

What to do with a posterior capsule rupture ?

Posterior capsule rupture

1. Recognition
2. Management
3. Postoperative care
4. Prognosis

Recognition

Immediate recognition is mandatory to limit complications: **avoid vitreous loss and posterior dislocation** of lens fragments/IOL

Depends on the **stage** when it occurs:

1. Anterior rhexis
2. Hydrodissection
3. Emulsification (rotation – cracking)
4. I/A - capsule polishing
5. IOL insertion
6. Visco removal

Rupture during hydrodissection

- Sudden chamber deepening
- The whole lens falls back!
- Management: no rotation trial!

PAL technique

ICCE, ECCE (enlarge incision) or phako



Small conjunctival peritomy
Pars plana sclerotomy with
MVR blade 3.5 mm from
limbus (caliper)
retrolental injection of visco
(wound open!)
Manual extraction or smooth
phako

Rupture during emulsification

4 signs:

1. Sudden deepening of Anterior Chamber
2. Falling back of nucleus
3. Pupil dilation
4. Nucleus falls away from phako tip

Management

1. **LOWER** the infusion bottle and **STOP** aspiration
2. **DON'T** withdraw the phako probe too quickly!
3. **Breathe** deeply and **inform** the staff:
 - More **time** (! anesthesia)
 - More **viscoelastic** (miotic ?)
 - **Vitreotomy probe** in stand-by
 - Type of **IOL**: PC (sulcus) or ARTISAN®(AC)

Management

Observe: Is *vitreous present in the AC* ?

- If **not**: visco+++ and careful bimanual phako and I/A with low settings (dry)
- If **yes**:
 - a. conversion to ECCE if huge nuclear fragments remaining + anterior vitrectomy.
 - b. careful bimanual emulsification and I/A if possible + anterior vitrectomy

Phako with a broken posterior capsule

1. **Settings** e.g.: bottle 55mm, flow rate 18cc/min vacuum 100mmHg
2. **Bimanual** to « feed » the phako tip, aspirate **only** when tip in contact with lens fragments (occlusion)
3. Try to emulsifie the nucleus in **one** piece

