

## Curing of trophic ulcers with a physiotherapeutic method.

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Nowadays there is no fully successful cure for trophic ulcers. Both conservative (pharmacotherapy, physical therapy) and surgical methods have been used.

Ulcers occur mostly when there is mechanical injuring of the skin. Generally they develop because of insufficient skin blood flow.

An acceleration of local blood flow improves ulcer healing. In a normal state the blood flow through skeletal muscles and the cutaneous covering amounts to 18-26% of total blood circulation. The forced acceleration of microcirculatory processes, particularly using volumetric pneumopressure with help of the 'Bioregulator-004M' apparatus allows an increase of the blood flow through muscles and skin by up to 80-85%.

At this level the active removal of metabolic products occurs, stem cells are delivered to the injured area, nutrients, warmth and oxygen are delivered to cells and tissue regeneration is accelerated.

A full recovery from a trophic ulcer is achieved within 10-15 one-hour sessions each day.

A pneumocuff transformer consisting of 10 elastic hermetic modules is applied to an injured limb like a boot. Compressed air is inflated into modules selected by a therapist's programme. If pain develops the module located above the ulcerated area may be excluded for some sessions so that it does not press on the ulcer. After a few sessions, depending on the condition of the ulcer, the module can be reintroduced into the programme.

The curing of a trophic limb ulcer can also influence the backbone, improving tissue trophics and encouraging more active production of stem cells.

Here are some examples of the efficiency of the volumetric pneumopressure method:

- Patient Sam. Primary visit with trophic ulcer was on 17.07.99. For 10 sessions ulcer was completely cicatrized. One year afterward patient injured her leg with bicycle pedal. Ulcer formed in another place (up to 5 cm in diameter). Secondary visit was on 21.07.00. Recovery of new ulcer was faster despite infection. Primary ulcer did not re-open.
- Patient I.P. visited with lymphostasis, developed big (up to 8cm diameter) permanently bleeding trophic ulcer. Volumetric pneumopressure used in 12 sessions without medicine. Ulcer recovered in 8th session and did not disturb patient again. Sessions repeated after one year.
- Patient Bon. Visited with diagnosis of diabetes mellitus, diabetic angiopathy and self-amputation of toes of left foot. Left leg in plaster of Paris and before its removal nobody worked with leg. Volumetric pneumopressure used on right leg, back, stomach and head. Injured area has been treated with 'Chaga' cream. Before treatment wound had not been covered for 7 months, had been bleeding and festering. On 6th day of treatment puffiness went, plaster of Paris removed which lifted pressure on vessels, allowing fresh blood to ulcer, which became accessible. On 7th session sensitivity returned to left leg while pressing, without pain. Simultaneously blood flow in right leg also improved and toenail on a big toe of right foot bottomed out. Cutaneous covering on wound placed on left leg completely recovered in 1.5 months.

Summary. More than 20 years of experience using volumetric pneumopressure with the complex 'Bioregulator' apparatus proved to be highly efficient in the curing of skin defects. Patients were not confined to bed nor were any medicines, irradiation or surgical procedures used with this method.