

Fungus is any group of unicellular, multicellular, or spore producing organism, including yeast, molds, and mushrooms in the domain Eukaryota. Most fungi are harmless, but a small number of them are pathogenic and can cause infections in humans. The most common pathogenic fungi include certain yeasts and molds such as *Candida*, *Dermatophytes* and *Aspergillus*. *Candida* is a yeast that naturally lives on the human body including the mouth, GI tract and skin without causing problems usually. Under certain conditions, such as taking antibiotics, it can overgrow and cause itching and redness. *Dermatophytes* are a group of fungi that live off of keratin, a substance in the hair, nails and outer layer of the skin. Mold is an environmental fungus that lives in soil or water. Examples include *Histoplasma*, *Coccidioides*, *Blastomyces* and *Aspergillus*.

Fungal infections, also called mycosis can occur on the surface of the skin, nails or mucous membranes (superficial or mucocutaneous), underneath the skin (subcutaneous) or inside other body organs (deep infection). Deep fungal infections are found in places other than skin such as lungs, blood, urinary tract, brain, or heart. The reproduction of fungus is through spreading out or sending spores into the air or soil causing opportunistic infections. People may breathe fungus in from the environment or get infected from damp public areas such as showers or locker rooms, or through contact with other infected people or animals. People who have diabetes, poor circulation or weakened immune systems due to HIV infection, cancer treatment or on immunosuppressants are at a higher risk for fungal infections. Fungal skin infections can happen anywhere on the body. Some of the most common are yeast infections, Ring Worm, athlete's foot and nail fungal infections.

### Yeast Infections

Yeast infections of the skin are called cutaneous candidiasis caused by yeast overgrowth. Yeast infections aren't contagious and are most common in warm, moist, creased areas of the body such as armpits and groin. They often occur in people who are obese, diabetic, or taking antibiotics. *Candida* can cause diaper rash in infants. It can also infect the mucous membrane and causes oral thrush, vaginal yeast infections as well as esophageal candidiasis. Signs of a yeast infection on your skin include a red or discolored rash, acne-like bumps around the rash, itching, sting, burning, scaly skin, swelling and blisters. Signs of thrush include white patches on the tongue and inside the cheeks, pain while eating, and loss of taste. Fungus can also get into the skin through a cut or wound from an injury and causes rashes, ulcers, and other skin symptoms.



### Ring Worm

Ringworm, also called tinea or jock itch, is a fungal skin infection that causes a ring-shaped rash with a winding, worm-like edge. It is a red, circular, flat sore that can happen along with scaly skin. The outer part of the sore might be raised. Symptoms include itching, chafing, or burning, red, circular, rash with raised edges, flaking, peeling, or cracking skin.

The infection usually involves the warm, moist areas like genital, pubic, inner thighs, and buttock. It is caused by pathogenic fungi, dermatophytes and can spread through direct contact with infected people, animals or objects such as clothing or furniture with the fungus on them. These dermatophytes affect keratinized structures such as hair and the epidermis' stratum corneum resulting in a characteristic rash. Heat and humidity can help spread the infection. It happens more often in the summer or in warm, wet climates.



## **Athlete's Foot**

Athlete's foot, also called tinea pedis, is a fungal infection of the foot caused by the same type of fungi (dermatophytes) that causes ringworm. Yeast, bacteria, and mold also can cause nail infections. The fungi grow best in warm, moist places such as shoes, socks, swimming pools, locker rooms, and public showers. Athlete's foot occurs more often in people who wear tight shoes, who don't change their sweaty socks, and who use public baths and pools. In Athlete's foot, the fungi live on the dead tissue of the hair, toenails, and other skin layers. Signs of athlete's foot include peeling, cracking, and scaly feet, blisters, itching, burning, skins that's red, softened, or broken down.

## **Nail Fungal Infections**

Fungal nail infections, also known as "onychomycosis," are very common. Although it is more common in toenails, fungus can affect the fingernails as well. Nail fungal infections begin as a white or yellow spot under the tip of the nail. As the infection goes deeper, the fungus in the nail may cause it to discolor (yellow, brown, or white), thicken, fragile, and crumble at the edge. If the condition becomes severe, it can cause pain in the toes or fingertips and detect a slightly foul odor. The nail may also become separated from the nail bed.

