# Table of Contents

**INTRODUCTION** .................................................................................................................. 3
   Nail Fungus ......................................................................................................................... 3

**WHAT CAUSES NAIL FUNGUS?** ...................................................................................... 5

**SYMPTOMS OF NAIL FUNGUS** .......................................................................................... 7
   Identifying The Symptoms Of Nail Fungus ........................................................................ 9

**TREATMENT OF NAIL FUNGUS** ....................................................................................... 10
   Eating For A Cure ............................................................................................................. 10
   Foods To Avoid ................................................................................................................. 13
   Topical Treatments .......................................................................................................... 13

**SUPPLEMENTS THAT GET RID OF NAIL FUNGUS** .......................................................... 16
   Probiotics ........................................................................................................................ 16
INTRODUCTION

NAIL FUNGUS

Nail fungus, which is also called Onychomycosis or tinea unguium, is an infection caused by fungus. When it comes to nail diseases or infections, nail fungus is the most popular type. Nail fungus may infect the fingernails and toenails; however, the most popular is toenail because they are more often in a dark and moist environment which provides a great place for the fungus to grow. There are four types of nail fungus which will be explained in the following article.

*Distal Subungual Onychomycosis*

This type of toenail fungus, which is the most popular, will start at the tip of the toenail and make its way towards the cuticle as it progresses. The meaning of distal is "distance from"; the definition of subungual means "under the nail"; while Onychomycosis is simply the scientific name for toenail fungus. Distal Subungual Onychomycosis affects the nail plate and is caused by a fungus that has adapted to live in the skin, hair and nails.

People with this type of nail fungus may experience inflammation which could cause the nail to detach from the nail bed and/or thickening of the nail. If no treatment is given to the nail this could give a space for infectious bacteria and fungus to grow making the nail appear yellow or brown.

*White Superficial Onychomycosis (WSO)*

This is the second most popular type of fungus, which can also affect both the fingernails and toenails. Contrary to the other types of nail fungus, the WSO will start on the top layer of the nail and will eventually affect the entire nail. One to two percent of the population have WSO and it is more common among those of Italian decent who are over 55 years of
age. Studies also show that 30% of people who have HIV will be affected by nail fungus, and those with WSO can often not be treated with topical treatment.

This is sometimes the case with other people who have WSO as the fungus is growing inside the nail and the cream will not penetrate the nail. Before being diagnosed with WSO, people have often been affected with the condition for a few years without noticing anything. Some of the symptoms associated with WSO are opaque, brittle and deformed nails; however, the first thing people will notice is white spots on the nails.

**Proximal Subungual Onychomycosis**

This is the least popular nail fungus in people who are healthy, but more popular in people who are immunocompromised; meaning those who either have something that lowers their immune system such as HIV and autoimmune diseases or people who use intravenous drugs. Often times when someone gets this type of fungus and their immune system has not been affected by anything; they will test the patient for HIV. However, it is important to remember that having this type of nail fungus does not mean someone necessarily has HIV.

The fungus begins at the cuticle and will make its way to the tip of the nail as the nail grows. People may also notice a yellow or white spots near the cuticles, as well as, bumps on the nails as it grows. Finally, the skin around the nail may become red, inflamed and swollen. Sometimes, there is also pus, which causes doctors to misdiagnose the fungus as a bacterial infection and prescribe antibiotic, but antibiotic will not cure fungus. Contrary to other types of nail fungus, Proximal Subungual Onychomycosis must be treated with pills rather than topical creams.

**Candidal Onychomycosis**

This final type of nail fungus mostly affects the fingernails rather than the toenails. The fungus will affect the area surrounding the nail and it is the least popular type of nail fungus. Most people who get this type of nail fungus, are people who put their hands in water often and most of the time, it requires the person to have prior infection or trauma of the nail. This type of nail fungus is most often treated with topical creams.
WHAT CAUSES NAIL FUNGUS?

Nail fungus results when fungi grow in one's nail beds. The main cause of nail fungus is dermatophytes, which are parasitic fungi that infect our skin. These dermatophytes cause infection to our nails because of their ability to feed off keratin, which is the primary protein that makes up our hair, skin, and nails. Because the keratin is being eaten away at a fast rate, the nails respond by producing the same material at an even faster rate. This process results in thicker nails that eventually get detached from the nail bed. Other effects of nail fungus include discoloration of the nails because of the accumulation of byproducts of fungi metabolism, crumbling of the nails, pain in the skin around the affected areas, and a foul odor.

Nail fungus is very difficult to treat, so prevention is a better way of dealing with it. But in order to make sure the fungus would never start to manifest, it is vital to know its causes. The causes of nail fungus include the following:

1. **Nail injury.** Cracks and breaks in our nails, such as those caused by improper trimming of the nails, may provide the fungus a way of entry to our nail beds. Moreover, it would provide the fungus more area in which to manifest and grow. Another usual cause of nail cracks is when the nail goes through trauma, like when something hits the nail really hard. When this happens, the space between the nail plate and nail bed increases, giving the fungus more room for growth.

