

Supporting Innovation in Ophthalmology

The Melles Cornea Clinic, in Rotterdam, the Netherlands, is a specialized clinic that treats patients with corneal conditions from all over the world. It is part of the NIIOS (the Netherlands Institute for Innovative Ocular Surgery), which plays a leading role in global research and innovation in Ophthalmology, and develops cutting-edge procedures and techniques. Dr. Isabel Dapena, Corneal Surgeon at the Clinic, describes how the SurgiCube® provides a convenient, sterile and affordable environment for clinical practice, research and teaching.

The NIIOS was founded in 2000 by pioneering Ophthalmologist, Dr. Gerrit Melles, who also invented the SurgiCube®. It comprises of four different complementary organizations that work closely together:

- NIIOS Research & Development, which develops and refines corneal transplantation techniques that are minimally invasive;
- The NIIOS Academy, which trains surgeons and technicians in NIIOS techniques through fellowships, courses, symposia and conference lectures;
- The Amnitrans EyeBank Rotterdam, which recovers corneal tissue from donors, prepares it using innovative tissue preparation techniques, and then delivers it to medical specialists; and
- The Melles Cornea Clinic Rotterdam, which provides ophthalmic care to patients with corneal disorders, based on the techniques developed at NIIOS.

Pioneers in Ophthalmology

The Melles Cornea Clinic was established in 2004. It is a small clinic that treats patients from the Netherlands and other countries with corneal conditions, such as Fuchs endothelial dystrophy, keratoconus and bullous keratopathy, as well as other eye diseases. Dr. Dapena has worked as a Corneal Surgeon for the last eight years and has headed the Clinic for the last three years.

“When I joined the Melles Corneal Clinic as a Corneal Fellow, the SurgiCube® was already in place and operational. It was one of the very first models in existence,” she said. “I found it a very user-friendly system and was impressed by the high level of sterility that it could provide.”

A Flexible Alternative

“In other hospitals with a conventional operating room, access and scheduling are frequently problematic issues,” she continued. “If urgent surgical cases take precedence, surgical ophthalmology procedures may have to wait. Or, for some procedures, such as intravitreal injections, the ophthalmology team may be required to seek an alternative location that might not be optimally sterile. However, the SurgiCube® offers greater flexibility. It is extremely sterile and is always instantly available for use.”

The Ophthalmology Team at the Melles Cornea Clinic uses the SurgiCube® for a wide range of surgeries, both intra-ocular and extra-ocular procedures.

“While the SurgiCube® offers more limited space than a conventional operating room, we can work in a normal way within it,” said Dr. Dapena. “We always work at the head of patient and do not experience any problems.”

Training

As a global leader in innovation, the Melles Cornea Clinic guides many Ophthalmologists through advanced training.

“We have trained many people using the SurgiCube® and it has proved fine to use for teaching purposes,” said Dr. Dapena. “In terms of the technicalities of surgical procedures, there are no differences in using the SurgiCube® compared with using a conventional operating theater.”

Benefits for Smaller Practices

With the SurgiCube® developed at the NIIOS, it is logical that the Melles Cornea Clinic uses the system, but Dr. Dapena explained many reasons for other institutes and hospitals to purchase a SurgiCube® including financial benefits, especially for the smaller practice with limited room.

“The SurgiCube® can provide very high standards of sterility that are more expensive to achieve in a conventional operating room,” she said. “Performing small surgeries is easier in the SurgiCube® compared with a conventional operating room. Furthermore, it can also be used for more complicated surgical procedures, such as corneal transplantation, with impeccable sterility. The SurgiCube® is a very efficient set-up to work with, especially for practices without means or access to a conventional operating room.”

Quote

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Dr. Isabel Dapena, Medical Director and Corneal Surgeon at the Netherlands Institute for Innovative Ocular Surgery (NIIOS) and Melles Cornea Clinic Rotterdam, in Rotterdam, the Netherlands.

Dr. Isabel Dapena

Dr. Isabel Dapena works as a Researcher and Corneal Surgeon at the Netherlands Institute for Innovative Ocular Surgery (NIIOS) and Melles Cornea Clinic Rotterdam, in Rotterdam, the Netherlands. Dr Dapena obtained her PhD with European relevance on “*Descemet membrane endothelial keratoplasty (DMEK)*” in Spain in collaboration with the NIIOS in Rotterdam. She is also a Clinical Advisor for the Amnitrans EyeBank Rotterdam, and has published more than 50 articles in peer-reviewed journals, as well as several book chapters in the field of corneal research. She has also given more than 60 presentations in international congresses and is a reviewer for several peer-reviewed ophthalmological journals, such as Ophthalmology, Eye, Cornea and the British Journal of Ophthalmology.