

A.C.N.E. H.E.L.P.®

- Advanced
- Comedolytic &
- Normalizing
- Effect by
- Heat,
- Electricity &
- Light for
- Prevention & Treatment of Acne.

The acne

More than 80% of the world population suffers at least once in a lifetime from the signs of acne. The different types of acne can be treated the most effectively with medicament for internal use or with preparations for external application, and with the combination of these two methods.

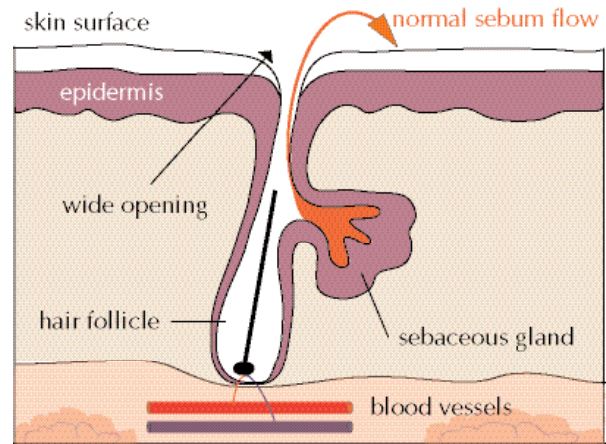
More and more data have been published in the last years about the dangers of antibiotics used locally: a resistance for antibiotics of the bacteria develops making the further treatments with medicaments unsuccessful.

Nowadays a general opinion about various processes of laser and light therapy has been gaining around that mild and middle severe acne can be treated successfully with some treatments without any side effect.



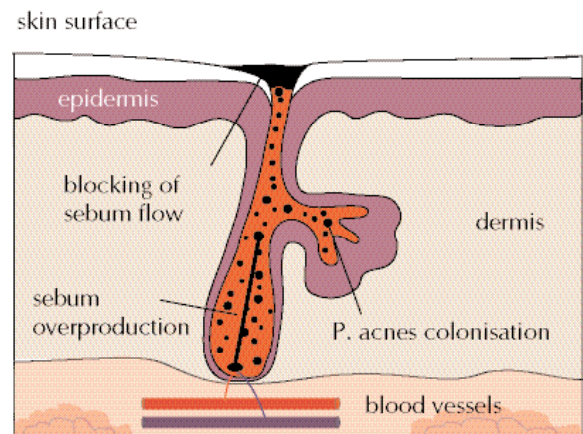
In the centre: the *P. acnes*

The chronic inflammation of the sebaceous gland and the hair follicle belonging to it (the so-called pilosebaceous unit) causes the acne. Under normal circumstances the oily material produced by the sebaceous glands gets to the skin surface along the fine hair present in the hair follicle, and there, by spreading, contributes to the building up of the protective film in the skin surface - the so-called hidrolipid film.



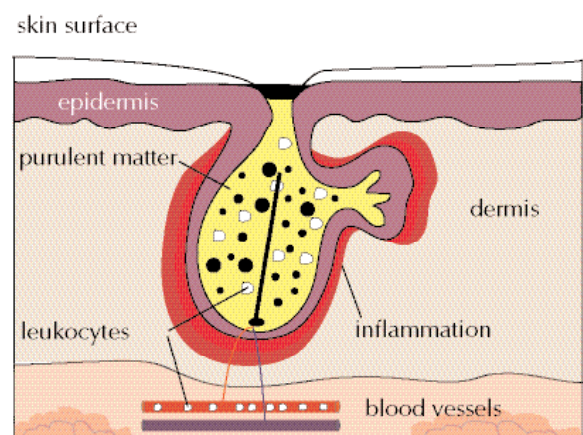
The acne process begins when a comedo builds up in the common way leading out from the pilosebaceous unit, thus blocking the clearing of sebum.

Thus the sebum gets stuck and the bacterium responsible for the inflammation - the Propioni-bacterium - multiplies in it.



