Microinvasive glaucoma surgery (MIGS) bridges the wide gap between medical therapy and traditional glaucoma surgery. This article focuses on one MIGS device, the iStent Trabecular Micro-Bypass Stent (Glaukos), which is FDA approved for use in conjunction with cataract surgery. The iStent G1, the first ab interno microbypass stent, is designed to improve aqueous outflow by creating a bypass through poorly functioning trabecular meshwork into Schlemm canal. Access to the inferior nasal quadrant is enabled through the use of a clear corneal temporal incision. Strategic placement of the iStent in this location optimizes outflow in an area with the highest concentration of collector channels and aqueous veins. In our experience, successful placement of the implant depends on patient selection, intraoperative gonioscopy skills, head and microscope positioning, and angle visualization.

PATIENT SELECTION
By carefully selecting appropriate patients for this procedure, surgeons can improve the likelihood of success. We find that it is easier to visualize and target the anatomical landmarks in eyes with wide-open angles and pigmented trabecular meshwork. In addition, it is important to select cooperative patients who do not require heavy sedation or a block and who can easily comply with instructions for positioning their head and eye.

GONIOSCOPY: PRACTICE MAKES PERFECT
For new adopters of the iStent, proper positioning of the patient’s head and eye and angle visualization are typically the greatest challenges. The successful surgeon has an excellent understanding of angle anatomy and superior gonioscopy skills, which are critical for identifying and targeting anatomical landmarks. Before using the iStent, we recommend practicing intraoperative gonioscopy (using the nondominant hand) at the completion of routine cataract cases. It is also worthwhile to make use of the resources provided by Glaukos: representatives will arrange wet labs and attend cases to foster surgeons’ comfort and success. (For more on gonioscopy for MIGS, see Dr. Shareef’s article on p. 42.)
reflux of blood into Schlemm canal, a technique that helps
us to identify landmarks in eyes with lightly pigmented
irides. Injecting too much viscoelastic may cause Schlemm
canal to collapse and make the iStent’s implantation more
challenging.

If initial attempts to place the device result in bleeding
within the anterior chamber, the view may be compro-
mised. Displacing this blood with viscoelastic can improve
the view.

**LANDING STRIP TECHNIQUE**

Surgeons in our group developed a technique to prepare the
trabecular meshwork for iStent placement. We use a 25-gauge
microvitreoretinal blade to bisect the trabecular meshwork for
half a clock hour in the area where the device is to be placed.

This small goniotomy essentially creates a “white landing strip”
for the stent’s placement. We can widen this space with a
cohesive viscoelastic and then advance the iStent into place
using the landing strip as a guide. Starting with the implant on
the white landing strip, we gently advance the device behind
the trabecular meshwork and into the canal (see *Watch It
Now*).

Blood reflux indicates patency and effective placement
of the iStent within the canal (patency within the episcleral
venous system). We find it useful to tap the device with the
viscoelastic cannula to ensure that the implant is well seated in
the canal. Occasionally, we use the cannula to tap the elbow of
the stent and advance it farther into the canal (Figure).

Right-handed surgeons who prefer a
forehand approach may use the “left”
iStent, and those who like the backhand
approach may use the “right” iStent (in
either right or left eyes). The opposite is
ture for left-handed surgeons.

**Figure.** Gonioscopic view of the iStent after its successful
insertion into Schlemm canal.