



## Thank you for booking the **Nails Course**

If you do not hold any nail services Anatomy and Physiology qualifications, please read the relevant sections of the manual. If required a bound copy will be available for you on your course day.

### **Please read the following instructions relevant to your course:**

#### **Gel Polish, Basic Gel Extensions or Basic Acrylic Extensions**

Please read sections 1,2 & 3c & 4.

Remove all nail enhancements and gel polish before attending.

#### **Manicure/Pedicure**

Please read all sections.

Remove all nail enhancements and gel polish before attending.

#### **Nail Art/Design**

Please read sections 1,2 & 4.

You will be working on practice tips.

#### **E File**

Arrive with a full set of acrylic or gel extensions.

If you have an e file machine, please bring it along.

**Please note: Students work on each other, if there is any reason why you feel you cannot be a recipient of the treatment then you must let us know.**

*Non-refundable deposit of 50% payable on booking. Payment in full if booked 7 days or less before the course date. Balance payment will be taken from your credit/debit card on the last working day (working days are Mon-Fri) before your course date. Please see T&Cs on our website for more information. [www.dragonflyacademy.co.uk/t-cs/](http://www.dragonflyacademy.co.uk/t-cs/)*

## **The venue**

Dragonfly Academy, Vichy House, 264a Monkmoor Road, Shrewsbury, Shropshire, SY2 5ST

Please see directions on the next page.

There will be tea, coffee, water and biscuits provided throughout the course. There are shops around where lunch can be bought but you can bring your own if you prefer.

If you require any further information, please do not hesitate to call us on 01743 354800/07974 300139.

Kind Regards

*Donna*

Donna H Law  
CEO

## Venue Directions

### Dragonfly Nail and Beauty Academy

Vichy House  
264a Monkmoor Road  
Shrewsbury  
Shropshire  
SY2 5ST

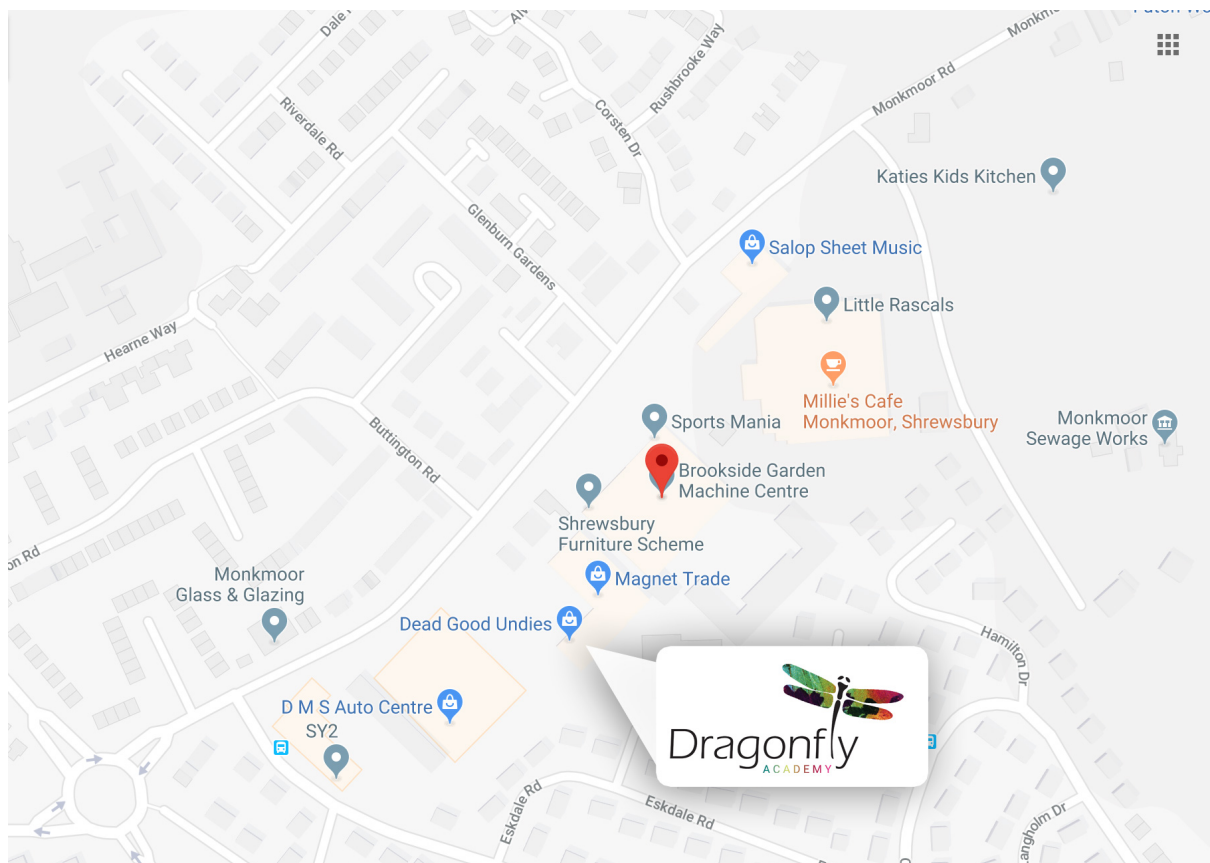
Satnavs do not find the exact building.

Please follow signs for Magnet Kitchens. Once you are in the car park look for the tall building with green window frames. Parking is free.

**Pre-Course Phone Line: 01743 354800**

**\*ONLY AVAILABLE 30 MINUTES BEFORE COURSES START\***

Please call this number if you need help finding us for your course



# nail services

## unit one



Dragonfly  
nail & beauty  
academy

# Welcome to the Dragonfly Academy Manicure/ Pedicure/Nail Services Course.

## Unit 1 – In this section we will be looking at the following:

1. Salon skills
2. Health and safety
3. Anatomy and Physiology
  - Hand and lower arm (a)
  - Foot and lower leg (b)
  - Anatomy of the nail (c)
  - The structure of the skin (d)
4. Contra indications and Contra actions

**Please read the appropriate sections relative to the course(s) you are studying.**

As part of your course you will need to take a short multiple choice test.

