It's Electric!

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Documentation exists which suggests that electricity had been used on humans as long ago as 2500 BC, when Roman doctor Scibonius Largus applied an electric eel to his patients to control the extremely painful disorder now known as gout. Because the body is electric, and signals of pain are transmitted electrically, specific frequencies of electrical current can neutralize pain frequencies and instantly eliminate the perception of pain. This proven concept is known today as the Gate Theory, and allows the control of chronic and acute pain by utilizing what is known as a TENS (transcutaneous electrical nerve stimulation) device.

Up until the late 60's, the idea and concept of utilizing externally applied electrical current in conjunction with humans was limited to TENS devices with the intended use of pain control, and held no curative value whatsoever. Shortly thereafter, acupuncturist and alternative medical practitioners quickly developed interest in lower levels of electrical current and utilized very basic modalities for the purpose of enhancing their acupuncture treatments as well as a w ide variety of other applications ranging from wound healing to non-surgical face lifting, and everything in between.

That new age of electrical modalities was referred to as "microcurrent" because if its incredibly low power output comparatively to that of a TENS device. A TENS device output will commonly exceed 10,000 Ua (micro amperes) or 10 Ma (milli amperes); 1000 Ua = 1 Ma. True microcurrent devices perform most work at levels less than 300Ua; in most cases a sub-sensory level of electrical current thousands of times less in power than that of a traditional TENS device. Although the spectrum of microcurrent applications in the medical arena seem to be endless, the primary mechanisms of action that support the efficacy of this incredible technology are very consistent and concise: muscle re-education, increased blood circulation, protein synthesis and membrane transport, increased natural collagen production, increased natural elastin production, increased ATP (adenosine tri phosphate) levels, increase of lymphatic drainage, and iontophoresis. A literal arsenal to combat the signs of aging!

Microcurrent has long been known in esthetics as the "non-surgical face lift". An esthetician can make a remarkable improvement in the tone and contour of the face in just one forty five minute treatment. According to recent studies performed by Dr. Chi at the University of Washington, "Our findi ngs indicate that the immediate results received from microcurrent are that of muscle re-education (the process of lengthening and shortening the muscles of the face) and the process of iontophoresis (product penetration). The cumulative results over a series of treatments include as much as a 10% increase in natural collagen production, 48% increase in natural elastin production, and a 35% increase in blood circulation. These studies were performed using less than 300Ua, with an alternating current."

The power of Iontophoresis

Iontophoresis is the process of introducing water soluble products into the skin utilizing the electrical current as a transport vehicle. Although traditional means of iontophoresis have been restricted to that of galvanic devices, recent studies indicate modern microcurrent devices using alternating current to be far superior and include cumulative results of improved ATP levels, collagen and elastin production and blood circulation. Ionization of good quality bovine collagen and elastin can smooth and firm crows feet substantially in just one treatment; while penetration of vital active ingredients of other water soluble products can be profoundly effective in comparison to a "non-electrical" application.

Much of the immediate results realized via iontophoresis are that of a filling effect. For example, one of the first signs of aging is usually the loss of natural collagen and elastin in the skin. By ionizing bovine collagen and elastin into the skin, you immediately fill the void; similar to what is achieved through a collagen injection however on a much smaller level. This bovine collagen and elastin temporarily binds with the natural human collagen and elastin and therefore remains in the tissue more than temporarily. The immediate result is a firmer, smoother skin with a greatly diminished appearance of fine lines and wrinkles.

Specific Iontophoresis

As electrical current inherently takes the "least path of resistance", traditional methods of iontophoresis realized via galvanic devices lack control and consistency. As a client reluctantly holds one pole in her hand, the esthetician then applies the opposite pole to the area of the face where the penetration of product is desired. However, a heavy layer of product, high surface tension, or a resistant or thicker patch of skin in the application area can easily persuade the electrical current and product to enter into a weaker area of the face or body.

