

AAO 2010 Forum on Quality of Care

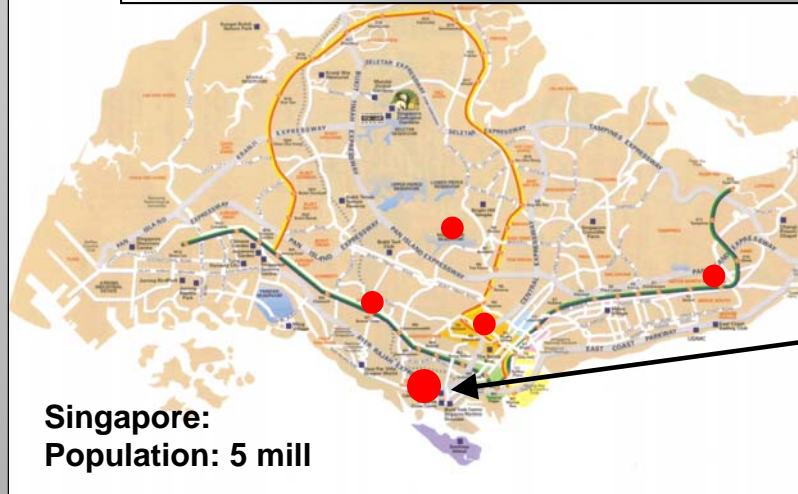
***100% Video Monitoring at the
Singapore National Eye Centre
– Big Brother is Watching!***

*Professor Donald Tan FRCS
Medical Director, Singapore National Eye Centre*

Financial Disclosures: B&L, Carl Zeiss Meditec, Santen, Acufocus, Network Medical Products



Singapore National Eye Centre (SNEC)



- SNEC established in 1991 as the National Centre for ophthalmic care – catering to approximately 2/3 of the population
- Comprehensive tertiary ophthalmic ambulatory surgicenter - 11 subspecialty depts
- 4 other clinical branches co-located with general hospitals around the island
- Affiliated research institute: Singapore Eye Research Institute – SERI
- 80 ophthalmologists, total staff of 450
- 250,000 patient visits a year, patients from around Asia
- 14,000 day surgeries, 12,000 laser procedures



JCI accredited

SNEC Clinical Quality Program

- **Clinical QA Program established from inception – Clinical Audit Dept**
- **Strong support from top management and QA built into the culture of SNEC**
- **100% recording of all microsurgical procedures**
- **100% audit of cataract surgery, followed by 100% of other major surgical procedures, with clear outcome indicators**
- **Yearly full day Clinical Audit Symposium**
 - **presentation of audit results by HOD and clinical fellows – active critique of outcomes, data analysis and review of outcome indicators**



Video Recording in all Operating Theatres

- Operating microscopes fitted with video cameras and recording facilities present in all operating theatres
- Nursing staff record all microsurgical procedures
- For uncomplicated cases, recordings are kept for 3 months before recycling
- Any complications are recorded at completion of surgery, and recordings are channeled through Clinical Audit Dept to a Surgical Review Committee for follow-up and action – recordings are also kept for regular complication rounds – resident teaching
- Surgeons keep interesting recordings for their presentations or research

Zero infections at SNEC last year

By AMRESH GUNASINGHAM

THE Singapore National Eye Centre (SNEC) is making waves for its efforts at keeping infections at bay.

achievement that placed it “very well” on the global scale.

Dr Chan Tat Keong, a senior consultant at the centre, added that the prevention of infection from cataract surgery is consid-

surgery. The dye was found to be toxic.

Last year, the centre performed 5,000 Lasik operations without incident.

Professor Donald Tan, the centre's medical director, attributed the low infection rates to an “obsessive-compulsive” approach adopted in the areas of clinical services, education and research.

For example, the centre, which is staffed by 50 senior specialists and 120 nurses, was among the first in the world to film all its operations, a practice to help identi-



Video Recording in all Operating Theatres

Recording Equipment:

- 1990: Sony Umatic Videorecorders \$25 a
tape
- 1998: Panasonic and JVC S-VHS Videorecorders \$8 a tape
- 2003: Mini-DV recording \$4 a tape
- 2005 to date: DVD recording \$0.40 a



Video Recording for all Operating Theatres



Added Education and Training Benefits:

- **Specially designed Live Surgery Transmission Room**
- **Allows observers to view progress of surgery in all ORs simultaneously**
- **Full linkage to Auditorium for Live Surgery Transmission, with 2 way communication link-up between surgeons and Auditorium**