Most fungal nail infections are caused by the fungi from athlete's foot infecting the nails. In the meanwhile, a fungal infection of the nail can spread to the foot. People can also get the infection from contact with spaces where fungi can thrive, such as the floor tile in a gym shower or inside dark, sweaty, moist shoes. Small cracks in the nail or the surrounding skin can allow these germs to enter the nail and cause an infection.

## **Deep Fungal Infections**

Deep fungal infections are found in places other than skin such as lungs, blood, urinary tract, GI tract, brain, heart, kidneys etc. causing organ inflammation and damage. Please refer to the [Candida and Fungal Infections Protocol](#) for additional recommendations.

## **Wellness Recommendations**

### ***Yeast Infections, Ring Worm and Athlete's Foot***

The recommendation for fungal skin infections, Ring Worm and Athlete's foot includes Plasmin and Fungmin Cream. Plasmin helps fight fungal infections in the blood. Fungmin Cream is a **topically applied formula that helps fight fungal infections** on the skin surface. Acacia catechu seed extract, one of the ingredients in Fungmin, has been found to be effective against the two most common pathogenic fungus, Aspergillus (causes aspergillosis) and Candida albicans, and the heartwood extract of this plant has shown to be effective against some fungi including Mucor, Penicillium, Aspergillus and Candida. For patients with mucous membrane infections and oral thrush, Plasmin is recommended.

Trinicin can be added if patients experience die-off symptoms or patients also have a bacterial infection. Trinicin combines three of the most potent Chinese herbs that all exhibit strong antimicrobial effects against a broad spectrum of pathogenic bacteria. The herbal ingredients are effective against the toxicity of the mycotoxins to protect tissue injuries as well as reduce the cytokine levels to reduce inflammation. These ingredients are also able to enhance the phagocytic function of macrophages and resume the proliferation of activated lymphocytes to fight against the bacteria.

For patients who have weakened immune system or have systemic fungal infections, Bitter, Brown, Qi Booster and LC Balancer are recommended to enhance the body's immune function to help clear fungus in the blood completely. More specifically, Bitter removes the excessive pro-inflammatory cytokines and cleans the endotoxins from the blood. Brown nurtures the liver to assist the immune system. The Qi Booster enhances immunity directly. The LC Balancer increases microcirculation. The four formulas are crucial components for patients with weakened immune system, or systemic fungal infections. Patients can experience improvement with a reduction in fever, chills, and other symptoms with one week and 4 weeks is required for significant improvement with sustained results. For mild

or moderate cases, patients can experience symptom improvement in 2-3 days. For severe cases, it may take 1 week to have visible improvements. Required treatment time is 2-3 weeks for mild or moderate cases and up to 6 weeks for severe cases.

### ***Nails***

The recommendation includes Fungmin Liquid which helps clear fungal infections in nails. For mild or moderate cases, patients can experience symptom improvement with changes of nail color in 2-3 days. For severe cases, it may take 1 week to have visible improvement. Required treatment time is 6-8 weeks for mild or moderate cases and up to 3 months for severe cases.

## **Recommendation Summary**

<b>Locations</b>	<b>Fungal Products</b>	<b>Supporting Products</b>
Oral thrush	Plasmin	Patient with weakened immune systems: Bitter: reduces cytokines and histamine Brown: liver support Qi Booster: immune support LC Balancer: kidney support Trinicin: bacterial infection and die-off symptoms
Systemic/Blood	Plasmin Bitter Brown Qi Booster LC Balancer	Trinicin: bacterial infection and die-off symptoms
Skin yeast infections, Ring Worm, and Athlete's foot	Plasmin Fungmin Cream	Trinicin: bacterial infection and die-off symptoms
Nail	Fungmin Liquid	
Other internal organs	Refer to <u>Candida and Fungal Infections Protocol</u>	

### **Selected Case Studies**

#### **Case 1: Relief of Full-Body Rash from Candidemia**

Brooke Jensen, ND, ID

A 75-year-old female presented with a full-body, itchy, hot, red rash that had been manifesting for months. The patient thought it could be due to bug bites because it was during summer, but the rashes never went away. Due to the intense inflammation, she had difficulty sleeping with covers on and she also avoided wearing long sleeve shirts that irritated her skin. It got to a point where she could not sleep or eat without feeling miserable. She was fatigued and lethargic about doing any activities. The patient rated her level of discomfort at a 12/10. In late August of 2017, she went to see Dr. Jensen in hopes of finding a natural remedy to alleviate her itchy rash and find relief for her discomfort.