I/A with a broken posterior capsule

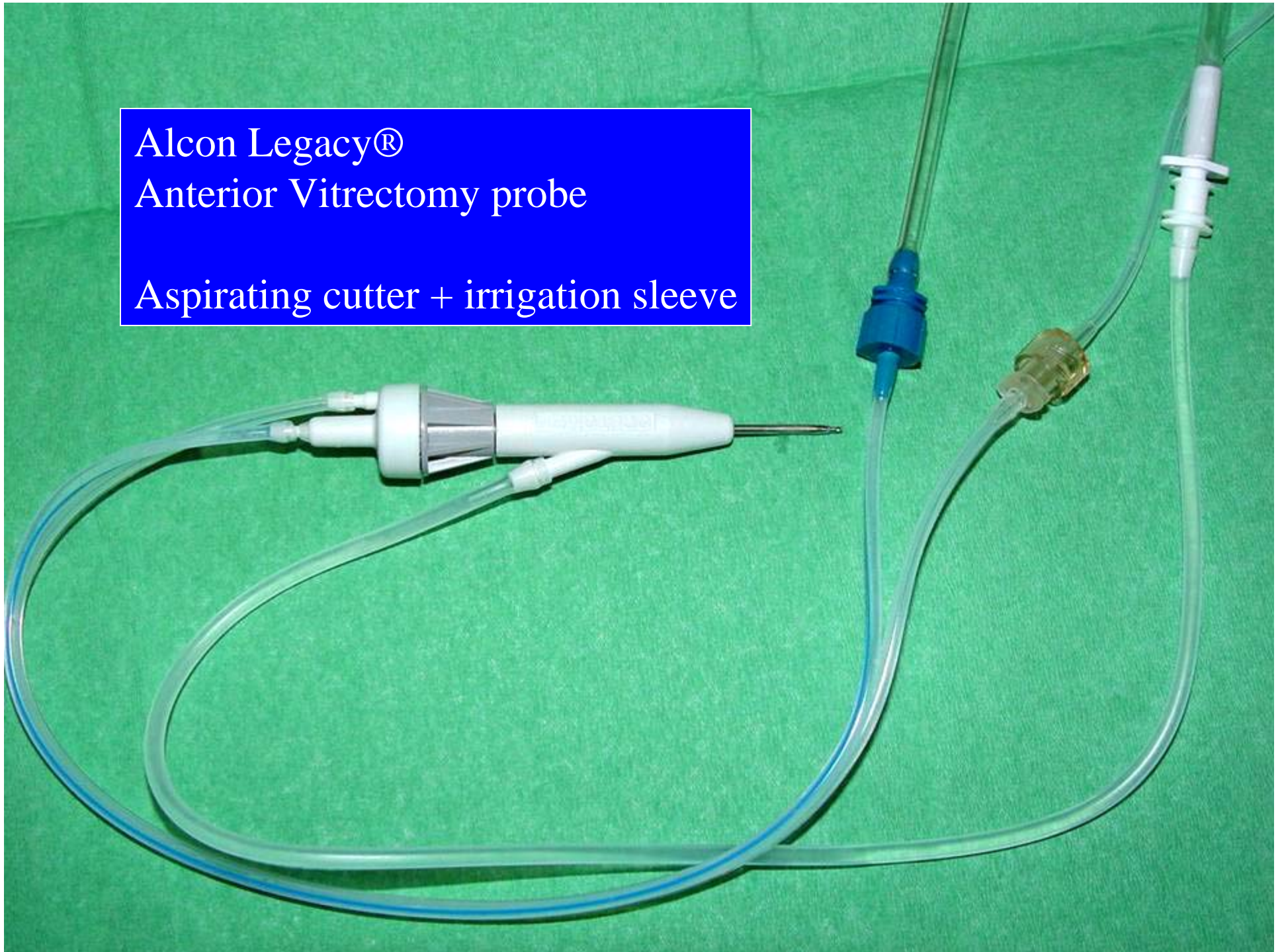
1. « dry » technique: minimal irrigation, maximal dispersive visco, aspiration **only** when port in contact with cortical material.
2. Bimanual: better to « feed » the aspiration port and to control the lens fragments
3. Alternative: « dry » manual aspiration

Anterior vitrectomy

- Only if vitreous present in the AC
- Separate cutter from infusion sleeve whenever possible: connect infusion line to AC maintainer
- Low settings: e.g. Legacy® Alcon: **ATIOP**
 1. Bottle height 34 cm
 2. Vacuum max 200 mmHg
 3. Flow rate 25 cc/min
 4. Cutter: 300 cuts/ min