Video Recording in all Operating Theatres

- **Process requires appropriate clinical audit culture which is inculcated right from residency training**
- **Requires buy-in from all from surgeons, and operating theatre staff**
- **New staff quickly adjust to “big brother is watching” and just get on with it**
- **All cataract surgeons get confidential yearly PCR rates, and can benchmark against the centre’s mean PCR rate**
- **Doctors appreciate Clinical Audit team, who provide invaluable audit data for their research**



Clinical Audit Benchmarking by Singapore Health Ministry

- Govt requires all public hospitals to publish their **Cataract Surgery** and **LASIK** average bill sizes, AND their clinical outcomes on the Ministry of Health website – for full transparency (and competition) ...

Table 2: Average Fee for Cataract Surgery

Institution	Bill Size (per eye) for PE	Bill Size (per eye) for ECCE
SNEC	\$2500 - \$2900	\$2300 - \$2700
SNEC(Changi)	\$2905	\$2582
TEI	\$2660 - \$2850	\$2300 - \$2800
JTES	\$4,400 - \$4,600	\$4200 - \$4400

Table 3: Outcomes of cataract surgery

Institution	PE		ECCE		Overall	
	Success Rate	Safety Rate	Success Rate	Safety Rate	Success Rate	Safety Rate
SNEC	99.08	98.07	86.67	95.62	98.53	97.92
SNEC(Changi)	96.19	98.77	87.5	90.00	95.98	98.54
TEI (TTSH)	98.96	NA*	92.86	NA*	98.47	99.49
JTES	99.47	100	insufficient number to statistically analyse and report outcomes		99.47	100.00

* Safety data by type of procedure are not available at the time of publishing.

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Table 3 (a): Fees For Standard LASIK

Institution	Procedure Fee + Facility and Doctor's Fees (single eye)	Procedure Fee + Facility and Doctor's Fees (double eyes)
NUH	\$1,275	\$2,550
SNEC	\$1,320- \$2,230	\$2,640 - \$4,460
TTSH	\$1,280 - \$1,590	\$2,560 - \$3,180
JTES	service not provided	

Table 4(b): Volume and Outcomes of Wavefront LASIK with microkeratome flap

Institution	Volume	Success	Predictability	Safety
NUH	30	insufficient number to statistically analyse and report outcomes		
SNEC	432	99.25%	99.25%	99.31%
TTSH	599	100.00%	100.00%	99.83%
JTES	307	100.00%	100.00%	100.00%

Cataract Outcomes

Clinical Outcome Indicators: (12,000 cases a year)

- PCR rates
- Endophthalmitis rates
- % attaining 20/40 or better (excluding co-morbidities)

