



### How Does a Micro-Needle Dermal Roller Work?

The way skin needling works to rejuvenate the skin is by stimulating the body's wound healing mechanisms. As the micro-needles penetrate the skin causing micro-wounds, it triggers an intense inflammatory reaction that begins a cascade of subsequent reactions. Once an area is treated, thousands of micro-wounds are created in the treatment area. Many cell types including new fibroblasts rush to close the wound by migrating to the point of intrusion. Fibroblasts are the cells that synthesize collagen protein, which integrate with existing collagen in the upper dermis. As each wound induces new collagen formation, it forms a new, healthy collagen layer in the treatment area. This reaction is called collagenesis. The wound healing process also stimulates rapid growth of endothelial cells (the thin layer of cells which line capillaries and blood vessels). In turn, this creates new capillaries for better blood supply to the skin itself. This reaction is called angiogenesis. Collagen increases gradually which adds thickness and firmness to the skin, reduces stretch marks and fills in atrophic (depressed) scars, such as acne scars, and stretch marks. Once the collagen has formed, the body can then produce more elastin, lending to better elasticity which can mean less sagging in places where even plastic surgery is not typically performed such as saggy elbows, hands or knees. In one study, biopsies taken from 10 different patients demonstrated an average increase in collagen and elastin fibers of 206 percent.<sup>1,2,3,4,5,6,7,8,11</sup>

When using a dermal roller permanent damage to the skin is unlikely because the needles are very thin in diameter (.25mm, Japanese 5 gauge), much like an acupuncture needle. The integrity of the epidermis remains intact even though the skin reacts as if it had been "injured." The micro-channels created by the micro-needles fully close within just a few hours after initial application.<sup>14</sup> No tissue lesion

can be detected, infections are rare, and there is nothing to repair. There is very little pain involved and there is no downtime as the dermal roller leaves the epidermal barrier fully intact.<sup>11,13</sup>

Clinical studies have shown that micro-needle dermal rolling can be just as effective as ablative treatments such as laser resurfacing, dermabrasion and chemical peels or non-ablative treatments such as IPL™, Fraxel™, or CO2 laser in stimulating elastin and collagen production.<sup>7</sup> In one study, biopsies taken from 10 different patients demonstrated an average increase in collagen and elastin fibers of 206 percent.<sup>5,6,7,9</sup>

Another advantage to micro-needle rollers are the increased absorption rate of topically applied products such as homeopathics or serums. A dermal roller gently exfoliates excess skin cells, which can contribute to malnutrition of hair follicles and premature aging. The micro-channels which are created aid in infusing therapeutic serums for better penetrating the skin and increasing overall efficacy. South Korea, Europe, and U.S. clinically-conducted studies have shown that the Roller can increase serum absorption by as much as 1,000 times.<sup>13</sup> This is especially beneficial when it comes to hair loss products. Skin-needling with a dermal roller can also remove sebum and DHT, which can interfere with the healthy growth cycle of hair.<sup>10,</sup>  
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Lastly, a micro-needle roller can be used to stimulate channels very effectively. I have personally used them on my patients who suffer from Bells Palsy, Stroke, or pain along a meridian. Additionally I have used them in place of needling certain heat conditions such as shingles, or when use of a seven-star plum blossom would be too painful.

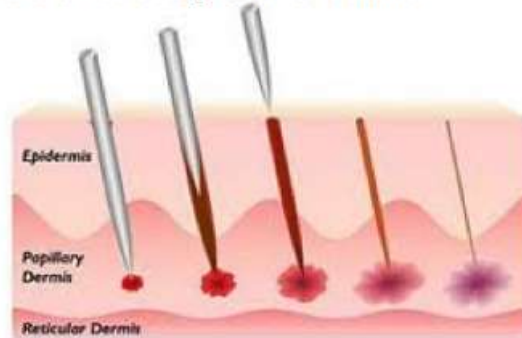
The FDA registered, CE approved, Sterile, AcuLift Dermal Roller™ uses 540 extremely fine (.25mm diameter) needles, (1080 in body roller) which penetrate the skin just enough to reach the dermal layer below the epidermis. There is no need for numbing cream, and no bleeding occurs during use.

AcuLift is the only micro-needle dermal roller approved for use by the American Acupuncture Council.

Visit our website for more information: <http://www.gellisacupuncture.com> and email us for wholesale pricing info: [acuhealingllc@gmail.com](mailto:acuhealingllc@gmail.com)

## How does it work?

- Collagen induction therapy or micro-needling works by stimulating the immune system and wound-healing mechanisms. As the micro-needles penetrate the skin causing micro-wounds, it triggers an intense inflammatory reaction that begins a cascade of subsequent reactions



The skin's nerve receptors and defense mechanisms sense these fine needle intrusions as a specific type of injury and heals accordingly..