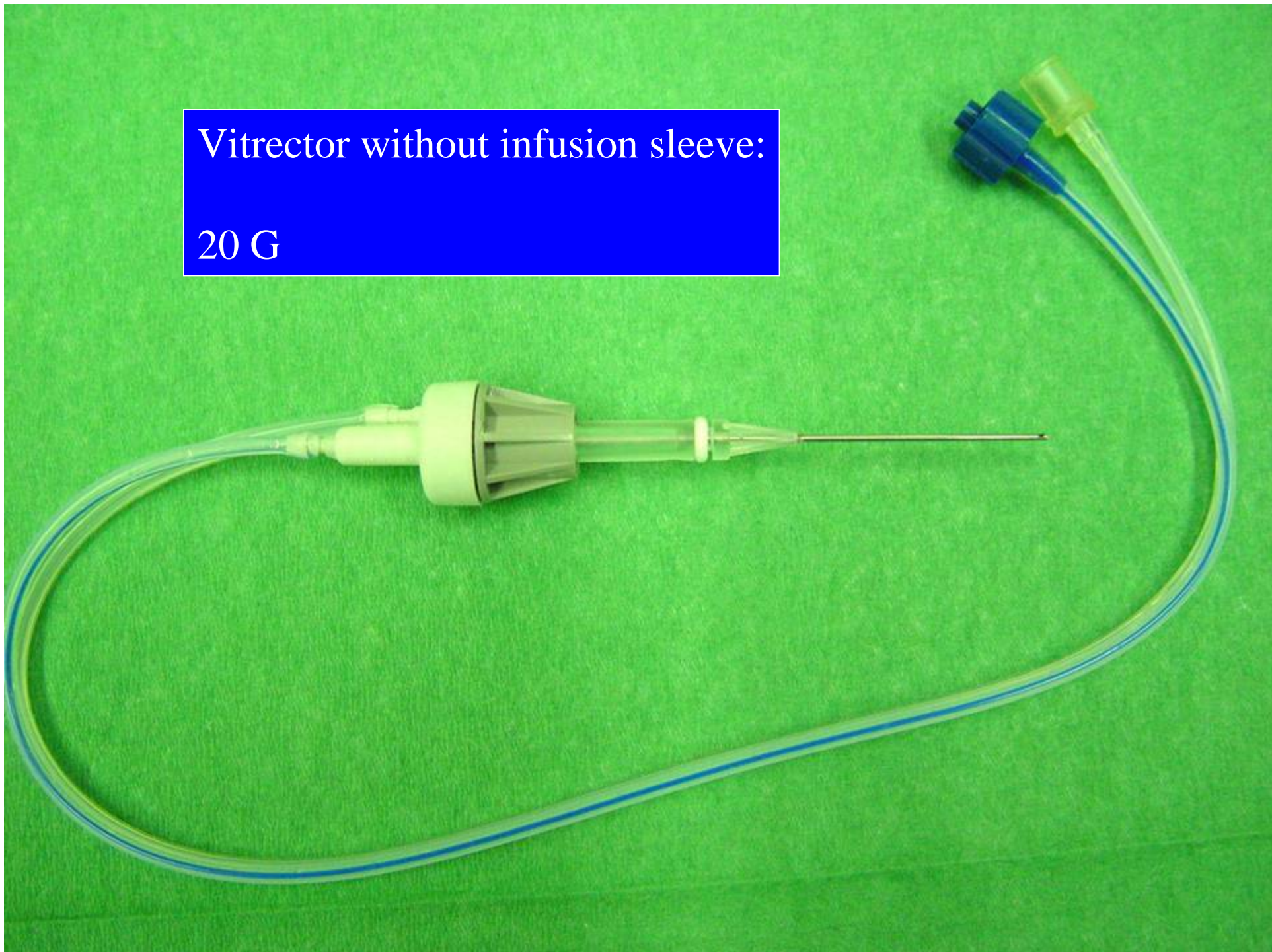
Alcon Legacy®
Anterior Vitrectomy probe

Aspirating cutter + irrigation sleeve

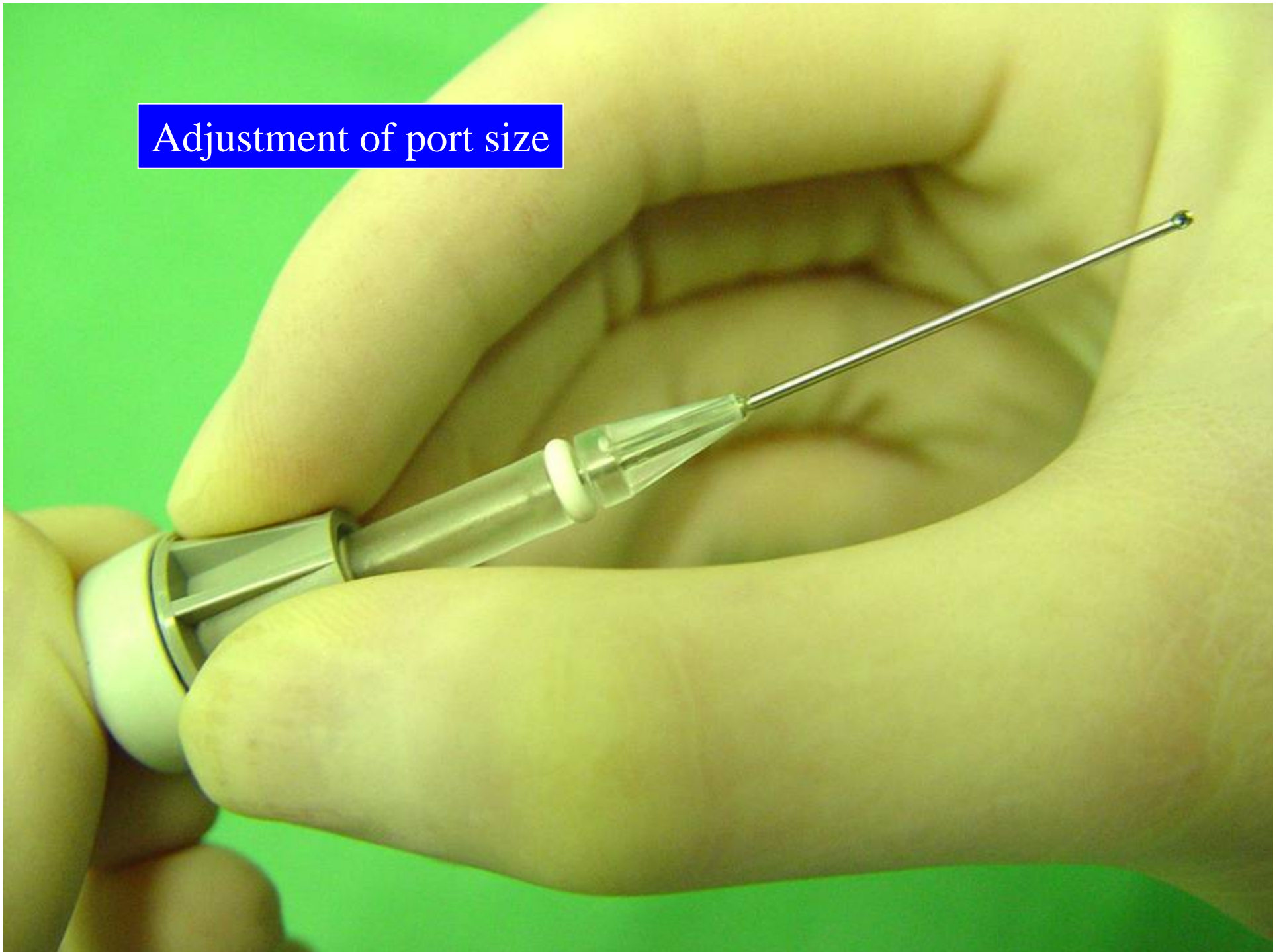


Vitreoractor without infusion sleeve:

