



Breyer
Augenchirurgie



**Marien Hospital
Düsseldorf**



Persönliche Erfahrungen mit CO-MICS

Oertli Praxisseminar

D. Breyer

DOC Nuremberg 2008



Problem:

The visual outcome of patients with a **bifocal IOL** and an astigmatism above **0,75 cyl** is poor

Solution:

Reduction of astigmatism via **corneal incisions** or **Lasik – Bioptics**

or

Implantation of a **toric, bifocal IOL** through an astigmatism neutral incision



Why Monomanual MICS in Phacorefractive Surgery ?



1. **Corneal incisions** to correct astigmatism (LRI, AK, T-Cut, OCCI) are sometimes **unpredictable** and may therefore cause postoperative visual problems with MIOL
2. **Bimanual MICS never** became a **widespread** method



Why is Monomanual MICS better than Bimanual ?



The two instruments of MICS have to be caught very tight in the Incisions to avoid **intraoperative leakage problems**

An **irreversible stretching of the corneal collagen fibers** (see electrone microscope photographs by R. Menapace) results in hardly watertight incisions (**and therefore postoperative leakage problems**) and more descemet folds postoperatively than in coaxial phaco



Wanted was a method that combines the advantage of the **coaxial** phaco (use of a sleeve without stretching the incision) with the advantage of MICS (incision under 2.0 mm):

The obvious solution: Construction of a **phaco tip with sleeve**, which fits through a **1.6 mm** incision.