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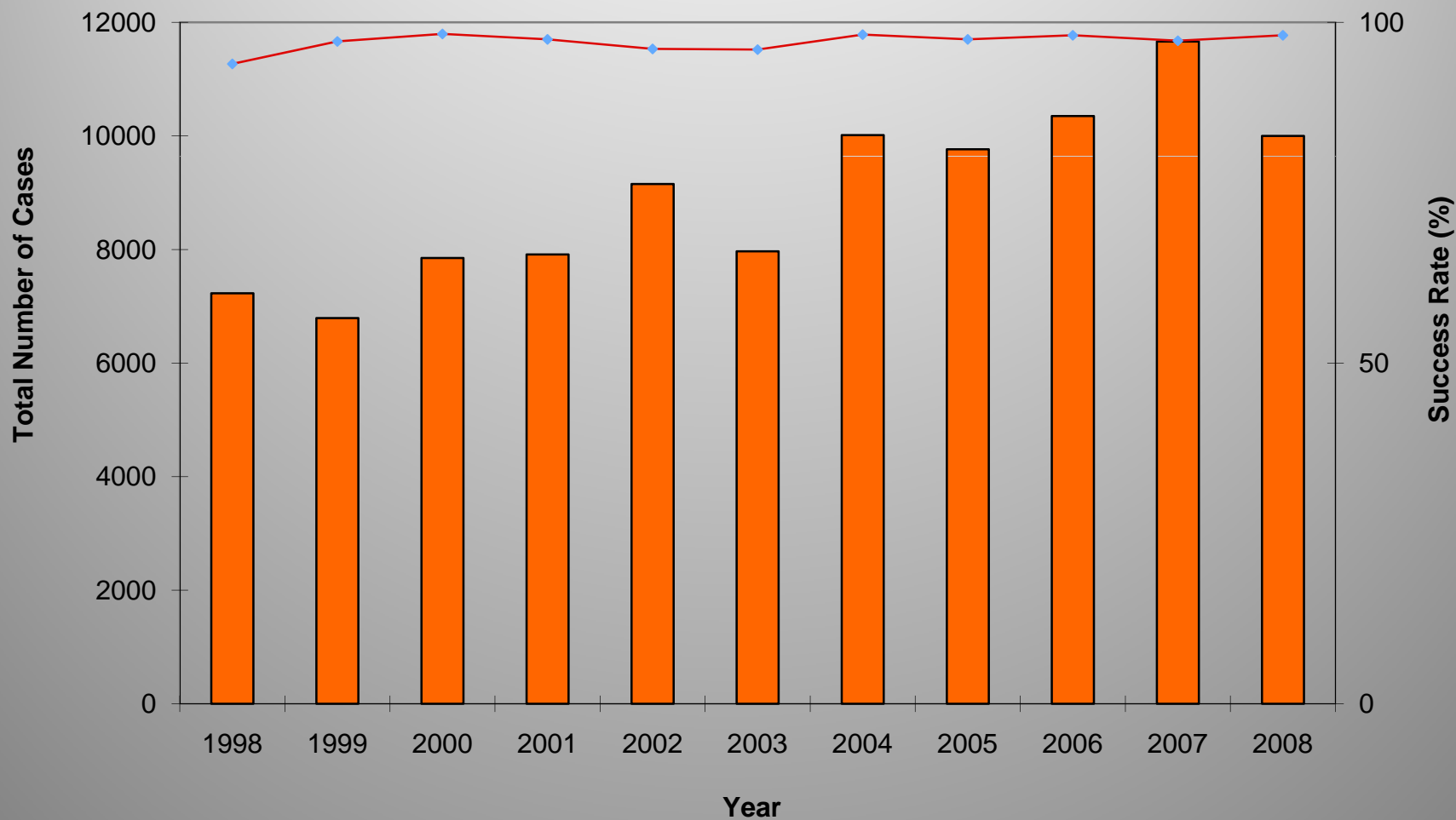