2. **Warm and moist conditions.** These conditions could be found in several places, like public shower areas, locker rooms, and even in the insides of your shoes. Such environments would only provide a good breeding ground for the fungus.

3. **Decreased immunity.** People who are not eating right or undergoing a lot of stress generally have weaker immune systems. Also, those who have health
disorders that affects the immune system, such as HIV and diabetes, are prone to having nail fungus.

4. **Inefficient blood circulation.** If there is not enough blood flow in an area, the immune system won't be able to do its function properly in that area. Insufficient blood flow would also cause the nails to have poor nutrition, making them more easily traumatized. This may then result to nail fungus infection.
SYMPTOMS OF NAIL FUNGUS

A healthy nail is absolute transparent and partly discloses the pink skin underneath. The nail becomes white in color when it grows old. A nail fungal infection begins as a yellow or white patch under the fingernail or toenail tip. The disease causing fungus dwells underneath the nail because the nails offer a safe, dark and damp place. These attributes provide the best breeding ground for the microbe where it multiplies and the situation gets worse.

Toenails are more affected than the nails on the finger. This is because the socks and shoes offer the best environment for breeding. It is also seen that adults are more affected than the under aged. The nail of an affected person starts discoloring, thickening and developing crumbled edges, as the fungus spreads deeper.

Some of the symptoms of fungal infections in nails are-

1. Itchiness is the first symptom of a fungal infection. The skin around the nail gets corrupted and degrades.

2. An increase in temperature is seen in case of every fungal infection and same is the case here.

3. A feeling of numbness or no feeling in the infected area and the skin around it is most common as the skin gets degraded and the sensory nerves fail to function.

4. We tend to see a yellow brownish discoloration of the finger or toe nail. It usually begins at the end of the finger nail and then slowly moves underneath and destroys the entire nail.
5. When the nail is infected the nail tends to become very thick making it very difficult to trim or remove the nail. This causes immense pain. It also hinders day to day activities like wearing gloves, socks etc.

6. Sometimes the nails develop black patches too which look very dirty and unhygienic.

7. Infected nails tend to break very fast. They often get flaky and chipped.

8. The infected nails may also give very bad odor. This is a cause of concern and reduces the confidence of the individual.

9. Pus may develop in the infected nail.
Advanced toe nail fungus

In extreme cases skin lesions may occur which could really be dangerous. It would require a surgery when things get grave. In order to prevent such a situation it would be advisable to consult a doctor immediately after the above mentioned symptoms are noticed.

They should not be neglected else will lead to further grave situations which will be very dangerous. The nail is a very tender and delicate part of the human body. It should be taken care of and hygienically maintained. It is an integral part of the physical hygiene of an individual.

IDENTIFYING THE SYMPTOMS OF NAIL FUNGUS

Nail fungus can be acquired from damp and warm environments such as public shower rooms, swimming pools and gyms. You can also get infected when you come in contact with objects contaminated with bacteria such as garden soil and decomposing vegetation.

No matter where the nail fungus comes from, the most important thing is being able to identify the symptoms of nail fungus infection as early as possible so that treatment can be started right away.

One of the earliest symptoms of nail fungus is discoloration on the nail’s surface. Nail fungus spots are usually yellow or light brown in the earliest stages. Usually, these appear as round patches somewhere in the middle of the nail but in some cases, the discoloration may be seen in the form of streaks or even stripes.

Brittleness and chipping of the nails are also among the most common symptoms of nail fungus. If your nails start chipping without any apparent cause, this is a certain sign that fungal infection is about to spread on your nails.

You should make it a habit to inspect your nails everyday, preferably after taking a bath, to see if there are any abnormalities in their appearance. Nail fungus usually start in the big toes but they can also start on the other toenails as well as your fingernails.
TREATMENT OF NAIL FUNGUS

EATING FOR A CURE

Diet has a big effect on every type of fungus that grows on the body, and there are some things that you can eat to reduce your risk, while also minimizing the severity if you already have it. There are also some things that you should avoid eating when trying to fight toenail fungus, as fungus feeds off of certain foods and eating these foods can make your fungus worse or increase your risk of developing it.

