

ARAVIND

**Aravind Eye Hospitals
& Postgraduate Institute of
Ophthalmology
Aravind Children's Hospital
Lions Aravind Institute of Community
Ophthalmology
Aurolab**



Activity Report 1997

*Then from the heights a greater Voice came down,
The Word that touches the heart and finds the soul,
The voice of Light after the voice of Night:
The cry of the Abyss drew Heaven's reply,
A might of storm chased by the might of the Sun.
"O soul, bare not thy kingdom to the foe;
Consent to hide thy royalty of bliss
Lest Time and Fate find out its avenues
And beat with thunderous knock upon thy gates.
Hide whilst thou canst thy treasure of separate self
Behind the luminous rampart of thy depths
Till of a vaster empire it grows part.
But not for self alone the Self is won:
Content abide not with one conquered realm;*

*Adventure all to make the whole world thine,
To break into greater kingdoms turn thy force.
Fear not to be nothing that thou mayst be all;
Assent to the emptiness of the Supreme
That all in thee may reach its absolute.
Accept to be small and human on the earth,
Interrupting thy new-born divinity,
That man may find his utter self in God.
If for thy own sake only thou hast come,
An immortal spirit into the mortal's world,
To found thy luminous kingdom in God's dark,
In the Inconscient's realm one shining star,
One door in the Ignorance opened upon light,
Why hadst thou any need to come at all?
Thou hast come down into a struggling world
To aid a blind and suffering mortal race,
To open to Light the eyes that could not see,
To bring down bliss into the heart of grief,
To make thy life a bridge twixt earth and heaven;
If thou wouldst save the toiling universe,*

*The vast universal suffering feel as thine:
Thou must bear the sorrow that thou claimst to heal;
The day-bringer must walk in darkest night.
He who would save the world must share its pain.
If he knows not grief, how shall he find grief's cure?
If far he walks above mortality's head,
How shall the mortal reach that too high path?
If one of theirs they see scale heaven's peaks,
Men then can hope to learn that titan climb.
God must be born on earth and be as man
That man being human may grow even as God.*

*- Savitri, Book VII, Canto 6, Page 536-537
Recitation by Shri Udar Pinto at the installation of the relics of Sri Aurobindo
at Aravind Eye Hospital, Coimbatore on 20th January, 1997.*

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Front Cover: Aravind-Coimbatore

1997

For Aravind, 1997 was another year of significant growth and change: a transition in leadership, nearly a million outpatient visits, over 1,20,000 surgeries, a new hospital in Coimbatore, and Aurolab's diversification into manufacturing pharmaceuticals and sutures. Equally gratifying are the increasing opportunities to share with others what Aravind has learned about building quality eye care programmes and training professionals. The Aravind-Sight Savers short-term skill development courses train and motivate over 150 practising ophthalmologists every year, helping them to sharpen their skills and develop a service orientation to their work. Sight Savers International invited Aravind to establish two Microsurgery training programmes. Following faculty and staff development at Aravind, a training course was conducted in April at the National Eye Centre in Kaduna, Nigeria. This will eventually become an independent training centre for West Africa. In a similar fashion, a second training centre was inaugurated in Dhaka, Bangladesh in May 1997. Each year about 30 ophthalmologists in Bangladesh will be able to develop their skills to do Microsurgery with IOL implant. LAICO and Aravind Eye Hospitals, in partnership with Lions SightFirst Programme, Sight Savers and Christoffel Blinden Mission, are now working with 37 eye hospitals across India on their overall development. This process of sharing knowledge is significantly broadening the character of Aravind's work, strengthening the organisations served, and providing a strong learning opportunity for all involved.



Dr. Aravind and Dr. Ravishankar with Prof. Abiose and other ophthalmologists at the National Eye Centre, Kaduna, Nigeria



Installation of Sri Aurobindo's relics at Aravind-Coimbatore by Shri Udar Pinto

A major milestone in Aravind's growth was the opening of its fourth hospital in Coimbatore, inaugurated on 20th January 1997 by Shri. Udar Pinto. This is the largest project undertaken by Aravind to date. In terms of physical size alone, it is bigger than the parent hospital in Madurai in order to accommodate current patient flow from the area and

potential future growth. With over 20,000 surgeries performed in the first year of operation, the hospital is already providing significant service to the people in the community.

Providing eye care services to large numbers of people entails meeting the challenges presented by irregular or unavailable supplies of medicines and often high prices beyond the reach of patients. To remove these constrictions, Aurolab launched its pharmaceutical division in December 1997. The licensing and certification process have been completed and the pharmacy will soon begin regular production, focusing on drugs that are not commercially available. Building on the success of producing high quality IOLs at low cost, Aurolab will also start manufacturing affordable, high quality surgical supplies. Aurolab takes great pride both in the quality of its products and its customer service. This is reflected in rigorous production controls and effective customer-oriented systems. Auditors from the Underwriters Laboratory have evaluated these procedures and granted Aurolab an ISO 9001 certification, making Aurolab the first Indian producer of IOLs to receive this certification.

In mid -1997 Aravind leadership passed on to younger leaders, marking a significant milestone in Aravind's growth. Founder Director Dr. G. Venkataswamy formally handed over the charge to Dr. P. Namperumalsamy and Dr. G. Natchiar, who are now Director and Joint Director respectively. Dr.G. Venkataswamy continues to be available in his role as the Chairman of the hospital to help in the transition.



Aravind-Coimbatore



*Dr. G. Venkataswamy,
Chairman,
Aravind Eye Hospitals*



*Mr. G. Srinivasan
Secretary, GOVEL Trust*



*Shri. G. K. Sundaram,
Chairman, Lakshmi Mills*



*Dr. N. Mahalingam, Chairman,
Sakthi Group of companies*



*Justice K. Venkataswamy
Supreme Court , Delhi*



*Mr. V. Gopalakrishnan, Mayor,
Coimbatore Corporation*

In January 1997, Aravind proudly opened its third and largest satellite hospital at Coimbatore, in response to the increasing demand for eye care from patients in the northwestern portion of the state of Tamil Nadu. Shri. G.K. Sundaram, Chairman, Lakshmi Mills Companies Ltd., presided over the event. The in-patient block, the free patient



Dr. Narendran

block, and the operation theatre complex were opened by Justice K.Venkataswamy, Supreme Court; Dr. N. Mahalingam, Chairman, Sakthi group of companies; and Mr. V. Gopalakrishnan, Mayor, Coimbatore Corporation respectively.

Ever since, the hospital has been attracting a large number of patients and providing excellent service. The speciality clinics were inaugurated in September and October and today the hospital in Coimbatore is complete, with an excellent and caring staff, teaching programmes, and well-equipped clinics.

Even in the first year, Aravind-Coimbatore has handled 1,93,209 out-patient visits and performed surgery on 20,685 patients.



Dr. Revathy



Dr. Kalpana

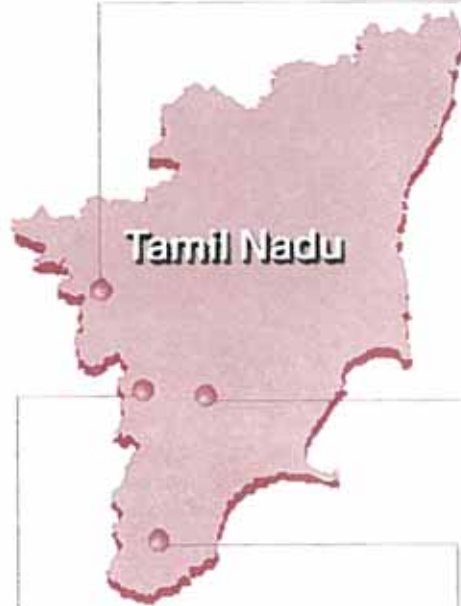


*In-Patient Entrance,
Aravind-Coimbatore*



Aravind Eye Hospitals

Madurai, Theni, Tirunelveli and Coimbatore



Aravind-Coimbatore

Paying: 150 beds Free: 250 beds



*Dr. R.D. Ravindran
Chief Medical Officer
Aravind-Coimbatore*

Aravind-Madurai

Paying: 300 beds Free: 600 beds



*Dr. M. Srinivasan
Chief Medical Officer
Aravind-Madurai*

Aravind-Theni

Paying: 40 beds Free: 60 beds



*Dr. Datta
Chief Medical Officer
Aravind-Theni*

Aravind-Tirunelveli

Paying: 150 beds Free: 200 beds



*Dr. R. Ramakrishnan
Chief Medical Officer
Aravind-Tirunelveli*

Statistics-1997

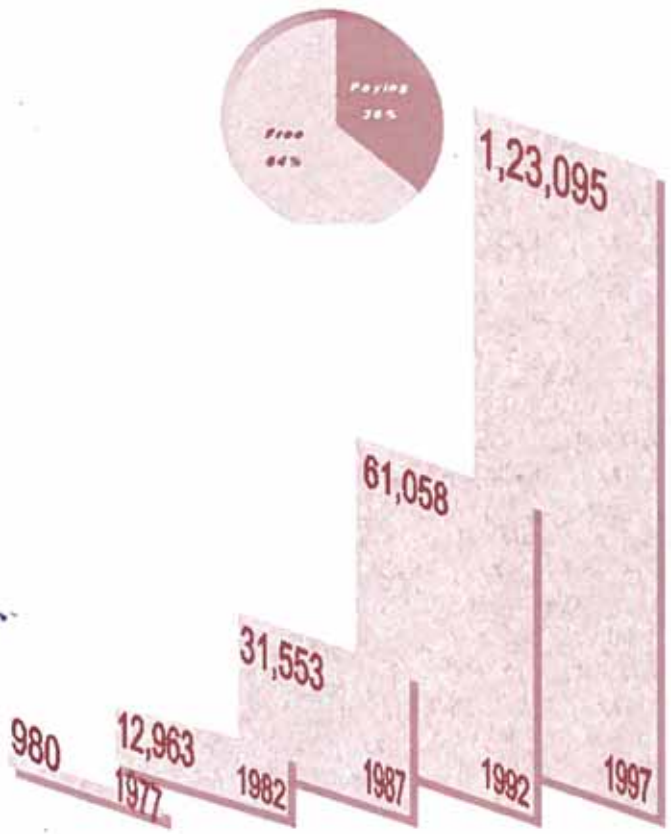
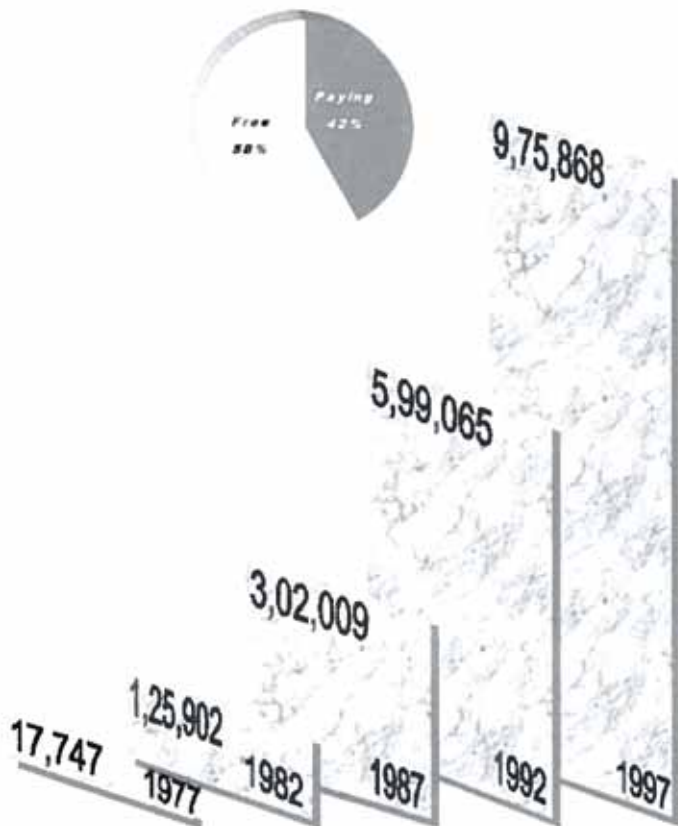


