

## ARAVIND: ACTIVITY REPORT 1995



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

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*The Absolute, the Perfect, the Immune,  
One who is in us as our secret self,  
Our mask of imperfection has assumed,  
He has made this tenement of flesh his own,  
His image in the human measure cast  
That to his divine measure we might rise;  
Then in a figure of divinity  
The Maker shall recast us and impose  
A plan of godhead on the mortal's mould  
Lifting our finite minds to his infinite,  
Touching the moment with eternity.  
This transfiguration is earth's due to heaven:  
A mutual debt binds man to the Supreme:  
His nature we must put on as he put ours;  
We are sons of God and must be even as he:  
His human portion, we must grow divine.  
Our life is a paradox with God for key.*

*'Savitri' Sri Aurobindo*



**I**n the last two decades, Aravind has grown from a 11 bed clinic into a world class centre with a network of four major facilities with over 1,300 beds. Aravind's current strength is its team of well trained and dedicated workers, and the high volume of patient-load that the hospital attracts and serves.

*Building on Aravind's strength, and recognising the community needs, Aravind is focusing on three areas: enhanced service delivery, human resource development, and capacity building in eye-care programmes.*

*To enhance service-delivery, a new facility that can perform 30,000 to 40,000 cataract surgeries a year is under construction at Coimbatore, a large industrial city in Tamil Nadu.*

*Aravind has long been committed to developing clinical manpower. This is now being strengthened to meet the growing needs in human resource development. Training programmes are being developed and offered to provide specific diagnostic and surgical skills to practising ophthalmologists. A standardised curriculum for training ophthalmic paramedical personnel at different centres is under development. Several short term courses in eye health management are being planned.*

*The 'Lions Aravind Institute of Community Ophthalmology' has been established with major funding-support from Lions Sight-First Programme. This institute will co-ordinate all clinical training with Aravind eye hospitals and offer management related courses with its own faculty. The institute is now working with several eye hospitals in India to improve their capacity, to provide higher volume, better quality care and to become financially self reliant in the long run.*

## PERFORMANCE

In 1995, Aravind handled over 740,000 out-patient visits and performed over 95,000 surgeries.

### Aravind Eye Hospitals

#### Statistics - 1995

	Madurai	Tirunelveli	Theni	Total
Out-patient visits - Paying	236,844	66,168	24,756	327,768
- Free	293,912	97,231	23,674	414,817
Surgery - Paying	30,102	4,891	1,145	36,138
- Free	46,715	10,462	2,358	59,535
Hospital out-patient visits	379,648	111,087	36,064	526,799
Eye camp out-patient visits	151,108	52,312	12,366	215,786
Total out-patient visits	530,756	163,399	43,430	742,585
Screening camps	487	293	81	861

#### Surgery Details

Cataract & other lens removal procedures (without IOL)	21,990	3,927	1,329	27,246
IOL Implantation	39,825	8,471	1,707	50,003
Trabeculectomy	1,074	77	44	1,195
Retinal Detachment	745	42	-	787
Vitreous Surgery	423	-	1	424
Squint Correction	428	38	-	466
Keratoplasty & Therapeutic Graft	201	-	-	201
I&C, I&D and Chalazion	667	324	108	1,099
Pterygium	394	145	65	604
Laser & Xenon Photocoagulation	3,252	661	-	3,913
Glaucoma Laser Procedures	1,073	154	-	1,227
Membranectomy & Nd. Yag Capsulotomy	2,271	526	-	2,797
Lacrimal Surgeries	1,984	529	132	2,645
Orbit & Oculoplasty Surgeries	895	131	37	1,063
Others	1,595	328	80	2,003
Total	76,817	15,353	3,503	95,673

# COMMUNITY OUTREACH PROGRAMMES

Aravind does not wait for the indigent blind to show up on its doorstep. Virtually every-day of the year it sends teams into rural areas to seek them out.

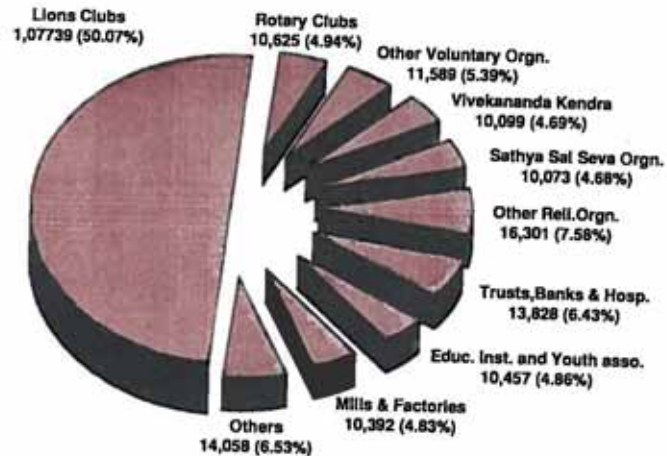
The eye camps provide Aravind with a link to the rural masses, a population Aravind is committed to serve. Recognising that community participation and involvement are vital to the success of the camps, Aravind depends on the assistance of local community leaders and service groups.

The concept of using social workers as patient counselors to interact with patients during their hospital stay was introduced in 1992 in the free hospital. This introduction resulted in a sharp increase in the number of patients coming to the free hospital on their own. This year, counseling was introduced in the free eye camps. At the camp site, the social workers:

- welcome the patients as they arrive at the camp site and attempt to relieve any anxiety they may have regarding their eye problems
- motivate those who need to come for surgery and also involve elders in the community in this process.



In 1995, a total of 861 camps were held in which 215,161 patients were examined resulting in 32,677 surgeries.



# ARAVIND FACILITIES

## Aravind-Madurai

From a humble beginning in a residential house with 11 beds in 1976, Aravind-Madurai has grown into a busy complex of three buildings with 325 beds available to paying patients and 640 beds available to free patients.

The paying section has 7 well-equipped operating theatres capable of performing an average of 100 surgeries a day. The free section has 4 modern operating theatres, and is able to perform an average of 150 surgeries per day.

The hospital staff are rotated between the paying and free sections to ensure that the same high quality care is provided to all patients regardless of their ability to pay.

Through effective management, Aravind is able to provide free service to two-thirds of its patients from the revenue generated from the paying patients.

## Speciality Clinics

- Retina and Vitreous Clinic
- Cornea Clinic
- Paediatric Ophthalmology and Strabismus Clinic
- Glaucoma Clinic
- IOL/ Cataract Clinic
- Neuro-ophthalmology Clinic
- Orbit and Oculoplasty Clinic
- Contact Lens Clinic
- Uvea Clinic

## Support Facilities

- Ocular Microbiology and Pathology Laboratory
- Biochemistry Laboratory
- Radiology Department
- Library and Resource Centre
- Workshop for maintenance of surgical instruments and other equipment
- Patient Counselling

## Aravind-Tirunelveli

Serving Tirunelveli, V O Chidambaranar and Kanyakumari districts, Aravind-Tirunelveli is a near replica of the hospital in Madurai. Opened in February 1988, Aravind-Tirunelveli has facilities to accommodate 200 paying and 200 free patients. The paying & free hospitals are combined for economies of scale resulting in efficient use of resources.

In 1995,

- the Instrument Maintenance section was set up
- a Local Area Network based computer system was installed. All the out-patient transactions and admission procedures are computerised. The free hospital was connected to the network in November.



*Ocular Microbiology laboratory at Aravind-Tirunelveli*



In the free section, in-patient admission of direct and camp cases, surgery scheduling and monitoring of surgical performance of doctors are currently done using computers.

- The Ocular Microbiology laboratory was inaugurated on 29th December.

### Aravind-Theni

Inaugurated in 1985, Aravind-Theni caters to the eye care needs of one million people who live within a 50 km. radius. It has in-patient facilities for 60 free and 40 paying patients.

Aravind-Theni plans to implement a comprehensive eye care project with the following objectives.

- to promote and assist in the prevention of blindness through community awareness and eye health education
- to carry out school eye screening and treatment of children suffering from refractive errors, squint & vitamin A deficiency
- to promote curative services by conducting eye screening camps and establishing a strong community based referral system

- to provide effective and appropriate rehabilitation services (social, educational, vocational and economic) to the incurably blind
- to promote the use of low vision aids by the partially blind.

### Aravind Children's Hospital - Madurai

Inaugurated in 1984, Aravind Children's Hospital (ACH) continues its preventive work through outreach services. The goals are to reduce blinding malnutrition in children by teaching nutritional health to families, and improving their overall health status.

To that end, ACH assists ASSEFA-Plan in the development of their health care project at Kariyapatty block. The ASSEFA-Plan encompasses approximately 60 villages. Under the leadership of Dr. Lakshmi Rahmathullah, committees of community health leaders were set up. Each committee member oversees the health improve-

ment of 10-12 families around his/her own home. 60% of the committee members are women, consistent with ACH's work in the formation of women's service groups.

ACH also plans to provide training for volunteers in ASSEFA villages in the following areas:

- 2 volunteers in each village to receive training in first aid, starting with 18-20 villages.
- Volunteers to take detailed histories of villagers with reproductive problems, diabetes and handicap.



*Dr. Datta in the Operation theatre at Aravind-Theni*

This comprehensive primary health care strategy through empowerment of local community will take three years to complete.

#### Studies

1. Received a grant from Food and Agricultural Organisation of the United Nations to determine the B carotene content in *Tulasi*, *vilvum* and *Arugampul*, three plants that are commonly used in Hindu rituals as well as in alternative system of medicine. The B-carotene analysis was done at Food Science and Nutrition Department of Agriculture college at Madurai and by HPLC method at Bharadhidasan University.
2. At Kariyapatty, a survey on 950 children in the age group of 1-3 was conducted to estimate the frequency of feeding and type of foods eaten by these children. This survey was done by Ann Beth and Majken from Denmark with Aravind children's hospital and ASSEFA health staff at Kariyapatty. Mr. Hans Kroner also from Denmark helped set-up the data entry for the survey.

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#### Statistics 1995

Outpatients	-	18594
Inpatients	-	25
Camps	-	17
Cases seen in camps-		993

#### Immunisation

DPT	-	791
OPV	-	1051
AMV & MMR	-	315

#### Vitamin A Deficiency Cases

Night blindness	-	8
Bitot's spot	-	28
Keratomalacia	-	17

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#### Activities

1. In collaboration with "Stone-touch project" ACH gives health education to women and conducts camps in Karumbalai slum.
2. In collaboration with Community development project, World Vision. ACH conducts monthly camps in their rural areas.