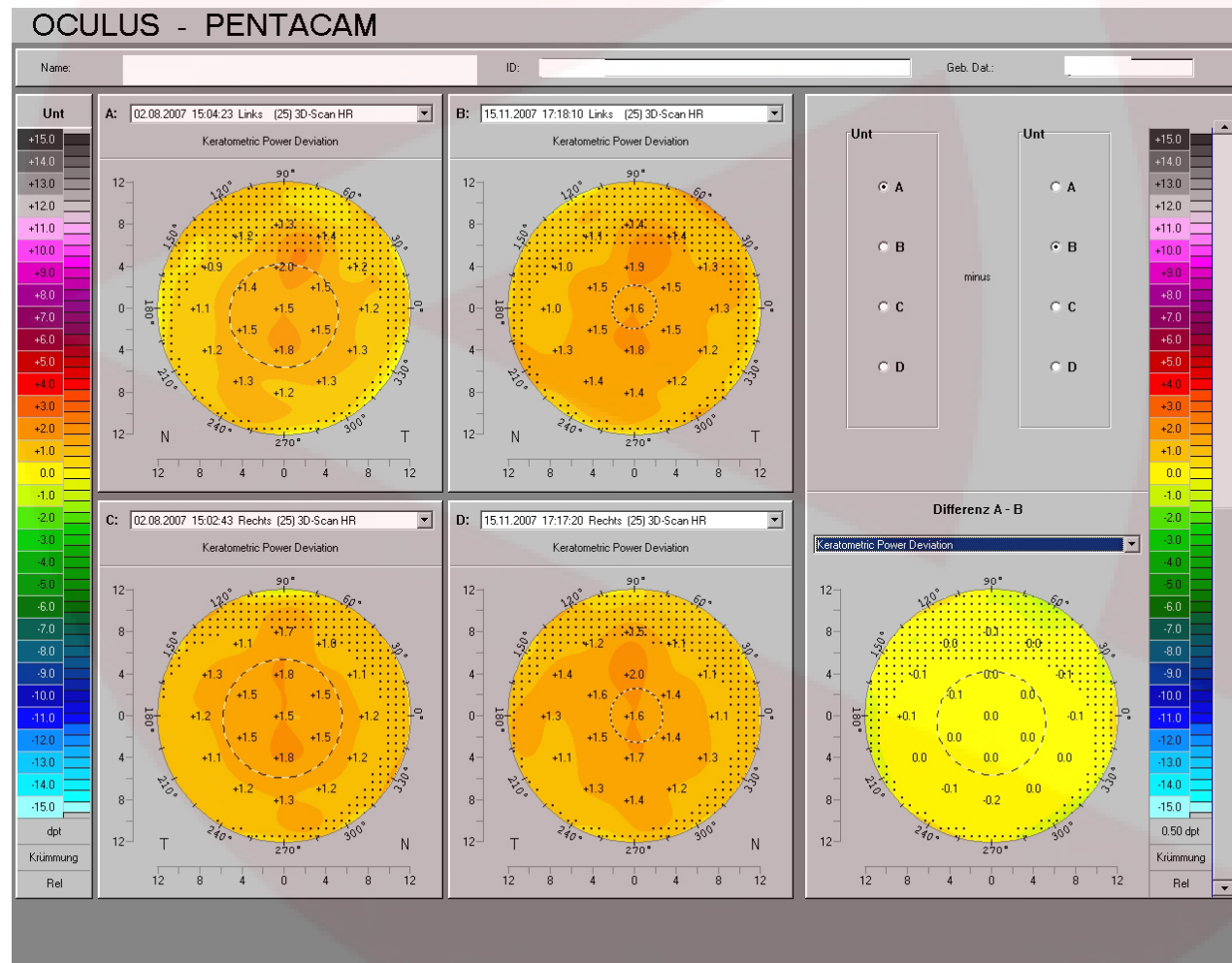


No surgically induced astigmatism after **CO-MICS** through a 1.6mm incision



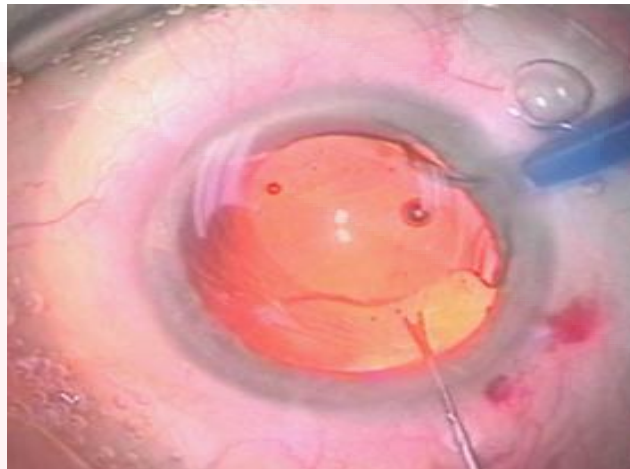
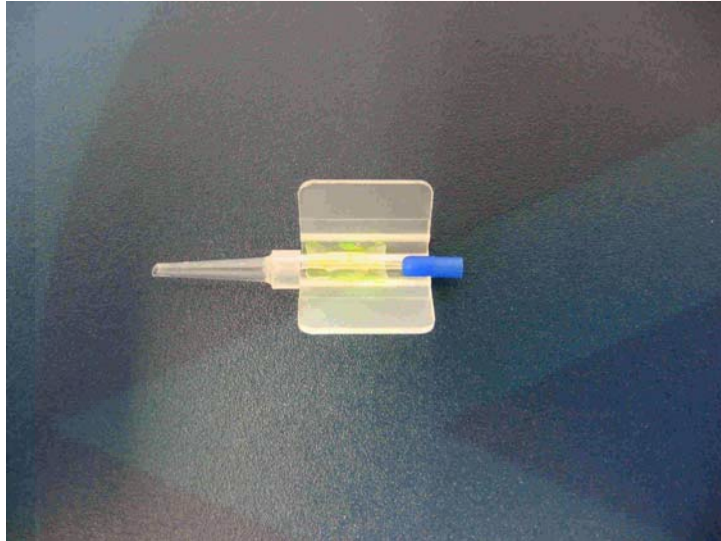


No surgically induced astigmatism with CO-MICS
(see studies by R. Menapace)





Method – IOL Implantation with Irrigation through 1.6mm





Front face **toric**

Back surface **bifocal**

Pupil independence

Light allocation 65:35

Light intensity refractive distant focus 65%,
Light intensity diffractive near focus 35%

