

NeoGenEVO

A decorative graphic consisting of several thin, parallel, wavy lines in a light orange color, positioned below the main title.

NITROGEN PLASMA SYSTEM

**INFORMATION BOOKLET &
TREATMENT INDICATIONS**

WHAT IS NEOGEN NITROGEN PLASMA TECHNOLOGY AND HOW DOES IT WORK?

NeoGen uses medical grade nitrogen gas to create pulses of Nitrogen Plasma. Each pulse is a mass of thermal energy delivered between 50 and 120°C in milliseconds without charring the skin's surface.

The delivery of nitrogen plasma energy promotes collagen production which causes the skin to tighten with a smoother and younger looking complexion. These effects will continue to develop for up to a year after the treatment.



KNOW YOUR PLASMA'S



	NEOGEN PLASMA	PLASMA PEN	PLATELET RICH PLASMA (PRP)
Where does the plasma come from?	Medical grade Nitrogen gas	Atmosphere	Patients blood
How is it transformed into plasma?	Ultra-High Frequency Energy	Ionising with electro static energy	Separating the plasma using a centrifuge
How is the plasma delivered to the skin?	Pulses of thermal energy 12mm spot size	Via the pen with thermal energy causing a 1mm spot	Injected
What indications does the treatment cover?	Resurfacing, Tightening, Active Acne, Acne Scarring, Wrinkles, Dark Circles, Droopy Eyelids, Stretch Marks, Scar Revision, Topical Drug Delivery, Photodamage, Pigmentation, Pore Reduction, Pre-cancerous Lesions, Foot Bacteria, Warts	Improve and brighten skin tone, Laxity, and texture. Tighten Loose Skin. Reduces Fine line and wrinkles.	Acne scars, surgical scars, hyperpigmentation, uneven and dull skin tone, fine line and wrinkles.
Is there any downtime?	Minimal, but patient can return to daily routine with certain safety measures in place	Visible Charring will prevent returning to normal due to appearance. 3-7 days.	Recovery time is fairly quick with generally a few days of soreness.
What are the after effects?	A warm feeling on the skin and immediate feeling of skin tightening	Char marks left from every point the pen has treated, burning sensation and soreness	Soreness in the injection area, sometimes swelling of the treated areas.
Is the treatment invasive?	Non-invasive	Non-invasive	Minimally Invasive
Is the Effect Instant?	Skin tightening is seen instantly, some other indications might take a few days to see the improvements.	Some instances have shown a slight visibility of some tightness, mostly the initial effect is the skin charring.	Only a skin glow is noticeable.
How long does the skin continue to improve?	Up to 12 months	For a short time	3 months
Can it be used on eyelids?	Yes, at both Low and High Energy	Yes	No

WRINKLES

Aging is the most common cause of wrinkles and fine lines. As we age skin becomes thinner, drier, and less elastic, which means it is less able to protect itself from damage. This leads to wrinkles, creases, and lines on the skin. When a person is young, their skin springs back. As they get older, the skin loses its flexibility, and it becomes more difficult for the skin to spring back, resulting in permanent grooves.

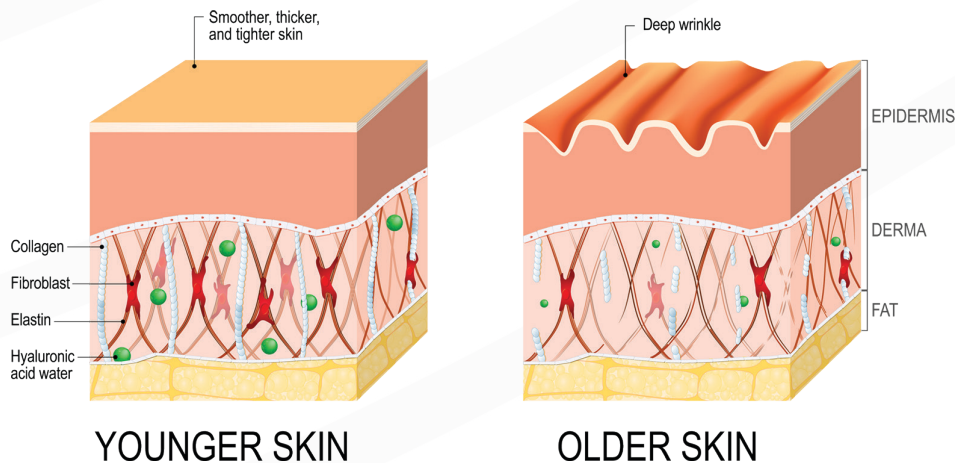
Other causes of wrinkles are

- Sun exposure
- Smoking
- Dehydration/alcohol
- Some medications
- Environmental and genetic factors

NeoGen treatments help wrinkles and fine lines by applying thermal energy to the skin. This disrupts the skin and causes a thermal response. The skin remains intact and there is no charring or vaporisation unlike other methods used to reduce wrinkles.

