

The Academy of Nail Design's

MODULE 3



“Nail Diseases and Disorders”

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Welcome to Module 3: *Nail Disease and Disorders*

In this module we will be discussing common nail diseases and disorders and gaining an understanding of when it is acceptable for you as a nail professional to perform a service and when clients should be referred to a medical specialist.

As with this and several of our other modules included in this program, we encourage you to conduct your own independent research on the subject. Every time you see this icon –



It means we recommend taking some time to do research outside of the material we have presented to you in order for you to reach a higher level of understanding. Use the library or the internet, or interview local salon owners or working nail professionals. Get their opinions or background on how they got into this field. What trials and tribulations did they face? How did they overcome them? Those who know history are less likely to repeat it!

Answer the questions posed within the module on the ‘**Additional Notes**’ pages included with your study guide.

We’ve found that a common thread between some of our most successful students is that they use this program as a steppingstone and spend a lot of time exploring the entire industry. We encourage you to do the same.

Once you feel confident in the material presented in this module, watch your online lesson, then log into your Online Learning Environment and take the corresponding test and complete your assignments.

Nail Diseases & Disorders

Nail disorders can be caused by damage or injury to the nail or by disease or imbalances in the body.

There are some nail disorders that nail professionals are trained to deal with and others that they should refer clients to a doctor, or podiatrist.

In the nail industry we always refer to the **GOLDEN RULE** which states:

“If the nail or skin to be worked on is infected, inflamed, broken or swollen a nail professional should not service the client.”

Many people do not recognize the difference between infected and inflamed. Do you?

Research the difference between INFLAMED and INFECTED.



In your career as a nail professional you will encounter several different types of nail and skin issues, some severe and most mild. It is your responsibility as a professional to fully understand when it is safe for you to perform a nail, hand or foot service and when it is not.

It is also important for nail professionals to realize that **we are not legally able to *diagnose*** any medical condition. Only a medical professional is legally able to diagnosis. So for example though you may have a good idea that your client has a wart – it is not responsible or legal to diagnosis it as one.

If your client has a health issue you are not comfortable with the next course of action is to refer them directly to a physician.



Though there are many different nail and skin disorders there are ones that are far more common in the nail industry that you will come across during your career. Let's take a look at some of the most common.

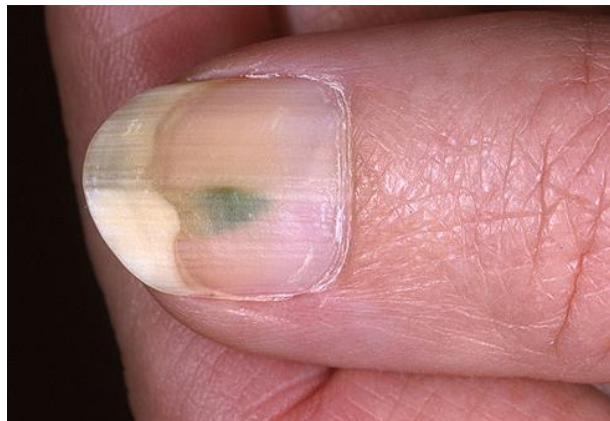
Let's discuss 'Greenies', 'mold' or what should be referred to as bacterial infections vs. fungal infections of the nails.



Bacterial Infections

One of the more common nail disorders that you may come across in your career will be bacterial infections. Bacterial and fungal infections are often mistaken for the same ailment but are in nature very different as are the way in which a nail professional should be trained to handle each.

What is a bacterial infection, what does it look like, how do you handle one? These are all very good and important questions a nail professional must ask when faced with a situation where a client has some sort of discoloration on their nails.



Bacterial infections are often referred to as "greenies" due to the fact that they start out as a bright green colour. Bacterial infections can also be mistakenly referred to as 'mold' - this is an incorrect term. The bacteria that is most responsible is *Pseudomonas* (pronounced sue-dough-no-mus). This is a common bacterium that can be found in soil, hot tubs, toilets, and on the skin of animals and people and usually prefers warm moist places. It can cause minor or severe infections. Those commonly found on the nail plate are considered to be minor, though if left untreated can lead to serious problems.