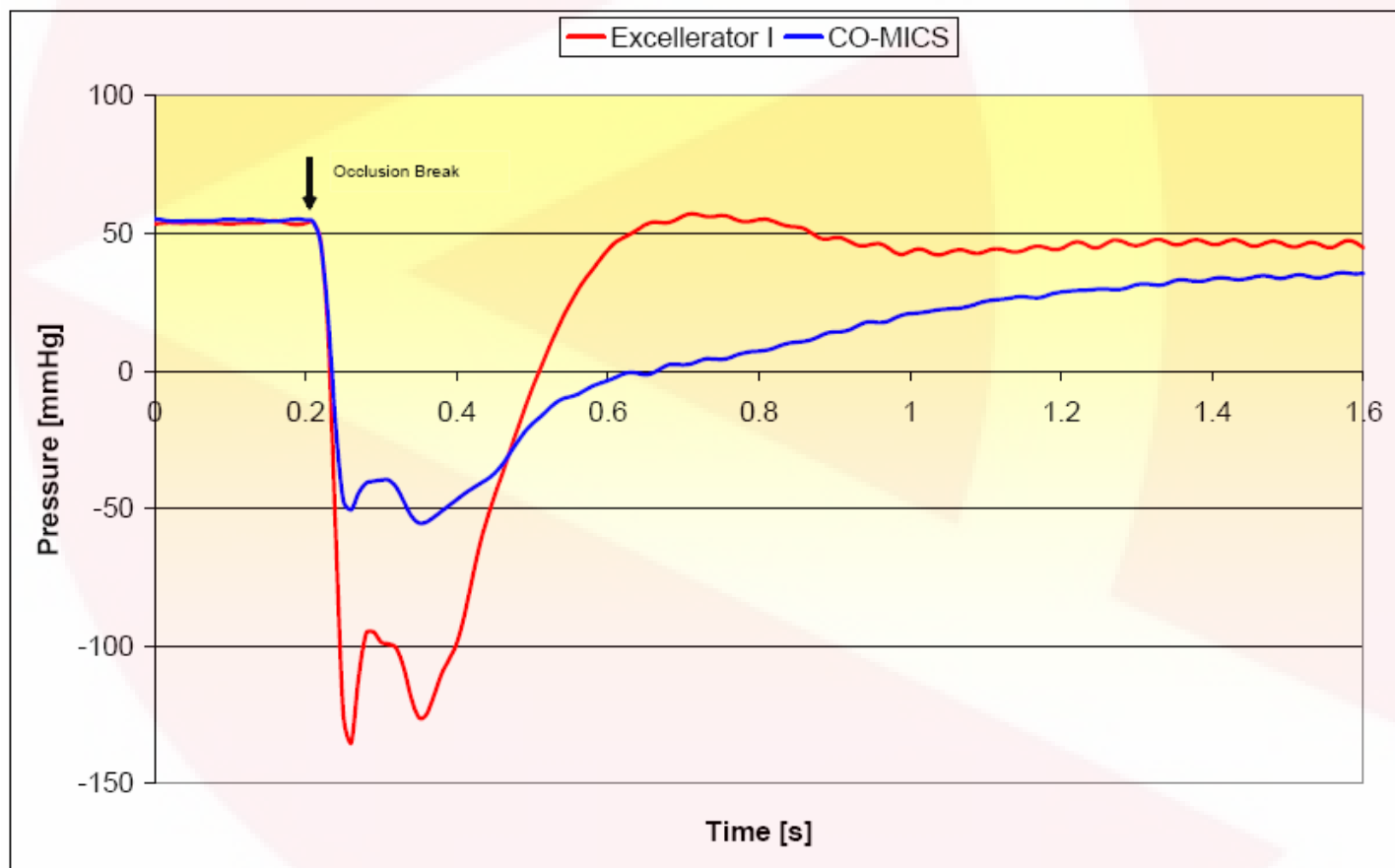
Near addition: + 3,75 dpt

MICS-Technology:

