



BY LYN ROSS

A COLLAGEN BOOSTING ALTERNATIVE DERMAL MICRO NEEDLING

REMEMBER THAT SMOOTH, DEWY GLOW YOUR SKIN

had during your childhood? Young skin looks tight and toned because of active collagen production in the dermis, which slows steadily as we age, causing skin to loosen and fine lines and wrinkles to appear. New technology and products come out every day, promising the secrets to the fountain of youth, so it becomes difficult to choose the most effective treatment plan to achieve your specified results. Of course, it is vital to do your research and know what each treatment does in order to make an educated decision on the right products and procedures when treating age related skin conditions, especially collagen compromised skin. True anti-aging treatments (in order to be worth their weight) must stimulate collagen production, which is what makes skin look plump, smooth and young again.

Many clinical skin care specialists—myself included—believe that some degree of laser resurfacing or deep chemical peels are the most effective treatment for collagen stimula-

tion to reverse the signs of aging. When I attended an enlightening certification course led by Florence Barret Hill and Dr. Lance Setterfield this past summer to learn about the science behind a skin rejuvenation technique called Dermal Micro Needling (DMN), my mind was opened to this healthy collagen boosting alternative.

I have been providing pre- and post-surgical skin care support for over 15 years, so I know all too well how inconvenient laser resurfacing and chemical peels are to the patient. These procedures are certainly tried and true, but they do induce a fairly severe post-traumatic inflammatory reaction that results in recovery and downtime. After thoroughly investigating DMN, I discovered there are different needling procedure options available for clients. Before I delve into that, let's address a few key points:

What is DMN?

The principle of skin needling is to stimulate the body's own production of collagen. DMN involves the use of a sterile roller, comprised of a series of fine, sharp needles to puncture the skin. Medical needling is performed under a local anesthetic; the needling device is "rolled" over the surface of the face to create many microscopic channels deep into the dermis of the skin, which stimulates your own body to produce new collagen. At a microscopic level, proliferated skin cells, such as fibroblasts, migrate to the point of injury and transform into collagen fibers, resulting in increased fiber strength and elasticity. This treatment improves your skin by increasing the production of collagen, facilitating natural repair and growth and making the skin stronger and thicker. The new collagen fills depressed scars and wrinkles from the bottom up, lifting the depression so they are level with the surrounding skin. This process takes two to three months to produce visible results, and can also help thicken thinner, fine skin types.

The history of DMN

Facial skin resurfacing can be traced to ancient Egyptian times and the application of abrasive masks of alabaster particles. For millennia, various substances have been used to peel, exfoliate and rejuvenate the skin. These substances include acids, poultices of minerals and plants and direct irritants such as fire and sandpaper-like materials.

The evolution of chemical peeling and skin abrasion into the procedures commonly used today began in the early 20th century. In 1905, a German dermatologist by the name of Kromayer first reported controlled resurfacing abrasion of the skin. His technique involved the use of rotating wheels and rasps, and except for technical improvements of the equipment, differed very little from present-day skin abrasion. He treated acne scars, keratoses and areas of hyperpigmentation.

An article on skin needling was first written in 1997 by Dr. Andre Camirand, who described his experience with this

method. On a number of his patients with facial hypochromic scars, he tattooed the scars with a skin-color pigment. After one to two years, they noticed that even though the pigment was long gone, it was replaced by actual melanin, while the scars were immensely improved in texture, appearance and color. This gave the idea that trepanation (coming from the Greek word *trepanon*; to bore) of scars with the tattoo gun was responsible for the improvement and the re-pigmentation of the scar. They came up with the idea that puncturing the scar tissue with a tattoo gun alone, without pigment, would break down the scar collagen, cause realignment and stimulate melanogenesis. The results of repetitive sessions on scars were reported by Camirand to be more than good and typically consistent, since all of his patients benefited esthetically from this type of treatment.

Following Dr. Camirand's developments with DMN, Dr. Des Fernandes, a prominent South African physician, introduced a small stamp-like needling device to induce collagen, and used it as a regular treatment in his surgical practice. He delivered his first paper on skin needling using a 3 mm roller to reduce lip wrinkles to the ISAPS congress in Taipei in 1996. Treatments were painful and required IV sedation and analgesia. Further studies by Dr. Fernandes and Dr. Austin Germany concluded that similar results could be obtained using a 1 mm roller.

Compared with conventional abrasion methods, DMN has undisputable advantages. The most important one is that the epidermis, the natural skin protection barrier, remains intact! Due to the fact that the epidermis is not removed or otherwise damaged, most of the risks and negative side effects of chemical peeling or laser resurfacing are eliminated. While the channels in the epidermis have closed within hours, a new collagen-structure starts to form on the dermis under its protective shield.

