

HIGH FREQUENCY

REFERENCE MANUAL

professional
carlton.

Setting the standard in electrotherapy equipment



A professional electronic unit for the beauty salon supplied with five perspex electrodes. The sophisticated Carlton High Frequency current changes up to 200,000 times per second and the circuitry intensifies the mains voltage up to 150,000 volts with only minimal amperage, giving tremendous benefit to the client.


We consider a purchase from Carlton Professional to be the beginning of a valued partnership

Welcome to Carlton Professional

Our business has manufactured professional beauty therapy equipment and furniture in the UK in our Sussex factory for over 40 years. In that time, our production has been used in the best training colleges around the world and many of the world's leading salon and spas.

Our range continues to evolve, with the addition of the very latest Carlton 'Concept' machines, that have seen the latest technologies of Radio Frequency and Electroporation added to our extensive range of treatment options. Our treatment product range that include specialist ampoules, ionised gels and serums, alongside pre and post treatment products perfected for every client, make Carlton Professional an affordable and profitable option for every salon and spa.



A close-up portrait of a smiling woman with dark, curly hair, wearing a dark top. The image is the background for the entire page.

By partnering with **Carlton Professional**, you will have the support you need to grow as an aesthetic therapist, and as a business.



Feel reassured about gaining insurance cover, receive adequate knowledge and training, offer clients cutting edge technology, and receive the support you need as a therapist.



At Carlton Professional we offer you finance opportunities on purchasing, full training with purchases, Marketing support and help, launch event, ongoing events.



Be sure to book your launch event in today to help get your Carlton Professional treatment courses selling, and your clients looking fabulous!

Why our stockists choose Carlton Professional

Carlton team

A team passionate about creating excellent products and delivering a great service

Carlton quality in product manufacturing

Innovative, user-friendly products based on international scientific research.

In-house research & development creating advanced products that deliver results.

Use of high-grade raw materials and concentrated active ingredients.
No animal testing. Mineral Oil, Lanolin, Artificial Fragrance and Formaldehyde are Not used in our products.

Insistence on highest standards of manufacturing practice and quality control.

Carlton professional training

Education and support from dedicated training professionals.

Access to first rate training materials and literature.

Additional online support offered via interactive website

Carlton pricing

Highly attractive profit margins on retail products and professional treatments, making it a very viable business proposition.

Support for your **Carlton** business

Regular newsletters.

Access to a dedicated business website.

Advice on your salon via our consultation service.

Carlton promotional strategies & marketing materials

Sophisticated high profile marketing campaigns.

Great range of branded goods, as well as training and marketing materials.

Flexible systems which can be adapted depending on the salon space available.

Free samples with selected purchases.



The structure of the skin

It is estimated that our skin is made up of around 70 trillion skin cells making it the largest organ of the body. It gives us our shape by supporting all of our internal organs, bones and blood and provides a waterproof covering. The thickness of the skin can vary, the thinnest skin is around the eyes and eyelids, and is approximately 0.5mm, the thickest skin is found on the soles of the feet and can be up to 4mm in thickness. The epidermis is a vascular, nourished by diffusion from the dermis below it.

Skin Structure - Epidermis

The epidermis is made up of six layers, each plays a different part, and these layers are called

Stratum Germinativum – This is the deepest layer of the epidermis, also known as the Stratum Basale. It is within this layer that a process called mitosis takes place. Mitosis means cell division and that's exactly what happens, the cells divide making more new fresh, plump cells, it is here when the cell are first created that they are at their most receptive. As this process of mitosis happens, the older cells start to move upwards through the layers towards the surface. In this layer, blood vessels connect to the dermis and this is where, through deep product penetration to the epidermis, we are able to communicate with the dermis via this layer. The Stratum Germinativum also contains melanocytes; these are melanin producing cells which provide the body its natural protection against harmful UV rays.