#### Conferences and Workshops

- Dr. Lakshmi Rahmathullah
- *Mapping and monitoring of vitamin A deficiency in India organised by UNICEF on 14th March.*
  - *addressed undergraduate students from Avinashilingam Home-science College on micronutrient deficiencies on 17th of March.*
  - *Southern Regional Workshop on "Health and Consumer Protection" at Madras on 3rd and 4th April.*
  - *Avinashilingam Home Science College to plan on "Capacity building of Home Science Colleges to meet the demands of nutrition for the people of Kerala and Tamil Nadu" on 25th May.*
  - *Workshop on "State Policy on Nutrition" held at Madras by the Social Welfare Board on 27th and 28th of June.*
  - *a meeting at Meenakshi Mission Hospital on 'Vitamin A deficiency and its impact on mortality and morbidity and nutritional blindness in children'.*

A lecture on "Nutrition" was given by Chandra and Shanavaz and an exhibition was also held for 60 college students on 24th August.

Dr. Paul Raj gave a lecture on "Nutrition for school going children" to the committee members for education in ASSEFA on 25th August.

Mrs. Shanavaz gave a lecture on "ORS and Diarrhoea" at a seminar attended by scouts, guides, rovers and teachers from schools in Southern Tamil Nadu on 8th September.

A meeting was held on 28th September to develop a strategy for marketing of weaning foods at Kariyapatty and Madurai. This meeting was attended by the staff from Food Science and Nutrition Department of Agriculture College, from TINP, and from ASSEFA.

#### Publications

The following six articles were published in "Gramarajyam".

- *Methods of breast-feeding and some problems encountered by women.*
- *Zinc deficiency.*
- *Iodine deficiency.*
- *Medicine and tablets.*
- *Public health services*
- *Poliomyelitis.*

Health action Vol. 8, Vol. 7 July 1995.

Dr. Lakshmi Rahmathullah

- *Trends in breast-feeding to effect child arrival*

Aravind Children's Hospital is grateful to the Schiffman Foundation for the grant through Seva Foundation.

#### Visitors and Volunteers to ACH

- Dr. Peter Carter, British Columbia, Canada
- Mr. Soans, Christian Children's Fund
- Dr. Nicholas Cohen, WHO

## EDUCATIONAL PROGRAMMES

As a postgraduate institute, Aravind plays a leading role in the teaching of ophthalmology and related services.

The major educational activities of the hospital are carried out through three formal training programmes:

- Postgraduate training for ophthalmologists
- Ophthalmic nurses' training
- Hospital management programme

### Postgraduate Training for Ophthalmologists

Aravind is recognised by the

#### Medical Council of India

- Diploma in Ophthalmology (DO) Course : started in 1982
- MS in Ophthalmology course : started in 1986

#### National Board of Examinations

- Diplomate of the National Board (Dip. N. B.): started in 1981

#### Royal College of Ophthalmologists

- Fellow of the Royal College of Ophthalmologists, London (FRCOph.): started in 1995.

Apart from these regular courses offered in affiliation with Dr. M.G.R. Medical University-Madras, there are various other short term training programmes as follows.

1. One and half year (18 months) *fellowship programmes* in various subspecialties of ophthalmology for M.S. or Dip.N.B. degree holders.
2. One year *senior general ophthalmology fellowship* for M.S. or Dip.N.B. degree holders. One year *junior general ophthalmology*

*fellowship* for D.O. passed candidates.

3. Eight week *Intensive Intraocular Lens (IOL) training programme*.
4. Four week *Intensive Indirect Ophthalmoscopy training programme*.
5. Four months course to train selected faculty members as *trainers in IOL surgery*.
6. *Seminars & Workshops*: Several times a year, the hospital arranges short courses, seminars, workshops and clinical / surgical demonstrations with faculty from India and abroad.

### Resident Training Programmes

Ophthalmology residents from various university hospitals around the world come to Aravind-Madurai and Aravind-Tirunelveli for additional training as part of their residency programme.

In 1995, residents from the following institutes under-

went training at Aravind.

#### USA:

Greater Baltimore Medical Centre, Baltimore  
Illinois Eye and Ear Infirmary, Chicago  
Massachusetts Eye and Ear Infirmary, Boston  
Sinai Hospital, Baltimore  
St. Vincents Hospital, New York  
The Brookdale Hospital, New York  
Wilmer Eye Institute, Baltimore  
University of Wisconsin, Madison.

#### Guatemala:

Rodolfo Robles Hospital

#### Germany:

Universitat Sang enklirik; Stadt. Krasikenhaus, Munchen

#### Australia:

Caulfield, Victoria

### Ophthalmic Nurses Training

The efficiency of Aravind's ophthalmic nurses contributes significantly to the hospital's low costs and high



Dr. Venkataswamy and Dr. Natchiar with Dr. Alvan Balent, Dr. Linda Balent and Dr. William Maloney at Aravind



*At the nurses' graduation ceremony*



*Dr. R. D. Ravindran and Dr. R. Ramakrishnan  
at the American Academy Meet*

quality. Twice in a year, high school graduates are recruited and undergo training in basic and ophthalmic nursing. Aravind now has over 310 ophthalmic assistants and technicians.

#### **Training in Hospital Management Programmes**

With the establishment of the Lions Aravind Institute of Community Ophthalmology

(LAICO), several short term courses in various aspects of hospital management are now being offered regularly and a six month course in managing eye care programmes will be started soon. Aravind participates in the teaching of the course in Hospital Management offered by the Department of Management Studies of the Madurai Kamaraj University.

#### **Speciality Training**

Dr. R. Ramakrishnan and Dr. R. D. Ravindran visited several eye hospitals in the US with the main focus on getting a good exposure to the health management systems. Dr. R. D. Ravindran visited the Henry Ford Eye Hospital in Detroit while Dr. R. Ramakrishnan was at Wilmer Institute in Baltimore and at the University Medical School in Madison, Wisconsin. Together, they visited the California Pacific Medical Centre, the Stanford University in San Francisco and Kaiser Permanente health system in Honolulu, Hawaii. They attended the American Academy of Ophthalmologists (AAO) conference at Atlanta.

#### **Volunteers in Staff Development**

Aravind is grateful to the following who contributed to the staff development by working with them and contributing to structured training programmes:

- Dr. William F. Maloney, Eye Surgery Associates, Calif., USA and Dr. Alvan Balent and Dr. Linda Balent, Eye care and Surgery Centre, Fort Lauderdale, USA were at Aravind to provide training in phaco surgery.
- Dr. Agnes Huang, Wilmer Institute, USA worked in the Glaucoma Clinic and gave lectures to the residents at Aravind.
- Ms. Laurel Carson from USA assisted in the development of a detailed curriculum for the nurses training programme.
- Ms. Isabelle Hamilton from UK worked with Aravind's Operation Theatre staff to review the maintenance of equipment, methods of sterilisation, modification of sterilisation room etc.
- Mrs. Jaya Nath, Kodaikanal volunteered her services in the training of housekeeping and dietary staff.
- Dr. W.F.I. Shepherd and Ms. May Lightly, from UK to demonstrate the instrument they developed to use in phaco surgery.

## Workshops, Seminars and Advanced Training Workshops

Several times a year, the hospital arranges short courses, seminars, workshops and clinical / surgical demonstrations with faculty from India and abroad.

### Ophthalmology Update Conference (sponsored by Medical Council of India)

7th & 8th February

#### Guest Faculty

Dr. Suresh Chandra

Moderator for the Posterior Segment (Diabetic Retinopathy & Vascular Retinopathy) Session

- Vitreous surgery in diabetic retinopathy
- Indications of pars plana vitrectomy
- Vitrectomy for macular holes
- Management of macular pucker

Dr. Viridi P.S.

- Retinal vein occlusion

Dr. Bansal R.K.

Moderator for the Glaucoma Session

- Recent advances in the diagnosis of glaucoma
- Recent advances in the management of glaucoma

Dr. Raju V.K.

Moderator for the Anterior Segment (Cataract Surgery) Session

- Advances in cataract surgery & intraocular lens

- Recent advances in corneal transplantation
- Recent advances in the management of corneal infections

Dr. Lakhanpal V.

Moderator for the Posterior Segment (Vitreotomy, Trauma, Endophthalmitis & Macular holes)

- Management of IOFBs
- Diagnosis & management of endophthalmitis
- Laser photocoagulation of diabetic retinopathy
- Management of simple retinal detachment including pneumatic retinopexy

Dr. Chedly

- Radiosurgery - A new approach to eyelid, orbital and lacrimal surgery

Aravind Faculty

Dr. Namperumalsamy P.

- Pathogenesis and classification of diabetic retinopathy
- Management of Eale's disease

Moderator for Posterior Segment Session (Retinal Detachment)

- Diagnosis & prophylaxis of retinal detachment

- Instrumentation & technique of pars plana vitrectomy

Dr. Natchiar G.

Moderator for the Anterior Segment Session (Corneal Transplantation and Refractive Surgery & Oculoplastic Surgery)

- Technique of extracapsular cataract extraction & IOLs
- Management of complications of IOL implantation

Dr. Ramakrishnan R.

- How to manage an acute angle closure glaucoma

Dr. Srinivasan M.

Moderator for the Anterior Segment (Refractive Surgery) Session

- Indications & technique for penetrating keratoplasty

Dr. Meena Chakrabarti

- Instrumentation & technique of pars plana vitrectomy

### Vitreo Retinal Society - India: Mid Year Congress

October 7th & 8th

Over 70 ophthalmologists from all over India participated in this second mid year congress.

Guest lectures were delivered by

Dr. George Hilton, University of California, USA.

- Pneumatic retinopexy: The first decade
- Role of pars plana vitrectomy in the management of the complications of cataract surgery

Dr. B.T. Maskati, KEM Hospital, Bombay

- Past, present & future of retinal detachment surgery

Symposia were held on the following topics

- Simple retinal detachments and their management
- Complicated retinal detachment
- Ocular trauma and tumors
- Uveitis and AIDS
- Endophthalmitis



Dr. P. Namperumalsamy, Dr. George Hilton and Dr. G. Venkataswamy at the inauguration of the VRS-Mid Year Congress

- *Vitreous surgery: Basics and Advanced*
- *Diabetic retinopathy*
- *Diseases of the macula*
- *Medical retina and lasers*

#### Aravind Faculty

- Dr. P. Namperumalsamy  
 - *Vitreous surgery - Basic techniques*
- Dr. Meena Chakrabarti  
 - *PFC liquid in GRT*
- Dr. Dinesh Sahu  
 - *Central retinal vein occlusion - Current concepts*
- Dr. Rathinam Sivakumar  
 - *Investigation approach in a case of uveitis - Guidelines for practicing ophthalmologists*

#### Mechanics of Meetings

A week long course on 'Mechanics of Meetings' was conducted by Ms. Linda Tobin, a social worker from Cleveland, Ohio for the Aravind Management staff from 14th to 21st of August. The management staff found it both informative and useful. The detailed session included the mechanics of the meetings, problem solving procedures, methods of conducting formal and informal meetings, and the dynamics of meetings.

