

**The Academy of Nail Design's**



The Academy of Nail Design

**DERMA CARE NAIL  
SPECIALIST (D.C.N.S.)  
PROGRAM**

As Certified by the Canadian Examining Board of  
Health Care Practitioners (C.E.B.H.C.P.)

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# **DERMA CARE NAIL SPECIALIST (D.C.N.S.) PROGRAM**

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## *∞ Lesson 2 ∞*

### *Revisiting and Revising The Basics*

**I. Detailed Anatomy  
of the Nail**

**II. Anatomy of the Skin**

**III. Nail Diseases and  
Disorders**

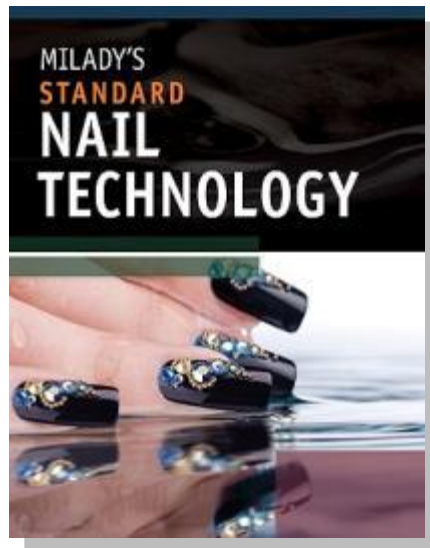
**IV. The Diabetic Client**

## **PLEASE NOTE:**

The purpose of Lesson 2 in your D.C.N.S. program is *not* to teach you the basics of human anatomy, detailed nail anatomy or nail diseases and disorders.

You should already have a firm grasp on all those concepts. If you feel you could benefit from a re-fresher on Basic Human Anatomy and Nail Disease and Disorder concepts, please re-visit your TAOND Full Certificate program Module 2 and 3 or your original work from your previous schooling.

For a full and very detailed review, we highly recommend you purchase the *Milady's Standard Nail Technology* student handbook, which is available for purchase from our TAOND website under "Program Add-Ons".



The purpose of this lesson is re-enforce certain concepts and re-define terms that you should already know to confirm that we're all on the same page as we move toward accomplishing your goal as a D.C.N.S.

# *Detailed Anatomy of the Nail*

## *Anatomy of the Nail*

Nothing is more important to us as Nail Professionals and D.C.N.S.'s than the comprehension of and the healthy maintenance of the natural nail.

All of you should have taken a basic and advanced nail anatomy session within your previous nail educational programs.

However, because the understanding of detailed anatomy of the nail is so vital to your success as a **D.C.N.S.**, we're going to repeat some of this information again in this program so we all will be on the same page when it comes to the specific terms we use during this program. And you might also be surprised at what you may have forgotten or find new.

To give your clients the best service possible, your job as a **D.C.N.S.** is to familiarize yourself with the structure and functionality of the nail and its components.

This will help you determine what services are appropriate for each individual client. As a **D.C.N.S.** this knowledge is indispensable when providing your specialized **D.C.N.S.** services, advanced assessments and consultations, and recommended homecare.

## *Just the Facts...*

SO let's get to some interesting and helpful facts about the nail.

Nails or “**ONYX**” – their technical name, are made up of the same protein as skin – **KERATIN**. Finger and toenails are of the hardest form of keratin, while skin is the softest.

While other mammals have claws, the human has nails.

The purpose of our nails is to provide traction and grip in order that we are able to pick up items and to protect us from predators. They also are designed to protect the end of our fingers and toes.

When you were in school you probably learned many strange facts about natural nails and their care. Then as you began working in the nail industry you probably heard even more odd facts. Sometimes it gets hard to separate fact from fiction.

Understanding exactly the composition of our finger and toenails is imperative in providing professional services.

**For example**, did you know that our finger and toenails contain only trace amounts of calcium? Therefore, applying a topical product that contains calcium does little to enhance the health of your nails no matter what a manufacturer may state.

Because we've heard all kinds of craziness when it comes to hands, feet and nails, we thought we'd share some interesting facts with you.

**Nail plate cells are *permeable* which means they absorb liquid on contact. Therefore, soaking a nail in a liquid will expand the cells, which is why it is never a good idea to file nails that have been soaking in any liquid. It's a good rule to always file and buff nails before soaking them in any liquid. *Never soak nails in water for longer than 5 minutes. Any time longer than that will dry the nail plate out.***

**Fingernails grow faster than toenails at an average rate of 1/10 of an inch a month or about 1-3mm a day.**

**Healthy nails replace themselves approximately every four to five months from cuticle to tip.**

**Nails are also the barometer of your health, many imbalances in the body can be detected by examining your nails.**

**Nails typically grow faster in the summer and slower in the winter, with your dominant hand (the hand you write with – apparently due to blood flow) usually outgrowing your non-dominant hand.**

**The fastest growing nail is the middle finger and the slowest is the thumb.**



**Do your research! Here's a wonderful article by Douglas Schoon:**



*(An internationally recognized scientist, author and educator with over 30 years' experience in the cosmetic, beauty and personal care industry. He is a leading industry authority, known for his technical and regulatory work that has helped shape the beauty industry).*

## **NAIL MYTHS**

**How many did you know?**

## *Parts of the Nail*

Understanding the parts of the nail and how a nail is formed and grows are vital components of your skill set as a **D.C.N.S.** Without this knowledge you could be causing damage to a client by using the wrong services, products or implements.

