

# Local Use Of The "Pulsar" Device In The Treatment Of Purulent-Necrotic Complications Of Diabetic Foot Syndrome

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**Abstract:** Wounds and wound infections are among the oldest branches of medicine, however, even today, wound treatment remains one of the main problems of surgery. Despite the many methods used and methods of treating wounds, none of them completely satisfies surgeons.

**Keywords:** Wound, medicine, wound treatment, infections.



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## INTRODUCTION

**Purpose of the study.** There is a special need to improve the results of treatment of purulent-necrotic wounds, the healing of which occurs in conditions of impaired microcirculation, especially in people suffering from diabetes. Treatment outcomes need to be improved and can be improved as scientific progress opens up new possibilities in wound treatment.

**Material and methods.** In the proctosurgery department of clinic No. 1 of SamMU, Samarkand for the period from 2015 to 2022. 23 patients suffering from purulent-inflammatory complications of diabetic foot syndrome were operated on using the Pulsar laser device. This device performed thermal coagulation of soft tissues during minor surgical operations. Indications for the use of the laser device were:

- superficial and deep trophic ulcers on the foot with the presence of necrotic tissue;
- purulent-necrotic wounds on the foot after staged surgical interventions;
- osteomyelitis of the bones of the foot with areas of soft tissue necrosis and external fistulas;
- gangrene of the toes or part of the foot.

**Results and discussion.**

The average age of the patients was 65 years. There were 12 men, 11 women. In 86.9% of patients, the use of the Pulsar laser device in the complex treatment of purulent-inflammatory complications of diabetic foot syndrome led to a clear decrease in inflammatory changes in the area of purulent wounds, contributed to their cleansing in the first phase and more intense tissue regeneration in the second phase of the wound process. When treating the wound surface with a laser flow, a decrease in bacterial contamination of the wound, faster cleansing, a reduction in epithelialization time, and no pain were noted. In all patients, biochemical blood parameters were examined over time, and the blood glucose profile was determined. The use of the laser device did not affect the above indicators, and no side effects or allergic effects were noted.

In 13.1% of patients, the use of the Pulsar laser device in the treatment of purulent-necrotic wounds and ulcers in diabetic foot syndrome did not lead to persistent rejection of necrosis in the wounds, which was associated with the progression of micro- and macroangiopathy and a deterioration in the general condition of the patients.

**Conclusions.** The results of the clinical use of the Pulsar laser device in the complex treatment of purulent-inflammatory complications of diabetic foot syndrome allow us to recommend it for widespread use as a means of local treatment of wounds and ulcers in this group of patients.

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