**Seminar on collection of donor eyes**  
 19th November  
 Fifteen Lions Doctors from District 324 A2 participated.

**Update Programme in Ophthalmology for General Practitioners, Aravind Eye Hospital, Tirunelveli.**  
 30th July

- Dr. Mustafa Parekh  
 - *Headache & refractive errors*
- Dr. Babu Rajan  
 - *Glaucoma: Early diagnosis & management*
- Dr. Ravindran R.D.  
 - *Early surgery for cataract*
- Dr. Ramkrishnan R.  
 - *Management of Glaucoma*
- Dr. Nitin Nema  
 - *Diabetic retinopathy*
- Dr. Kumaraswamy R.  
 - *Lasers in ophthalmology*
- Dr. Srinivasan M.  
 - *External eye diseases*
- Dr. Vijayalakshmi P.  
 - *Paediatric ophthalmology*

**Aravind Short Term Fellowship Alumni Meeting - CME Programme on Update in IOL Surgery**  
 14th to 20th August

The first CME programme for the short-term IOL fellows was a refresher-cum-update course on all facets of IOL surgery. From the June 1993 to December 1994 batches, forty four ophthalmologists participated in the week-long programme.

Apart from the scientific sessions on capsulorhexis, scleral tunnel, phacoemulsification, scleral fixation of IOL and secondary IOL implantation, there were talks on how to create awareness and demand for IOLs and on how to avail bank loans for private practice.



*Dr. Arup Chakrabarti with some of the participants for the Alumni Meeting - CME Programme on Update in IOL Surgery*

## Conferences, Courses and Workshops attended by Aravind Staff in 1995

### 53rd All India Ophthalmological Society Conference

Bombay, 1st to 5th February

Dr. P. Namperumalsamy

Faculty at FORCE Meeting and gave a talk on

- Evolution and transition of vitreous surgery

Annual Conference of Vitreoretinal Society - India

- PFC liquids in vitreoretinal surgery  
Chief convener for the Recent Advances course on "Retinitis Pigmentosa" and gave introductory lecture.

Chairman for the Instruction Films Session.

Convener for the Free Paper Session (Retina)

Dr. M. Srinivasan

Chief instructor for the Instruction Course on "Managing a corneal ulcer"

Convener for the Eye Bank Meeting.

Dr. R. Ramakrishnan

Faculty on Recent Advances Programme on "High Risk Glaucoma Assessment: Management" and gave a talk on

- Surgical management of aphakic and pseudophakic glaucoma

Free paper on

- Complications of mitomycin-C adjunct trabeculectomy

FORCE Symposium

Dr. R.D. Ravindran

- Scientific poster on Benign concentric annular macular dystrophy
- Video on Villagers Awareness Programme - An economic alternative to screening eye camp

Dr. R.D. Ravindran, Dr. B. Niranjana Kumar

- Incidence of operative and postoperative complications in IOL by Beginners

Dr. Arup Chakrabarti

- Gonioscopy - after scleral tunnel incision
- Conversion to anterior segment microsurgery

Posters on

- Capsulorhexis with in-the-bag IOL after extracapsular cataract extraction - Analysis of surgical techniques
- Rigid 3 piece PC IOL implantation through sutureless sclerocorneal tunnel incision

Dr. Meena Chakrabarti

- Vitreous surgery - instrumentation, revolution and evolution

Recent Advances Programme on Retinitis Pigmentosa

- Clinical spectrum of RP and its variants

Free paper on

- Management of retinal detachment with choroidal coloboma

Posters on

- Analysis of CRVO in young adults
- Ocular cysticercosis - management in 4 cases
- Choroidal metastasis in 2 cases of infiltral ductal carcinoma of the male breast

Dr. Ravi Kulkarni

- Use of perfluorocarbon liquid in removal of posteriorly dislocated IOLs/lenses

- Perfluorocarbon liquids in complicated retinal detachments - our experience

Dr. Dinesh Sahu

- Variations in clinical presentation of Vogt-Koyanagi Harada syndrome

Dr. Rathinam Sivakumar

Posters on

- Ocular tuberculosis
- Safety of IOL surgery in uveitic cataracts
- Panuveitis and epidemic fever

Dr. Y. Sujatha

Posters on

- Ultrasonography for assessing treatment response in orbital inflammatory disease
- 2-0 ethmoid suture for frontalis suspension surgery
- Correlation of ultrasonography and histopathology in retinoblastoma

Dr. Jeena Mascarenhas

- Treatment of acanthamoeba keratitis with polyhexamethylene biguanide single drug therapy

Dr. Asokan

Poster on

- A rapid simple cost effective diagnostic method for fungal keratitis

Dr. Milind A. Killedar

Poster on

- Analysis of 20 cases of ectopia lentis

Dr. P. Namperumalsamy attended the Eleventh Meeting of the WHO Pro-

gramme Advisory Group on the Prevention of Blindness, on 2nd and 3rd March at New Delhi.

15th Congress of the Asia Pacific Academy of Ophthalmology Conference Hong Kong, 6th to 10th March

Dr. G. Natchiar

- High volume - high quality cataract surgery

Strategic Management in Hospitals

IIM, Bangalore, 20th to 24th March

Mr. R.D. Thulasiraj was a faculty member at this course jointly organised by the Harvard School of Public Health, USA and the Hospital Management Network, India.

Workshop on Retinal Detachment and Update on Uveitis

175th Anniversary Celebrations at the Govt. Ophthalmic Hospital, Madras, 24th March

Dr. P. Namperumalsamy

- Implant technique

Dr. G. Venkataswamy delivered Dr. E.T. Selvam Endowment lecture on 25th, March at Regional Ophthalmic Institute at Madras.

Dr. G. Natchiar attended a Seminar on Cataract surgery - Current techniques at L.V. Prasad Eye Institute, Hyderabad on 25th & 26th March.

Dr. M. Srinivasan participated in the one-day Workshop on Medical and Surgical Management of Corneal Diseases & Kerato Refractive Surgery (organised by Nasik Ophthalmic Association) at Nasik, on 9th April.

Workshop on Healthcare for the Elderly Madurai Medical College, Madurai., 27th & 28th April

Dr. G. Natchiar

- Eye problems of the elderly

**Salem Ophthalmological Association Meeting**

Yercaud, 14th May

Dr. Krishnadas R.  
- *Optic disc evaluation in glaucoma*

As its member, Dr. P. Namperumalsamy attended the **Meeting of Board of Studies in Medicine - Postgraduate Clinical Courses** at Dr. M.G.R. Medical University, Madras on 6th June.

**Retina Congress 1995**

L.V. Prasad Eye Institute, Hyderabad, 25th to 27th August

Dr. Namperumalsamy P.  
- *CSME in diabetes and photocoagulation*  
- *RD with macular hole*  
Dr. Satyanarayana  
- *Surgical management of retained infraretinal foreign bodies*

**43rd Annual TNOA Conference**

Trichy, 11th to 13th August

Dr. Abhijit Tagare  
- *Combined phacoemulsification with trabeculectomy in advanced glaucomas*  
Dr. Arup Chakrabarti  
- *Short term IOL microsurgery training - an unique programme*  
- *Secondary IOL implantation - Analysis & comparison of results with different IOL types*  
- *Continuous curvilinear capsulorhexis in ECCE*  
*Video on 2 point scleral fixation of PC IOL - safe & simple technique*  
Dr. Chandrakanth  
- *Addressing the cataract backlog through high volume IOL surgery in a camp setting*  
Dr. Kalpana Narendran  
- *Unilateral cong. fibrosis syndrome*  
Dr. Krishnadas R.  
- *Iris metastasis with secondary glaucoma - a case report*  
Dr. Kumarasamy  
- *Phacoemulsification during the learning curve*  
Dr. Kumar Hariharan  
- *Surgical management of superior oblique palsy*  
Dr. Namperumalsamy P.  
- *Key-note address on "Modern trends in retinal detachment surgery"*  
Dr. Natchiar G.  
- *Chiasma for panel discussion on up-*

*dates in implant techniques*  
- *Sutureless surgery*  
Dr. Niranjana Kumar  
- *Incidence of operative and postoperative complications in IOL surgery by beginners*  
Dr. R.D. Ravindran, Dr. Kumarasamy  
- *Bietti's Crystalline Tapetoretinal dysplasia*  
Dr. Purendra Bhasin  
- *Continuous curvilinear capsulorhexis in ECCE*  
Dr. Rabbani Begum,  
Dr. R.D. Ravindran, Dr. Niranjana Kumar  
- *Incidence of operative and postoperative complications in IOL surgery by Beginners*  
Dr. Rajendra Malviya,  
Dr. R. D. Ravindran, Dr. Nitin Nema  
- *Hemi - retinal vein occlusion*  
Dr. Rajendra Verma  
*Video on Nonphaco small incision - sutureless IOL surgery*  
Dr. Ramakrishnan  
- *Setons in Glaucoma*  
Dr. Ramesh R.  
- *Use of low vision aids for visually impaired children in integrated schools.*  
- *Brown's syndrome with craniopharyngioma - a rare case report*  
Dr. Rathinam Sivakumar  
- *Pressure variations in Vogt-Koyanagi syndrome*  
- *Incidence of non-traumatic sympathetic ophthalmia in a referral centre*  
Dr. R.D. Ravindran,  
Dr. R. Kumarasamy, Dr. R. Nitin Nema  
- *Benign concentric annular macular dystrophy*  
Dr. R.D. Ravindran  
- *Video on Village Awareness Programme*  
Dr. Revathi  
- *Evaluation of effective management of Mooren's ulcer*  
Dr. Satyanarayana  
- *Surgical results of posterior segment ocular injuries*  
Dr. Sujatha Y.  
- *Orbital cysticercosis with secondary glaucoma - a case report*  
- *Dermis fat grafting as a primary procedure after enucleation*  
- *Spherical implantation after eversion in anterior staphyloma*  
- *Distichiasis correction by radioepilation technique*  
*Video on*  
- *Cosmetic tarsorrhaphy*

Dr. Swaruparani  
- *Exogenous nocardial endophthalmitis*  
Dr. Vijayalakshmi P.  
- *Etiology of congenital cataract*

**Glaucoma Society of India Meeting**

Calcutta, September

Dr. Ramakrishnan R.  
- *Indications of setons in Glaucoma*  
- *Newer topical antiglaucoma medication*

**American Academy of Ophthalmology Meeting**

Atlanta, USA, October

Dr. G. Venkataswamy  
- *Social marketing of cataract surgery: Aravind Model*  
Dr. P. Namperumalsamy  
- *Serving the underserved: Aravind Model*  
- *Social marketing in India*  
Dr. R. Ramakrishnan  
- *Scientific poster on low incidence of hypotony maculopathy in darkly pigmented Indian eyes following mitomycin trabeculectomy*

Dr. G. Venkataswamy participated in the 'Cellular evolution: Transformation of the body' conference conducted by Sri Aurobindo Association in America from October 11th to 15th at San Francisco, USA.

