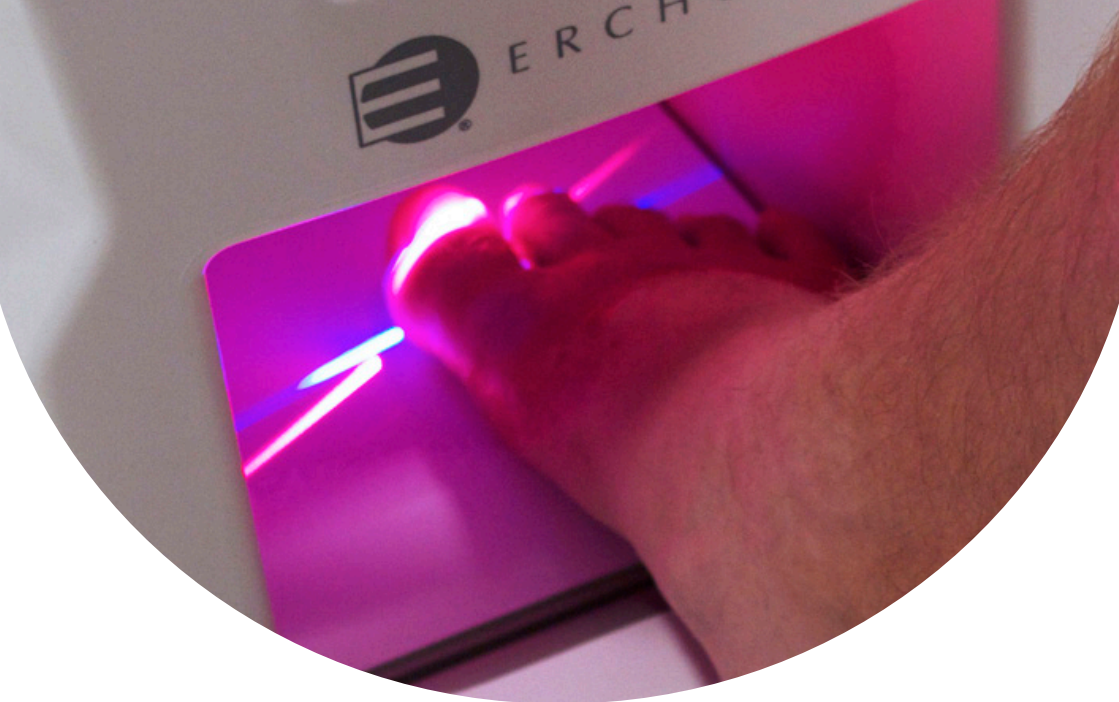
usually mild and restricted to the area where the lacquer has been applied.

The disadvantage of lacquer such as Rejuvenail is that there is only a full cure in 30% of people and topical treatments are not proven to be successful in clients that have infections that cover more than 50% of the nail surface OR have infected the nail plate. We also advise that lacquers should be applied once daily for 9-12 months as this is the time taken for a health nail to grow from the nail bed.

SYSTEMIC OR ORAL TREATMENTS

Oral treatment options have a systemic effect which means

that the bloodstream carries the medication to the nail bed without the need to penetrate through the nail plate as per a topical protocol. For fungal infections that cover more than 70% of the nail and affect that nail root may require a course of oral treatment. However, because these oral medications work through the body, they can interact with other drugs, and can be toxic to the liver and therefore, regular liver testing is required to ensure the antifungal medication does not interfere with liver function. Typically, in New Zealand, GPs will prescribe Lamisil (terbinafine) or SporanoX (itraconazole) as first- or second-line treatment options for oral medication; however, further discussion would have to be had with your GP.



LASER AND PHYSICAL TREATMENTS

LASER TREATMENT

The Erchonia Lunula cold laser is the latest technology in combating fungal nail infections. Lunular Cold Laser uses dual low level laser light to target nail fungus and promote circulation to aid in healing the nails. Lunula is FDA market cleared to effectively target the appearance of this unsightly and sometimes painfully troublesome condition. In as little as four weekly 12-minute

treatments, you can regain your jandal and barefoot freedom. Unlike other hot lasers (ouch) that claim to treat nail fungus or onychomycosis, the Lunula is the only, pain-free, non-thermal laser that has no dangerous smoke plumes or vapours and requires no anaesthesia. If you have tried other options for nail fungus such as sprays, lotions, or oral prescription pills without lasting results, the Lunula will be your superior option. It will significantly increase clear nail growth over a six-month period. Clinical trial results demonstrated 89% of patients experienced 6.1mm more new clear nail growth over a 6-month period.

