The Countless Benefits of Microcurrent

Microcurrent Science

Hello and welcome to week 266 to Isabel’s Beauty Blog. We are so grateful of your visits, likes, and shares without them we would not be here. We strive to research and gather the best quality posts for you to enjoy, share, and our purpose gets validated. It really feels so good, thank you from all of us.

This post is about microcurrent and I am personally a huge fan of it for years. I even put together a handheld facial machine that is combined with photon light and great results with it. It makes sense we are an electrical body when I discovered it through all my research that I continuously do. I was fascinated. I am a great fan of Rife machines and Tesla equipment. I personally have seen remarkable results with microcurrent. Acupuncturists also use current with needles to reactivate the Chi currents in the meridians. There is a lot of research on the internet that you can access if you are intrigued and wish to learn more. So here we go with ours. Enjoy, share, like, engage and give credit to us, that is one important point for our ratings. Much gratitude to you and yours.

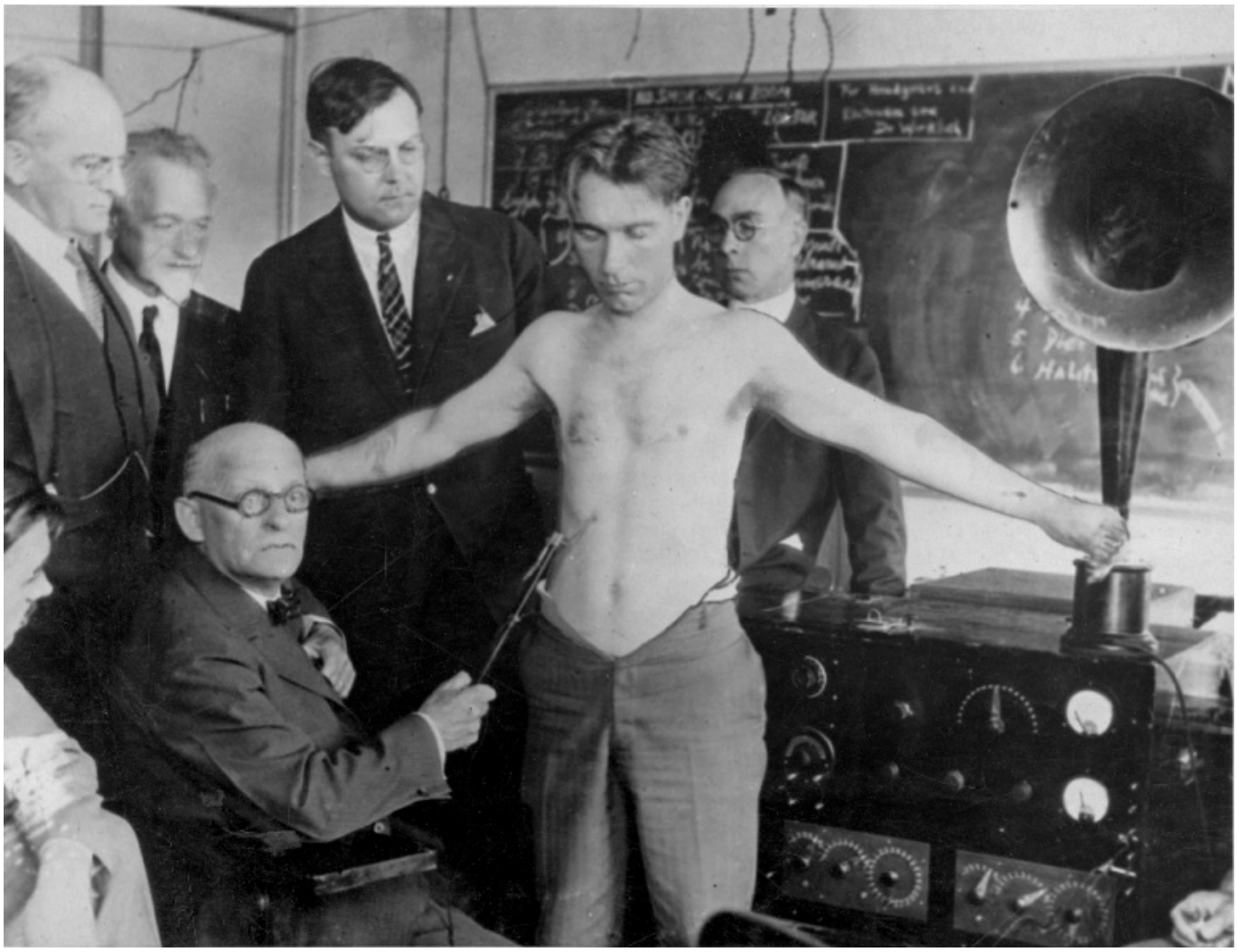
Back in the early 1900´s, Dr. Albert Abrams, M.D. was the first physician who used equipment capable of detecting specific frequencies of living tissue. Each organ and tissue within our body emit an invisible energy or vibration in the form of specific frequencies. This allows the cells to communicate with each other and to organize, monitor, and regulate complex living processes. When there is a disruption in this vibration of energy as a result of injury, illness, or the normal age process, we begin to see the symptoms of this