Dr. G. Venkataswamy, Dr. P. Namperumalsamy and Dr. R. D. Ravindran participated in the Kaiser Physician Management Course at Berkeley, USA from 22nd to 27th October.

Dr. G. Natchiar participated in the Workshop on Development of Curriculum & Training of Ophthalmic Surgeons under the National Programme for Control of Blindness (NPCB), Allahabad from 6th to 8th November.

Dr. M. Srinivasan delivered a lecture on Suppurative keratitis at Ramachandra Medical College, Madras on 14th November.

**Second International Advanced Vitreo-Retinal Surgery Course**

Aditya Jyoti Eye Hospital, Bombay, 17th to 19th November

Dr. P. Namperumalsamy  
- *Perfluorocarbon liquids*



- Management of retinal detachment with macular hole
- Pars plana removal of intraocular foreign body

#### Sixth Maharashtra State Paediatric Conference

Solapur, 17th to 19th November  
Dr. Vijayalakshmi P.

- Paediatric eye problems
- She gave a lecture on surgical management of strabismus to the ophthalmologists at Solapur.

#### XIII Annual Conference of Indian Society for Medical Statistics

ICMR, Madras, 22nd to 24th November

Manoharan N., Thulasiraj R.D.

- Rapid Assessment Technique for assessing cataract blindness in a community

#### Kerala State Ophthalmological Society Meeting

Cannanore, 23rd & 24th November

Dr. Srinivasan M.

- Corneal ulcer

#### Maharashtra Ophthalmological Society: Annual Conference

Aurangabad, 24th to 26th November

Dr. Vijayalakshmi P.

- Management of congenital exotropia syndrome

Key note address on

- Management of paediatric cataract

Dr. Abhijit Tagare

- Combined trabeculectomy with phacoemulsification and IOL implantation in advanced glaucomas

Scientific poster on

- Iris metastasis causing secondary glaucoma - A case report

He won the "Best Exhibit Award" for the above poster.

Dr. Ravindran R.D.

- Social marketing of ophthalmology

#### Workshop cum Seminar on Phacoemulsification,

Guwahati, 10th December

Dr. Natchiar G.

- Recent advances in IOL surgery with emphasis on phaco surgery

Dr. Krishnadas attended a two day Workshop on Management of Glau-

coma in India, organised by ICMR in New Delhi in November.

## Publications

Indian Journal of Paediatrics, Vol.62, Jan-Feb 95

Dr. Lakshmi Rahmathullah

- Breastfeeding in the low socio economic group : A matter for concern

Asia - Pacific Journal of Ophthalmology Vol.7, No.4, October 1995

Dr. N. Venkatesh Prajna, Raheem Rahmatullah

- Reached the unreached - The Aravind Odyssey

Indian Journal of Ophthalmology

Vol. 43 No.4 December 1995

Dr. N. Venkatesh Prajna, Raheem Rahmatullah

- Changing Trends in the Intraocular Lens Acceptance in Rural Tamil Nadu

Dr. Priyamvada Bhasin

- Non-arteritic anterior ischaemic optic neuropathy (AION)

Dr. Bina K Manoli, Dr.R.D.Ravindran

- Management of malposition of posterior chamber IOLs

Dr. Kumar Hariharan, Dr. R.Ramesh,

Dr. P. Vijayalakshmi

- Surgical management of superior oblique palsy

Dr. Y. Sujatha

- Spherical implantation after evisceration in anterior staphyloma

Journal of Tamil Nadu Ophthalmic Association

Vol. XXXIII, No. 1, March 1995

Dr. M. Srinivasan

- Update in Suppurative Corneal Infections

Dr. Prabjot Channa & Dr. M. Srinivasan

- Spheroidal Degeneration

Dr. Asokan, Dr. Jeena Mascarenhas & Dr. M. Srinivasan

- Rapid Cost-Effective Method of Diagnosis of Fungal Keratitis

Dr. N.P. Baburajan, Dr. R.D. Ravindran & Dr. Bina K Manoli

- Incidence of Postoperative Posterior

Capsular Opacification with types of senile Cataract

Dr. R. Kim, Dr. Meena Chakrabarti, Dr. P. Namperumalsamy

- Ocular Cysticercosis

Dr. K.C. Premarajan

- Present Status and New Strategies of National Programme for Control of Blindness

Vol. XXIII, No. 2, June 1995

Dr. Y. Sujatha

- Proptosis

Dr. R. Ramakrishnan, Dr. R. Krishnadas

- Posterior Chamber Lens Implantation in Phacolytic Glaucomas

Dr. Asokan, Dr. M. Srinivasan,

Dr. Jeena Mascarenhas

- An Analysis of Results of Keratoplasty in Keratoconus

Dr. Milind Killedar, Dr. P. Vijayalakshmi

- Congenital Fibrosis Syndrome

Dr. G. Venkataswamy

- Eyecare Delivery in Tamil Nadu - Past, Present and Future

Vol. XXXIII, No. 3, September 1995

Dr. Rathinam Sivakumar

- Uveitis

Dr. N. Venkatesh Prajna,

Mr.N. Manoharan

- Postgraduate Training in Extracapsular Cataract Extraction and Intraocular Lens Implantation

Dr. Kalpana Narendran & Dr. P. Vijayalakshmi

- Unilateral Congenital Fibrosis, Blepharoptosis and Enophthalmos Syndrome

Vol. XXXIII, No. 4, December 1995

Dr. Priyamvada Bhasin

- Non-arteric Anterior Ischaemic Optic Neuropathy (AION)

Dr. Bina K. Manoli, Dr. R.D. Ravindran

- Management of Malposition of Posterior Chamber IOLs

Dr. Kumar Hariharan, Dr. R.Ramesh,

Dr. P. Vijayalakshmi

- Surgical Management of Superior Oblique Palsy

Dr. Y. Sujatha

- Spherical Implantation after Evisceration in Anterior Staphyloma

## ONGOING RESEARCH

### Madurai IOL Study

Madurai IOL study (MIOLs) is a randomised, hospital based clinical trial to evaluate the long-term outcome of posterior chamber intraocular lens implantation as compared to common intracapsular cataract extraction with aphakic glasses in terms of safety, efficacy and the impact on the quality of life. One of the major outcomes of this study would be the development of an instrument to measure the "Quality of life and vision function" of cataract patients. The total sample size is 3400. The study started on 6th October 1993, and the recruitment was completed on 22nd June 1995. The study designed with a one year follow-up will be completed in June 1996. The month 2 and month 6 follow-up examinations have been completed with a high coverage of 98.9% and 94.4% respectively. The final results of the study will be published after completion of year 1 follow-up.

### Childhood Cataract Studies

In continuation of the study on 'Randomised clinical trial of Primary Capsulotomy vs Lensectomy started in '93, the follow-up study is being undertaken for 5 years. Now, half way through the follow-up period, 95% coverage has been achieved. So far, the visual outcome in the group who underwent lensectomy is found to be better than the

group that had primary capsulotomy after lens aspiration.

### Vanishing optotype acuity test vs Grating acuity test

Forty eight children between one and four yrs. of age with visual impairment (best VA < 6/18 - 6/60) or severe visual impairment (best VA < 6/60 - 3/60) due to bilateral cataract were entered into the study. Acuity testing was performed by two trained examiners after inter-observer and intra-observer variability tests had been done. Each child was tested using both optotype cards and grating cards in the same brightly lit room.

The study was completed in '95. The optotype acuity test was found to be the appropriate one for children. It is not affected by horizontal nystagmus. It is simple to use with small children, mentally retarded children, and also with older illiterate children.

### The Aravind Comprehensive Eye Survey (ACES)

ACES has been designed to assess the prevalence and types of glaucoma and other eye disorders in Indian population. From the districts of Madurai, Tirunelveli and V.O. Chidambaranar, 50 villages were randomly selected to yield about 5000 persons over the age of 40 yrs. The persons in the population-based sample were enumerated and screened in the field. All

persons over 40 yrs. and those with visual impairment in the younger age group are sent to the base hospital at the rate of 10 persons a day for very detailed eye examination, nutrition assessment and anthropometric measurements.

The specific objectives of this population-based sample survey are:

- To estimate the prevalence of visual impairment by cause and severity in the population.
- To estimate prevalence of ocular diseases such as glaucoma, age related macular disease, diabetic retinopathy, other retinal vascular and corneal disorders among 40 years or older.
- To estimate the quality of life in general, and that attributed to poor vision in the population.

The study began in Madurai in August 1994 and in Tirunelveli in March 1995. So far, field work on 12 villages in Madurai and 8 villages in Tirunelveli have been completed with a 95% coverage.

### Antioxidant Study: Cataract Grading

A study on 'Use of antioxidants to retard or prevent cataract development' is being designed in collaboration with the Proctor Foundation, USA. In order to establish the natural progression of cataract and to determine the

sample size, Dr. Jack Witcher and Dr. Gil Smolin from Proctor Foundation and Dr. John Wilkins from Devers Eye Institute were at Aravind in January. Early cataract in 150 patients were graded and they will be examined a year later.

#### **Angiostatic Steroid Study**

This is a randomised double masked clinical trial to evaluate the efficacy of angiostatic steroids in increasing the success of glaucoma filtering surgery.

#### **The American Glaucoma Valve Study**

The safety and efficacy of American Glaucoma valve in management of intractable glaucomas is being analysed in a prospective study. The valve in this drainage device has been designed so as to shut off when ocular pressure falls below 9 mm Hg and thus prevents complications like shallow chamber and ocular hypotony which is characteristic of most drainage devices currently in use. This study is supported by the Indian Council for Medical Research.

#### **Enzymatic Sclerostomy**

Conventional glaucoma filtering surgery such as trabeculectomy with or without adjunctive chemical modulation has several complications such as flat chambers, cataract progression and infections. Dr. Jacob from Weissman Institute, Israel has developed a method to focally enhance scleral

permeability of aqueous humour using an enzyme collagenase obtained from clostridia. Since preliminary results after studying effects of the collagenase enzyme in rabbit eyes appeared promising, 7 individuals blind from absolute glaucoma and high ocular pressure were recruited in the study. Short term evaluation revealed immediate postoperative reduction in intraocular pressure owing to focal scleral digestion without adverse after effects. Long term observation is being done to assess the efficacy and safety of this new method of chemical trabeculectomy.