We have included a diagram of the nail (top side view) with the correctly labeled nail components. It is extremely important that you fully understand each term, where it's located on the nail and why it is important to the function of the nail.

**To begin**, we have three very important seals to our nails that protect against the invasion of dirt, bacteria and other damaging microorganisms to the matrix area of our nails. These three seals are also referred to as the “**GUARDIAN SEALS**”. They are:

**Hyponychium (Hi-po-nik-ee-um)** – The skin seal under the free edge of your fingernail. This seal attaches the nail plate to the nail bed and prevents dirt, moisture and bacteria etc. from entering under the nail plate.

**Eponychium (Ep-o-nik-ee-um)** – The skin fold at the base of your nail plate, often mistaken for the cuticle. Prevents dirt, moisture and bacteria etc. from entering into the Matrix area.

**Perionychium (Per-i-o-nik-ee-um)** – The part of the skin that surrounds and seals the entire nail plate.

Never break these seals during your services. Doing so could lead to the invasion of microorganisms that could lead to serious affects for your clients.

**Then we get into the:**

**Nail plate** – Hardened layers of dead keratinized cells that form a plate at the end of each finger and toe.

**Free edge** – The part of the nail plate that extends beyond the end of the finger.

**Nail Groove** – Slits or tracks in the nail bed at both sides of the finger and toe along which the nail plate grows.

**Cuticle** – Thin layer of dead skin growing from underneath the lateral fold that adheres to the nail plate as the nail plate grows out along the nail bed. This dead skin can safely be removed through physical and chemical manipulation.

**Nail Wall** – The sides of the nail plate above the nail grooves.

**Solehorn** – Epidermis attached to the underside of some natural nails, often on almond shaped nails. It contains nerve and blood supply and should not be removed or damaged during services. Not the same as the Hyponychium.



**Nail Bed** – A thick growth of epidermal cells that support the nail plate. Contains nerve and blood supply.

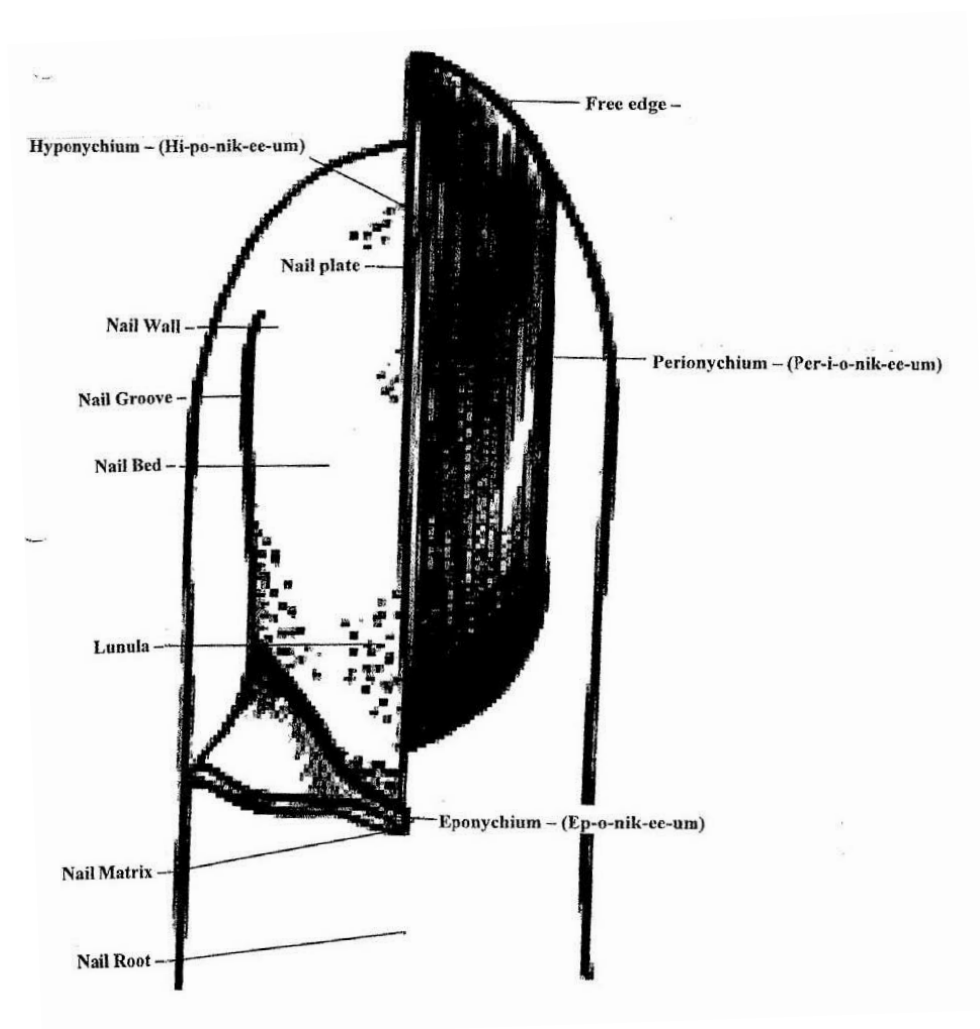
**Lunula** – The whitish, moon crescent shaped area at the base of the nail where keratinization is completed. Cells in this area are plump, round and soft unlike those found at the free edge where they are more mature, thin and flat.