	Madurai	Tirunelveli	Theni	Coimbatore	Total
Out-patient (OP) visits					
Paying	2,23,568	75,368	25,352	77,230	4,01,518
Free	3,03,380	1,18,345	36,646	1,15,979	5,74,350
Surgery					
Paying	27,516	6,510	1,267	7,515	42,808
Free	48,927	14,398	3,792	13,170	80,287
Hospital OP visits	3,83,345	1,34,291	42,966	1,27,695	6,88,297
Eye camp OP visits	1,43,603	59,422	19,032	65,514	2,87,571
Total OP visits	5,26,948	1,93,713	61,998	1,93,209	9,75,868
Screening camps	549	220	112	160	1,041
Surgery Details					
Cataract & other lens removal procedures					
- With IOL implantation	47,460	13,985	3,315	13,811	78,571
- Without IOL	14,828	2,539	1,203	3,236	21,806
Trabeculectomy	945	377	23	142	1,487
Retinal detachment	567	20	-	79	666
Vitreous surgery	461	1	-	68	530
Membranectomy	82	3	-	11	96
Squint correction	453	4	-	47	504
Keratoplasty & Therapeutic graft					
Pterygium	239	-	-	24	263
Pterygium	290	118	46	164	618
Laser & Xenon photocoagulation					
Nd. yag Iridectomy	3,638	1,178	-	1,643	6,459
Nd. yag Iridectomy	1,153	447	26	59	1,685
Nd. yag Capsulectomy	2,117	723	112	362	3,314
Argon laser					
Trabeculoplasty	5	24	-	1	30
Lacrimal surgeries	2,293	1,036	253	517	4,099
Orbit & Oculoplasty	909	240	39	108	1,296
Others	1,003	213	42	413	1,671
Total	76,443	20,908	5,059	20,685	1,23,095



Out-Patient Visits 1977 to 1997

Surgeries 1977 to 1997



Community Outreach Programmes

An integral part of Aravind is its community outreach programme. As part of its commitment to help all in need and to extend care to those who are unable to seek and secure the treatment they require, Aravind goes to the people. Medical teams from each of the eye hospitals go into the rural areas to seek out patients. The teams work closely with local community leaders and service groups to set up the camps, where hundreds of people are screened in a single day. These camps are conducted every day of the week.

In 1997, more than 1,000 eye camps were held where 2,87,571 people were screened and 40,389 underwent surgery.

School Eye Health Scheme is another regular activity at Aravind. In 1997, twenty two schools were covered. School teachers are trained to carry out the initial screening. The selected students are then tested by ophthalmic technicians from Aravind and later by the ophthalmologist. Through this process in 1997, it was possible to identify 24,400 children with vision defects and provide them the necessary treatment.





In February 97, the Combat Blindness Foundation (CBF), Madison, USA sponsored a free eye camp in Nairobi, Kenya with the local Lions Club at Kikuyu nursing home. Dr. Suresh Chandra, President of CBF invited Aravind to participate in the camp. A medical team from Aravind consisting of Dr. Ramakrishnan, Chief Medical Officer, Aravind-Tirunelveli and two senior theatre nurses, Ms. Maheswari from Aravind-Tirunelveli and Ms. Sundari from Aravind-Coimbatore went to Nairobi. Dr. Ramakrishnan performed Seventy five IOL surgeries. This is the first time that surgeries of this magnitude were performed in Kenya.

Aravind-Theni, with support from Sight Savers International, introduced a community based rehabilitation programme as part of the comprehensive eye care services project.

Work in the rural areas of Periakulam and Theni taluks were covered in December 97. Apart from routine screening camps and free surgeries, 135 blind persons were rehabilitated through various training activities to carry on an independent life within their community and 25 blind persons were taught skills and offered support to be independent economically. Through this programme, 137 school teachers were also trained to identify children with visual problems.



Mr. Nagarajan, Mrs. Alice Crasto from Sight Savers and Mr. R.D. Thulasiraj, Mr. Vijayakumar from Aravind observing a blind lady economically rehabilitated through the CBR Programme



Taught to make the roof thatch through the CBR Programme, Madathi, though blind, can now fend for herself and for her family

Free eye camps - 1997

Sponsoring Organisations	Camps	O.P.	Cat+IOL	Others	Total
Lions Clubs	441	1,16,140	16,100	490	16,590
Rotary Clubs	38	18,359	2,837	86	2,923
Vivekanada Kendra	33	7,597	839	68	907
Baghawan Shri Sathya Sai Seva Organisations	68	14,171	2,382	100	2,482
Religious Organisations	46	16,717	2,060	67	2,127
Jaycees	5	2,444	532	15	547
Banks	22	4,719	460	18	478
Mills & Factories	32	15,273	3,095	96	3,191
ASSEFA	9	1,027	162	4	168
Schools & Colleges	4	17,542	663	35	698
Hospitals	14	2,366	443	9	452
Trusts	34	11,030	1,920	56	1,976
Youth & Fan Associations	41	6,910	751	26	777
Other Vol. Service Orgn.	107	31,078	3,136	108	3,244
Others	110	32,198	3,705	124	3,829
Total	1,041	2,87,571	39,085	1,304	40,389

Aravind Children's Hospital

A guiding principle of the Aravind Children's Hospital is to establish good eye care and nutritional habits early in life to prevent disease and blindness later. To this end, educational programmes receive as much emphasis as treatment at the Children's Hospital. Community outreach programmes, volunteer village health care workers, and eye camps are used to educate and communicate with mothers and children. Ongoing medical research complements the numerous clinical activities of the Children's Hospital.



*Dr. Lakshmi Rahmathullah
Director, Aravind Children's Hospital
examining a child*

1997 was an active year for Aravind Children's Hospital. A variety of diverse projects were undertaken, including the distribution of polio drops to 250 children on 18th January and again to 207 children on 7th December.

- In Kariyapatty, medical camps provided eye examinations to over a thousand children and later in the year, 48 villagers were trained to identify suspect tuberculosis cases.
- The role of Vitamin A received much attention throughout the year. In January, nurses from the Department of Paediatric Ophthalmology were trained to determine Vitamin A dosages for children based on their age.
- Dr. Lakshmi Rahmathullah published "Aetiology of Severe Vitamin A Deficiency in Children" in the Medical Journal of India
- Dr. Rahmathullah attended a seminar on "Behaviour Surveillance Survey in Tamil Nadu" conducted by the AIDS Prevention and Control (APAC) project, Chennai.

- Dr. Rahmathullah addressed the project managers of the USAID/PVO project, and she spoke to 60 students from Lady Doak College about "Micro-nutrients Deficiency."
- Dr. Paulraj lectured on "Health and Nutrition" to students of Fatima College.
- A meeting was held with Drs. Premarajan, Sadanand and Rahmathullah and ASSEFA staff to discuss establishing a community health centre in Kariyapatty and a team-building workshop with ASSEFA staff.

An analysis was made to find the β -carotene content of 3 plants: Tulasi, Arugampul and Vilvum which are used in the Siddha and Ayurvedic systems of medicine. The results showed they contained high levels of β -carotene and were presented by Dr. Paulraj at the XVIIIth meeting of the International Vitamin A Consultative Group (IVACG) in Cairo.



*Dr. Paulraj at the
International Vitamin A
Consultative Group
Meeting in Cairo*

Statistics - 1997

Total out patients	17,388
Children > 5 yrs. (New)	1,431
In patients	8
Camps	21
Cases seen in camps	1,980
Adult cases seen	779
Antenatal cases seen	48
Immunisations	1,988
Vitamin A Deficiency cases	35

Aravind Postgraduate Institute of Ophthalmology

Aravind's mission to provide the highest quality eye care to all people also means offering the finest training to those individuals who will provide the eye care services. Educating providers requires the same attention to detail and striving for excellence that has governed the delivery of eye care at Aravind from its beginning. The education and training programmes at Aravind Eye Hospitals have redefined the ophthalmologist's role in the developing world. As an accredited teaching institute, Aravind provides both postgraduate and diploma courses in Ophthalmology for doctors. Ophthalmic residents and doctors come from India and throughout the world to improve their surgical skills and study innovations in the field. Aravind also offers training in ophthalmic assistance and housekeeping. All education programmes offered by Aravind are coordinated by the Lions Aravind Institute of Community Ophthalmology (LAICO).

Education Programmes

Postgraduate training in ophthalmology

- Diploma in Ophthalmology (DO): Course started in 1982
- Master of Science in Ophthalmology (MS): Course started in 1986
- Diplomate of the National Board (Dip.NB.): Course started in 1981
- Fellow of the Royal College of Ophthalmologists, London (FRCOph): Course started in 1995

In addition to these regular courses offered in affiliation with Dr. MGR. Medical University- Madras and Madurai Kamaraj University, there are the following short-term training programmes.

1. Eighteen-month fellowship programmes in various subspecialities of Ophthalmology for MS or Dip. NB. degree holders.
2. One-year senior general ophthalmology fellowship for MS or Dip. NB. degree holders. One-year junior general ophthalmology fellowship for DO candidates.
3. Eight-week Intensive Intraocular Lens (IOL) training programme. To date 369 ophthalmologists have received training.
4. Four-week Intensive Indirect Ophthalmoscopy training programme. Started in 1994, 114 ophthalmologists have undergone this training.
5. Four-month course to prepare selected faculty members as trainers in IOL surgery.
6. Seminars & Workshops: Several times a year, the hospital arranges



Postgraduate students in the Retina Clinic

short courses, seminars, workshops and clinical/surgical demonstrations with faculty from India and abroad.

Ophthalmology residents from various university hospitals in the US and European countries come to Aravind-Madurai and Aravind-Tirunelveli for additional training as part of their residency programme. Residents from the following Institutes in USA came to Aravind in 1997:

Mass. Eye & Ear Infirmary, Boston; St. Vincents Hospital, New York; University of Illinois, Chicago, Greater Baltimore Medical Centre, Baltimore; University of Wisconsin, Madison; Sinai Health System, New York; and Columbia Presbyterian University: New York.

Passingout Batch 1997

Diploma in Ophthalmology
(DO)

Dr. K. Manjula

Dr. Manju R. Pillai

Dr. Ganesuni Rajesh

Dr. Saraswathy
Alagarwamy

Dr. K. Tiruvengada Krishnan

Dr. R. Meenakumari

MS in Ophthalmology

Dr. C.B. Shanthi

Diplomate of the National
Board (Dip.N.B)

Dr. R. Venkatesh

Dr. Sonia Modi

Dr. R. Nirupama



Dr. P. Namperumalsamy distributing the certificates at the nurses graduation

Ophthalmic Nurses Training and Training in Housekeeping

The efficiency of Aravind's ophthalmic nurses contributes significantly to the hospital's low costs and high quality. Twice a year, high school graduates are recruited and given training in basic and ophthalmic nursing. Aravind now has over 370 ophthalmic assistants and technicians. The nursing training is now offered in collaboration with Mother Teresa University. Aravind is recognised by

the JCAPHO, USA as a centre for Ophthalmic Assistance training. Several students from other states and developing countries come to Aravind for further training in ophthalmic assistance.

Like the nurses, the housekeepers are also trained on-the-job. In addition to housekeeping, they also run the coffee shop, the nurses' kitchen and the doctors' canteen. At present, Aravind has over 48 housekeepers.

Speciality Training

The following Aravind doctors visited major US eye institutions to learn state-of-the-art technologies in diagnosis and treatment of their specific specialities. These institutions collaborate with Aravind in various training and research activities.