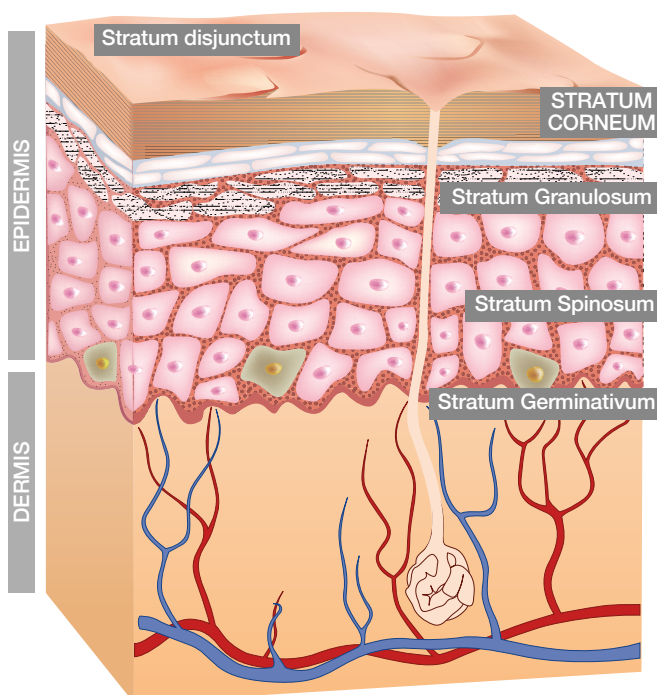
Stratum Spinosum– This is where the first stage of keratinisation takes place. Cells are pushed up from the Stratum Germinativum and begin to flatten slightly then start to synthesis keratin. This layer is also known as the prickly cell layer. Lipids are present in this layer; these lipids create a hydrolipidic barrier between the Stratum Granulosum and the Stratum Lucidum, which prevents dehydration.

Stratum Granulosum – Also called the granular layer, it is in this layer that keratinisation continues, the nucleus within the cells become void and starts to fill with keratin. The cells flatten further and continue to move up into the next layer.

Stratum Lucidum – This is a clear layer and has 2-3 layers of irregular clear flat cells. The Stratum Lucidum only tends to be found in thicker skin, therefore is commonly found on the soles of the feet and the palms of the hands.

Stratum Corneum - This layer is made up of between 15-20 layers of completely flattened cells, these cells are full of the protein keratin. This is the last part of the life cycle of the cell, which will eventually be shed from the skins surface. The keratin within these flattened cells, help to absorb water helping to keep the skin hydrated and preventing water from evaporating.

The Stratum disjunctum - This is the outer most layer and is part of the stratum corneum. The dead skin cells from this layer shed naturally over time. We lose between 30,000-40,000 dead skin cells from this surface daily, therefore the skin is constantly renewing itself. The desquamation process unfortunately slows over time the older we get.



The renewal of skin cells, or **Keratinisation**, on average takes 28 days, however, after the age of 36, your age represents the number of days the process of keratinisation takes.

Function - Epidermis

The whole process of a single cell moving up through the layers of the skin, takes approximately 28 days.

The epidermis is connected to the dermis by an undulating surface, due to this undulating surface; it gives a larger surface area, where all biological changes and nutritional exchange can take place. As we age, the epidermis and dermis start to separate, therefore causing all chemical reactions and processes to slow down quite dramatically, a classic example of this would be skin healing. When we are young, if we cut or graze the skin, it heals very quickly without too much trouble, however as we age, the process of healing can take much longer, meaning the skin is susceptible to infection. Therefore as we age, it is even more important to ensure we are taking care of our skin and treating it correctly.

The epidermis has a chemical protection called the acid mantle on its surface. The acid mantle is made up of sweat and sebum and these acts as a fungal and bacterial deterrent. The acidity of the skin helps to neutralise the chemical effects of contaminants, this is why skincare products are slightly acidic so as not to disrupt the skin's balance. Free radicals constantly attack our skin and can weaken this natural barrier; this is why it is so important to protect our skins from the sun.

Skin Structure - The Dermis

Within the dermis there are two layers, the lower layer is called the reticular layer, it is this layer that gives the skin its overall strength and elasticity, it has coarser elastin fibres and denser collagen bundles.

Above the reticular layer is called the papillary layer. This layer contains smaller looser collagen and elastin fibres. This layer has a rich blood supply and nerve supply which provides the basal layer (or Stratum Germinativum) of the epidermis with sensation and nutrients.

Function - The Dermis

Within the dermis are a number of specialised cells, all with important functions to carry out. Eccrine glands are the primary sweat glands of the human body; they produce a clear, odourless substance consisting mainly of water. Hair follicles are also found in this layer, attached to the hair follicles are little muscles called erector pili, these muscles lift the hair when the body gets cold to trap warm air and retain heat, and as you would expect, the muscles relax to flatten the hair to cool the body.

