

Dr. Kakas is a specialist surgeon in laser rejuvenation, vaginal rejuvenation techniques, laser surgery and body sculpting. He founded the Center of Advanced Plastic Surgery (CAPS) and is the C.E.O. of the Center of Advanced Plastic Surgery in Thessaloniki, Greece. He uses the Fotona XP MAX, Dualis<sup>XS</sup>, and XP-2 Focus laser systems to perform procedures.



## Combined Use of Nd:YAG and Er:YAG in Acute Cystic Acne Treatments – A Case Study

**Dr. Paraskevas Kakas, M.D., Ph.D.**

Cystic acne is a very unpleasant and painful form of acne and manifests as inflamed pustules filled with pus. The cause of acne cysts is wide-ranging; main causes are hormonal changes or imbalances, and a collection of dirt on the skin that causes inflammation in the pores. It is generally a hereditary condition. In the treatment of acute cystic acne outbreaks it is important to realize that the inflamed cysts are merely symptomatic of a systemic condition. Conventional therapy advises to leave cysts undisturbed as to intensify the inflammation and to avoid developing new cysts by irritating neighboring pores. To alleviate discomfort associated with cystic acne, Dr. Kakas has developed a procedure that combines the Fotona Nd:YAG and Er:YAG lasers. The following case study describes Dr. Kakas' technique.

A young male presented with persistent acne and several acutely inflamed acne cysts in the face which caused discomfort. After examination a cyst left side of the nose were found to be indicated for the laser combination treatment. The cyst was swollen, red and palpation indicated that pus build-up was putting significant stress on the upper skin layers; causing pain.

In a first step, Dr. Kakas used the Fotona Nd:YAG laser, with fluence 50 J/cm<sup>2</sup>, pulsewidth 35 ms and frequency 1.0 Hz settings and a 6 mm spotsize. These parameters provide disinfection of the general area in and around the cyst, through the laser's thermal effects.

In a second step, the thinnest part of the cyst is located. Using the R08 Er:YAG handpiece and 0.1 J energy, VSP mode and 20 Hz frequency Er:YAG laser settings, Dr. Kakas drills a miniscule hole in the side of the cyst. Almost immediately the pus is expelled from the cyst and pressure on the skin is relieved. With gentle manual pressure pus is further removed from the cyst until blood appears.

In a third step Dr. Kakas uses the Fotona Er:YAG's longer pulse modes' coagulation properties to limit bleeding. For this step the following parameters are selected; 0.2 J energy, XLP mode, 5.0 Hz frequency with the R08 Er:YAG handpiece. In addition to coagulation, the heat generated also provides superficial disinfection, thereby limiting the risk of reoccurrence.

Dr. Kakas has been performing the procedure in several hundred cases without any significant side effects. In this case the patient noticed immediate pain relief. After 24 hours the lesion was less inflamed and after a week the cysts showed no apparent inflammation.



Before



Immediately After



24 hours After



1 week After

Clinical Bulletin 08/4-3.0 - Published by Laser and Health Academy. All rights reserved. Order No. 85191 Disclaimer: The intent of this Laser and Health Academy publication is to facilitate an exchange of information on the views, research results, and clinical experiences within the medical laser community. The contents of this publication are the sole responsibility of the authors and may not in any circumstances be regarded as official product information by the medical equipment manufacturers. When in doubt please check with the manufacturers whether a specific product or application has been approved or cleared to be marketed and sold in your country.