- Dr. Rathinam Sivakumar, Chief of Uvea services, Aravind-Madurai visited the uvea clinics of Mass Eye & Ear Infirmary, Boston; National Eye Institute, Bethesda; Dohney Eye Centre, Los Angeles, and Proctor Foundation, San Francisco. During her visit, she gave talks on Leptospirosis and Leprosy uveitis.
- Dr. Arup Chakrabarti, IOL clinic and Dr. Meena Chakrabarti, Retina clinic, Aravind-Madurai visited Mass Eye & Ear Infirmary, Boston; Boscom Palmer Eye Institute, Wilmer Eye Institute, Baltimore; National Eye Institute, Bethesda; Wills Eye Hospital, Philadelphia, and Jules Stein Eye Institute, UCLA.
- Dr. Datta, Medical Officer, Aravind-Theni was at Wilmer Eye Hospital, Johns Hopkins, Mass Eye and Ear Infirmary, Boston; Proctor Foundation, San Francisco; Jules Stein Institute of UCLA, and Kaiser Permanente Inc in Honolulu.
- Mr. Ram Venkatesh Kumar of Aravind-Coimbatore and Mr. S. Poornachandran of Aravind-Madurai were in Singapore recently to undergo training in maintenance of TOPCON instruments. The ten-day training programme was specially organised for them at Topcon, Singapore. They also spent a day each at Carl Zeiss and National Eye Centre in Singapore.
- Mr. K. Shanmugavelayutham, Audio visual Centre, Aravind-Madurai and Mr. R. Saravanan from Aravind-Madurai Publications Centre were at the Singapore National Eye Centre at Singapore for two weeks to receive training in computer-based video editing techniques.

Conferences/Workshops/Courses held at Aravind



Dr. Alan Robin in the Update in Glaucoma Management Workshop

Workshop on Ophthalmology for General Practitioners

5th January, Aravind-Tirunelveli

Aravind Faculty

- Red eye
- Injuries of eye
- Corneal ulcers
- Diabetes and the eye
- Paediatric eye diseases
- Early diagnosis of glaucoma
- Eye changes in systemic diseases
- Sutureless surgery for cataract

Update in Glaucoma Management

28th, May; Aravind-Coimbatore

Dr. Alan Robin, Johns Hopkins University, USA

- Recent advances in the medical management of Glaucoma

Dr. R. Ramakrishnan, Aravind-Tirunelveli

- Role of mitomycin in anti-glaucoma procedures

Workshop on Retinal Detachment and Basics of Vitreous Surgery

12th - 13th July; Aravind-Madurai

Guest faculty:

Dr. Atul Kumar, New Delhi

- Slit lamp biomicroscopy
- Aetiopathogenesis of Rhegmatogenous RD
- Explant technique (Custodis & Lincoff)

Dr. S. Natarajan, Bombay

- Peripheral retinal degenerations
- Recurrent RD - causes and management
- Surgical principles and techniques

Dr. Tarun Sharma, Madras

- Differential diagnosis of RD
- Implant technique (Schepens)
- Management of complicated RD
- Indications of vitreous surgery

Aravind Faculty

Dr. P. Namperumalsamy

- Fundus drawing & scleral depression
- Clinical features, signs and course of retinal detachment
- SRF Drainage
- Principles & rationale of RD surgery
- Prophylaxis of RD
- Basic steps in pars plana surgery
- Vitreous haemorrhage management
- Localisation of retinal holes

Dr. Meena Chakrabarti

- Chorioretinal treatment modalities
- Pseudophakic RD
- Posterior segment complications of ant. seg. surgery - mgt.
- Pars plana surgery for diabetic retinopathy
- Endophthalmitis - medical management
- Instrumentation, Practice & Advantages
- Instrumentation of Pars plana surgery

Dr. Kim

- Complications of RD surgery
- Pneumatic retinopexy
- Exudative RD: Aetiopathogenesis

Dr. Sanjay Sharma

- Pre-op work-up - Pars plana surgery

Dr. S.R. Mamatha

- Anatomy of pars plana & vitreous

Dr. P.K. Shobana

- Normal fundus and fundus periphery

Ophthalmology update for PG students

6th to 12th July; Aravind-Madurai

The aim of the course was to expose post-graduate students to various fields of ophthalmology so that they could write their examinations with confidence and plan their future careers. Twenty-two candidates from different states attended the course. After registration, Dr. V. G. Srinivasan briefed them regarding the schedule for the week. Inaugurated by Dr. Namperumalsamy, Director, the faculty consisted of Dr. Shetty, Bangalore, Dr. Lokanathan, Madras, and Dr.G.Natchiar. Sessions included theory, case discussions, surgery observations, video and slide shows (clinical), practical examinations, and a visit to a poster exhibition.





Dr. P. Namperumalsamy at the Symposium



Dr. Chandran Abraham, Madras



Dr. Meena Chakrabarti, at the Symposium

Symposium on Diabetic Retinopathy
20th and 21st September, Aravind-Madurai
Guest faculty:

Dr. Chandran Abraham, Madras
- *Classification & Clinical features of diabetic retinopathy*
- *Management of PPDR and PDR*
- *Applications of ETDRS & DRS in management of diabetic retinopathy*

Dr. Babu Rajendran, Madras
- *FFA with video*
- *Lasers - Wavelengths, types*
- *Diabetic macular oedema - clinical features and management*
- *Visual outcome in relation to Argon/Krypton/ Nd YAG lasers*
- *Effect of cataract surgery on diabetic retinopathy*

Dr. Kannan, Madurai
- *Metabolic control of diabetes in relation to vascular complications, DCCT etc.*
- *Pre-op preparation and evaluation of diabetic patients for ocular surgery*

Dr. Ashok Kumar Das, Pondicherry
- *Medical management in diabetic retinopathy*

Aravind faculty:

Dr. P. Namperumalsamy
- *Diabetes & the eye - an overview*
- *Diabetic screening and health education*
- *Diabetic vitreous haemorrhage*

Dr. Shobana
- *Ocular manifestations of diabetes*

Dr. S. R. Mamatha
- *Normal fundus*

Dr. Gautam Panda
- *Fundus examination - Direct, Indirect biomicroscopy*

Dr. R.D. Ravindran
- *Aetiopathogenesis of diabetic retinopathy*

Dr. G. Natchiar
- *Neuro-ophthalmic manifestations of diabetes*

Dr. Ramakrishnan
- *Glaucoma in diabetes*

Dr. N.V. Prajna
- *Corneal and refractive changes in diabetes*

Dr. Meena Chakrabarti
- *Pregnancy and diabetes*
- *Surgical principles in vitreous surgery for PDR*
- *Management of advanced diabetic eye disease*

Dr. Arup Chakrabarti
- *Cataract in diabetics-management*

Dr. Kim

- *Vitreous surgery in diabetic retinopathy - indications*

Dr. V. Narendran

- *Complications of diabetic vitrectomy*

III CME Programme for short term trainees in IOL Microsurgery

4th to 10th August, Aravind-Coimbatore

Dr. Ramakrishnan

- *Aphakic and Pseudophakic Glaucomas*
- *Surgeries: Doing a case of regular ECCE with IOL*
- *Phaco+ Trab surgery demonstration*

Dr. R.D. Ravindran

- *Postoperative endophthalmitis-Prevention and management*
- *Phaco emulsification-divide conquer technique*

Dr. Srinivas Chincholi

- *Manual phaco*

Dr. Revathy

- *Cornea in relation to cataract surgery*

Dr. Satyan

- *Surgery in PXF cases*

Dr. Pankaj Asawa

- *Secondary IOL Implantation*

Dr. Arup Chakrabarti

- *Current Trends in cataract surgery*
- *Recent Advances in phaco*
- *Demonstration of Phaco and Manual Phaco*

Dr. Ravishankar

- *Phaco dynamics*

Dr. Srinivas Chincholi

- *Manual phaco*

Dr. Mohan

- *Recent Developments in Aravind Hospitals*
- *IOL in complicated situation*

Update in Ophthalmology for General Practitioners

21st December, Aravind - Coimbatore

About 100 General Practitioners participated in this programme. Designed to impart necessary skills and knowledge to the general practitioners for the management of common eye problems, this programme also provides an opportunity to know the recent developments in ophthalmology for managing some of the common blinding disorders. The faculty for the workshop were senior doctors from Aravind-Coimbatore, Aravind-Madurai and Aravind-Tirunelveli.

Conferences/Courses/Workshops attended by Aravind Staff in 1997

National workshop on Community Based Rehabilitation (CBR)

Blind Men's Association, Ahmedabad, 6th to 8th February

Mr. V. Vijayakumar, Project Coordinator
- *Role of Aravind - Theni; A model hospital in Community Based Rehabilitation*

Dr. P. Namperumalsamy attended the Twelfth meeting of the WHO programme advisory group on the Prevention of Blindness at Geneva, Switzerland from 17th to 19th February

55th Annual conference of All India Ophthalmological Society, New Delhi.

20th to 23rd February

Dr. P. Namperumalsamy
- *Chairman for the Current Concept Programme on Proliferative Vitreo-retinopathy & gave introduction lecture*
- *Chairman for the Free Paper Session on Retina - Vitreous*

Dr. Meena Chakrabarti
- *Faculty for the Current Concept Programme on "Proliferative Vitreo-retinopathy" & gave lecture on "Silicone study reports"*.

Free paper presentation
- *Management of retinal detachment in the paediatric age group.*
- *Management of non-dilating pupil during vitreo-retinal surgery*
- *Atypical presentations of retinoblastoma in older children-Video presentation*

Video presentation
- *Management of anterior PVR.*
- *Management of dislocated lenses.*

Dr. Dinesh K Sahu

Free paper presentation
- *Acute Non-ischemic Optic Disc Oedema in Diabetes Mellitus - Expanding Spectrum.*
- *Acute Punctate Multifocal Inflammatory Lesions of Retina, Choroid and RPE : An Overview.*
- *Acute Posterior Multifocal Placoid Pigment Epitheliopathy (APMPPE) - Characteristics and differential diagnosis.*
- *Acquired Ocular Toxoplasmosis - Classification, Clinical characteristics and Serodiagnosis.*
- *Ocular toxocariasis.*

Dr. Chandrakanth

Free paper presentation
- *Extracapsular Cataract Extraction and*

Posterior Chamber Lens Implantation : Rural Camp vs. Base Hospital Approach.

Prof. V. Srinivasan
- *Slit Lamp - some aspects of use in clinical examination*

Dr. Ramesh

Free paper presentation
- *Acquired fusion distruption Strabismus study with IOL implantation-A combined procedure*

Dr. R. Ramesh, Dr. P. Vijayalakshmi

Seminar on

- *Update on Amblyopia*
- *Visual Acuity assessment in children-Faculty for the Recent Concepts programme on Intraocular Tumours*
- *Genetics of Retinoblastoma*

Dr. Arup Chakrabarti

Current concepts:

Moderator in the programme on Management of complications in cataract surgery and spoke on

- *Management of Malpositioned IOLs*
Co-chairman for the wet lab session on "Microsurgery and sutures" and spoke on
- *Suture material & techniques in Corneal Surgery*

Free paper presentation:

Dr. Arup Chakrabarti, Dr. Jasprit Singh, Dr. G. Natchiar
- *Experience with a new ab-externo 4 point scleral fixation technique-light at the end of the tunnel*

Dr. Arup Chakrabarti, Dr. Ravi Shankar, Dr. G. Natchiar.
- *IOL exchange through original sutureless sclero-corneal tunnel incision*

Dr. Arup Chakrabarti, Dr. Dhananjay Shukla, Dr. G. Natchiar
- *Phacoemulsification in mature cataract - A myth explored*

Video presentations:

- *Small incision cataract surgery with PC IOL implantation in traumatic cataract with retained intralenticular foreign body*
- *Two point scleral fixation of PC IOL - A safe and simple technique -*
- *Phacoemulsification in mature cataract - Tricks and traps*
- *Sutureless small incision cataract surgery sans phaco with rigid 6 mm optic IOL implantation*
- *Phacoemulsification with PC IOL implantation in siderosis bulbi*



Dr. R. Ramakrishnan at the All India Ophthalmological Society Meeting

Free paper presentation

Dr. Archana Swarnakar, Dr. Arup Chakrabarti, Dr. G. Natchiar
- *Small incision cataract surgery - The manual technique gives comparable results to instrumental phaco.*

Dr. Jasprit Singh, Dr. Arup Chakrabarti, Dr. G. Natchiar
- *Our experience with the phaco learning curve*

Dr. Dhananjay Shukla, Dr. Meena Chakrabarti, Dr. Arup Chakrabarti
- *Preoperative assessment of posterior capsular integrity in traumatic cataract*