The thermal damage effects the deeper layers as well as the surface of the skin.

NeoGen causes the skin to awaken and produce more of what the skin needs to regenerate, resurface and tighten. NeoGen smoothes out the skin and reduces the appearance of fine lines and wrinkles leaving you with younger looking and healthier skin.



HOW DOES NEOGEN PLASMA IMPROVE WRINKLES?

- 1) NeoGen stimulates a natural wound response. The skin surface remains intact and forms a protective layer while the new skin is forming.
- 2) The natural wound response remodels the skin and helps to smooth out the wrinkles.
- 3) The first part of this natural skin response to the thermal energy of the NeoGen is to stimulate repair of the skin's outer layer (epidermis), by generating new epithelial skin cells, to replace the damaged ones.
- 4) This resurfacing of the skin results in improved tone and texture, so the skin complexion starts to appear more uniform and look naturally healthier. This can become evident within days of the treatment depending on the intensity or number of treatments.



Before

1 Month Post Treatment

Image courtesy of Skinscriptions by Melissa Gibbons, RN



Before

1 Month Post Treatment

Image courtesy of Nina Deep, M.D.

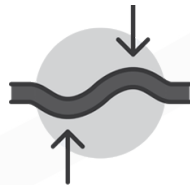
- 5) At the same in the next skin layer (dermis), fibroblasts, which are types of cells that are responsible for maintaining the skins structure by producing collagen, are becoming busy.
- 6) The NeoGen treatment has created a controlled trauma to the existing collagen, so the skins support team is activated to repair and replace it.
- 7) The thermal energy (heat) also causes the disruption of solar elastosis. Solar elastosis is caused by sun damage and can result in wrinkles and drier thickening skin. Elastin (an important protein in the skins structure) is also remodelled as part of the skins natural repair process. This overall dermal repair starts in the first few days and then continues over the next few weeks and months.



The outcome is a fully regenerated skin outer layer and continued collagen production for up to 12 months, resulting in a reduction in the appearance of wrinkles.



RESURFACING



TIGHTENS SKIN



REGENERATION

ACNE

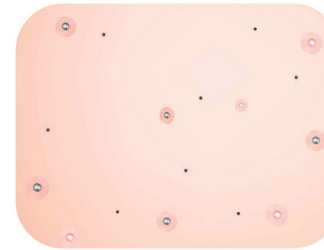
WHAT CAUSES ACNE?

Acne is caused when the small holes in the skin become blocked. There are known as the sebaceous glands which are the tiny glands near the surface of the skin that are attached to the hair follicles. The sebaceous glands lubricate the hair and the skin to prevent it drying out. The oil produced is known as sebum.

Acne is caused by the production of too much sebum mixed with dead skin cells and forming a plug in the follicle/pore. If the blocked pore is near the surface of the skin, it creates whiteheads. If the whitehead opens to the air it changes in colour and becomes a blackhead. The harmless bacteria that live on the skin can then contaminate and infect the blocked pore which can go on to become papules, pustules, nodules, or cysts.

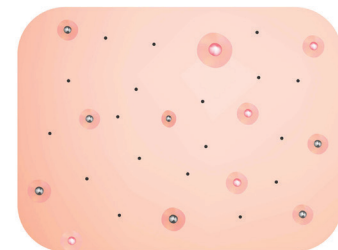
STAGES OF ACNE DEVELOPMENT

Stage 1



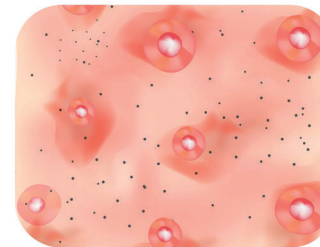
Oily skin
Clogged pores
Slight acne

Stage 2



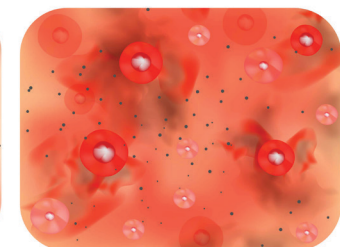
Oily skin
Clogged pores
Lots of acne

Stage 3



Oily and inflamed skin
Clogged pores
Acne, papules and pustules

Stage 4



Oily and very inflamed skin
Clogged pores
Severe acne
Many papules and pustules

HOW DOES NEOGEN HELP ACNE?