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## Fibroblast Stimulation

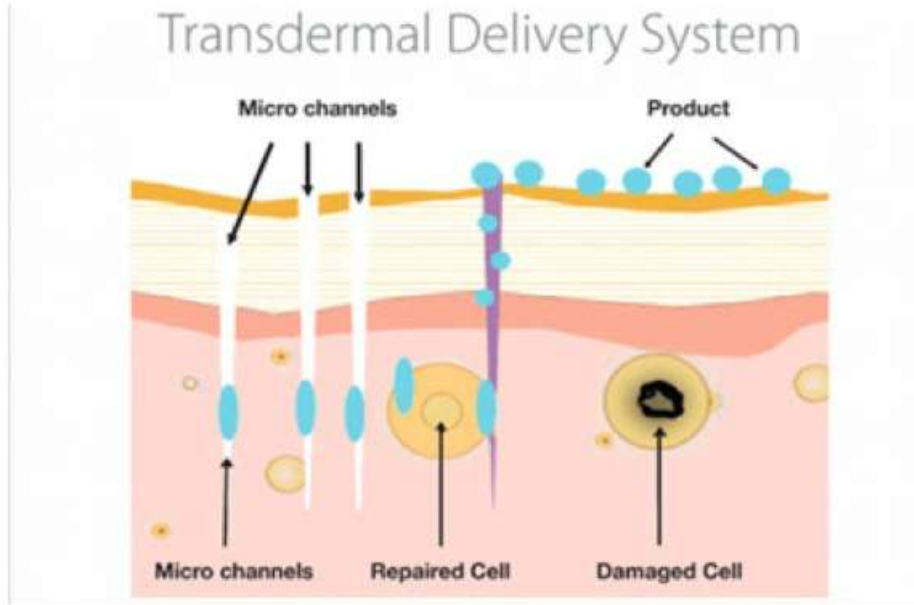


During the healing process, skin cells (within a 1 to 2 mm radius around the pricking channel) release growth signals to undifferentiated cells otherwise known as skin stem cells. These signals also stimulate rapid growth of new fibroblasts and other wound repairing cells.

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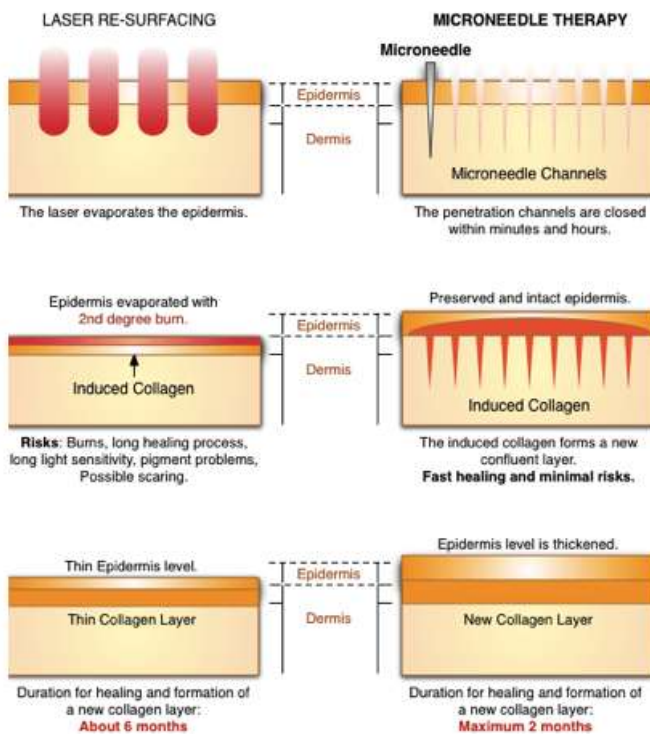
# Increased Absorption of Skin Care Products



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## Laser Versus Microneedle



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During the micro-needling procedure, tissue damage is unlikely because the needles are very fine and thin. In fact, skin integrity actually remains intact even though the skin reacts as if it had been "injured." The tiny wounds caused by the micro-needles are repaired and close very quickly. No tissue lesion can be detected, infections are rare, and there is nothing to repair.

## About the Author

Michelle Gellis is a licensed, Board Certified, Acupuncturist. She is a faculty member and clinic supervisor at the Maryland University of Integrative Health. Michelle also teaches Acupuncture Facial Rejuvenation Certification and Treating Neuromuscular Facial Conditions with Scalp Acupuncture, Facial Cupping, Motor points and Intramuscular Needling Classes. She can be reached at 443-980-5047 or [www.gellisacupuncture.com](http://www.gellisacupuncture.com) and [seaofchi@aol.com](mailto:seaofchi@aol.com).

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