Free paper presentation:

Dr. Rathinam Sivakumar, Dr. Deborah Dean, Dr. C. Katherine
- *Leptospiral PCR Assay of Aqueous humor in an epidemic outbreak of ocular leptospirosis*

Dr. Rathinam Sivakumar, Dr. K. Manjula
- *Incidence of sympathetic ophthalmia in a referral centre*

Dr. Rathinam Sivakumar, Dr. P. Namperumalsamy
- *Pressure variations in Vogt-Koyanagi syndrome*

Dr. Rathinam Sivakumar
Instruction Course on Recent advances programme on 'A problem oriented management directed approach'

- *Investigations for Uveitis*

Instruction Course on Recent advances programme on 'Ocular Immunology and Uveitis'

- *Leptospiral Pan Uveitis*

Dr. Y. Sujatha

Guest lecture: Symposia

Optic Nerve Disorders: 'Management of papilloedema, especially Benign ICT'

Ocular Tumors: 'Enucleation with orbital implants'

Common oculoplastic surgeries: Socket repair

Dr. Y. Sujatha, Dr. Syamnath, Dr. Revathi
- *Distichiasis correction by radio epilattation technique*

Dr. Y. Sujatha, Dr. R. Ramesh, Dr. Syamnath
- *Orbital Cysticercosis - A diagnostic and therapeutic challenge*

Dr. Y. Sujatha, Dr. Syamnath
- *Repeat DCR surgery using SIRI Tubes*
- *Simple outpatient surgical technique for centurion syndrome*

Dr. Y. Sujatha, Dr. Revathi
- *Rhinosporidiosis treated with radio coagulation technique*

Dr. Chandrakanth, Dr. R. Krishnadas
- *Safety and feasibility of large scale posterior chamber lens implantation in camp setting*

Dr. Krishnadas, Dr. Abhijit Tagore, Dr. R. Ramakrishnan
- *Phacoemulsification combined with trabeculectomy in advanced glaucoma and cataract*

Dr. Abhijit Tagore, Dr. R. Krishnadas, Dr. R. Ramakrishnan
- *Congenital ectropion uveae with glaucoma: an analysis*

Dr. D. Sood, Dr. R. Krishnadas, Dr. R. Ramakrishnan
- *To compare efficacy of apraclonidine .5% and clonidine .125% to control acute rise of IOP following Nd:YAG laser surgery*

Dr. Mustafa Parekh, Dr. R.D. Ravindran, Dr. Muralikrishnan.
- *Cataract extraction through temporal scleral tunnel in eyes with iris coloboma*

Dr. M. Parekh, Dr. R. Begam, Dr. R.D. Ravindran
- *Primary implantation of PC IOL in the management of traumatic cataract with corneal laceration*

Dr. Swaruparani, Dr. M. Srinivasan
- *Role of therapeutic keratoplasty in suppurative keratitis*

Scientific Exhibits:

Dr. Rajendra Malviya, Dr. Anup Chirayath, Dr. Mustafa Parekh
- *Visual outcome in lens induced glaucoma*

Dr. Rajendra Malviya, Dr. R. D. Ravindran, Dr. Madhavi
- *Hemi Central Retinal Vein Occlusion*

Dr. Rajendra Malviya, Dr. R. D. Ravindran, Dr. Anup Chirayath
- *Atypical retinitis pigmentosa ; A photographic presentation*

Film Festival

Dr. Mustafa Parekh
- *Primary implantation of PC IOL in the management of traumatic cataract with corneal laceration.*
- *Cataract extraction through temporal scleral tunnel in eyes with iris coloboma*

Dr. Ramakrishnan
- *Scleral fixation of IOL in congenital ectropion uveae and ectopia lentis*

Instruction Courses

- *Surgical management of high risk glaucoma and antifibrotic agents (Mitomycin-C and 5-Fluorouracil)*

Faculty: Current Concepts

Dr. Ramakrishnan
- *Community Outreach Services*

Dr. R. D. Ravindran
- *Increasing efficiency and cost containment in private clinics*

XVI Congress of Asia Pacific Academy of Ophthalmology & IAPB Regional Assembly
Kathmandu, 2nd to 6th March

Mr. R.D.Thulasiraj
- *Man power development: Eye care managers*
- *Cataract blindness - work loss and recovery.*

Dr. G. Venkataswamy
- *Guest lecture on strategies for providing cataract surgery for all in developing countries.*

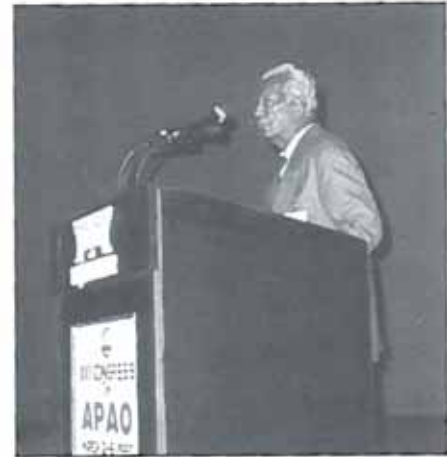
Dr. N.V. Prajna
- *Comparisons of complications in ICCE versus ECCE/IOL (The results of the Madurai IOL Study).*

Dr. M. Srinivasan attended the Eye Bank Association of India - Hospital corneal retrieval programme and participated in the discussion with Government of India Health Department at Hyderabad on the 11th and 12th of April.

Dr. Rathinam spoke on 'Ocular Complications of Leptospirosis' at the Clinical Grand Rounds, at the National Eye Institute at Washington on the 22nd of April.



Dr. Rathinam with Dr. Narasing A Rao and his research team



Dr. G. Venkataswamy at the Asia Pacific Academy of Ophthalmology meeting in Kathmandu, Nepal

Mysore Ophthalmological Club

25th April

Dr. Srinivasan

- *Management of suppurative keratitis*

Association for Research in Vision and Ophthalmology (ARVO)

Fort Lauderdale, Florida; 16th May

Dr. Rathinam

- *PCR assay of Aqueous humor in epidemic outbreak of leptospirosis: Poster*

Immunology Group Meeting

Mass. Eye & Ear Infirmary, Boston; 7th & 8th May

Dr. Rathinam

- *Leptospiral uveitis*
- *Uveitis and Hansen's disease*

Scientists Meeting

Centre for Disease Control, Atlanta; 20th May

Dr. Rathinam

- *Epidemic outbreak of leptospiral uveitis in South India*

Indian Medical Association Meeting

Vijayawada, 25th May

Dr. P. Namperumalsamy

- *Management of Eales disease*
- *Eye complications of diabetes*

CME Programme on Update in diabetes

Pandalam, Kerala, 25th May

Dr. Kim

- *Diabetes and the Eye*

Techno Ophthalmological 97

Bombay, 31st May, 1st & 2nd June

Dr. G. Venkataswamy

- High volume, high quality, cost effective IOL surgery

Dr. P. Namperumalsamy

- Management of Eales disease
- Surgery for epiretinal membrane

Dr. G. Natchiar attended the Workshop on Review of training of trainees and district ophthalmic surgeons in ECCE/IOL surgery at Hyderabad on the 5th & 6th of June.

Proctor Alumni Meet

Asilomar, California; 13th June

Dr. Rathinam

- Uveitis and Hansen's Disease
- Uveitis in snake bite
- Leptospiral uveitis

Pacific Coast Meeting

San Diego, California; 20th June

Dr. Rathinam

- Epidemic outbreak of leptospiral uveitis in South India

Conference on Phacoemulsification and lasik laser

Madras, 12th & 13th July

Dr. Arup Chakrabarti

- Phacoemulsification in difficult situations.

Study group on curriculum development for ophthalmic nursing training

31st July and 1st August, Delhi

Dr. G. Natchiar

- Ophthalmic nursing training programme at Aravind Eye Hospital, Madurai.

Training for trainers for Para-medical Ophthalmic Assistant (PMOA) of Karnataka

30th & 31 July, Bangalore

Dr. Usha Kim

Guest lecture on

- Teaching methods and schedules used for PMOA in connection with the experience at Aravind

Tamil Nadu Ophthalmology Association

Erode, 1st - 3rd August

Dr. P. Namperumalsamy

Diabetic Retinopathy

Talk: Symposium on Retinal Vascular diseases

Chairman: for the Free Paper session on Retina

Key note address: on "Recent advances in vitreo retinal techniques

Mr. R.D.Thulasiraj

- Future of ophthalmic practice and financial implications

Dr. Meena Chakrabarti

Free papers

- Primary vitrectomy for rhegmatogenous RD - Uncomplicated by PVR
- Management of advanced PDR using PFC liquid as intraoperative tool

Dr. Arup Chakrabarti

Free paper

- Large posterior capsule rent: Surgical dilemma
- Management of cataracts in eyes with iron containing FB

Video presentation

- IOL Exchange through original tunnel incision in post phaco case
- Secondary PC IOL through scleral tunnel incision

Convener for the free paper session on 'Phaco'

Dr. Rathinam

Pre conference course
- Current trends in Uveitis

Dr. M. Srinivasan

- CME - Talk on Corneal Ulcer
- Moderating session on Free papers in cornea
- Phaco in relevance to our country - debate

Dr. P. Vijayalakshmi

- Paediatric cataract

Dr. R. Ramakrishnan

- Management of co-existent cataract and glaucoma

Best video presentation award :

- Scleral fixation of IOL in congenital ectropion Uveae Syndrome

Dr. Rajendra Malaviya

- Von-Hippel's disease

Dr. G. Madhavi

- Efficacy of combined surgery

Dr. Kavitha Ramakrishnan

- Keratomycosis - correlation KOH Mount and culture

Mr. M. Jeyahar Bharathi

- Etiological agents in corneal ulcer in south Tamil Nadu

Dr. Isai Murthy

- Aetiology of post - operative endophthalmitis

VI th Retina Congress

Hyderabad 30th - 31st August

Dr. P. Namperumalsamy

Moderator for the session on "Vitreous surgery for diabetic retinopathy"

Conference on Challenge of Leptospirosis

Madras, 8th & 9th September

Dr. Rathinam

- *Emerging ophthalmic complications of Leptospirosis*

Workshop on Infective Keratitis

Endophthalmitis

Coimbatore, 12th October

Dr. Meena Chakrabarti

- *Post traumatic & Endogenous Endophthalmitis*

Dr. N.V. Prajna

- *Modern Trends in Viral Keratitis*

10th ICIMRK meeting

New Delhi, 26 to 28th September

Dr. G. Natchiar

- *Manual phaco indication and results*
- *High volume cataract surgery with a single ophthalmologist*
- *Phaco in hard cataracts*
- *Phacoemulsification - It is ideal for mass surgery*
- *ECCE with IOL - still an excellent procedure*



Dr. G. Natchiar

Dr. Arup Chakrabarti

- *Convener for the Newer Techniques Programme on Newer Techniques in Small Incision (Non Phaco) Cataract Surgery & also spoke on "Irrigating Vectis Technique for safe small Incision (Non Phaco) cataract Surgery"*

- *Moderator for the current concept programme on "Management of complications in phacoemulsification" and also spoke on "Phaco in small pupil situations"*

- *Convener for a free paper session*

Dr. Anup Chirayath Ashokan

- *Small incision Cataract surgery – Manual vs Instrumental*

- *Small incision Cataract surgery – A manual approach*

Workshop on Phacoemulsification and IOL

Perinthalmanna, Kerala, 19th October

Dr. Arup Chakrabarti

- *Converting to Phaco*

- *Potential complications during Phaco learning curve*

- *Panel discussion on Complications of IOLs*

Dr. R.D. Ravindran

- *Phaco Incision*

- *Divide & conquer technique*

- *Panel discussion "Complication of IOLs"*

Southern Regional Ophthalmic Conference

Hyderabad, 28th and 29th November

Dr. Rathinam

- *VKH Syndrome - Clinical challenges*

- *Macular Choroiditis*

Dr. Meena Chakrabarti

- *Symposium on post segment complications of IOL Surgery.*

- *Pseudophakic RD*

- *Pseudophakic CME*

Free Papers:

- *Management of dislocated lenses*

- *RD in eyes trans-sclerally sutured PC IOLs*

- *Frosted Branch Retinal perivasculitis*

Dr. Chandrakanth

- *Cystoid Macular Oedema - Automated*

versus Manual Phaco - A comparison

- *Scleral Buckling for myopic retinal detachment : Our experience*

Glaucoma Update Workshop

Madras, 9th November

Dr. R. Krishnadas

- *Tonometry, Medical management of glaucoma*

- *TRAB with PC lens implementation in glaucoma*

Sight Savers Partners Meeting
Bangladesh, 3rd to 5th November

Dr. P. Mohan, Dr. R.D.Thulasiraj
- *Sustainable Eye Care Service*

Assessment of Microsurgery Training Activities
Islamia Eye Hospital, 2nd November

Dr. P. Mohan
- *Prevention about "IOL in difficult Situations"*

Kerala State Ophthalmic Society DRISHTI-97
Trivandrum, 15th November

Dr. Arup Chakrabarthi
*Guest lecture-Small Incision Cataract
Surgery*

KSOS: Symposium on Diabetic Retinopathy
Trivandrum, 16 to 17th November

Dr. Meena Chakrabarthi
- *Prognostic factors in Diabetic Retinopathy*

International Conference on Cornea and
Refractive surgery

Hyderabad, 1st to 4th December

Dr. M. Srinivasan
- *Non-healing Corneal Ulcer Symposia -
International*

All India Optometry and Contact Lens
Conference

Balgandhara Auditorium, Pune; December 5th
to 8th

The PG Diploma in Optometry students of
LAICO attended this workshop with
Prof. N. Sukumaran.

