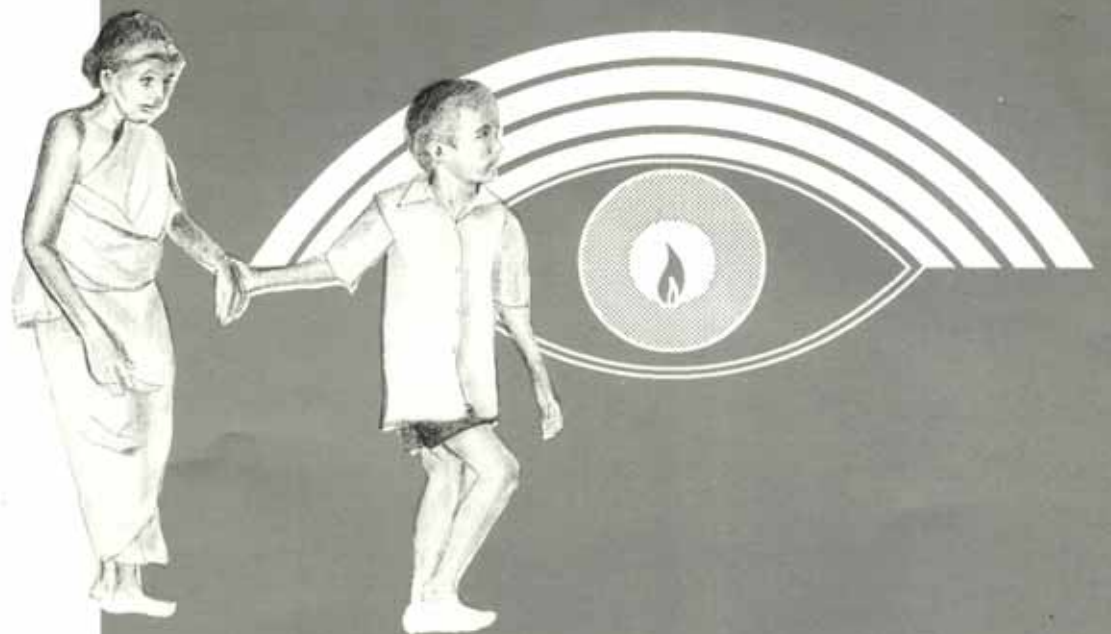
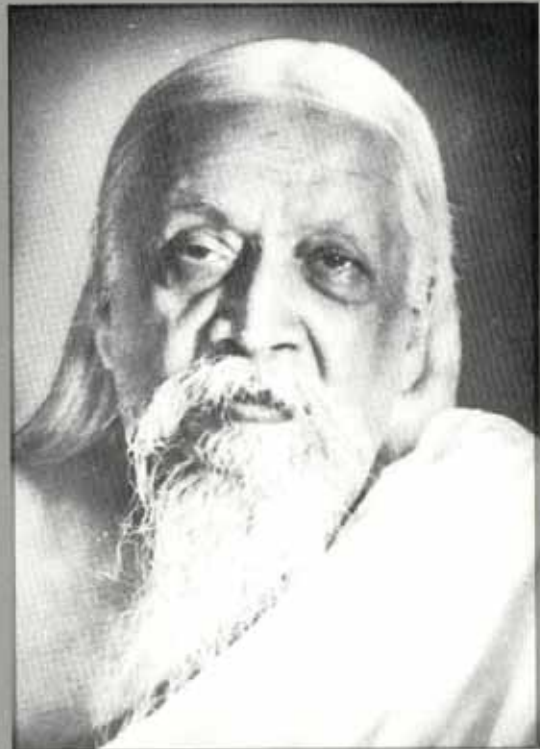


# Aravind Eye Hospital

## Annual Report 1989





*A call was on him from intangible heights;  
Indifferent to the little outpost Mind,  
He dwelt in the wideness of the Eternal's reign.  
His being now exceeded thinkable Space,  
His boundless thought was neighbour to cosmic sight:  
A universal light was in his eyes,  
A golden influx flowed through heart and brain;  
A force came down into his mortal limbs,  
A current from eternal seas of Bliss;  
He felt the invasion and the nameless joy.  
Aware of his occult omnipotent Source,  
Allured by the omniscient Ecstasy,  
A living centre of the Illimitable  
Widened to equate with the world's circumference,  
He turned to his immense spiritual fate.*

*'S a v i t r i'* - Sri Aurobindo

**A**ravind Eye Hospitals are the expression of a vision quest, a response to the silent call of thousands who have lost their sight.

Under the leadership of Dr. G. Venkataswamy, Aravind has experienced a healthy growth of patient volume, and now performs more cataract surgeries each year than any other hospital in India, and perhaps the world.

It has developed excellence in research and expanded the educational opportunities for doctors, nurses and other hospital personnel.

Momentum is maintained in large part by an ethic of service, dedicated to serving people. In 1989, Aravind performed 40,970 cataract and other eye surgeries.

These accomplishments were possible through the efforts of many skilled and conscientious people - the medical and administrative staff, the employees, volunteers and the supporting organizations - working in concert to restore vision.

## Aravind Facilities

### Eye Hospitals:

#### Aravind - Madurai

Paying section - 290 beds

Free section - 400 beds

#### Aravind - Tirunelveli

Paying section - 200 beds

Free section - 200 beds

#### Aravind - Theni

Paying section - 40 beds

Free section - 60 beds

### Aravind Child Care

#### Programmes - Madurai

- Aravind Children's Hospital
- Rural Outreach Programme
- Urban Slum Programme
- Prenatal and Postnatal Care

### Aravind Medical Research Foundation

- Vitamin A Project
- Vanadium Stainless Steel Suture Project
- Clinical Research - Eales' Disease
- Low cost Suture Production
- Salt Pan Keratitis



G. Srinivasan  
Govet Trust-Secretary

Dr. G. Venkataswamy  
Director, Aravind Eye Hospital



## To eradicate curable blindness . . . .

A glimpse at what Aravind has achieved helps to identify what still needs to be accomplished, as it heads into the new year with enthusiasm and commitment.

