

# Downsizing incisions while maintaining efficacy

Results of a comparative study on efficacy of two phaco tips

By **OTEurope**

Reviewed by

Dr Sabine Schriebl and

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According to Dr Sabine Schriebl (Department of Ophthalmology, Waehringer Guertel, Vienna, Austria), downsizing incisions has been a driving force of the evolution of cataract surgery in recent years, however, just reducing the size of the phaco needle will lower efficacy. This was reflected in her discussion during the *Phaco Techniques* session that took place on Monday afternoon during this year's ESCRS congress in Vienna, Austria.

Dr Schriebl and colleagues, Dr Eva Stifter and Prof. Dr Rupert Menapace, performed a comparative study to determine the intraoperative efficacy and postoperative outcomes of two different phacoemulsification tips, the easyTip 2.2 mm and the 20G CMP tip (both from Oertli Instrumente AG, Bernecke, Switzerland).

*"...despite the increased fluid consumption there was no increase in endothelial cell loss, indicating that the enhanced fluidic settings did not augment tissue damage."*

## Comparing phaco tips

The prospective, randomized, single-masked study consisted of 114 eyes of 57 patients. Dr Schriebl explained that preoperative examinations were performed 1-week before surgery. "One week before surgery, we graded all cataracts (i.e., both groups) using the Lens Opacities Classification System (LOCS) III and we measured endothelial cell density by non-contact specular microscope," she said.

To maintain integrity in the study a single surgeon performed all the operations. Dr Schriebl added, "The surgeon operated on each patient in a single session where one eye was randomly assigned to undergo phacoemulsification with the 20G CMP (group 1) and the fellow eye with the easyTip 2.2 mm (group 2). Group 1 were operated on with low fluidic setting (aspiration flow: 20 mL/min; vacuum: 400 mmHg) while group

2 were operated on with enhanced fluidic settings (aspiration flow: 35 mL/min, vacuum: 500 mmHg)."

She went on to explain that efficacy was measured in terms of surgery time (to divide and conquer the nucleus of the lens), the amount of phaco energy consumed and the fluid consumption. "The safety of each phaco tip," she continued, "was judged in terms of visual acuity (VA) and endothelial cell loss." The follow up periods for visual outcome and endothelial cell loss were 1-week and 18-months post-op. Complete analysis was made postoperatively at the end of the study.

## Differences in the phaco tips

In their preoperative analysis Dr Schriebl and colleagues found that there was no statistically significant difference in the mean cataract grade.

With regards to the phaco tips, Dr Schriebl revealed, "When using the easyTip 2.2 mm the overall phaco energy consumption was reduced by 30% while overall fluid consumption was only 12% higher compared with the CMP 20G."

She added, "Sadly, we observed no difference in surgery time but with the easyTip 2.2 mm the effective phacoemulsification time was reduced."

Additionally, Dr Schriebl and colleagues found that with the easyTip 2.2 mm the amount of energy required to conquer the nucleus of the lens was also significantly lower than that of the CMP 20G tip. This added to the fact that the effective time taken to perform the phacoemulsification was lower, led the team to conclude that the easyTip 2.2 mm phaco tip was more efficacious than the CMP 20G. All surgeries were uneventful.

Both options gave similar safety profiles after

## In short...

A recent prospective, randomized, single-masked study including a within-patient comparison has revealed that the easyTip 2.2 mm phaco tip in co-axial MICS uses a third less energy than the 20G CMP tip.



analysis of the postoperative visual outcomes and the level of endothelial cell loss.

### Conclusions

"At the final follow up, one and a half years post-op, we found no significant difference in the VA or endothelial cell loss," said Dr Schriefl.

"So, the phaco efficiency increased and overall energy consumption was 30% less with the easyTip 2.2 mm. Also, despite the increased fluid consumption there was no increase in endothelial cell loss, indicating that the enhanced fluidic settings did not augment tissue damage. Currently, there is a study underway to determine efficiency and safety of even higher fluidics," concluded Dr Schriefl.

Would you use the  
easyTip 2.2 mm?

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### Special contributors

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