Bacterial infections look like a green discoloration on the nail plate, depending on the length of time the infection has been there, the colour can range from bright green to dark brown or black.

The earlier the infection is caught usually the brighter the colour. A darker colour would indicate an infection that has been growing for weeks or even months and these types of infections should definitely be referred to a medical professional.

Why does it happen?

Typically, these common bacteria get trapped between a nail enhancement and the nail plate when enhancement products are applied. This is why thorough hand washing before a service (both you and your client) is extremely important! These dark and moist spots are their favourite place to be and to grow. This trapped environment provides the bacteria everything they need to thrive and multiply – a warm, moist environment, and plenty of food as supplied by the oil in the nail plate.

How to handle these types of infections

The first rule is always the **Golden Rule** as stated previously. Once you have determined that the skin and nail are not “broken, swollen, infected or inflamed” you can choose whether or not you are comfortable handling an issue of this nature. It is well within your rights to refuse service on a client if you are not comfortable with the health of the nails or skin to be worked on.

A general rule of thumb here is that if this is a long time client of yours who comes to you regularly for services and the colour of the bacterial spot is still a bright green (those that have turned dark brown or black need to be referred to a specialist no matter whether they are your long time client or not) then it typically may fall to you to deal with the situation professionally and safely.

If this is not your regular client then, we recommend the referral route.

If you do choose to address this type of infection the first issue is to safely remove the enhancement from the nail plate. This will take away the bacteria’s safe thriving environment. Removal of enhancements should be done with the utmost of care and we would suggest soaking off the enhancement with an acetone solution or a professional enhancement removing solution. If the enhancement is the type that will not dissolve in acetone than gently buffing off the enhancement may be required.



Once the enhancement has been removed gently buff the bacterial spot with nothing stronger than a white block buffer, and only enough to gently remove the majority of the bacteria. Then the nail plate must be thoroughly cleansed with an antibacterial cleanser – killing the remaining bacteria. Apply a topically anti-bacterial treatment to the nail and depending on the instructions, make sure your client takes home a bottle to apply to the spot regularly or as directed.

Though some suggest that enhancements can be re-applied depending on the colour of the infection (i.e. if the discoloration was very light or bright green), it would be our recommendation keeping the enhancements off until there are no signs of infection. Re-applying an enhancement may trap any remaining bacteria back between the enhancement and the natural nail causing another infection.

If you are not comfortable with servicing a client with a bacterial infection be prepared to refer them to their physician to have the issue address – the worst thing you can do is not have the client understand what has happened and to have them seek help right away.

Also remember, all implements, files and buffers that come in contact with this infected surface must be sterilized or thrown out – even high-level disinfection is not the safe decontamination level here.

NEVER re-use these implements without sterilizing them and as always dispose of the ‘one-time use’ materials such as files and buffers!

How to avoid bacterial infections

Keep your work area cleaned and implements disinfected and/or sterilized. Make sure your clients wash their hands thoroughly before and after each and every service. Thoroughly cleanse the nail plate with an antibacterial cleanser before applying any nail product. Perfect your application process. Bacteria often get trapped through lifted areas on enhancements so make sure your enhancements have been properly applied and no lifting occurs.

And finally advise and educate your clients about bacterial infections and how they can happen and urge them not to pick at their enhancement product if lifting does occur – and definitely do not glue the lifted enhancement – this will more than likely trap the bacteria in – the exact situation you are trying to avoid.

Fungal Infections

Nail Fungal Infection



Skin Fungal Infection



Although fungal infections of the nail are not as common in the nail industry as we've been lead to believe (most confuse bacterial - fairly common - and fungal nail infections), however, be aware that 1/3 of skin conditions on the foot are fungi related (we talk about this in more depth in the Pedicure Module).