The patient started taking Wei Laboratories formula, Bitter, at full dose, to address her body's histamine response and cool her blood. After one week, the patient noticed that the redness of the rash and the itchiness had decreased. But, after the 3<sup>rd</sup> week, she noticed that her improvement had plateaued. She went to see Dr. Jensen again to discuss this concern. The patient mentioned that she noticed the severity of the rash increased upon eating certain foods. Dr. Jensen diagnosed her with a systemic candida infection, with most sensitivities coming from foods with sugar, vinegar, and carbohydrates. When she ate those foods, she would feel inflammation in her throat and immediately break out into an itchy rash and it would not go away. On September 14<sup>th</sup>, 2017, Dr. Jensen put the patient on the full chronic infection protocol from Wei Laboratories consisting of Bitter, Brown, LC Balancer, and Qi Booster at full dose. The protocol assisted in supporting the liver and kidney function to help eliminate the endotoxins and mycotoxins due to the candida overgrowth while supporting the immune system to fight the

infection. Dr. Jensen also implemented a strict diet plan that cut out carbs and certain meats, like chicken, that she had adverse responses to.

By October 6<sup>th</sup>, 2017, the patient noted that she was able to wear a long sleeve shirt and sleep with the covers on again. She did mention that she felt bouts of nausea and stomach discomfort while on the products as well as developing a vaginal candida infection. Dr. Jensen discovered the patient had many preexisting issues with her digestion and had been previously diagnosed with acid reflux, so she recommended using some digestive products from Wei Laboratories to address those symptoms and help with her food sensitivities. The patient started taking a full dose of Spring Juice, Spring Capsule, Formula B, and Probiosis to restore stomach acidity, repair the GI lining, and reduce GI inflammation. Sissy-F was also recommended to address the vaginal candida. After 3 weeks, the patient reported that her vaginal candida infection had cleared up and noticed a decrease in her acid reflux symptoms.

In February of 2018, after taking a break from the products, she noticed that her symptoms of the rash had returned from eating certain foods after the holiday season. Dr. Jensen recommended the use of LC Balancer and Java at full dose, to help with her body's lymphatic circulation and kidney function to aid in toxin removal, along with Plasmin at full dose to remove the candida from the blood.

After 4 weeks of using Java, LC Balancer, and Plasmin, and following a strict diet, the patient reported feeling drastically better. She noted before treatment when she would eat certain foods that she reacted poorly to, her body would break out immediately and the rash would not go away. Now, when she ate the same foods, if she had a response at all, it would happen much later and would clear up after a couple hours. She also mentioned that she feels her energy has increased dramatically, and she is able to get all her tasks done without feeling lethargic or fatigued. When asked to rate where she was on a scale of 1-10 for her discomfort now, she rated it at a 2. The patient was extremely happy with her results and is continuing to follow a diet plan and maintain a healthy lifestyle.

## **Case 2: Return of Sensation to Feet due to Toenail Fungus**

Bio-Wellness Center, Baton Rouge, LA

A patient presented to the Bio-Wellness Center on March 27<sup>th</sup>, 2018, complaining of bilateral hip contraction with constant pain above 9 out of 10. The patient also expressed having a total lack of feeling and sensation in his leg, lower back pain in the L4-L5 as well as leg and knee pain, sleep apnea, and macular degeneration in the left eye affecting his vision. The patient was overweight and had GI distress. The patient has his left kidney removed due to cancer 5 years ago.

During an initial evaluation, the doctor discovered overwhelming toenail fungus in both feet, with a majority of the infection in the left foot. Great toe, little toes, medial arch area, and distal plantar surface are all affected by fungus visible to the eye.

The doctor then listened to the patient's heartbeat and the results indicated that the patient's right ventricle had possible problems. The patient revealed at this point that he had 2 previous heart attacks, which then led the doctor to conclude the patient may have scar tissue in the heart. The doctor palpated the thoracic and abdominal areas at the T8-T9 level and found that the pancreas area was tender, which indicated possible pancreatitis. The doctor palpated the descending and transverse colon areas and found that the patient had pain in those areas, which indicated to the doctor that the patient could have possible colon inflammation and dysbiosis. The patient revealed to the doctor at this point that he does have mild acid reflux, where he has to put his bed up on an incline at night when he sleeps.

The doctor requested that the patient complete a comprehensive blood analysis as well as a urinalysis.