disruption in the form of chronic health issues and one of those issues is a result of skin atrophy and wrinkled deteriorating skin.

Microcurrent machines utilize unique technologies and specific frequency signatures to reenergize the cells and tissue back to their normal state of vibration. Microcurrent machines communicate with the cells of living tissue and muscle to resonate at a perfect harmonic tone allowing enhancement of the normal body´s biological processes naturally and non-invasively.

according to http://www.drwhitaker.com/what-is-microcurrent-therapy

Microcurrent therapy simply restores normal frequencies within the cells, resulting in remarkable improvements in pain, inflammation, and function.



At the cellular level, microcurrent therapy stimulates a dramatic increase in ATP, the energy that fuels all biochemical functions in the body. It also bumps up protein

synthesis, which is necessary for tissue repair. The ensuing enhancement in blood flow and a decrease in inflammation translates into reductions in pain and muscle spasms, as well as increased range of motion.

Microcurrent (often called MENS) is extremely small pulsating currents of electricity. Microcurrent units produce electrical current just above the levels of the electrical exchanges that occur at a cellular level in the human body. This is why microcurrent is readily accepted by the body's cells when applied to the body using conductive electrodes.

It is an ongoing process to heal damaged cells, and microcurrent – like the body's own electrical current – likes to go around the injury, taking the path of least resistance. However, by applying microcurrent to the site of an injury, the microamperes current is able to pick up where the body mist it. Through regular microcurrent treatments, the current is able to gradually close the gap and help restore the damaged area. This helps stimulate healing and will accelerate the body's healing process, as well as increasing the level of ATP (Adenosine Triphosphate). It is important to note that each unit has varying specifications and it is necessary to match your device selection with your specific needs in order to improve the treatment outcomes.

According to

http://prettyyoungerskin.com/best-home-microcurrent-machines/

Microcurrent isn't new.

Microcurrent isn't new technology. It's been used for ages. I mean really, ages…

Electrotherapy – which, by the way, is the use of electrical currents to treat certain medical problems and diseases…

has an ancient history in the medical and other therapy-based professions.

It is said that the Romans used electric eels as a means for bringing about pain relief.

What is Microcurrent?

