1. Which pearls are paramount when managing glaucoma associated with ocular trauma?

Most important is that this common cause of unilateral glaucoma is often missed. Unfortunately, the signs of trauma that may be long past are oftentimes cryptic and hard to identify. I credit David Campbell, MD, of Hanover, New Hampshire, with giving a lot of thought to traumatic glaucoma. Damage to certain rings of tissue can herald the possible development of glaucoma in these eyes. For example, one should look for radial ruptures in the sphincter muscle, an iridodialysis or tears in the peripheral iris, and frank angle recession in the anterior ciliary body. Angle recession is not always just significant posterior displacement of the iris root. It can be a bare scleral spur, reduced uveal processes compared with other quadrants, or an asymmetry of the angle inlet compared with that of the contralateral eye. In addition, the surgeon should examine the attachment of the ciliary body to the scleral spur. Trauma may have produced a cyclodialysis cleft, which can sometimes be difficult to identify in an eye with low IOP. Moreover, the physician should look for splits or tears in the trabecular meshwork as well as phacodonesis, subtle tilting of the lens, or even frank subluxation. Finally, one should examine the posterior segment for peripheral tears.

2. What surgical innovations will change the treatment of glaucoma in the next 20 years?

Surgery will increasingly be directed at the cause of glaucoma—in short, obstructed outflow in the area of Schlemm’s canal and the juxtacanalicular apparatus. Certainly, techniques such as viscocanalostomy, non-penetrating deep sclerectomy, and even some ab interno approaches already address this area, but the number of approaches will expand. Surgery will become increasingly less invasive. The procedures will require fewer incisions in the eye, recovery will be faster, and inflammatory and postoperative issues will decrease significantly. Laser techniques may play a significant role. The next big step will be a pharmacological way to manipulate outflow facility.

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In terms of the combined management of glaucoma and cataract, ophthalmologists have a growing appreciation that the treatment of glaucoma affects what we do for cataract and vice versa. There is no question that small-incision cataract surgery has some beneficial effects on glaucoma care. Clear corneal phacoemulsification helps reduce pressure. The overall shift in the management of both glaucoma and cataract will be away from filtration surgery that creates a bleb to working at the level of Schlemm's canal and increasing the outflow facility. As a result, we will avoid bleb-related problems as well as some cases of hypotony.

3. What is most important for creating an efficient surgical environment?

The entire surgical team must direct its efforts to maximizing safety and efficacy while minimizing variability, changes in regular patterns that can complicate a procedure. Striving for simplicity in and enhanced reproducibility of our operations is an effective means of producing an efficient surgical environment. It is important to avoid a duplication of efforts. Efficacy is more important than speed. Oftentimes, just working at a steady pace, avoiding starts and stops, will minimize complications and reduce procedural time.

Of course, physicians should be open to new ideas, but they should evaluate any changes they make. That means setting performance guidelines, deciding on and measuring an outcome, and assessing the associated costs and satisfaction of the surgical team and patients. I think it is important to change one thing at a time. Slow, sequential steps are much better than rapid, radical changes.

4. How has glaucoma’s significance at the ASCRS annual meeting changed during your time with this organization, and what are the implications of that evolution?

There have been extraordinary changes in the involvement and relevance of glaucoma in the ASCRS. I give all of the credit to the remarkable leadership of the society who, particularly in the last decade, appreciates that glaucoma is a major part of comprehensive ophthalmology. As the US population ages and the prevalence of the disease grows, every comprehensive ophthalmologist and cataract surgeon as well as many refractive surgeons will have to deal with glaucoma in their practice. The ASCRS created the Glaucoma Clinical Committee, a group of glaucoma specialists such as myself who address issues that may be particularly germane to comprehensive ophthalmologists. The society has developed programs and symposia, and, at the ASCRS’ annual meeting earlier this year, we hosted an entire day devoted to glaucoma. This area of focus will continue to play a strong, complementary role in the society’s activities.

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5. What led you to become the team ophthalmologist for four sports teams, and what have you learned in that role that you otherwise would not have?

I have always been a sports enthusiast. After I finished my training and came back to practice in Boston, I assumed the role of Director of the Eye Trauma Service at the Massachusetts Eye and Ear Infirmary. As a result, I became involved in a number of epidemiological and clinical studies of eye trauma. This research led to my interaction with the trauma service of Massachusetts General Hospital. My colleagues there and I authored and co-edited a book on eye trauma and a handbook on eye emergencies. Those who were already taking care of the sports teams realized that ocular injuries are a critical aspect of sports, and I was invited to participate with a number of teams.

In my role with these teams, my level of interaction with others is very different than the norm for most ophthalmologists. I appreciate the effective coordination of care between numerous parties. I have been pleased with the level of interest shown by the players as well as with the remarkable commitment of the coaches and administrative personnel. As a group, we are working to develop screening programs for before the season starts and a maintenance system for during the seasons. The trainers have been excellent to work with, and I have learned a lot from them. Typically orthopedic surgeons, the sports physicians are gifted practitioners who must tend to all aspects of medicine. They are very interested in the eye, because it is an area on which their earlier medical training did not concentrate. I have been impressed with the role that ophthalmologists can have in making a commitment to helping sports teams and in improving the level of care for the athletes.