



**ONKO•CET**

**PLASON®**

**NO-Therapy device**

# PLASON® NO-therapy

## Medical device for NO-therapy

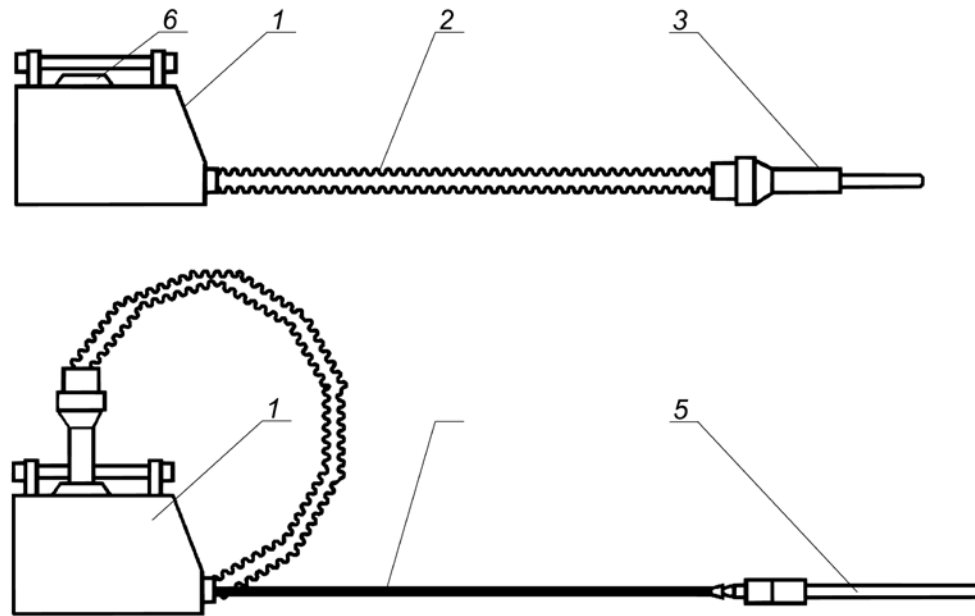
Medical technology on the basis of the use of air plasma and exogenous nitrogen oxide for the treatment of wounds, inflammatory processes, auto-immune diseases.

The exogenous nitrogen oxide of plasma-chemical genesis is contained in the high and low temperature gas flows (4000 °C to 20 °C), generated from atmospheric air.

The “PLASON” device doesn't have analogous devices available worldwide.



# Basic Types of the Device Usage

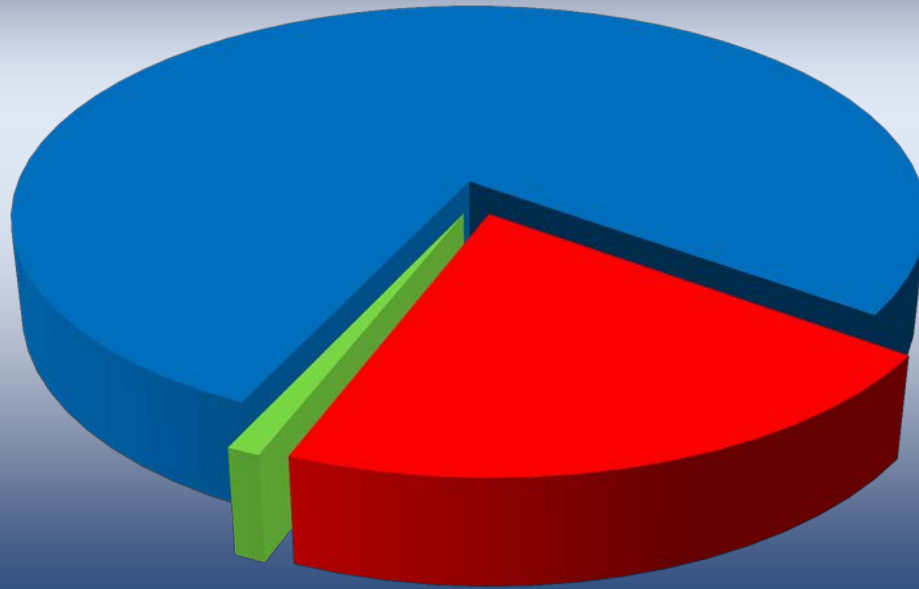


1 - Service block 2 - Electro-hydro-pneumatic (EHP) supply 3 - Manipulator  
4 - NO-containing gas flow supply tube 5 - Variable end metallic tip 6 - Cooler socket