### Aravind Statistics - 1989

	Madurai	Tirunelveli	Theni	Total
Hospital out-patients	218,358	85,370	26,541	330,269
Eye camp out-patients	109,752	43,693	11,052	164,497
Total out-patients	328,110	129,063	37,593	494,766
Screening camps	464	275	79	818
Cataract & other lens removal Procedures (without IOL)	19,694	5,991	1,301	26,986
Intra Ocular Lens (IOL)	4,740	954	133	5,827
Trabeculectomy	348	103	18	469
Retinal Detachment	302	-	-	302
Vitreous Surgery	189	-	-	189
Laser & Xenon photocoagulation	1,447	-	-	1,447
Yag Laser	887	-	-	887
Membranectomy	51	-	-	51
Keratoplasty & Therapeutic grafting	94	-	-	94
Squint correction	140	-	-	140
Ptosis	5	-	-	5
Pterygium	255	131	36	422
DCR, DCT & other septic operations	1,155	883	112	2,150
Others	1,520	474	7	2,001
<b>Total Surgery</b>	<b>30,827</b>	<b>8,536</b>	<b>1,607</b>	<b>40,970</b>
Out - Patient Visits - Paying	133,162	48,410	22,335	203,907
- Free	194,948	80,653	15,258	290,859
Surgery - Paying	12,652	1,969	482	15,103
- Free	18,175	6,567	1,125	25,867

*" Loss of sight can be the greatest tragedy next to death, yet hundreds of thousands of people in India are suffering from blindness. Participation by the public is the urgent cry of this mission for restoring sight to people"*

- Dr. G. Venkataswamy



Knowing that controlling and ultimately eradicating curable blindness are attainable goals, Aravind continues to strive to make affordable, high-quality eye care accessible to all, through its free and paying hospitals and free eye camps.

### Free Eye Camps

Throughout his career, Dr. Venkataswamy has striven to involve the public in his war on blindness. Aravind's blindness prevention campaigns create an awareness in the minds of people to preserve eyesight. In 1989, the free eye camps and free hospitals at Madurai, Tirunelveli and Theni reached 290,859 people, and resulted in 25,867 eye surgeries of which 22,926 were cataract operations. Most blindness is preventable if given early attention. With the help of volunteers and supporters, Aravind's eye camps have reached many remote villages and restored eyesight for thousands of people.

### Camps conducted in 1989

Name of Organization	No. of camps	Total out-patients	Cataract	Other surgery	Total
Bhagavan Sri Sathya Sai Seva Organization	23	8,283	1,555	34	1,589
Lions Club	67	24,795	2,990	89	3,079
Rotary Club	30	8,492	770	17	787
Vivekananda Kendra	130	21,972	2,041	217	2,258
Jaycees	10	3,274	333	8	341
Banks	33	5,284	391	37	428
Mills and Factories	29	9,329	858	31	889
Trusts	10	2,761	339	9	348
Assefa	16	1,834	160	12	172
Helen Keller Society	19	1,864	158	10	168
Schools and Colleges	114	18,714	1,182	70	1,252
Hospitals	11	3,386	541	56	597
Youth Associations	64	8,209	513	26	539
Other Religious Organizations	91	21,433	1,947	88	2,035
Others	171	24,867	1,731	121	1,852
<b>Total</b>	<b>818</b>	<b>164,497</b>	<b>15,509</b>	<b>825</b>	<b>16,334</b>



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## Aravind Eye Hospital: Madurai



Dr. P. Namperumalsamy  
Chief Medical Officer

Founded in 1976 as a 20 bed eye clinic, Aravind Eye Hospital has expanded into a complex of three buildings, with over 700 beds available to paying and free patients. The five storey main hospital which opened in 1979, has four fully modernized operation theatres and speciality clinics for cornea, retina and vitreous, paediatric ophthalmology, glaucoma and neuro-ophthalmology.

Construction continues on the new five floor out-patient facility being built adjacent to the main hospital. This new facility will alleviate functional problems due to rapid increase in the number of out-patients, and is designed to keep pace with anticipated growth.



A view of the new out-patient  
facility

More than two-thirds of Aravind's patients are served without charge. Aravind's ability to give cost-effective free services to most of its patients, without any detriment to quality of care, is truly unique. All medical and para-medical personnel are posted in rotation so that they serve both hospitals. This practice ensures that the quality of eye care is the same in the paying and non-paying services of the hospitals. The five storey free hospital, a stone's throw from the main paying hospital has 400 beds and by the end of 1990, its capacity will increase to 500 beds.



Dr. Natchiar examining a child

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## Satellite Hospitals . . . .

The existence of thousands of blind people in India and their growing numbers is testimony to the need for a new approach to providing more accessible eye care. To this end, Aravind began setting up self-sufficient satellite hospitals five years ago. Areas with inadequate eye care facilities but within easy reach by most people are chosen as the centres. Hospitals have been built at Theni and Tirunelveli, and Aravind has plans to construct two more hospitals in the near future as funds and personnel become available.



Checking vision at Aravind - Tirunelveli

### Aravind Eye Hospital: Tirunelveli

Situated on the banks of Thamirabarani river, Aravind-Tirunelveli started in February 1988, is a near replica of the base hospital at Madurai and has facilities for 200 free patients and 200 paying patients. Staffed by a team of dedicated doctors and nurses trained at the base hospital - consisting of eight ophthalmologists, nine refractionists, 25 nurses and other supporting personnel - this hospital serves people in and around Tirunelveli,

V. O .Chidambaranar and Kanyakumari districts.

Besides having its own free section and camp unit, the hospital also has a unique programme called the Village Cataract Awareness Programme. Volunteers from various social organizations are selected and trained to identify cataracts and bring the patients to the hospital. Looking into the future, this new hospital plans to add speciality clinics and equip them with state-of-the-art equipment.