*Eat Anti-Fungal Foods*

Certain foods contain strong anti-fungal properties, and should be eaten as much as possible. Foods that are anti-fungal include garlic, onion, coconut oil, pure raw honey and carrots. It is recommended that when you are trying to get rid of a toenail fungus infection, you try to eat one clove of garlic and one onion a day. If eating this much garlic does not seem plausible to you, you can also take garlic pill supplements, but eating raw garlic works the best.
**Boost Probiotic Intake**

An imbalance of healthy micro-flora in the body can also be a big cause of fungal overgrowth. Eating probiotic rich foods are another way to fight off fungal infections. Thriving, healthy gut bacteria hinder the growth and spread of parasitic fungi and other microbes by limiting their available living space. Also, lactobacillus bacteria found in most probiotic supplements actually secrete a biproduct that is poisonous to Candida. Eating Greek yogurt, kefir, miso, sauerkraut, and tempeh is a great way to incorporate probiotics into your diet.

**Garlic**

Garlic has powerful anti-fungal properties to attack Candida, while also preserving and boosting the good bacteria in your digestive system, so it works in a couple different ways. Garlic stimulates the liver and colon, giving it a potent detoxifying effect on the body. Use it liberally in your food, or eat 2-4 cloves per day, crushed and mixed with a tablespoon of pure raw CREAMED honey (because it's thick enough to stay on a spoon) to cut the burn of the garlic and strong flavor.

**Onions**

Onions have strong anti-fungal, anti-bacterial and anti-parasitic properties like garlic. They also help to flush excess fluids out the body, which is useful because many Candida sufferers experience water retention.

**Apple Cider Vinegar**

One of the best remedies for toenail fungus, apple cider vinegar can be used topically, internally, or both. Mix one part ACV and one part Epsom salts with six parts hot water. Let the water cool so that it is still warm to the touch, but not so hot as to be damaging to your skin. Soak feet up to twice daily for at least thirty minutes to kill fungus. Mix two tablespoons of apple cider vinegar with eight ounces of warm water and add a teaspoon of honey to sweeten the beverage.
Coconut Oil

Coconut oil is a potent Candida killer, and one of the most potent anti-fungals there is. Caprylic acid, one of the medium-chain fatty acids in coconut oil, has the ability to penetrate the durable cell wall of Candida and other fungi. Without its protective coating the cells of the fungus dissolve, effectively destroying the infection.

Coconut oil is very heat stable, so it's an ideal oil to use for frying and cooking. It is also cheap to buy and has a much longer shelf life than other oils, so there's no excuse! You can 2-3 tablespoons per day.

Besides eating coconut oil, it is wise to apply it to infected areas and let it soak in for at least fifteen minutes. Coconut oil is great for skin health, so there is no limit to how often you can use this treatment.

Seaweed

Seaweed is a nutrient-dense healing food that will help the body in the fight against Candida, flushes toxic pollutants and heavy metals from the body, and cleanses your intestinal tract. It is rich in iodine to help balance your thyroid gland, which is good because many Candida sufferers often experience hypothyroidism.

Olive Leaf Extract

Another excellent choice for taking out toenail fungus is olive leaf extract. If used daily as a supplement, this powerful natural remedy not only cures fungal infections, it is also antibacterial, anti-viral, a powerful detoxifier and can help lower cholesterol among other things.
FOODS TO AVOID

Minimize Sugar Consumption
An important dietary adjustment that needs to be made is to lessen the sugar you consume daily. Fungus lives and thrives on sugar, so by cutting back or eliminating it from your diet you can starve out the fungus.

Minimize Gluten Consumption
Gluten is a protein found in wheat products, and is another type of food that fungus feeds upon. Reducing the amount of products that you eat which contain gluten or eliminate it completely is a good idea and there are a ton of gluten free products available on the market that can help you.

TOPICAL TREATMENTS

Baking Soda & Sodium Borate (Borax)
Because fungus needs an acidic environment to grow, using baking soda that is alkaline actually prevents toenail fungus from spreading by creating an uninhabitable environment. Sodium borate or borax is a naturally occurring mineral that is also a powerful fungicide. These two combined create a remedy that can cure nail fungus fast. Mix equal parts borax powder and baking soda with just enough water to form a paste. Wet feet and gently rub the mixture onto infected nails. Do this twice daily and continue for at least two weeks after fungus appears to have cleared up.

Lavender Oil
This essential oil also has anti-fungal properties that are an effective remedy for mild cases of toenail fungus. Apply a few drops of lavender oil to the infected nails every night, cover your feet with a pair of socks and let it soak in while you sleep. Make sure to not use socks made of synthetic fibers as this will only worsen the infection. Remember, a nail that looks healthy may still be hiding traces of fungus. It is best to continue topical treatments such as this one for at least a few weeks after the infection appears to be gone.
Oregano Oil

Another herb with anti-fungal properties is oregano, and by mixing a few drops into a teaspoon of coconut or olive oil and dab onto infected nails.

