

Developing an Accessory Light Source for Pars Plana Vitrectomy: The Technique



Keissy Sousa¹, Rui Carvalho², Luís Mendonça¹, Rita Gentil¹, Ricardo Leite¹, Fernando Vaz¹, Nuno Gomes¹

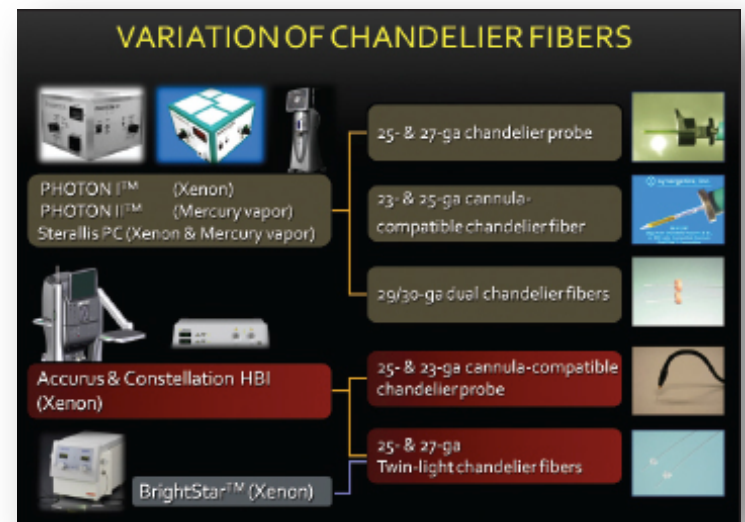
¹ Hospital de Braga, Portugal

² Hospital Pedro Hispano, Unidade Local de Saúde de Matosinhos; Portugal

September 2014

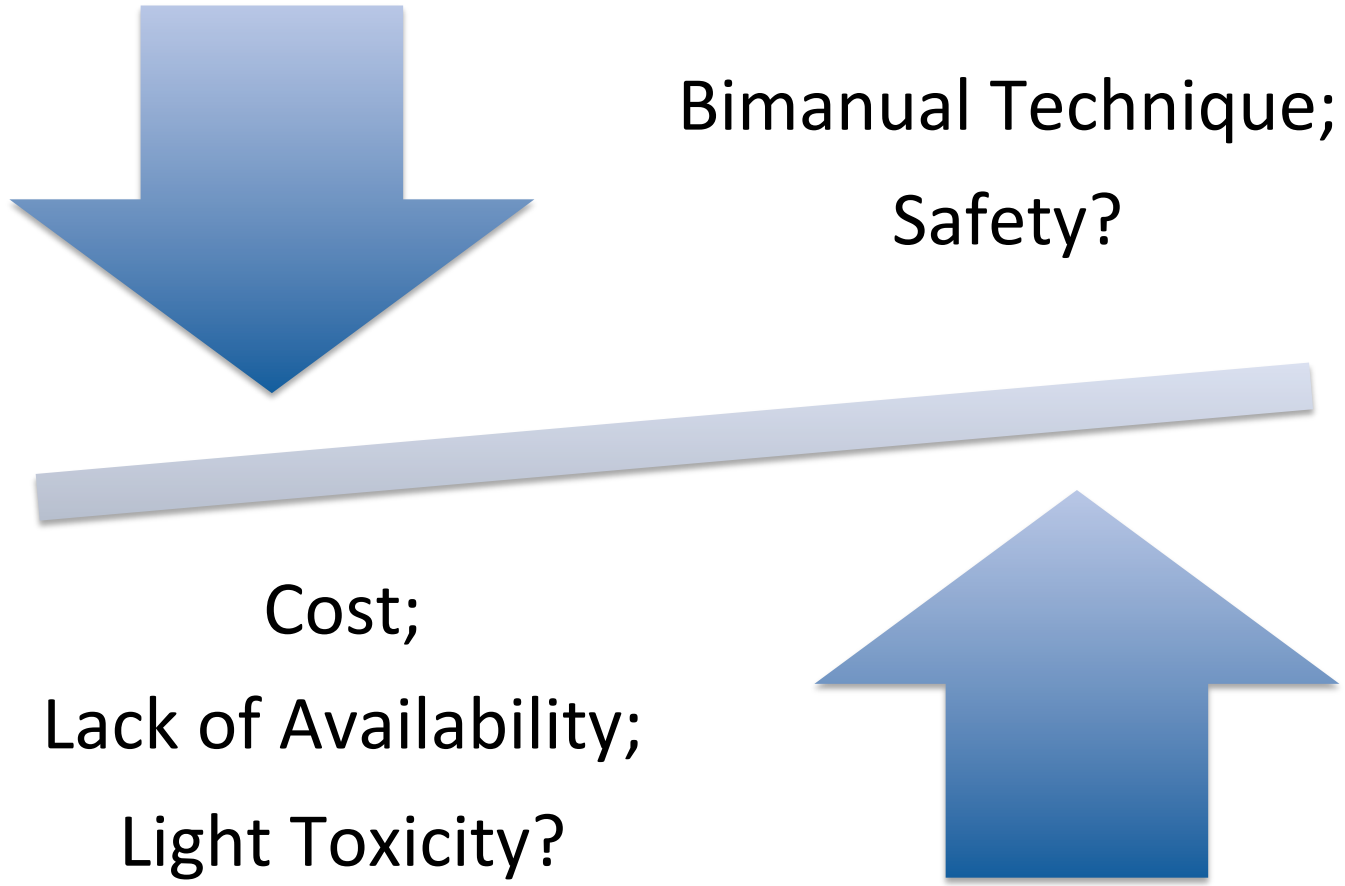
Chandelier

- A variety of accessory lighting systems have been developed to provide **stationary, wide-angle** and **uniform endoillumination** for obtaining adequate visualization of the retina during surgery.
- Available as a **single-fiber** system - 25 and 27G or independent **2-fiber systems** - 27 and 29G.
- True bimanual performance





Pros / Cons





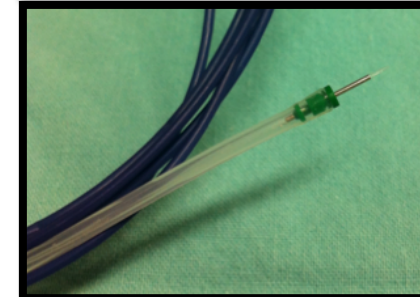
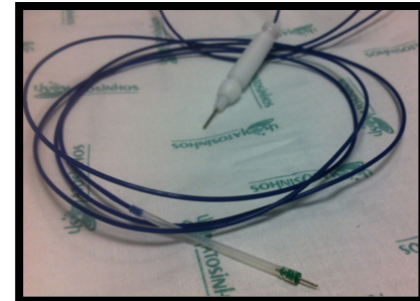
Material and Methods

- An accessory light source was developed using a **light pipe and an infusion line** from two different manufacturing companies (**Alcon[®]** and **Bausch & Lomb[®]**).
- For the **Alcon[®] Accurus** system we manufactured a new light source using a **23G light pipe and a 23G infusion cannula**.
- For the **B&L[®] platform** we used a **25G widefield optic fiber and a 23G infusion line**.
- **Both** light sources can be used with a **trocar** system.

The authors have no financial interest in any of the materials discussed.

Stellaris PC platform (B&L[®])

1. **23G infusion line** and a 25G widefield **light pipe**.
2. **Separate** the white plastic cover from the light fiber contained in it.
3. **Cut** the infusion cannula.
4. **Pass** the optic fiber through the distal end of the infusion cannula.
5. Insert it into the trocar.