### Aravind Eye Hospital: Theni

Nestled among the scenic Western Ghats, Aravind-Theni was opened in 1985 and serves a population of one million people within a 50 km radius of Theni. Apart from the out-patient clinic and the free eye camp unit, the hospital has in-patient facilities for 60 free and 40 paying patients. This year's preparations for increased free eye camp activity will boost the number of free eye surgeries, helping to restore many people to normal and productive lives in 1990.



Dr. Saju Joseph examining a patient



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## Aravind Children's Hospital . . . focus on Prevention

In 1984, Aravind Eye Hospital opened Aravind Children's Hospital with emphasis on providing free preventive services and nutritional health education to families, as well as maintaining out-patient and in-patient facilities.

Some of the services include:

- Prenatal and Postnatal care
- Free immunizations
- Rural Outreach Programmes
  - Monthly clinics teach health education to mothers regarding basic child care.
- Formation of Mahila mandals (women's service groups)



In all the adopted villages, women have been organized to form health committees where each member takes responsibility for 25-30 families in the village. Base line surveys in the villages have been completed in the initial phase of evaluating effectiveness.

One of the Mahila mandals has formed a society to obtain facilities for economic development. The society applied to the government for land and has been allotted three acres near their village. It is proposed to develop a community vegetable garden to grow vegetables rich in vitamins essential for the prevention of disease and blindness. Such a garden exists at the children's hospital, and the produce is given to mothers with children suffering from vitamin A deficiency.



Since the close of the Nutrition Rehabilitation Centre at the government hospital in Madurai, the training component has been shifted to Aravind Children's Hospital. Four training programmes were conducted in 1989 with 74 people participating.

### 1989 statistics

Free	15,989
Paying	7,978
Camps	54
Children seen in camps	7,852
Immunizations	2,581

Action Health 2000 sponsored nurses, Tracey Cooper and Elizabeth Berryman spent six months each volunteering their services in the different programmes of the children's hospital. Medical students Caroline Cook, Michael O'Brien, Jo Marsden and Lisa Jackson spent their elective time volunteering at Aravind under the aegis of Action Health 2000.

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## Recent Advances / Acquisitions . . . .



Mike Myers with R. D. Thulasiraj  
in the computer room



Aravind's new phone system



### **Computers:**

The difficulties in maintaining a computer centre in a developing nation are significant. Aravind has overcome all the major obstacles, and now is reaping the benefits of computerized accounting, patient room assignments, statistics, and research applications. In 1989, the computing centre was further expanded with the addition of three new PC/AT's and a 140 megabyte hard disk drive for the Macintosh, to add to Aravind's existing capacity. Plans are underway to computerize administrative processes. 1990 is likely to see the implementation of computerized on-line application for patient registration, billing, medical records, accounting and hospital inventory.

Publishing capability within the hospital continues to develop around the Macintosh desk top publishing system. All patient education pamphlets, newsletters and this annual report are now being designed and produced through this facility.

### **Improved Communications**

A recently installed electronic telephone network increased the number of extensions within the main hospital to 45. Additional features including conference calls and other time-saving functions allow for a smoother flow of communications. With the addition of facsimile (fax) equipment, communications with overseas supporting organizations and Aravind's partners in research are now much faster and less expensive.

### **Library**

The hospital maintains a specialized library for text books and journals related to ophthalmology and medical administration. This collection, which continues to expand yearly, also has instructional videos for use in post-graduate training. 1989 brought the development of in-house instructional videos for ophthalmologists and medical students here at Aravind and for medical centres elsewhere throughout India.

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## Supporting Organizations:

Aravind's services are supported by agencies whose generous gifts of personal time, financial resources and in-kind donations have speeded the achievement of Aravind's goals.

### **Sight Savers: (Royal Commonwealth Society for the Blind) U.K.**

Since the very beginning, Sight Savers has stood by Aravind enabling it to expand free surgeries and provide quality eye care to those who cannot afford to pay for their services. Aravind's ability to offer free services and run rural eye camps have been to a great extent made possible by financial and moral support provided by Sight Savers. To recognize Sight Savers' partnership with Aravind to end curable blindness, Dr. Rajendra T. Vyas, Asia director of Sight Savers, inaugurated the free hospital in 1984.

In 1989, Mr. Nagarajan, Field Director of Sight Savers, India, visited Aravind on several occasions. These visits provided Aravind with a better appreciation of Sight Savers' work at a national level while helping to review some of Aravind's own strategies in the area of blindness prevention.



*Ever since the eye camps were started, the Sight Savers has generously contributed towards the cost of free surgeries.*

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**Visitors from Seva Foundation:**

- Dr. Larry Brilliant, Founder board member of Seva Foundation spent several days at Aravind to review Aravind's future plans and Seva's role in it.
- David Green, Technical Assistance Director of Seva Foundation was at Aravind for three months to help develop a low-cost suture manufacturing system and do a cost-effective analysis of Aravind's community outreach methods.

**Seva Service Society:**

- Dr. Martin Spencer, board member of Seva Service Society in Canada spent two months at Aravind to help in training our residents in Microsurgery and Intraocular implantations. Mrs. Spencer, an artist, helped Aravind develop the new logo.

**Seva Foundation, California, USA**

The Seva foundation's motive of translating compassion and concern into useful service, has enabled Aravind to have better access to western technology, thereby increasing and improving Aravind's effectiveness in its battle against blindness. Aravind has had the opportunity to participate in Seva's blindness prevention programs in Nepal by training their ophthalmic assistants. To help Seva plan for their new hospital, Mr. Srinivasan, Aravind's trust secretary and Mr. Thulasiraj, the administrator visited Nepal for consultation.

**Seva Service Society, Canada**

Established by the Canadian board members of Seva Foundation, USA, Seva Service Society (SSS) has the same commitment towards service. With Canadian International Developmental Agency's (CIDA) assistance they funded the construction of one of the free wards at Tirunelveli hospital. They are currently funding the development of a low-cost suture manufacturing facility within the hospital, and the establishment of a training centre to develop human resources at Aravind.