The Body

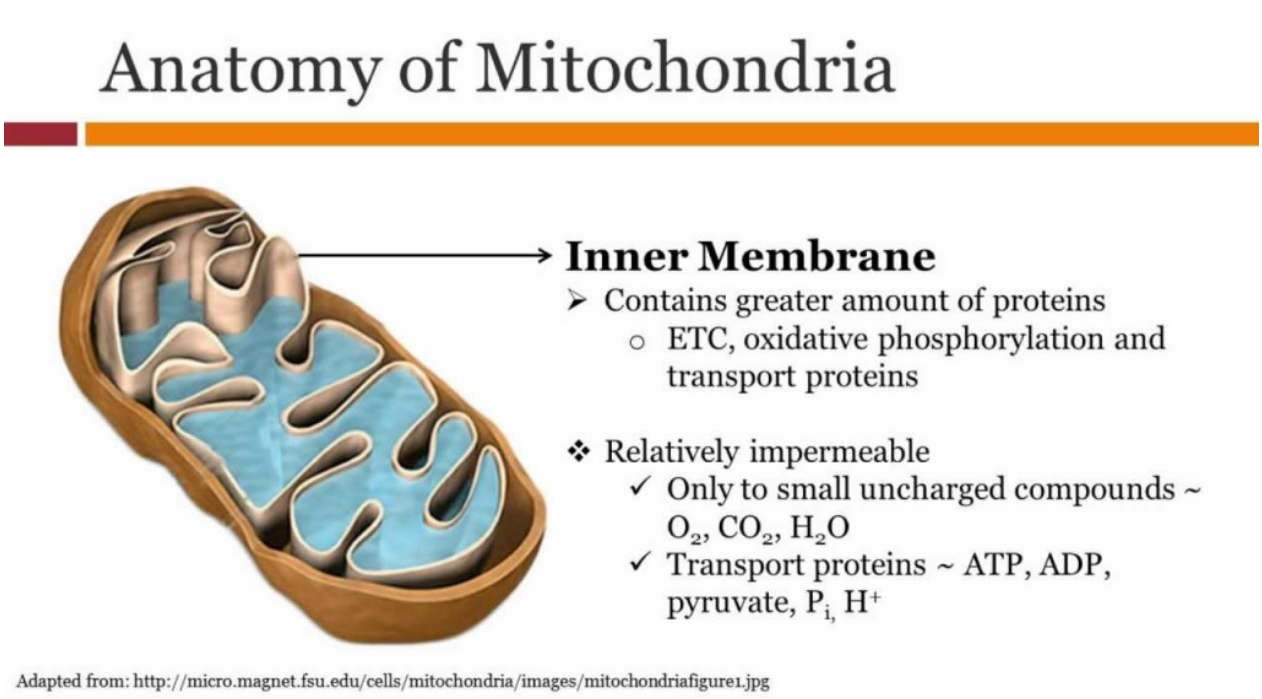
Microcurrent is naturally generated in the body to produce the energy required for muscle movement and nerve impulses. It is the body's own electrical system that provides the voltage for ionic exchanges across the cell membranes allowing for cell functions including the intake of nutrients from the blood, removal of cellular waste and movement of impulses along nerve pathways. The harmonious flow of these tiny electrical signals is also essential for healthy cell function and cell-to-cell communication.

Cells are similar to miniature batteries and electrical

generators by this action they conduct electricity, create electrical fields, and are powered by a very low level of electrical voltage known as Microcurrents. The unique bipolar membrane surrounding each cell serves as a medium that separates intracellular and extracellular fluids. In the inside of this membrane are channels that allow for communications in and out of the cell. The opening and closing of these channels are very well regulated in order to influence cell function.

Either single molecules or complexes of molecules within the channels allow for the passage of positively and negatively charged atoms (ions) such as sodium, potassium, chloride and calcium. Membrane potentials the name for the voltage difference in electrical potential across cell membranes.This is the *Discovery of ionic channels*

This method invented by German Nobel prizewinners, Erwin Neher and Bert Sakmann. These two scientists were able to record how a single channel molecule alters its shape to control the flow of current in and out of the cell, all within a few millionths of a second.



Mitochondria

Mitochondria is essential to the growth and function of all

cells and accomplish a multitude of metabolic tasks.

There can be as many as 500 to 2000 mitochondria scattered throughout the cytoplasm of a cell. The amount is specific to the location of the cell in the body. Mitochondria are the sites for aerobic respiration and energy production and contain their own DNA. They act as storage units for energy converted from food nutrients. Chemical energy is stored as sugars, amino, and fatty acids and is used for conversion into ATP (Adenosine Triphosphate).

Energy is manufactured in the form of ATP through the collaboration actions of proteins located in and on the inner mitochondrion membrane that is called the electron transport chain Electrons are passed down this transport chain releasing energy at each step of the conversion process (Krebs Cycle).

This complex electrochemical process is known as ATP synthesis.

According to http://microcurrent4people.com/articles/Microcurrent-Therapy.php

ATP (Adenosine triphosphate): ATP is considered by some biologists as the “currency of life.” It is a reservoir of energy that is integral and dynamic to the function of nearly every cell in the human body.In one instance ATP is used in muscle contraction, protein biosynthesis, and nerve transmission. One of the elements of microcurrent therapy is that research has shown that application of microamperes can increase the level of ATP production by up to 500%. This is crucially important at the site of an injury ATP supplies can often become diminished. Also, unlike other forms of electric

therapy, microcurrent has a cumulative effect on ATP levels. Therefore by applying microcurrent ATP levels can be increased and in turn, the body’s healing process accelerates, by repeated use.