The most common type of fungus responsible for infection of the fingernails is **Trichophyton mentagrophyte** and **Candida albicans**. If you do run across a fungal infection on the fingernails, it will generally appear to be whitish or yellowish, flaky and scaly. Fungal infections are often invaded through a compromise of one's skin or nails, for example, a cut, and typically invade through the layers of a nail plate. Fungal infections often lead to separation of the nail plate from the nail bed and it is for this reason it is not advisable for an untrained nail professional to treat a fingernail or toenail fungal infection.

Immediate referral to a physician is often the most responsible course of action. Traditionally doctors have prescribed heavy duty antibiotic treatments taken orally that have been very hard on the liver and can only be taken for a short period of time, but recently there have been a surge of topical products making their way onto the market that are claiming can lessen the effects of fungal infections. Advise your clients to discuss both options with their doctors.

Other Common Nail Disorders

We'll now take a look at several other nail diseases and disorders that have been divided into two groups; those that generally a nail professional **can work on** and **those they cannot**.

The following excerpt, some photos and discussion of disorders that can and cannot be serviced by a nail technician have been generously provided by Milady's.

From "Milady's Art & Science of Nail Technology", 1997 Edition 2nd edition by MILADY. © 1997. Reprinted with permission of Delmar Learning, a division of Thomson Learning (Fax 800 730-2215)

"The Golden Rule" is that, if the nail or skin to be worked on is **infected, inflamed, broken, or swollen**, a nail technician **should not service** the client. Instead refer the client to a doctor.

An **inflammation** (in-flam-MAY-shun) is red and sore. An infection (in-FEK-shun) will have evidence of pus. Inflammation and infection are not the same thing, although they often occur at the same time. Broken skin or nail tissue is a cut or tear that exposes deeper layers of these structures. Raised or swollen skin will appear fatter than normal skin and rise above the normal level.

The lists below contain the names of nail disorders and a short description of each one. The first list contains the names of nail disorders that nail technicians can work on **if** there is no evidence of infection, inflammation, broken tissue, or swelling.

The list also suggests services you **might** perform. The second list contains descriptions of nail disorders that are too serious for a nail technician to work on and that must be referred to a physician.

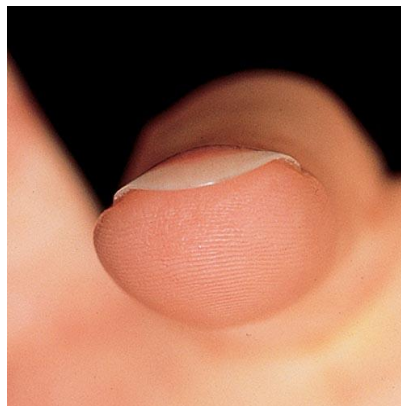
Nail Disorders That May Be Serviced by a Nail Professional

Onychosis (*on-ih-KOH-sis*) is a technical term applied to nail disease.

Bruised nails is a condition in which a clot of blood forms under the nail plate. The clot is caused by injury to the nail bed. It can vary in color from maroon to black. In some cases, a bruised nail will fall off during the healing process. Applying artificial nail services to a bruised nail is not recommended.



Discolored nails is a condition in which the nails turn a variety of colors including yellow, blue, blue-grey, green, red, and purple. Discoloration can be caused by poor blood circulation, a heart condition, or topical or oral medications. It may also indicate the presence of a systemic disorder. Artificial tips or wraps or an application of colored nail polish can hide this condition.



Picture of an eggshell nail

Eggshell nails are thin, white, and curved over the free edge. This condition is caused by improper diet, internal disease, medication, or nervous disorders. Be very careful when manicuring these nails because they are fragile and can break easily. Use the fine side of an emery board to file gently and do not use pressure with a metal pusher at the base of the nail.

