



Research, practice, and technology create ‘magic’ of modern cataract surgery

MODERN CATARACT SURGERY, EDITED BY THOMAS KOHNEN, VOLUME 34 IN KARGER DEVELOPMENTS IN OPHTHALMOLOGY SERIES, BASEL, 2002, 244 PAGES, HARD COVER

Technology and modern medicine are near-inextricably interlinked. Of course, with a broad definition of technology, this was ever so.

The stethoscope and the sphygmomanometer are now so familiar, so much a part of the mental picture of a doctor that is widely shared, that we don't even regard them as technological tools. Indeed, pencils and paper – and even the process of history taking and physical examination – are all “technologies” that have been honed over time.

Nevertheless, when one says “technology,” no one really thinks of pieces of paper or the pencil we write with or indeed the directed process of presenting complaint, history of presenting complaint or past medical history. We think instead of cutting-edge devices, of “high tech,” of LCD screens, buttons, and little flashing lights.

Arthur C. Clarke once said that any sufficiently advanced technology is indistinguishable from magic. And our expectations of “technology” are of magic, of enchantment. Every magic technology carries with it the promise of its own disenchantment. For who considers technologies as magical once they are established?

Readers who, perhaps, marvelled at their mobile telephones, at the ability to ring home from a mountaintop or to send a text message from Moscow to Buenos Aires in seconds, no doubt by now take them entirely for granted. Today's blinding technology – and indeed tomorrow's – is tomorrow's routine device, and the day after's irritating anachronism.

Such thoughts are inspired by perusing the current volume edited by Thomas Kohnen. Removal of the lens with the implantation of an intraocular replacement has become the most common surgical intervention in humans. This surgery dates back to 1949, to Sir Harold Ridley's work at

St Thomas' Hospital in London. Just as technology carries with it the seeds of its own becoming taken for granted, today's miraculous procedure is tomorrow's routine practice and the day after's flawed, if not litigation-attracting, imperfect intervention. As the public become used to an intervention, the demand grows for minimal adverse effects and the maximal functional improvement postoperatively.

Therefore, this collection of essays and papers from international experts discussing their own clinical practice, research and inventions is of critical importance to the ophthalmologist. The accent of many of these essays, of course, is on the technology

that underpins much of modern cataract surgery.

We live in an age where health technology is big business; doctors are exposed to a bewildering array of promotional materials. Steve Arshinoff addresses the issue succinctly in his paper “Why Viscoadaptives? Are they really new?”

“Ophthalmologists have been exposed to a lot of promotion about viscoadaptives,” Arshinoff writes. “Most of us were not sure why we needed a new type of viscoelastic, or what is so new about the new ones to make us want to use them. Many of us have enough trouble deciphering the confusing and conflicting material that we receive from the manufacturer and distributors already, and often just tend to buy on price, assuming they are all more

or less the same anyway (which they definitely are not).”

Arshinoff's paper is a model of assessing the different viscoadaptives that are available and their possible applications. He also discusses “the Ultimate Soft Shell technique”, the adaptation of the Soft Shell technique using a viscoadaptive and balanced salt solution, that he developed himself. Ulrich Mester and other leading ophthalmic surgeons also compare different substances on the market in terms of their corneal protective effect during

phacoemulsification.

Technology – and the merits and demerits of technology in surgery – is a recurrent theme in these papers.

Randall J. Olson uses a vivid example to get his point across. “When I first had teenage children and our car insurance went up dramatically, I realised that the car insurance industry is interested in how many miles are driven and what the risk is per mile,” Olson writes. “This analogy holds for cataract surgery in that the most dangerous thing we do is the use of ultrasound in phacoemulsification.” Olson discusses minimisation and elimination of ultrasound reliance in cataract surgery.

Overall, there is a pleasing mix between the chapters on research and the more directly practical ones on particular techniques. Of course, there is considerable overlap between these, with chapters such as Arshinoff's discussed above mixing both approaches. The authors are an international bunch; as usual with Karger there is a Teutonic emphasis, but with Alicante, Nantes, Toronto, London and Salt Lake City among the cities where contributors are based there is a reasonable spread of nationalities involved.

This, of course, is another volume in Karger's

Developments in Ophthalmology series, which has been a reliable source of high-quality publications. The cover design, size, and general layout of the book are consistent with the style of the already-published volumes in the series. The papers are illustrated appropriately – with the more research-based essays including graphs and tables and the practice-based essays on surgical techniques including colour photographs and diagrams to help illustrate the direct points.

Overall, this is a slim, attractive volume, that covers cataract surgery – including its current practice and future directions – in a very satisfactory manner.