- 1) The benefits in acne therapy using NeoGen includes clearing keratin plugs and a reduction in bacteria.
- 2) In January 2019, Professor Chiharu Watanabe conducted a study using NeoGen at 0.8J and found that nitrogen gas plasma treatment *decreased acne bacteria and Staphylococcus aureus and could potentially lead to normal balance of skin resident bacteria.*
- 3) A combination of improving the condition of the skin structure, rebalancing the skins natural bacteria, and reducing acne bacteria confirms that **NeoGen Plasma** is an effective method of reducing active acne.
- 4) Treatment should be performed at 2 to 3 weeks intervals, to keep on top of the condition. Low Energy settings used, with a single pass. NeoGen can also be combined with topical acne treatment to enhance the effect and improve the outcome. The number of treatments required, generally depends on the severity of the acne.



Before

After



Before

After

PIGMENTATION

WHAT IS PIGMENTATION?

Skin pigmentation refers to the colouring of the skin. Melanin is made by cells in the skin and is the pigment responsible for the skin's colour. When a person's skin is healthy their skin colour will appear normal. If a person has damaged skin or an underlying skin condition, their skin can suffer from hyperpigmentation or hypopigmentation.

Hyperpigmentation is the name given to patches of skin that become darker than surrounding areas of skin. Hyperpigmentation occurs when the skin produces more melanin, which is the pigment that gives skin its colour. This can make spots or patches of skin appear darker than surrounding areas. Hypopigmentation occurs when the skin becomes lighter in patches.

Both skin conditions are common and affect people of all skin types and often occur as a result of:

- Sun/UV exposure
- Skin inflammation
- Skin injury
- Acne
- Burns
- Lupus

This can occur on any part of the body and is usually harmless, but it is always best to get it checked as it can sometimes indicate another medical condition.



EXAMPLES OF PIGMENTATION THAT NEOGEN TREATS

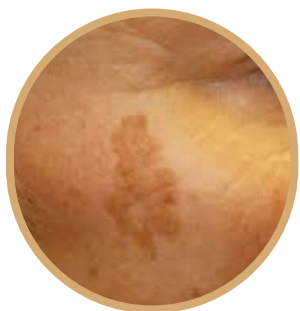


Freckles (Ephelides)

Are a type of pigment that can develop in the skin, possibly due to genetic predisposition, which darken with sun exposure.



Lentigo simplex is a common type of spot, dark in colour with a defined edge. They can appear anywhere on your body and can be present from birth or develop in childhood.



Solar Lentigo aka age spots/liver spots.

These develop as a result of sun exposure.



Poikiloderma – (sun ageing)

are patches that give the skin a mottled appearance. Mainly occurs in the sun exposed areas such as the sides of the neck and chest.

HOW CAN NEOGEN PLASMA HELP PIGMENTATION?

- 1) NeoGen can be used effectively to soften and reduce the appearance of superficial lesions, including pigmented lesions and in many cases remove them completely.
- 2) The option of a single High Energy application or multiple Low Energy treatments means that the treatment can be tailored to the indication and lifestyle of the patient.
- 3) NeoGen Plasma treatment stimulates skin resurfacing when the thermal energy released by the nitrogen plasma triggers a natural skin healing response.
- 4) The treated skin tissue remains intact and then gradually peels away, leaving newly formed skin tissue underneath. Any pigmentation in the layer of treated skin is removed as the skin peels away.
- 5) Due to its unique technology and tailorable energy, NeoGen Plasma can either be used at High Energy to treat tissue as deep as the papillary dermis, OR used at Low Energy to treat the epidermis. Your Practitioner will advise depth to which they need to deliver thermal energy, ranging from a single High Energy treatment to multiple Low Energy treatments according to best outcome needs.



PHOTODAMAGE

WHAT IS PHOTODAMAGED SKIN?