**Helen Keller International, New York, USA**

Helen Keller International (HKI) continued its support in the development of the hospital administrator's training program. Their support became fruitful when the course was finally offered in July by Madurai Kamaraj University. HKI also funded the purchase of, in effect, a small health care management library to supplement the clinical emphasis of the current library.

**Direct Relief International, California, USA**

Direct Relief International provides help in shipping and customs passage of medical supplies and modern equipment donated by itself and other organizations.

**Action Health 2000, UK**

The voluntary organization, Action Health 2000 coordinates the placement of medical volunteers and medical students on elective programs from England, to appropriate projects throughout India and several of these volunteers are placed at Aravind.



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## Research Projects . . . .

Aravind provides excellent research opportunities for epidemiologists, ophthalmologists and administrators. Access and contact with patients facilitate researchers investigating problems related to delivery of eye care, and issues concerned with causes and treatment of various eye diseases. A separate area on the main hospital's fifth floor terrace has been equipped for the data management and analysis of these research activities, with its own computer facilities.

### **Vanadium Stainless Steel Suture Project**

The Vanadium Stainless Steel (VSS) Suture project is a clinical trial approved by the Government of India and sponsored by the World Health Organization in co-operation with the National Eye Institute (USA). The purpose of this trial is to evaluate the safety and efficacy of VSS sutures in cataract surgery in India. If satisfactory, this could replace the expensive silk sutures which represent 30% of cataract surgery (without IOL) cost.



Dr. Datta, incharge of the VSS project examining a patient

Initial pre-tests done on about 70 patients to test the research protocols and data forms led to necessary modifications before the actual study began in mid-October. The protocol requires a total sample of 3,400 patients randomly allocated between the VSS suture group and the control group (conventional silk sutures). Data is collected from each group by measuring improvements in vision and monitoring surgical complications, before and after discharge, at three-week and six-week intervals. The study is expected to be completed by the middle of 1991.

### **Vitamin-A Research Project**

Aravind Eye Hospital, with funding from the Ford Foundation, carried out a study to determine the effects of a moderate increased intake of vitamin A on the morbidity and mortality trends among a sample of 15,419 children, aged six months to five years. This study involved administering weekly doses of vitamin A (10,000 IUs) for 52 weeks to one group and a placebo to the other and recording indicators for morbidity and mortality. The study was carried out in Aravakurichi, Kadavur and Krishnarayapuram Panchayat unions of Trichy district.

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Vitamin A supplement being administered

Mid-term eye examinations were done in February 1989, followed by six months of weekly interventions. Then a detailed final medical examination of all the children including anthropometry and eye examination, was completed over a period of three months. There was a 90 % coverage rate for weekly interventions and final evaluation. The three year project concluded in December 1989.

With the field work of the research project completed, the preliminary results were presented at the XIII International Vitamin A Consultative Group meeting held at Katmandu in November 1989. Preliminary analysis indicates no impact on morbidity but a significant impact on mortality. More detailed data analysis is in progress with the aid of Dr. Barbara Underwood and Dr. Roy C. Milton from the National Eye Institute, Bethesda, USA .

#### **Study on Salt Pan Keratitis:**

Salt pan workers appear to have a higher rate of keratitis, with suspected causes being over-exposure to light or perhaps due to salt by-products. A study was designed with informal collaboration of the National Eye Institute, USA (NEI) and the Office of the Salt Commissioner of India to ascertain the prevalence of salt pan keratitis amongst salt pan workers. Dr. M.Srinivasan, chief of Cornea service, who did the research work visited NEI and worked with Dr. Seigel, Dr. Ashlesha Tamboli and Dr. Sperduto to develop the study design.

The study was carried out in the salt pan belt of southern Tamil Nadu in VOC district. A randomly selected sample of 2,519 salt pan workers was examined along with an equal number of non-salt pan workers from the same geographic area. Both groups were examined for corneal lesions and other pathology, then interviewed by trained ophthalmic research assistants to assess history and demographic characteristics.

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Preliminary analysis shows salt pan workers have a relative risk of 26.92 of developing salt pan keratitis with a 95% confidence interval. The study indicates that the salt pan workers are at a greater risk vs. controls for developing salt pan keratitis, which is a progressive and painless blinding condition likely due to occupation.

### **Eales' Disease Study**

In 1984 a study was designed to gain insight to the causes and treatment of the blinding condition called Eales' disease, which is found to affect healthy young individuals particularly in the South Eastern Asian countries. This five year study which concluded in October 1989 was carried out in collaboration with the School of Biological Sciences, Madurai Kamaraj University, with grants from Indian Council of Medical Research (ICMR), New Delhi and National Eye Institute, USA.



Dr. Das at the fundus camera

From the analysis of the data, it was concluded that photocoagulation in stage II and stage III Eales' Retinopathy is beneficial to prevent vitreous haemorrhage in patients with Eales' disease. A laboratory study performed at Madurai Kamaraj University in collaboration with Aravind Research Foundation identified two new protein bands in the serum of patients with Eales' disease, which possibly has an important bearing on the pathogenesis of Eales' disease.

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## Continuing Education . . . .

