

Delivering Treatments Right on the Mark

Nidek's newly upgraded laser ensures precise targeting of pathology.

By Karen Appold, contributing writer

As a long-time user of Nidek's YC-1800 YAG laser, John Park, MD, a cornea-trained ophthalmologist at Edison Ophthalmology Associates in Edison, New Jersey, was eager to try the company's upgraded version: the enhanced YC-200 laser and YC-200 S Plus laser system (pictured).

"I stayed with Nidek due to its product reliability and prompt service," Dr. Park says. "I tried the YC-200 S Plus because I wanted a laser with selective laser trabeculoplasty (SLT) functionality."

The YC-200 YAG system provides treatment for YAG pupillary iridotomies and posterior capsulotomies. The YC-200 S Plus offers SLT to treat almost all types of glaucoma. The laser system builds on the popularity and technology of the YC-1800 by incorporating newer optical designs and engineering and software advances to ensure efficacious treatments.

"A suite of technologies has been incorporated into these lasers to achieve seamless function and greater precision," says Keith Effert, senior product marketing manager at Nidek Inc. in San Jose, California. "Features for targeting pathology, accurate energy delivery, and operative assist functions allow surgeons to deliver treatments right on the mark."

SPECIFIC FEATURES

Effert said the company wanted to add to its arsenal a YAG system that included cornea-friendly SLT. It features a 5.5° cone angle, compared to a 3.0° cone angle. This design decreases energy density on the cornea by one-third, which spares tissue from repeat



treatments. The YAG laser achieves a 1.6-mJ plasma threshold in air, accurately delivering homogeneous laser delivery with lower energy.

One of the laser's unique features is its navigation tool, called the

SLT-NAVI. It provides an intuitive display of the real-time progress of laser treatment. Furthermore, a motorized rotatable beam in YAG mode offers superior targeting with a 360° rotating aiming beam. This beam helps surgeons to avoid corneal opacities and achieve more accurate focusing. In SLT mode, a par-focal aiming beam delivers a clear view for easier focusing through a contact lens.

"The precise aiming beam allows surgeons to comfortably visualize and accurately treat pathology," Dr. Park says.

Optical system improvements optimize resolution and contrast. "An expanded focal depth and natural-colored bright LED illumination provide unparalleled views of pathology and treatment," Mr. Effert says. New optics provide a clear and more natural-looking sharp field of view.

Dr. Park says the new system is more compact, yet versatile. "I can change the setting from YAG to SLT with the touch of a button," he says. "I can use the same optics that come with the system in either mode."

USER-FRIENDLY FEATURES

Making an ergonomic product was also the highest priority when Nidek created the YC-200 laser and YC-200 S Plus laser system. For example, the

working distance is much shorter than the previous model and those of its competitors, allowing the surgeon to much more easily manipulate an optical lens on a patient's eye during treatment, Mr. Effert says. In addition, a shorter working distance decreases the surgeon's fatigue during treatment.

Howard Barnebey, MD, medical director at Specialty Eyecare Centre in Bellevue, Washington, describes the system as intuitive, with a quick learning curve. Dr. Barnebey, who is involved with ongoing clinical studies of the laser system, says, "The quality of the laser energy is consistent and uniform. Visualization of ocular structures allows for ideal treatment with minimal risk for random laser energy to be delivered."

A unique feature of the joystick is its S switch. "It can be programmed to change treatment settings without shifting the gauge from the oculars,"

“The quality of the laser energy is consistent and uniform. Visualization of ocular structures allows for ideal treatment with minimal risk for random laser energy to be delivered.”

Mr. Effert says. "Because it's motorized, it allows for a smoother operation — which is much more comfortable for physicians."

"If doctors want to increase or decrease the energy level, they don't have to reach over to a separate box and press the numbers," Dr. Park says. "They can use the S switch and do it in one step with their index finger while holding onto the laser."

An intuitive control box includes an easy-to-read LCD touch screen. It allows for quick and easy set-up and verification of treatment parameters.

CLINICAL APPLICATIONS

The laser is designed for postcataract patients and glaucoma patients. The YAG portion is used for posterior capsule opacification, which can develop more than a year after cataract surgery. It can also be used to treat the capsulotomy for anterior capsule contraction, which sometimes develops 6 months after cataract surgery. YAG is used for laser iridotomy in acute angle-closure glaucoma to insert a hole in the iris to improve aqueous flow. The SLT laser can be used for patients with primary or secondary open-angle glaucoma. **GP**