Furrows, also known as corrugations, are long ridges that run either lengthwise or across the nail. Some lengthwise ridges are normal in adult nails, and they increase with age. Lengthwise ridges can also be caused by conditions such as psoriasis, poor circulation, and frostbite. Ridges that run across the nail can be caused by conditions such as high fever, pregnancy, measles in childhood, and a zinc deficiency in the body. If ridges are not deep and the nail is not broken, you can correct the appearance of this disorder.

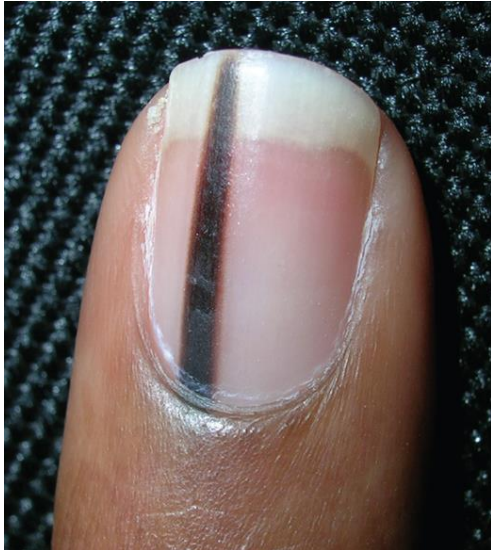
Since these nails are exceedingly fragile, great care must be exercised when giving a manicure. Avoid the use of the metal pusher; use a cotton-tipped orange-wood stick around the cuticle. Carefully buff the nails with pumice powder to remove or shorten the ridges. The remaining ridges can be filled with ridge filler and covered with colored polish to give a smooth, healthy look to the nail.



Hangnails, also known as *agnails*, is a common condition in which the cuticle around the nail splits. Hangnails are caused by dry cuticles or cuticles that have been cut too close to the nail. This disorder can be improved by softening the cuticles with oil and trimming the cuticles with nippers. Though this is a simple and common disorder, hangnails can become infected if not serviced properly.

Leukonychia (*loo-ko-NIK-ee-ah*) is a condition in which white spots appear on the nails. It is caused by air bubbles, a bruise, or other injury to the nail. Leukonychia cannot be corrected, but it will grow out.



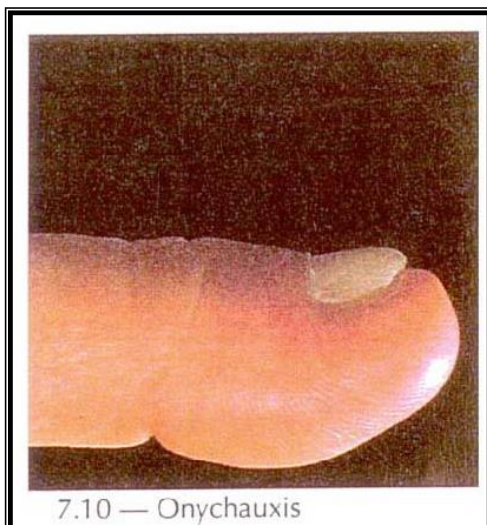


Nevus (NEE-vus) is a brown or black stain on the nail caused by a pigmented mole that occurs in the nail. Nail polish or an artificial nail service can hide this disorder.

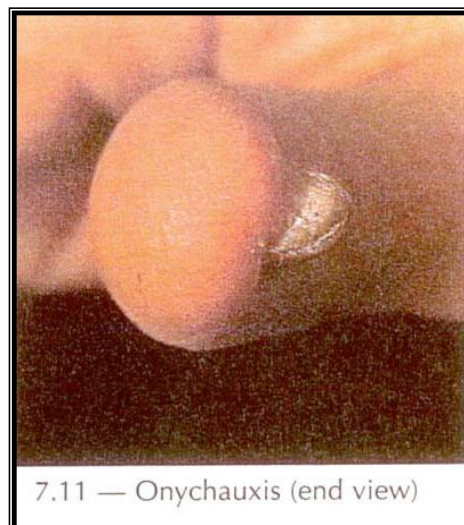
Onychatrophia (on-i-kah-TROH-fee-ah), also known as atrophy, describes the wasting away of the nail. The nail loses its shine, shrinks, and falls off. Onychatrophia can be caused by injury to the nail matrix or by internal disease. Handle this condition with extreme care. File the nail with the fine side of the emery board and do not use a metal pusher or strong soaps or washing powders. If the condition is caused by internal disease and the disease is cured, new nails may grow back.



