

## **Application of Vibroacoustic Effect in Surgery, Traumatology and Orthopaedy**

(St Petersburg Medical Academy of Postgraduate Education, Assistant Professor of Medical Science, Professor A.G. Baidurashvili and Engineer-Researcher V.A. Fedorov)

Vibroacoustic therapy has been successfully applied in surgical practice and traumatology for more than 8 years. The effectiveness and the extent of its application has been determined by the ability of vibroacoustic effect to enhance venous and lymphatic outflow, improve kidney function, restore organ innervation and normalize immune reactions.

### **Dosed vibroacoustic effect allows achieving the following goals:**

1. Quick reduction of oedema, abatement or disappearance of related to it pain, owing to increased lymphatic and venous outflow.
2. Accelerated regenerative processes. Though it is difficult to obtain valid comparative data on the shortening of wound healing and callus formation period, one can talk with confidence about a considerable enhancement in regeneration processes, which has been noted by all doctors who have been using vibroacoustic therapy. It is illustrated by the example of chronic trophic ulcers healing in 1-2 months, and also by callus formation within the period normal to a healthy person in patients with osteoporosis, pancreatic diabetes and in elderly patients.
3. Anticommissural effect – prevention of commissural formation in various tissues under the conditions of forced long-term body or limbs immobility. With sufficient dosage

and regularity of vibroacoustic exposure no callus formation was observed.

4. Shortening of joint mobilization period after immobilization is taken off. Even if vibroacoustic effect was not used on an immobilized limb, after immobilization removal the vibroacoustic therapy significantly accelerates complete restoration of mobilization.

5. Complication prevention. With timely use of vibroacoustic therapy when treating injuries, there are virtually no complications, owing to simultaneous enhancement of venous and lymphatic outflow and improvement of local immune reactions.

6. Improvement of patient's health achieved by the application of vibroacoustic treatment on kidneys.

**It is expedient to use vibroacoustic therapy in the following cases:**

1. For all types of wounds, including postoperative.
2. Dislocations and sprains.
3. Fractures of all types
4. Trophic ulcers.
5. Burns.