### Manicure

Sections 1, 2, 3(a), (c), (d)4

### Gel nail extensions and UV Gel Shellac

Sections: 1, 2, 3(c) and 4

### Pedicure

Sections 1, 2, 3 (b), (c), (d)4



# section 1 - salon skills

If you are offering manicures, pedicures, false nail services or maybe all 3; in order to be recognised as a good industry professional you will need to develop your salon skills. Some of these skills may seem obvious and easy to achieve, however you would be surprised how many nail technicians spoil what would be otherwise be an excellent treatment by a lack of attention to salon or personal detail. The next few paragraphs will outline some important points to ensure the service you offer your clients has the 'wow' factor so that they return to you again and again.

Attitude and personal appearance will most likely be the first thing your client judges you on. Make sure you are wearing a clean uniform. Even if you are a mobile technician it is not professional turning up at a client's home in jeans. This may seem an old fashioned view, however a freshly laundered uniform, or at the very least a tabard speaks volumes about you.

Ensure your hair is clean and tidy, tied back if long and your nails are always clean and well groomed.

Your surroundings if you work in a salon need to be pristine, clean kitchen towel on the table for each client, table, trolley, floor, waste bins etc should be wiped during the day if necessary and always disinfected at the end of each day. If mobile make sure your kit is always clean and tidy, try to invest in a professional box to contain your products and equipment.

Be prompt for your appointments and be well prepared for your client's treatment, with everything you need to hand.

# section 2 - health and safety

## Chemicals and safety procedures

Nail products are chemicals, (even water is a chemical), which can be misused and cause harm. If chemicals are used properly by following the manufacturer's instructions then they are safe. If nail products are used or handled without paying attention to correct procedures then you are not only putting yourself, but also your clients health at risk.

Use these five warning symbols as a mental checklist to help you develop awareness of the health and safety and chemical labelling.



**Toxic**



**Corrosive**



**Explosive**



**Flammable**



**Irritant**

## Safe use and proper storage of products

You will be using a range of manicure and pedicure products and all of them are completely safe if used in the correct way and stored appropriately. Good storage is also a must to maximise the shelf life and to have good economical practice. To work safely with nail and skin products you should:

- Always read the caution notes on the bottle or packaging
- Always read the MSDS or COSHH sheets
- Always be aware of the correct accident procedures
- Be aware that vapours and dust can collect behind contact lenses
- Always use correct techniques and safety measures
- Always follow the manufacturer's instructions.

## Safe use and storage of tools

Tools need to be used with care and attention:

You will have a range of tools in your kit and these not only need to be kept clean and stored correctly but be used in a correct and safe manner. Clumsy use of certain tools can cause a lot of damage. For instance files and buffers can be as sharp as any knife and is the most common cause of cutting a clients skin. The way to avoid harming your client is to develop good tool control techniques. By mastering these skills you will be able to work quickly and with precision.

## Storage of chemicals

Manicure and pedicure products must be stored and disposed of in a way that minimises the risk of an accident. Many of the products are flammable, and the storage area will contain the highest concentration of products thus making it potentially the most dangerous part of the salon.

Keep the MSDS sheets and suppliers contact details nearby. Keep a first aid kit and fire extinguisher in the storage area and learn how to use them!

## Safe disposal of used and unwanted products.

You should check out with your local council if they have any particular rules and regulations on the disposal of chemical or hazardous waste. You can get information on the Health and Safety Executive [www.hse.gov.uk](http://www.hse.gov.uk) website and also apply for any brochures and booklets that you feel would be useful. Here are some general guidelines on safe disposal procedures:

- Never tip products down the sink or toilet as this could not only damage plumbing but is not environmentally friendly
- Always use bins with plastic liners for waste
- Always empty bins every day
- Tip unwanted liquids onto absorbent tissue and dispose of safely.

Most health and safety is a matter of common sense. Remember never to put yourself, your client or those around you at risk.

## Correct health and safety procedures

Health and Safety in general is a very important part of our job and it is our duty to look after ourselves and make sure our working environment is safe for our clients and colleagues. You will need to consider the following when commencing your career as a nail technician.

- Overexposure
- Ventilation
- PPE (Personal Protective Equipment)
- Housekeeping and good practices
- Cross contamination
- Sanitation, disinfection and sterilisation procedures

So let's look at what these subjects mean to us as manicurist and pedicurist:

### Overexposure

The body has a limit to how much exposure it can take, whether it is to the sun or to the chemicals that we use. There is a safe level of exposure and when it is exceeded the body will react. So how can we as professionals avoid over exposing our clients or ourselves

There are three main ways that substances are taken into the body:

- Inhalation
- Absorption
- Ingestion.

These are known as "routes of entry" into the body. Overexposure can cause a variety of problems such as:

- Headaches
- Sickness
- Dizziness or fainting
- Fatigue
- Coughing or irritation to the respiratory system.

### Inhalation

You will need to take care to maintain the quality of the air in your work area. Some of the products you will be using may release vapours that if left to build in the air could be dangerous so you need to make sure you have a fresh supply of air. This can be through an open window or a ventilation system. Don't work directly over open baffles or jars. Ensure all bottles and pots you are using have the lids securely closed

## **Absorption**

This can be through the skin or the nail plate. You need to ensure you do not constantly over expose yourself or your client with the chemicals you are using. Use appropriate amounts of product. Only work on the nail plate and try not to get products on the soft tissue surrounding it. If you or your client get any itching, redness, rashes or sores then you will need to seek a doctor's advice.

