



Mark Tomalla, MD, has been practicing as a senior physician at the Clinic for Refractive and Ophthalmic surgery in Duisburg, Clinic Niederrhein, Germany since 2005. Having performed the world's first Femtec femtosecond laser-controlled pKPL and endothelial transplantation, Dr. Tomalla is always looking for new and innovative ways to enhance the treatment options available to his patients – which is why he recently adopted SLT for the management of his glaucoma patients. His clinical tips for SLT follow.

My colleagues and I have successfully performed over 85 SLT procedures in the past three months for patients with primary open angle glaucoma (POAG), normal tension glaucoma (NTG) and pigment dispersion glaucoma. The first cases treated were patients who had received one to three glaucoma eye drops, but whose IOP could not be sufficiently reduced to achieve the target pressure. Without SLT, either ALT or filtering surgery would have been the only treatment options for these patients.

Post-operative results indicated that 25 percent of these patient groups did not respond to SLT treatment. Drug therapy was continued in these patients. By contrast, 75 percent responded well to SLT and achieved a 20-25 percent IOP reduction. In individual patients with baseline pressure of 30 mmHg, we were able to reduce the IOP postoperative to 18 mmHg. Currently, the post-operative follow-up period is up to three months.

The IOP values in all patients with primary response to SLT treatment (and at the moment without eye drop therapy) were all lower or equal to those under drug therapy over the entire period. But even if the IOP reduction achieved by the SLT procedure is not maintained over time, the procedure can be repeated without serious side effects or complications. This is because SLT is a non-thermal laser treatment in which laser energy is selectively adsorbed through the pigmented cells of the trabecular meshwork.

In addition to a slight reddening of the conjunctiva, the only side effects that resulted from SLT were minimal cell findings in the anterior chamber. These regressed spontaneously, and we intentionally did not treat them. A paradoxical IOP increase occurred in a few patients.

We recently commenced a study on SLT in Duisburg, in which we will investigate both the efficacy and health-economic aspects. In our opinion, we definitely recommend the use of SLT as primary or secondary therapy for glaucoma.

Tips for Use of SLT

- I always offer my patients an opportunity to choose from the entire spectrum of glaucoma therapy currently available, ranging from primary drug therapy to surgical intervention with a shunt. It is important that patients are made aware of all of the treatment options available to them.
- I have found SLT to be quick and easy to perform. The procedure itself takes only five minutes, and the larger spot size makes it easy to aim the laser beam on the trabecular meshwork.
- When performing SLT, I apply 360-degree treatment in order to achieve uniform filtration. It is also apparent from recent publications that 360-degree SLT treatment is the most effective.
- The level of energy applied during SLT treatment depends on the occurrence of champagne bubbles; that is, I titrate the energy level upwards until I can see bubble formation.
- In my opinion, additional drug treatment is not required when performing SLT. I do not apply additional medications either pre- or postoperative; for example, to prevent paradoxical increase in IOP. In addition, the use of additional anti-inflammatory medication is not necessary.