Fig.3. Two operational versions of the device



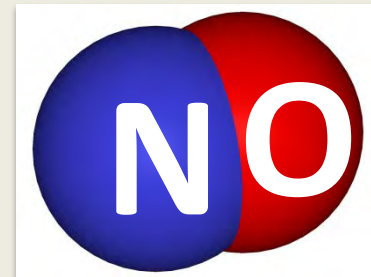
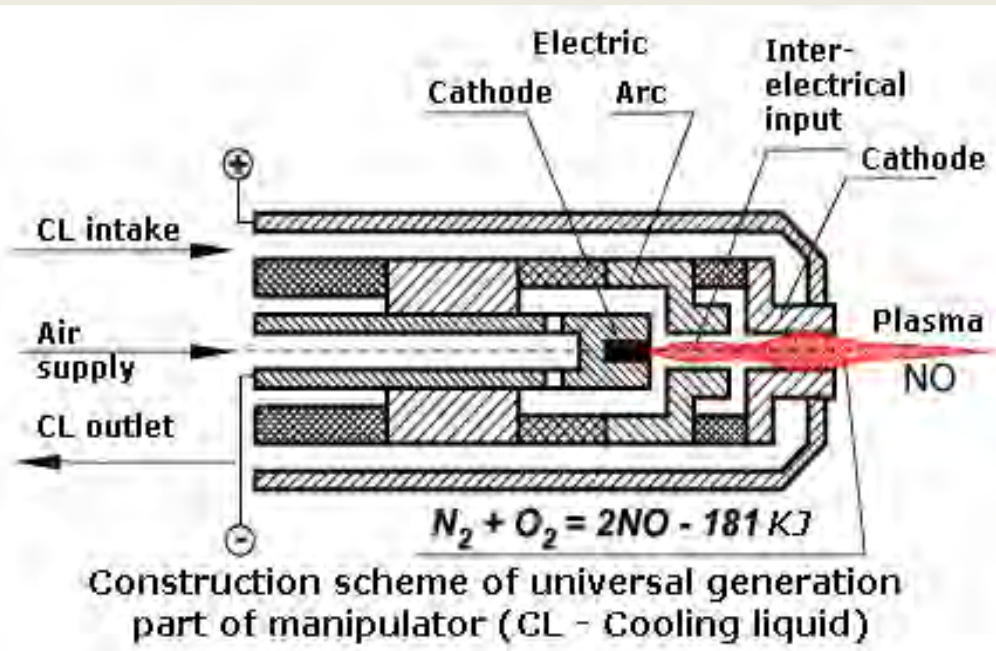
# Composition of atmospheric air



