

Let's have a look at your feet... Well-cared feet walk better!

published in *Kosmetische Praxis* 2008 (6), 14-16

Pedicure tends to be neglected in young age. Wrongfully - since preventive care is a significant factor to be a good walker also in later years. The following survey describes which specific products and what kind of treatment play a role in this context.

During normal walking parts on the soles of our feet endure 100 to 300 kPa pressure. Just to remember: 100 kPa is equivalent to a pressure of 1 atm. Standing barefooted on the floor causes local strain which corresponds to a multiple of this pressure. In other words: With regard to mechanical stress, our feet are among those parts of the body that endure the most strain. That is why the skin of our feet is particularly thick, specifically the external horny layer on the part of the soles that we walk on.

On the other hand, our upright posture or orthostasis which is the medical term, causes a high intravascular pressure that is compensated by the high venous reflux. Symptoms of circulatory and vascular disorders are swollen legs among others.

To get down to the root of the trouble...

External as well as disease related influences quickly end up in problems and among them mechanical strain by inadequate shoes as e.g. high heeled ladies shoes, and narrow or worn shoes. The feet will deform and callus and blisters develop. Prolonged standing affects the micro circulation, airtight shoes or boots support a humid microclimate with soaking of the barrier layers which altogether provides the optimal nutrition for ubiquitously existing spores of pathogenic fungi.

With a weak connective tissue on top of it, the area below the ankle reacts very sensitive to external pressure and spider veins may easily form which tend to grow with advancing years. Diabetes patients may develop circulatory problems and open sores which may take a long time to recover.

Pedicure products can only come into effect after the causes of the foot problems have been adequately dealt with. In a next step then long term cosmetic therapies can be started.

Cosmetic care - just enough and not too much

Priority should be given to the horny layer of

the feet - it should be smooth and soft. Skin care creams which support both skin hydration and skin lipids are helpful in this case. On the other hand however specifically in the foot area it is important to find the adequate dose. Excessive fattening causes a swelling of the skin barrier and reduces the natural recovery of the skin. Excessive moisturizing of the skin supports the activity of odor creating bacteria. Hence it is important to find the golden mean. Superficial films feel pleasant and smooth, in the long term however they are rather counterproductive particularly when they are based on mineral oil products like paraffin oils and vaseline. Thus easily penetrating emulsifier free creams are the best solution.

The treatment of diabetic patients should focus on long term smoothing effects of the lipids in order to avoid that freshly closed wounds or edges of wounds open again. Also helpful in this specific case are oleogels, i.e. products without watery phase. They should contain linoleic acid, alpha or gamma linolenic acid (essential fatty acids) with their high anti-inflammatory potential. Like the skin-related cholesterol, phytosterols have long term preventive effects. They are contained in the unsaponifiables of vegetable oils.

The skin smoothness can easily be improved with native phosphatidylcholine (PC) which forms a complex compound with the keratin of the skin. In addition PC provides the skin with natural linoleic acid and also has positive influence on brittle nails. In this specific case PC should be used in form of nanoparticles which are applied directly on and around the nails in form of a watery solution. The oil component of the nanoparticles will smoothen the skin.

In case of deep cracks (rhagades) in the soles of the feet and especially in the heels the neighboring horny layer is largely removed in order to ease the strain in this area. It is also important to keep the skin smooth. The combination of PC with urea which increases the skin hydration, together with an easily penetrating barrier cream supports the recovery process. Evening primrose oil or linseed oil

with their content of essential fatty acids has anti-inflammatory effects.

It is recommended to keep the toenails short as the permanent compression in tight shoes may lead to deformations of the nail bed, split nails or in extreme cases also cause bruises underneath the nails which take a long time to heal. The latter mentioned problem frequently happens when mountain hiking and especially when going downhill i.e. that the foot continuously slides into the tips of the shoes and the long toenails then hit the tips.

Cleansing with warm water

Unless walking bare-footed and therefore ending up with dirty feet, it is sufficient to cleanse the feet with warm water only. An excessive use of soaps not only disturbs the natural skin protection with regard to the moisture and lipid balance but also affects the natural skin flora and therefore increases the susceptibility to fungal infections.