**Nail Matrix** – small area of living tissue found directly below the nail fold. Produces the nail cells and controls the rate and thickness of your nails. This a very sensitive area and if damaged could lead to permanent irregularities.

**Nail Root** – The area where nail growth begins. It is embedded underneath the skin at the base of the nail. Also supplies nourishment to the nail matrix.

## *Simplifying How a Nail Grows*

Let's take a brief look at the process by which a nail actually grows.



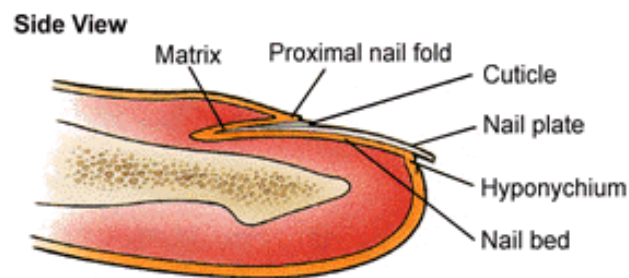
What is Keratin and Keratinization? Keratin is the group of proteins that form the major component of the outer layer of the dermis and keratinization is the process by which the epidermis forms the outer layer, when keratin is deposited in cells and cells become horny (nails, skin and hair).

Keratin cells are formed in the **MATRIX** and are pushed up onto the **NAIL BED**. As they mature and move along the **Nail Bed** these cells change in consistency from *round and plump* to *thin and flat*, and become *flatter and harder*.

This is why you have to use extreme care when dealing with the skin and nail plate near the **Eponychium** and **Lunula** area. These cells are much newer and softer than the flattened mature cells at the **FREE EDGE** and can be easily damaged.

Grooves in the top side of the epidermis fit into the grooves in the bottom of the **NAIL BED**. This allows the nail plate to glide along the **NAIL BED** as the nail grows out towards the **FREE EDGE**.

Also note that the length of the **MATRIX** determines the thickness of your nails. The longer the **MATRIX** the thicker the nail, likewise the shorter the **MATRIX** the thinner the nail.



**As a D.C.N.S. it's time to start thinking critically about what we're being sold!**

**Remember** – now that you know that the thickness of your nail plate is determined by the length or size of your matrix, and the length and size of your matrix is determined at birth, what do you think about any nail product then that advertises that it can make your nails thicker? Would you buy it? Would you sell it to your client?

A nail product could make your nail plate more flexible and better moisturized, but not change the thickness – this is determined at birth and by the size of your matrix. But you probably have heard such claims before, haven't you?

As a **D.C.N.S.**, it's time to start fully investigating the claims that some products are making in order to protect yourself and your clients. Do these product claims make sense with regards to your understanding of anatomy and science?

Your clients are depending on your expertise and knowledge to properly advise them on the correct and beneficial products they need in order to maintain the health of their hands and feet. So it is **your**

*responsibility* to look into any claims the products you carry make to confirm that it's even possible, and to steer your clients in the right direction.

Make it a goal to always more deeply understand all the claims of the products you choose to carry in comparison to your knowledge of anatomy – it's harder to fool someone who is knowledgeable!

## ***Let's really talk about cuticles***

The most common misconception regarding nail function and proper care happen when we as both clients and professionals discuss nail cuticle.

### **Do you truly know the difference between cuticle and eponychium? How are you currently treating your client's cuticle?**



The difference main difference between your eponychium and cuticle, other than of course that they are different parts of the nail, is that one is **living tissue** and the other is **dead tissue**.

The cuticle is the **dead tissue** that forms on the underside of the lateral fold and adheres itself very well to the nail plate and grows out along with nail plate towards the free edge as the nail grows. Without proper care or maintenance, the cuticle can rip and tear.

The eponychium is the **living tissue**, containing nerve endings and blood supply, and is found at the base of the nail. If cut or removed it will bleed and form thicker scar tissue when healed.

**Here again is Doug Schoon's incredibly detailed explanation of the cuticle:**

### **WHERE'S THE CUTICLE?**

Again, it is *imperative* that you as a **D.C.N.S.** have a complete and comprehensive understanding of the differences between cuticle and eponychium simply for the fact that as a **D.C.N.S.** you will be treating both.