## **Ingestion**

This can be simply not washing your hands before eating and can be easily prevented by good housekeeping. Always make sure you wash your hands before and after any services. Always use clean kitchen roll and towels.

## **Ventilation**

If you are working mobile then make sure you are working near an open window or somewhere with a fresh air supply. If in a salon it is the owner's responsibility to ensure you are working in a safe environment. Working as a manicurist, nail tech or pedicurist and with most of the products we use it is very unlikely that you would overexpose yourself by inhalation just make sure you use safe working practices.

# section 3 - anatomy & physiology

## the structure of the skin

**(d)** The skin is constantly working, regulating other body processes and protecting us from micro-organisms, UV exposure, chemicals and allergens. It needs to be kept in good condition at all time. You need to know the structure and function of the skin to help you understand how to keep your clients skin in good condition.

The skin is divided into two layers:

- The epidermis - top layer
- The dermis - bottom layer.

Underneath the skin is the subcutaneous tissue, which serves to anchor the dermis.

### The epidermis

The epidermis is made up of five layers of tissue that contain no blood vessels and very few nerves. Hair follicles and the ducts of sweat and sebaceous glands run through it. The five layers starting from the bottom are called:

- Stratum Germinativum (basal layer): These cells are packed tightly together and are constantly being reproduced. They form the deepest layer of the epidermal layer that rests on top of the dermis.
- Stratum Spinosum (spiky layer): This layer is composed of several layers of cells that vary in size and shape. It is more commonly known as the prickle cell layer as it is linked by very fine threads which give it a spiky appearance.
- Stratum Granulosum (granular layer): As these cells get nearer the surface they flatten and become larger. It has between one and four layers.
- Stratum Lucidum (clear layer): This layer has no nuclei and is transparent with very little outline. These cells are at the end of their life cycle and are becoming dehydrated.
- Stratum Corneum (horny layer): This is the outermost layer of the skin and is composed of several layers of flattened cells. This layer is composed almost entirely of keratin. This layer protects the skin and prevents dehydration of the skins tissues. it takes around 3-4 weeks for cells to reach this level from the stratum germinativum.

### The dermis

The dermis lies immediately beneath the epidermis and contains blood vessels, lymph vessels, nerves, sweat and sebaceous glands, hair follicles, arrector pili muscles and papillae. The dermis itself is comprised of two separate layers:

- Papillary Layer
- Reticular Layer.

The papillary layer lies under the epidermis and contains small cone like projections that extend up and into the epidermis called papillae. Papillae contain small blood vessels or nerve endings.

The reticular layer is the lower area of the dermis. It has a dense network of collagen fibres, which run parallel to the surface and give the skin its elasticity. It contains blood and lymph vessels, sweat and sebaceous glands, hair follicles and arrector pili muscles.

### **The subcutaneous tissue**

The subcutaneous layer is made up of fatty tissue, commonly described as adipose tissue. This layer anchors the skin and acts as a protective cushion for the body. It also stores fat to be burned for energy. It varies in thickness according to age, health and sex of the body.

It contains the following:

- **Blood Supply:** A network of arteries that branch into smaller capillary networks around hair follicles, sebaceous and sweat glands. The capillary network is responsible for transporting oxygen and food to the living cells. The amount of blood flow is controlled by the nerve endings in the capillary walls.
- **Lymph:** Drains away tissue fluid containing waste products from cell activity and foreign bodies such as bacteria.

### **Nerves**

A nerve sends a message from an organ to the central nervous system. There are two types of nerves within the skin structure called 'motor' nerves and 'sensory' nerves. Four sensations can be experienced through the skin and these are:

- Pressure
- Touch
- Pain
- Temperature.

All sensations are due to the network of sensory nerves and receptors within the skin. Those that register pain can be found in the lower epidermis. If for instance your skin is cold, the brain instructs the arrector pili muscle to contract and trap air next to the body for warmth, we call this action "goose bumps".

## The functions of the skin

The skin is the largest organ of the body and covers an area of up to 1.3 - 2 sq metres depending on the size of the person. It has a number of jobs to perform to help keep the body in good order. There are six important functions to the skin's daily routine:

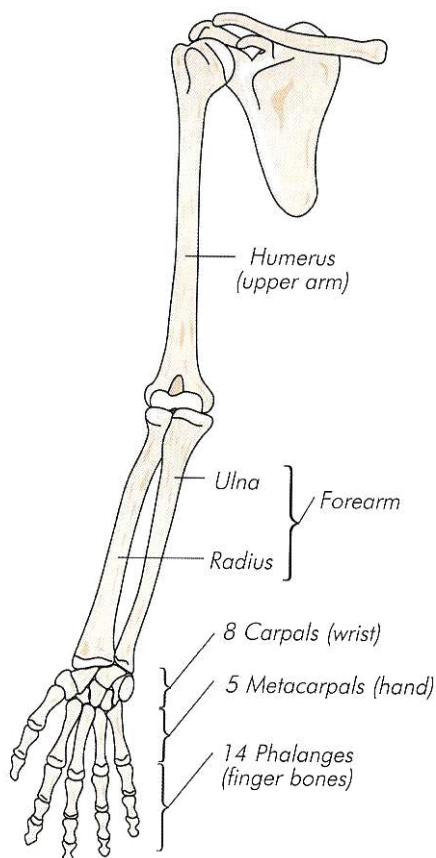
- **Sensation** - a response to pain, pressure and temperature
- **Heat regulation** - a response to hot or cold
- **Absorption** - limited absorption of certain chemicals
- **Protection** - it protects us from injury and is waterproof and antibacterial
- **Excretion** - this is perspiration through sweat glands
- **Secretion** - sebum is secreted from sebaceous glands.