Photodamaged skin is a type of premature aging and occurs over long periods of time due to harmful exposure to UV rays. The UV affects the collagen fibres in the skin and results in the loss of elasticity leading to the early appearance of aging and wrinkles.

The changes in the skin from Photodamage include:

- Fine and course wrinkles
- Roughness of skin
- Freckles
- Pigmentation changes

These can appear anywhere on the body, but the face is most affected. The UV rays hit unprotected skin causing changes in DNA at a cellular level. Photodamage happens at the deeper layers of the skin (dermis) and can take years before the damage surfaces and becomes visible.

Photodamage Develops in 3 Ways:

- 1) **Colour photodamage** results in skin discolouration either to a section of the skin or on a larger surface area.
- 2) **Dermal photodamage** affects the upper layer of the skin primarily through changes to collagen, usually on a cosmetic level.
- 3) **Epidermal photodamage** impacts the inner layers of the skin and can develop into cancerous lesions if untreated.

When Photodamage develops it's usually in the form of:

- Abnormal skin texture e.g. pebbling
- Deep excessive wrinkles
- Large amounts of freckles
- Spotty discolouration
- Liver spots
- Permanent skin darkening
- Leathery skin texture
- Redness and inflammation
- Sagginess or lack of elasticity
- Visible blood vessels
- Bruising more easily
- Skin is overall more fragile

Epidermal photodamage may not give obvious signs of damage but if there is any colour or dermal photodamage symptoms it is important to get the area checked.



Image courtesy of Nina Deep, M.D.

Before

5 Months Post Treatment



Before

After

HOW NEOGEN TREATS PHOTODAMAGE

- 1) NeoGen Plasma has been cleared by the FDA for the treatment of **superficial skin lesions**. Skin lesions are areas of skin that look different from the surrounding area. They are often bumps or patches, and many issues can cause them. The American Society for Dermatologic Surgery describe a skin lesion as an “abnormal” lump, bump, ulcer, sore, a coloured area of the skin, or pigmented lesion. NeoGen has also been cleared by the FDA for the treatment of **wrinkles** and **rhytides**, both on the face and the body.
- 2) NeoGen is used effectively to soften and reduce the appearance of superficial lesions and in many cases remove them completely. The option of a single High Energy or multiple Low Energy treatments means that the treatment can be tailored to individual requirements. NeoGen Plasma is also used effectively to soften and reduce the appearance of wrinkles by promoting collagen and elastin remodelling, along with skin resurfacing.
- 3) NeoGen can be used to treat a large area of skin such as the décolleté, which is often affected by sun damage. This can be done incrementally using a Low Energy, minimal downtime course of treatments, or a single Higher Energy treatment. Sometimes the level of plasma energy used, and the number of treatments required will depend on severity of the photo damage. Popular areas of the body that are treated also include the neck and hands.



Before

1 Year Post
Treatment

Image courtesy of Nina Deep, M.D.



Before

After

SCARRING

WHAT ARE SCARS AND HOW DO THEY FORM?

Scars form as a part of the healing process after the skin has been damaged in some way. The wound repairs itself by growing new tissue to pull together the wound and fill any gaps caused by the injury. Scar tissue is made up primarily of a protein called collagen.

