



MEDICEL'S DMEK INJECTORS

For safe implantation of grafts during
Descemet Membrane Endothelial Keratoplasty



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SWISS TECHNOLOGY FOR SURGERY



ENDOJECT™

BY PROF. DR. F. KRUSE

Medicel introduces the first CE approved injector specifically designed for the safe implantation of grafts during descemet membrane endothelial keratoplasty.

Up until now, doctors are using classical cataract inserters in an off-label use in order to implant the graft during DMEK. With the new ENDOJECT™ injector, surgeons have now access to a fully CE approved injector which is specifically designed for this purpose.

Does ENDOJECT™ have an impact on endothelia cell loss?

Injecting DMEK graft using ENDOJECT™ causes only minor amount of endothelia cell loss¹. The amount of cell loss in comparative study using modified jones tube versus MEDICEL VISCOJECT™ 2.2 did not correlate with the injector used². Materials used for MEDICEL VISCOJECT™ 2.2 are identical with materials used for ENDOJECT™.

The cartridge material and manufacturing method allow thin-wall cartridge used in ENDOJECT™. The thinner wall thickness compared to glass tubes allow smaller outer diameter at same inner diameter of glass tubes.

¹ Roessler K et al. (2014), Experimental evaluation of a novel injector for the implantation of Descemet's membrane into the anterior chamber during DMEK, ARVO 2014 Poster

² Schallhorn et al. (2016), Quantification and Patterns of Endothelial Cell Loss Due to Eye Bank Preparation and Injector Method in Descemet Membrane Endothelial Keratoplasty Tissues. Cornea, 2016 Mar;35(3):377-82.

Which incision size does ENDOJECT™ require?

The suitable incision size to be able to introduce the ENDOJECT™ tip completely is 2.5mm. Surgeons comfortable to inject the graft while introducing the ENDOJECT™ tip into the incision only could use a minor smaller incision size.

Can DMEK grafts be stored in ENDOJECT™?

The ENDOJECT™ is actually not designed to fix DMEK graft in its position to allow secured transport. However, storage of tri-folded DMEK graft in MEDICEL VISCOJECT™ 2.2 cartridges manufactured out of same components has been analysed and proofed a limited impact on endothelia cell loss³.

³ Parekh M et al. (2016), Preloaded Tissues for Descemet Membrane Endothelia Keratoplasty. Am J Ophthalmol. 2016 Jun;166:120-5.



GÜELL DMEK INJECTOR

BY DR. J. GÜELL

This new DMEK injector is based on the platform of ERGOJECT™, MediceL's state-of-the-art IOL injector.

Developed and implemented in cooperation with José Güell, MD.

One-handed Control

ERGOJECT™ combines the best of previous concepts: Control of a screw injector and one-handed usability of push inserters. The first fully single-use injector with integrated micro-gear minimised force for fingertip movement.



Ergonomic Injection

With the intuitive handling like a pen, ERGOJECT™ is designed to be used in a relaxed hand position. The enhanced grip ensures the secure positioning in the surgeons' hand. The hand positioning is close to the distal end, which increases the control during injection.



Incision size 2.2mm

What is the benefit of all MediceL's DMEK Injector models versus the use of glass tubes?

Glass tubes require larger incisions. Larger incision could cause higher amount of surgical induced astigmatism.

MediceL's DMEK injector cartridges can be introduced exceeding corneal center into the anterior chamber. The introduction capabilities allow positioning of the graft into its required position.

The injection principle of existent glass tubes is flushing the graft into the anterior chamber. Injection with a glass tube requires higher amount of fluid. The increased anterior pressure could cause a backflush while removing the glass tube from the incision. The backflush could likely flush the graft out of the anterior chamber. Furthermore, the risk of flushing the graft out of the glass tube while preparing the glass tube for injection is high.

ENDOJECT™ Injector Set, sterile

ITEM CODE	PRODUCT NAME	INCISION SIZE	SALES UNIT
EJ2200	ENDOJECT™ 2.2 Injector Set	2.2mm	Box of 1

GÜELL DMEK Injector Set, sterile

ITEM CODE	PRODUCT NAME	INCISION SIZE	SALES UNIT
DK2200	GÜELL DMEK 2.2 Injector Set	1.8mm	Box of 1