



## **Low Level Laser Therapy & Arthritis - Prostate testimonials followed by clinical research**

### **Prostate**

*Carlos Mendoza, Colton, CA*

I use the laser system daily to treat an enlarged prostate. After just two treatments I noticed that my nocturnal visits to the bathroom decreased from five to two and now I may go all night without having to get up. Just yesterday I realized that I went eight hours without having to urinate!

### **Validity of using physical therapy in combined treatment of chronic prostatitis**

**Razumov SV, Egorov AA.**

To evaluate efficacy of combined physiotherapy in patients with chronic prostatitis (chronic bacterial, chronic abacterial prostatitis), an open comparative trial was made by specialists of the Research Institute of Urology in 2003-2004 of the unit Andro-Gin. Before the treatment, a standard examination was made including analysis of case history and complaints, rectal palpation, questionnaire filling-in, prostatic secretion tests, PCR diagnosis, transrectal ultrasonic scanning and uroflowmetry. In group 1 (chronic bacterial prostatitis) given monotherapy with an etiotropic drug (ED) or combination of ED with Andro-Gin treatment, a significant improvement was achieved by the scale NIH-CPSI, Sorensen scale ( $p < 0.05$ ). In group 2 (chronic abacterial prostatitis with inflammation) subgroups C,D,E patients showed significant improvement by the scales NIH-CPSI and Sorensen ( $p < 0.05$ ). The highest symptomatic effect was recorded in the subgroup D in combined treatment with ED and Andro-Gin physiotherapy. In group 3 low NIH-CPSI scale score occurred due to alleviation of pain in subgroup F ( $p < 0.05$ ), In subgroup G symptoms by the above scales did not change. Uroflowmetry featured moderate dynamics of the increment in maximal voiding speed. Voiding improved significantly in subgroup F in patients with chronic abacterial prostatitis in the absence of inflammation.

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# **SEMICONDUCTOR LASER RAYS THERAPY FOR THE TREATMENT OF CHRONIC PROSTATITIS**

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**Introduction:** Chronic prostatitis (ACP) hasn't a universally successful therapy yet. A lot of studies demonstrated that LASER therapy has an anti-inflammatory effect on tissues and can increase lymphatic and venous drainage reducing inflammatory swelling. For this reasons in the early 90s we proposed a new therapeutic system for ACP using semiconductor LASER rays consisting of a gallium-arsenide diode. At the beginning an endorectal probe was used; then we invented a particular endourethral probe for laser therapy. This is a brief abstract of what we achieved during these years.

**Histological preliminary studies:** Many authors studied biological effects of LASER on animal tissues (1). Before clinical practice LASER therapy was tested on a cancer cell line (SW 626) in order to evaluate if laser stimulation could increase mitosis cell rate (2) and therefore have a carcinogenic-like effect. We didn't observe any change in mitosis cell rate. Another study (3) was made on rabbits to test in vivo any immediate histopathological damages and temperature rising in rectal ampulla using transrectal probe. Temperature rising was about 2/10th of a degree centigrade. No histopathological alterations of rectal wall and the prostate were observed with particular care of signs of swelling, flogosis or fibrosis.

**Materials and methods:** The gallium-arsenide diode in use has a wave length of 904 nm and a frequency of 3000 Hz. The Laser beam reaches the prostate with a special optic probe. This is divided in two sections: one contains the laser generator, the other has five optic fibers and it is screwed onto the first creating a single body of reduced dimensions. It can be sterilized and it is atoxic. We experimented 2 different approaches to the prostate: the first was an endorectal approach and the second was an endourethral approach. At the beginning we used a "Laser Super Sonic" machine with endorectal probe according to Strada. The treatment schedule was 1 treatment every two days (treatment's time of 12 minutes, wave length 3000 Hz) for a total of 12 applications. Transrectal laser

therapy was not indicated in prostate larger than 4 cm because this is the maximum depth of the laser beam's efficacy. Then we experimented an urethral probe (Med 130 Lasotronic â Wave length 820 nm, power 30 mW) in order to reduce energy leakage and increase patient's tolerability. In this case patients underwent 1 treatment every 3 days for a total of 8 applications (treatment's time of 4 minutes). From 1990 to 1999 more than 200 patients underwent this kind of treatment. We published results in previous studies (4-5).

**Clinical results:** More than 65% of the patients obtained a symptoms' relief even at 6 months after treatment. We observed a decrease in IPSS score and an improvement in maximum and mean urinary flow rate. We analyzed spermatic fluid before and after treatment (6) and we found that there was an increase in total germinal cells count, improvement in motility and in morphology. Concentration of zinc, fructose and citric acid was higher after treatment (Zinc:9.5 mg% vs 5.5 mg%; Fructose: 64.5 mg% vs 58 mg%; Citric acid: 360 mg% vs 305 mg%). Prostate ultrasounds allowed to appreciate a consistent reduction of prostate volume (21.9 cc vs 29.9 cc), probably due to resolution of oedema.

**Conclusion:** In our experience laser therapy for chronic prostatitis can be an effective treatment in improving symptoms and modifying clinical and sonographic parameters.

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