You will see that the initials of each word spells "SHAPES". This is a good way to remember functions. It is part of our work as a manicurist/pedicurist to educate our clients on how they can maintain healthy skin on their hands and feet so it is important for you to know the structure.

## Hand and lower arm

### (a) and (b) The Skeletal System

The skeletal system is the frame that supports our body and our bones are living growing structures. You need to have some knowledge of the skeletal system as you may come across conditions that contraindicate a treatment, or conditions where a good manicure or pedicure routine would prove to be effective.



### (a) Bones of the hand and arm

**Humerus:** the long bone which extends from the shoulder joint down to the elbow.

**Ulna:** slightly larger than the radius and runs down the arm from the elbow on the side where the little finger is situated,

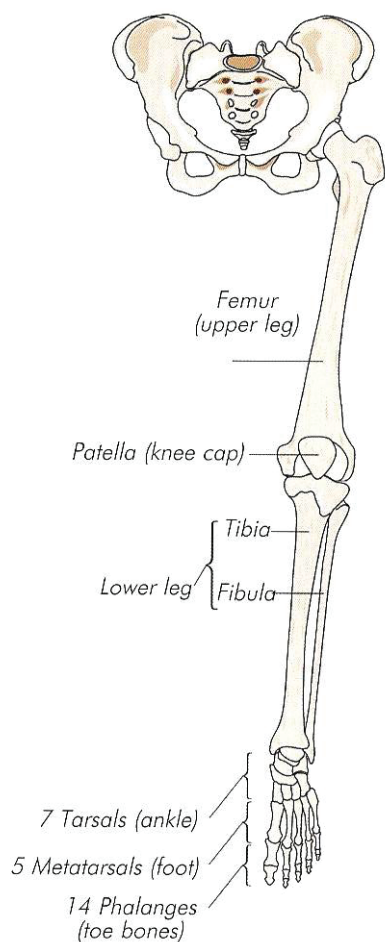
**Radius:** The radius runs down the arm from the elbow on the side where the thumb is situated. The ulna and radius form a joint at the elbow and at the other end a series of joints that connect with the bones of the wrist.

**Carpals:** Are a group of eight bones that form the wrist. The bones are arranged in two rows of four. The lower four form a joint with the bones of the palm.

**Metacarpals:** Are the bones in the palm of the hand. There are five long bones one relating to each finger.

**Phalanges:** Are the small bones that make up the fingers. There are three in each finger and two in the thumb making a total of 14.

## (b) Bones of the foot and leg



**Femur:** This is the long bone running down from the thigh it extends from the hip to the knee.

**Tibia:** Is a long strong bone situated towards the middle of the leg and its function is to support body weight as well as being used for muscle attachment. It forms a joint with the ankle.

**Fibula:** Is a long slim bone towards the outer side of the leg. Its main function is for muscle attachment and extends from the knee down to the ankle.

**Patella:** Is a flat bone situated at the knee joint and is commonly known as the kneecap it is embedded in tendon and does not form a joint to any other bones.

**Tarsals:** These are seven bones that make up the ankle and are slightly larger than the carples in the wrist

**Metatarsals:** These are five long bones that make up the length of the foot. They connect the ankle and the bones of the toes.

**Phalanges:** These are the 14 bones that make up our toes. There are three in each toe except for the big toe, which has two. It is common for the bones in the little toe to fuse together

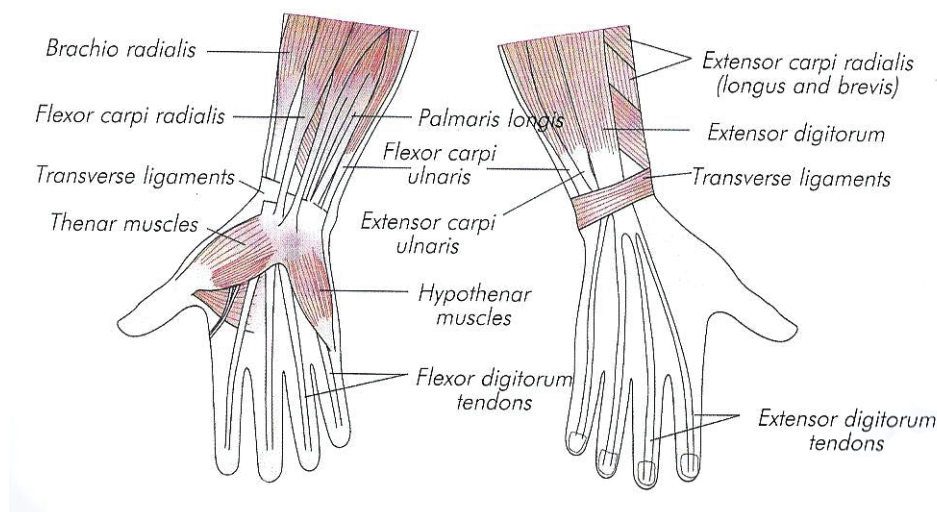
## (a) and (b) The muscular system

It is impossible for the body to move without the contraction of muscles. The muscular system has four main characteristics:

- The ability to shorten (or contract)
- The ability to stretch when relaxed
- The ability to return to its original shape (elasticity)
- The ability to respond to the nervous system.

Muscular movements aid the flow of blood through the veins and a liquid called lymph through the lymphatic system. It is important for us to have some knowledge of the muscular system to be able to perform effective treatments. You will be performing massage on the different muscle groups in the arms/legs and this can help certain conditions that your client may be suffering from. You work on skeletal muscle groups in manicure/pedicure treatments.