Nerves are also located in the dermis and enable the body to respond to pain, temperature, touch and pressure.

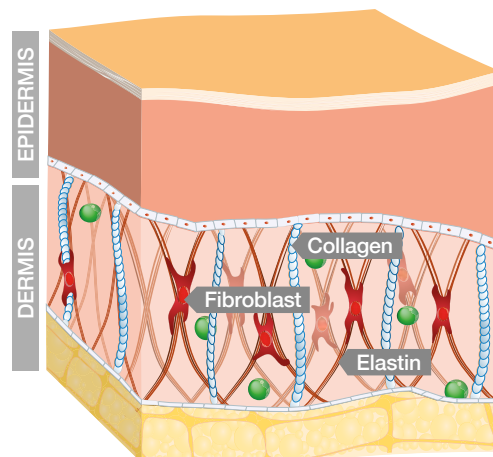
The proteins **collagen and elastin** are found in both layers of the dermis, but both have different effects on the body –

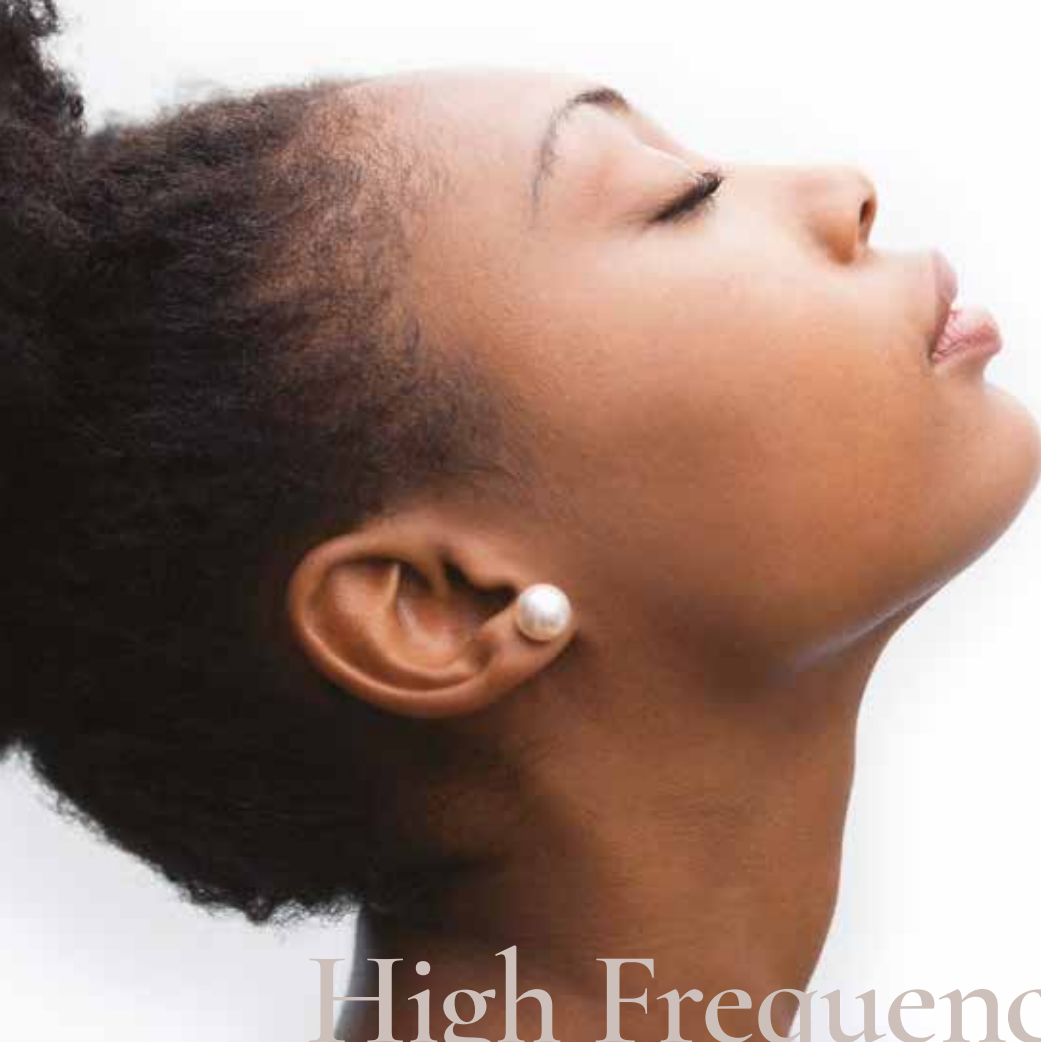
Collagen – Maintains the tone and structure of the skin because the molecules are rigid and

resistant to stretching. It is made up of three polypeptide chains wrapped around one another as a triple helix.