#### **Outcome Assessment of ICCE with spectacle correction:**

In this study carried out at Aravind-Tirunelveli, the patients were selected retrospectively and brought to the hospital for a clinic-based evaluation. A sample of 150 patients receiving ICCE with aphakic spectacle correction, were interviewed and examined to document the outcomes of the procedure, eight/nine months postoperatively, in terms of visual acuity, quality of life and visual function.

#### **Cornea Clinic Drug Trials:**

- Comparison of the drugs ofloxacin and ciprofloxacin in the treatment of bacterial ulcers.
- Pilot study on antifungal drugs in collaboration with ICEH, London.

#### **Retina & Vitreous Clinic**

- Study to analyse aetiology and cause of Central Retinal Vein Occlusion (CRVO) in young adults
- To study the efficacy of medical therapy, intravitreal antibiotic injection and vitrectomy either singly or in combination in the management of postoperative endophthalmitis
- Retrospective studies on:
  - Retinal detachment in children
  - Fluorosilicon oil - Use in vitrectomy for Proliferative vitreoretinopathy
  - Idiopathic central serous chorioretinopathy
  - Valsalva's retinopathy
  - Fluorescein in vitrectomy
  - Frosted angitis
  - Retinal vasculitis
  - Punctate inflammatory lesions of retina and choroid
  - Acquired toxoplasmosis

#### **Orbit & Oculoplasty Service**

Retrospective studies:

- Aetiology, corneal involvement and surgical outcome of patients with lagophthalmos.
- Effectiveness of medical vs surgical treatment in cases of orbital cysticercosis.
- Various ptosis surgeries and their final outcome

Prospective studies:

- Centurion syndrome.
- Scleral grafting for lagophthalmos.
- Effectiveness of fluconazole in orbital aspergillous.

### Ocular Microbiology & Genetics

- Retrospective analysis of the etiopathogenesis of postoperative endophthalmitis in 100 cases
- Epidemiology and genetic aspects of congenital cataract - karyotyping & screening for cytogenetic aberrations in 400 cases of congenital cataract. This study is carried out at Aravind Microbiology laboratory in collaboration with the PG Institute of Basic Medical Sciences, University of Madras by Research scholars Shyam Manohar and Deepika Rawley under the guidance of Dr. Gopinath and Dr. S.T. Santhiya.

### Uvea Clinic

Dr. Rathinam Sivakumar, Chief, Uvea clinic has undertaken the following studies with Proctor Foundation, San Francisco, USA.

- PCR Assay in aqueous humour of clinically diagnosed ocular tubercular cases - Case control study.
- PCR Assay of aqueous humour of clinically diagnosed leptospiral uveitis cases - Case control study. This resulted in the first Indian report on ocular leptospirosis which was epidemic in South India in 1993-94 following the monsoon and severe flooding.

### The ICMR Project - 'Glaucoma Management under Indian Conditions'

The Indian Council for Medical Research (ICMR) has proposed a multicentric study to standardise the treatment protocol for management of glaucoma in India, and Aravind is one of the study centres. All individuals with newly diagnosed glaucomas in outpatient services of the hospital would be recruited into the study and a detailed history and ocular examination will be conducted. Once the evaluation of glaucoma is established, appropriate management will be done and the patient will be followed up at periodic intervals for one year. The central data monitoring centre (Guru Nanak Eye Centre, New Delhi) will process the data every month and at the end of the study period, it is expected that an optimal therapy for management of glaucomas would emerge that will be recommended for the country.

### Corporate supporters

Aravind is grateful to the following for their support in the above research programmes

- Allergan
- Alcon
- Zeiss Humphrey Instruments
- Milmet

### Visiting Research Advisors and Fellows:

#### MIOL Study:

- Dr. Carl Kupfer, NEI, USA
- Dr. Leon Ellwein, NEI, USA
- Dr. Shrikant Bangdiwala, University of North Carolina, USA
- Dr. Giovanni Maraini, Parma, Italy
- Dr. Gulapalli Rao, LV.Prasad Eye Institute, Hyderabad, India
- Dr. Michael Drummond, University of York, UK
- Prof. Curt Furberg, Winston-Salem, USA
- Dr. Astrid Fletcher, London School of Hygiene and Tropical Medicine

#### Childhood Cataract studies:

- Dr. Michael Eckstein, ICEH, London

#### Aravind Comprehensive Eye Survey (ACES):

- Dr. Alan Robin, Dr. James Tilsch and Dr. Joanne Katz  
John Hopkins University, USA

#### Antioxidant study:

- Dr. Jack Witcher, Dr. Gil Smolin and Dr. Dick Gritz, Proctor Foundation, USA
- Dr. John Wilkins, Devers Eye Institute, USA

#### Angiostatic steroid study:

- Dr. Alan Robin, Johns Hopkins University, USA

#### Enzymatic Sclerostomy:

- Dr. Jacob, Weissman Institute, Israel

#### Outcome Assessment of ICCE with spectacle correction:

- Jessica Thomas, John Hopkins University, USA

#### Pilot study on antifungal drugs:

- Prof. Gordon Johnson, Dr. Md.Rezanur Rahman and Dr. Mick Martin, ICEH, London

#### Uvea clinic: Case control study:

- Dr. Debbie Dean, Dr. Benjamin Crocker and Dr. Katherine Chu Proctor Foundation, San Francisco, USA.

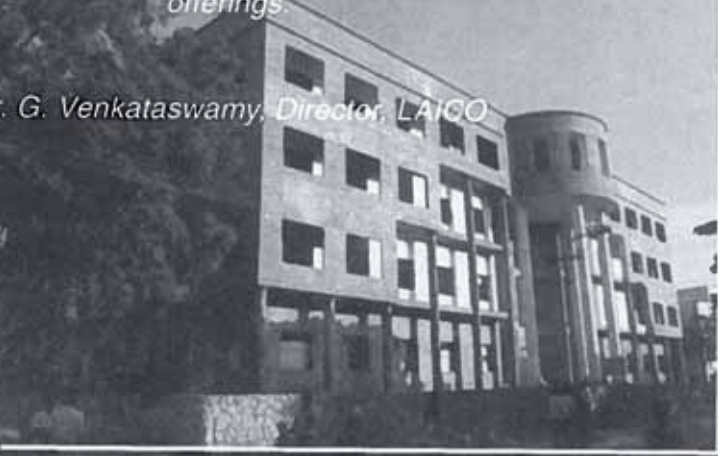


**Lions Aravind  
Institute of Community Ophthalmology**

*The first and the foremost challenge to be addressed in the process of combating blindness is the development of skilled manpower oriented towards a community-based approach. In developing an efficient and successful eyecare delivery programme, good planning and management on the one hand, with appropriate technology and technical skills on the other, are the key factors.*

*For the Institute, the most important resource is the 'Aravind model of work' that provides an opportunity to observe and share this experience. The central features in Aravind's success such as values, technical and managerial aspects of service-delivery, interwoven with strong community-orientation, will be the central theme in the Institute's offerings.*

*Dr. G. Venkataswamy, Director, LAICO*



*With a mission 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 using the broad environment of Aravind Eye Hospitals, Aravind Children's Hospital and Aravind Medical Research Foundation.*

The unique model of Aravind Eye Hospitals, in which over 90,000 surgeries are performed annually, provides the Institute with a practical and stimulating learning environment. The Institute endeavours to train teams from blindness programmes and facilitate the members of the teams to develop strategies relevant to their situations.

In order to set the direction and assist in the implementation of the long-term plan, a Management Board was constituted. The first meeting of this board was held on the 2nd and 3rd of September, 1995. The purpose of the meeting was to define the role and functions of the management board and to review LAICO's performance till date. The ways in which the members can help in implementing the future plans was also discussed. Along with the LAICO staff, the meeting was attended by Ln. John Lord, Project Co-ordinator, LCIF, USA, Dr. Suzanne Gilbert,

Seva Foundation, USA, Dr. Chandra Shekar Shetty, Bangalore, Mr. Nagarajan, Sight Savers, Bombay, Ln. Ranganathan, Project Chairman, and Ln. Gopalakrishnaraja, Grant Administrator.

## **Training Programmes**

### **Eye Hospital Management**

#### **Hospital Administration Course**

This six month course will introduce eye hospital managers to the skills needed to manage hospitals effectively and efficiently, while continuing to focus on serving the patient and meeting the eye-health needs of the community.

#### **Management for Eye-care Delivery**

The purpose of this one week course is to enhance the skills and capabilities of managers of eye-care programmes and institutions towards effective eye-care delivery.

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*... It should be recognised in all settings and necessarily in the community context, the care of individual patient who is blind or visually impaired must be based on knowledge of epidemiology, risk factors, prognosis, benefits and cost of prevention and intervention.*

*If we as eye care providers do not reorient our thinking, practice and teaching based on these concepts, the burden of needless blindness in the world would reach an unimaginable proportion.*

*I am confident that the Lions Aravind Institute of Community Ophthalmology would serve as a model for similar developments in other parts of this Region and elsewhere and in the interim would nurture and nourish the type of eye care providers that we imperatively need.*

*Dr.R. Pararajasegaram*

*President, International Agency for the Prevention of Blindness*

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*Participants of the Fourth Management Development Workshop for Lions Hospitals*

#### **Internship Training for MHM Residents**

LAICO co-ordinates the internship training of the Masters in Hospital Management (MHM) students.

In 1995, three MHM students joined as interns at LAICO.

#### **Capacity Building for Eye Hospitals**

##### **Management Development Programme**

This programme is designed to help eye hospitals by strengthening their capacity to offer effective and sustainable eye-care programmes. In the first stage, LAICO faculty perform a needs-assessment visit to the selected hospitals. Then a representative team of the hospital's staff comprising the chairman, the administra-

tor, chief ophthalmologist and senior paramedical staff come to Aravind for a week of vision building and strategy planning sessions. Finally, the LAICO faculty offer follow-up support, and review progress as the hospitals seek to put their plans into action.

At present, Lions eye hospitals and Sight Savers supported eye hospitals are participating in this programme.

In 1995, twelve eye hospitals were enrolled into this programme.