## (a) The muscles of the hand



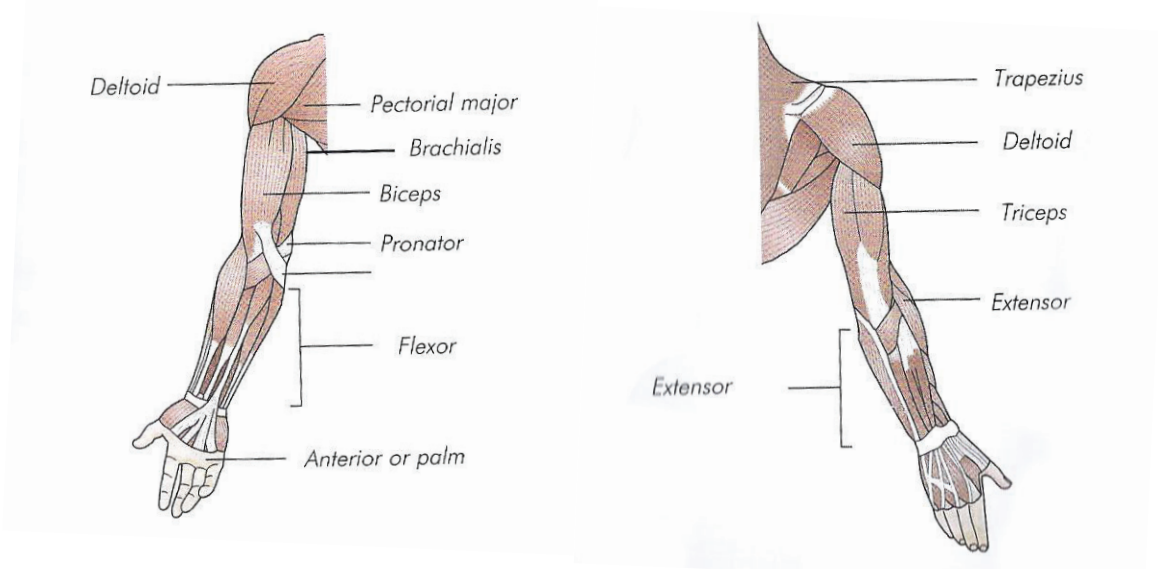
There are three main muscle groups in the hand:

**Hypothenar muscle:** Is positioned in the palm of the hand and is attached to the carpals, metacarpals and the phalanges of the little finger.

**Thenar muscle:** This muscle is also positioned in the palm of the hand but attaches to the thumb, metacarpals and the carpals.

**Mid Palm Group:** These muscles are in the centre of the palm below the middle three fingers. They are attached to the carpals, metacarpals and phalanges of the middle three fingers.

## (a) The muscles of the arm



There are seven muscle groups in the arm:

**Biceps:** Are found in the upper arm above the elbow and is attached to the scapula of one end and the radius at the other

**Brachialis:** This muscle is found attached to the humerus and ulna across the elbow

**Triceps:** Is found at the back of the upper arm and attached to the scapula and humerus at one end and the ulna at the other

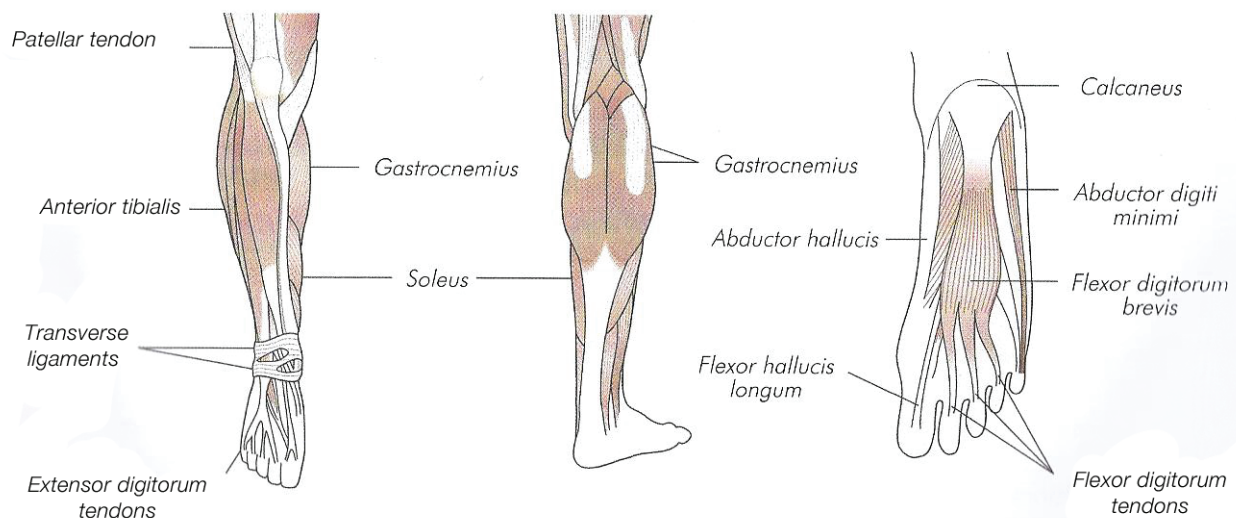
**Supinator:** Is found at the lateral aspect of the lower humerus and radius

**Flexors:** Are found at the medial aspect of the forearm and are attached to the lower humerus, radius and ulna at one end and the metacarpals and phalanges at the other.

**Pronators:** Are found at the medial aspect of the lower humerus and radius.

**Extensors:** Are found at the lateral aspect of the forearm and are attached to the lower humerus, radius and ulna at one end and the metacarpals and phalanges at the other.

## (b) The muscles of the lower leg and foot



The lower leg and foot have seven muscle groups:

**Gastrocnemius:** Is in the posterior aspect of the lower leg and is the main calf muscle. It is attached to the lower part of the femur at the back of the knee and to the ankle.

**Soleus:** Is under the gastrocnemius in the calf and is attached to the fibula and tibia at one end and across the ankle to the calcaneum.

