

## **GUNA MICRONEEDLING DEVICE... APPLICATIONS and TECHNIQUE**

### **MICRONEEDLING DEVICE (SKIN ROLLER) ENHANCES SKIN'S ABSORPTION OF PRODUCTS**

The Microneedling device is hand held skin roller available at Guna Canada which can be an alternative to injection therapy for the topical application of many products . The Microneedling device allows product to be administered topically to the site of pain or aesthetic treatment zone while enhancing the absorption of the product.

#### **HOW?**

The Microneedling device is a hand-held device made up of a metal-plated drum with rows of microneedles ranging in length from 0.13 mm to 3.0 mm. Traditionally, medical dermarollers have the longer 3.0 mm needles which puncture the epidermis. These are used by plastic surgeons to induce an inflammatory response on the skin which attenuates wrinkles and flattens scars by inducing the production of collagen and elastin fibers.

The Guna Microneedling device is a cosmetic version of the medical microneedling device or skin roller made with the shorter needles that do not perforate the skin. Instead, the microneedles cause indentations in the skin or *microchannels* which allow easier and greater passage of molecules through the epidermis, thus enhanced absorption of product by the skin.

This transepidermal application and its ability to bring product such as Made, collagen, IgG for example, through the skin has been quantitatively verified in several studies. One study just published in the *Journal of Pharmaceutical Science*, used confocal imaging to show that the microneedling device caused indentations or microchannels in the skin, measuring approximately 150 microns. They used Calcein imaging and Permeability Index values to demonstrate that the absorption of the macromolecule human IgG was enhanced by over 2.0 ng/mL through the microchannels created by the dermic roller. Histological examination of stained skin cells revealed that the microchannels produced by the skin roller remained for 24 hours. Flux rates *in vivo* and *in vitro* unequivocally confirm that the short microneedling device increases the skin's absorption of the topically applied product.

## **MICRONEEDLING DEVICE NATURALLY CAUSES THE PRODUCTION OF COLLAGEN AND ELASTIN**

Other studies reveal that dry treatment with a medical microneedling device induces the production of collagen and elastin. Medical dermarollers with long needles that perforate the skin induce the production of collagen and elastin fibers 1000 fold after only one application according to a double blind study by Schwarz and Aust. Another study by Aust published in *the Journal of Plastic and Reconstructive Surgery* confirms this natural production of collagen/elastin and adds that the fibers remain intact post treatment for 6-12 months. The short needled skin rollers only slightly induce collagen production, but when used to topically administer products such as Made or collagen, the results are cumulative and visible after a mere 30 minute application.

In a study published in the *Journal of Cutaneous and Aesthetic Surgery* in 2009, thirty-seven (37) patients with atrophic facial scarring were treated with the skin roller as a collagen-induction therapy (production of collagen fibers by the cosmetic microneedling device to flatten scars). The aim of the study was to evaluate the efficacy of Microneedling device treatments in cosmetic application (in this case atrophic facial scars, some caused by acne.)

Only a microneedling device was used, no products. The efficacy of the Microneedling device treatment was assessed subjectively by patients and objectively by a single observer.

### **THE RESULTS:**

More than 80% of patients assessed their treatment as <excellent> on a 10 point scale. No significant adverse effects were noted in any patient.

## **TREATMENT POSSIBILITIES**

Transepidermal administration of products with the cosmetic Microneedling device is an interesting and effective way of applying product. It is non-invasive, fast and long acting. It can replace injection therapy and oral therapy. It provides a practical non-invasive way of applying sports and pain medicine at trigger points, referred pain zones or nerve key points. It multiplies the effects of cosmetic applications such as anti-age treatments and cellulite treatments.

## **TECHNIQUE... HOW AND WHY TO USE THE MICRONEEDLING DEVICE**

From the studies we can see that using a mild version of a medical microneedling device, such as our short needle (non-perforating) cosmetic microneedling device provides a definite increase in the skin's ability to absorb product. Thus, therapeutic molecules penetrate the epidermis amplifying the effects of the product without invasive therapies

like intradermal needling or injection therapy. This allows the therapist to expand his or her service to aesthetic/cosmetic and sports and pain management medicine in a practical non-invasive way by topical application of the product. Take home kit options for follow up therapy by the patient is another practical application.

