

Sport & exercise – influences on the skin

published under "Sporty Beauty", Medical 2024 (4), 56-60

Exercise is not very popular across all generations. This has an impact on the body and health. The skin is also affected. A lack of exercise can lead to reduced blood circulation and therefore a dull complexion. It can increase stress levels, which often leads to skin problems. The production of collagen, on the other hand, is reduced by a lack of physical activity, which causes the skin to age prematurely. We take a closer look at the connections here.

A lack of exercise combined with a rich and often sub-optimal diet has multiple effects. The body size increases, the metabolism becomes sluggish, the circulation runs on a low flame, the abdominal fold becomes more pronounced and the hips become rounder.

There are many industries that are making good money from this development. The food industry is at the beginning of the chain, followed by medical and diet products for slimming, the textile industry for customised clothing, pharmaceutical companies with preparations for treating collateral health damage including depression and, last but not least, the cosmetics industry with various care and anti-aging products. In terms of costs, there is no doubt that taking up sport and exercise activities saves individuals a lot of money and also benefits long-term health and the welfare state. The motivation would probably be much higher if each individual could easily calculate their savings potential – if necessary, with artificial intelligence (Figure).

Physical networking

The function of placebos and nocebos in medicines is an open secret. This means that there is a connection between brain and effect. The same applies to cosmetics. The effect is much greater with a positive attitude. The brain is also always involved in exercise. Both develop synergistically.

Exercise also has a direct influence on intestinal motility, which together with the intestinal microbiome and nutritional behaviour influences skin condition.

In addition, sport and exercise strengthen muscles, fascia and subcutaneous tissue, which also improves skin turgor and elasticity. Bags under the eyes and cellulite also benefit from the increased skin elasticity.

In addition to these direct relationships between the brain, exercise and skin, there are other indirect connections. Exercise lowers both blood pressure and cholesterol level and therefore has an influence on circulation, blood vessels, lipid metabolism and individual stress behav-

Efficacy



Exercise
Balanced diet
Balanced psyche – stress reduction
Physical skin protection – suitable clothing
Sustainable cosmetic skin care
Instrumental bioengineering
Medical treatment

Expense

our. Together with a lower susceptibility to depression, this ensures, among other things, balanced sleep behaviour, which is also known to influence skin functions. Medication can be avoided, reduced or discontinued, which in turn leads to a lower rate of side effects, which also frequently affect the skin.

General conditions

There are few counterproductive effects of sport and exercise on the skin. They do not result from the exercise itself, but from the general conditions:

Swimming, for example, has an impact on the skin microbiome if it is carried out continuously in chlorinated water. This applies even more to elevated water temperatures. Body preparations containing preservatives (in accordance with the KVO) after swimming can exacerbate the situation and lead to reactions such as redness and itching in the long term.

If there is a tendency to infection with athlete's foot, a single prophylactic treatment with Terbinafine (INN) every 1-2 weeks is recommended. If you are sensitive around the eyes and nose, it is useful to wear larger goggles with a bay window so that you can breathe out freely. Running sports naturally involve stress on the feet and corresponding preventive and after-care measures. The horny layer becomes thicker, just like that of the hands during handball.

The same applies to alpine climbing, where parts of the horny layer may peel off and regenerate after 1-2 weeks. Climbing, even indoors, is also one of the most universal sports because it literally works the entire body and the absolute concentration frees the brain from any everyday thoughts.

Passive movement

Of course, you can also be moved, e.g. by means of massages, lymphatic drainage, shock waves or vibrating plates. Even sporty "non" movements such as standing on one leg while brushing your teeth or the alternative "standing balance" strengthen muscles and tissue and activate the grey cells.

The unconscious brain work involved in sport and exercise is a key factor in preventive holistic anti-aging. One supportive measure is to counteract the slowing down that creeps in over the years when walking and climbing stairs, even if most "contemporaries" habitually behave differently. Even mere touch leads to reactions from muscles, tissue, epidermis and the senses – think of nipples and sexual organs, for example – not forgetting the thoughts that can cause our skin to shiver (goose bumps).