### **Retina & Vitreous Fellowship:**

Avinash Kelkar  
S. Harikrishnan  
M. Shankerlingam  
Donald Francis Lobo

### **IOL Fellowship:**

Sielda Gomes  
A. Srinivas

### **Cornea Fellowship:**

C. Ashok Kumar Rao

### **Diploma in Ophthalmology (D.O.)**

R. Mohan	V. Narasinga Rao
K. Ravikumar	R. Krishnadas
S. Srinivasan	V. Muralidhara
Susilpani	Selvi Selvakumar
K. Hemalatha	R. Kim

### **Senior House Surgeons**

M.T. Ramesh	J. Lakshmanan
R.R. Manohar	V. Narendran
S. Dhanalakshmi	K. M. Selvakumar
G. Arunagiri	R. Ramesh
N. Sivakumar	N.V. Prajna
S. Kalpana	



Nursing Superintendent Radha instructing the nursing trainees

Teaching programs at Aravind assure medical and other personnel access to continuing developments in their field. In addition to the educational programs for hospital employees, Aravind also sponsors educational symposia. These provide an important forum for advancing knowledge in the medical and ophthalmic community. The major educational activities of the hospital are concentrated in three formal training programs; post-graduate training for ophthalmologists, the training of ophthalmic nurses and a new program for hospital administrators.

### **Medical Education:**

On the level of post graduate medical education, Aravind offers courses for Diploma in Ophthalmology, Diplomate of the National Board and also post-residency sub-speciality fellowships in retinal and vitreous diseases, corneal diseases, intraocular implantations and paediatric ophthalmology.

Aravind ophthalmologists' are encouraged to learn from institutions abroad. Dr. Ramakrishnan of Glaucoma Services spent 16 weeks at the US learning modern diagnostic and treatment methods in the fields of Glaucoma and Orbit surgery. He visited the Illinois Eye & Ear Infirmary, Wills Eye Institute, Massachusetts Eye & Ear Infirmary and Kellogg Eye Centre at Michigan.

Dr. Taraprasad Das spent about four months in the United States studying recent medical and surgical techniques in the field of retina and vitreous and learning more about electrophysiology. Most of his time was spent at the Illinois Eye & Ear Infirmary, Wills Eye Hospital and at Massachusetts Eye & Ear Infirmary. He also attended the Annual meeting of the American Academy of Ophthalmology held at New Orleans from 29th October to 2nd November 1989.

### **Ophthalmic Nurses Training:**

Every six months, Aravind interviews and selects about 25 high school graduates and trains them for three years. After the basic training, they are divided into groups for specialized training as theatre nurse, ward nurse, and refractionists. The efficiency of Aravind's ophthalmic

The residents and doctors who visited in 1989 are:

**Illinois Eye & Ear Infirmary, Chicago**

Dr. David Morimoto  
Dr. Jill Fester  
Dr. David Hillman  
Dr. Sarah Owens  
Dr. Ken Blaylock  
Dr. Sharon Burke

**St. Vincents Hospital, New York**

Dr. William Boozan  
Dr. Troy R. Elander  
Dr. Lawrence Turtel  
Dr. Debbie Silberman

**Wills Eye Hospital, Philadelphia**

Dr. Arunan Shivalingam  
Dr. Marlon Maus

**Massachusetts Eye & Ear Infirmary, Boston**

Dr. Paul Svitra  
Dr. Wayne I. Larrison  
Dr. Sharon Freedman  
Dr. Dimitri Azar

**Brookdale Hospital, Brooklyn NY**

Dr. George Temnycky

**Sinai Hospital, Detroit**

Dr. Neal Krasnick

**Nepal Nethra Jyothi Sangh:**

Dr. Adhikary - Nepal Eye Hospital  
Dr. Koirala - Lumbini Eye Hospital  
Dr. Mohan Bajracharya - Norwegian Church Aid Hospital

**WHO Fellowship: from Sri Lanka**

Dr. Tissa Sanaratne,  
Dr. A. Edirisingle  
Mrs. S. Schott



Chip Rosenfield working with Ahila at the computer centre

## Visiting Ophthalmic Residents

As part of their training, residents from various university hospitals in the USA spend two to four weeks at Aravind.

## Volunteers and visitors to Aravind in 1989

People frequently come to Dr. Venkataswamy and ask the question, "How can I help?". To those people, plus the many who come to learn and observe, Aravind sincerely appreciates their contributions. Each helpful act, no matter how big or how small, brings Aravind one step closer to the goal of eradicating curable blindness. The following list is by no means all-inclusive, and equal appreciation goes out to all who have offered their assistance.

- Michael Myers - As in his earlier visit, Mike helped in the computer section. On this visit he also helped Aravind produce several video films for training nurses. He was sponsored by the Seva Foundation.
- Fred de Sam Lazaro, Producer for MacNeil/Lehrer Newshour, spent two days at Aravind filming a segment about Aravind's success at high volume cataract surgery for all people regardless of ability to pay. It was aired in October, 1989 on Public Broadcasting System (PBS) in the USA.
- Ms. Monica Green, with her background as a hospital epidemiologist, helped Aravind to initiate several infection control procedures. She formed a committee for infection control and developed a manual on infection control procedures.
- Allan Rutzen, medical student from Cornell University, was at Aravind under the Human Rights and Health Care Externship Program of the College of Physicians and surgeons of Columbia University, NY, USA. He analyzed the camp activities to determine the effectiveness in relation to the size, local organizers and population covered by the camps.
- Chip Rosenfield from USA came to assess the need for cost effective spectacle manufacture, distribution and usage in Tamil Nadu.
- Dr. Jason Gilbert - Boston, USA
- Kate Colson, Ann Arbor, USA
- Dr. Chet Raj Pant, Nepal
- Barbara Tochiura, Berkley, USA
- Dr. & Mrs. Leon Ellwein - University of Nebraska Medical Centre, Omaha, USA
- Dr. E. Wagner - West Germany
- Nancy J. Haselow - HKI, VITAP, New York, USA
- Hari Das - Taos, New Mexico, USA
- Dr. Jean Humphrey - Johns Hopkins, ICEPO, (International Centre for Epidemiologic and Preventive Ophthalmology) Baltimore, USA
- Dr. Kelly Kinney (Family Practice) Baldwin, Michigan, USA
- Dr. Tara Tabesh, medical student, Stanford University, USA
- Dr. Raj Modi - New York, USA
- Emmanulle V. Carrad, HKI, Indonesia
- Dr. Suparman, HKI, Indonesia
- Dr. I. G. M. Pardhita, Indonesia
- Mrs. Suhartiti Soetopo, Indonesia
- Mrs. Yohana Tangdialla Eppang, Indonesia



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- Dr. Jean Humphrey - Johns Hopkins, ICEPO, (International Centre for Epidemiologic and Preventive Ophthalmology) Baltimore, USA
- Dr. Kelly Kinney (Family Practice) Baldwin, Michigan, USA
- Dr. Tara Tabesh, medical student, Stanford University, USA
- Dr. Raj Modi - New York, USA
- Emmanulle V. Carrad, HKI, Indonesia
- Dr. Suparman, HKI, Indonesia
- Dr. I. G. M. Pardhita, Indonesia
- Mrs. Suhartiti Soetopo, Indonesia
- Mrs. Yohana Tangdialla Eppang, Indonesia

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## Patient Education . . . .



