

Balneological products - application and benefits

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Bathing is very relaxing. It soothes body and soul. And this is the reason why cultivated bathing habits, in the therapeutical field also called balneology or hydrotherapy become increasingly popular again.

Within the wellness sector as well as for therapeutical purposes baths just go through a revival period. However, there is less talk about cultivated bathing habits but considerably more of balneology and hydrotherapy.

Differently from the shower, a bath is meant for "gourmets", taking their time to enjoy. Besides, the bath has a lot more to offer than the shower or the sauna: both just serve the purpose of skin cleansing. In the shower, tenside-containing products (shower gels, shower baths and shampoos) come in contact with the skin whereas in the sauna an intense sweating follows the cleansing under the shower. By applying essential oils and possibly an intense cooling afterwards there is already a health-promoting aspect added to the sauna treatment, e.g. the prevention and treatment of colds and flu.

With or without salt

The health-promoting aspect is an important factor for taking baths. A major role play temperature stimuli and weightlessness, e.g. for the treatment of circulatory disturbances, rheumatism or general motility disorders. Apart from pure cold and warm water applications like Kneipp baths (e.g. water treading) and underwater massage and gymnastics, bath essences that are adapted to the appropriate indications become the focus of attention. Skin diseases like psoriasis benefit e.g. from the soothing salts of the Dead Sea. In addition to that, astringent, antiinflammatory, keratolytic, antipruritic and antimycotic additives are used. Typical examples for partial baths are hip and footbaths e.g. with astringent oak bark-extracts for the treatment of wetting rashes, sores and cracked skin. Balneotherapy in the narrower sense includes healing waters for drinking and/or bathing. The baths may have natural or synthetic compositions. Among the most important healing waters are:

- carbonic waters
- sulphuric waters
- radon waters

- iodine waters
- saltwater (see below)
- trace elements containing waters
- humic acid waters

Depending on their composition and combination with physiotherapy, the baths have a soothing effect for patients suffering from chronic and degenerative diseases. Frequently they are combined with inhalations (exception: radon waters). An example here would be saltwater with pine needle oils (pine branches).

Oil baths

Very important are oil-based skin caring and preventive additives. Oil baths have been known from times immemorial and logically the well-known donkey milk belongs to this group. Today, natural oils (triglycerides), waxes, paraffin oils and silicones are used as oil components, however a clear trend is to recognize towards high-grade natural oils like olive oil. There are 3 different types of oil baths:

Spreading oil baths with a low emulsifier content or even free of emulsifiers. Spreading means a fast and even dispersion on the water surface which is mostly facilitated by adding synthetic esters, as e.g. isopropyl myristate (IPM).

The second type are milky-soluble oil bath concentrates with a higher emulsifier content. Furthermore, there are transparent bath oil concentrates with very high emulsifier content, which are offered as "oil foam bath" or "oil shampoo".

Emulsifiers

Emulsifiers are used to disperse fat substances respectively oils in water and to prevent the oils from settling on the bath tub. These positive properties unfortunately include a negative side as emulsifiers have a de-greasing effect in spite of the oil contained in the product. In this respect they basically differ from their natural model, the donkey milk

mentioned above where membrane-active substances (among others phosphatidylcholine) take over the function of emulsifiers. An advantage of these substances is that they are physiological and therefore very well tolerated. In the blood e.g. phosphatidylcholine, combined to proteins transports fat substances to the liver. A similar bonding can be found with the keratin of the skin so that with the help of this carrier the milk drops are properly placed on the skin. This principle has been adopted for a new type of oil bath, by developing oil baths from pure phosphatidylcholine and skin oils which spread on the skin but will not pollute the bath tub.

Different from conventional products, such oil bath concentrates are not developing emulsions but a spontaneous mixture of liposomes and nanoparticles as soon as they are added to the bath water. Due to their skin affinity, very low amounts of 10-20 ml are sufficient for a bath. Before the application, essential oils as a fragrance component or for the aromatherapy may be added to the new oil products. The essential oils also perfectly spread in the water.

Oily additives often are used for the hydrotherapy of rheumatic diseases as a preventive skin care.

Fragrant well-being

Essential oils also are main components of bath oils for the aromatherapy. In this case, the skin care effects only play a subordinate role. Therefore there are less skin care oils included respectively only used as a carrier for the fragrances. Due to their pleasant and fragrant effects these products are generally either classified in the wellness-sector or their effect is specifically designed for the body and the circulation. Depending on the specific essential oil or the mixture, different effects can be achieved e.g. relaxing effects with lavender, stimulating effects with rosemary, calming effects with balm or spasmolytic effects with thyme. Sage is soothing in cases of rheumatic diseases.

Essential oils should perfectly be dispersed in water as they may irritate the skin in concentrated form. Finished products usually contain emulsifying components. Fragrant sauna infusions have identical or similar compositions.

Soothing effect

Saltwater baths play an important role. Besides tenside-containing baths, they are applied in dermatology for the removal of crusta and scales. Moreover, salts have a soothing effect

and influence the cell proliferation in the skin. Salt products of the Dead Sea, table salt and brine baths reduce the pathological production of epidermal lipids in psoriasis cases and are frequently combined with UV-radiations (phototherapy). Highly concentrated saltwater baths have a less swelling effect and therefore are easier on the skin than pure water.

Still, as ever popular are perfumed bath salts on the base of table salt, sodium sulphate or sodium carbonate, which are adjusted neutrally or subalkaline. Effervescent tablets containing sodium carbonate, citric or tartaric acid, perfumes and dyes, also belong to this group. As bath salts not nearly reach the concentration of therapeutic saltwater baths their application is usually limited to a rather psychological well-being-effect.

Foam baths

Foam baths contain cleansing substances (tensides) in high concentration which are also able to generate lots of foam due to their structure. Especially children love to take foam baths. They only serve the purpose of cleansing the skin. Today, foam practically is understood as a synonym for effective cleansing. The fact, that besides their cleansing effect the foam-generating substances severely soak the skin and simultaneously remove natural protective substances mostly is ignored, however. refatting agents also have negative effects on the skin due to their chemical structure. In terms of skin physiology, it is recommended to avoid these substances but apart from clients with problem skin, this recommendation will possibly be ignored. On the other hand, clients with problem skin definitely prefer the "boring" products without foam, lipogenous agents and perfumes. Frequently, this group completely avoids cleansing additives at all.

As baby skin is particularly sensitive, very gentle cleansing substances e.g. sugar tensides should be used in baby baths and shampoos too.

Skin care after the bath

With the exception of saltwater baths and the newly developed oil baths, baths generally cause a swelling and degreasing of the skin depending on the emulsifier content, pH-value and the exposure. As a consequence, the transepidermal water loss (TEWL) increases and the skin dehydrates. Therefore it is suggested to apply a well spreading and fat-containing body lotion.

Besides a moderate fat content the lotion should also contain moisturizers. Emulsifier

free body lotions are better for very sensitive skin. In these cases also baths with cleansing components like foam baths should be avoided.

Baths for preventive and therapeutical purposes are generally not supposed to contain additional soaps or cleansing additives.

Dr. Hans Lautenschläger