New research reveals that the role of the mitochondria in health and disease is crucial. Once defined as an energy factory, mitochondria also have specialized responsibilities that adapt to each phase of our life from embryo to mature age. They are closely involved with most of the major metabolic pathways used by the cell to build, break down, and recycling of its molecular building blocks. It is also these progressive metabolic changes that become so significant when assessing the actual biological age of cells and the state of their health.

Microcurrent in Esthetics

Low level of electrical current (500 microamperes) works in harmony with the body’s natural healing processes. At a cellular level, microcurrent stimulates activity in the cell to create massive amounts (a 500% increase) of adenosine tri-

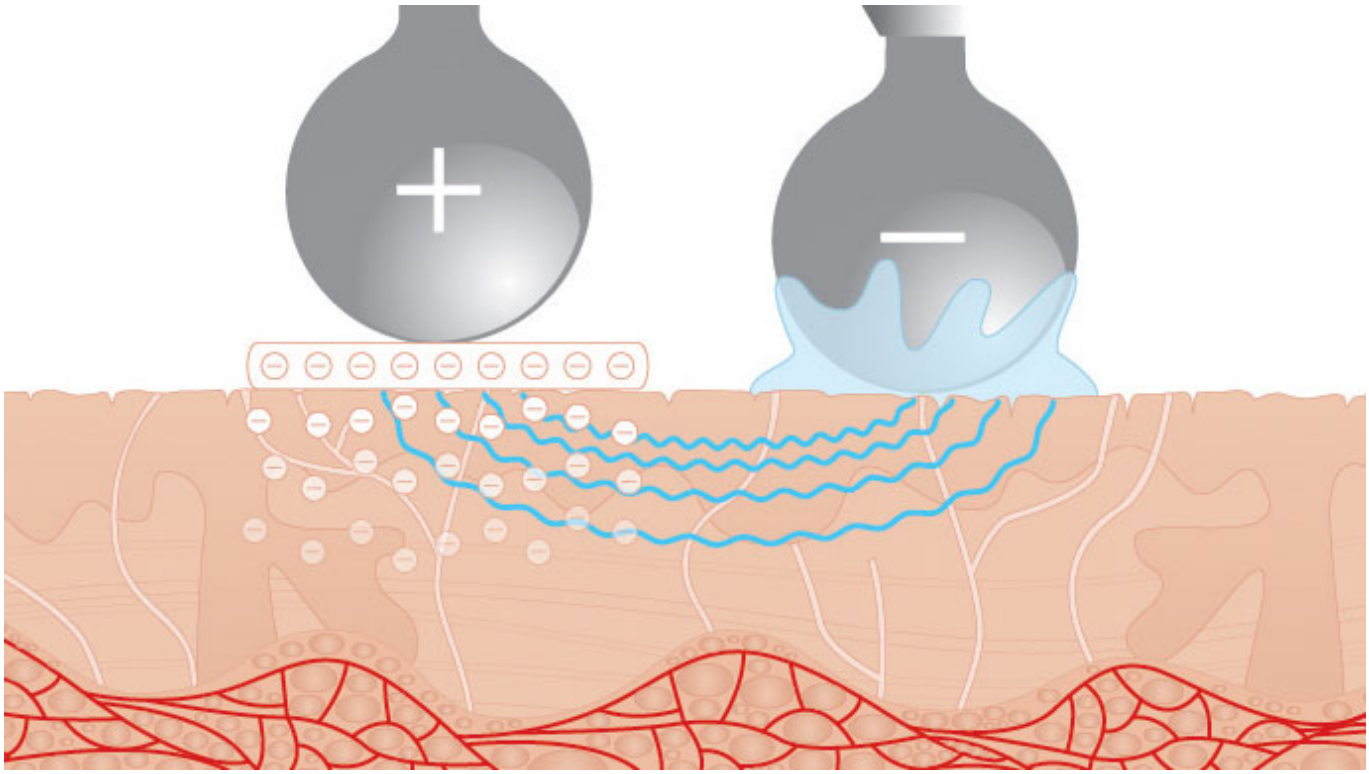
phosphate (ATP), known as the “energy of life”. ATP drives a number of biological processes including muscle contraction, re-education, and protein (collagen and elastin) synthesis. Facial toning is achieved through muscle re-education, working a muscle from its origin and insertion inward to shorten slackened muscles (such as in the cheeks or forehead), and working from the belly outward to lengthen contracted muscles (such as the muscles that pull the corners of the mouth downward). Microcurrent also offers specific iontophoresis which allows superior penetration of serums and skin care products into the skin.