Effective mini sport

In fact, you don't always have to think about the big movements; very effective results can also be achieved on a small scale. Here are a few examples:

- **Dry and tired eyes** have become a widespread problem due to the constant, strained looking at the screen. There are now effective eyelid lotions that support the eyeball's natural lubricating film. In terms of exercise, you can also do eye gymnastics during the long working day by tensing and relaxing the muscles surrounding the eye from time to time. There are numerous instructions for this on the Internet. This also trains the elasticity of the skin around the eye.
- **A** similarly interesting observation can be made **with nasal congestion and dryness** – a problem that can be particularly unpleasant at night and can severely disturb sleep. As a rule, nasal drops are used. But there is another way. With a little practice, tense the nostrils inwards, relax again and do this exercise for about a minute in a row. Within about five minutes, the increased blood circulation causes the nostrils to moisten again and usually also relieves the congestion.
- **Speaking of sleeping and falling asleep:** progressive muscle relaxation (alternating tension and relaxation) can help you to calm down. One area that does not relax until the end and prevents sleep is the jaw muscles. It is therefore worth focussing on them and training them to relax.
- **In the case of operations**, with or without skin involvement, it is recommended to lie down as little as possible and to start exercising early. It has been shown that this can significantly shorten convalescence. This also applies to operations and situations involving possible incontinence. Training the bladder to a high "filling level" at an early stage strengthens the muscles better than premature, over-cautious emptying. In this context, early pelvic floor exercises are also useful – apart from the fact that they also benefit your figure.
- A positive collateral effect is the **shower after sport**, if it is set to cold at the end. Skin and connective tissue are tightened and adrenal hormones, which also have an effect on the skin, are released. Alternating showers is the best

way to achieve this. This hardening also leads to improved conditioning against infections, both of the skin and the whole body.

- If there is an **alternative between medication and physiotherapy**, for example for pain in the joints and immobile fasciae, exercise therapy is consistently the better long-term option. It avoids side effects and long-term effects on the body and skin, for example from prescribed corticoids.

Sport in society

It can sometimes be difficult for individuals to make a decision on their own and commit to sport and exercise. Dancing, for example, combines intensive movement of the whole body with stimulating entertainment.

Mountain hiking, canoeing and cycling together are other activities that you can still do even at an advanced age. They contribute to a good oxygen supply, strengthening of the muscles and ultimately the tightening and smoothing of the skin. The blood circulation in the peripheral parts of the body and the skin is noticeable on the surface through the increased temperature. In addition, the increased muscle tone throughout the day helps to burn additional calories. You will feel better about your own body and compliments from those around you will not fail to materialise.

Sport & nutritional supplements

Advertising suggests that sporting activities require changes and additional measures in the diet. A balanced diet is perfectly adequate if you are not involved in competitive sport. There is little to worry about here.¹ Nevertheless, the following is worth knowing:

- **The drinking myth:** In our culture, it has become common knowledge that you should drink at least two litres of water a day and consume isotonic drinks during sport and exercise. There is no scientific basis for these guidelines. The fact is that these rules can kill marathon runners.² Just as changing loads train the muscles, the blood vessels are trained by drinking different amounts. Important: The ratio between water intake and regular urine output must be right.

- **Mineral myth:** It is not necessary to consume additional minerals every time you exercise. Natural mineral water is completely sufficient, everything else is taken in with food. One exception is if you are prone to calf cramps. Magnesium-rich mineral water or a magnesium citrate tablet can help here.
- **Antioxidant myth:** Sport and exercise increase the production of radicals and significantly reduce vitamin C levels. This is completely normal and is fully compensated for by activating other reducing (antioxidant) mechanisms.³

Dr Hans Lautenschläger

¹ D. Hahne, Dtsch Arztebl 2015; 112 (31-32); <https://www.aerzteblatt.de/archiv/171478/Ernaehrung-fuer-Sportler-Fit-auch-ohne-Pillen-und-Pulver>

² K. Roth, Chemistry in our time 48, 332-340 (2014)

³ German Nutrition Society; <https://www.dge.de/gesunde-ernaehrung/gezielte-ernaehrung/ernaehrung-und-sport/>