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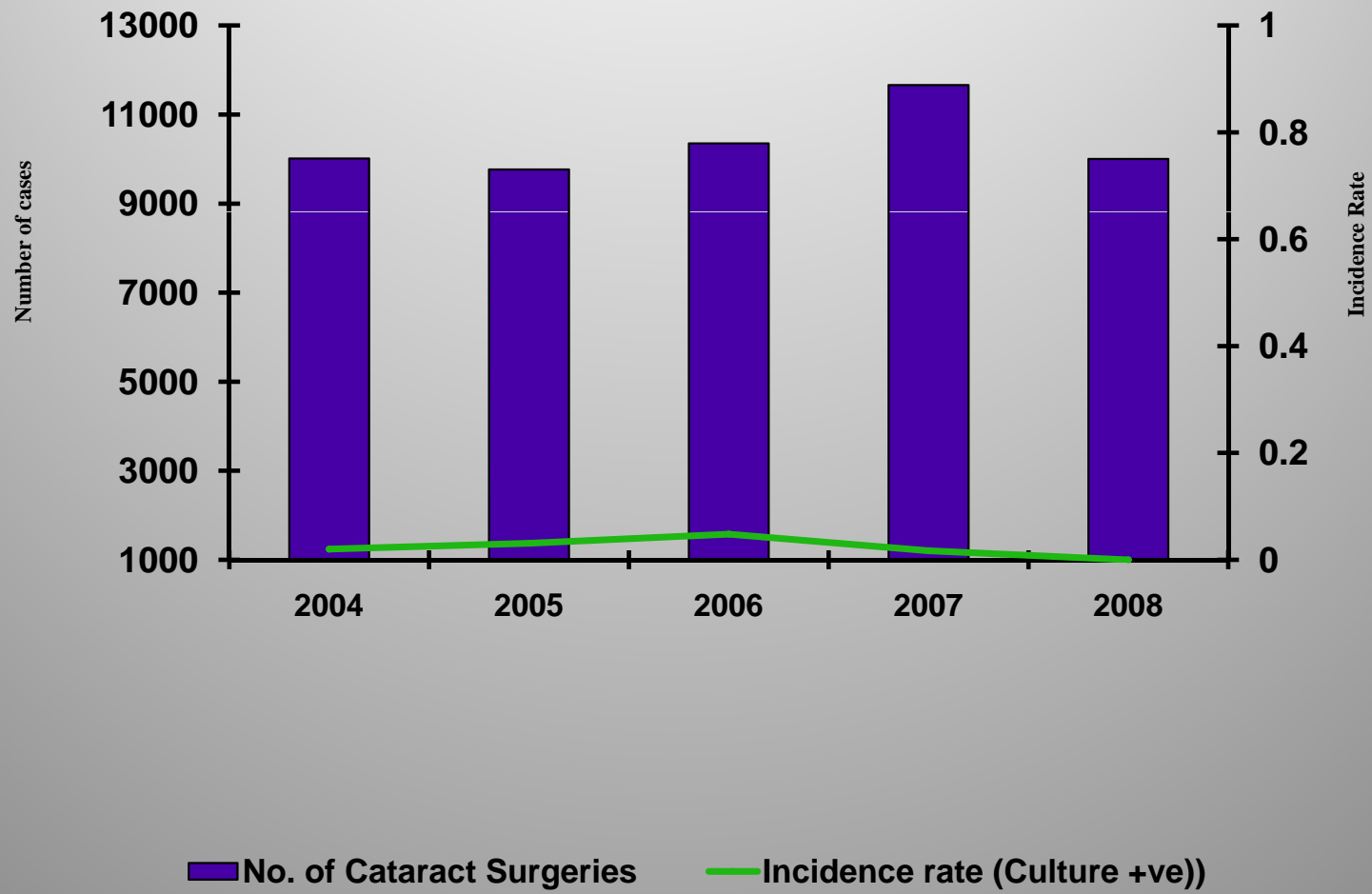
The Straits Times , 23 May 2009