In his book *The Concise Guide to Dermal Needling*, Dr. Setterfield explains that preservation of the epidermis maintains environmental protection and minimizes downtime. In the treatment of more than 44 patients, none reported post-treatment pigmentation issues, even with sun exposure. The procedure breaks down scar tissue, creating a reorganization of collagen. He concludes that DMN can be performed successfully on most areas of the body.

However, there is no questioning the importance of completely understanding that pre-cutaneous collagen induction uses thousands of tiny needle pricks into the upper dermis in order to trigger the wound healing cascade. The technician's goal is to manage the protocol variables (depth of needles, frequency of treatment, topical ingredients and timing of their application) to facilitate optimum results.

Types of DMN devices

There are different types of devices, ranging from mechanical to manual models with a needle length from 0.2 mm to 0.3 mm designed for "at home" use to rollers with needles

of 0.5 mm designed to be used as a professional treatment by a clinical practitioner and medical (1 mm to 2 mm) devices designed for physician use only. DMN, which is also known as Collagen Induction Therapy (CIT), has created great interest in the cosmetic community because of its effectiveness, minimal downtime, ease of use and levels of client satisfaction.

DMN has been used successfully to treat fine lines, wrinkles, lax and sun-damaged skin to reduce the appearance of stretch marks; improve acne ice pick scars; and induce hair's regrowth. It has also been used to tighten skin after liposuction. The advantages of this procedure are that the skin becomes thicker, with an increase in collagen deposition exceeding more than 400 percent.

Medical needling can be an alternative to laser resurfacing in patients that are not good candidates for laser treatment or are interested in a more affordable and less invasive procedure with fewer risks. DMN is a safer alternative that can reduce and improve the following conditions:

1.0 MM TO 2.0 MM MEDICAL ROLLER

(PHYSICIAN ADMINISTERED ONLY):

- Prematurely aged skin: softens fine lines and wrinkles
- Skin laxity: tightens and restores elasticity
- Acne scarring: reduces the appearance of scarring
- Hyperpigmentation: helps reduce pigmentation marks

0.5 MM CLINICAL ROLLER

(CLINICIAN ADMINISTERED ONLY):

- Prematurely aged: softens fine lines and wrinkles
- Skin laxity: tightens and restores elasticity
- Acne scarring: reduces the appearance of ice pick scars
- Hyperpigmentation: helps reduce pigmentation marks
- Hair loss: stimulates hair re-growth
- Stretch marks: reduces the appearance of scarring
- Cellulite: smoothes orange peel skin

0.2 MM TO 0.3 MM ROLLER (REGULAR HOME USE):

- Increases penetration of active product ingredients into the skin
- Promotes thickening of fine skin
- Assists in softening fine lines and wrinkles
- Makes scarring less obvious
- Evens skin tone
- Stimulates skin without causing any damage
- May be used by all ages and skin types on all areas of the face, neck and body

FAQs

CAN DMN BE COMBINED WITH OTHER TREATMENTS?

Because DMN does not remove any skin, the "recovery" time is only a few hours, and therefore any other advanced treatment like microdermabrasion, peels or IPL can be done within a day of DMN. It is up to the trained technician to

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Dermal needling treatment

recommend the best treatment plan to meet the needs of the client. This includes pre-treatment preparations and post-treatment home care programs.

HOW CAN I MAXIMIZE THE EFFECTIVENESS OF DMN?

The only proven way to further boost collagen production is to prepare the skin with vitamin A prior to the treatment, and then maintain an enhanced state of collagen and elastin production by continuing the skin care regime thereafter.

HOW DOES THE TREATMENT FEEL?

It is more of a treatment intended to deliver results rather than relaxation. The client may feel some pressure and a slight prickling as the needles roll over the treatment area. In medical needling cases, a topical anesthetic is applied prior to the procedure so there is minimal discomfort.

HOW DOES THE SKIN LOOK

AFTER THE NEEDLING TREATMENT?

This will vary according to the needle length and the area being treated.

PERSONAL NEEDLING: Mild pinking of the skin's surface lasts anywhere from 30 to 60 minutes.

CLINICAL NEEDLING: Mild to moderate redness and sensitivity in the treated area lasts between 12 and 48 hours.

MEDICAL NEEDLING: Mild to severe redness, swelling and possible bruising lasts two to three days.

The skin may be dry and tight, with tiny crusted areas, and it will have a tanned appearance.

Varying amounts of flaking/peeling occur approximately three days after treatment.

WHAT IS THE AFTER-CARE TREATMENT?

Occasionally the treatment results in a mild redness, which may last a few hours. After the treatment, the skin may be slightly sensitive. To protect and soothe the skin, occlusive healing creams or ointments are recommended for the first 24 to 48 hours as a home care regime.