## **AESTHETIC/COSMETIC APPLICATION**

Topical administration of the Natur creams, Made, Collagen, Omeoformulae is therapeutically amplified when using the microneedling device. When application is on the face to treat wrinkles, scars and skin laxity the roller should be used in a unidirectional manner.

### **TECHNIQUE :**

1. Using the nose as your center, pass the roller on the face by starting at the side of the nose and with a firm, but gentle pressure, sweep towards the ear. Try to maintain a steady pressure. Using the side of the nose as your center point, sweep towards the jawline in even strokes to cover the entire surface of the face, down to the chin, and up towards the eye. See figure 1.

You can gently pull the skin with one hand and pass the microneedling device perpendicularly (to the skin) as you sweep.

2. Once you have passed the microneedling device over the entire surface of the face, once or twice, apply the product (such as Made). It is best to apply a drop of product
3. ( or one spritz: see Tip on Applying Products Topically with the microneedling device) to the area that will be swept with the roller as you cover the area, rather than applying the product over the entire surface and then rolling. Carry out the sweeping strokes as mentioned in the unidirectional manner from the side of the nose to the jawline. Then from the top of the nose up the forehead to the hair line. Repeat on the other side of the face.

30 minutes or less are recommended for facial treatment

### ***TIP ON APPLYING PRODUCTS TOPICALLY WITH THE MICRONEEDLING DEVICE***

**It is best to draw products from ampoules; for example MADE or COLLAGEN or OMEOFORMULA or GUNA SPORTS Medicines, into a syringe and transfer them to a glass bottle equipped with a spray nozzle. This way, all components can be properly mixed and the mixture can be kept uncontaminated.**

**After passing the roller over the affected area, SPRITZ the topical (that you have transferred to the spray bottle) OVER THE AREA, then roll.**

**The product in the glass bottle can then be kept in the refrigerator for 10-14 days.**

**This method of transferring products from ampoules prevents contamination with several uses, prevents waste, and allows for an even amount of product to be SPRITZED on the skin.**

## **CELLULITE TREATMENT:**

Use the microneedling device horizontally on the zone to be treated. Pull the skin with one hand and use the roller by sweeping perpendicularly to the skin. A back and forth motion or bidirectional sweep can be used for cellulite treatment. Cellulite zones are treated much in the same way as sports and pain zones for maximum absorption.

20 to 30 minute treatments are recommended for cellulite. Covering large areas one can spend 3-5 minutes per section.

## **SPORTS AND PAIN MANAGEMENT TREATMENTS WITH THE MICRONEEDLING DEVICE**

Application of the Guna Sports medicine ampoules is highly effective when applied with the microneedling device. The product is absorbed as well or better than with intradermal needling, without creating an inflammatory wheal. The technique is completely non-invasive but yields immediate relief, with a considerable lasting effect. . Moreover, the patient can follow up on treatments at home.

## **TECHNIQUE FOR SPORTS MEDICINE APPLICATION**

For sports medicine and pain relief, the microneedling device should be applied bidirectionally; that is in a back and forth motion over the area to be covered. It is up to the therapist to determine the best area to sweep with the roller for their patient's condition. Roll over a small area, approximately 2 inches where you would normally inject or at your trigger points. Rolling bidirectionally approximately 3 passes to form a cross on the area to be spritzed is a quick and efficacious method.

## **TECHNIQUE:**

1. Pass the microneedling device over the area to receive the topical product in a back and forth motion preferably horizontally (or perpendicular to the skin). Sweep approximately 3 times horizontally and perpendicularly to form a cross covering the area to be treated.
2. Apply product over the swept area with one spritz and reapply the roller using the same technique as mentioned in point 1). Sweep the area until the product has been absorbed or the area is dry.

Two to five (2-5 ) minute is usually all that is required, in this injection replacement technique. Several areas can be treated during the same session. Application 3 x a week in this manner is recommended for chronic pain. Patients can follow up treatment at home once their health care professional has shown them the area to sweep, and provides them with the appropriate topical and roller.

*Note: application of the microneedling device on the face should always be unidirectional. Application to other parts of the body can be bidirectional.*

#### ***DISINFECTING THE MICRONEEDLING DEVICE:***

***Because the microneedling device is made from specialized materials, it will not wear well if placed in an autoclave. We recommend that each patient undergoing therapy with the microneedling device, own their own skin roller.***

***The best way to clean the Microneedling device is to spray it thoroughly with rubbing alcohol while rolling the drum and allow to air dry.***

#### **REFERENCES:**

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