

Medical Microneedling

Microneedling by using roller needles induces collagen production by the dermal fibroblasts without stripping any part of the epidermis.

About

Skin Needling helps to induce collagen synthesis, while maintaining the integrity of the topmost layer of the skin. This leads to superior results in skin rejuvenation, anti-scarring or anti-stretch mark treatments.

Skin Needling is the latest skin renewal technique to restore the healthy youthful appearance of skin at a fraction of the cost and with minimal or zero downtime.

Skin Needling is also one of the few skin therapies that are suitable for treating all skin types, including ethnic skin, and which can be used to treat the fragile skin around the eye and on the neck.

Microneedle treatments have been shown to initiate collagen formation and the healing cascade without causing hyperpigmentation.

Skin Needling is a non-ablative treatment acting on the surface of the skin without damaging other important structures such as blood vessels or nerves.

Skin Anatomy

The **epidermis** is the outermost layer of the skin. It is a complex organ that measures 0.2mm in thickness. Epidermal cells have the ability to undergo mitosis (divide into two) and repair themselves if injured, so that epidermis can remain an effective barrier against infection and

environmental damage. The epidermis actually consists of five layers of tightly packed epithelial cells that we should not damage unless the risk of leaving it intact is far greater than having it removed.

In order to achieve a perfectly healthy epidermis it is important that the horny layer (stratum corneum) is intact and compact as it would be in young skin.

The **dermis** is a tough, resilient layer that protects the body against mechanical injury and contains specialised structures. It is divided in two layers:

- *Papillary dermis*
 - Thin upper layer of the dermis
- *Reticular dermis*
 - Composed of thick, densely packed collagen fibres, and is the primary location of dermal elastic fibres

Fibroblasts are cells that live within the dermis layer of skin which are responsible for generating connective tissue and allowing the skin to recover from injury. Dermis also contains ground substance, a shapeless, gel-like, primarily composed of *glycosaminoglycans* (e.g. Hyaluronic Acid), *proteoglycans*, and *glycoproteins*.

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Advantages over other skin therapies

- Suitable for all skin types
- Does not cause skin damage (no ablation/removal of the epidermis)
- Does not induce skin sensitivity to UV light (the horny layer of the epidermis quickly regains its integrity without diminished thickness and disrupted sun protection barrier)
- Does not pose a risk of permanent skin discolouration
- Can be used on thin skin formerly treated with chemical peels and lasers
- Can be used on the face, neck, décolleté and any other parts of the body requiring treatment
- Cost effective treatment alternative to Fraxel or resurfacing treatments
- Topical anaesthetics can be used to ensure patients are comfortable and tolerate the procedure well
- Enhances Iontophoresis and Sonophoresis treatments
- Short healing time
- Minimal discomfort during the healing time
- In case of unsatisfactory results, the procedure can be repeated risk-free

Indications

Microneedle therapy has long been used by doctors in the form of Collagen Induction Therapy (CIT). Collagen induction builds layers of the supporting intracellular matrix, promoting healthy, resilient skin that looks younger. Therefore *Medical Microneedling* is highly recommended for:

Ageing skin:

- **To restore firmness and tightness to flaccid skin**
A less invasive alternative to small face-lift procedures
A less invasive alternative to eye-lifting procedures (great results in the skin above the eyes can be achieved due to natural elevation of eyebrows as a result of healing)
- **To thicken the epidermis and enhance dermal compactness**
Suitable alternative to ablative resurfacing treatments in patients with thin skin A virtually painless and cost-effective treatment alternative to non-ablative laser therapy (i.e. Fraxel)
- **To smooth wrinkles, lines and folds**
Suitable alternative for injections with hyaluronic acid dermal fillers (Skin Needling allows for the natural synthesis of collagen, elastin and other components of intracellular matrix)
- **To dramatically increase the penetration and therefore the therapeutic effect of topical agents**
Medical Microneedling maximises the active penetration of topical agents through the three natural transdermal delivery routes, that is the stratum corneum, hair follicle pores and sebaceous gland canals, speeding up thus treatment results.

Acne and scarring:

Previously performed aesthetic surgeries, injuries and other dermatological conditions, such as acne and stretch marks, are common causes of atrophic scars. These obvious scars are of serious aesthetic concern to many and microneedle treatments provide an effective solution.

Improves skin texture and the appearance of large pores

- Pore size reduction occurs due to increasing collagen production around the pore (which helps to squeeze the pore tighter) and due to increasing elastin production (which allows stretched pores to revert back to their original size)
- To reduce the appearance of indented acne scars
- To improve scars caused by chicken pox
- Helps to relax old scars
- Helps to diminish the appearance of old surgical scars

Hyperpigmentation:

- Helps to lighten pigmentation marks

Body:

- Improves the appearance of stretch marks from pregnancy or weight loss
- Improves the appearance of cellulite. Medical Microneedling with Titanium Dermaroller 3.0mm (performed by medical professionals only) and then a maintenance program at home with 0.3mm can improve the micro-circulation and enhance lymphatic drainage to the affected skin areas. In addition, skin needling helps to thicken the skin by stimulating collagen and synthesis in the dermal layers whilst leaving the epidermis intact. The result - "orange peel" is less visible.