**Tibialis anterior:** Is along the skin at the anterior of the lower leg and is attached to the tibia at one end and the cuneiform and first metatarsal at the other.

**Tibialis posterior:** Is found at the back of the calf and is attached to the tibia and fibula at one end and the navicular bone at the other.

**Peroneus:** Is a group of three muscles found at the back of the lower leg and is attached to the fibula and across the ankle to the underneath of the first and fifth metatarsals.

**Flexors of the toes:** Are deep in the back of the lower leg and are attached to the tibia and fibula at one end and the phalanges other.

**Extensors of the toes:** Are in the anterior and lateral aspects of the lower leg attached to the tibia and fibula and the phalanges of the toes.

# Anatomy of the nail

## The nail - Composition and Function

The purpose of the human fingernail is to protect the sensitive fingertip as well as a holding and touching tool.

### The Nail:

- Is a specially calloused convex dorsal component of finger and toe skin.
- Is composed of a pocket-like indentation of the epidermis on the back of finger and toe joints
- Forms, with the surrounding tissue, a functional unit for touching and holding
- Is composed of 3 layers: the dorsal nail = calloused keratin, intermedia nail = soft keratin and the ventral nail = nail bed keratin.

## Nail Knowledge

Nails are durable plates, built up of layered levels of calloused tissues.

The nail plate is tightly connected by a number of growing cells. Its upper layers are created by the cell of the nail matrix. The lower layer occurs due to the callousing of the epidermis cells of the nail bed.

The keratin in the upper layer is very hard and durable.

Nail growth differs from hair growth in that the nail continuously grows but hair growth occurs in phases. Vertical nail growth (length) primarily occurs from the matrix, while horizontal growth (width) occurs from the nail bed.

## Summery

The nail's main function is to be a protective plate for the finger and toe endings. Its main constituency is keratin, a protein containing a high proportion of sulphur and a relatively low amount of calcium. Natural nails should have a moisture content of about 18%. The nail plate extends from the cuticle to the free edge. The plate is made of layers of keratin cells attached to the nail bed. The lower layers of keratin are softer, the surface harder. The plate itself does not contain any nerves or capillaries.

## Nail Growth

The average growth of healthy finger nails varies. In general fingernails will grow 1mm per month and toe nails, 5mm per month.

There is a gradual slowing of growth with age and physical condition.

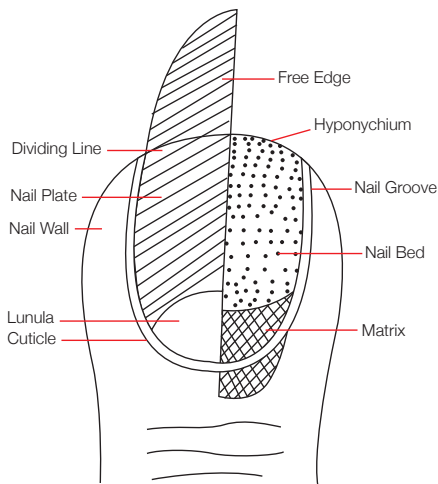
The nail plate replaces itself approximately every 5-6 months (fingernails), and every 6-12 months for toe nails, and grows faster in summer than in winter. Growth and condition of nails depend on general health, proper circulation and adequate supply of minerals in the body.

## Nail Blood Supply

A strong healthy nail is dependent on a good blood supply. Under normal conditions there is enough supply of blood to nail bed and fold.

The blood vessels are quite exposed and are likely to go in to spasms in cold weather.

Under these circumstances the nail will probably become thin and ridged and in extreme cases will split along those ridges.



## The Matrix -Nail Root

The matrix - nail root produces keratin cells which harden and grow into the nail plate itself. It contains blood capillaries and nerves, therefore it is very sensitive. If the matrix is damaged, the nail will no longer grow or will grow deformed.

## The Half Moon - Lunula

Lunula connects the matrix and root area to the bed. The nail is not solidly attached to the matrix, only in connection with the lunula. This contact creates a half-moon shape (white area at base of nail)

## The Nail Bed

The nail bed lies under the nail and contains nerves and capillaries, therefore it is very sensitive. The capillaries reflect through the nail giving it a pinkish colour. The nail bed extends from the root to just under the free edge of the nail.

## The Free Edge

The free edge is the part of the nail that is completely free of the nail bed, providing protection to the finger tip.

It should be filed from the left or right corner to the centre and not from centre to corners. This could cause the nail to split.

## Hyponychium

The point where the nail actually leaves the nail bed is a layer of skin called the Hyponychium.

It is important not to clean nails deeply under the free edge, tearing the Hyponychium from the nail plate. This could be painful and could create an infection, because bacteria would have an easy access to enter our body.

## Lunula

The border of the matrix is called the lunula (little moon). This area is more or less clearly visible at the edge of the nail plate. The light colour is due to the fact that the nail which is growing out of the matrix exerts pressure on the layers underneath, thereby reducing blood circulation.