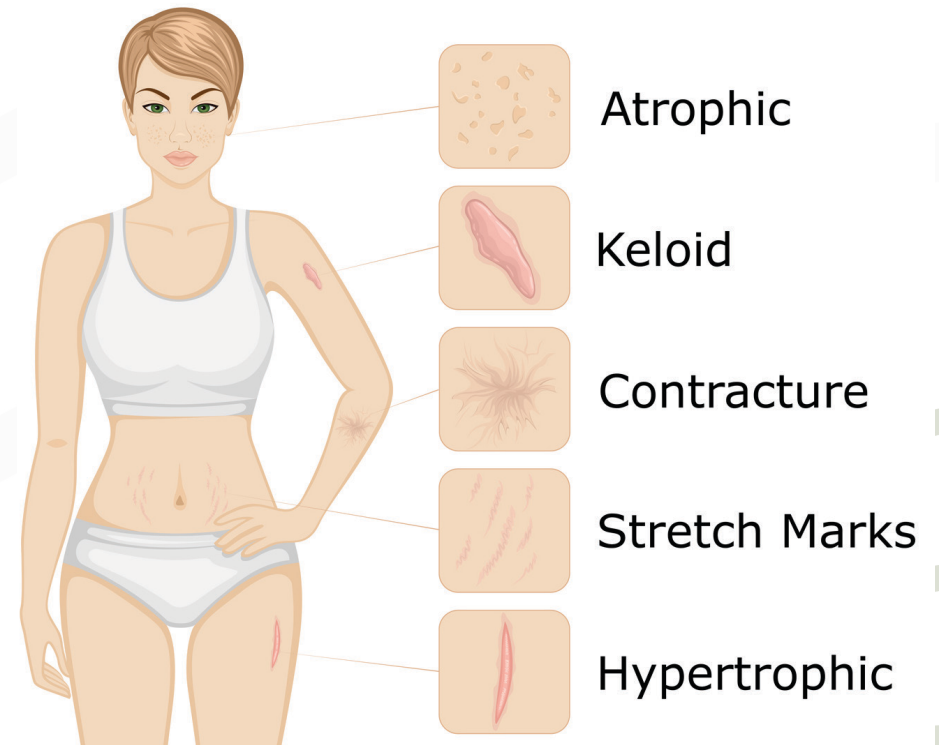
The collagen released builds up where the tissue is damaged to help heal and strengthen the wound. The new collagen continues to form for several months and the blood supply increases, causing a scar to become raised and lumpy. Overtime, some of the collagen breaks down at the site of the wound and the blood supply reduces, this results in the scar becoming smoother and softer.



Scarring can cause distress on an emotional level as well a physical one. Facial scars are a prime example of this and can result in individuals becoming isolated or depressed.

TYPES OF SCARS

- 1) Normal fine line scars**
A minor cut or injury will leave a raised line, which gradually fade and flatten over time. This process will take up to 2 years and after this time further improvements are unlikely.
- 2) Keloid scars**
This is an overgrowth of tissue that happens when too much collagen is produced at the site of the wound. The scar continues to grow even after the wound has healed. These scars are raised and in healing can restrict movement if tight or near a joint.
- 3) Hypertrophic scars**
Again a result of excess collagen being produced at the site of the wound, however, in this case they do not extend beyond the boundary of the original wound. They can grow for up to 6 months before gradually improving.
- 4) Pitted or sunken scars**
This often occurs as a result of skin conditions such as acne or chicken pox. They can also develop as a result of underlying fat.



HOW NEOGEN CAN HELP SCARRING

- 1) NeoGen is effective for patients requiring revision of deeper scars with Higher Energy treatments or softening of the appearance of superficial scars using Lower Energy. It is often used as an alternative to or in combination with a surgical procedure. In some cases, scars are treated by doctors immediately post-surgery, or as little 2 to 3 months after they have healed.
- 2) NeoGen plasma tightens, resurfaces, and remodels the treated skin by stimulating the skins natural wound healing respond and effecting the skins structural proteins. It has been described as acting as a “defibrillator” ¹ to restart the skins natural processes. Acne, surgical and traumatic scars can all be improved with NeoGen.
- 3) NeoGen has been shown to be safer than CO2 laser because nitrogen plasma treatments maintain the integrity of the epidermis, which in turn leads to a low risk of further scar formation and changes in pigmentation. *“In contrast to aggressive ablative techniques, plasma regeneration maintains the integrity of the epidermis, which leads to less social downtime and less risk of significant side effects.”*²
- 4) The advantage of keeping the skin intact leading to a reduction in social downtime is a huge advantage for both the practitioner and the client. This can be further managed by either undergoing multiple Lower Energy treatments or a single Higher Energy treatment. NeoGen treatments can be tailored not only for the skin problem but also to fit in with a client’s work pattern and lifestyle.

¹Dr Jack Zamora etc.....

²Treatment of Mesh Skin Grafted Scars Using a Plasma Skin Regeneration System

Takamitsu Higashimori, 1 Taro Kono,1 Hiroyuki Sakurai,1 Hiroaki Nakazawa,2 and William Frederick Groff



Before



8 Days Post Treatment

Image courtesy of Huashan Hospital, China

EYE AREA

EYELIDS

The most common cause of droopy eyelids is age-related stretching and weakening of the levator muscle tendon – one of the workhorses that lifts the eyelid. Considering that we blink some 15-20 times a minute, it's not surprising that our eyelids might need a little help by the time they've reached a certain age.