Onychauxis (on-i-KIK-sis) or *hypertrophy (hy-PER-troh-fee)* shows the opposite symptoms of onychatrophia. Onychauxis is the overgrowth of nails. Nails with this disorder are abnormally thick. The condition is usually caused by internal imbalance, or local infection (Fig. 7.10 and 7.11)



7.10 — Onychauxis



7.11 — Onychauxis (end view)

Onychocryptosis (*on-i-koh-krip-TOH-sis*) or **ingrown nails** is a familiar condition of the fingers and toes in which the nail grows into the sides of the tissue around the nail. Improper filing of the nail and poor-fitting shoes are causes of this disorder. If the tissue around the nail is not infected or if the nail is not too deeply imbedded in the flesh, you can trim the corner of the nail in a curved shape to relieve the pressure on the nail groove. If the nail has grown very deeply into the groove, refer the client to a physician.



Onychophagy (*on-i-KOH-fa-jee*) is the medical term for nails that have been bitten enough to become deformed. This condition can be improved greatly by professional manicuring techniques. Give frequent manicures, using the techniques described in the manicuring chapters of the book. As those chapters suggest, any of the artificial tips and wraps can hide and beautify deformed nails.



Onychophosis (*on-ih-KOH-foh-sis*) - horny epithelium overgrowth

Onychophyma (*on-ih-koh-FEE-mah*) more common referred to as onychauxis, denoted a swelling of the nail.

Onychorrhexis (*on-i-kohr-REK-sis*) refers to split or brittle nails that also have a series of lengthwise ridges. It can be caused by injury to the fingers, excessive use of cuticle solvents, nail polish removers, and careless, rough filing. Nail services can be performed only if the nail is not split below the free edge. This condition may be corrected by softening the nails with a reconditioning treatment and discontinuing the use of harsh nail products.



Pterygium (*te-RIJ-ee-um*) describes the common condition of the forward growth of the cuticle on the nail. The cuticle sticks to the nail and, if not treated, will grow over the nail to the free edge. This condition can easily be treated by a reconditioning hot oil manicure, which will soften the cuticles.





Nail Disease and Disorders That Can Not Be Serviced by a Nail Professional

Onychogryposis (on-i-koh-greye-POH-sis) is a condition in which the nail curvature is increased and enlarged. The nail becomes thicker and curves, sometimes extending over the tip of the finger or toe. This condition results in inflammation and pain if the nail grows into the skin. The cause of this disorder is unknown.

Onychia (on-NIK-ee-ah) is an inflammation somewhere in the nail. The tissue at the base of the nail may be red and swollen and pus may form. It is often caused by improperly sanitized manicuring implements.



Onychomycosis (oni-koh-meye-KOH-sis), tinea unguium (TIN-ee-ah UN-gwee-um), of the nails, is an infectious disease caused by a fungus (vegetable parasite). A common form is whitish patches that can be scraped off the surface. A second form is long, yellowish streaks within the nail substance. The disease invades the free edge and spreads toward the root. The infected portion is thick and discolored. In a third form, the deeper layers of the nail are invaded, causing the superficial layers to appear irregularly thin. These infected layers peel off and expose the diseased parts of the nail bed.