# Anatomy of the Skin

## *Skin Basics*

As Nail Professionals you should have a firm knowledge of basic anatomy of the body and advanced knowledge of the anatomy of the nail, however many of you may not have taken a skin anatomy session within your nail programs.

So, we are going to discuss the anatomy of the skin in order that you better understand what the proper treatments for the skin during your **DCNS** services should entail.

The study of our skin is called **Dermatology**. The skin is an organ that forms a protective barrier against germs (and other organisms) and keeps the inside of your body inside your body and keeps what's outside of your body outside.

## *Skin Facts*

Skin is made up of two layers that cover a third fatty layer. The outer layer is called the **epidermis**. It is a tough protective layer that contains melanin (which protects against the rays of the sun and gives the skin its color).

The second layer (located under the epidermis) is called the **dermis**. It contains nerve endings, sweat glands, oil glands, and hair follicles.

Under these two skin layers is a fatty layer of **subcutaneous tissue** (the word subcutaneous means “under the skin”).

On average, an adult has from 18-20 square feet (about 2 square meters) of skin, which weighs about 6 pounds (2.7 kg).



Skin also helps maintain a constant body temperature.

Human skin is only about 0.07 inches (2 mm) thick.

Your skin has more functions than any other organ in your body. It is the protective layer between the inside of your body and the external world of germs, bacteria, the elements, parasites etc.

It also prevents the loss of water from our bodies.

Within our skin our several receptors that allow us to feel pain, heat, cold, and pressure.

Younger skin healthy skin has elasticity that allows skin to regain its shape when pulled. As we age we lose this elasticity which causes the skin to wrinkle.

We lose and replace millions of skin cells a day.

Waste is filtered out of our bodies as is sweat and oil. Your sweat glands aid in regulating our body temperature.

Within the epidermis are pigments that determine the colour of your skin. The skin is thickest on your palms and soles and is thinnest on your eyelids.

### ***Identify the following on your Cross Section of Skin Diagram***

**Epidermis** – the outer layer of the skin.

**Dermis** – (also called the cutis) the layer of the skin just beneath the epidermis.

**Papillary layer** – lies directly underneath the epidermis

**Subcutaneous tissue** – fatty tissue located under the dermis.

**Nerves** – little fibers that send messages to the central nervous system

**Glands** – there are two types of duct glands: sweat and oil

**Hair follicle** – a tube-shaped sheath that surrounds the part of the hair that is under the skin. It is located in the epidermis and the dermis. The hair is nourished by the follicle at its base (this is also where the hair grows).

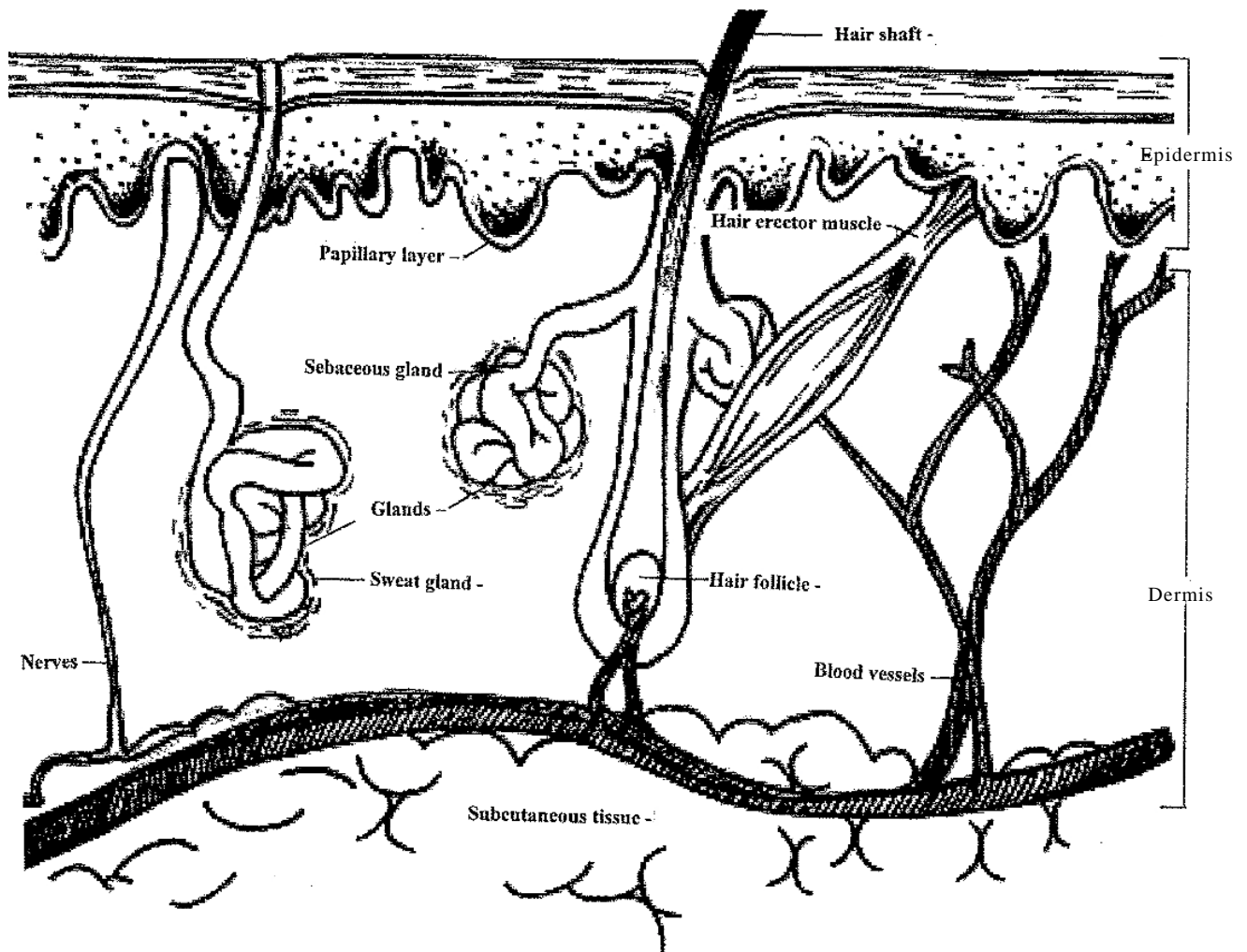
**Hair shaft** – The part of the hair that is above the skin