Publications

Ophthalmic instruments and equipment-Care
and Maintenance.

Prof. V. Srinivasan & Mr. R.D. Thulasiraj

Funded by Danish Assistance to the National
Programme for Control of Blindness (DANPCB)
on behalf of NPCB.

Journal of Tamil Nadu Ophthalmic Association
Vol.35, No. 1, March

Dr. Abhijit Tagore, Dr. P. Vijayalakshmi and
Dr. R. Ramakrishnan
- *Surgical outcome of congenital and juvenile
glaucomas*

Dr. Chandrakanth, Dr. Ramakrishnan
- *Extracapsular cataract extraction and
posterior chamber lens implantation: Rural
camp vs base hospital approach*

Dr. Manjula, J (et al.)
- *Our experiences with the hand held auto
keratometer*

Vol 36. No 2. June 1997

Dr. Kumar Hariharan Dr. Murali-krishnan and
Dr. R. D. Ravindran
- *Comparative study between scleral tunnel
vs limbal incision in the management of
paediatric cataract*

Dr. Dinesh K. Sahu (et al)
- *Acute Posterior Multifocal Placoid Pigment
Epitheliopathy (APMPPE) - Characteristics
and differential diagnosis*

Dr. V. Srinivasan
- *Spherical aberration and distortion in the
image formed in the eye with special
reference to the location of the iris*

Dr. Hans, Jasprit Singh; Dr. Arup Chakrabarti
and Dr. G. Natchiar
- *Our experience with the phaco learning
curve*

Dr. Dinesh K. Sahu
- *Geographic Helicoid Peripapillary
Choroidopathy*

Vol. 36. No. 3, September

Dr. Walimbe, Dr. Prasad
- *HIV/AIDS: What should we know about it?*

Dr. M. Srinivasan
- *A new donor eye collection chamber*

Dr. R. Ramesh, Dr. P. Vijayalakshmi
- *Low vision therapy for visually handicapped
- A hospital based survey in 147 cases*

Dr. Shobana Purohit
- *Different presentations of angiod streaks
maculopathy*

Dr. Ihenacho, Dr. Urania U, Dr. M. Srinivasan
- *Lamellar crescentic resection in pellucid marginal corneal degeneration (PMD)*

Vol. 36, No. 4, December

Dr. Rathinam Sivakumar
- *Leptospirosis*

Dr. Swaruparani, Dr. Ganesuni Rajesh,
Dr. M. Srinivasan
- *Treatment of recurrent pterygium by auto conjunctival transplantation*

Dr. Archana Swamakar, Dr. Arup Chakrabarti,
Dr. G. Natchiar
- *SICS - The manual technique gives comparable results to instrumental phaco*

Dr. Begum Rabbani, Dr. Mustafa Parekh,
Dr. R.D. Ravindran
- *Primary implantation of PC IOL in the management of traumatic cataract with corneal laceration*

Dr. Shoeb Ahmad, Dr. Ekta Anand
- *The paradigm of traumatic lens induced glaucoma: A study*

Dr. Murali Krishnan, Dr. Anup Chirayath,
Dr. R.D Ravindran
- *A retrospective study of visual outcome between AC and PC IOL implantation in patients who had intraoperative PC rent*

Arch. of ophthalmology

Vol.115, No.6, June 1997; P. 767 - 774

Dr. Astrid Fletcher; Leon B Ellwein;
Dr. S. Selvaraj; Mr. V. Vijayakumar; Mr. Raheem Rahamathullah; and Mr. R.D. Thulasiraj
- *Measurements of vision function and quality of life in patients with cataracts in southern India: Report of instrument development*

Ophthalmology

Vol. 104, No. 4, April 1997; P. 571 - 572

Dr. Alan L. Robin, Dr. G. Natchiar,
Mr. R.D. Thulasiraj, Dr. G. Venkataswamy
- *A long-term approach to eliminate cataract blindness*

British Journal of Ophthalmology

Vol. 81, No. 8, August 1997, P. 622-623

Dr. Whitcher, John P, Dr. M. Srinivasan
- *Corneal ulceration in the developing world - a silent epidemic*

British Journal of Ophthalmology

Vol.81, No.10, October 97, P. 896 - 900

Dr. M. Srinivasan, (et al.)
- *Cataract progression in India*
Vol.81, No.11, Nov 97, P. 965 - 971

Dr. M. Srinivasan, (et al.)
- *Epidemiology and aetiological diagnosis of corneal ulceration in Madurai, South India*

Asia Pacific Journal of Ophthalmology

Vol. 9, No. 4, October, P. 965 - 971

Dr. Dinesh K. Sahu, Dr. S. Sathish,
Dr. P. Namperumalsamy
- *Two cases of isolated astrocytoma of the optic nerve head without systemic disease*

American Journal of Ophthalmology

Vol. 124, No. 1, P. 71-79

Dr. Rathinam, Mr. S. Selvaraj, Dr. Dean D,
Dr. R.A. Nozik, Dr. P. Namperumalsamy
- *Uveitis associated with an epidemic outbreak of leptospirosis*

Arch. Ophthalmology

vol. 115, Aug 1997

Dr. Alan L. Robin, Dr. R. Ramakrishnan,
Dr. Krishnadas, Dr. Scott D. Smith, Dr. Joanne D. Katz, Mr. S. Selvaraj, Mr. Gregory L. Skula,
Mr. Rohit Bhatnagar
- *A Long-term dose response study of Mitomycin in Glaucoma filtration surgery*

Investigative Ophthalmology & Visual Sciences

Dr. Alan L. Robin, Dr. G. Natchiar,
Dr. M. Srinivasan, Dr. R. Ramakrishnan
- *The teaming curve of Phaco*

XII Eastern India Zonal Ophthalmological Congress & XXXV Annual Conference Bihar Ophthalmological Society P. 39 to 42

Dr. G. Natchiar & Miss. R. Priya
- *Changing concepts in the Management of Ocular Community Services.*

Video cassettes

Current Techniques in Small Incision Cataract Surgery Vol: 3

Editor & Surgeon: Dr. Arup Chakrabarti
Videography: Mr. K. Shanmugavelayutham

Ongoing research projects

An essential component to the delivery of quality eye care is the maintenance of vigorous and solid investigation into new technologies and techniques as well as on-going effort to understand the causes and treatment of eye diseases and blindness. Research has played a significant role in Aravind's efforts since its inception. Today, the Aravind Medical Research Foundation oversees a variety of research projects using sophisticated data management procedures and investigational methodology.

Antioxidant study: Cataract Grading

This study is being done in collaboration with Proctor Foundation, USA to document the impact of antioxidants in retarding or preventing cataract development. In 1997, the pilot study was carried out in two villages.

Retina & Vitreous clinic

- Management of dislocated lenses
- ERG in eyes with siderosis bulbi
- A retrospective study on retinal detachment in children

Uvea clinic

- PCR Assay of aqueous humour of clinically diagnosed ocular tuberculosis - Case control study in collaboration with Indian Council for Medical Research (ICMR) and Madurai Kamaraj University and support from ICMR
- Uveitis survey in south Indian patients in collaboration with Proctor Foundation, USA.
- Leptospiral uveitis

IOL clinic

- Specular corneal endothelial evaluation in manual phaco vs instrumental phaco
- Specular corneal endothelial evaluation in secondary IOL

Paediatric Ophthalmology clinic

"Seeing 2000 Aravind comprehensive childhood eye care services" project is funded by International Eye Foundation and the duration of the project is two years

The main objectives of the projects are:

- To increase by 20% the number of children receiving surgery for treatable eye diseases through implementing an active publicity campaign in Aravind's outreach programmes
- To increase at least by 50% the number of children under six who have eye examinations before preschool screening and integrated child development scheme
- A total of 42,279 outpatients have been examined of which 2,311 have received inpatient care. In addition, 23,884 children between 0-6 years in Integrated Child Development Scheme projects and 245 students in the school for the blind have been screened.
- Five refractionists and an ophthalmologist have received training in the "Seeing 2000" Scheme.

Cornea clinic

- Comparison of corneal endothelial cell loss between mechanical phacoemulsification and manual phaco
- Corneal topographic analysis of induced astigmatism following ECCE with IOL and manual phaco

- Etiology of Mooren's ulcer
- Outcome of suppurative keratitis in clinical practice
- Traditional eye medicines in suppurative keratitis
- Efficiency of PHMB in acanthamoeba keratitis

Research Project in Glaucoma

- Aravind Comprehensive Eye Survey
This is a population-based study to enlist causes of visual impairment in the community. A sample size of 5000 adults over the age of 40 in the districts of Madurai, Tirunelveli & Tuticorin were enumerated by the field workers in various blocks of 50 villages and referred to the base hospital at Madurai or Tirunelveli. Data collection has been completed in all the 50 villages and is currently being analysed.
- Swedish Interactive Threshold Algorithm in visual fields study
Visual field examination applying this new technique is underway in individuals with glaucoma. Forty-eight eyes with documented visual field loss were completed. Data collection using this technique in individuals without any ocular disorder has been completed.
- Verapamil Drug Trial
This trial is designed as a random double-masked study to compare the combination of Verapamil and low dose pilocarpine with that of timolol and placebo in eyes with primary open angle glaucomas. 24 subjects have been recruited for this trial.
- Ahmed Glaucoma Valves in refractory glaucomas
Ahmed Glaucoma Valve is a drainage implant for use in eyes with glaucomas refractory to conventional filtering operations. The ICMR has made available these valves for studying their safety and efficacy in eyes with glaucomas difficult to control by other available means. Nine individuals have been operated on with this device and are monitored periodically. This trial is being conducted as a part of the Management of Glaucoma under Indian Conditions Study sponsored by ICMR.