Hair Loss

Medical microneedling can be combined with the use of specialised products to achieve the best results in hair loss. We recommend the use of *Fusion Mesotherapy Hair Cocktail* in conjunction with a short needled dermaroller. Active

ingredients such as Centella Asiatica extracts (vasodilator activity) along with vitamins, amino acids and minerals restore the micro-circulation of the scalp and revitalise hair follicles fighting thus thinning hairs by stimulating regrowth.

Contra-Indications:

- Skin cancers, solar keratoses, warts and skin infections
- Active acne or herpes labialis infections on the face or impetigo lesions anywhere on the body
- Patients with an extremely rare but severe form of keloid scarring in which virtually every pin prick becomes a keloid
- Patients on any anticoagulant therapy like warfarin, heparin and other oral anticoagulants
- Patients with active acne with papules and pustules
- Patients on aspirin or similar medication that's taken daily – increases the risk of bruising
- Patients on chemotherapy, high doses of corticosteroids or radiotherapy
- Allergy to topical anesthesia
- Uncontrolled diabetes
- Pregnancy & breast feeding
- Botox – wait at least one week or more.
- Fillers – Wait ten days or more

All possible *side effects* such as mild to moderate swelling, redness, sensitivity to touch or itchiness will be discussed with you and you will be asked to sign a consent form prior to your treatment.

Treatment Explained

Microneedle therapy allows for the controlled induction of the skin's self repair mechanism, by creating micro injuries in the skin, which induce new collagen synthesis to a controlled degree.

The concept of skin needling is based on skin's natural ability to repair itself whenever it encounters physical damage such as cuts, burns and other abrasions. Skin needling allows for controlled induction of the skin's self repair mechanism by creating micro-injuries which trigger new collagen synthesis resulting in spectacularly smoother, firmer and younger looking skin.

The needles of the dermaroller penetrate the top layers of the skin causing micro-injuries in the deeper layers. This triggers the natural wound healing response. As a result new collagen is formed to reduce wrinkle depth, increase skin elasticity and improve the appearance of scars and other skin flaws.

In addition to stimulating collagen growth, micro needling also creates channels through which any substance applied to the skin's surface (known as topical application) can be absorbed far more easily. Therefore any topical application used with a dermaroller actually reaches the areas it is intended for. Studies suggest that using a skin needling system can boost the effectiveness of topical treatment by several hundred percent. For topical treatments SFMedica highly recommends the use of Fusion cocktails whose active ingredients maximize the benefits of skin needling.

Dr S. Foutsizoglou also recommends the *Medik8 Titanium Dermastamp* for enhanced precision for specific, localised skin problems and hard to reach areas. Dermastamps are available in 5 needle lengths, depending on the skin concern (see table).

Dr S. Foutsizoglou was the first UK doctor who started using the revolutionary Motion Roller, a unique dermaroller that combines an integrated delivery device with 200 sterile surgical steel micro-needles for better penetration of the active ingredients, reduced treatment time and less discomfort.

MesoRecharge is a range of active sterile cocktails that can be used in conjunction with the for a variety of skin conditions including:

- *Deep lines and wrinkles*
- *Skin flaccidity*
- *Cellulite*
- *Localised fat*

Aftercare

Following treatment, the skin will appear flushed. This should subside within the next 24 hours.

If a topical layer of retinol and/or Hydr8 B5 serum was applied after the skin needling procedure, it must be kept overnight and washed off the next morning. In this case, use clean warm water only and pat face dry gently with a clean soft towel.

Unless otherwise directed by your doctor, the use of cleansers or topical products should be avoided for at least 36 hours post treatment. Antiseptic washes, creams and/or prophylactic antibiotics may be prescribed by your physician.

After the skin has healed

- Make-up may be used when the skin is completely healed (wait 48 hours post procedure). Using make-up on broken skin poses a certain risk of hyperpigmentation as a result of infiltration of makeup into the open tissue, as well as the risk of potential bacterial infection and inflammation in the treatment area.

- AHA and BHA's can be used to soften and superficially resurface the epidermis but only after the skin has totally recovered from the skin needling procedure.
- A normal skincare regimen can be resumed once the skin has completely healed.
- It is highly recommended to use the Personal Medik8 Titanium Dermaroller (0.2mm and 0.3mm) alongside daily application of topical vitamin C and A serums for the acceleration of regenerative processes and consolidation of procedure results. Follow the directions of your doctor.

Follow up treatments

Depending on the initial skin condition and the anticipated procedure result, Skin Needling procedures can be repeated without limit every 6-8 weeks, although a course of 3 skin needling sessions is usually sufficient. 6-8 week intervals allow for maximum new collagen deposition and assessment of the single treatment results, however, collagen formation can continue for up to 12 months after one treatment. Discuss treatment plan with your doctor.

For more info regarding *Medical Microneedle Therapy* please download the relevant PDF from our website.

Dermal roller needling can also be combined with hyaluronic acid fillers such as Restylane Vital for younger and more radiant skin. For more info please download the PDF.

Table

Dermastamp vs Dermalroller	
Titanium Dermastamp	Titanium Dermalroller
Small, target areas of the body e.g. peri-oral area	Large areas of the body, e.g. neck and décolleté
Lines and wrinkles, e.g. under eye	Generalised lines and wrinkles e.g. forehead
Specific, distinctive scars e.g. acne pits	Large scarred area e.g. major accident/ significant burn scars
Isolated pigmentation marks e.g. age spots	Hyper-pigmentation areas