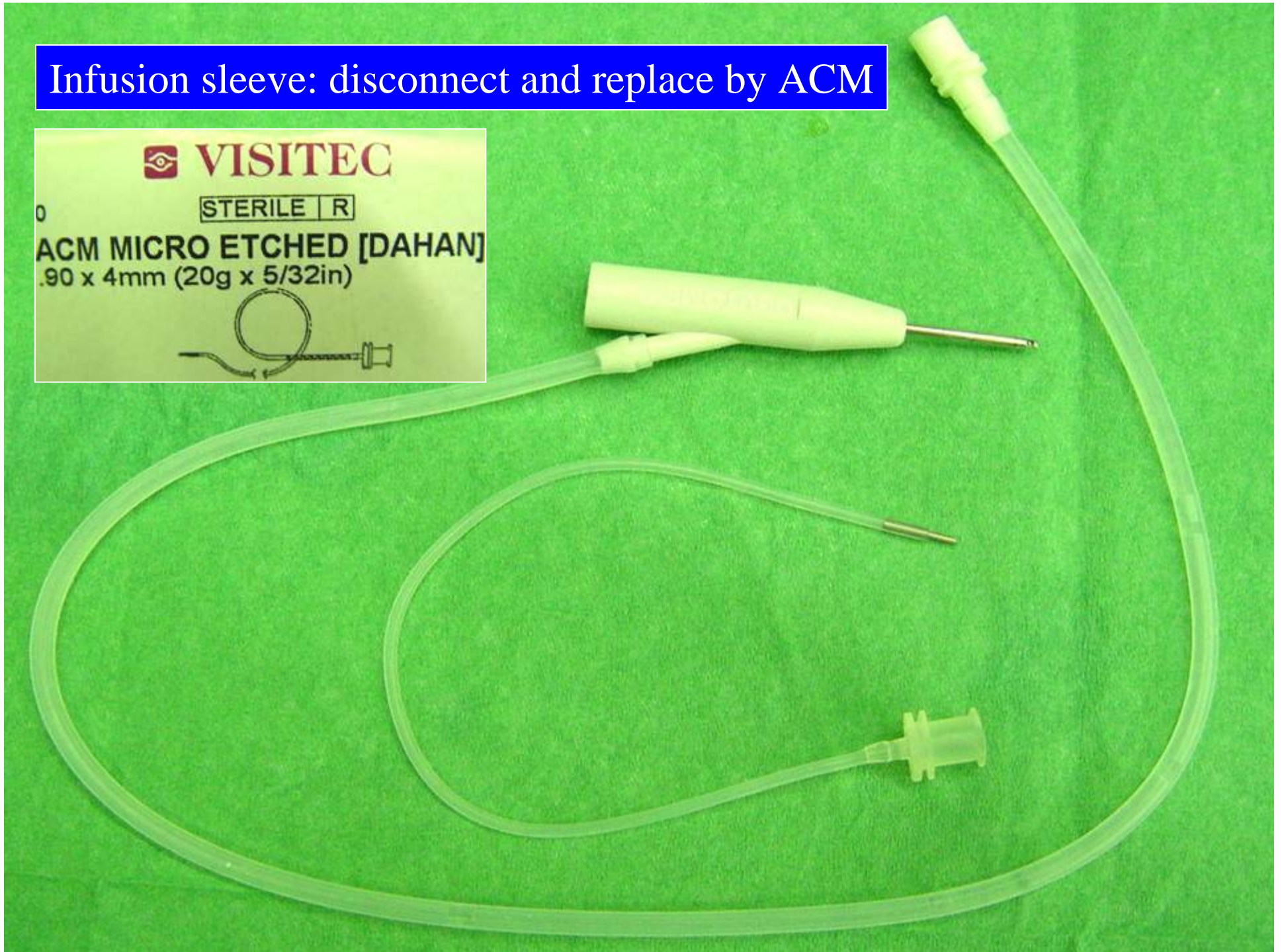
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Adjustment of port size