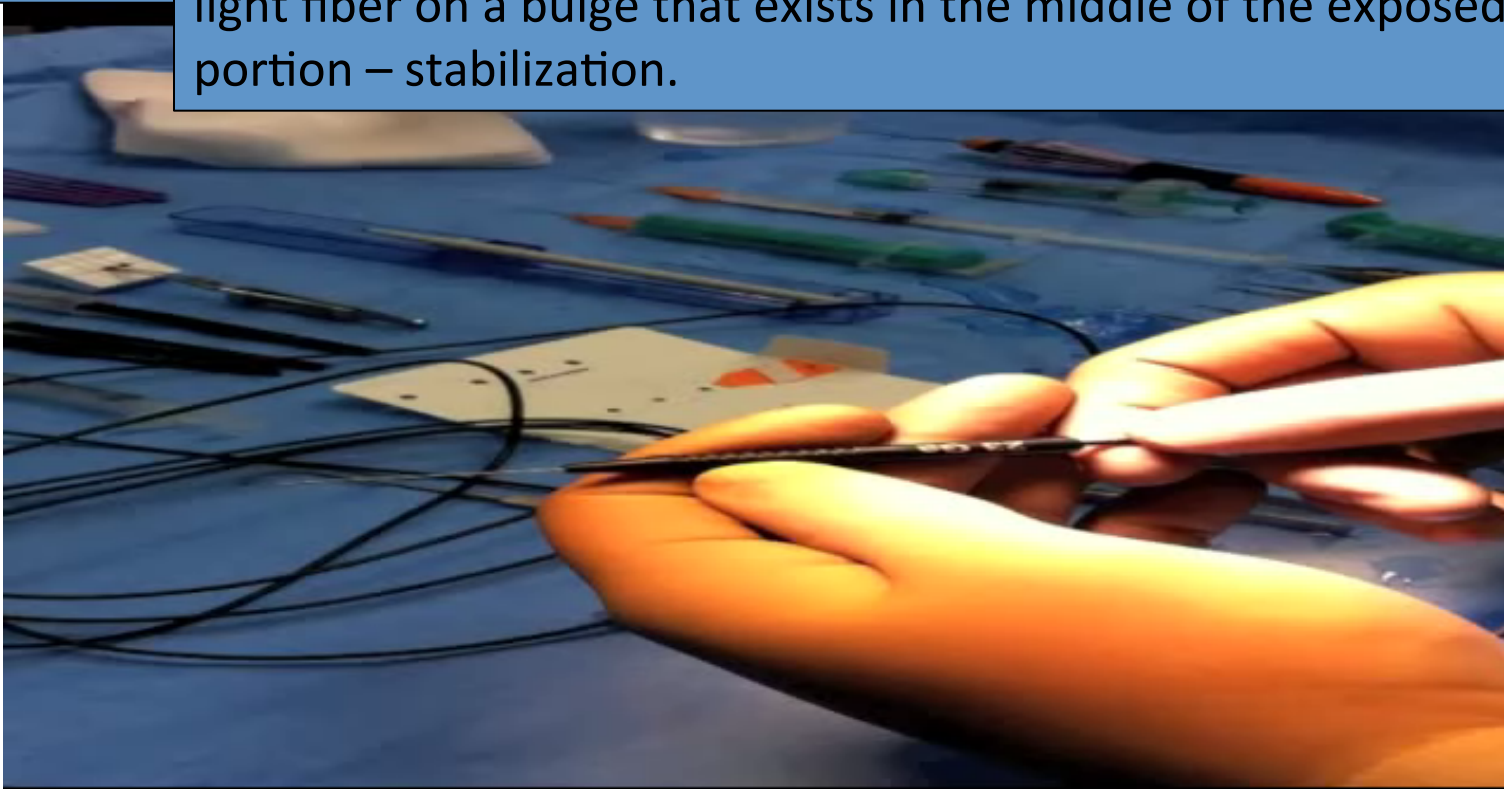




23G Alcon MIVS[®] System

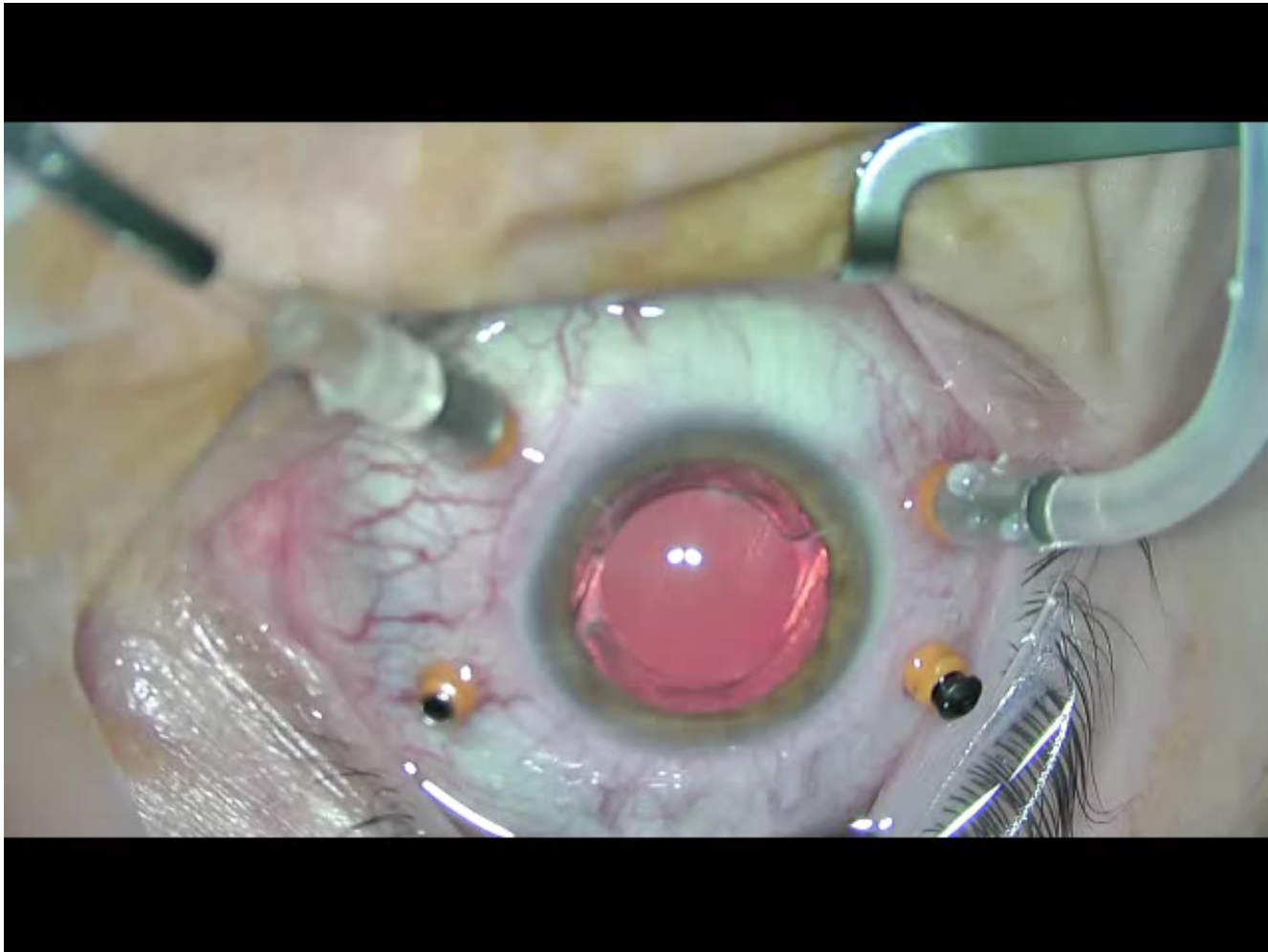
3. The optic fiber is then passed through the end of the infusion cannula.

The remaining silicone portion of the infusion cannula wraps the light fiber on a bulge that exists in the middle of the exposed portion – stabilization.



4. The optic fiber is cut at the desired length close to the metallic tip of the infusion cannula.

Endoillumination Efficacy





Follow-up

- More than 12 months of follow-up.
- No complications related to material manipulation:
 - ✓ stripping of the fiber surface
 - ✓ entrance of contaminants into the eye
 - ✓ inflammation
 - ✓ Infection
 - ✓ light toxicity

Developing an Accessory Light Source for Pars Plana Vitrectomy: The Technique



Keissy Sousa¹, Rui Carvalho², Luís Mendonça¹, MD², Rita Gentil¹, Ricardo Leite¹, Fernando Vaz¹,
Nuno Gomes¹

¹ Hospital de Braga, Portugal

² Hospital Pedro Hispano, Unidade Local de Saúde de Matosinhos; Portugal