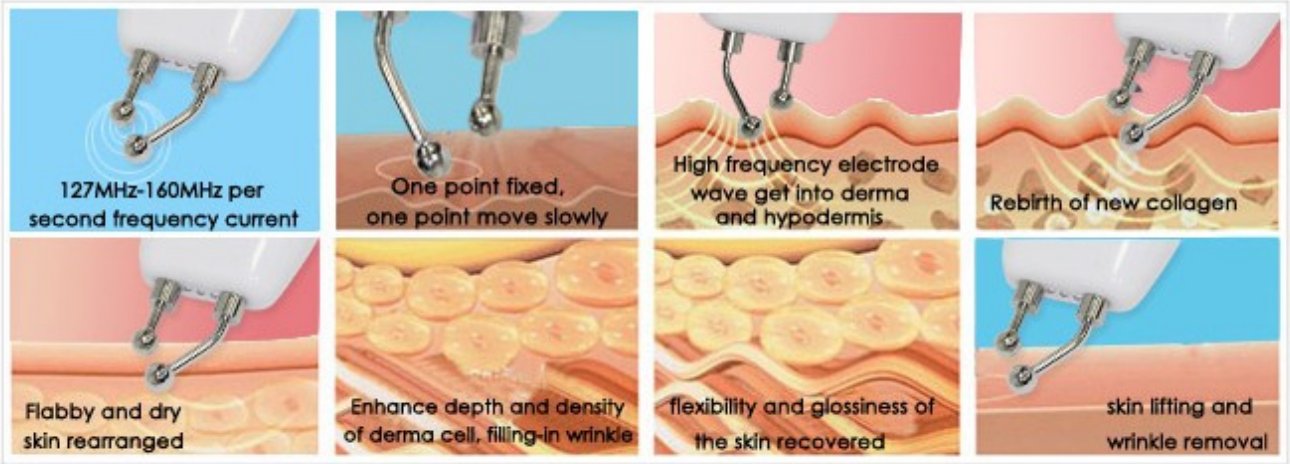
New applications for microcurrent technology encompass the beauty industry for face and body sculpting. There are major benefits when applying these external energy sources. The application of microcurrent also supports skin regeneration by encouraging the repair process. Damaged skin requires a program of restoration that is gradual and progressive for long-term optimum wellbeing, with that being said the process is of maintenance. Clearly, all modalities of correction certainly have their place. Prior to choosing a course of treatment including product selection, the first step in skin correction is to determine the level of deterioration caused by sun damage, the aging process, and other skin conditions. Microcurrent gently encourages repair of the stratum corneum, the bi-layers, and dermal components to foster the skin into an ideal state. Cosmetic Microcurrent is beneficial for improvement in the appearance of the skin.

The effects of microcurrent are accumulative and studies have confirmed that there are significant side benefits including muscle re-education. Be aware that the results are also dependent upon lifestyle, age, health, diet the amount of dedication to the use of it and condition of the skin discovered after many years of using Microcurrent and studying the process that the use of Fulvic and Ionic minerals helps with the conduction and communication of the Microcurrent

among the cells. The concept that ATP can be stored is more of a reason for performing a series of sessions whereby there is a re-education process of muscle tissue. Furthermore, the low intensity of microcurrent cannot cause visible muscle contractions or marked discomfort.

The probe should be placed at the beginning and end of the muscle





The Technology – Microcurrent

The use of Microcurrent in medicine and cosmetic improvement has been studied for more than 30 years. Stimulation with microcurrents is also called biostimulation or bioelectric therapy because it encourages cell physiology and growth. Essentially, Microcurrent is a low level of electrical current that mirrors the natural current flow of the body. It serves as a non-invasive augmentation of the body's natural electrophysiology through frequency, polarity balancing, and homeostasis. The effects of microcurrent (electroporation) in

clinical medicine has demonstrated acceleration of healing bone tissue, wound healing, muscle rehabilitation, TMJ, tendon repairs, and collagen remodeling.