Infusion sleeve: disconnect and replace by ACM



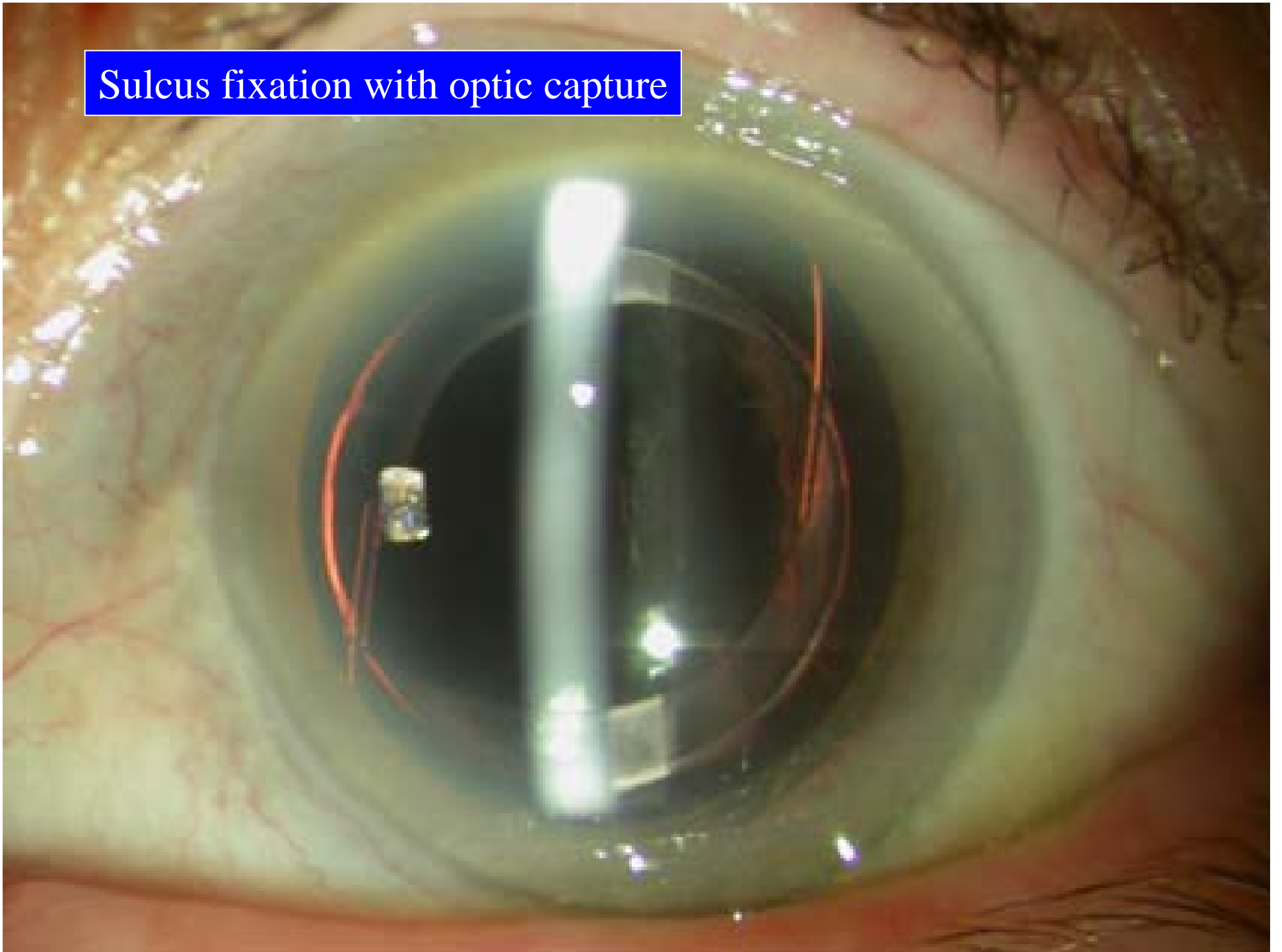
Anterior vitrectomy

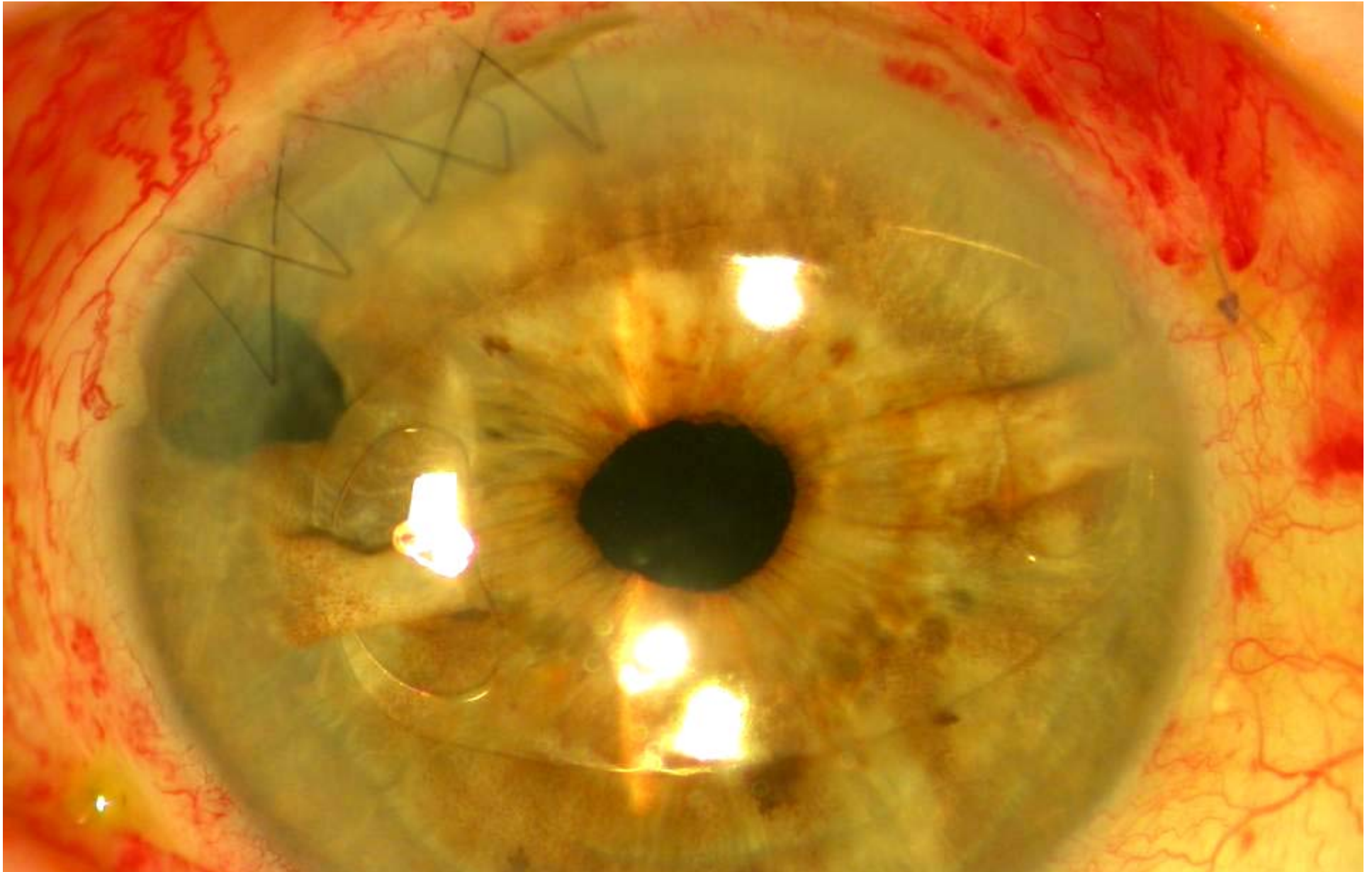
- Foot pedal: (e.g.alcon: ATIOP)
 1. Infusion
 2. Cutter
 3. Aspiration
- Enter in position 1 with port facing *up*
- Move the probe slowly > no traction on vitreous
- Withdraw in position 2 with port facing *down* (iris!)
- Better through 2 side ports with main incision closed temporarily

Implantation or not ?

- If everything is clean and no posterior dislocated material: OK
- **No silicone** lenses: PMMA or acrylic
- If anterior rhexis intact and no zonulolysis: **sulcus fixation with capture of the optic**
- If capsular support doubtful: **Artisan®**
- If posterior segment surgery planned: see with surgeon....