UNDER EYE

Dark Circles occur under the eyes and are common in both men and women of all ages and skin types. These are usually accompanied by eye bags, which are a mild swelling or puffiness under the lower eye. Both of these can make a person look older than they are and can be difficult to get rid of.



CAUSES OF DARK CIRCLES

1) Fatigue

Dark circles can be caused by oversleeping, extreme fatigue or just staying up a few hours past the normal time of going to sleep. The causes of sleep deprivation can be dull and pale skin, allowing for dark tissues and blood vessels beneath the skin to show.

2) Age

The natural effect of ageing is known as the most common cause of dark circles. As skin ages it becomes thinner, and the fat and collagen needed to maintain elasticity is lost. When this happens the dark blood vessels beneath the skin become more visible causing the area beneath the eye to darken.

3) Eye Strain

If you are using a computer screen or TV screen regularly it can cause strain on the eyes. The strain can cause blood vessels around the eyes to enlarge and in turn darken the skin.

4) Allergies

Allergic reactions and eye dryness can trigger dark circles. This is caused by the release of histamines in response to harmful bacteria in the body. Histamines cause itchiness, redness and puffy eyes as well as making the blood vessels dilate and become more visible. Allergies can in turn tempt the eye area to be rubbed therefore causing a worsening of the symptoms as well as causing inflammation, swelling and blood vessels and worsening the dark circles.

5) Sun Exposure

As with wrinkles and aging skin, UV radiation influences the skin. Over exposure causes the body to produce an excess of melanin, the pigment that provided the skin with colour. Therefore, too much exposure can cause pigmentation in the eye area.

6) Genetics

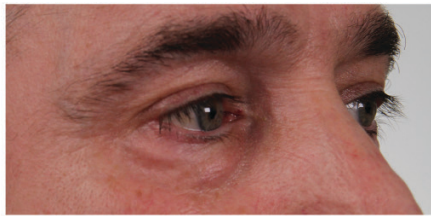
Genetics also plays a part in the development of your skin. Dark circles can be an inherited trait and can also occur in childhood, worsening with age or maybe even disappearing.

7) Medical Conditions

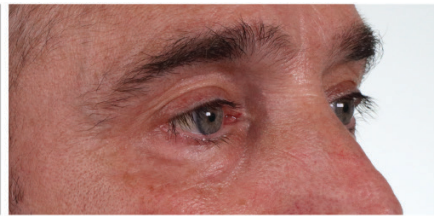
Some medical conditions can also contribute to dark circles beneath the eyes, thyroid disease is one such condition that does this.

HOW NEOGEN CAN HELP TREAT THE EYE AREA

- 1) NeoGen helps to reset the skin and it is one of the few energy-based treatments that can be safely carried out on the eyelids and around the eyes to help lift and tighten sagging eyelids and smooth out wrinkles, and treat dark circles under the eye. NeoGen eye area treatments can be performed using a single higher energy treatment or multiple lower energy treatments. The deciding factors for the treatments include skin tone (darker skins are treated at lower energy settings), severity of the condition and the desired downtime, if any.



Before



3 Months Post Treatment

Image are the property of Energist Ltd



Before



2 Months Post Treatment

Image courtesy of Nina Deep, M.D.

NEOGEN NITROGEN PLASMA TREATMENT PRICES

LOW ENERGY

Full Face, incl Eyes	\$850.00
Plasma Glow Facial	\$650.00
Eyelid Lift (Upper Eyes)	\$350.00
Under Eyes	\$350.00
Crows Feet	\$150.00
Full Eye Area	\$600.00
Cheeks	\$500.00
Upper Lip	\$220.00
Nasal Labial Folds	\$250.00
Scars	By Consultation
Hands	\$550.00
Neck	\$500.00

Recommended treatment frequency depending on client 2-4 treatments spaced monthly apart.

Package price - purchase 3 treatments upfront, receive 4th treatment FREE

HIGH ENERGY

Full Face (incl Eyes)	\$2800.00
Eyelid Lift (Upper Eyes)	\$900.00
Under Eyes	\$900.00
Crows Feet	\$350.00
Full Eye Area	\$1950.00
Cheeks	\$1000.00
Upper Lip	\$450.00
Nasal Labial Folds	\$450.00
Scars	By Consultation
Hands	\$900.00
Neck	\$900.00

Recommended treatment frequency depending on client is once a year.