One of Aravind's ongoing roles has been to educate the community in disease and accident prevention pertaining to the eye. A patient information series has been introduced to inform the patients about their specific eye disorder. The newsletter 'Kannoli' published by the Madurai Eye Bank and Aravind helps to inform the public of recent diagnostic and treatment techniques.



Dr. Srinivasan demonstrating eye injury in a child to a resident

Dr. Srinivasan of the cornea clinic has observed that many of the eye injuries he sees have occurred repetitively in predictable situations. Children in particular seem to bear a disproportionate burden of eye injuries. The cornea clinic through the local newspaper and the local radio station regularly brings to the public's attention the common eye accidents that lead to ulceration of the eye and sometimes total blindness.

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## Conferences held at Aravind . . . .



**3rd biennial meeting of the strabismological society** was conducted by Dr. Vijayalakshmi, January 3rd & 4th.

The guest faculty were

Dr. Bob Letson of Univ. of Minnesota, USA,

Dr. Marilyn Y. Miller, Univ. of Illinois, USA,

Prof. Peter Roggen Kamper and

Dr. Josephine Shallo Hoffman of West Germany.

**Didactic course in Corneal Diseases, June 24th & 25th** was conducted by Dr. M. Srinivasan.

The guest faculty were:

Dr. Gullapalli N. Rao, Director, L.V.Prasad Eye Institute, Hyderabad,

Dr. Ananda Kannan Cornea Services, Institute of Ophthalmology , Madras and

Dr. M.S. Ravindra, Medical Director, Lions Eye HPL and Corneal Grafting Centre, Bangalore



**Course on Ophthalmology for general practitioners, November 19th,** was conducted by Dr. R. D. Ravindran at Aravind - Tirunelveli.

This is now becoming a regular feature at Aravind - Tirunelveli to help the general practitioners manage, the common eye problems in their area.

**Workshop in Neuro-ophthalmology, December 16th & 17th.**

The guest faculty were:

Dr. Bhanumathi, Dr. Suresh Babu, Dr. Subbaraman and Dr. Shivakumar from Govt. Rajaji Hospital ;

Dr. Rao, Prof. & Head of the Department of Radiology, and

Dr. Rout, Head of the Department of Neuro Surgery, S.C.T. Centre, Trivandrum

Dr. Sriram Sonty, Neuro Ophthalmologist, L. V. Prasad Eye Institute, Hyderabad

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## Conferences attended . . . .

**Seminar on retinal diseases,**  
L.V. Prasad Eye Institute,  
Hyderabad,  
January 1st & 2nd.

Dr. P. Namperumalsamy - Guest speaker and panelist  
- *Principles of retinal detachment surgery*

**Indian Intra ocular Implant  
Society Convention,**  
Madras,  
January 4th & 5th.

Dr. P. Namperumalsamy - Guest speaker about Pars Plana surgery post  
segment at Agarwal Eye Institute

**47th Annual Conference of All  
India Ophthalmological Society,**  
Madras,  
January 6th to 9th.

Dr. P. Namperumalsamy  
- Invited faculty to the instruction course on *Parsplana surgery of  
anterior segment disorders and endophthalmitis*  
- Convenor: Current status programme on *Age related Macular degen-  
eration*  
- Invited panelist to the round table meeting on *Vitreous haemorrhage*  
- Invited panelist to the current status programme on *Three decades of  
fluorescein angiography*

Dr. M. Srinivasan  
- Panelist in Round Table meeting on :*Corneal Ulcer*  
- Faculty in *Current status : Corneal Edema*

Dr. Savitri Sharma  
- Impression cytology of conjunctiva for detection of Vitamin A  
deficiency : Comparison of two available techniques

Dr. Tara Prasad Das  
- Invited faculty to the instruction course on "*Perforating injuries with  
or without IOFB*" and spoke on "*Techniques of localization of IOFB*"

**NGO Symposium on cataract and  
related blindness**  
National Eye Institute, Washington  
March 12th

R. D. Thulasiraj  
- *Operations Approach to Reduction of Cataract Blindness*

**National Symposium on Fluorescein  
Angiography and Photo-coagulation,**  
Retina Associates,  
New Delhi,  
April 15th & 16th.

Dr. P. Namperumalsamy  
- *Laser Photocoagulation in Eales' Disease*  
- *Laser Photocoagulation in Diabetic retinopathy*  
- *Interpretation of Fluorescein Angiography in Eales' Disease*

**Regional conference of Indian  
Association of Medical Microbiolo-  
gists, (Tamil Nadu, Pondicherry)**  
Tirunelveli, May 18th

Dr. Savitri Sharma  
- *Acanthamoeba Keratitis - A 'new' clinical entity*

**Course on Microscopic Surgery,**  
L.V. Prasad Eye Institute,  
Hyderabad, June 3rd & 4th.

Dr. P. Vijayalakshmi  
- Demonstrated surgery (ECCE) and also lectured on the  
- *Role of microscope in Extra Ocular Surgeries*

**Diploma Course in Community Eye  
Health**  
International Centre for Eye Health,  
University of London, June 13th

R. D. Thulasiraj: Guest lecture on  
- *Operations Research and Rapid Epidemiological Assessment of  
Cataract Blindness*

**Symposium cum workshop on  
updates in ophthalmology - focus on  
laser, glaucoma, IOL and refractive  
surgery.** Institute of Ophthalmology,  
Joseph Eye Hospital, Trichy, July 8th.