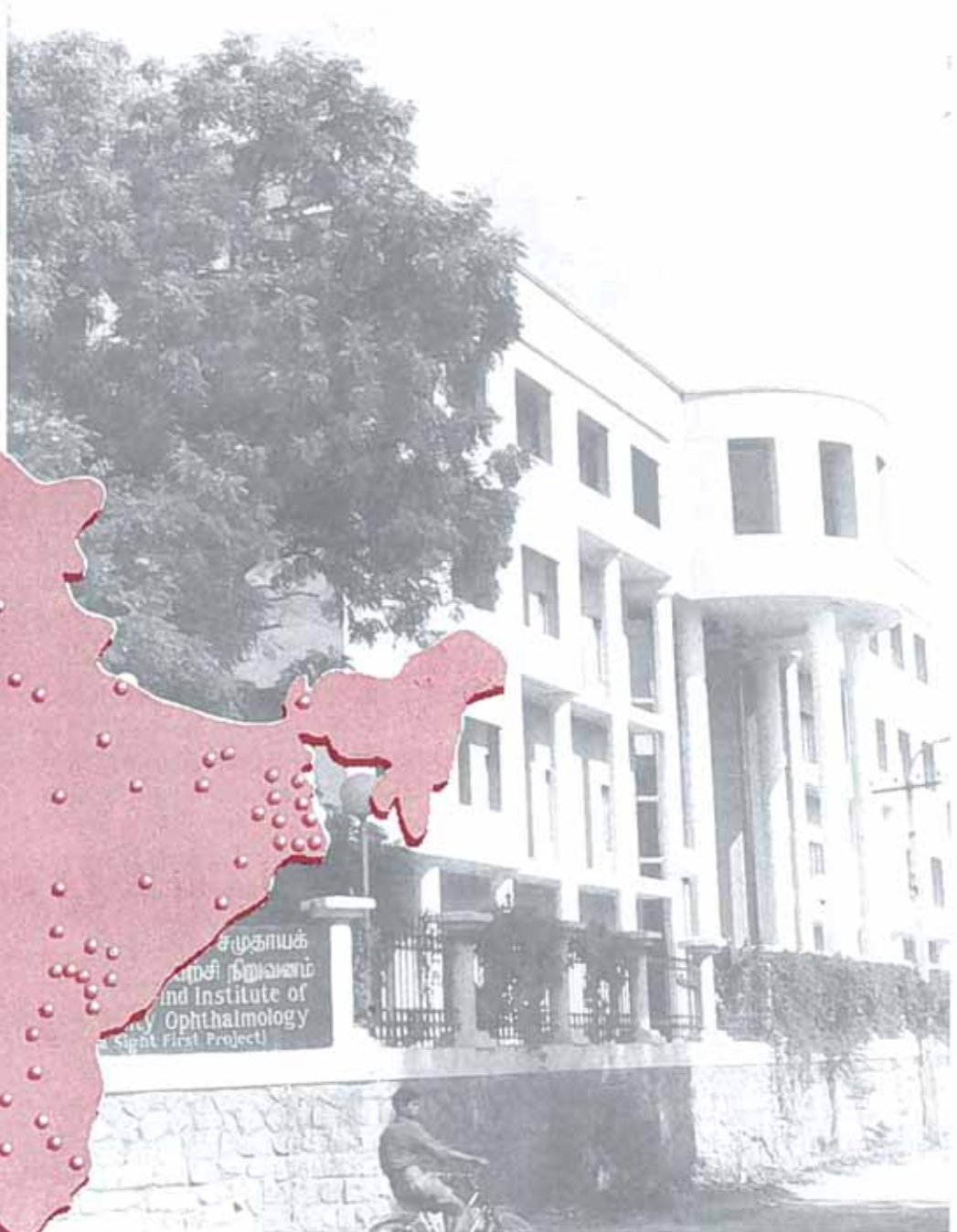
The Quality Cataract Series Project

In March 1997, work was begun on The Quality Cataract Series Project by Seva volunteer, Julie Johnston. Sponsored by both the Seva Foundation and Aravind, the study will present practical information to institutions and individuals in developing countries who seek to implement or enhance the delivery of high quality, high volume, cost effective cataract surgery. Successful models of the best practice will be outlined in detail, including clinical, paramedical, managerial, outreach/marketing, architectural design, and cost recovery components. In addition to the Aravind model, documentation will also include the experiences of L.V. Prasad Eye Institute in Hyderabad and the Lumbini Eye Care Programme in Nepal. Publication is projected for the fall of 1998.



Lions Aravind Institute of Community Ophthalmology (LAICO)

LAICO was instituted to contribute to the prevention and control of global blindness. The institute's primary objective is to train health related and managerial personnel in the development and implementation of efficient and sustainable eye care programmes. The institute strives to meet this goal by training individuals and teams from blindness programmes around the world and encouraging them to develop strategies relevant to their unique needs.



Eye Hospitals around the country that LAICO works with to strengthen their capacity to offer effective and sustainable eye care

Capacity Building for Eye Hospitals

This programme is designed to help eye hospitals to strengthen their capacity to offer effective and sustainable eye care. In the first stage, LAICO faculty perform a needs-assessment visit to selected hospitals. A representative team of the hospitals' staff comprising the chairman, the administrator, chief ophthalmologist and senior paramedical staff then attend a one-week management development workshop at Aravind. After the workshop, the LAICO faculty offer follow-up support, and review progress as the hospitals put their plans into action. This programme is currently utilized by hospitals supported by the Lions, Sight Savers and Christoffel Blinden Mission (CBM).

Needs assessment visits in 1997:

KB Haji Bachocali Charitable Ophthalmic and ENT hospital, Mumbai and

Vasai Blind Relief Association Hospital, Vasai, Thane District by Mr. Thulasiraj, Dr. Mohan, and Mr. Vijayaragavan

ALC Pakyanathan Memorial Eye Hospital, Thukkapet, Chengam by Mr. Saravanan, Dr. Ravishankar and Mr. Balu

Joseph Eye Hospital, Trichy by Dr. K.C. Premarajan, Ms. Priya, Dr. Prajna and Mr. Ganesh Babu

Gulabi Raj Shyamal Memorial Eye Hospital, Budge Budge by Dr. K.C. Premarajan, Dr. Kim and Mr. Saravanan

Vision Hospital, Hubli and

C.S.I. Campbell Hospital, Andhra Pradesh by Mr. S. Saravanan, Dr. Mohan, and Mr. Ganesh Babu

Malankara Orthodox Syrian Church Medical Mission Hospital, Kerala and

Dr. Somervel Memorial CSI Mission Hospital, Kerala by Dr. K.C. Premarajan, Ms. Priya and Dr. Prajna

Medical Brothers St. John's Hospital, Kerala by Mr. S. Saravanan, Dr. Kim and Mr. Raheem Rahmathullah

St. Maris Hospital, Ramanathapuram, Tamil Nadu by Mr. R.D. Thulasiraj, Dr. Ravi Shankar and Mr. R. Meenakshi Sundaram

Gujarat Blind Relief and Health Association, Chikhodra by Mr. R.D. Thulasiraj, Ln. Gopalakrishna Raja, and Mr. S. Saravanan

Follow-up visits in 1997

Lions Kamavati Shantaben Vishnubhai Patel Eye Hospital, Kamavati, and Lions Eye Hospital, Verangam by Mr. S. Saravanan, Ln. Gopalakrishna Raja and Mr. R.D. Thulasiraj.

Lions Eye Hospital of Howrah, Calcutta and Calcutta Lions Netra Niketan Eye Hospital, Calcutta by Dr. Premarajan, Dr. Kim and Mr. Saravanan.

Management development workshops in 1997

The following hospitals participated in the workshops offered by LAICO at different periods during the year

Lions Eye Hospitals (23rd -29th Jan.)

Koppal Lions Eye Hospital; Netra Niketan Lions Eye Hospital; Calcutta Howrah Lions Eye Hospital; Kamavati Lions Eye Hospital, Ahmedabad; Tiruvarur Lions Eye Hospital.

Sight Savers Hospitals (28th Aug-3rd Sept.)

Rotary club of Budge Budge Welfare trust, Budge Budge Rotary service centre, Purulia, West Bengal; Joseph Eye hospital, Tiruchi; ALC Pakyanathan memorial eye hospital, Chengam; K.B.Haji Bachocali charitable ophthalmic and ENT hospital, Mumbai. In addition to LAICO staff, faculty included Mr. D. Nagarajan, Regional Director Sight Savers and Ms. Claudia Koenig, Regional Representative CBM. Other participants were Mrs. Gunavathi from CBM, Dr. O.K. Malla from Nepal, Dr. Dennis William from Nigeria and Dr. Hoque from Bangladesh.

CBM Hospitals (10th-14th Nov.)

C.S.I Campbell Hospital, Iammalamadugu, Andhra Pradesh; Vision Hospital, Hubli; St Martin's hospital, Bamnad, Malankara; Orthodox Syrian Church Medical Mission Hospital, Ernakulam; Medical Brothers St. John's hospital, Idukki; and Dr. Somervel Memorial C.S.I Mission Hospital, Thiruvananthapuram participated in the workshop.

Training Programmes

Postgraduate Diploma Courses in Health Care Management & Ophthalmic Technology

The post graduate diploma courses in health care management and clinical ophthalmology are offered in collaboration with Madurai Kamaraj University.

Postgraduate Diploma

- in Health Management
- in Hospital Management
- in Optometry
- in Ophthalmic Clinical Assistance

Skills Development Courses

(Students trained in 1997)

- IOL Microsurgery course (81)
- Indirect ophthalmoscopy course (48)
- Training of trainers course (2)
- Training in community outreach work (to start from 1998)
- Training in equipment and instrument maintenance (24)

Internship Training for MHM Residents

LAICO coordinates the internship training of the Masters in Hospital Management (MHM) students. The curriculum for this programme offered by the Madurai Kamaraj University was developed jointly with Aravind.

Establishment of Training Centres in Other Countries

The Aravind-Sight Savers short-term skill development courses are the first in the country to provide hands-on skill development for practising ophthalmologists to learn new skills and develop a service orientation in their work. With such training in demand worldwide, Aravind was invited by Sight Savers International to establish two Microsurgery training programmes in other countries. Following a faculty and staff development at Aravind, a training course was conducted in April at the National Eye Centre in Kaduna, Nigeria by Dr. Ravishankar and Dr. Aravind from Aravind Eye Hospital. This will eventually become an independent training centre for West Africa. Along with teaching skills, sessions regarding management issues, such as how to increase patient load and the work efficiency along the Aravind model, were discussed. In a similar fashion a second training centre, the Islamia-Sight Savers IOL Microsurgery Training Centre was inaugurated in Dhaka, Bangladesh in May, and the first three-week course was conducted by Dr. Mohan from Aravind. Dr. Mohan also helped to compile a comprehensive list of equipment,



Prof. Sukumaran with the Optometry students



Mr. Ibrahim Hai of National Eye Centre, Kaduna receiving the certificate from Dr. G. Venkataswamy on completion of the second phase of his training in Instrument Maintenance



Dr. Mohan with Prof. Mustafizur Rahaman, Director, Islamia Eye Hospital in Dhaka

instruments, and teaching aids as well as provided necessary support in the selection of equipment. Aravind has agreed to provide annual support by visiting the hospital for a period of two years. Every year this centre will teach about 30 ophthalmologists to perform microsurgery with IOL implants.

Other Training Programmes

Short-term orientation programme for the Ophthalmologists from the Philippines



A team of ten ophthalmologists from the Philippines were at Aravind during the first week of February. This short-term training taught them to set up a model hospital in the Philippines and to conduct high volume IOL surgery.

Training in Community Ophthalmology for Principals of RHFWC for Maharashtra Team



Principals of the Regional Health Family Welfare Centre (RHFWC), Directorate of Health, Government of Maharashtra attended a training programme on community ophthalmology held at LAICO from 19th to 21st February. During their training, the team members visited Aravind-Theni to observe the eye care delivery system in a smaller setting.

Human Resource Development Activities

The newly initiated department of Human Resources at LAICO as part of the Performance Development initiative, developed 12 training modules on different management concepts and issues that help to enhance personal and career development for employees at all Aravind facilities.

The objective and proposed outcome of these modules are

- Skills in people management and self development.
- Enhanced work culture.
- Increased work efficiency.
- Behavioral skills upgrade.
- Positive influence and improved working relationships.
- Enhanced creativity and development of competence.
- Development of a better organisational network.

Conferences/Workshops held at LAICO

Cataract programme evaluation protocol development workshop

7th to 9th April

The aim of the workshop was to develop a standard protocol for evaluating intervention programmes for use throughout India. The Welcome Address was by Ln. N.A.K. Gopalakrishna Raja, Grant Administrator, followed by the inaugural address by Dr. G. Venkataswamy. A total of 20 members participated in the workshop, of which 11 came from other states. Dr. D. Bachani, Ministry of Health; New Delhi, Dr. Hans Limburg, DANPCB, New Delhi; Dr. Indrayan, UCMS, New Delhi; and Dr. G.P. Pokharel, NNJS, Nepal were among the eminent people who participated in the workshop.