■ 78% Nitrogen

■ 21% Oxygen

■ 1% Carbon dioxide, Argon, Water vapour and other gases



# Effect of NO on different parts of wound healing process

## Alteration

Microcirculatory reactions,  
exudation, neutrophilic increase

Macrophagal activation

Fibroblast proliferation,  
vascularization,  
granulation tissue growth

Synthesis and assemblage of  
collagen fibrils

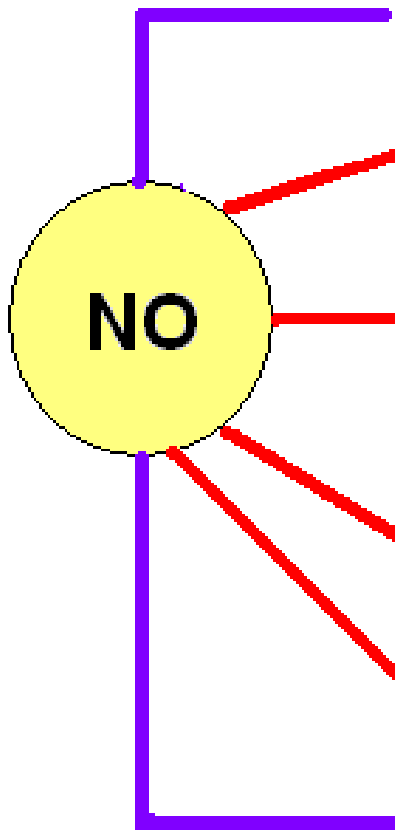
Regeneration of epithelium

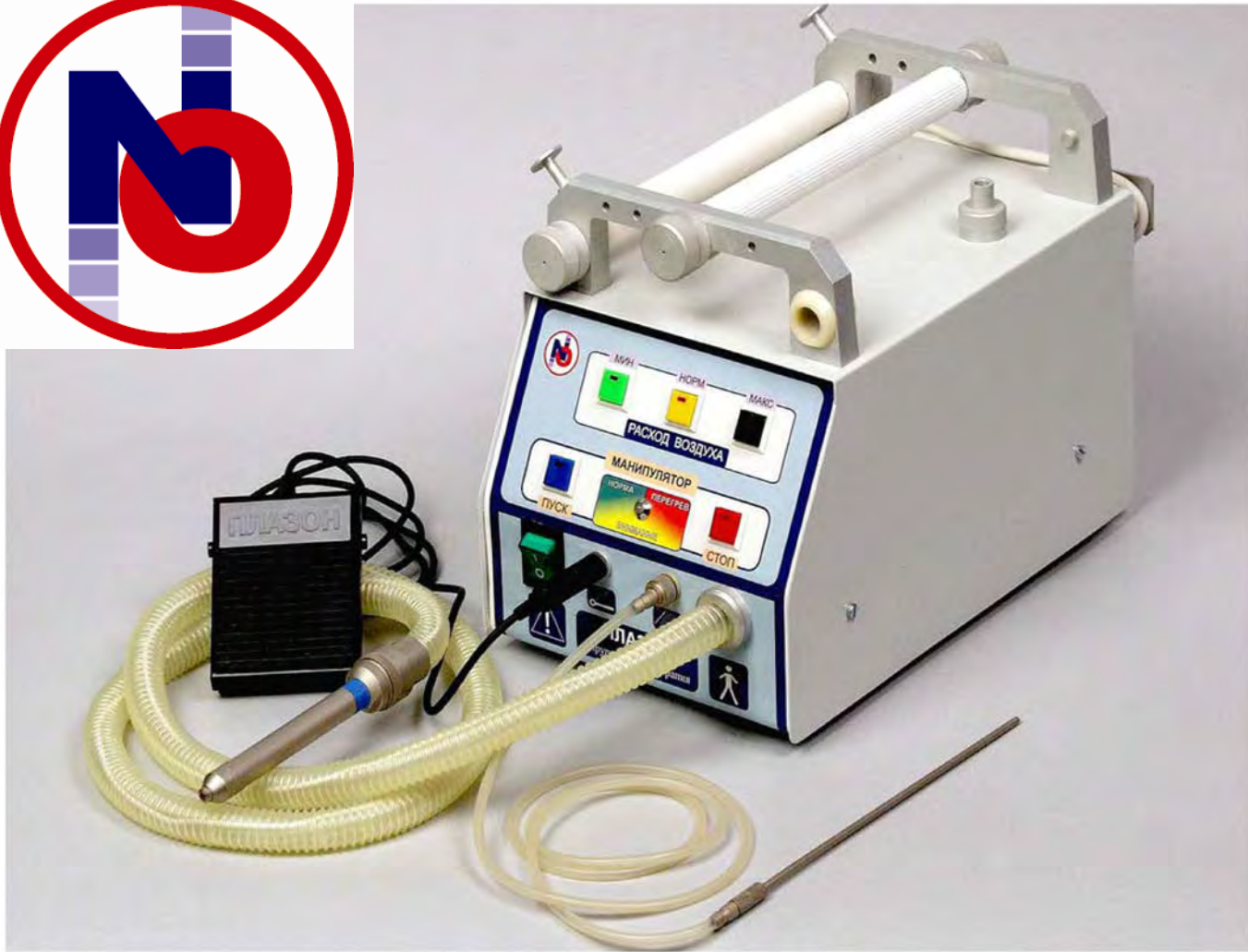
Pathological scarring

Wound  
healing

— Decreasing

— Increasing





Pictures from the treatment  
of various types of  
pathologies

**PLASON® - Therapy of Wounds by NO**

# Course of Healing of the Suppurated Burn Wound



Before treatment



After 7 days of NO-therapy  
(5 sessions)