**Hair erector muscle** – a muscle is connected to each hair follicle and the skin. It contracts (in response to cold, fear, etc.), resulting in an erect hair and a “goose bump” on the skin

**Blood vessels** – tubes that carry blood as it circulates. Arteries bring oxygenated blood from the heart and lungs; veins return oxygen-depleted blood back to the heart and lungs.

**Sweat gland** – (also called sudoriferous gland) a tube-shaped gland that produces perspiration (sweat). The gland is located in the epidermis. It releases sweat onto the skin.

**Sebaceous gland** – a small, sack-shaped gland that releases oily (fatty) liquids onto the hair follicle (the oil lubricated and softens the skin). These glands are located in the dermis, usually next to hair follicles.



# *Nail Disease and Disorders*

As **D.C.N.S.** we will be treating the skin on the hands and feet as well as the nails so your understanding of the components and function of the human body's skin system is also imperative.

So many professional beauty products make such incredible claims about their effects on the conditions of the skin. This is an issue that dermatologists, facialists and estheticians have been uncovering for decades. Now as **DCNS**, it's our turn to uncover the 'truths' behind all these claims.

In a later Lesson within this program, we are going to be discussing in detail what the proper treatment for certain skin conditions you should understand and follow so that you are adequately servicing your clients for their D.C.N.S. services, but for now concentrate on truly understanding how the skin functions so that you'll be able to comprehend why some of these products are good and why others are not!

## *DCNS Rules for Nail Disease and Disorders*

Again, we are not going to run through a list of common nail disease and disorders that you should have memorized during your basic nail training, (for your re-fresher review Module 3 in the TAOND Full Certificate program).

The purpose of this Lesson is to both remind all our **D.C.N.S.** students of the **"GOLDEN RULE"** to ensure that they are following the guidelines set out by the nail industry with regards to handling nail disease and disorders they come across during their service appointments. And outline how as a DCNS you should be handling these type of situations professionally.

As we all know, there are some nail disorders that Nail Professionals are trained to deal with and others that they should always refer to a medical doctor.

In the Nail Industry we always refer to the **"GOLDEN RULE"**:

***"If the nail or skin to be worked on is infected, inflamed, broken or swollen  
a Nail Professional should not service the client."***

**There really are no exceptions to this rule.** And as you know this Golden Rule covers off almost all typical nail disease and disorders that you will more than likely run into during your career as a Nail Professional, but here again is a reminder of why this rule is important and how it affects your career as a D.C.N.S.

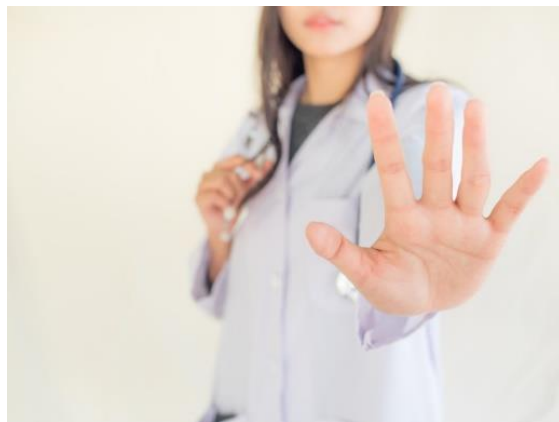
Let's look at each component of the Golden Rule and why it is important.

**Infected** – This is the most obvious component of the Golden Rule that most Nail Professionals and DCNS understand. An infection typically can be quite obvious on most clients, and can incorporate such symptoms as pus, swelling, broken skin, redness, inflammation etc.

**Inflamed** – Did you know that the main difference between infected and inflamed is the evidence of pus? Pus is the result of the bodies’ response to infection. Skin that is inflamed usually has that area appearing larger than normal due to an increase in blood flow to that area. The inflamed area can look redder and can be warm to the touch, and sometimes painful.