Dr. P. Namperumalsamy  
- *Role of lasers in diabetic Retinopathy*  
Dr. G. Natchiar  
- *Recent Trends in planned Extra Capsular cataract surgery*

**Seminar on Topcon Imagenet  
(medical system),** Singapore,  
July 25th to 30th.

Dr. P. Namperumalsamy

**3rd GLOBAL Intraocular lens  
Implant and Refractive Keratoplasty  
Workshop,**  
Sarojini Devi Eye Hospital, Hyderabad,  
August 4th to 6th.

Dr. G. Natchiar, guest lecture  
- *Various techniques of capsulectomy in ECCE Surgery*

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**37th Annual conference of the  
Madras State Ophthalmological  
Association**  
Salem, Tamil Nadu  
September 8th to 10th.



R. D. Thulasiraj with Dr. Underwood  
at the symposium at Washington

**National seminar & workshop on  
IOL, Calcutta,**  
September 24th & 25th

**Course on Retinal Detachment,**  
Shankarnethralaya, Madras,  
September 30th & October 1st

**15th Madhya Pradesh State Ophthal-  
mic Conference,**  
Jabalpur,  
October 14th & 15th.

**National workshop on Cataract Micro  
surgery & Intraocular lens Implants**  
All India Institute of Medical Sciences,  
New Delhi,  
October 16th to 21st.

**Gujarat State Conference,**  
Rajkot,  
October 23rd & 24th.

**XIII National Congress of Indian  
Association of Medical  
Microbiologists, Jaipur,**  
November 11th.

**Cataract Control Workshop on  
"Operations Research in the Control  
of Cataract Blindness in the Develop-  
ing World",** by National Eye Institute  
and the International Agency for the  
Prevention of Blindness,  
Kathmandu, Nepal,  
November 3rd & 4th.

• Dr. Natchiar received the 'Joseph Gnanadhickam Memorial Oration  
Award'.

Dr. Natchiar

- *Importance of Neuro- ophthalmology in general ophthalmic practices*

Dr. P. Namperumalsamy

- *Convenor, Instruction on Indirect Ophthalmoscopy*

Dr. C. H. Ashok Kumar and Dr. M. Srinivasan

- *Clotrimazole skin cream in management of Fungal Corneal Ulcers*

Dr. M. Srinivasan

- *New Surgical Procedure for Bullous Keratopathy*

- *New indications for IOL*

- *A rare Para orbital Tumour*

Dr. N. Nagappan

- *Decision to treat in primary open angle Glaucoma*

Dr. S. Manohar, Dr. Taraprasad Das and Dr. P. Namperumalsamy

- *Hydrophilic Acrylate Implant for Scleral Buckling*

- *Optic Nerve Pit*

Dr. Avinash R. Kelkar, Dr. Taraprasad Das and Dr. P. Namperumalsamy

- *Wedge Scleral Buckling*

Dr. S. Hari Krishnan and Dr. P. Namperumalsamy

- *Grid Laser Photo-coagulation in Diabetic Macular Edema*

Dr. R.D. Ravindran and Dr. S.S. Sukumar

- *Role of Topical, Non-steroidal, Anti-inflammatory Drugs in planned  
ECCE*

Dr. R. D. Ravindran, Dr. Prem Chander and Dr. P. Tharala

- *Trabeculectomy combined with PC IOL Implantation*

Dr. G. Natchiar

- *Intraocular Lens*

Dr. P. Namperumalsamy - Guest faculty

- *Hands-on course on indirect ophthalmoscopy*

Dr. P. Namperumalsamy

- *Parsplana lensectomy in children - and Pseudophakic Retinal  
detachment*

Dr. G. Natchiar

- *ECCE in senile cataract - Surgical session and panel discussion :*

Dr. P. Vijayalakshmi

- *Surgical demonstration on 2 strabismus cases and lecture on*

- *Diagnosis of superior oblique muscle palsy*

- *Investigation of a case of Amblyopia*

Dr. Savitri Sharma

- *Acanthamoeba Keratitis in non-contact lens wearers.*

At the symposium on "Opportunistic Mycotic Infections"

- *Ocular Opportunistic Mycoses*

Dr. G. Venkataswamy

- *Actions needed to integrate research into existing and new national  
programs - a panel discussion*

- *Resident Hospitals*

R.D. Thulasiraj

- *Why don't patients seek surgery and how can they be motivated?*

- *Recent Operations Research Projects: Priority issues emerging from  
experiences to date*

- *Proposals for applied research projects to address priority issues*

- a panel discussion

- *Cost control - Sutures*

**XIII International Vitamin A  
Consultative Group meeting,**  
Kathmandu,  
November 7th & 8th.

**IOL Workshop, Banaras Hindu  
University, Varanasi,**  
November 11th & 12th

**Kerala State Ophthalmic Conference,**  
Irinjalakuda,  
December 10th

**Workshop on status of Prevention of  
Blindness Services in Tamil Nadu and  
Strategies for Future,**  
Joseph Eye Hospital, Trichy,  
December 20th & 21st.