# Course of healing of the trophic venous ulcer by NO-therapy



**Before treatment**

**21<sup>st</sup> day of  
NO-therapy  
(10 sessions)**

**After 2 months  
of NO-therapy**



# **Broad necrotic suppurative ulcer on the back of the foot (diabetic peripheral neuropathy)**



**Before treatment**



**After 4,5 months  
of NO-therapy  
(3 courses of NO-therapy;  
12 sessions per course)**

# Course of healing of the trophic venous ulcer by NO-therapy



- Therapy was conducted 5-6 times a week, application of NO for 5 – 10 minutes per session, temperature of plasma 4000 °C
- The duration of treatment was approximately 4 months

# Course of healing of a varicose ulcer by NO-therapy



# Course of healing of the trophic venous ulcer by NO-therapy



# Course of healing of the trophic venous ulcer by NO-therapy



# Course of healing of the trophic venous ulcer by NO-therapy



# Course of healing of the diabetic foot by NO-therapy (Diabetes Mellitus I)



- Therapy was conducted 5-6 times a week, application of NO for 5 – 10 minutes per session, temperature of plasma 4000 °C
- The duration of treatment was approximately 4 months

# Course of healing of the diabetic foot by NO-therapy (Diabetes Mellitus I)





# Course of healing of the diabetic foot by NO-therapy (Diabetes Mellitus I)



# Course of healing of the diabetic foot by NO-therapy (Diabetes Mellitus I)



# Course of healing of the diabetic foot by NO-therapy (Diabetes Mellitus I)



# Course of healing of the diabetic foot by NO-therapy (Diabetes Mellitus I)



# Course of healing of the post-radiation wound by NO-therapy



- Patient with skin melanoma, metastases into right axilla. Axilla was treated by 40 Gray radiation dose. Post-radiation wound was treated 5-6 times, application of NO for 4 minutes per session, temperature of plasma 4000 °C

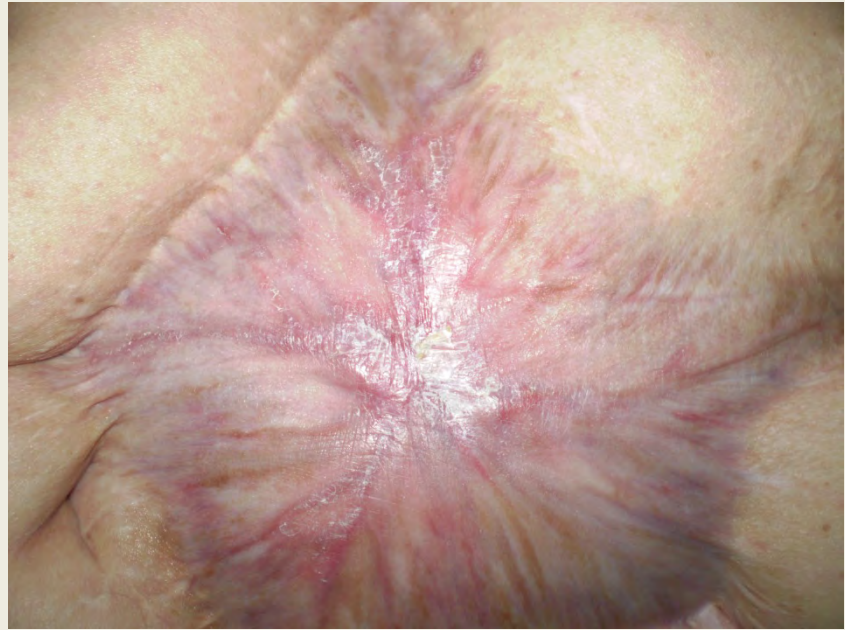
# Course of healing of the post-radiation wound by NO-therapy