**Broken** – Did you also know that any broken skin can be a gateway to infectious bacteria, viruses or fungus, and that by you working on a client with broken skin you run the risk of spreading infectious bacteria? Although bacteria can often touch or live on the skin without causing an infection, the risk of getting a bacterial skin infection becomes much higher when the skin is broken.

**Swollen** – A part of the body is *swollen* if it’s larger than usual. This might be caused by an allergic reaction to, for example, an insect bite. Swollen skin can be painful and is often an indicator of a more serious issue.



**You must NEVER Diagnose!  
Only a medical professional can diagnose!**

Did you know that so many of you may have, during your career, been diagnosing clients and prescribing and not even know it. **How?**

**Here’s how.** We can imagine that many of you know what a wart may look like. However, did you know that if in a professional setting you tell your client that they have a wart (no matter how discreetly you mention it), you’ve just diagnosed, and that if you tell them to use a specific wart remover, you are prescribing?

Yes, it’s true, and diagnosing and prescribing is out of your jurisdiction as a Nail Professional and **D.C.N.S.** In fact, **only licensed medical practitioners can legally diagnose and prescribe.**

## Let's discuss



### **How then do you approach a sensitive situation where you may have a client who contravenes the Golden Rule and you are then not able to service?**

This is a great question and one that can be handled in as many ways as there Nail Professionals. The key to handling sensitive situations like this is to be prepared! Never leave your client without a full understanding of what follow up they should be abiding by in order to maintain their health.

Always act with your client's best interest in mind. Situations like these are a true test to your level of professionalism and you are responsible for the health and safety of every client who sits at your table or chair.

**Here are some guidelines we feel you may incorporate into your client discussion in a situation:**

- **Always speak to your client in a discreet and professional manner and NEVER share client information with other co-workers (unless you share a client) or clients**
- **Always have referral business cards for both local GP, dermatologist and/or podiatrists on hand, never leave you client feeling out in the dark as to whom they should go and see**
- **Never diagnose the client's condition no matter how sure you are!**
- **Always make your client feel comfortable and treat them as you would like to be treated if you were in the same situation**
- **Always ask if the client is aware that they may have an issue, as they could provide you with some valuable insight**
- **Always explain the Golden Rule to your client so they fully understand why you are not able to provide their service that day and give them a solid plan to follow so that they are able to return to you as soon as possible**
- **Always ask for a doctor's note upon their return to your salon stating that it is safe for them to resume nail services that you can keep for their client file**





**Write out your very own script on how you would best handle a sensitive situation like this so you can be prepared and not caught off guard when it may happen.**

# *The Diabetic Client*

There is much debate over whether nail professionals should be servicing diabetic clientele or directing referring them to the correct medical professionals (podiatrists etc.). And we feel the debate is very much warranted given the extreme range of diabetic issues and symptoms.

At TAOND we don't recommend servicing diabetic clients in a salon or spa environment without proper training, guidance, and many hours of practical specifically directed towards this.

**What is a Diabetic?** To understand why professional nail services greatly affect diabetics we must first understand what diabetes is.

## *In accordance with the Diabetics Research Institution:*

"Diabetes can strike anyone, from any walk of life.

And it does – in numbers that are dramatically increasing. In the last decade, the cases of people living with diabetes jumped almost 50 percent – to more than 29 million Americans.

Worldwide, it afflicts more than 380 million people. And the World Health Organization estimates that by 2030, that number of people living with diabetes will more than double.

Today, diabetes takes more lives than AIDS and breast cancer combined -- claiming the life of 1 American every 3 minutes. It is a leading cause of blindness, kidney failure, amputations, heart failure and stroke.

Living with diabetes places an enormous emotional, physical and financial burden on the entire family. Annually, diabetes costs the American public more than \$245 billion.

Just what is diabetes?

To answer that, you first need to understand the role of insulin in your body.

When you eat, your body turns food into sugars, or glucose. At that point, your pancreas is supposed to release insulin.

Insulin serves as a “key” to open your cells, to allow the glucose to enter -- and allow you to use the glucose for energy.

But with diabetes, this system does not work.

Several major things can go wrong – causing the onset of diabetes. Type 1 and type 2 diabetes are the most common forms of the disease, but there are also other kinds, such as gestational diabetes, which occurs during pregnancy, as well as other forms.”

### ***TYPE 1 Diabetes***

The more severe form of diabetes is type 1, or insulin-dependent diabetes. It’s sometimes called “juvenile” diabetes, because type 1 diabetes usually develops in children and teenagers, though it can develop at any age.

### ***Immune System Attacks***

With type 1 diabetes, the body’s immune system attacks part of its own pancreas. Scientists are not sure why. But the immune system mistakenly sees the insulin-producing cells in the pancreas as foreign, and destroys them. This attack is known as “autoimmune” disease.

These cells – called “islets” (pronounced EYE-lets) – are the ones that sense glucose in the blood and, in response, produce the necessary amount of insulin to normalize blood sugars.