Some of the benefits:

- Promotes cell metabolism and tissue repair
- Supports circulation – blood and lymph
- Reduces inflammation
- Helps increase mitochondrial activity through increasing ATP
- Increase natural production of collagen and elastin
- Support scar repair by dispersing scar tissue and collagen remodeling
- Increase protein synthesis, gluconeogenesis (GNG) and membrane transport.
- Re-educate and rejuvenate muscle tissue
- increase the natural production of collagen
- increase elastin
- increase the natural production of collagen
- increase elastin
- increase blood circulation
- Aged and slackened skin.
- Improvement of skin texture.
- Fine lines and wrinkles.
- Reduction of acne scars.
- Use pre and post surgery to improve the both muscle and tissue for optimum outcome.
- Post surgically the application of microcurrent supports the reduction of trauma, irritation, inflammation and helps foster skin healing as well as minimizing scar tissue.
- Muscle tightening all over the body areas.

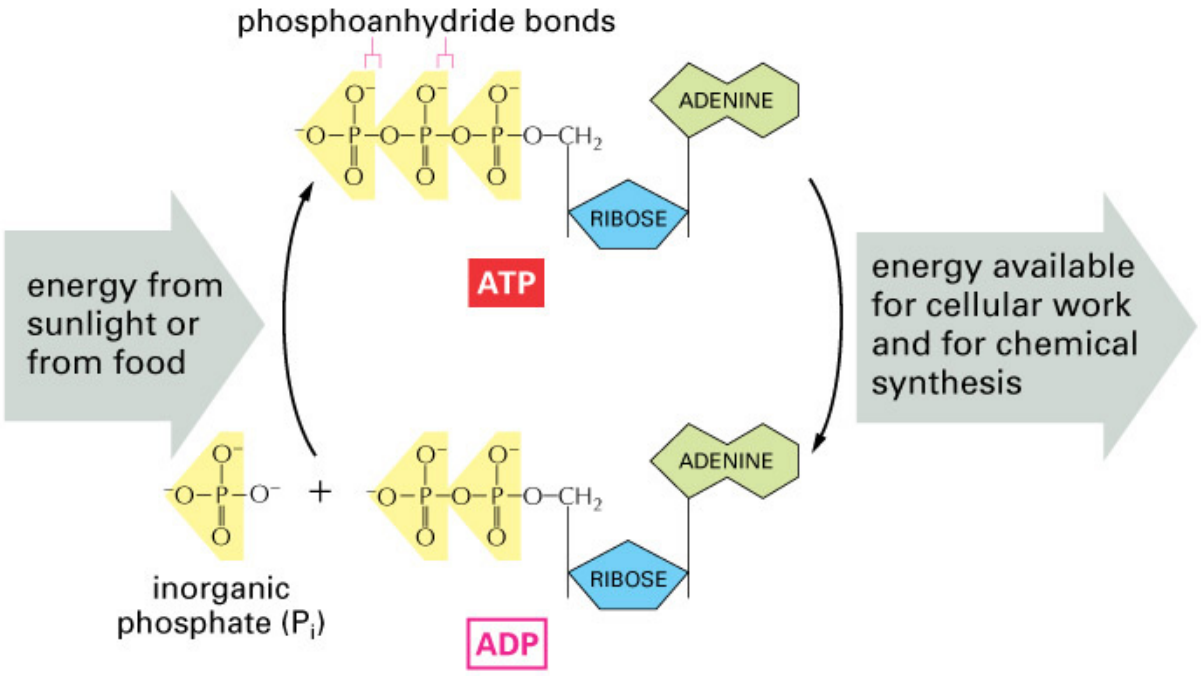


Figure 3-32 **Essential Cell Biology, 2/e. (© 2004 Garland Science)**

The Research

Reports in the research involving the application of electrical stimulus on wounded tissue have been documented since the 1830's when Carlos Matteucci confirmed that electrical current was generated in injured tissue. During the past 30 years and with the invention of sophisticated instrumentation, scientists are able to explore and measure the effects of low level of electrical stimulation and the positive effects on tissue. The principles of microcurrent in both healing and beauty therapy applications share a commonality and consensus regarding its effects on improving the function and appearance of tissue. In wounded skin, there is a specific biological pathway for repair. Referred to as current of injury, living tissue has a direct current surface electro-potential to regulate this healing process. Moreover, intervention is critical in order to prevent further deterioration.

