

Double-pump modular system offers versatility, adaptability for phaco, vitreoretinal procedures

The machine gives the surgeon freedom to set all parameters separately and switch between functions with foot pedal.

by Michela Cimberle

The dual-linear function and double-pump system of the Oertli OS3 offers surgeons flexibility in both cataract and vitreoretinal surgery, according to one surgeon.

“It’s an extremely versatile machine, which improves a surgeon’s capability of programming, varying and controlling virtually all parameters before and during procedures. It also has bimanual, microincision and cool phaco capabilities”, said **Amos Bartolino, MD**, of Vignola Hospital in Correggio, Italy. “You have all the essential things and none of those superfluous features that only increase cost, size and weight. This makes the use of the machine very straightforward and uncomplicated, and all the parameters can be used and changed with very simple touches.” Dr. Bartolino said.

Switching between functions

One of the system’s main benefits is that it gives the surgeon freedom in setting all parameters separately and switching between functions via the foot pedal, he said.

In the course of a cataract procedure, the surgeon can move from burst to pulse mode, from



venturi to peristaltic pump, control flow and vacuum separately and switch from phaco to irrigation and aspiration, and from I/A to vitrectomy, Dr. Bartolino explained. In vitreoretinal procedures, the foot switch allows the surgeon to control the cutting speed, to perform instant diathermy, and to work in

both venturi and peristaltic mode, he said.

“These are only some of the many possibilities a surgeon can explore. The modularity of the system provides excellent adaptation to individual needs,” Dr. Bartolino said.

The option of switching between the venturi and the peristaltic pump during surgery is the most outstanding feature of the OS3, according to the surgeon. He uses the venturi pump in the first stages of phaco because it offers good followability without increasing the vacuum. Once the fragments are engaged in the tip, he switches to the peristaltic pump, which has excellent aspiration power, he said. During vitrectomy the venturi pump can be effectively used at the beginning of the procedure, setting a high cutting speed to rapidly eliminate a large quantity of vitreous.



The venturi can also be used during maneuvers such as hyaloid membrane lifting at the optic disc level without vitreous cutting, Dr. Bartolino said. The peristaltic pump can be used for polishing the vitreous base or in posterior vitrectomy before removing the internal limiting membrane, he said. The vitreous cutter of the OS3 has optimal cutting capabilities, he continued, with a rate of up to 1'500 cuts per minute. He said that being able to work in both venturi and peristaltic mode is an "irreplaceable advantage."

Microincision surgery

With microincision surgery becoming more popular, the OS3 allows surgeons to convert to bimanual sleeveless phaco through 1.5 mm incisions, he said.

"With a good balance of power and vacuum, sleeveless bimanual phaco through small incisions is possible. The OS3 phaco tip has great nucleus fragmentation power with low ultrasound energy and minimal heat generation and can therefore be used without a sleeve for cool phaco," he said.

Dr. Bartolino has developed a new irrigating chopper that can be introduced through an incision of the same size as the principal port. According to the surgeon, one of the aims is to make the two incisions interchangeable for the instruments, so that the phaco tip and irrigating chopper can be used in a way similar to that of the separate I/A cannulas. "With this new instrument, cataract surgery can be performed through 1 mm incisions, with the possibility of changing between the two ports," Dr. Bartolino pointed out.

He has performed approximately 100 vitrectomy and 6'000 monomanual or bimanual cataract procedures using the Oertli OS3 system.

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