The bacterium makes the sebum to become irritating fatty acids, which have a role in the developing of inflammation. Due to different chemotactic factors, leukocytes are gathering together as well, which cause the inflamed infiltration evolving around the sebaceous gland.

Finally: Acne develops with comedos, pus blisters and hurting nodules, which lasts for a long time and normally causes scars.



Photoinactivation

The extirpation of the Propioni-bacterium, which plays the main role in the pathophysiologic process, causes the stopping of the acne process, thus the mitigation of subjective symptoms. Our objective was to introduce an electro-cosmetic method that without the well-known side effects of medicines, with direct or indirect electric effect could reduce the mild form of acne.

In order to be able to understand the joint effect of the three different methods used in our new device, we have to learn about the characteristics of the pathogen bacterium before.

During its biological activity, as many other creatures, the P. acnes produces porphyrins, a natural group of compounds, which occur in the human organism as well. If the porfirins are exposed to light of a certain wavelength, free-radicals develop, which extirpate the bacterium.

The porphyrins can absorb the energy the most effectively in the spectrum of visible blue light (between 400-430 nm), thus the developing of free-radicals and the extirpation of bacteria can be stimulated the most effectively with this type of light. This means the photoinactivation, which can ruin the multiplying bacteria in the interior of the sebaceous gland - in an area where the cosmetics can't penetrate - with the help of light.



BRH[®] (Blue-Red-Heat) Handpiece

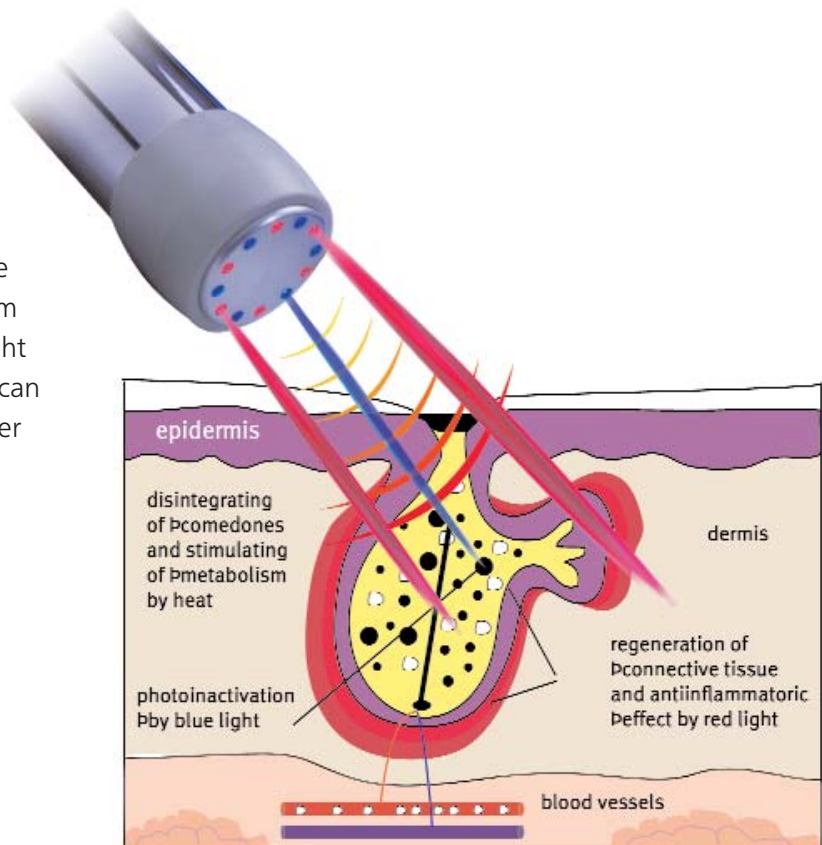
Our development was based on several scientific examinations, during one of these the blue light with low intensity has been found effective in the treatment of mild or middle-severe acne. In this research, the patients involved in it were treated for 15 minutes, twice a week, totally four weeks long. A 60% improvement was observed by the 80% of the subjects, which proved to be long-lasting for 3-8 months.