##### **Needs Assessment visits in 1995:**

As part of Management Development programme for eye hospitals, Needs Assessment visits were made by LAICO faculty to the following hospitals

- Lions eye hospitals at Dharwad, Mangalore (Karnataka), Kasargod (Kerala) and Coimbatore (Tamil Nadu), Miraj (Maharashtra), Secunderabad, (Andhra Pradesh)

- Sadharam Eye Hospital, Hyderabad, Andhra Pradesh
- Ranga Reddy Lions Eye Hospital, Mahbubnagar, Andhra Pradesh
- John Pearse Memorial Rotary Hospital, Cuttack, Orissa
- Khairabad Eye Hospital & Mahendra Eye Research Centre, Kanpur, Uttar Pradesh
- Vivekananda Mission Ashram Eye Hospital, Chaitanyapur, West Bengal
- Netaji Eye Hospital, Ramchandrapur, West Bengal

##### **Management Development Workshops in 1995**

The workshops are designed to offer practical exposure to different dimensions of eye care delivery such as social marketing, productivity, quality assurance and financial viability.

The observation visits to Aravind-Theni and a free eye camp followed by discussions provide them with an in-depth understanding of the key issues involved in running an eye hospital and making it financially viable.

- **The Third Workshop**

9th to 16th February

Participants from four Lions Eye Hospitals at Raniganj, Siliguri (West Bengal), Viramgam (Gujarat) and K.G. Hospital at Coimbatore, attended the training workshop.

- **The Fourth Workshop**

31st August to 7th September

Teams from Miraj and Nidadavole Lions Eye Hospitals participated in the workshop. In addition, an administrator from Thiruvavur Lions Eye Hospital attended as an observer.

**Follow-up visits in 1995**

Follow-up visits were made to the hospitals that have completed the Management Development training at LAICO to assess the programme in the implementation of the project and to give guidance wherever necessary.

Mysore Race Club Eye Hospital, Mysore

Lions Eye Hospitals at Vijayawada, Palakol, Suryapet and Karimnagar.



*Mr. R.D.Thulasiraj and Dr. Shamanna at the follow-up visit at Lions Eye Hospital, Palakol, Andhra Pradesh*

**On-site Support and Consultancy**

The Institute is committed to assisting in the improvement of quality and productivity of community eye-care programmes. This is achieved by following up the training at

the Institute with on-site consultancy support. The training programmes are designed to support the participating team in the development of appropriate work strategies and in their implementation.



*Second Workshop on Training in Community Ophthalmology for DPMs & DOS of Maharashtra*



### **Vision Building Workshop**

2nd - 9th November

As part of Allied Dunbar-Sight Savers-LAICO project, this workshop aims at developing selected eye hospitals into centres of efficient and sustainable eye care programmes. Four hospital teams from Cuttack, Kanpur, Haldia and Purulia participated in the workshop.

Apart from the LAICO staff, the other members of the faculty were Ms. Linda Perry, Programme Manager, Allied Dunbar, UK, Mr. Colin Williams, Consultant, Allied Dunbar, UK, Mr. Nagarajan, Regional Director, Sight Savers-South Asia, Dr. Sushila Rao, consultant, Hyderabad and Dr. Vijay Aruldas, CMC, Vellore.

### **National Workshop on Development of Curriculum for Training of PMOAs under NPCB**

16th - 19th November

The workshop was conducted jointly by Govt. of India, NPCB, DANPCB & LAICO.

The objectives of the workshop:

- to review the existing curriculum
- to develop a curriculum for CME
- to develop a curriculum for PMOAs by training nurses in ophthalmic techniques.

During the workshop, the participants worked in three groups and gave their recommendations. Group I gave certain recommendations to improve the quality of PMOA training and bringing uniformity in the certification procedures. Group II developed a detailed curriculum for CME for PMOAs. Group III presented a training curriculum for training registered nurses in ophthalmic techniques to meet the needs of the government, private and voluntary sectors. Experts from government, non-government & voluntary organisations participated in this workshop.

### **Orientation Programme for Community Ophthalmology**

This programme aims at sensitizing the participants to the issues responsible for their efficient functioning in providing good quality eye-care to the community.

Currently these workshops are offered to District Programme Managers, District Ophthalmic Surgeons, Paramedical Ophthalmic Assistants and co-ordinators of Lions SightFirst Programme.

In 1995, this course was offered thrice to the DOS (District Ophthalmic Surgeons) and DPMs (District Programme Managers) from Maharashtra

1st course : 5th - 9th May  
2nd course : 14th - 18th July  
3rd course : 4th - 8th August

LAICO and Aravind Eye Hospital developed two six-day skill-based training programmes for Paramedical Ophthalmic Assistants (PMOAs) from Maharashtra. These programmes served as a refresher and as a Continuing Medical Education course. The main objective of the workshop was to update their skills in outpatient, inpatient & theatre management, organising outreach programmes & instrument maintenance.

In 1995, this course was offered twice.

1st course : 8th - 15th September  
2nd course : 11th - 17th October

### **Skills Development Courses**

To meet the urgent need for upgrading the diagnostic and surgical skills of practising ophthalmologists, and for reaching the goal of making quality eye-care available to all, Aravind in partnership with Sight Savers has established a training centre.

The skills development courses offered now are:

#### **IOL Microsurgery Course**

An eight-week course to train practising ophthalmologists to perform intraocular lens implantation surgery. In 1995, 86 ophthalmologists underwent this training.

#### **Indirect Ophthalmoscopy Course**

A four-week course to provide basic training in fundus examination procedures for ophthalmologists and residents. In 1995, 40 ophthalmologists underwent this training.

#### **'Training of Trainers' Course**

Under the World Bank assisted Cataract Blindness Control Project, Aravind has been selected as one of seven institutes for 'Training of Trainers', to give an intense training to the faculty of selected Medical Colleges of the seven World Bank states for sixteen weeks. The objective is to expose them to the techniques of modern cataract surgery in ECCE/IOL and the methodology of training other ophthalmologists. These trainers will in turn train their peers, post-graduate residents and other ophthalmic surgeons in these techniques. In 1995, seven ophthalmologists underwent this training.

#### **Training in Community Outreach Work**

This six-week course trains eye-camp organisers in planning and organisation of community outreach

activities. This is mostly a field-based training to get a better understanding of community participation and to work effectively with the community in providing eye-care.

#### **Training in Equipment and Instrument Maintenance**

This hands-on six week training programme focuses on preventive maintenance and basic repair of equipment and instruments in out-patient departments and operating rooms.

#### **Training Programmes to Meet Individual Needs of Short Term Visiting Fellows**

Each year several fellows are sponsored regularly by World Health Organization, Sight Savers, Helen Keller International, Seva Foundation and other international and national NGOs to get a better understanding and appreciation of community eye-care and its management at the Institute.

LAICO also organises various one-time programmes to meet the expressed needs of specific audiences. In 1995, the following received inputs from LAICO:

- Mr. Bhandari, Ophthalmic Assistant supervisor from Himalaya Eye Hospital, Nepal underwent two months' training in out-patient department management.
- Under Lions Lumbini Project, Mr. Dan Bahadur and Mr. J.P. Chaudary, Ophthalmic assistants from Rana Ambiga Eye Hospital Lumbini, Nepal had 4 weeks training in clinical ophthalmology.
- Mr. Abdoulie Dibba, Nursing Tutor from Gambia was at Aravind for 2

months to develop a curriculum for training auxiliary and nursing staff for ward and theatre nursing especially for IOL surgery.

- Dr. Awadh Dubey from RK. Devi Eye Research Institute, Kanpur
- Dr. Usha from Mysore Race Club Eye Hospital
- Dr. Ananth Kamath and Ln. George from Kasargode
- Ms. Nisha Regmi & Ms. Indu Verma, ophthalmic assistants from Fateh Bai Eye Hospital, Nepal were here for further training in out-patient department and Operation Theatre respectively.
- Mr. Prakash Patel, Chairman of the Mgt. and operations Committee of the SightFirst eye centre being set up at Nairobi visited LAICO to have a first hand understanding of Aravind's working system and training programmes offered by LAICO. He discussed the Eye Centre building plans with Aravind staff.
- Dr. Jan Van Der Hoek, Mr. Yuddha Dhoj, Himalaya Eye Hospital, Nepal
- Dr. Farida Sirlan, Ministry of Health, Indonesia

#### **WHO Fellowship Programme**

Last year, the following were at LAICO under the WHO Fellowship programme and received training specific to their needs:

- Dr. Shafique Islam from Bangladesh
- Dr. Banshi Krishna and Dr. Narayani Shrestha from Nepal
- Dr. Sha, Dr. P.S. Dias & Dr. M.K. Kulothunga from Srilanka
- Dr. Saida Ayed from Tunisia

## **Research**

With expertise in clinical trials, population-based studies and quality of life assessment, the Institute supports collaborative and in-house research projects in the field of community eye-care and in the management of eye-care delivery.

On request from the Tamil Nadu Government, LAICO conducted a beneficiary assessment survey for the World Bank Project for control of blindness in the state. Currently, a comprehensive eye disease prevalence survey in collaboration with Johns Hopkins University, USA is under way. LAICO also supports the study undertaken by Dr. Astrid Fletcher and Ms. Martine Donoghue from the London School of Hygiene and Public Health, in collaboration with the organisation 'SPEECH'. The study aims 'to investigate the low utilisation of eye-care services in a rural community in a developing country using the Participatory Rural Appraisal (PRA) techniques.

As part of the evaluation study of prevention of blindness programme in Nepal, quality of life assessment of the study population was considered. Chief interviewer of Madurai IOL Study, Mr. Vijayakumar and Biostatistician, Mr. Selvaraj visited Nepal Eye Hospital, Katmandu in July to train the interviewers. In order to ensure the consistency and reliability of the



*Dr. Med Reinhard Moller and Dr. Thomas Wegner, Lions from Germany with Dr. Venkataswamy*

interviews, a training program was conducted at Katmandu through lectures in interviewing methods and practical sessions. Within interviewer reliability and between interviewers reliability was assessed in field setting.

Mr. PR. Joshi, Research Officer in charge of the survey was at Aravind to observe the research techniques followed at the ACES study and to learn to use the data management software developed at Aravind. Mr. B.S. Ganesh Babu of Aravind's EDP department was at Katmandu in October to further train the data entry operators and data manager of the study.

### **Collaborating Agencies**

LAICO works closely with international organizations like World Health Organisation, Seva Foundation (USA), Sight Savers - RCSB (UK), Helen Keller International, Seva Service Society

(Canada), and the National Eye Institute (USA).

Exchange programmes take place with medical schools around the world, International Center for Eye Health (UK), Proctor Foundation (USA), etc.

LAICO also works in partnership with community based agencies such as the Lions International and Rotary International. At the national level, LAICO maintains a close relationship with the Government of India, the Government of Tamilnadu and the National Society for the Prevention of Blindness.

### **Meetings and courses attended by the Institute faculty**

Dr. P. Namperumalsamy attended the 11th Meeting of the WHO Programme Advisory Group on Prevention of Blindness at New Delhi from 28th February to 3rd March.