## **Publications:**

*Immunological status of patients of  
Eale's disease*

*Impression cytology of the conjunctiva  
by transfer method: the technique and  
reliability*

*Evaluation of goblet cells in conjuncti-  
val impression cytology by multiple-step  
and two-step staining techniques*

*Infrequent aerological agents of corneal  
ulcers*

*Flourescein-conjugated lectin visualiza-  
tion of fungi and Acanthamoeba in  
infectious keratitis*

*Ultrasonic characterization and classifi-  
cation of proliferative vitreoretinopathy*

*Rapid Epidemiologic Assessment of  
Cataract Blindness*

## **Aravind Publication:**

R.D. Thulasiraj  
- *Management of community based intervention programmes*  
Dr. Lakshmi Rahmathullah & R.D. Thulasiraj  
- *The effect of a frequent small dose vitamin A supplement on morbidity and mortality trends among preschool children in Trichy district, South India*

Raheem Rahmathullah  
- *Experiences in the use of a precaliberated dispensing bottle for the delivery of vitamin A*

Ms. Kalavathi  
- exhibited a poster session depicting the Vitamin A content of the food available at Trichy district and the process of adapting the IVACG guidelines for dietary survey.

Dr. Natchiar  
- *Recent developments in IOL implantation*  
- *Common complications of IOL implants*

Dr. Saju Joseph, Dr. R. Ramakrishnan and Dr. P. Namperumalsamy  
- *Intra ocular lens power calculations*

Dr. G. Venkataswamy  
- *Magnitude of blindness in Tamil Nadu*

R.D. Thulasiraj  
- *Non-Governmental organizations in the state - In prevention and cure*  
- *Infrastructure and personnel : Non-Governmental organizations*

- *Present status*
- *Planning for future*

Dr. Lakshmi Rahmathullah  
- *Women and child welfare programmes - National and state on child blindness in Tamil Nadu - Recent trends*

Dr. Taraprasad Das  
- *Blinding posterior segment eye conditions - Future strategies*

Dr. V.R. Muthukaruppan, Kalpana Rangarajan, Dr. Chakkalath, and  
Dr. P. Namperumalsamy  
Indian Journal of Medical Research

Dr.Savitri Sharma  
Journal of M.S.O.A (1989) Vol. XXVI (2).

Dr.Savitri Sharma, Barbara A.Underwood  
Indian Journal of Medical Research, 90, June 1989

Dr. Savitri Sharma, Dr. M.Srinivasan, Celine George  
Journal of M.S.O.A (1989) Vol. XXVI (3)

Dr. Jeffrey B.Robin, Dr. Roger Chan, Dr. Narasinga Rao, Dr. Savitri Sharma,  
Dr. M.Srinivasan  
Ophthalmology 96:1989

Dr. Taraprasad Das  
Proceedings of the 46th Annual Conference of AIOS,

Dr. G. Venkataswamy, James M. Lepkowski, Thulasiraj Ravilla, Girija E.  
Brilliant, C. A. K. Shanmugham, K. Vaidyanathan, Robert L. Tilden and the  
Aravind Rapid Epidemiologic Assessment staff.  
International Journal of Epidemiology, Vol 18, Supplement 2, 1989

**Clinical Ophthalmology**  
Teaching slide set and manual for undergraduates



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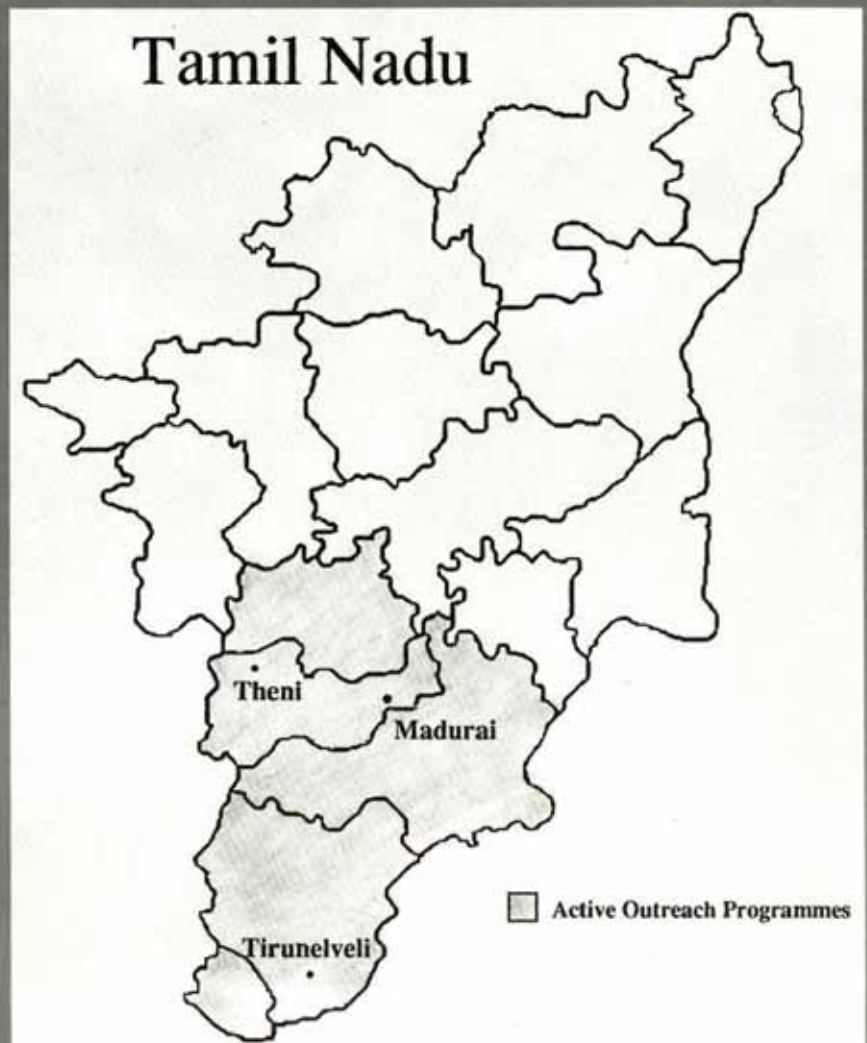
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**Aravind Eye Hospital**  
& Postgraduate Institute of Ophthalmology

1, Anna Nagar, Madurai - 625020  
Phone - (0452) 43301 (5 lines); Gram - Aravindeye  
Telex - 445-340 AEH IN; FAX - 91-452-44980