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Critical Argument Paper #1

Microneedling is a nonsurgical approach to battle wrinkles, acne scars, enlarged pores, and stretch marks (“Microneedling”, n.d.). It is often referred to as collagen induction therapy (Gordon, 2023). The procedure is simple; the doctor applies a numbing cream to the area that needs to be treated, uses a handheld, often electronically powered, device that comes with tiny needles, and applies slight pressure on to the area that needs to be treated (“Microneedling”, n.d.). The idea of microneedling is the tiny needles make very small punctures into the skin and the skin begins to naturally heal on its own (Gordon, 2023). As the skin begins to naturally heal, our bodies release collagen and elastin to heal and improve our skins. During the healing process, our body produces and releases more collagen and elastin, which is the whole purpose of microneedling (Gordon, 2023). As mentioned before, the tool used for microneedling is a handheld device with very tiny needles. Sometimes, the device can be electronically powered with disposable needles, often referred to dermapen, or it can be a roller that comes with a drum that has needles which is also known as a dermaroller (Singh & Yadav, 2016). The dermaroller is the standard medical instrument when it comes to microneedling, and it is a handheld device that has a 12 cm long handle with a drum shaped cylinder at the top with 192 microneedles that can be between 0.5 and 3 mm in length and 0.1 and 0.25 in diameter (Singh & Yadav, 2016). These are usually used once or twice and then disposed. The dermapen is a handheld electronic device with disposable needle tips, usually with 9 to 12 needles, and adjustable needle lengths. The dermapen comes with a rechargeable battery and two speed modes, high speed, and low speed

mode (Singh & Yadav, 2016). Individuals can use the dermapen multiple times, all they must do is buy new needle tips. There is also dermastamps which are a combination of both a dermapen and dermaroller, it's a handheld device that has a 12 cm long handle, reusable, and has adjustable needle lengths. Instead of having a drum shape roller, it has a rectangle shape stamp. The purpose of the dermastamp is to focus on specific scars or areas (Singh & Yadav, 2016). Another instrument that is used in microneedling is the DermaFrac. DermaFrac is a newer tool used in microneedling that uses "microdermabrasion, microneedling, simultaneous deep tissue serum infusion, and light emitting diode (LED) therapy" (Singh & Yadav, 2016). DermaFrac is used in microneedling because it helps "aging and sun damaged skin, acne, enlarged pores, uneven skin tone, wrinkles, fine lines, hyperpigmentation, and superficial scars" (Singh & Yadav, 2016). These are some of the tools or instruments commonly used when practicing microneedling.

Microneedling is practiced for many reasons. One reason people practice microneedling is the procedure process, it can be done same day and within a couple of minutes (Gordon, 2023). Another reason people practice microneedling, which was previously mentioned, is to treat wrinkles, acne scars, enlarged pores, and stretch marks. Microneedling reduces the size and appearance of enlarged pores, dark spots, and stretch marks (Gordon, 2023). In a study cited by Gordon (2023), he mentions the participants got four facial microneedling treatments in the span of 120 days, each treatment was spaced 30 days apart. The participants saw significant improvements in their skin within 90 to 150 days after their first microneedling treatment. The microneedling treatment improved any "lines, wrinkles, skin laxity, and skin texture" in the participants' skins (Gordon, 2023). Microneedling also works on treating acne scars which are scars caused by acne. Gordon (2023) also mentions that in 33 studies, each participant noticed a significant improvement in appearance of their acne scars after practicing microneedling. The

way it works is there's a decrease in inflammatory markers and an increase in collagen, which causes the skin to heal quicker and therefore minimizes the appearance of the acne scars (Gordon, 2023). There's another reason why people practice microneedling and it's not for face skin treatment, it's to treat hair loss. Research is currently limited, but the recent research has shown that it has reduced hair loss alongside primary treatment like minoxidil, this is often treatment for individuals with hair loss disorders like alopecia (Gordon, 2023). This is also why microneedling is increasing in popularity because it's a cheaper alternative to hair transplants.

The first document that referred to the idea of microneedling was recorded in Ancient Asia. It was recorded in a book called *The Yellow Emperor's Classic of Internal Medicine*, which dates to times in 100 B.C. ("The History", n.d.). During that time, the concept of microneedling was "to open channels or conduits to allow the Qi (vital energy or life force) to flow" ("The History", n.d.). The first dermatologist to practice microneedling was German dermatologist, Dr. Ernst Kromayer. He used to microneedling treat, "scarring, hyperpigmentation, and other skin ailments by using different sizes of motor-powered dental burs" (Aldawood et al., 2021). It wasn't til 1921 that an individual named Chambers, was the first who mentioned the use of microneedling in any piece of literature, after "he injected the needle into the egg's nucleus" (Aldawood et al., 2021). Also, it wasn't till the 1970s that concept of microneedling was introduced into the medical field and it wasn't till the 1990s when doctors and dermatologists began experimenting with microneedling (Aldawood et al., 2021). To sum it all up, the concept of microneedling was practiced spiritually in ancient times. Since then, the concept of microneedling has evolved and is practiced in the medical field today.

## Bibliography

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