Cataract Outcomes

Total Number Of Cases Vs Success Rate



Incidence of Post-Cataract Surgery Endophthalmitis

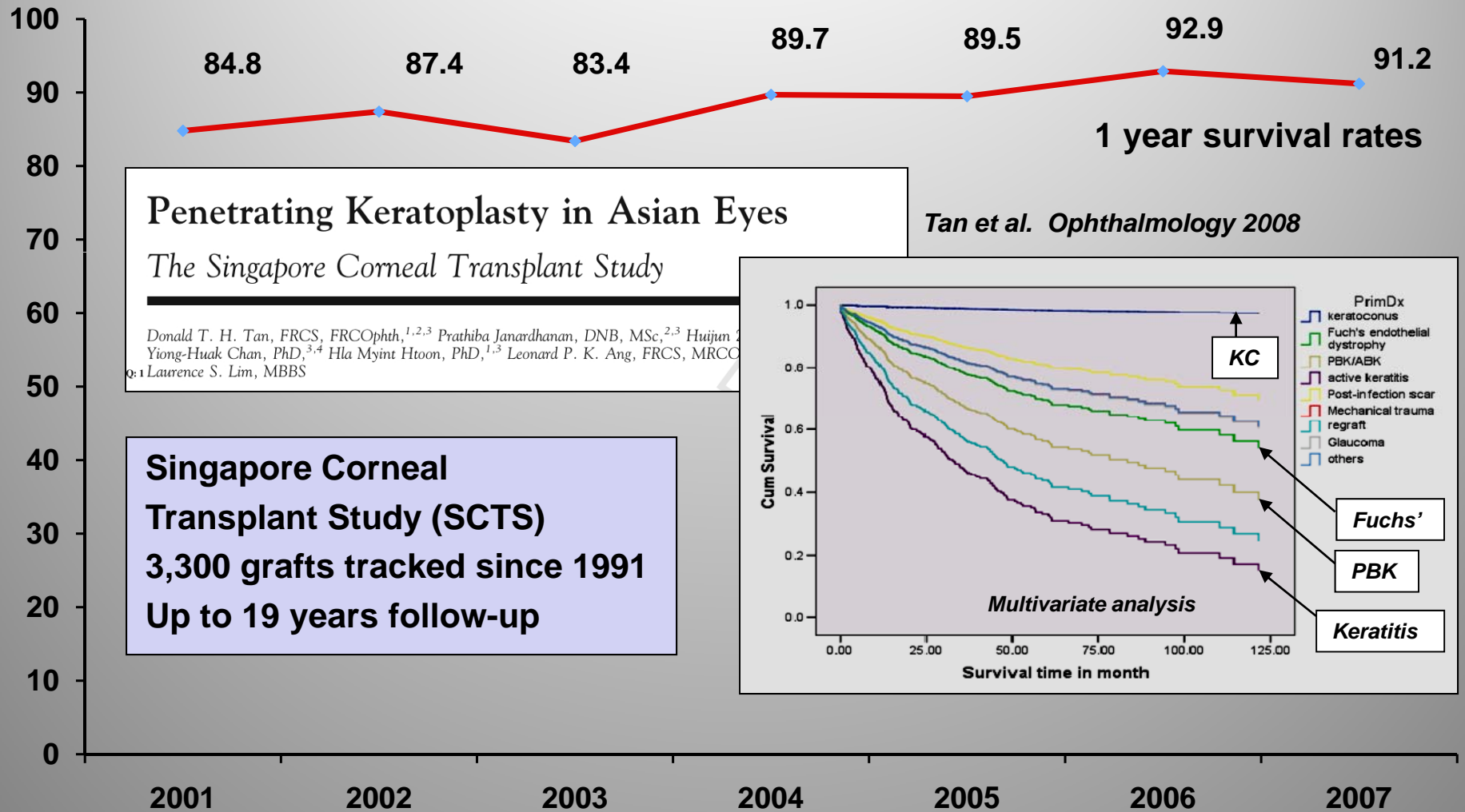


LASIK surgery: Safety Indices (1998-2008)

100% tracking of safety, efficacy, predicatability, stability



Corneal Graft Survival Rates



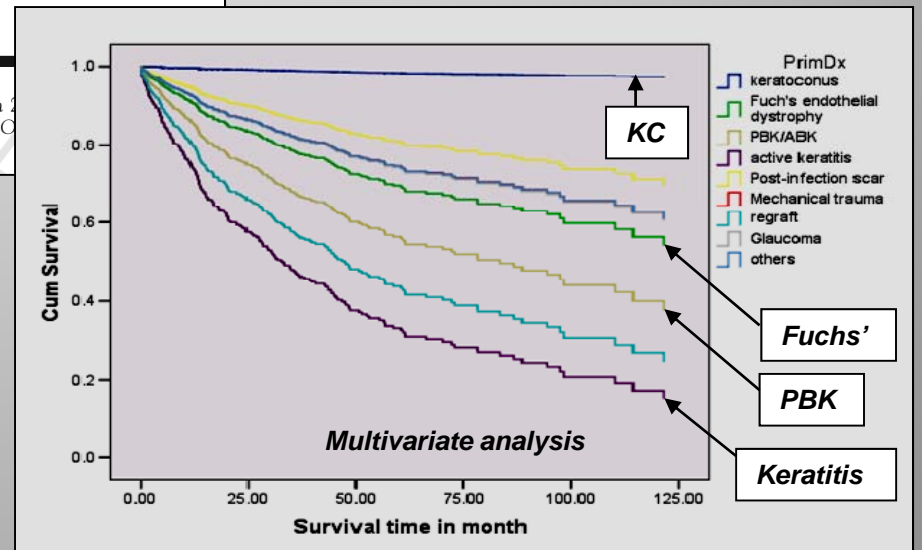
Penetrating Keratoplasty in Asian Eyes

The Singapore Corneal Transplant Study

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 Yiong-Huak Chan, PhD,^{3,4} Hla Myint Htoon, PhD,^{1,3} Leonard P. K. Ang, FRCS, MRCC
 Q.1 Laurence S. Lim, MBBS

Tan et al. *Ophthalmology* 2008

Singapore Corneal Transplant Study (SCTS)
 3,300 grafts tracked since 1991
 Up to 19 years follow-up



Other Clinical Audit Tracks

- **Glaucoma surgery – comparison of filters vs setons**
- **Retinal surgery – retinal detachment success rates**
- **Macular hole surgery success rates**
- **Adult and pediatric strabismus success rates**
- **Ptosis surgery success rates**
- **Eyelid tumors outcomes**
- **Toric IOL success rates**
- **Surface Ablation (EpiLASIK, PRK) success rates**
- **Pterygium surgery success rates**



Online Registration @ www.asiarvo2011.com.sg

Featuring the Bionic Eye Symposium
"The Diseased Retina - Replace or Regenerate"

Asia ARVO
20 - 22 January 2011, Singapore



21st Anniversary International Meeting

Singapore National Eye Centre

22-23 January 2011, Resorts World Sentosa, Singapore

Following the Asia-ARVO meeting on 19-22 January 2011

Tomorrow's Vision, Today

Attend two value packed meetings with one registration:

Asia-ARVO and SNEC 21st Anniversary Meeting featuring 10 world renowned Plenary Speakers and Amazing Videos showing never-before-seen footage on how to survive and manage the most bizarre, most unexpected and also the most challenging surgical situations



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