Well engineered microcurrent devices with their alternating characteristics allow ***specific iontophoresis*** as the electrical current travels from one probe or accessory, into the skin, and then returns to the other probe or accessory eliminating20the need to send incredibly high levels of galvanic current aimlessly through the body. Additionally, advanced manufacturers can specifically control the depth that the current travels, and therefore, the depth that the product penetrates targeting specific areas of concern. This specific penetration control is realized by the combination output settings: the wave shape, Hz (frequency), and Ua (micro amperage). For example a very high frequency and Ua such as 1000Hz, 400 Ua, and a very small wave shape such as Pulse, would result in a very topical stimulation and very topical penetration of product. Conversely, 300 Hz, 100 Ua, and a sharp wave shape would have a significantly deeper penetration capability.

This kind of engineering sophistication is extremely important as many products only perform with certain electrical output combinations, while other products are much more beneficial at deeper layers requiring the appropriate electrical output combination to realize this penetration level. Because of the engineering complexities, working with a manufacture that maintains a patent on their technology is essential. You also should look for a manufacture and device that specializes in microcurrent rather than a 10- in-1 unit that does everything from electrolysis to shine your shoes. Better yet, ask for evidence that there device is legally manufactured, safety tested and clinically proven. General clinical evidence is okay, however, make sure that you ask for specific studies that have been performed ***specifically with the device you are considering purchasing.***

The Electric Mask

Through the history of electricity in esthetics, there has been a myriad of different variations of accessories available ranging from the traditional probes, to the innovative black conductive electric gloves. The most recent development and rage in the industry is known as the electric mask. Well designed electric masks are permanently lined with two separate conductive interior pads that follow the pattern of the face and have strategic raised points to help focus treatment on the typical areas of concern. The conductive material is built into the mask such that they do not touch one another during application as the electrical current must leave one pad, enter the skin, and then return to the other side to adequately and evenly penetrate the vital products and maintain the fantastic benefits of micro current. This style of microcurrent electric mask uses the same ideology of specific iontophoresis, verses some of the older style galvanic masks.

There two primary ways to apply product prior to moving forward with your electric mask treatment; layering or infusion. Layering is the process of applying one or more products to the skin, always beginning with the thinnest viscosity product and finishing with the thickest. Infusion is the process of applying pre-saturated impregnated mask(s) to the skin. Both methods are effective, however, infusion style masks seem to be superior as they maintain the ability to hold more product in a controlled manner allowing continuous penetration for a full 20 minute treatment. Regardless of what method you use, insure that you keep a "break" or separation between the two sides of the face to insure that you maintain the motivation for the electrical current to penetrate the product into the skin rather than cut across the surface of the skin. With infusion style masks, a break would require you to cut the mask vertically in half.

Remember, all products must be primarily water based for adequate ionization. Furthermore, you should ALWAYS use manufactured recommended products to insure results and minimize liability and possible adverse reactions.

Sequencing

Sequencing technology is the latest craze for microcurrent manufacturers. Sequencing is the ability for an output combination (wave shape + Hz + Ua=output combination) to change infinitely during an electric mask treatment; some claim to sequence through more than 500 output combinations during a 20 minute treatment cycle. The benefit of this is that the client is exposed to a myriad of different electrical current output combinations maximizing the potential results at each layer of the skin, all with out the esthetician having to lift a finger. This is opposed to less sophisticated or older technology that simply "turns on" at one level for entirety of the treatment.

The ultimate microcurrent face lift usually consists of five treatment steps, depending on the manufacturer. The first two are predominantly muscle re-education work and the remaining three steps consisting of approximately twenty minutes of "skin work" including iontophoresis. Because a manual manipulation of the muscle is necessary for true micro current to re-educate or sculpt the muscles in the first two steps, it is not possible to eliminate the entire "hands on" time necessary to perform a complete microcurrent face lift. However, you can greatly reduce the hands on time with an electric mask as this accessory can be used for all phases skin work.

The electric mask is not only fantastic as the second half of a microcurrent face lift, it is the ultimate diversifier for any spa menu and is a definite "stand alone" treatment all by itself. Depending on the product layering or the infusion mask that you select, you will be able to personalize and integrate the electric mask treatment to most aspects of your business whether it be at the end of an anti-aging facial or the end of an acne facial.