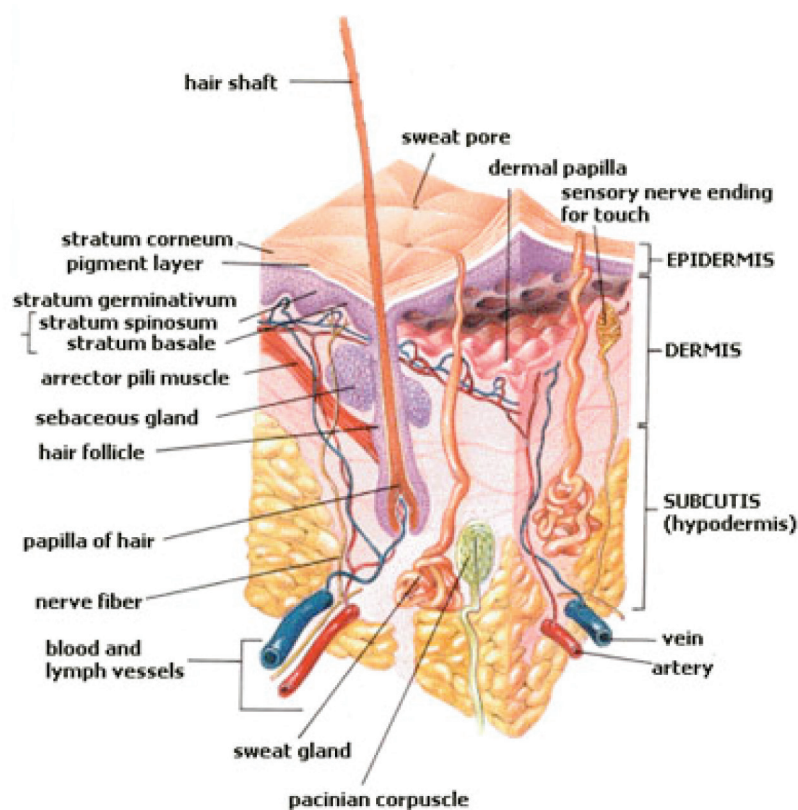
## Nail Wall

The nail wall is a fold of skin that completely surrounds the nail at the edges. The nail wall can be subject to mild infectious injuries when clipping or cutting the calloused edge.

## Nail Groove

Between the nail wall and the nail plate lays the nail groove. In normal circumstances, the fold protects the nail bed against dirt and bacteria due to the pressure of the skin.

The cuticle grows from the nail wall onto the nail and creates a transition zone from the nail fold, the nail wall and the nail itself in the form of the nail pocket. Removing the cuticle causes the nail pocket to be opened and the nail fold to be exposed.



# section 4 - contra-indications and contra-actions

A “Contra indication” is a condition that will affect the treatment you want to provide. You need to know about the conditions and diseases that can affect your client’s body, nails and skin. Some conditions are common and others you may never see but as manicurist or pedicurist you need to be aware of them so that you can offer advice and carry out manicure, pedicure and other nail services safely. NEVER diagnose a condition yourself just simply refer your client to their GP. Always check for contra indications at the consultation and if any are present do not carry out the treatment. If you are performing a massage within your treatment you need to look out for problems that would prevent you performing such a service. For example you wouldn’t massage an area of varicose veins.

## Contra indications

Contra indications can be split into three groups:

**General** - These affect the whole or major part of the body

**Local** - Located in a particular area

**Temporary** - Short time span and will clear quickly.

Any nail or skin disease, some disorders and certain medical conditions could contra indicate a treatment.

Here are some examples of common general contra indications:

- Heart conditions
- High or low blood pressure
- Medication
- Diabetes
- Epilepsy
- Cancer
- Advanced rheumatism and arthritis
- Undiagnosed lumps and bumps
- Loss of skin sensation
- High temperature
- Migraine or severe headache
- Varicose veins
- Deep vein thrombosis
- Disorders of the nervous system.

### **Examples of local contra indications:**

- Skin or nail diseases. eg. Fungal infection (athlete's foot)
- Skin or nail disorders
- Advanced psoriasis or eczema
- Recent injuries
- Recent operations
- Recent scar tissue (under 6 months old).

### **Examples of temporary contra indications:**

- Medication
- Severe bruising
- Skin cuts and abrasions
- Pregnancy (the first semester)
- Skin or nail diseases
- Skin or nail disorders
- Flu, colds and severe chest infections.

### **Contra indications that restrict treatment**

You may find from the categories above that you can adapt your treatment around certain conditions. For instance if you have a manicure client with a bruised nail then you may just miss out working on that finger. If you had a pedicure client with a varicose vein you could miss out the massage but carry out the rest of the pedicure routine. The rule is never to work on any condition that is contagious or on any medical condition that could be made worse or without doctor's permission. Some doctors promote holistic therapies to their patients to help their general well being but always get written permission if this is the case. Here are a few contra indications that manicure and pedicure treatments could be adapted around:

- Damaged nails
- Bruised nails or skin
- Hangnails
- Severely bitten
- Minor non-contagious skin conditions
- Pregnancy
- Psoriasis and eczema
- Broken bones and scar tissue.

## **Diseases and Disorders of the nail**

### **Disorders**

These can usually be worked on however if you are in any doubt refer your client to the GP.

### **Atrophy of the Nails - Onychatrophia**

This disorder is the wasting away of a nail. It loses its appearance and may shed entirely away. Strong soap or chemicals and an injury to the Hyponychium can cause this disorder; it is often mistaken for a fungus. Mild cases may be worked on with regular but very gentle procedures.

### **Blue Nails - Onychocyanosis**

These nails have poor blood circulation which causes the nails to turn blue. These nails can be worked on routinely but your client should be referred to a physician to treat the cause.

### **Bruised Nails - Haematoma**

A black or blue mark appears under the injured nail plate (e.g. finger got caught in closed door) from dried blood in the bed. A new nail will grow if the matrix is not damaged, in other words, the "bruise" will just grow out. If the nail is not separated from the nail bed or loose, an artificial nail can be applied.

### **Corrugations**

Corrugations are wavy ridges or furrows across a nail. These ridges can be caused by illness, diet or emotional stress. Also, these furrows can occur through injury to the cells close to the matrix, as well as using too much pressure with a cuticle pusher. You may work on these nails, by buffing down the ridges.

### **Eggshell Nails - Onychomalacia**

These nails are soft, thin white and curve down at the free edge. This condition can be caused through illness or poor diet. Being soft and very thin, great care must be taken working on them.

