



Introduction

Microneedling, also called percutaneous collagen induction therapy, is performed using a handheld, drum- or pen-shaped device, electrically powered, with tiny needles that make precise, microscopic punctures in the skin. These “micro-injuries” do not leave scars; they work by helping to stimulate the skin to repair itself naturally through a process called dermal remodeling.



What Is Microneedling?

This process starts with inflammation, which stimulates the skin to produce new collagen (the elastic fibers that make skin tight, smooth, and youthful). Collagen levels in the skin decline as we age, and new collagen can be produced when the skin is in repair mode.

Three to five monthly or biweekly treatments are recommended to achieve desired results. Through a series of sessions, microneedling can increase elastic skin fibers. Microneedling also helps the epidermis (the outermost layer of skin), which naturally thins with age, become thicker and tauter.

What Conditions Does Microneedling Treat?

Microneedling may help address many skin-related complaints, including:

- wrinkles
- scarring
- acne
- alopecia
- skin pigmentation issues
- stretch marks
- rosacea
- loose skin

It may also help rejuvenate the skin.

In addition, professionals can use microneedling to deposit medication, such as topical tretinoin or Vitamin C, deeper into the skin. This can boost the treatment of a variety of issues, including acne scarring.

How Does Microneedling Work?

Collagen is an essential protein that helps keep the skin looking youthful, with a firm, smooth, and stretchy texture.

Aging causes the decline of collagen in the skin, contributing to wrinkles and other signs of aging.

Skin can also lose collagen due to injuries, such as acne scarring, stretch marks, or other scars.

Instrument

The most important is the diversity of needle lengths. High ratio of tip length versus diameter of 13:1 is an important property of good needles.

The length of needle selected for an individual patient depends upon the indication for microneedling. For treating acne and other scars as a routine, a needle length of 1.5–2 mm is usually used. When microneedling is used as a procedure to treat ageing skin and wrinkles, the needle length of 0.5 mm or 1.0 mm is usually recommended.

When the needles are only up to 0.5 mm long, the procedure is essentially painless, and the perception of pain increases as the depth of needle penetration increases. It also depends on the thickness of epidermis and dermis of the skin.

Dermapen

Dermapen is an automated microneedling device which looks like a pen. This ergonomic device makes use of disposable needles and guides to adjust needle length for fractional mechanical resurfacing. The tip has 9–12 needles arranged in rows. It makes use of a rechargeable battery to operate in two modes, namely, the high speed mode (700 cycles/min) and the low speed mode (412 cycles/min) in a vibrating stamp-like manner.



MNRF (Micro Needling Radio Frequency)

The amalgamation of microneedling with radiofrequency has further expanded the prospects of application of this technology. Insulated needles are used to penetrate the skin and release radiofrequency currents from the needle tips producing thermal zones in the dermal structural components and accessory glands without damaging the overlying epidermis.



Procedure For Microneedling

Microneedling is a simple office-based procedure lasting 10 to 20 minutes depending on the area to be treated. The patients must be counselled prior to the procedure explaining the expected outcomes, delayed response, and need for multiple sittings.

The skin should preferably be prepared preoperatively for at least a month with vitamin A and C formulations twice a day to maximize dermal collagen formation. Vitamin A influences 400–1000 genes that control proliferation and differentiation of all major cells in epidermis and dermis, and Vitamin C is essential for production of normal collagen.

The procedure is performed under topical anesthesia. After preparation of the area with antiseptic and saline, the skin is stretched with one hand, and perpendicularly, rolling is done 5 times each in the horizontal, vertical, and oblique directions with the other hand. The treatment endpoint is identified as uniform pin-point bleeding which is easily controllable.

What To Expect After Microneedling

Post-procedure, the area is made wet with saline, or ice packs can be used for comforting the patient. Thereafter, the patient is advised to use sunscreen regularly and follow sun-protective measures.

There is no downtime and the patient can resume daily work the very next day. Treatments are performed at 3–8 week intervals and multiple sittings are needed to achieve the desired effect on the skin.

The final results cannot be viewed immediately because new collagen continues to be laid down for approximately 3–6 months after treatment has ceased.

Before & After Photo



Visual Animation  [Adi care 007](#)

FOR APPOINTMENT

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