an incisionwidth of only 1,5 mm allows an
astigmatism neutral operation

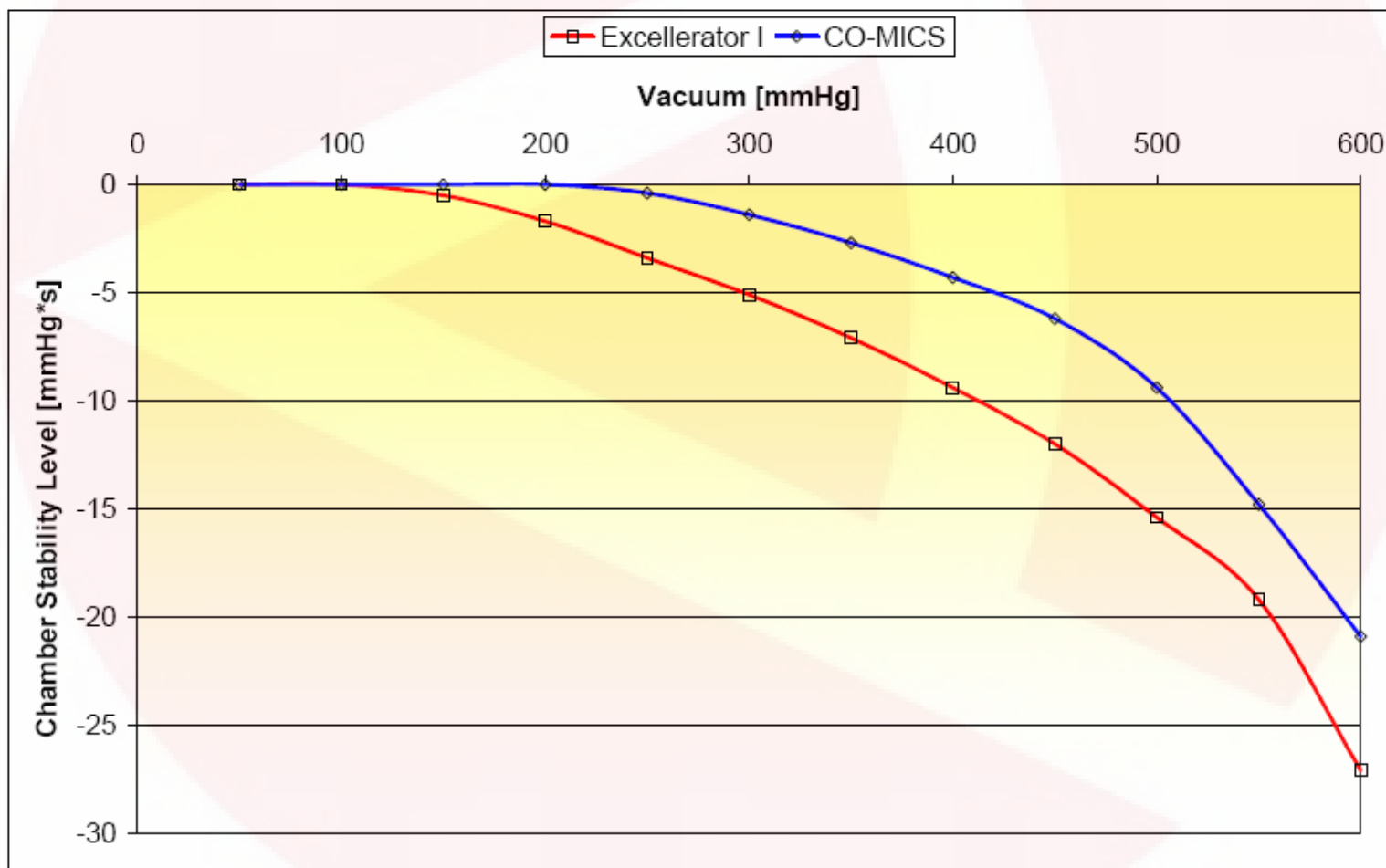


Less postocclusional surge than classic phaco



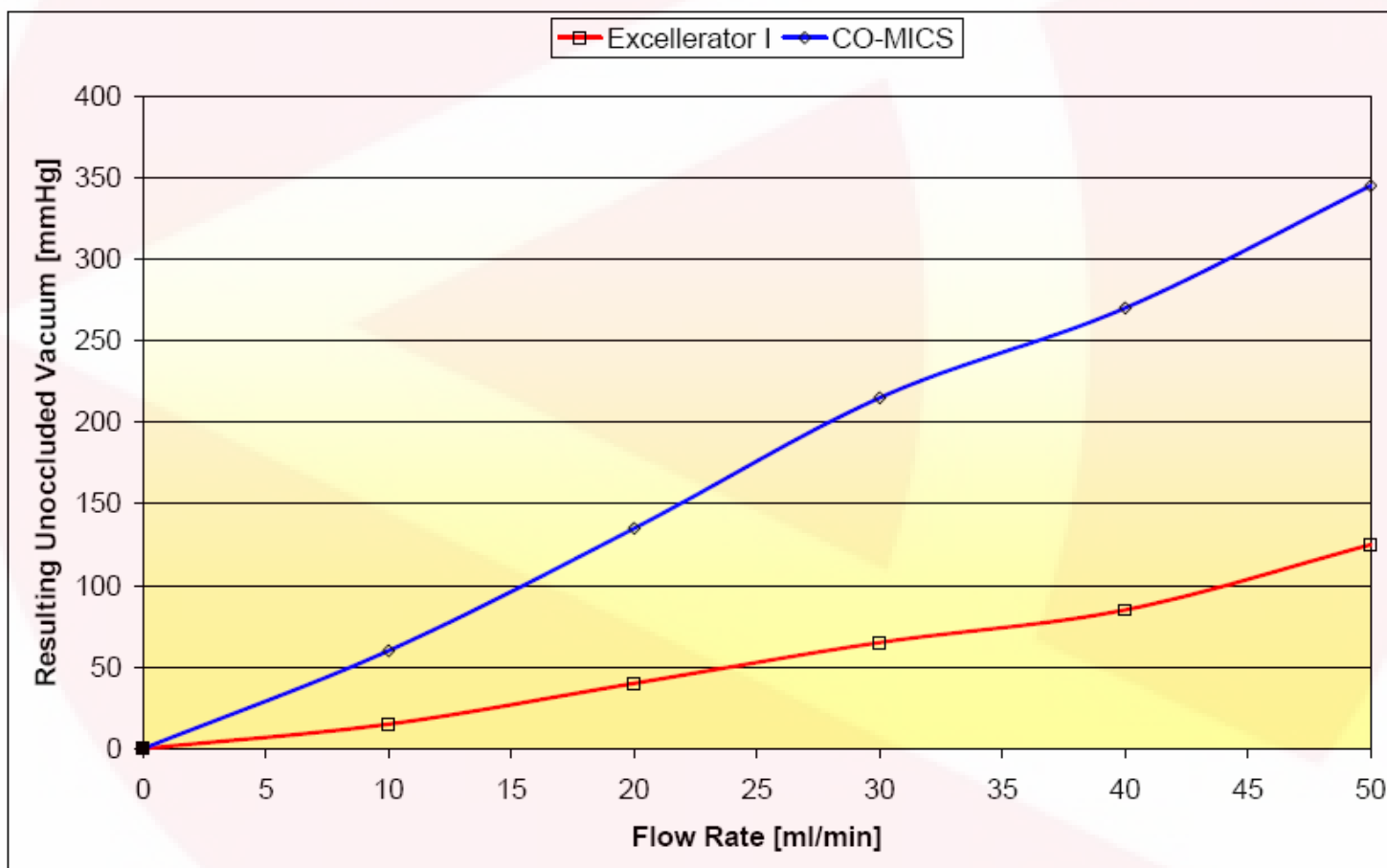


Better **Stability** of the **AC** in COMICS:





Higher flow rate necessary for an adequate vacuum





Zur Anzeige wird der QuickTime™
Dekompressor „YUV420 codec“
benötigt.



Inzision 1.6mm



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No **stretching** of collagen fibers

Prolonged surgical time in hard cataracts in former times

Nearly identical surgical time with the new CO-MICS II phaco tip

Few nucleus chatter

Continous phaco **mode** better than pulsed mode

Steep **learning curve**

Smooth fluidics and phacodynamics



The **CO-MICS** procedure **avoids** any surgically induced astigmatism

The objective **measurements** and especially the subjective patient statements are **very satisfying** and promising (Poster DOC 2008, OTE, JCRSTE, Der Augenarzt, ON)

By using the Acri.Lisa TD one can **avoid a bioptic procedure** in patients with higher astigmatism and the wish for bifocal IOL

CO-MICS and the Acri.Lisa TD are a perfect match in **phacorefractive surgery**



COMICS is very interesting **nowadays essential** for **modern cataract surgery**:

- | | |
|---|-----------------------------|
| 1. Peripheral corneal degenerations | 2. Toric or multifocal IOL |
| 3. Combined cataract and vitrectomy surgery | 4. Miosis or floppy iris |
| 5. Higher myopes or vitrectomized eyes | 6. Ocular surface disorders |
| 7. Later filtering surgery | 8. Clear Cornea Incision |
| 9. PRELEX and Clear Lens Extraction | |

Due to:

1. 6mm watertight incision and smoother phacodynamics and fluidics

And will therefore possibly be routinely used by more surgeons than MICS

And will therefore **surely** be routinely used by more surgeons than MICS