### **Fissures**

Fissures are painful cracks in the skin at the nail corners. Treat with cuticle oil and regular moisturising manicures.

### **Hangnail**

This is the simple term for splits in the perionychium (nail wall).

Regular use of cuticle oil will help keep the cuticle and nail wall soft, preventing further splitting.

### **Ingrown nails - Onychocryptosis**

This disorder occurs when the nail grows into the nail wall. This mostly happens due to improper cutting or filing too far into the wall. A proper manicure/pedicure can relieve this condition; although the client should be referred to a physician.

### **Lamellas Dystrophy**

This disorder is a very common complaint. The nail splits horizontally and part of the surface breaks off behind the free edge of the nail. Again the most common cause is the frequent wetting and drying of nails.

Cuticle oil and special nail regenerators used daily will relieve this condition.

### **Nail Biting - Onychophagy**

Nail biting can be more serious than it actually sounds. If the nail is bitten right back to the cuticle and the cuticle itself is damaged, there is a great risk of infection. Although nail biting often increases the rate of the nail growth over a long period of time it can create considerable damage to the shape and growth and general structure of the nail.

Nail biting, being an addiction like smoking or drinking, will take a qualified Nail Technician to help the client overcome this habit.

Weekly check - ups as well as short artificial nails are recommended for the first few months of a treatment.

### **Overgrowth of the Cuticle - Pterygium**

When this disorder occurs the nail grows out and the cuticle grows with it over the nail plate. Simply apply cuticle oil to soften the cuticle allowing it to be pushed back. Excess skin can be clipped away.

### **Overgrowth of the Nail Length or Nail Thickness - Onychauxis**

Usually recognized by extreme curvature of the nail. This disorder is caused by injury or internal local infection. These nails can also be hereditary. The thickness can be reduced by buffing the nail with pumice. You are able to apply an artificial nail.

### **Ridges - Secleronychia**

Ridges on the nail surface are usually caused by injury or illness. The nail becomes thick and dry. They can be buffed down. Base and Topcoat treatment is suitable and available for this type of nail.

### **Split, brittle Nails - Onychorrhexis**

This disorder is caused by a continued change in the moisture content of the nail. In addition, careless filing, excessive use of cuticle solvent or strong soap and chemicals e.g SLS (sodium laureth sulphate, contained in liquid soaps, shampoos and household detergents) can cause splitting, brittle nails.

### **White Spots - Leuconychia**

This disorder can be caused by a zinc deficiency or incomplete hardening of the nail, which means that these areas are not adhering to the nail bed. When nails are damaged due to a bad manicure or daily abuse, air could be trapped between nail layers of the showing as white spots.

There is no method of correction. Avoid putting too much pressure on these nails and normally the spots will disappear after 2 - 3 weeks or will grow out.

### **Nail Diseases**

These should never be worked on, refer your client to the GP and only resume treatment when the condition has disappeared

### **Nail separation- Onycholysis**

There are a number of diseases, a fungus or internal illness that can cause this condition. It usually starts in the nail bed under the free edge and can spread to the half moon without the nail falling off. Heavy stress to the nail (usually when natural nails are very long) can create this condition or when a sharp object pushes the protective Hyponychium back, tearing it lightly, allowing bacteria or yeast to enter the nail bed.

### **Nail Plate Infection - Onychia**

Inflamed tissue with pus appears at the nail base. Pulling away loose cuticle, unsanitary instruments can implant bacteria causing this contagious disease.

### **Perionychium Infection - Paronychia**

Is a deep inflammation around the base of the nail. This could be caused by bad manicuring or picking or biting the skin. The loss of cuticle allows the space between the nail fold and the nail plate to become infected with bacteria. It is contagious.

### **Ringworm- Onychomycosis**

A ring worm of the nail has nothing to do with worms and rarely has a ring shape. It is caused by a fungus. See Fungus below.

### **Fungus**

Fungus is a general term for a vegetable parasite. Fungi can deform the natural nail in a number of ways if they are not treated immediately. The infection reaches the nail plate from the nail bed; the earliest sign is usually a brownish discolouration at the edge of the nail. The nail plate may separate from the nail bed, or white patches can form on the nail plate when the nail has cracked, resulting in small pockets of air in the plate itself. It can also present as an infection of the skin which is often itchy and very contagious. The nail becomes discoloured and thickened and should be treated by a physician, or the nail may fall off. It is highly contagious.

Nails with a suspected fungus infection should not be worked on; rather the client should be referred to a physician.

## **Mould/Bacteria**

Mould is an infection caused by an artificial nail lifting from the natural nail allowing moisture and dirt to be trapped in a pocket.

Mould shows as a green spot usually under the artificial nails but can also be found on natural nails coated with polish. Mould appears when moisture, air and heat combine causing a perfect breeding ground for germs.

With any covered nail (polish or acrylic) the natural moisture content of the nail rises. Natural nails have a moisture content of approximately 18%. Mould can grow when exposed to 23-25% moisture content.

When a mould is recognized, remove any artificial product. Treat nail with an antiseptic.

Mould can be contagious, but not dangerous if proper procedures are followed.

Be sure to sterilize all implements after treating a mould. Throw files away.

However, problems can be prevented if clean proper application procedures are followed and your customer is well educated by you about aftercare.

## **Allergic Reactions**

The first symptom of an allergic reaction is an inflammation of the cuticle, soreness, and puffy flesh with small blisters that burst and then dry out. In the advance stage, the nail may also become extremely painful, turning brown and lifting from the nail bed. After treatment, the nail will continue to grow and re-attach itself to the nail bed. These symptoms are often attributed to an allergy to artificial nails when they could well be signs of an infection to the cuticle.

It is, therefore, very important to check for any abnormalities before any treatment is performed.

If there appears to be an allergic reaction, any false nails should be removed and the client referred to their doctor.