Collagen is formed in **fibroblasts** within the dermis, this can breakdown within the skin. The main cause of this is due to the enzyme Collagenase. This breaks down old collagen at a precise rate, however, this rate speeds up with sun damage, exposure to free radicals, age and UVA exposure (which is an inhibitor).

Elastin – Gives our skin resilience, keeping it toned, tight and springy. Like collagen it is produced by fibroblasts and forms a network of elastic tissue. The breakdown of elastin is what causes the skin to sag. Again, like collagen, elastin can also breakdown, the enzyme elastase is responsible for this breakdown under normal conditions, however with free radical attack, advanced ageing and sun exposure, this breaking down process will speed up resulting in an increased loss of elasticity within the skin.





High Frequency

High Frequency is an electrical treatment that can be used as a ***Direct High Frequency***, which is traditionally used to dry an oily skin, due to the antibacterial and germicidal properties of the Ozone which is produced. This method can also be used to stimulate the skin cells and sebaceous glands.

Alternatively, ***Indirect High Frequency*** is used to provide a warming, soothing massage, ideally suited to dry, dehydrated or mature skin.

Both methods can be applied to the face or body.

High frequency makes skin more receptive to topical acne treatments and destroys the bacteria that causes acne in the first place.

The high rate of oscillation increases blood flow and circulation to the area, renewing the skin cells and nourishing the surface. High frequency increases oxygen to the skin, improving the overall texture, tone, and glow. All of this promotes collagen stimulation and elastin production, providing a firmer and more youthful appearance.

The oscillation produced by high frequency aids in lymphatic drainage and helps to evenly disperse excess fluid. This pulsating action increases blood circulation under the eyes and results in a reduction of dark circles and puffiness. This circulation rush has been proven to be very effective in reducing these common signs of tiredness and aging, providing a brighter and more youthful appearance.

How does High Frequency work on the skin?

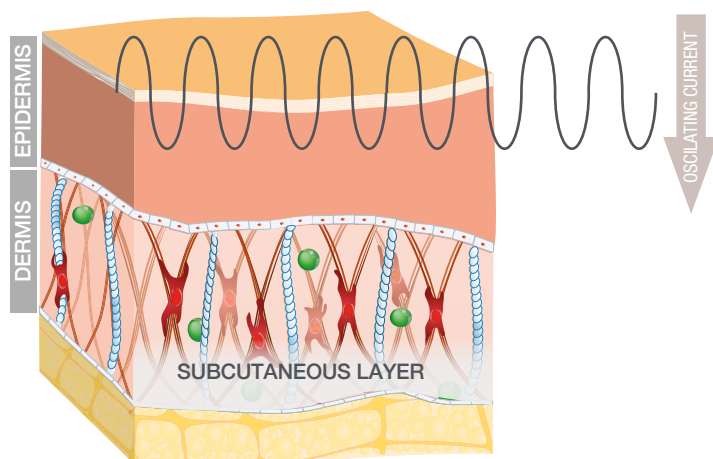
High frequency (also known as the Tesla high frequency current) was first developed in the late 1800's by renowned scientist Nikola Tesla. While it offers a number of functions, before the invention of 'modern' antibiotics it was largely used for medical purposes such as in the treatment of strep throat and other infections. In the 1970's, European salons discovered the cosmetic and healing benefits of high frequency electrical stimulation on the skin and by 1980, the technology became widely used by skin care professionals.

Rapid Oscillating Alternating Current

High Frequency operates on a Rapid Oscillating Alternating Current. A current will travel up and down in waves. This movement (Up and down) is called an OSCILLATING movement.