*Dr. P. Namperumalsamy with Dr. Hans Limberg, Chief Advisor, DANPCB, and Dr. Victoria Sheffield, Executive Director, The International Eye Foundation at the WHO Programme Advisory Group Meeting at New Delhi*

Dr. G. Venkataswamy and Dr. K.C. Premarajan attended the Allied Dunbar Partners Network Meeting held in Bangalore on 25th April 1995.

Mr.R.D. Thulasiraj was in the US from 4th to 18th May for attending Blindness Programme Action Group and Seva Board Meetings at San Francisco. He visited the Kaiser Permanente Institution at Hawaii and did some ground work to get their collaboration and support for LAICO.

He was in Kaduna, Nigeria from 20th to 31st May on an invitation to teach the students of the Diploma in Ophthalmology course at National Eye Centre, Kaduna. He also conducted a workshop for the staff of the Hospital with a focus on improving their productivity.

He was in London from 1st June to 8th June for teaching the students at the International Centre for Eye Health. He spent a day with Allied Dunbar Assurance plc, which is supporting a project through Sight Savers to build the capacity of their partner hospitals. He also visited the Sight Savers Head Quarters and the London School of Hygiene & Tropical Medicine.

Dr. Venkataswamy was in the US from 19th June to 2nd July to develop a network and support for LAICO. The various Institutions he visited during the trip are: National Eye Institute at Bethesda, Wilmer Eye Institute at Johns Hopkins, Baltimore, Kaiser Permanente, American Academy of Ophthalmology and Seva Foundation at San Francisco. At the meeting with all these agencies the focal point of discussion was to develop a system for enhancing the quality and productivity of eye care programmes in India. This was particularly relevant in face of the Lions supported project to improve the 36 existing Lions Eye Hospitals and the Sight Savers project to work with their partner hospitals. American Academy of Ophthalmology has taken a lead role and has formed a task force to look at standardizing the clinical protocol for cataract surgery. They will also be providing

support in developing training programmes to train ophthalmic technicians who will assist and work in eye hospitals.

Mr. R.D. Thulasiraj has been working as a Member of the Advisory Committee for the WHO supported Survey in Nepal to evaluate the impact of the Cataract Intervention programme. He attended the two evaluation meetings at Katmandu, Nepal on 24th & 25th April and from 18th to 24th September.

#### Volunteers and Visitors to LAICO

- Dr. Fred Munson and his wife Mary Munson have been very closely associated with Aravind for over one and a half decades through their annual visits to Aravind and by hosting Aravind staff visiting US. They are now part of the Aravind family. During their visit in January, Dr. Munson initiated the process of performance appraisal and helped re-orient the senior management to concepts of team work and empowerment.
- Ms. Kay Renius, Seva volunteer, USA was at LAICO to develop a curriculum for 6 months course in management for eye care delivery for eye hospital administrators.
- Prof. Ramaswamy Iyer, Institute for Financial Management and Research, Madras
- David Levine and Gary Cohen from Seva Foundation, USA

Courses conducted in 1995	Participants
Management Development Workshops for Lions Eye Hospitals	26
Training Workshops in Community Ophthalmology for DOS & DPMs	38
Orientation Training Programme in Community Ophthalmology for PMOAs	60
Vision Building Workshop	18
IOL Microsurgery Training	86
Indirect Ophthalmoscopy Training	40
Training of Trainers	6
WHO Fellowship	7
Training for Ophthalmic Assistants	5



# aurolab

## Intra-ocular Lens Division

AuroLab came into existence as an independent non-profit charitable Trust with a mandate for developing appropriate technology in instrumentation, equipment and supplies needed for eyecare. Towards this goal, an intraocular lens manufacturing facility was started in January 1992 with the initiative of Aravind and Seva Foundation, USA, with additional funding support from Seva Service Society, Canada, Sight Savers, UK, Canadian International Development Agency (CIDA) and Combat Blindness Foundation, USA.

AuroLab is playing a crucial role in making high quality IOLs available at an affordable price to many non-profit institutions in India and abroad.

During 1995, Aurolab achieved substantial increase in production volume to keep up with the rising demand for IOLs. Considerable increase in production of planoconvex and biconvex three piece lenses was achieved through continuous improvement in production efficiency and reduction in rejection rate. A modern single piece lens production system was commissioned during the beginning of the year. Mr. David Green, through the Seva Foundation, USA, played a major role in coordinating the transfer of this technology from the US technology partner (Lenstec, St. Petersburg). Sight Savers, UK, CIDA and Seva Service Society, Canada also provided support for this program. This new production system provided the additional capacity required to increase the production volume and add single piece biconvex posterior chamber and Kelman Multiflex type anterior chamber lenses to Aurolab's product range.

The sale of lenses also increased considerably during 1995. The high quality and affordable prices of the Aurolab lenses are appreciated by many users and most of these satisfied customers are steadily generating new customers through their word

of mouth recommendation. As in the previous years, over 80% of the lenses were supplied to non-profit institutions at affordable price, while the remaining 20% were supplied to other users. Aurolab has appointed dealers in selected locations in the domestic market to provide personalized service. This approach has increased the domestic sales substantially.

The orders for Aurolab lenses from international customers also increased considerably. To date, non-profit users in over 50 countries have purchased Aurolab lenses. Based on the quality, value, and service, many international non-governmental organizations (NGOs) are recommending Aurolab lenses for use in their programmes. The partners of well known NGOs,

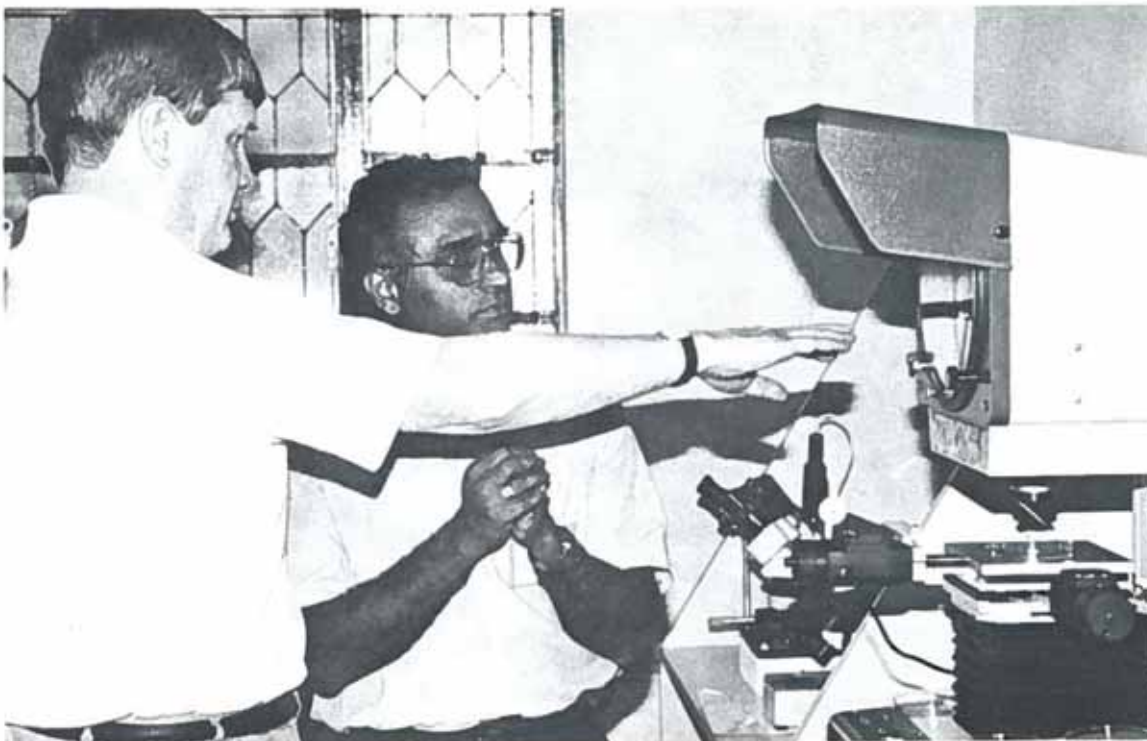


*Checking the quality of lenses*

On examining the IOLs manufactured at Aurolab, Dr. David J. Apple's team observed . . .

*'Well made and polished IOLs such as illustrated here clearly meet and often exceed the standards of many lenses manufactured in the United States and Europe'*

- Letters to the Editor in 'Ophthal vol. 102, No.6 June 1995



*Dr. David Apple discussing advanced IOL design features with Dr. P. Balakrishnan*

such as Christofel Blinden Mission, Lions SightFirst Programme, Sight Savers, Helen Keller International and many others are regularly using Aurolab lenses in their eye care delivery programmes. The addition of single piece lenses to the product range has helped Aurolab satisfy the varied needs of the customers.

The increasing consumer awareness about the benefits of IOL surgery and highly focussed efforts such as the World Bank project in India and the Lions SightFirst program around the world are expected to increase the demand for IOLs in the future. In order to meet this rising demand and improve our service to customers,

Aurolab is planning to expand the production facilities. In the coming year, Aurolab operations will be shifted to a more spacious location in a new building. This new facility will be designed to meet all the international standards for manufacturing medical devices.

The availability of Aurolab lenses at affordable price is making it possible to popularize IOL surgery in India and also in many other countries around the world. Since IOL surgery motivates more people to come for early surgery, Aurolab lenses are indirectly helping many non-profit programs to generate sufficient revenue for sustaining their operations. Aurolab will continue to play a crucial

role in reducing the cost of IOL surgery. Towards this goal, Aurolab is investigating the feasibility of producing other essential supplies and equipment needed for this surgery in an attempt to further reduce the cost.

#### **Volunteers and Visitors to Aurolab:**

The following volunteers and visitors contributed to Aurolab by advising on existing manufacturing process and assisting in the development and implementation of Aurolab's strategies for growth and diversification.

- Dr. David Apple, Department of Ophthalmology, Medical University of South Carolina, USA
- Mr. David Green, USA
- Dr. Banerjee, Moorefields eye hospital, London
- Mr. Jim Drain, DAC, California, USA
- Mr. Josh Litwin, Seva volunteer, USA

## SUPPORTING AGENCIES

Aravind extends its gratitude and appreciation to the following organisations for their continual support.

### Sight Savers

Aravind Eye Hospital and Sight Savers have been associates in preventing blindness and preserving eye sight in the southern parts of India for nearly two decades. The present support is towards strengthening Aravind as a resource centre for providing manpower development services, developing effective models of eye care delivery and making available new technologies and ophthalmic supplies at a cost affordable by the community.