It is reasonable to believe that this concept holds true for aging and damaged skin including injury to the acid mantle, stratum corneum, and epidermis. There is an interruption in the biological movement of electricity that controls cell behavior for normal skin function. The ability for the skin to repair and maintain water balance, the process of epidermal differentiation, collagen synthesis, and maintaining an overall wellbeing appearances it becomes increasingly challenged. More so this is apparent in xerosis skin (abnormal dryness). It has been confirmed that the application of low levels of microcurrent directly affects circulation (capillary density and perfusion), increased ATP, and improved fibroblast activity for synthesis. of collagen.

Study review

In a study with important implication for electrotherapy using microcurrent, Ngok Cheng (1982) verified the effects of electric current of changeable intensity on variables crucial to the healing process. At 500µA (microamps) the production of

ATP (cell energy) increased by approximately 500%, while amino acid transport increased by 30-40% over control levels using 30 to 40 percent above the control levels using 100 to 500 µA. When microamps were increased to the milliampere range, ATP generation was depleted, amino acid uptake was reduced by 20-73 percent and protein synthesis was inhibited by as much as 50 percent. Conclusively it was suggested that the higher milliamp currents inhibit healing whereas the lower currents promote healing.

Robert O. Becker, M.D. author of "The Body Electric", performed pioneering research with his study of the field of regeneration and its relationship to electrical currents in living things. He made reference to comparing microcurrent to acupuncture reflecting on the system of meridians that connect all parts of the body. Furthermore, he recognized the action of electrical currents, via the perineural cells and circulatory system. The future for the use of microcurrent relies on education and understanding of the cells and body systems and the benefits that are available from this innovative technology. The intended use for microcurrent in esthetics is to present a powerful and effective tool to aid in inspiring a healthy skin transition from youth to maturity.

Disclaimer. In no way does it replace the advice of a medical practitioner.

Question: Is this treatment painful?

Answer: No. In most cases it is sub-sensory, and many people find it quite relaxing.

Question: How long does each treatment take?

Answer: Most facials take approximately 60 to 90 minutes.

Question: How soon will I see some improvement?

Answer: Although a remarkable difference is seen after the first treatment, the benefits of microcurrent are cumulative, and as such, microcurrent treatments are typically performed in a series to gain maximum anti-aging results.

Question: Is microcurrent for everyone?

Answer: While most people can benefit from the application of microcurrent, there are some absolute contraindications; it cannot be performed on persons with epilepsy, pacemaker, pregnant women, or anyone with active cancer.

Question: How long will the results last?

Answer: After you have completed the Microcurrent maintenance treatments at 3 to 6-week intervals are recommended to retain your results.(everyone is an individual result are individual as well)

Some Great Micro Current Machines

NuFace Mini (limited edition)

The NuFACE mini is an FDA-cleared Facial Toning Device that gently stimulates the larger surface areas of the face to improve your appearance.

COSMETIC
EXECUTIVE
WOMEN

INSIDERS'
BEAUTY AWARD

WINNER
2018

NuFACE Trinity + ELE Attachment Kit

The NuFACE Trinity is an FDA-cleared, multi solution, skin care device innovatively designed with interchangeable treatment attachments to help rejuvenate and improve your appearance.


NŪFACE
by CarolCole™
Gel Primer
STEP 1
For Normal Skin
Paraben-free / Dye-free
2 FL OZ / 59 ml e

NuFACE Gel Primer

The NuFACE Gel Primer is a unique, chloride-free electrolyte gel that is the essential first step to using the NuFACE Microcurrent Device. The NuFACE Gel Primer allows the NuFACE Device to easily glide across the skin and ensures conductivity for optimum lifting, toning, and contouring results. Convenient, smaller size – ideal for travel.


NŪFACE
by CarolCole™
NEW!
Hydrating
Crème
Crème Primer
STEP
1
For Normal
to Sensitive Skin
2 FL OZ / 59 ml e

NuFACE Creme Primer

The NuFACE Crème Primer is a unique, high quality hydrating crème that is the essential first step to using the NuFACE Microcurrent Device. The NuFACE Crème Primer allows the NuFACE Device to easily glide across the skin and ensures conductivity for optimum lifting, toning, and contouring results. Convenient, smaller size – ideal for travel.