THE LUNULA ADVANTAGE

NO PAIN, NO DOWNTIME AND NO
RISK

6.1MM NEW CLEAR NAIL GROWTH AT 6
MONTHS

NO DANGEROUS SMOKE PLUMES

FDA MARKET CLEARED FOR NEW
CLEAR NAIL GROWTH AT 6 MONTHS

89% OF PATIENTS RESPOND



LunulaLaserTM BY ERCHONIA

PHYSICAL TREATMENT (PARTIAL OR TOTAL NAIL AVULSION)

The infected section of nail may need to be surgically removed right down to the nail bed, this could be a standalone treatment or part of combination therapy. This procedure can be carried out by a trained podiatrist in the clinic room under local anaesthetic. Removing the nail will not remove the fungus, however, this procedure is performed so that topical treatments or laser can be applied directly to the part of the affected nail bed. We recommend that certain cases of fungal nail infections that are more than 70% infected or whereby the infection involves the nail bed that a surgical approach is appropriate before undertaking a course of topical, laser or oral treatment protocols.

PHYSICAL TREATMENT (ONGOING CONSERVATIVE NAIL CARE)

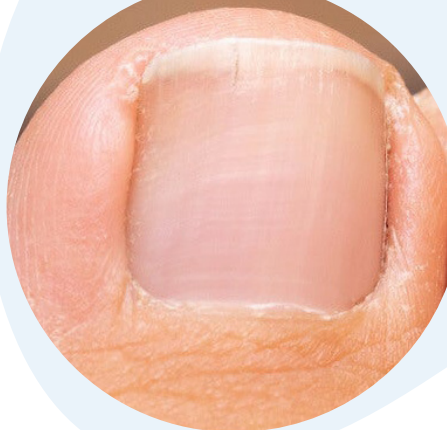
Fungal nail infections that have progressed significantly can become thickened and extremely

“Fungal nail infections that have progressed significantly can become thickened and extremely hard to self-manage.”

hard to self-manage. Some clients that are not interested in treating their infection (or are not suitable for more extensive treatment protocols) may wish to have regular appointments to have their toenails cut, thinned down and debrided. This can help the nails look more aesthetically pleasing and more tolerable to walk on or wear shoes. Ongoing nail care can be provided as little or as much as a client may choose.



WHAT SHOULD I EXPECT FROM TREATMENT?



At times, treating a fungal toenail infection can be tedious and challenging. At fungal nail solutions, your clinician will speak to you regarding your most appropriate treatment protocol, likely treatment outcomes, duration of treatment and possible side effects of your treatment protocols. You will be supplied with a handout of your treatment protocol which provides you with this information in depth. This will ensure that you have patience and realistic expectations of treatment. Failing to understand the expectations of your treatment protocol can lead to poor compliance or failure to complete your treatment protocol which can increase your re-occurrence of an infection, a progression of your infection or transmitting the infection to others.

TREATMENT LENGTH

All our treatment protocols are designed to promote healthy growth of the new nails and therefore, the appearance will not change until the damaged nail grows out and is replaced by a healthy nail. Typically, it takes a big toenail 9-12 months to grow out and be replaced by a healthy nail.

Once a surgical treatment protocol has been prescribed, you will be required to be seen regularly for up to 12 months for monitoring. This is because post-surgery usually requires either a topical or laser protocol to be performed in conjunction with your surgery.

A topical treatment protocol is prescribed for 9-12 months as this is the time it takes for a new nail to re-generate.

An oral treatment protocol is prescribed in accordance with your GP and dependent on the drug that is prescribed. Your prescription could be anywhere between 1 week to 12 months. We recommended that patients undergo either laser or topical treatment in conjunction (patient dependent) and therefore, you are likely to see your fungal nail solutions clinician for up to 12 months.

A laser treatment protocol is prescribed for four laser sessions one week apart and regular monitoring after that up to 12 months. Patients may be required to undergo additional laser treatments if the fungal infection is severe.

Please see our 'The process' handouts for more information about our treatment processes.

TREATMENT RESULTS

Unfortunately, globally there is not a treatment protocol that has a 100% cure rate of fungal infections. Based on scientific research (which can be provided

upon request), our treatment categories provide the following cure rates:

- Rejuvenail (Topical) – up to 30% of people receive a clearance rate.
- Oral medication – up to 55% of people receive a clearance rate.
- Laser – between 83% and 97% of people receive a clearance rate.
- Surgical - Research remains unclear as a standalone treatment.

However, if treated correctly, recurrence is not common. Your fungal nail solutions clinician will be able to monitor and modify your treatment protocol over time if required.



