

ASIA-PACIFIC EyeWorld

Volume 3, Number 2
September 2007

The News Magazine of the Asia-Pacific Association of Cataract & Refractive Surgeons APACRS

Evolutions and Revolutions

**Experts re-examine the history, discuss current trends,
and speculate on the future of cataract surgery**

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ASCRS
Licensed Publication

EyeWorld Asia-Pacific Edition
For Circulation to Ophthalmologists in India



Asia-Pacific Association of Cataract
and Refractive Surgeons (APACRS)

Letter from the Regional Managing Editor



Dear Friends

It gives me immense pleasure to continue to pen down the editorial as the Managing Editor of the Indian Edition of EyeWorld Asia-Pacific.

The cover feature for this issue is: Phacoemulsification's past, present and future. Phacoemulsification has become the cornerstone of every cataract surgeon's operating room. This technology has advanced at a tremendous rate since the days of Charles Kelman's initial work. These continued enhance-

ments provide the potential for achieving improved clinical outcomes, but also challenge the cataract surgeon to keep abreast of these advances. All these years, technological advances have focused on power modulation in order to reduce the total energy delivered into the eye during surgery; and improved fluidics to maintain chamber stability in the face of the high vacuum and aspiration demands of modern nuclear extraction techniques. On the other hand, progressively smaller incisions for both micro-coaxial and sleeveless bimanual techniques have posed challenges to both the surgeon and the equipment to prevent corneal wound burn and maintain chamber stability despite a reduced inflow capability. Newer and latest technological advances attempt to address both these issues. Each of these advancements offers users the ability to minimize total energy during cataract surgery by fractionating ultrasound energy delivery in various ways.

Micropulse phacoemulsification, a revolutionary power modification and torsional phacoemulsification, emulsifies the fragment near the tip without total occlusion. Torsional phacoemulsification is characterized by an oscillatory motion around the long axis of the phaco tip. This motion generates

sufficient energy to emulsify the nucleus but has several advantages over traditional longitudinal ultrasound. First, the oscillatory motion reduces the chattering of lenticular material and thereby improves the followability. Second, torsional phacoemulsification emulsifies in both the to and fro directions and thereby does not waste energy. The rotational movement induces less frictional heat at the incision as well. These innovations have reduced related complications such as wound burn and excessive corneal edema, endothelial loss or inflammation, but in the end it is the surgeon's implementation of the technology and the other important factors identified that contribute to maximizing safety and efficiency. Understanding the principles behind these advances and how to apply them to a surgeon's console parameters and technique in a manner appropriate to individual preferences can facilitate improved clinical outcomes, which have become the standard for the modern cataract surgeon.

There are still huge differences from country to country and the progress is not uniform. In general, ophthalmologists are pretty comfortable with what they are doing and they are getting good results; but when something comes along that is clearly an improvement, we see expect rapid changes. Hopefully these enormous expansions in phacoemulsification technologies will result in less invasive surgery and more rapid and excellent visual rehabilitation for one and all.

As always I would conclude this with the universally acclaimed quote: "Machines take me by surprise with great frequency." -Alan Turing

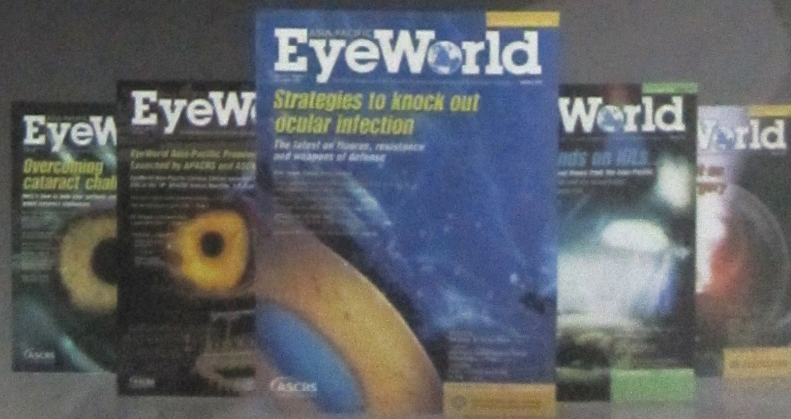
With warmest regards

Dr. S. Natarajan
Regional Managing Editor
EyeWorld Asia-Pacific (For circulation in India)

EyeWorld Asia-Pacific

A News Magazine of the APACRS

Keeps its readers
at the forefront of
international
trends in Cataract
and Refractive
Surgery



Become a member of the APACRS and join over 20,000 Ophthalmic Surgeons in more than 20 countries in the Asia-Pacific Region