High Frequency operates at around 250'000Hz. This means that the current is OSCILLATING up and down 250'000 times per second. Therefore each OSCILLATION is very tiny effectively making High Frequency a very superficial treatment only penetrating no deeper than the epidermis.

The current also ALTERNATES between positive (At the peak of the OSCILLATION), and negative (At the bottom of the OSCILLATION).



All high frequency machines function by using a perspex electrode to treat various contours of the face and body. When applied to the surface of the skin, a mild electrical current passes through a neon, or argon gas filled electrode, causing it to emit a subtle glow neon red/orange or violet/blue and buzzing noise.

Traditionally, acne prone skin is treated with violet and aging skin is treated with red, however, recent studies show that both are effective regardless of the skincare concern.

During the high frequency treatment, enriched oxygen molecules are produced that create an anti-bacterial action and a "natural" thermal tissue warming. This reaction helps blood vessels push away toxins, while the skin cells are enriched with nutrients. This in turn creates an increase in blood circulation and cell renewal that supports increased levels of collagen and elastin. The skin is left feeling instantly energized and noticeably softer after just one treatment.

High frequency has proven to be effective on almost any skin lesion from acne and burns, to waxing procedures and cold sores. High frequency facials are considered to be a safe, gentle and therapeutic approach to skin rejuvenation, quickly healing and restoring skin's health.



Application

Recommended treatment areas

Face, neck and décolletage

Eye area

Cheeks

Scalp

Back

Benefits

Increases collagen growth

Enhances blood flow and circulation

Reduces acne-causing bacteria

Increases elastin production

Exfoliates dead skin cells

Improves overall skin appearance and tone

Contra-indications

Heart conditions or Pacemaker
or any other electrical devices

Metal plates or pins in the area
(artificial hip joints etc.)

Cancer

Thyroid disease and other
hormonal disorders

Deep vein thrombosis, varicose
veins, Inflammation of the veins,
phlebitis

Psychological disorders
(referring mainly to
schizophrenia)

Endocrine disorders
(Pheochromocytoma etc.)

Hyper-sensitive skin or heat
sensitivity

Pregnancy and/or
breastfeeding

Skin diseases and infections

Cuts, abrasions, bruises

Diabetes

Epilepsy

Very high blood pressure

Muscle paralysis

Blood thinning, anti-coagulant
medication

Rosacea or Excessive dilated
capillaries

Excessive or very apparent
surface vascular presence

Fillers and botox (to be
discussed)*



Therapists providing treatment should conduct a thorough consultation with clients and if they have any reservations about suitability for treatment should refer the client back to their G.P.

*Stimulation of the skin and muscle can cause Botox to be broken down faster, we are also stimulating a muscle that is temporarily frozen, this can cause an unusual sensation. Clients should avoid treatment in these areas until Botox has worn off, usually six months.

*Stimulation of skin and muscle may cause Dermal Fillers to move. Avoid until filler has dispersed.

Contra-actions

Some clients may notice the following effects. These are all normal reactions if observed in a mild effect. If any effect is noticed excessively it is vital to cease treatments immediately and refer the client to their GP. In this instance, be sure to take photographs, and fill in an accident book in accordance with your insurer's instruction.

Mild discomfort

Erythema (Redness)

Warm, or what appears to be over-sensitised skin

Mild Erythema will disappear a few hours after the treatment though either is rare, and you may want to consider and consult with client as to whether the treatment is right for them.

Client after care recommendations

Clients must avoid direct sunlight and commit to using SPF 30+, directly after, and during their treatment course for best results.

SPF30 protects up to 96% from UVA

SPF50 protects up to 98% from UVA

UVA penetrates the skin through to the dermis and breaks down the collagen. This is called "photoageing"

Recommended skincare products

MONUSKIN Hydrating Moisturiser SPF15

MONUSKIN Tinte Moisturiser SPF15

MONUSKIN Recover Balm

MONUSKIN Rich Cream Cleanser

MONUSKIN Deep Repair Complex

MONUSKIN Instant Soothing Serum

MONUSKIN Nourishing Treatment Oil

MONUSKIN Flash Relax Mask

MONUSKIN Lip & Eye Active Lift



If you are performing a treatment, designed to increase collagen production, then the client **MUST** be applying an SPF. Otherwise, as soon as they leave the clinic, they are undoing all the work you/they are trying to achieve



Clients should avoid treatments that expose them to excessive heat soon after treatment, such as sauna/steam/sunbed. Vigorous exercise