Sight Savers support the 8 week IOL microsurgery training programme and the 4 week Indirect Ophthalmoscopy training programme.

Mr. Nagarajan, Regional Director, South Asia plays a key role in redefining Sight Savers work in India. The new direction is one of capacity building for long term sustainability as opposed to subsidising operating expenses based on the number of surgeries done. Since

Aravind and LAICO share the same philosophy, Mr. Nagarajan has been a source of strength and support in promoting this philosophy both with Sight Savers partnership hospitals and other eyecare programmes. LAICO has used him often as a resource person in its training programmes and has benefitted from his experience and expertise.

### Seva Foundation, USA & Seva Service Society, Canada

Seva enriches Aravind's resources by widening Aravind's access to latest technology and sending volunteers who are experts in various fields of the hospital.

Seva's philosophy of true partnership by responding to the wide range of Aravind's needs has been a constant source of strength. Seva is now working in partnership to contribute to the development of Aurolab and LAICO in addition to providing ongoing support to Aravind Eye Hospitals' service and training activities.

Suzanne Gilbert, Director, Blindness Prevention Action Group visited Aravind to

participate in the LAICO Management Board Meeting and assess specific requirements in staff development and resource materials. She reviewed Aurolab's expansion & diversification plans to identify areas of Seva support.

Ms. Alexa Wilkie, Blindness Prevention Action Group Co-ordinator was at Aravind to see how Seva could support volunteers from US to come and teach hospital management at LAICO and to establish contacts with schools of public health & hospital administrators.

### Direct Relief International (DRI), USA

DRI continues to provide help in shipping donated medical supplies and equipment from USA under the Indo-US agreement.

### Canadian International Development Agency (CIDA), Canada

CIDA has been supporting Aravind for several years through Seva Service Society in several developmental efforts such as establishing a

*'When we hear the cry, in order to continue to live honestly with ourselves and others, we want to respond. And that response may bring some of us closer together and eliminate a part of the world's pain'*

*- Ram Dass & Mirabai Bush, Seva Foundation*



free ward and in the development of low-cost production of ophthalmic supplies.

#### **Combat Blindness Foundation (CBF), USA**

CBF continues to support Aravind's free service to the poor by subsidising the cost of free surgeries.

#### **Helen Keller Foundation (HKI), USA**

HKI through VITAP supports Aravind Children's Hospital's vitamin A work.

#### **Lions International**

Aravind is grateful to the Lions SightFirst programme for its substantial financial support towards the establishment of the Lions Aravind Institute of Community Ophthalmology and its continued interaction in the institute's development.

John Lord, the new project coordinator of the Lions SightFirst programme visited Aravind to gain a first hand understanding of the activities of LAICO. He participated in the first Management Board Meeting and the Fourth Management Development Workshop for the Lions Eye Hospitals.

#### **Ford Foundation, USA**

The grant from Ford Foundation helped Aravind Children's Hospital to disseminate information on the benefits of vitamin A in a child's diet.

#### **Orbis International**

Orbis International continues to provide technical guidance and support to the audio visual department.

Mr. Oswald Font came to further train the audiovisual department staff in videography and in managing the department.

#### **World Health Organisation (WHO)**

WHO strengthens Aravind's role as a WHO collaborating centre by sending Fellows from other countries, giving it research opportunities and networking it with other collaborating centres.

Dr. Dominic Negrel, Ophthalmologist, WHO visited Aravind to review the ongoing research activities and Aravind's role as a WHO collaborating centre.

#### **Allied Dunbar Assurance plc, UK**

Allied Dunbar is partnering a project with Sight Savers and LAICO to enhance the capacity of four eye hospitals located in Northern and Eastern India to provide high quality and large volume of eye care services.

Ms. Linda Perry and Mr. John Bickell, Managers of the India Programme visited Aravind to design and review this project with LAICO. Mr. Collin Williams, a Practice Consultant volunteered his services for a month to work with the LAICO staff to build their consulting skills.

#### **Kaiser Permanente, USA**

Kaiser Permanente has helped Aravind in the development of management systems and procedures by facilitating visits of Aravind staff to their hospitals. Doctors from Aravind were also offered places in their physician management training courses.

Dr. Steve Miller, a long standing Seva volunteer visited Aravind with his wife Linda. During his visit, he worked in the Retina Clinic and conducted several sessions on problem solving through teams and introduced the concept of Total Quality Management to Aravind staff.

*Aravind is grateful to the following organisations which have supported research projects through research grants and technical guidance.*

- *International Centre for Eye Health (ICEH), UK*
- *National Eye Institute, USA*
- *Dana Centre, School of Public Health, John Hopkins University, USA*
- *Proctor Foundation, USA*

# Aravind Eye Hospitals & Postgraduate Institute of Ophthalmology

**Director:** Dr. G. Venkataswamy MS, FACS

**Chief Medical Officer:**

Dr. P. Namperumalsamy MS

**Senior Medical Officer:** Dr. G. Natchiar MS

**Secretary:** G. Srinivasan BE, MS.

Run by Govel Trust

**Administrator:** R. D. Thulasiraj MBA

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

## Board of Trustees:

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Mr. G. Srinivasan

Dr. P. Namperumalsamy

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Mrs. Meenakshi

Mrs. Janaki

Mrs. Lalitha

Dr. Rajendra T. Vyas

President, Rotary Club,  
Madurai Main Branch  
(Ex-officio)

## Aravind- Madurai

### Retina & Vitreous Clinic

**Chief:** Dr. P. Namperumalsamy MS

**Medical Officers:**

Dr. Meena Chakrabarti MS, Dip.NB

Dr. R. Kim Dip.NB

Dr. V. Narendran DO

Dr. Ravi Kulkarni MS

Dr. Dinesh Sahu MS

**Fellows:**

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Dr. Priyamvada Bhasin MS

Dr. Reeti Sharma Dip.NB

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Dr. Sanjeev D. Kulkarni MS

Dr. Satyanarayana MS

Dr. Nolan de Souza MS

Dr. Girish Deshmukh MS

Dr. Praveen Gorane MS

Dr. Sanjay Sharma MS

### Junior Fellows:

Dr. Rajkumar Patil DO

Dr. Chintamani Y. Kelkar DO

Dr. Srinvasa Rao DO

Dr. Suja Mary Thomas DO

Dr. Trilok Kumar DO

Dr. Devindra Sood DO

### Cornea Clinic

**Chief:** Dr. M. Srinivasan MS

**Medical Officers**

Dr. Prajna Dip.NB

**Fellows:**

Dr. Asha MS

Dr. Swarupa Rani MS

Dr. Mukul Sharma MS

### Paediatric Ophthalmology & Strabismus Clinic

#### Contact Lens Clinic

**Chief:** Dr. P. Vijayalakshmi MS

**Medical Officer:**

Dr. Kalpana Dip.NB

Dr. R. Ramesh MS

**Fellows:**

Dr. Anil Kumar Chhabra MS

Dr. Kumar Hariharan MS

Dr. Ravindra Panandikar MS, Dip.NB

Dr. Manoj Kurian Philip MS

Dr. Shriram Bhakara MS

Dr. Preeti Sharma MS

### Glaucoma Clinic

**Chief:** Dr. R. Ramakrishnan MS

**Medical Officer:** Dr. R. Krishnadas Dip.NB

**Fellow:**

Dr. Ponnas Sridhar MS

Dr. Abhijit Tagare MS

Dr. Rajat Anand MS

### Orbit & Oculoplasty Clinic

**Medical Officer:** Dr. Y. Sujatha MD

**Fellow:**

Dr. Syamnath MS

### Uvea Clinic

**Chief:** Dr. Rathinam Sivakumar Dip.NB

### Free Hospital

**Medical Officers:**

Dr. P. Ravichandran DO

Dr. N.V. Prajna Dip.NB

### Intraocular Lens and Cataract Clinic

**Chief:** Dr. G. Natchiar MS

**Medical Officers:**

Dr. Arup Chakrabarti MS

**Fellows**

Dr. Purendra Bhasin MS

Dr. Vandana Nandeshwar MS

Dr. Ravi Shankar MS

Dr. Mohan MS

Dr. Rajendra Verma MS

Dr. G.A. Gupta MS

Dr. Dhananjay Shukla MS

Dr. Archana Pandey MS

Dr. Archana Swamaker MS

### Neuro-ophthalmology Clinic

**Chief:** Dr. G. Natchiar MS

**Neurosurgery:** Dr. P. Subburam MS

### General Ophthalmology Clinic

**Chief:** Dr. G. Natchiar MS

**Medical Officers:**

Dr. K.S. Chandrakanth Dip.NB

Dr. George Jacob MS

Dr. Revathy MS

Dr. Asokan MS

Dr. S. Sujatha MD

Dr. R. Usha Dip.NB

Dr. Kumar Hariharan MS

**Fellows**

Dr. Abhijit Bandyopadhyay MS

Dr. Kushal Kumar Choudhuri MS

Dr. S.R. Mamtha MS

Dr. Siddesh Kumar MS

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## Aravind- Tirunelveli

**Chief:** Dr. R.D. Ravindran MS

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Dr. Niranjankumar Dip.NB  
Dr. N.P. Baburajan MS  
Dr. Parekh Mustafa DO  
Dr. Muralikrishnan MS  
Dr. Sambasiva Reddy MS

**General Ophthalmology Junior Fellows:**

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Dr. Sanjeevani Deore DO  
Dr. Anop Chirayath DO

## Aravind - Theni

**Senior Medical Officer:**

Dr. D. Datta Dip.NB  
Dr. Nagarajan DO

## Aravind Children's Hospital-Madurai

**Director:** Dr. Lakshmi Rahmathullah DPH

**Medical Officer:**

Dr. Paulraj MBBS

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**Trust Secretary:**

Mr. G. Srinivasan BE, MS

**Managing Director:**

Dr. P. Balakrishnan BE, Ph.D

**Production Engineer:**

Mr. R.D. Sriram BE

**Marketing Manager:**

Mr. R.V. Duraiswamy BE

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## Lions Aravind Institute of Community Ophthalmology

**Director:**

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**Grant Administrator:**

Ln. N.A.K. Gopalakrishnaraja MJF

**Administrator:**

Mr. R.D. Thulasiraj MBA

**Institute Faculty:**

Dr. Premarajan MD  
Dr. Shamanna MD, Dip.NB (MCH)

**Manager:**

Mr. Saravanan MHM

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*Tom Wilmore, USA*



**Aravind Eye Hospitals**  
& Postgraduate Institute of Ophthalmology



World Health Organisation  
Collaborating Centre  
For Prevention of Blindness

**Aravind-Madurai**  
**Aurolab**

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