During another research, the blue light was combined with 660nm-wavelength red light, which proved to be significantly more effective in respect to acne on the whole, than the blue light in itself or one of the ingredients of the preparations for external use applied against acne, the benzoyl-peroxid. The more important is the anti-inflammatory effect of the red light, which derives from the fact that this spectrum of light can influence the release of cytokines coming from the macrofags or other cells. The cytokines control the function of the cells of connective tissues and the production of growth factors, thus the red light stimulates the running of the inflammation and healing process.

We have developed the BRH[®] (Blue-Red-Heat) handpiece basing on these two scientific results, which can radiate simultaneously blue light at the ideal wavelength between 400-430 nm and the 660 nm-wavelength red light directly to the skin surface, thus can reach a required intensity in the deeper layers of the skin as well.

During the light therapy, the treating area that touches the skin is heated up to the preset temperature by a heating cell. Considering the fact that the enzymes work more intensively at higher temperature, we can stimulate the metabolism of the skin cells and the bacteria that cause the inflammation to a higher activity, accelerating the process in this way. During the treatment carried out with the BRH[®] handpiece the inflammation is mitigated, the number of bacteria is reduced, the healing of acne and the regeneration of the skin is accelerated by the effect of the blue and red light and because of the heating up of the cells.

The BRH[®] handpiece can be used for stimulating of aging, tired skin, for the regeneration of the fibres of connective tissues, for tightening and rejuvenation as well.



Heated HF handpiece

The high-frequency current makes ozone to develop, which extirpates entirely the causative agents in the surface of the skin and the area near to the surface of the way out of the sebaceous gland. The heated HF handpiece helps loosening the comedos, and contracting the pores after cleaning, in addition prevents from infection of the micro-injuries created in the surface of the skin.

HSR -probe® (Heat Shock Response treating probe)

The sudden heating up makes special proteins of the genetic stock of the *P. acnes* bacteria multiplying in the sebaceous glands to be transferred. These are the so-called heat shock proteins, which finally cause the self-destruction of the bacteria. The HSR-probe should be hold on the pustule to be treated for a short while, and during this time conducts such a high temperature into the skin that triggers the developing of proteins, thus the destruction of causative agents. The heat-conduction occurs by impulses to prevent from the damaging of the surrounding tissues. The HSR treatment programs of the device feed automatically the required quantity of heat, and each time there is a sound effect that warns the user to change to treatment of another pustule.



Treatment programs:

■ BRH ACNE 1.

Treatment of skin with seborrhoea, prone to acne: with pulsed blue and red light, and heat to stimulate the metabolism and the activity of the enzymes (higher intensity)

■ BRH ACNE 2.

Treatment of skin with seborrhoea, prone to acne: with blue and red light, and heat to stimulate the metabolism and the activity of the enzymes (lower intensity).

■ BRH ACNE 3.

Treatment of skin with seborrhoea, prone to acne: with blue and red light.

■ BRH ROSACEA

Treatment of skin tended to dilated vessels with inflamed nodules: with blue and red light.

■ BRH AGING 1.

Rejuvenation treatment: stimulation of the skin metabolism with heat and regenerating pulsed red light.

■ BRH AGING 2.

Rejuvenation treatment: stimulation of the skin metabolism with heat and regenerating red light.

■ HF BASIC

Treatment at high frequency to disinfect the surface of the skin.

■ HF HEAT 1.

Treatment at high frequency with milder heating up to stimulate the skin metabolism.

■ HF HEAT 2.

Treatment at high frequency with more intensive heating up to stimulate the skin metabolism.

■ HSR SHORT

Treatment of certain nodules with the special HSR-probe (short program).

■ HSR MEDIUM

Treatment of certain nodules with the special HSR-probe (medium program).

■ HSR LONG

Treatment of certain nodules with the special HSR-probe (long program).