Symposium on participation of voluntary organisations in blindness control

25th to 26th April



Dr. G. Venkataswamy inaugurating the symposium

Dr. G. Venkataswamy and the welcome address was delivered by the Madurai District Collector.

SightFirst Seminars



At the SightFirst Seminar

Mr. T.A. Srinivasan of the Lions Club of Madurai was recognised for his efforts in the donation of ten pairs of eyes to the eye bank.

About 50 delegates from the four southern states and from the state of Orissa participated in this symposium. The theme of the symposium was "Participation of voluntary service organisations in blindness control". Issues discussed included schemes for the participation of voluntary organisations in eye camps with fixed facilities, public awareness and motivation, and non-recurring assistance for establishing eye care. The symposium was inaugurated by

Lions SightFirst seminars were held for officers of Lions' District 324-B3 on 21st September and 5th October at LAICO. Dr. M. Srinivasan, Dr. P. Vijayalakshmi, Dr. N.V. Prajna, Dr. Revathi, Mr. Raheem Rahmathullah and Mr. Meenakshi Sundaram covered the following topics:

- School screening and paediatric eye problems.
- Diabetic Retinopathy
- Eye Donation and Eye Banking

Consultancy Skills Workshop

Ms. Linda Perry and Mr. John Bickell from Allied Dunbar Trust, UK conducted this workshop for LAICO and Aravind Eye Hospital staff from 8th and 9th October.

Team Building Workshop

Ms. Caroline Joyce from Allied Dunbar Trust, UK conducted the workshop from 2nd to 4th October with focus on team formation communication and problem solving skills for staff from LAICO, Aravind, and CEDAR, a nonprofit organisation. Ms. Vidhya and Mr. Ganesh Babu were selected as trainers for conducting similar workshops. They continue to conduct such workshops for all Aravind and LAICO staff.

Time Management Workshop

This workshop was conducted by Ms. Caroline Joyce on 15th October. Fourteen members from Cedar attended the workshop. Mr. Ganesh Babu and Ms. Vidya were observers. The workshop focused on how to prioritise and allocate time.

Workshop on Management for Eye-care Delivery:

The purpose of the workshop was to improve the skills and capabilities of managers of eye-care programmes and institutions to develop effective eye-care delivery in Nepal. This was offered at Kathmandu, Nepal from 21st to 23rd November Mr. R.D. Thulasiraj, Mr. D. Nagarajan and Dr. K.C. Premarajan



from LAICO jointly organised the workshop with Seva Foundation, USA. Other faculty included Dr. Suzanne Gilbert from Seva Foundation, Dr. Pararajasegaram of International Agency for Prevention of Blindness (IAPB), Dr. G. P. Pokharel from the Himalaya Eye Hospital, Nepal and Twenty-

two participants representing all eye care programmes in Nepal attended the course. The workshop covered several aspects of management like leadership, service marketing, team building & problem solving, patient care management, cost control & revenue generation, personnel management, human resource development, and issues relating to co-ordinating eye care programmes in Nepal. In addition to lecture-discussions during the workshop, participants worked in groups to develop strategies for their areas, such as setting new directions for Nepalese eye care programmes, improving quality of services, and training and retraining staff.

Meetings Attended by the Institute Faculty

- Mr. R.D.Thulasiraj
- Peking Union Medical College Hospital, Chinese Academy of Medical Sciences, China, for academic exchange from January 5th to 9th
 - attended the Sight first committee meeting at Dhaka, organised by the Lions multiple district (315) of Bangladesh on 8th and 9th of March
 - to the Annual board meeting of SEVA foundation from May 4th to 21st.
 - to evaluate cataract intervention in China May 29th to June 4th A survey has been planned to elicit information regarding blindness problems in China. He was there as a member of the WHO Technical Advisory Committee
 - to Malawi on 22nd June to attend the workshop on Cataract surgery with IOL implantation in Africa.
 - participated in the East Asia Partners meeting by Sight Savers International UK held in Bangladesh from 1st to 9th of November

National Conference on Hospital faculty planning and Maintenance

Coimbatore, 6th & 7th June

Mr. R.D.Thulasiraj, Executive Director, Ms. R. Priya & S. Saravanan, Junior faculty, LAICO, attended the meeting

Mr. R.D.Thulasiraj
- Planning of computers for large hospitals

Strategies to improve the Uptake of Cataract Services by Rural People in Developing Countries



This was jointly organised by London School of Hygiene and Tropical Medicine, SPEECH and LAICO from 27th to 29th November. This workshop was organised to examine the strategies to improve the uptake of eye care services particularly cataract services by rural people living in developing countries. In a recent study, it was seen that the eye camps attract less than 5% of those in need of eye care services. It was attended by eminent persons in eye care from all over the world. A total of thirty participants came from India, Nigeria, Pakistan, Indonesia, South Africa, UK, Philippines, Switzerland, USA and Nepal.

Workshop on Problem Solving for Better Health

This workshop held from 14th to 16th December at LAICO was organised in collaboration with Aravind Children's Hospital and Health Action by People, Thiruvananthapuram. Fifty-four medical and non-medical health personnel participated. Six international delegates came as resource personnel and gave the participants an opportunity to exchange experiences. The basic principle of the workshop was to solve simple problems that contribute significantly in solving bigger problems.

World Bank Executives Visit Aravind

As an ideal model for programmes in developing countries, Aravind collaborates with many international organisations involved in world cataract blindness control. Under the auspices of the Cataract Blindness Control Project, which receives assistance from the World Bank, Aravind was selected as one of the centres for the 'Training of Trainers' programme. Since 1994 Aravind has been giving intense training in IOL microsurgery to the faculty of Medical Colleges of seven selected states. On 31st January, a World Bank executive team, consisting of Mr. Luc Hubloue, Mr. Enzo Del Bufalo, Mr. Juan Cariaga, Ms. Jan Peircy, Mr. Pieter Stek, Ms. Helena Cordiero, Mr. Surinder Singh, Mr. Ian Porter, & Mr. Sam Thangaraj visited Aravind. Mr. Kasi Vishwanathan, District Collector of Madurai, and Mr. Ramanathan, Commissioner of Madurai Corporation, accompanied them. After a tour of Aravind facilities at Madurai and an overview of all Aravind activities, the team discussed with Aravind senior staff ways in which both World Bank and Aravind could work together in their mutual efforts to combat cataract blindness.



In Appreciation

With the generous support of friends and organisations from around the world and the dedicated work force, Aravind has had the good fortune to realise its dreams, surpass its goals, and achieve great strides in providing eye care services, research and training. Aravind is deeply appreciative of this support and the commitment and the invaluable role this assistance has played in its growth. With the ongoing help and trust of its supporters, Aravind continues to seek excellence in all its endeavors.

Development and Service Delivery:

Allied Dunbar, UK
CIDA, Canada
Combat Blindness Foundation, USA
Direct Relief International, USA
Helen Keller International, USA
Lions Club International Foundation and SightFirst Programme
Sight Savers, UK
Seva Foundation, USA
Seva Service Society, Canada

Training:

International Centre for Eye Health, London, UK
Illinois Eye & Ear Infirmary, Chicago, USA
Kaiser Permanente, USA
Massachusetts Eye & Ear Infirmary, Boston, USA
St. Vincent's Hospital, New York, USA
Wilmer Eye Hospital, Baltimore, USA

Research:

Johns Hopkins University, USA
London School of Hygiene & Tropical Medicine
National Eye Institute, USA
Proctor Foundation, USA
University of Michigan School of Public Health, USA
World Health Organisation

Volunteers and Visitors

In 1997, Mr. James O' Dea , Executive Director of Seva Foundation, Dr. Suzanne Gilbert, Director, Blindness Prevention Programmes and Ms. Alexa Wilke, Associate Director, Blindness Prevention Programmes; and Co-ordinator of the volunteer programme of Seva Foundation, USA visited Aravind to observe and further explore the role of Seva in Aravind's work.

Mr. D. Nagarajan, the Ex-Regional Director of Sight Savers came with Mrs. Alice Crasto, the new Director to discuss and observe the various projects that Aravind and Sight Savers collaborate in.

For Staff Development.

Mr. Fred Munson worked with LAICO faculty to develop a mission statement, and to identify the challenges and opportunities for LAICO. He also assisted in developing a strategic plan for future activities of the Institute.

Ms. Linda Tobin from USA worked with the team of department managers in developing individual and departmental goals and objectives. She also helped in fine-tuning the role of patient counsellors in the free hospital wards and at eye camps.

Ms. Julie Johnston from Canada worked on the Quality Cataract Project and evaluation of nurses training programme. She conducted workshop for senior nurses on developmental supervision. She also helped in updating the operation theatre manual for the nurses.

Ms. Julie Mazo from USA taught 'Teaching Methodology' for management faculty from the hospital and the institute. She also conducted a workshop on developing supervisory skills for Aravind middle managers. She worked with the individual faculty on preparing and planning lessons for the diploma courses in health and hospital management.

Ms. Terry Mandel, Seva Volunteer, USA gave talks on strategic marketing

Mr. Chris Button, Ms. Linda Perry, Mr. John Bickell and Ms. Caroline Joycy from Allied Dunbar Trust, UK, conducted various staff development workshops at LAICO.

Mr. Ritesh Patel, Health care consultant, San Fransisco delivered lectures on 'Reengineering and on going measurements', 'Problem structuring methods' and also he provided inputs for vision building workshop on management areas.

The following people from various programmes in the US, sponsored by Seva Foundation, volunteered their time and service for developing the curriculum for the Nursing Programme.

- Dr. Heather Boyd Monk, Assistant Director of Nursing, Wills Eye Hospital
- Ms. Diana Shamis, Orthoptist, University of Florida, Gainesville
- Mr. Matt Ramsey from Salt Lake City, Utah

For Research

Dr. Alan Robin was at Aravind in June to review the Aravind Comprehensive Eye Survey study. He discussed with the Aravind senior faculty on developing a comprehensive curriculum for

ophthalmology residents in India so that they will be equipped with the skills to diagnose and manage glaucomas early. He gave lectures at the CME sessions at Aravind-Coimbatore and Aravind-Tirunelveli.

Dr. Jim Tielsch and Dr. Joanne Katz from Johns Hopkins USA were here for the Aravind Comprehensive Eye Survey and Supplementation Vitamin A Study.

Dr. Jack Whitcher and Dr. Mike Zegans from Proctor Foundation, USA, and Dr. David Gritz from Saudi Arabia were at Aravind for the Antioxidant Study carried out by them in collaboration with Aravind Cornea clinic.

Dr. Astrid Fletcher and Ms. Martine Donaghue from London School of Hygiene and Tropical Medicine.



Dr. Suzanne Gilbert at the inauguration of the Operation Theatre at Aravind-Coimbatore



Mr. Saravanan with Mr. Dennis Trager



Mr. Tom Wilmore with Dr. G. Venkataswamy and Mr. Ganesh Babu

Other volunteers and visitors

demonstrate Telemedicine, a conferencing tool for doctors to have on-line access to the latest medical information. His visit was sponsored by Seva Foundation.

Mr. James Dubey, Seva volunteer from San Francisco reviewed the procedures of finance department and drafted a basic manual for them. He advised Aurolab on a variety of issues regarding their expansion.

Mrs. Mary Munson and her daughter Ms. Meg made some very pleasant changes in the working environment at the main building and LAICO. Dr. Dick Leucker, Meg's husband came to Aravind for the first time. He arranged for the Telemedicine demonstration by Dr. Zartarian.

Mr. Tom Wilmore, Seva Foundation, Systems Developer from USA was here to improve our e-mail capabilities.

Dr. Stuart Fay, Mrs. Beatrice Fay and Dr. Aaron Fay Seva volunteers from Boston.

