Keratome and Scissors*  

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Worthing  

The problem of the perfect cataract section and how it should be made is prominent in the minds of ophthalmic surgeons. We are all aware that the success of a lens extraction is substantially dependent upon the accuracy of the section, and there are few of us who cannot recall tragedies or near-tragedies resulting from the improper opening of the eye.

With this in mind, and in spite of average proficiency with a Graefe knife, I was prompted to try making the section with keratome and scissors, and having done so in some fifty cases, am convinced that it is the better method. I am well aware that the question of knife or keratome is an old one, and that most established surgeons have by now made up their minds in the matter, but my excuse for this note is that, having had better and more consistent results with the keratome, I felt that others might perhaps be interested in the several reasons which caused me to change my technique.

Ease of Execution.—A cataract section with a Graefe knife not only demands accuracy of accomplishment spatially, but also involves temporal considerations which do not apply to the keratome method. With the latter, subject only to the condition of the patient, the surgeon can take as long as he likes. There is no danger of the iris falling in front of the knife, there is no question of the knife being put in the wrong way round, and moreover, the surgeon need not be ambidexterous. I know that many surgeons, among them the leaders of the profession in Great Britain, consider that the keratome-and-scissors section is either for beginners only, or for those who cannot acquire the necessary skill with a Graefe knife, but it is surely more than significant that users of the keratome include Mr. Castroviejo of New York. No one who saw his films at the Sixteenth International Congress could suggest that he lacked either experience or manual dexterity, and I cannot therefore appreciate the teaching which, other things being equal, insists that a procedure should be done the more difficult way, when a simpler alternative exists.

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EASE OF PLACEMENT.—The keratome section can be easily and consistently placed just in front of the root of the iris by reflecting a conjunctival flap and inserting the point of the instrument about 1.0 mm. behind the line where the conjunctiva fuses with Tenon’s capsule. There need be less concern about the depth of the anterior chamber, and an optimum section is made without an overhanging shelf. In this way one or more minute and really peripheral iridectomies can be performed, resulting in a coloboma which is hidden by the scleral spur or by an arcus senilis.

CHOICE OF CORNEO-SCLERAL STITCH.—The keratome technique can be used in conditions in which it would be difficult or impossible to employ a Graefe knife on account of the danger or certainty of severing previously placed sutures; it therefore allows of a greater choice of corneo-scleral stitch, enabling the surgeon to find not only one which is truly appositional (many are not) but also one which best suits his temperament and technique.

EASE OF MIND.—However experienced or confident the surgeon, there are bound to be occasional “off days” when a Graefe-knife section is not done as well as it might be. These “off days” will vary according to individual factors, such as age, stamina, fatigue, temperament, etc., but I personally have found that the keratome section can be performed consistently well in spite of these considerations. Its ease of accomplishment brings a confidence of mind which in some lesser surgeons may make all the difference between failure and perfect success, and which is also of inestimable value when the section has to be done before an audience of critical onlookers—which by some is never lightly to be undertaken.

I have found in practice that the healing of the keratome-and-scissors section is just as quick as of that with the knife, and that post-operative astigmatism is certainly no greater, being generally about two dioptres. A sharp keratome is required, it is true, but even so the elaborate care which has to be lavished on the selection of a Graefe knife becomes hardly necessary. If a Graefe knife is blunt in tip or edge a tragedy may ensue, but a blunt keratome need only be exchanged for a sharp one, and that may even be done during the course of the operation.

There need be nothing special about the scissors, provided that they are firm, of the right size, and sharp. My own preference is for the ordinary straight blunt-pointed conjunctival scissors, as I find curved or angled scissors awkward to handle. Care must be taken not to cut the iris, but this is not difficult, and becomes surprisingly easy with practice. A conjunctival flap of any size can be prepared beforehand, and if the section is extended to 180° the most swollen lens can always be drawn through without danger of capsule rupture.

All in all, it seems that the only possible criticisms of the keratome-and-scissors method are that it necessitates the introduction of two instruments into the eye instead of one, and that it takes rather
longer to perform. With regard to the first objection, I do not believe that with modern antiseptic practice it is dangerous for a second instrument to enter the eye. Post-operative sepsis has become exceedingly rare and an occasional case is more likely to be due to a faulty dressing technique in the ward. In my whole series of keratome-and-scissors sections I have not so far had a single instance of post-operative infection.

As regards the second objection, I have found that a little extra time in making the section is no disadvantage. Rather, it seems to me that the Graefe knife remains as a relic of the days when the section—and, in fact, the whole operation—had to be done quickly, before the patient moved his eye, "squeezed", or generally lost his nerve; but with the modern practice of premedication, akinesia, retrobulbar injection, superior rectus stitch, and a calm approach to patient and operation, no limit, within reason, need be set to the time which can, if necessary, be taken.

From nearly every point of view then—the ease of execution, accuracy of placement, choice of corneo-scleral stitch, consistency of results, and peace of mind—the keratome-and-scissors technique must surely be the better way.