Insulin serves as a “key” to open your cells, to allow the glucose to enter -- and allow you to use the glucose for energy.



Without insulin, there is no “key.” So, the sugar stays -- and builds up -- in the blood. The result: the body’s cells starve from the lack of glucose.

And, if left untreated, the high level of “blood sugar” can damage eyes, kidneys, nerves, and the heart, and can also lead to coma and death.

### ***Insulin Therapy***

So, a person with type 1 treats the disease by taking insulin injections.

This outside source of insulin now serves as the “key” -- bringing glucose to the body’s cells.

The challenge with this treatment is that it’s often not possible to know precisely how much insulin to take. The amount is based on many factors, including:

- Food
- Exercise
- Stress
- Emotions and general health

### ***Balancing Act***

These factors fluctuate greatly throughout every day. So, deciding on what dose of insulin to take is a complicated balancing act.

If you take too much, then your body burns too much glucose -- and your blood sugar can drop to a dangerously low level. This is a condition called hypoglycemia, which, if untreated, can be potentially life-threatening.

If you take too little insulin, your body can again be starved of the energy it needs, and your blood sugar can rise to a dangerously high level -- a condition called hyperglycemia. This also increases the chance of long-term complications.

### ***TYPE 2 Diabetes***

The most common form of diabetes is called type 2, or non-insulin dependent diabetes.

This is also called “adult onset” diabetes, since it typically develops after age 35. However, a growing number of younger people are now developing type 2 diabetes.

People with type 2 are able to produce some of their own insulin. Often, it’s not enough. And sometimes, the insulin will try to serve as the “key” to open the body’s cells, to allow the glucose to enter. But the key won’t work. The cells won’t open. This is called insulin resistance.

Often, type 2 is tied to people who are overweight, with a sedentary lifestyle.

Treatment focuses on diet and exercise. If blood sugar levels are still high, oral medications are used to help the body use its own insulin more efficiently. In some cases, insulin injections are necessary.

### ***How diabetes affects Professional Nail Care***

Godfrey F. Mix, DPM a well-respected podiatrist explains in great details the reason diabetes affects professional nail care and how you should approach diabetic clients. These guidelines refer to diabetic foot care but we also recommend following them for Diabetic manicuring as well.

“Poor circulation is one of the major complications of diabetes. The intermediate-size arteries (arterioles) are most involved in this complication. Since the majority of the arteries in the lower leg and foot fall in this category, many severe problems arise here. High blood sugar levels improperly nourish the nerves, injuring them and resulting in decreased sensation, particularly in the feet. Over forty thousand lower extremity amputations a year, which are not a result of injury, are caused by diabetic complications. This is almost one-half of all non-injury amputations of the leg in the United States!

Poor circulation and the lack of sensation result in many skin problems in the diabetic. One third of all diabetics will have some skin-related condition during their life-time. Because of fluctuations in the blood sugar levels, the small blood capillaries in the skin are easily injured. Additionally, the production of natural skin lubricants from the glands in the skin is reduced or may even cease. All this results in dryness, cracking, and itching. Susceptibility to skin infection increases. The diabetic cannot fight infections well because the disease reduces the effectiveness of the white blood cells role in destroying bacteria. Thus any minor skin irritation or injury has the potential of becoming a severe life threatening condition.”

Now that you have a basic understanding of diabetes and some of the fundamental problems associated with the disease, you may be saying you’d never consider giving a foot service to a diabetic. But you may already be doing it and not even know it! This disease may be present for many years before it is diagnosed. As a nail professional who gives foot service, you must be on the lookout for any signs of this disease. You may be the first one to suspect that your client is a diabetic! If you do suspect a problem, refer the client to her physician for a medical evaluation. Do not be afraid you might be wrong. In this case it is better to be safe than sorry.

When can the well-trained knowledgeable nail professional provide foot services to the diabetic client? Only when you can be certain that the service you provide will not harm the client.

To ensure your foot services won’t harm your client, you must be knowledgeable about the client both medically and as an individual. Gain this knowledge by doing a “History and Personal Evaluation” of each client. A few well-thought-out questions and visual observation of the client will help you make a decision on what, if any, services to provide.

***If the client is a known diabetic, you want to know:***

**1. Does she smoke?** Does she drink alcoholic beverages? A diabetic should do neither of these. Nicotine in cigarettes contributes to hardening of the arteries, adding to the diabetic arterial disease process. Alcohol, on the other hand, is converted to sugar, increasing the blood sugars and adding to the diabetic process. An occasional drink is not a bad thing; daily consumption of alcoholic beverages is what you are concerned about. If the client answers yes to either of these questions refer her to a podiatrist for foot care.

**2. How long has she been a diabetic?** This question will tell you a lot about her disease. Generally, the longer a person is a diabetic the more severe are the complications of the disease. As a general statement, long-term diabetics should be referred to a podiatrist for foot care.

**3. What do her blood sugars generally “run”?** This is an important question for two reasons. First, if she doesn’t know you should not provide services, because she is probably in denial about her disease. A diabetic must know what her blood sugar levels are in order to keep them within the limits prescribed by her doctor.