The skin appears to have pink to red "cat scratches" for a few days after each needling application, depending on the severity of the treated area. Mineral makeup may be used on the treated area face after 48 hours, though just keeping the skin moist often looks better and encourages faster healing. It is important to protect the new skin from

the sun by using a broad spectrum sunscreen with an SPF of 30 or higher daily.

HOW MANY TREATMENTS ARE NECESSARY BEFORE RESULTS ARE APPARENT?

Age and skin conditions will determine the number of treatments required to achieve the maximum effect. For more moderate common skin conditions, anywhere between three and eight treatments with three to four week intervals between visits is all that is required. The results are evident from both the skin texture and its appearance after the very first session. It is also recommended to get a dermal roller to use at home up to three times a week.

IS DMN EFFECTIVE ON ANY SKIN TYPE?

Dermal rolling stimulates collagen and elastin production and makes a lasting difference on any skin type at any age, and a trained technician can adjust the treatment for the individual's skin and its unique condition.

WHAT RESULTS CAN THE CLIENT EXPECT, AND HOW SOON?

Depending on the area treated, an improvement in the skin's appearance is noticeable after the first treatment. Acne scars are less obvious. Age spots and fine lines are greatly diminished. The skin is softer, smoother and younger-looking. It has a fresh pink glow. Improvements continue throughout the treatment program.

WHAT IS THE DOWNTIME AND SIDE EFFECTS?

Treatments on thousands of clients of different races and colors show no adverse skin reaction. DMN treatments have none of the common risks—yet they offer all of the advantages of the most invasive and expensive treatments. The needles can only go into the skin so far—which is why there are six different models. The only variable the practitioner must determine is which of the rollers to use. Even with deep medical needling, the damage is minimal and not permanent. Downtime is brief—usually the skin is "back to normal" after a few hours.

Potential complications are only seen if the healing skin is incorrectly cared for. If healing is prolonged, it can possibly lead to infection or scarring. A herpes simplex outbreak is possible if one is prone to cold sores. Post-inflammatory hyperpigmentation (PIH) may last anywhere from one to 12 months.

HOW DOES THE CLIENT PREPARE THEIR SKIN?

It is recommended that the skin be primed with active ingredients for at least two weeks prior to the DMN treatment. This is to maximize treatment outcomes, assist in accelerating the recovery time and to reduce the risk of post-treatment complications. A specific skin care regime includes therapeutic doses of vitamins A and C, antioxidants, peptides, growth factors and sunscreen. It is very important to continue using these topical agents for at least six months post-procedure to ensure the production of healthy collagen and elastin.

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WHAT ARE THE BENEFITS OF DMN OVER OTHER PROCEDURES?

DMN treatments do not burn like laser or acid peel treatments, and they do not cause any disruptions to normal activities. There is less discomfort and recovery is much faster. Furthermore, DMN is effective on all body areas. It is a superb treatment on the face, hands, chest, neck, knees, elbows and thighs.

WHAT IS THE COST OF A DMN TREATMENT?

Each skin needling treatment varies in cost according to the size of the treatment area and the type of device used. Usually clinical treatments start at \$150, and medical treatments go up to \$1,000. There may be an additional cost to purchase your personal roller. You will be required to bring this with you for each session. Skin needling takes approximately 30 to 45 minutes to complete, though you will need to arrive 45 to 60 minutes early for the application of a topical anesthetic for medical needling.

IN CONCLUSION ...

DMN with a skin roller produces hundreds of tiny dermal injuries. Each dermal injury triggers the body's natural wound healing response within the skin, producing and depositing new collagen in the treatment area. Each successive treatment triggers the production and deposition of new collagen that progressively fills in depressed scars and deep lines. This filling process can continue for up to 12 months after a treatment has been performed.

DMN is a safe, effective and affordable treatment option for improved cellular health. As an alternative to laser, the DMN preserves the epidermis, yet stimulates collagen deposition for a firm, even toned, younger looking skin with minimal discomfort and downtime. DMN can be safely performed on all skin types and ethnicities. There is little to no risk of post inflammatory hyperpigmentation (pigmentation of the skin as a result of skin trauma), as the melanocytes remain, like the dermis, intact during skin needling. This is the major distinguishing safety feature when comparing other invasive procedures such as laser resurfacing, deep chemical peels and dermabrasion that are often used to treat deep lines and depressed scars. ■



Lyn Ross is a licensed master esthetics educator, a recognized leader in the professional skin care industry and the founder of Institut' DERMed. With more than 25 years of in-clinic esthetic experience, Ross is dedicated to sharing her knowledge with licensed esthetics professionals. A true medical spa pioneer, Ross has written numerous articles, authored chapters in textbooks and appeared on radio and television shows highlighting professional skin care.

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