Clients should adhere to a strict skincare regime for best results, and use a regular collagen inducing/hydration inducing medium such as hyaluronic /collagen serums



Clients should drink two litres of water per day throughout course. Ask your client to drink half a litre just before coming for each treatment





High Frequency

instructions and care guidance



Power Indicator

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Current Frequency Intensity
Control Dial

Electrodes socket

Large Facial Bulb

Small Facial Bulb

Large Facial Bulb

Saturator
(indirect current only)

Rake

Comb

Neck

Fulguration

Application of Direct High Frequency

Direct High Frequency is used on the face and body to give a Drying, Antibacterial, Germicidal treatment. It is ideal for an oily skin.

HOWEVER, for the first 2 to 3 minutes it actually stimulates the sebaceous glands. Because the Ozone is given out at such a low intensity it only becomes drying after this time. Therefore, Direct High Frequency can be used to treat ALL skins.



We suggest adjusting the timings to suit the skin type you are working on:

Dry Skin:	2-3 minutes
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Normal/Combination Skin:	5 Minutes
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Oily Skin:	7 minutes
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We recommend the use of **Carlton Ozo Cream** when performing Direct High Frequency. A 50p sized amount is enough to cover the whole face and neck.

Apply with fingers or a mask brush. The active ingredient is Sodium Perborate. This is a solid form of oxygen, and reacts when it comes into contact with heat and moisture. It then penetrates the skin, giving the skin "a breath of fresh air".

Gauze is recommended over the top of the cream, as it makes the Ozone work harder by creating a minute gap between the electrode and the skin. It also provides a uniform layer over which the electrode can be passed freely.

Intensity: Not more than "1 o'clock" on the dial

There are several electrodes available for use with Direct High Frequency:



Sparking

Sparking is possible with Direct High Frequency. This creates a larger gap between the skin and the electrode, creating a "lightening bolt" of Ultra Violet light, which is antibacterial, and effectively kills germs in a specific area.



Only use the Small Bulb Electrode. Position it on it's side, directly over the area to be sparked. Lift the electrode off the skin, following these guidelines:

Remove any gauze

Position electrode no more than half a centimetre off the skin

Apply no more than 3 sparks on one area

**A low intensity
(No more than "9 o'clock" on the dial)**

If sparking is needed over a large area, it is possible to use double or triple thickness of gauze, and to work over the area in this way, creating lots of sparks as you work.

Selecting Electrodes

All of Carlton's glass electrodes are made of Perspex glass. This makes them tougher than normal glass would be, and means they don't shatter if broken. It does not make them indestructible!



All Carlton brand electrodes are filled with Argon.

This is a natural, inert, noble gas. (Inert = Will not react with anything, Noble = Similar to other noble gases, such as helium).

Argon will glow anything from Pale Baby Blue, to Dark Purple, and everything in between. It will vary in colour naturally. It is safe to breathe in, and will not react with other chemicals.



The Argon gas acts as a medium through which we pass electricity. The Argon carries the current through the electrode, and causes a chemical reaction in the air surrounding the electrode.

The air around the electrode is O^2 . When we pass an electrical current of this nature through the air, the O^2 gains an extra electron, and becomes O^3 . O^3 is also known as OZONE.

Ozone gives this treatment a metallic odour and is drying, antibacterial and germicidal.



Application of Direct Indirect High Frequency

Indirect High Frequency can be used on all skin types, though it is particularly suited to Dry, Dehydrated, Mature and Sensitive skins. It can also be used where there is muscular tension, as an aid to warming the therapist's hands, and to aid relaxation. It is suitable for both face and body use.

Indirect High Frequency requires the use of the Saturator Electrode. This is held by the client in their hands. The therapist then applies a massage medium to the area being treated, and turns up the intensity while keeping contact with the client.



A soothing warmth will be felt where the current is concentrated. This is where the client and therapist are in contact with each other. This warmth will stimulate sebaceous glands, circulation, aid lymphatic drainage, and stimulate skin cells. It is soothing, and relaxing, and the massage should reflect this.

Tapotement should NOT be included.

Timing: 10 – 20 minutes

Intensity: No higher than 1 o'clock on the dial

Always keep at least one finger in contact with the client, to ensure the electrical circuit is not broken.