FREQUENTLY ASKED QUESTIONS?



1. WHO GETS NAIL FUNGUS?

Unfortunately, anyone can be infected with a nail fungal infection. However, it is less common in children and more common in our ageing population due to reduced blood circulation and weakening immune system. More specifically, clients who have suffered from nail trauma or have medical conditions such as psoriasis or diabetes are at a greater risk of developing a fungal nail infection.

2. HOW DO YOU PREVENT NAIL FUNGUS?

What we might not know is the fungi is everywhere it is hard

to eliminate the possibility of becoming infected, however, there are certainly measures that can be taken to reduce your chances of developing an infection.

- Do not share nail care tools such as nail clippers or nail brushes
- Avoid footwear that is too tight or does not allow for air circulation
- Wear slippers or flip flops in high-risk areas like communal showers and public pools
- Wash your hands and feet often, especially after sports
- Take extra precaution if you have diabetes or psoriasis
- Keep the feet clean and dry

3. CAN YOU CATCH NAIL FUNGUS FROM OTHERS?

Yes, fungal nail infections are contagious. We can catch fungal nail infections by sharing communal equipment such as nail clipper or files or walking barefoot around communal areas such as public swimming pools or communal shower complexes.

4. WHY DO I KEEP GETTING FUNGAL INFECTIONS WHILE OTHERS NEVER SEEM TO GET THEM?

Unfortunately, some people can be more susceptible to getting fungal infections. In addition to this, people who have weaker immune systems or genetic susceptibility to infections who expose themselves to places where fungi thrive such as communal swimming pools puts you at a greater risk. Clients with other health conditions such as diabetes and psoriasis are also

more susceptible to developing nail infections. Finally, athletes who live in sports shoes and trainers expose their feet to warm, dark, damp environment for fungi to thrive.

5. CAN I IGNORE THE NAIL FUNGUS IF IT IS NOT PAINFUL?

Fungal infections of the nails should be diagnosed by a fungal nail solutions clinician as soon as possible. It is rare (although not impossible) to develop a serious complication from a fungal infection, however, ignoring a fungal nail can lead to permanent damage of the nail and cause spread to other nails or skin. Ignoring a nail for a long period of time can make it much harder to treat as the infection becomes more severe.

6. WHY WON'T THE IMMUNE SYSTEM KILL THE FUNGUS?

Our immune systems will often try to kill off a fungal infection, however, our immune system

is not perfect. Unfortunately, our toenails have a limited blood supply and therefore, it is more difficult for our immune system to detect and therefore, fight off a fungal infection.

7. WHAT ARE THE POSSIBLE COMPLICATIONS OF NAIL FUNGUS?

Over time, an ignored infection will progress (slowly) but will become more difficult to treat as the infection progresses throughout the nail and nail bed. Serious complications are rare and unlikely, however, in certain high risk population groups (such as diabetics and immunocompromised clients), if an infection causes a break in the surrounding skin, this can lead to an entry point for bacteria potentially leading to foot ulcers, osteomyelitis, cellulitis and gangrene. However, more commonly, a progressed infection may lead to the nails become thicker making them difficult to cut, being painful to walk on or wear shoes.

8. DOES IT HELP TO KEEP THE NAILS SHORT?

Yes, this certainly can help. Long nails provide more surface area for fungus to hide underneath and re-generate. Do not forget though, it is just as important to keep the nails dry! Especially the toenails as they are more likely to be in a moist environment all day.

9. HOW CAN I PREVENT FUNGAL NAIL INFECTIONS FROM COMING BACK?

Initially, you should ensure that you complete your treatment protocol that has been prescribed to you by your fungal nail solutions clinician; this is to ensure that the infection is cured before you stop your treatment. Common things that we ask our clients to do following a treatment course is to frequently change your socks which helps keep your toes dry and clean. Shoes that were used when your



nail was infected should be sterilized; this is a service that we provide at fungal nail solutions. Alternatively, these shoes should be thrown away. If you are a sufferer of athlete's foot, this should be treated immediately when diagnosed to ensure that these fungal spores do not transfer onto the nails. Finally, we strongly advised that jandals or sandals are worn when in public/communal areas such as swimming pools or showers to minimise the chances of getting re-infected.

10. WHO SHOULD I SEE TO TREAT MY TOENAIL FUNGUS INFECTION?

Fungal nail solutions are your one stop shop for the education, diagnosis, and ongoing treatment of fungal nail infections. Our clinicians are up to date on the latest onychomycosis research and most up to date treatment protocols.

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FUNGAL NAIL
SOLUTIONS

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