

New techniques for self-treatment

Marilyn Monroe craned the men's head in the 1950s. In the '60s, all women wanted to be as slim as Twiggy and look like the angels of Victoria's Secret, Alessandra Ambrosio and Gisele Bündchen in the 2000s. Beauty is like fashion. What was announced in the last decade can already be out in the new one. Maybe that's another reason why non-surgical beauty treatments are becoming increasingly popular. Because most methods do not achieve definitive changes, as is usually the case with surgical treatments. In the 1990s and 2000s, surgery, botulinum toxin, hyaluronic fillers, and sutures were announced. For beauty almost every price was paid.

Since 2010, a new trend has developed with new technologies. The goal of getting nicer, younger, and leaner without surgery and pain has led to highly effective developments in the beauty market. Millions of VIPs and Stars are already using these technologies today. These technologies are also offered in all good clinics.

Very recent is the trend towards mobile devices for home use, which offers highly effective results at low prices. It could almost be said that a new age in the field of beauty and dream body began for every human being.

5.1 Techniques that improve skin and tissue from the outside

The use of gentle electrical voltages has proven to be very effective and safe.

These treatments are well researched and proven. Depending on whether DC voltage or AC voltage is used in different frequencies,



a variety of desired effects on skin and tissue can be achieved. Gentle electrical DC voltage can be used to inject active ingredients into the skin and hair roots.

A specific electrical AC voltage in the radio frequency range causes heating of the tissue. In this process, different frequencies have different effects.

Very high frequencies affect the surface, so the skin. Medium-high frequencies affect the tissue and low frequencies affect the deeper muscles.

5.1.1 Iontophoresis - so that active ingredients also work

According to Wikipedia, iontophoresis is a medical procedure for the absorption of drugs through the skin using a gentle electrical DC current.

One of the first applications was iontophoresis with simple tap water on hands and feet or armpits to reduce sweat production. As a result, in most cases, excessive sweat production could be effectively slowed down for several days. Without side effects. The current reaches a maximum of 30 mA and the maximum voltage of 60 Volt. The current may have a uniform voltage or a pulse-shaped voltage curve with high or low frequency.

By means of electrical voltage, active ingredients are transferred into special treatment serums, which are produced with the same ionization (minus and minus), into the depth of the skin in order to achieve their full effect.

Only then can the active ingredients unfold their effect in the tissue. The active ingredients are introduced into the depths without injuring the skin, for example with a syringe.

In recent developments, there are now also hand-held devices that significantly enhance the effect of ionized hyaluronic acid in the skin.

Normal creams and serums that have not been specifically ionized will not penetrate deep into the skin with iontophoresis devices.



5.1.2 Radiofrequency for skin tightening

When a weak alternating electric current is applied to the body, heat is generated. At a very high frequency of approx. 1 MHz, i.e. 1 million oscillations per second, the current flow remains in the first millimeter of the surface and warms the skin. With certain warming of the skin, the collagen fibers multiply and the skin becomes firmer.

Doctors have been using such devices for many years. The medical devices used have very high energy, they cause pain and can also cause injury. That's why they can only be used by doctors.

New to the market are smaller hand-held mobile devices from the BYAS brand for home appliances that are not at risk because they are equipped with special technologies that automatically regulate temperature and effectively prevent high temperatures!

Since the devices can be used at home you can use them regularly according to your own needs.

If the treatment is repeated regularly, more and more collagen is formed and the skin becomes firmer.



5.1.3 Radiofrequency against fatty tissue

At a lower frequency of 300 kHz, ie 300,000 oscillations per second, the current penetrates a few millimeters deeper into the body. Here it heats cells of adipose tissue. Since the cells of the adipose tissue are very large and have a relatively thin membrane, they are sensitive. Even at low currents, the permeability of the cell membrane changes, so that the triglycerides (fat cells) of the cell contents can escape.

But fortunately, adipose tissue responds very well to radiofrequency treatment. Since the fat cells - especially the extra-large fat cells - have a particularly sensitive cell membrane, it is possible to influence them with radiofrequency.

Even a gentle radiofrequency current at 300 kHz causes the fat cells to loosen up the membrane, so that part of the contents can escape from the fat cell.

As a result, part of the fat cells dissolves. The fat that was previously in the cell is now free. The body immediately goes to work on releasing the released fat naturally with special enzymes. The fat is transported with special transport proteins through the bloodstream into the liver and further degraded there. Part of the free fatty acids is excreted through the fluid and kidney. The other ingredients are consumed by the body, leaving only CO₂ and H₂O as end products.

Good news: Fat cells do not multiply in adults. After treatment, the number of fat cells remains permanently less. Nevertheless, it is not recommended to regain the weight. Because the fat cells can become larger again when gaining weight.

5.1.3.1 Contraindications

Who should not be treated?

Basically, no significant side effects can be expected. Nevertheless, it is a medical standard to exclude certain groups of people from aesthetic treatments. These are, for example, minors or children, pregnant women, and nursing mothers.

One is particularly careful in diabetics with circulatory disorders or other diseases with circulatory disorders.

Even patients with severe autoimmune diseases should be excluded from the treatment because one cannot know exactly how they react. Of course, people who are suffering from other serious illnesses should also be excluded from the treatment.

Not necessarily excluded, but should be treated carefully with people with kidney disease, because short-term fatty acids are also excreted through the kidneys. Not clear are the chances of success in malformations of the fatty tissue.

On thick people with a BMI of 25-30 and more, treatment is possible. However, it should also take place here an additional treatment with protein/casein shakes to reduce permanently larger amounts of fat, while maintaining the muscles and the basic burning of calories.

5.1.3.2 Side effects

Side effects are basically mild and temporary. It can be mild redness and rarely itching, but rarely more than a day.

Swelling that may be caused by the irritation is very unusual. With dark skin types, in rare cases, intensified pigmentation can occur, but it will disappear on its own.

5.1.4 EMS Electrical-muscle-stimulation

Electromuscular stimulation is a long-established procedure that has been used in medicine for over 30 years.

In recent years, more and more gyms have evolved to successfully offer this special electrical muscle stimulation as a workout program.

AC electrical frequencies in the range of about 100 Hz, so 100 vibrations per second stimulate the muscle. The muscle tenses and is trained. The training is effortless, increases muscle strength and enlarges the muscles.



NUI Galway
OÉ Gaillimh

Clinical tests conducted at the University of Galway have shown: EMS increased the muscle volume in the face by almost 20 percent on average.