It is important that both therapist and client remove EVERYTHING metal, and that neither party touches anything metal during the treatment. This includes the metal casing of the machine, metal therapist stools, and metal couch fixings...

High Frequency Facial Routine

As a general rule, it is up to the therapists' discretion when to include Direct High Frequency in a facial routine. What follows are two suggestions for facial routines using Direct High Frequency:

1

FACIAL TREATMENT ON A CLIENT WITH CONGESTION, BUT NO PUSTULES:

Double Cleanse & Tone

Steam

Exfoliation (Or Desincrustation)

Extractions

Direct High Frequency (+ Sparking if required)

Massage

Masque

Moisturiser

i This treatment can be added to or adapted as desired. Using Direct High Frequency after extractions will kill any bacteria that have been extracted before continuing with the facial.



Generally, Indirect High Frequency would be inserted into any facial treatment, at the Massage stage of the facial.



Up to 20 minutes of massage can be completed with the Saturator in the client's hands.



Some therapists prefer to complete 5 minutes of manual massage without the Indirect High Frequency, 10 minutes of Indirect High Frequency, and then a further 5 minutes without.



High Frequency in either form can be combined with many other electrotherapy treatments. Carlton Professional particularly recommend it in conjunction with Facial Galvanic treatments.

2

FACIAL TREATMENT ON A CLIENT WITH PUSTULES THAT DO NOT INDICATE EXTRACTIONS:

Double Cleanse & Tone

Steam

Exfoliation (Or Desincrustation)

Massage

Masque

Direct High Frequency + Sparking

Moisturiser

i This treatment can be added to or adapted as desired. Using Direct High Frequency after the masque will kill any bacteria present, and will allow the antibacterial Ozone to remain on the skin without being disturbed

Facial technique

Work on half of the face at a time to ensure even distribution of treatment. The treatment should be performed for approx. 20 minutes. All moves are held for three seconds and repeated three times



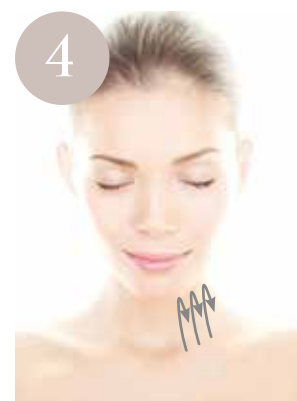
Base of neck scooping up to mid neck



Mid neck scooping up to top of neck



Top of neck scooping up to beneath chin - use jaw as anchor



Full neck sweep and anchor from base of neck to jaw



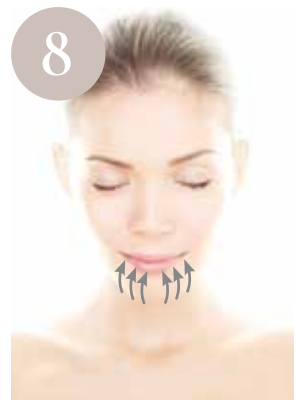
Anchor from beneath jaw to beneath cheek bone



Glide inwards across cheek. Scoop outwards towards temple



Twist along nasal labial and marionette



Pull from beneath jaw to beneath bottom lip



Glide over brow and scoop outwards up towards temple



Gently glide under eye and scoop and lift outward to temple



Brow lifting - from beneath brow pulling to above brow



Pull from eyebrows to hairline in upward movements



How to sell the treatment

- ✔ For best results courses should be taken in twelve sessions, every 5 days. For the purposes of pricing, you wouldn't treat for any longer than 30 minutes in a session, and then add time, depending on which treatments/products you team it with
- ✔ So that you can be commercially attractive to all budgets, we would generally recommend you also offer shorter courses. We also suggest an introductory offer to get clients in for that first treatment, giving you the opportunity to upsell a course to them
- ✔ Offer courses of 6 and 12.
Offer 4 for the price of 3 as a one off "try me" promotion
- ✔ Create a Meso Lift Pro Facial as per procedure taught
- ✔ Create a Meso Lift Pro Deluxe as an extended procedure with added massage, Occlusive mask, and ampoule
- ✔ Create a bespoke facial with added electrical treatments, masks, ampoules, serums. Tier the facial, Platinum, Gold and Silver - price accordingly
- ✔ Combine with our RF Pro machine for the ultimate electrical anti-ageing treatment