# Course of healing of the post-radiation wound by NO-therapy



# Treatment of post-surgery wound infected by *Staphylococcus aureus* with NO-therapy



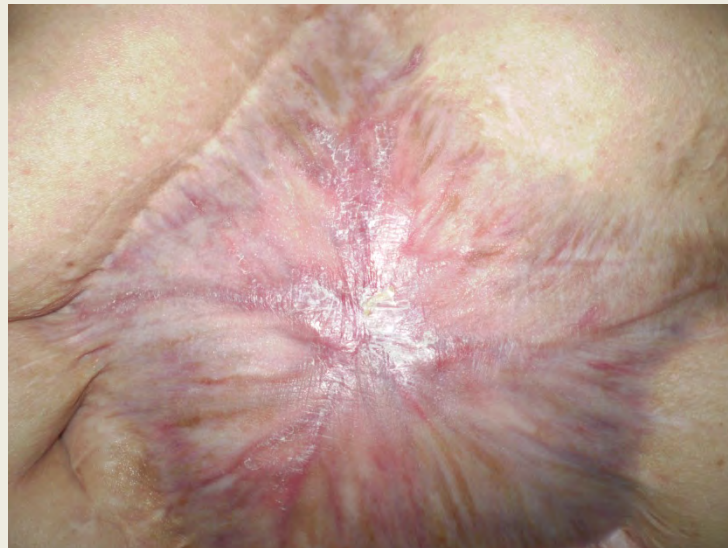
- Patient underwent the gastric banding. After the procedure a rupture of gastric wall occurred. Patient underwent surgical treatment, the wound got infected by *Staphylococcus aureus*, which was unsuccessfully treated by medicines.
- Approximately 100 sessions of NO-therapy by 5 minutes, the wound closed and the tests for *Staphylococcus aureus* were negative.



# Treatment of post-surgery wound infected by *Staphylococcus aureus* with NO-therapy



# Treatment of post-surgery wound infected by *Staphylococcus aureus* with NO-therapy



# Course of healing of the infected post-surgery wound of tongue by NO-therapy



- Patient underwent surgery for cyst removal, wound infected, pain.
- 4 sessions of NO-therapy by 4 minutes, the wound closed, pain disappeared.

# Course of healing of the infected post-surgery wound of tongue by NO-therapy



# Course of healing of rheumatoid arthritis by NO-therapy



- Patient with rheumatoid arthritis complicated with fracture. Hand was painful, problematic movement, complicated usage, lack of sensitivity.
- Approximately 35 sessions of NO-therapy by 5 minutes, the swelling of the hand disappeared, sensitivity and movement capabilities were renewed.

# Course of healing of rheumatoid arthritis by NO-therapy

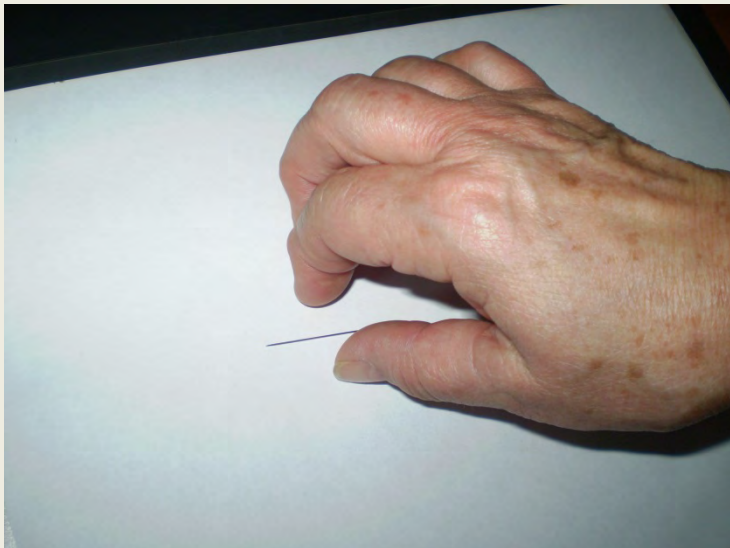


# Course of healing of rheumatoid arthritis by NO-therapy



- Patient with rheumatoid arthritis. Hand was painful, problematic movement, complicated usage, lack of sensitivity.
- Approximately 35 sessions of NO-therapy by 5 minutes per hand , the swelling of the hand disappeared, sensitivity and movement capabilities were renewed.

# Course of healing of rheumatoid arthritis by NO-therapy





# Course of healing of skin disorders by NO-therapy



- Patient with unspecific skin disorder
- 10 sessions of NO-therapy by 4 minutes, the skin disorder disappears continuously.