The urine indican test revealed no positive microbiome. No calcium was present in the urine, indicating that the body is taking calcium from the skeletal system, which also compromises heart function. The patient's urine pH

was perfect at 6.5 since he drinks alkaline water regularly. Chloride levels indicated that he had breathing problems since his O<sub>2</sub> and CO<sub>2</sub> exchange was also problematic, and he does also complain of shortness of breath. The specific gravity was below normal, indicating kidney and digestive problems. The patient also had blood in his urine, further indicating he has renal dysfunction.

The blood work showed that the patient was diabetic since his fasting glucose level was 160, 60 points above normal. His BUN was high since he only has 1 kidney functioning at 61%. Calcium levels were above normal, confirming the findings of the urinalysis. His ALT was high, indicating that the biliary tract is compromised further leading to gallbladder and liver problems. His neutrophils are very high at 72% and his lymphocytes are low, indicating further that he has calcium being removed from the skeletal system. The doctor suspects the body may be using calcium to combat the pain and inflammation. The patient is also anemic based on MCV, MCH, MCH-c levels, as well as RBC Width which were all not normal. The patient's amylase and lipase levels were high, confirming the doctor's suspicion that the patient has pancreatitis. His insulin levels were also high, indicating that his cells are not absorbing glucose properly, most likely due to a poor diet. The patient's TSH levels were low indicating poor thyroid function, his Hemoglobin A1C was high due to diabetes, and homocysteine is high as well which indicates systemic inflammation.

The doctor put together a treatment plan to address the liver, kidney, and systemic inflammation and infection. The doctor recommended the patient to begin Wei Laboratories protocol which consisted of Levera to address the liver inflammation, LC Balancer to strengthen the patient's kidney function, Brown to support the patient's liver problems, KS to remove any possible kidney inflammation, Bitter to control the buildup of pro-inflammatory cytokines building up in his blood causing systemic problems, Probiosis to help resolve the gut dysbiosis and inflammation, Mango and EyeBrighter to address the vision problems, PA capsules to resolve his pancreatitis and Fungmin to address the fungus in his toes. The patient began the protocol on May 4th. On April 16<sup>th</sup>, the patient reported that his blood sugar had improved by 10 points with diet changes alone.

The primary protocol was focused to address diabetes, the systemic inflammation, the patient's digestive complaints and the patient's toe fungus. In regards to the Fungmin, which is a liquid product, the patient was advised by the doctor to have him soak his foot in bleach (1/4 cup), hydrogen peroxide, and the Fungmin liquid formula to affect pH changes and to start killing the fungus. He was then advised to soak a sock with baking soda water and wear throughout the day to prevent re-exposure to fungal spores. He was advised to do this every morning for 30 mins before he leaves for work and in the evening.

On May 15<sup>th</sup>, the patient reported that his foot and toes were returning back to normal color. The patient also mentioned that he could feel his nerve endings in his feet. Prior to this treatment, he had zero sensation, which is a massive improvement. The patient's pain levels have reduced by 20%. The patient even feels calmer and is able to make better decisions, which indicated to the doctor that his sympathetic nervous system is rebalancing and is no longer over-reactive to inflammation. The patient also reported that he was sleeping much better and is now putting in about 6 hours per night without interruption as opposed to 2 hours per night prior to treatment.

**Before (March 27<sup>th</sup>):**



**After (May 22nd):**



### Case 3: Nail Fungal Infection Cleared in One Month

Brooke Heather, ND, ID

A 40-year-old female patient was diagnosed with a nail fungal infection on nine of her ten fingers. Her nails had developed white tips and crumbling-like substance underneath and around her nails. She had been prescribed antifungals but would experience side effects and not much improvement. She also tried natural remedies like tea tree oil which helped but didn't clear the fungal infection completely.

Dr. Brooke Heather recommended an external protocol of Fungmin Liquid from Wei Labs to help clear heat toxins from the nails for 6-8 weeks. She was required to soak her finger nails every day for at least 30 minutes. After the first few days, the patient reported a mild burning feeling a few hours after using the Fungmin. The burning feeling completely disappeared after the third day and the patient noticed that her fingers had started peeling shortly after. This was a sign that the Fungmin had facilitated new healthy tissue growth. By the fourth week, the patient was able to stop using the Fungmin as the fungal infection had cleared completely.

November 15<sup>th</sup>



December 1st



December 12<sup>th</sup>