Dr. Marie Josee Aubin, Canada, Seva Volunteer, and her husband Dr. Mauricio Segura, University of Montreal.

Mr. Shams Kairys and Ms. Amanda Kairys, Seva Foundation USA.

Mr. Jerry Jones and his wife Kristyani, Seva Foundation, USA.

Mrs & Dr. Peter R Egbert, Stanford University USA.

Dr. Eira Unto, Finland.

Mr & Mrs. Banerjee, Moorfields Eye Hospital, London.

Dr. Nathan Congdon, Dana Centre, USA.

Dr. P. C. Jain, Tata Iron and Steel Co. Ltd. Jamshedpur.

Mrs & Dr. Jacob T Wilensky, Prof. & Interim Head, University of Illinois, USA.

Mr. Amar Berbars, Ms. Rania and Mr. Bahaa from Cairo, Egypt came with Mr. David Green to learn the various aspects of hospital administration planning and management for the upcoming El-Maghraby Eye Hospital, Cairo.

Ms. Lori Carruthers, IEF, USA to see the project work of "Seeing 2000".

Dr. Neil Smith, Seva volunteer and Board member, Faculty of Education, Canada.

Mrs & Dr. Bolivar Zinsly, Advanced Center for Cataract Surgery, Brazil.

Dr. Pascal D. Imesch, University of Wisconsin-Madison, USA.

Dr. Katie Darling, London.

Dr. James H. Leimkuhler, Senior Vice President, IFEB, USA.

Dr. Zeynel A Karcioğlu, Director of Research, King Khaled eye specialist hospital, Riyadh, Saudi Arabia.

Mr. Simon Nicholson, Field Director, Voluntary Service Overseas, New Delhi.

Dr. Michael Eckstein, International Centre for Eye Health, London UK

Dr. B. Von. Barsewich from Germany visited Aravind in February. He conducted classes and demonstrated phaco surgery for Aravind doctors.

Ms. Erika Nelson, Seva volunteer from Salt Lake City, Utah assisted the Aravind Publications staff in desktop publishing and graphic designing.

Mr. Dennis Trager, Seva volunteer, a computer consultant helped with the hospital computer network and in initiating the development of web pages for Aravind, LAICO, and Aurolab.

Dr. Sarkis Zartarian from Boston came to demonstrate Telemedicine, a conferencing tool for doctors to have on-line access to the latest medical information. His visit was sponsored by Seva Foundation.



Aurolab was established as an independent non-profit charitable trust with a mandate to develop appropriate technology to produce instrumentation, equipment and supplies for eye care providers at costs affordable by developing economies.



Aurolab continued to make progress in several areas during the year 1997, the sixth year of its operation.

Apart from increasing the availability and affordability of Intraocular lenses (IOLs) to meet the demand from both domestic and overseas users, Aurolab has successfully completed the following projects in 1997:

- increased single piece lens production
- created the Pharmaceutical Division
- and established the Suture Needle Division.

Intraocular Lens Division

Production of IOLs during the year increased by about 40% over the previous year to match the increasing demand. Nearly 75% of production went to meet the needs of non-profit eye care programmes. The number of overseas countries using Aurolab IOLs increased to 75, spread over all the continents.



Precision Fabrication of IOLs

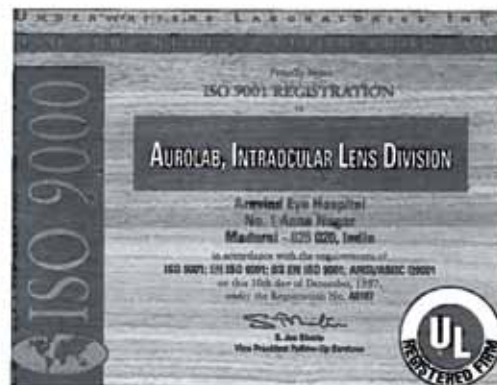
To meet the increasing demands for single piece IOLs Aurolab procured additional equipment from the vendor in US and commissioned the new equipment in December 1997. The production planning, inventory control and execution of incoming orders were fully computerised in order to increase efficiency of operations and to eliminate human error. The computerisation process has enabled Aurolab to handle orders efficiently.

International Quality Certificate ISO 9001:

Aurolab IOL division is now certified under the prestigious ISO 9001 standards. This is a further testimony to Aurolab's commitment to quality and consistency.

Export Award:

Aurolab's contribution in exporting critical medical devices to other countries has been appreciated by the Government of India. The Indian Plastic Export Promotion Council has



Visits Abroad:

The Trust Secretary Mr.G.Srinivasan and the Managing Director of Aurolab Dr. P. Balakrishnan visited Germany and US in May-June to assess the progress of suture needle project and to evaluate a suitable vendor for procurement of additional equipment for manufacture of single piece IOLs.

Dr. P. Balakrishnan was at the American Academy of ophthalmologists (AAO) meeting in November at San Francisco USA. He held discussions with Seva Foundation, Combat Blindness Foundation, and other NGOs supporting Aurolab projects.

Dr. P. Balakrishnan and Mr. R.D. Sriram visited Europe between 3rd & 16th November to evaluate the suture needle manufacturing equipment. Mr. R.D. Sriram also visited Moorfields Eye Hospital in London for the Pharmaceutical Division.

awarded the second best exporter award to Aurolab for the years 1995-1996 and 1996-1997 in the "Lens" category.

Pharmaceutical Division

Started in December 1997, the Pharmaceutical Division of Aurolab aims to provide high quality ophthalmic pharmaceuticals primarily for use at Aravind Eye Hospitals. A modern pharmaceutical formulation facility has been established to produce a wide range of ophthalmic pharmaceuticals in a clean and sterile environment. The regularity approval from the Drug Control Department of the government has been awarded to this division to produce a range of ophthalmic drugs. All the raw materials are imported and trial production of drugs are under progress. At present clinical trials of viscoelastic solution (HPMC 2%) is underway. Soon, it will be released for regular use. Six antiseptic and disinfectant solutions are currently produced and supplied to Aravind Eye Hospitals.

Suture Needle Division

It had been a long standing wish of Aravind to produce low cost suture needles, so that the cost of cataract surgery could be made affordable in the developing countries. A development project to set up a facility for producing ophthalmic suture needles in sizes 8-0, 9-0 and 10-0 was initiated with active participation of Seva Foundation, USA, Sight-Savers International, UK, Christ-offel Blindenmission, Germany, Combat Blindness Foundation, USA, Seva Service Society, Canada, Al-Noor Foundation, Saudi Arabia and CIDA, Canada. The technology needs were carefully evaluated and a technology partner from Europe was selected to provide the equipment and the process expertise for the project. The suture needle facility will be operational from January 1998.



Mr. R.D. Sriram, Mr. Banerjee, Mr. Venkatesh Kannan, Mr. Venkatesh Kumar and Ms. Siddammal at the Pharmaceutical Division inauguration



Ms. Gaby Jungbauer with Suture Needle Project staff

Awards

Members of Aravind's staff were honored by a variety of organisations during the year: a source of pride for Aravind and a testament to the quality and commitment of the individuals who work here.



Dr. R.D. Ravindran received the 'For the Sake of Honour' award from the Rotary Club of Tirunelveli on the 17th March.



On June 15th, Dr. Jack Whitcher, Director of Francis I Proctor Foundation, University of California, presented Dr. Rathinam with the prestigious Bruce Ostler's oration award for her work in Leptospirosis. She was also recognised as the Associate Fellow of Proctor Foundation.



Dr. G. Natchiar was given the "For the Sake of Honour" award by the Rotary Club of Madurai on the 17th of June.

The Rotary Club and Vaigai Lions Club of Theni honoured Aravind - Theni with a special award "For the Sake of best services towards eradicating cataract blindness".



Dr. Arup was awarded the Capt. Subramaniam Medal for the Best Video film at the TNOA Conference at Erode for his video on *Phacoemulsification in Mature cataract - Tricks & Traps* that he presented at the TNOA conference at Salem in 1996.



Dr. Ramakrishnan received the Best video presentation award for Scleral fixation of IOL in congenital ectropion uveae syndrome at the Erode TNOA conference.

Aravind Eye Hospitals & Postgraduate Institute of Ophthalmology

Run by GOVEL Trust

Board of Trustees

Dr. G. Venkataswamy

Dr. G. Nallakrishnan

Mr. R.S. Ramasamy

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Dr. P. Namperumalsamy

Dr. G. Natchiar

Mrs. Meenakshi

Mrs. Janaki

Mrs. Lalitha

Dr. Rajendra T. Vyas

**President, Rotary club, Madurai Main Branch
(Ex-officio)**

Aravind Eye Hospitals & Postgraduate Institute of Ophthalmology

Chairman: Dr. G. Venkataswamy, MS, FACS

Trust Secretary: Mr. G. Srinivasan, BE, MS

Director: Dr. P. Namperumalsamy, MS

Administrator: Mr. R.D. Thulasiraj, MBA

Joint Director: Dr. G. Natchiar, MS

Project Director: Dr. C.A.K. Shanmugham, B.S.Sc., D.E.(Prague)

Aravind - Madurai

Chief Medical Officer: Dr. M. Srinivasan, MS

Retina & Vitreous Clinic

Chief: Dr. P. Namperumalsamy, MS

Medical Officers:

Dr. Meena Chakrabarti, MS, Dip.N.B.
Dr. R. Kim, Dip.N.B.
Dr. Dinesh K. Sahu, MS
Dr. Gautam Panda, MS
Dr. S.R. Mamatha, MS

Fellows:

Dr. Perveiz, MS
Dr. Shukla, MS
Dr. P.N. Suresh, MS
Dr. Avindra Gupta, MS
Dr. Durgesh Kumar, MS

Intraocular Lens and Cataract Clinic

Chief: Dr. G. Natchiar, MS

Medical Officers:

Dr. V. Ravishankar, MS
Dr. P. Mohan, MS, Dip.N.B.

Fellows:

Dr. Manas Kumar Ghosh, MS
Dr. Sangeeta Mewara, MS
Dr. Nataraju, MS
Dr. Alok Raj Singh, MS
Dr. Rajesh Bhat, MS
Dr. Vibha Gupta, MS
Dr. Dilpreet Singh, MS
Dr. Bina Kulkarni, MS
Dr. Apama, MS

General Ophthalmology Clinic

Chief: Dr. G. Natchiar, MS

Medical Officers:

Dr. K.S. Chandrakanth, Dip.N.B.
Dr. S. Sujata, MD
Dr. S. Aravind, MS
Dr. V.G. Srinivas, MD
Dr. K. Ratna Karuna, MD
Dr. R. Venkatesh, Dip.N.B.
Dr. Sonia Modi, Dip.N.B.
Dr. Raj Ganesh, DO

Fellows:

Dr. Daya Nand Singh, MS
Dr. K. Prabhakar, MS

Neuro-Ophthalmology Clinic

Chief: Dr. G. Natchiar, MS

Neurosurgery: Dr. P. Subburam, MS

Cornea Clinic

Chief: Dr. M. Srinivasan, MS

Medical Officer:

Dr. N.V. Prajna, Dip.N.B.

Fellows:

Dr. Arunava Kundu, MS

Paediatric Ophthalmology & Strabismus Clinic

Contact Lens Clinic

Chief: Dr. P. Vijayalakshmi, MS

Fellows:

Dr. H. Siddeshkumar, MS
Dr. Sumita Agarkar, MS
Dr. Kuldeep K. Srivastava, MS
Dr. Puneet Johri, MS

Glaucoma Clinic

Chief: Dr. R. Krishnadas, Dip.N.B.

Medical Officers:

Dr. Arup Chakrabarti, MS

Fellows:

Dr. Vidyarani Chelerkar, MS

Orbit & Oculoplasty Clinic

Medical Officer:

Dr. R. Usha, Dip.N.B.

Uvea Clinic:

Chief: Dr. Rathinam Sivakumar, Dip.N.B.

Free Hospital:

Medical Officer: Dr. P. Ravichandran, DO



Aravind Eye Hospital

& Postgraduate Institute of Ophthalmology



World Health Organization
Collaborating Centre
For Prevention of Blindness

Aravind-Madurai Aurolab

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