

Changing Paradigms in Glaucoma Care

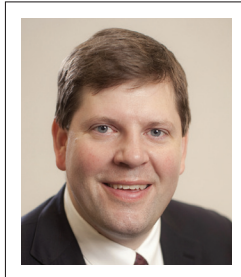
Improvements in our understanding of the disease as well as in our ability to diagnose and treat it have markedly changed how we physicians approach glaucoma management.

Classically, incisional procedures have been a last resort, because surgical options have been limited and because many complications and a prolonged postoperative recovery period are associated with glaucoma filtration surgery. Instead, treatment has almost inevitably begun with topical medication. This practice remains the preference of most US clinicians because of available agents' excellent safety and efficacy profiles. For patients who are not good candidates for medical therapy, laser trabeculoplasty has been advocated as a safe and efficacious initial alternative. Unfortunately, most patients ultimately require medical therapy, as the effect of laser treatment wanes or if it inadequately lowers IOP.

Many ophthalmologists outside the United States offer incisional surgery as first-line treatment, largely due to well-known problems with patients' long-term adherence to prescribed therapy. The Collaborative Initial Glaucoma Treatment Study (CIGTS) revealed that filtration surgery and aggressive medical therapy provide comparably excellent long-term outcomes.¹ The dawning era of microinvasive glaucoma surgery (MIGS) promises to shift the place of

incisional procedures in this country as well. MIGS procedures have a much more appealing safety profile than filtration surgery, and they often produce an acceptable decrease in IOP for patients with mild to moderate disease. Advances in laser technology and glaucoma filtration surgery are expanding their potential indications as well.

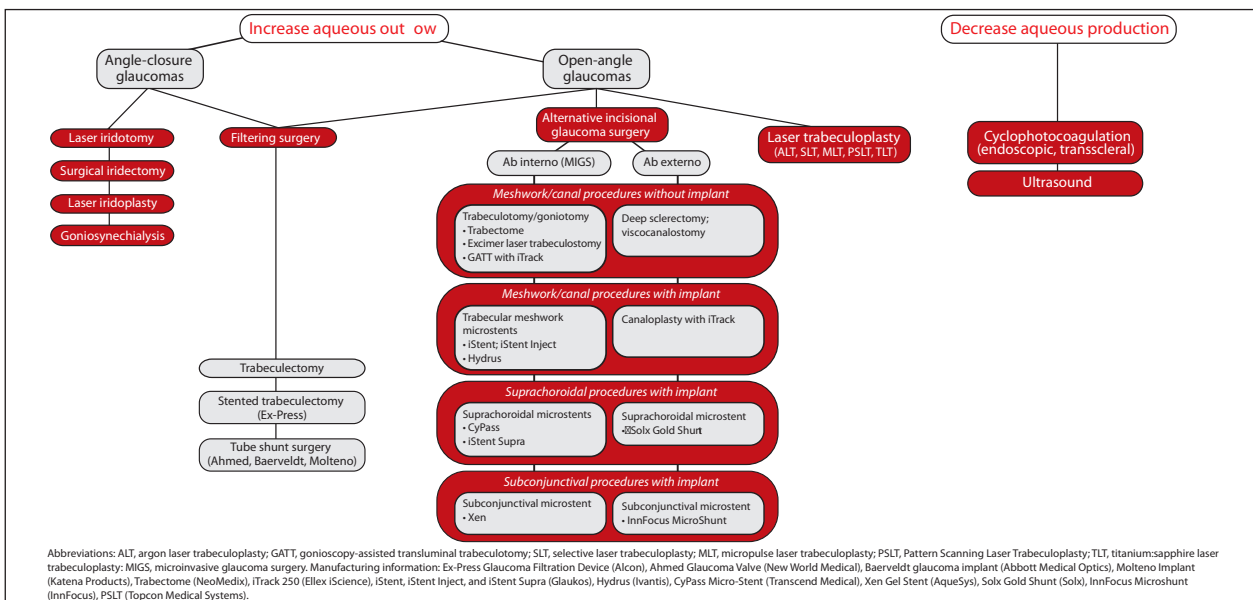
A byproduct of the growing surgical armamentarium is confusion over its associated terminology and the classification of the various procedures. When Ike Ahmed, MD, initially coined the term *minimally invasive glaucoma surgery*, he applied it to new microstent technologies. MIGS has since been used, however, for any glaucoma surgery that avoids a bleb postoperatively, which diminishes the specificity of the term. In response, Saheb and Ahmed published a review of MIGS in which they recommended that the term stand for microinvasive glaucoma surgery.² The Figure represents my attempt to build on their efforts to provide a contemporary framework for approaching discussions of glaucoma surgery. It is only a starting point. More MIGS procedures will become available, and the roles of various surgeries will become more defined in the future. ■



Steven D. Vold, MD

Steven D. Vold, MD
Chief Medical Editor

1. Musch DC, Gillespie BW, Niziol LM, et al; CIGTS Study Group. Intraocular pressure control and long-term visual field loss in the Collaborative Initial Glaucoma Treatment Study. *Ophthalmology*. 2011;118(9):1766-1773.
2. Saheb H, Ahmed II. Micro-invasive glaucoma surgery: current perspectives and future directions. *Curr Opin Ophthalmol*. 2012;23(2):96-104.



Abbreviations: ALT, argon laser trabeculoplasty; GATT, gonioscopy-assisted transilluminal trabeculotomy; SLT, selective laser trabeculoplasty; MLT, micropulse laser trabeculoplasty; PSLT, Pattern Scanning Laser Trabeculoplasty; TLT, titanium:sapphire laser trabeculoplasty; MIGS, microinvasive glaucoma surgery. Manufacturing information: Ex-Press Glaucoma Filtration Device (Alcon), Ahmed Glaucoma Valve (New World Medical), Baerveldt glaucoma implant (Abbott Medical Optics), Molteno Implant (Katena Products), Trabectome (NeoMedix), iTrack 250 (Ellex iScience), iStent, iStent Inject, and iStent Supra (Glaukos), Hydrus (Ivantis), CyPass Micro-Stent (Transcend Medical), Xen Gel Stent (AqueSys), Solk Gold Shunt (Solk), InnFocus Microshunt (InnFocus), PSLT (Topcon Medical Systems).

Figure. Updated classification of surgical procedures for glaucoma.