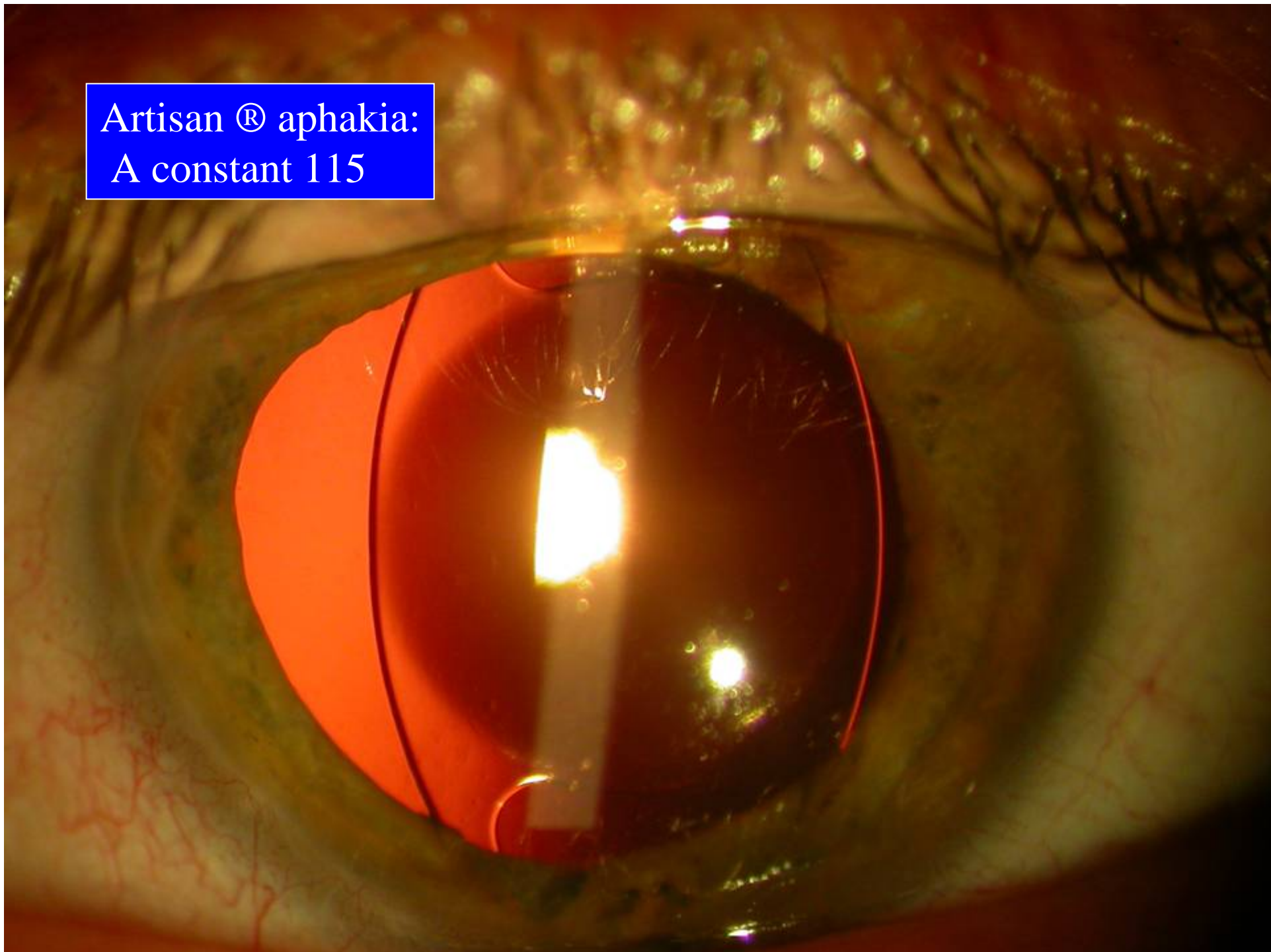
Sulcus fixation with optic capture





ARTISAN © aphakia: whenever capsular support is unsuitable

Artisan® aphakia:
A constant 115



If capsular support is doubtful..... don't try !



Ending the procedure

- **IRIDECTOMY** if needed (vitrector)
- Remove visco with vitrectomy probe
- **Suture** carefully
- **NO VITREOUS IN THE WOUND:**
 1. Miotic > round pupil
 2. Test with microsponge

Postoperative management

- Acetazolamide 500 mg IV to be repeated after 6-12 hours
- IV steroids: e.g. Solumedrol® 125 mg to be repeated after 12 hours
- (Antibiotics IV or ...)
- (If no posterior segment procedure planned: subtenon injection of steroid...)

Postoperative management

- **Risks:**
 1. Infection in a monosegmented eye
 2. CME
 3. RD
 4. Phakolytic uveitis – glaucoma
- **Prophylaxis:** AB, Steroids, Acetazolamide, NSAID's, dilated fundus examinations

Postop management

- Posteriorly luxated fragments:
 1. Small cortical remnants: ok
 2. Huge nuclear fragments > referral to PS surgeon
- Aphakia, vitreous in the wound, etc. > secondary procedure

Rupture of the posterior capsule

- 0.3 to 6% of cases
- CLE : **unacceptable** : adapt your technique!
- If vitreous loss: 30% complications
- If unplanned vitrectomy: 25% RDs!
- If managed properly: sleep quietly!

Thank you for your attention

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BSCRS 31/01/04
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