Secondly, by knowing what her “blood sugars run,” you’ll get a basic idea of the severity of her diabetes. Normal blood sugar levels are between 70 and 120; if she tells you her sugars run routinely between 250 and 300, you’ll know she’s not a good candidate for a pedicure. With levels that high, either this client is a very severe diabetic or she does not follow her doctor’s instructions about diet, exercise, and medications. In either case, you should not service that client. In the absence of other negative findings, diabetics whose blood sugars average below 150 can receive gentle, conservative foot service.

**4. Is her blood sugar controlled through diet, exercise, medication (oral or injections), or a combination of these three?** A diabetic whose disease is controlled through diet and exercise may receive foot services unless she has any open wounds or infections. An oral-medication-controlled diabetic may receive foot services only after answering all the above questions positively. Type I or Insulin Dependent diabetics should be referred to a podiatrist for foot care. The podiatrist may evaluate her and send her back for selected foot services to be provided by you. Only with written instructions from the podiatrist should you provide the care.

**5. Once you’ve gathered her history, you need to do a “personal evaluation” of the client.** You need to check the skin, the circulation, and the sensation of the lower extremity.

The skin should have no open wounds, ulcers, or infections present. It should be pliable and fairly normal in appearance. Remember, thin, fragile skin is easily injured, which in the diabetic may lead to severe consequences.

Evaluate the circulation by feeling the pulses in the foot (if you do not know how, learn before giving any foot services). You should at least be able to feel them. The extremity should be warm and have a good coloration. Is there hair on the extremity? The absence of hair growth may indicate a severe circulatory disorder. If the skin becomes discolored (bluish or deep reddish) when it is on the floor, this indicates

extremely poor circulation. Thin, fragile skin and a lack of underlying fatty tissues also indicate extremely poor circulation.

Does the client have normal feeling in her feet? A rough test for this is to lightly rub your fingertip over the bottom of the foot and then do the same on the palm of the hand. If there is a difference in sensation between the two, you should refer the client for medical evaluation before doing a service.



The “History and Personal Evaluation” described above is very limited, but it should give you an insight as to whether to provide services to a diabetic client or not. Your findings should all be within the normal limits I have outlined. If you have any question, provide services only after discussing the client’s condition with her podiatrist or medical doctor.

A pedicure when provided to a selected diabetic should be gentle and given with extreme care. Do not use hot water, body temperature to 100 degrees Fahrenheit is a satisfactory range. For some reason, we Americans think the hotter the better when soaking the feet. The “Rule of Thumb” should be if you would not put the rest of your body in the hot water then DO NOT put your feet in it!

Trim the nails carefully; straight across is best. If the corners need to be removed, refer her to a podiatrist for this procedure. Do not push the cuticle back as this may cause injury, which can result in an infection. When filing the nails, be extremely careful not to abrade the skin and cause an opening for an infection.

Sloughing creams should also be used with great care for the same reasons. Select and recommend moisturizing creams that will be beneficial to the dry skin that is part of the diabetic condition. Use a gentle massage technique; do not be rough.

Use a disinfectant on the foot before and after the service. Last, but by far from least, have good sanitation procedures in place for your salon and practice them religiously.

Be alert for the subtle signs of diabetes. In the new age of managed medical care you will be seeing more diabetic pedicure clients as insurance companies deny “routine foot services” as a benefit.

It is therefore necessary that you be more knowledgeable about conditions that can affect the foot.

### ***So...if you choose to service a diabetic client***

As previously mentioned, **we don’t recommend** servicing diabetic clients as a Nail Professional or a DCNS, but rather still encourage you to refer them to a podiatrist or physician for their hand and foot care. There are many instances where this is the best course of action. However, if you do choose to do so YOU MUST follow these guidelines in order to work professionally and safely:

- Have a full understanding of what diabetes is, the health complications that diabetics face that can affect professional nail care.

- Have a frank and honest discussion with your client about their current health including their diabetes history. Explain to them in detail how you perform your services and what implications this may have on their services.

- Make sure you take full history and perform a thorough physical examination of their hands and feet to determine the current health of their hands and feet. If you observe any issues (open sores, thinning skin, nail plate deformities and lack of sensation with their hands or feet) then we highly recommend **not** proceeding with the service.

- Create a specialized service that avoids:

- tepid water or oil soaks
- avoid the use of all sharp implements (cuticle nippers, pushers, scissor etc.)
- avoid the use of exfoliants or 'sloughing' products
- avoid non-diabetic friendly creams or oils
- avoid tenuous massage techniques
- avoid any abrasion or cutting to the skin
- have emergency procedures in place if such an accident occurs

- Have your client sign off on your Assessment and Consultation form acknowledging that you have discussed the risks involved in having you perform their service, and therefore holds you to no liability.

- And finally, never feel obligated to perform a diabetic service if you see or feel there are health complications that may affect the service. You are the professional and a part of being a professional is to realize when you are qualified to perform a professional nail service and when you should not!