# Course of healing of skin disorders by NO-therapy



# Course of healing of skin disorders by NO-therapy

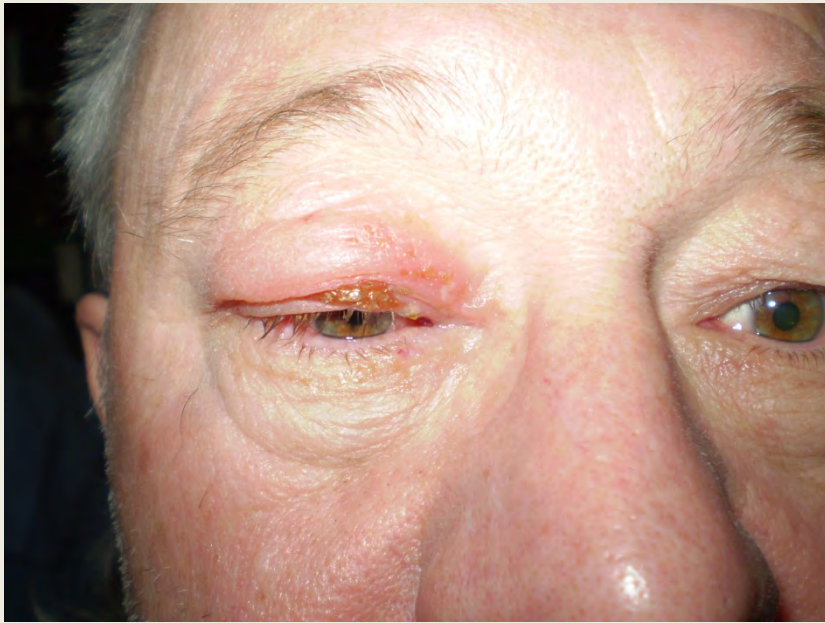


- Patient with skin eczema
- 10 sessions of NO-therapy by 5 minutes, the skin disorder disappears continuously.

# Course of healing of skin disorders by NO-therapy

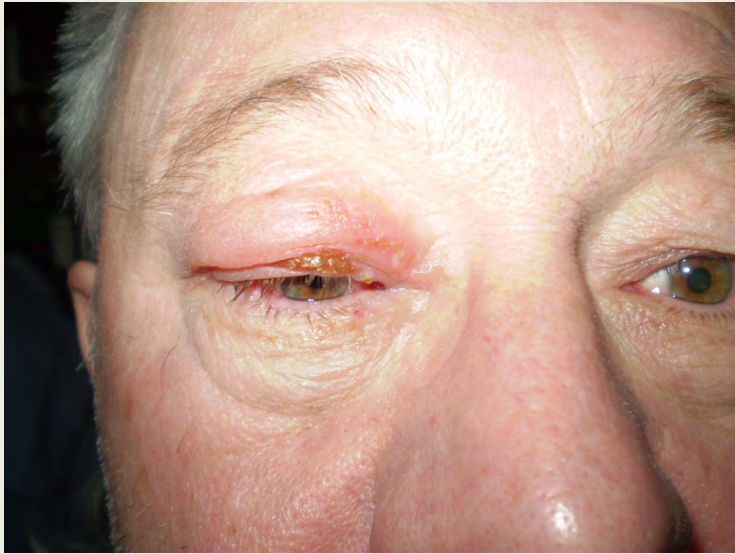


# Course of healing of Herpes virus by NO-therapy



- Patient with herpes virus on eye lid
- 4 sessions of cold NO-therapy by 1 minute, herpes virus disappears continuously.

# Course of healing of Herpes virus by NO-therapy



# Course of healing of unspecified skin disorder by NO-therapy



- Patient with unspecified skin disorder in axillary region
- 15 sessions of cold NO-therapy by 3 minutes, skin disorder disappears continuously.

# Course of healing of unspecified skin disorder by NO-therapy





# Healing of hemorrhoids by NO-therapy



- Patients with hemorrhoid problem
- Anus is treated with hot NO-containing gas flow for 3 minutes, depending on the scale of problem 3-10 sessions are required
- No relapses in one year time of observation