Tea Tree Oil

Tea tree oil is a great recommendation, as it is both an antiseptic and fungicidal remedy. First clean areas on and around the infection with rubbing alcohol then apply undiluted tea tree oil directly to the affected nails and let it soak in. After about ten minutes, gently scrub the nail with a soft bristle toothbrush. Repeat daily until the new healthy nail grows out completely, then continue treatment for two to three more weeks to prevent regrowth.

Orange Oil

Orange oil is another natural anti-fungal that can be applied daily to toenails to cure an infection. Apply to the nails and between toes, and allow to soak in for at least an hour. FYI, orange oil may be too strong for people with sensitive skin, so you can dilute the oil at a one-to-one ratio with coconut or olive oil. Also, because citrus allergies exist it is recommended to test orange oil on a spot of healthy skin before applying it to infected nails.

Olive Leaf Extract

Another excellent choice for taking out toenail fungus is olive leaf extract. When taken daily as a supplement, this powerful natural remedy not only cures fungal infections. Olive leaf extract is also anti-bacterial, anti-viral, and can help lower cholesterol among other things. Olive leaf extract is also a powerful detoxifier, so you may experience some discomfort when you first begin taking the supplement. In this case, consider lowering your daily dose while your body sheds the bulk of its stored up toxins. When you begin to feel revitalized, you can increase your intake to the recommended.
Corn Meal

One of the more interesting remedies for toenail fungus is organic cornmeal. Corn naturally hosts a form of fungus that is harmless to the human body but deadly to Candida - the most common fungal parasite that causes infections in people. In a container big enough to fit your foot (or both feet if needed), mix one cup of cornmeal and about two quarts of water. Allow the cornmeal to soak in the water for at least one hour then submerge the infected foot (or feet) in the mixture for a half hour or more. While the frequency of use for this remedy is up for debate, sources have reported success with treatment performed as seldom as once per week. Others say to perform it daily. Because cornmeal is totally harmless to skin and nails, realistically the treatment can be repeated as often as you like.
SUPPLEMENTS THAT GET RID OF NAIL FUNGUS

PROBIOTICS

An imbalance of healthy micro-flora in the body can also be a big cause of fungal overgrowth like onychomycosis. Be sure to partner a good pro-biotic supplement with your toenail fungus remedy. Thriving, healthy gut bacteria hinder the growth and spread of parasitic fungi and other microbes by limiting their available living space. Also, lactobacillus bacteria found in most probiotic supplements actually secrete a biproduct that is poisonous to Candida. Just make sure that your supplement contains no sugar or artificial fillers that may inadvertently feed the unwanted fungus.

Types of Probiotics

Many types of bacteria are classified as probiotics. They all have different benefits, but most come from two groups. Ask your doctor about which might best help you.

- Lactobacillus. This may be the most common probiotic. It’s the one you’ll find in yogurt and other fermented foods. Different strains can help with diarrhea and may help with people who can’t digest lactose, the sugar in milk.

- Bifidobacterium. You can also find it in some dairy products. It may help ease the symptoms of irritable bowel syndrome (IBS) and some other conditions.

What Do They Do?

Probiotics help move food through your gut. Researchers are still trying to figure out which are best for certain health problems. Some common conditions they treat are:

- Irritable bowel syndrome
- Inflammatory bowel disease (IBD)
- Infectious diarrhea (caused by viruses, bacteria, or parasites)
- Antibiotic-related diarrhea

There is also some research to show they help with problems in other parts of your body. For example, some people say they have helped with:

- Skin conditions, like eczema
- Urinary and vaginal health
- Preventing allergies and colds
- Oral health

Consider a selection of supplements in the forms of oral, capsules and tablets you can take that will reduce the severity or prevent nail fungus.

**Zinc**

Zinc is an essential trace mineral. It contains antioxidant properties, which is important for protecting your cells and organs from damaged that may be caused by free radicals. The mineral helps to treat nail fungus by removing bacteria from the infection, but does not remove it completely. According to the University of Maryland Medical Center, white spots on the fingernails may be a indication of a zinc deficiency or an underlying medical condition.

**Vitamin B12**

Vitamin B12 is important for helping to treat nails that are brittle and break easily, which may be a sign of low amounts of vitamin B12 in your body. A vitamin B12 deficiency may cause nail fungus or similar infections as the nails are weak and prone to conditions. Also, the nails may turn very round and turn dark if you do not have enough vitamin B12 in your body.
**Vitamin H**

Vitamin H helps treat weak nails, which are prone to infections such as nail fungus, according to a 2002 issue of "Natural Magazine." Preliminary evidence suggests that vitamin H may be able to help treat nails that are brittle, thin and splitting.

**Vitamin C**

Vitamin C assists in keeping your nails hydrated and also helps to fight off free radicals, due to its antioxidant properties. Low intake of vitamin C can result in brittle and dry fingernails. In addition, it may also contribute to the development of hangnails.