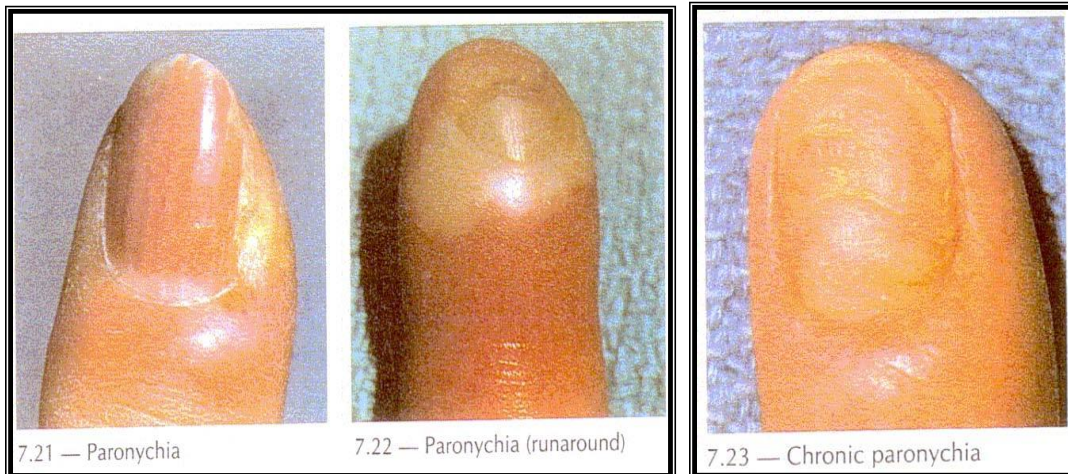
Onycholysis (*on-i-KOL-i-sis*) is a condition in which the nail loosens from the nail bed, beginning usually at the free edge and continuing to the lunula, but does not come off. It is caused by an internal disorder, trauma, infection, or certain drug treatments. It can occur on the nails of the hands or feet.



A nail with Onycholysis

Onychoptosis (*on-i-kop TOH-sis*) is a condition in which part or all of the nail sheds periodically and falls off the finger. It is a condition that can affect one or more nails. It can occur during or after certain diseases of the body, such as syphilis, as a result of a fever and system upsets, as a reaction to prescription drugs, or as a result of trauma.

Paronychia (*par-oh-NIK-ee-ah*) is a bacterial inflammation of the tissue around the nail. The symptoms are redness, swelling, and tenderness of the tissue surrounding the nail. Paronychia can occur at the base of the nail, around the entire nail plate, or on the fingertip. Paronychia around the entire nail is sometimes referred to as runaround. Chronic paronychia occurs continually over a long period of time and causes damage to the nail plate. Paronychia can be caused by the use of unsanitary implements or by aggressive pushing or cutting of the cuticle. (Figs. 7.21, 7.22, 7.23)



Pyogenic granuloma is a severe inflammation of the nail in which a lump of red tissue grows up from the nail bed to the nail plate.



In Conclusion

Remember this list of common nail disease and disorders are by no means exhaustive. We always remind you if at any time you come across a nail or skin condition that contradicts the **Golden Rule** it is your job as a nail professional to deal with the situation accordingly. If not handled professionally you can cause far more damage to your client's health.

Your clients will look to you for professional action when it comes to dealing with a sensitive issue such as a nail disorder, so be sure to have podiatrist or local physician's business cards on hand that you can readily give out to your clients, and handle the matter discreetly and sensitively.



You always want to welcome a client back to your salon after they've had the issues addressed (we recommend asking for a doctor's note when they return advising that it is now OK to service their hands or feet). Given how you respond to the matter will implement trust between you and this client and they'll recognize that you work professionally and truly care for their health and safety.

Using your Client Assessment and Consultation time (Module 4) before your services is the ideal way to address any issues.

Use common sense and caution throughout your career to ensure the health and safety of both yourself and your clients.

Additional Notes

These Additional Module pages are for you to answer the extra questions we asked within the module and to be adding your research notes.