The more negligent the skin in between the toes is dried after showering the higher the probability to catch a fungal infection. As the toes on top continuously touch each other there is also a high risk of a fast contamination with the germs.

Emulsifier free cleansing milk products allow a mild cleansing as well as the adequate care for the skin. The same effect have vegetable oils and their compounds though. They can also be used for a massage of the feet which improves the micro circulation in this area. Cracked skin can be treated with astringent tannins or hamamelis extract before the application of the oils.

Hot and cold baths against cold feet

In order to improve the micro circulation and elasticity two quite traditional remedies may be beneficial besides massages, i.e. walking bare-footed and taking hot and cold baths. Cold feet should definitely be avoided not only because they affect the circulation but also in order to prevent negative impulses on other parts of the body. Pains in the spinal area or morning stiffness may frequently be attributed to cold feet which were not adequately covered while sleeping. Hence, on the other way round it can be said that warm foot baths or a treatment with hot stones have soothing effects for the whole body. Adding essential oils to the bath which stimulate the circulation will complement the treatment. If oil containing PC concentrates are combined as well the baths are even more effective. In this case the particles formed in the water will cover the skin with a layer and

thus provide an agreeable smooth and soft skin surface.

Not every type of water is appropriate for baths: the water should be as soft as possible as the calcium salts contained in hard water form lime soaps which may affect the skin barrier. By contrast, sea salt compounds are excellent additives for foot baths.

Massaging the feet after the bath and then putting the legs up will decongest both feet and legs. Persons with problems with the connective tissue will experience this as particularly helpful in the evening hours after a stressful working day. It is also an excellent relief for persons with spider veins below the ankles and the efficacy can be optimally supported by echinacea extract and vitamin K. Vitamin K has stabilizing effects on the vascular system and will reinforce the tissue.

Infections: preventing instead of ...

If infections have started to spread between the toes it is recommended to ask the physician for an effective antimycotic or a combined preparation which in this specific case will also take care of the pathogenic bacteria in the destroyed barrier layers that generally accompany a fungal infection. The treatment should not be stopped too early as the skin takes its time to discard the infected barrier layers and form replacements. As the focus in this case is on a fast recovery of the skin the remedy here is to start a preventive cosmetic treatment with a mix of the vitamins A, C and E combined with D-panthenol in emulsifier free cream.

Erythema and destroyed barrier layers sometimes lead to itching and the cosmetic treatment here consists of a combination of urea and evening primrose oil. Warts also penetrate the barrier layers and can easily be caught in spa areas. The only remedy here is to apply antiviral ointments, cryotherapy or laser.

Corns and Co

A very annoying cosmetic problem is the formation of callus in the areas where mechanical pressure occurs. They may become very painful spots if they form in areas without enough tissue between skin and bones. The tissue slowly modifies and the corn or clavus as the Latin term says, will form. Depending on the specific type the corn either is removed with keratolytic agents as e.g. salicylic acid or alternatively by surgery. In the pedicurist practice cornifications are removed with grinding or milling devices. The best long term therapy however is to use adequate footwear. PC containing barrier lotions help to keep the skin surface smooth.

Natural scents

Moist feet that tend to sweat are not only a nuisance but also are accompanied by an embarrassing odor due to the microbial metabolites forming in this condition. The cosmetic treatment mainly consists of creams with astringent (see above) and antibacterial active agents like e.g. elemental, finely distributed silver (micro silver), essential oils like farnesol, or thyme oil. Further active agents, comparable to the ones used in deodorant creams e.g. are aluminum salts and sage oil. Footbaths with essential oils are also beneficial.

Besides chamomile, salix extract, calendula, evening primrose oil, allantoin and different extracts as e.g. from centella asiatica (tiger grass), micro silver also is a component of products for the wound care.

Massages & physical exercise

Massage oils for the feet mostly consist of a base oil, as e.g. almond oil, avocado oil, olive oil, jojoba or soybean oil, and additives like essential oils with warming, cooling or fragrant effects. The massages are frequently carried out with adequately prepared herb stamps. They stimulate the circulation, improve the elasticity and may be optimally supplemented by regular foot exercises and frequent bare-foot walking.

Dr. Hans Lautenschläger