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- Title:** The effectiveness of SCENAR biofeedback transcutaneous electroneurostimulator in treatment of burn patients
- Key words:** SCENAR therapy, burns, analgesia

**Annotation:** Results of analgesic effect of therapy with SCENAR in 40 patients with II – III B-degree burns, combined with non-narcotic analgesics is compared with the effect of analgesics as monotherapy. A description of the methods of SCENAR-therapy is given for this category of patients. The authors come to a conclusion that in combined therapy the analgesic effect occurs faster and it is more durable.

## **THE EFFECTIVENESS OF SCENAR BIOFEEDBACK TRANSCUTANEOUS ELECTRONEUROSTIMULATOR IN TREATMENT OF BURN PATIENTS**

Self-controlled energoneuroadaptive regulator SCENAR is designed for therapeutic non-invasive actions with use of electric impulsive current on cutaneous covering and human mucosae aiming to perform general regulatory effect on body's physiological systems for wide range of pathologies, directing body's reactions to restoration of impaired functions and to activate body's resources. Researches made in recent years have found out that biological influence of impulsive effect includes various phenomena referring to the impact of the active factor on morphological and functional condition of the tissues and intracellular metabolism. High-amplitude electric signal has a severe impact which activates nerve fibers with no deleterious effect due to its short continuance.

### **Research objective**

Defining the analgesic effect of SCENAR therapy in burn patients with combined therapy of non-narcotic analgesics, compared with the effect of non-narcotic analgesics as monotherapy.

### **Materials**

The research was performed in 40 patients (13 men and 27 women), who were being treated in the Thermal damage Unit at the research and development Institute of Emergency Medical Aid "I.I. Djaneridze". Patients with scalds – 23, with flame burns – 15, contact burns – 2. The control group of 23 patients was only prescribed non-narcotic analgesics as analgesic treatment, 10 minutes after

bandaging. The primary group of 17 patients was prescribed a combination of the above-mentioned analgesics and SCENAR-therapy.

## Methods

In II-degree burns the device's electrode was applied onto the bandage directly on the burnt area. SCENAR processing was performed during bandaging at the burn periphery in patients with III-A –III –B degree burns. When the bandages were applied, the intact symmetric cutaneous areas were processed with SCENAR in the modes of "Swept Frequency", and "Comfort Effect". Subjective sensations in the areas of the burn wounds were controlled in all patients before and after the procedure for two days (till the next bandage application).

## Research findings

When a combined analgesia was used, the analgesic effect could be noted in 5 patients in 10 minutes; 10 patients had the effect in 10-20 minutes, and in 20 minutes after the injection – in 1 patient. The duration of the analgesic effect in patients of the primary group was as follows: 5-6 hours in 11 patients; 3 hours in 2 patients; more than 6 hours in 3 patients. Following results were found in the control group: Analgesic effect with analgesics occurred as follows: 30-40 minutes in 8 patients; 1 hour in 5 patients; the duration of the analgesic effect did not exceed the limit of 2-3 hours.

The results evidenced that painful sensation was reduced in 94% of the primary group (16 patients). In the control group, where non-narcotic analgesics only were used as analgesic therapy, a sufficient analgesic effect was noted only in 56% of the patients (13 patients). 44% of the patients (10 people) asked for additional analgesic injections due to pain complaints. Idiosyncrasy to irradiated electric current when treated with SCENAR was found in 1 patient (unpleasant sensations in the affected area). One patient refused to be injected – SCENAR treatment was sufficient to eliminate painful sensations in wounds.

Thus, the produced results can be used as evidence of fast effect and prolonged action of injected analgesics in combination with SCENAR. SCENAR-therapy is effective as a combined treatment in burn patients and further research seems to be appropriate.

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