



Department of
Orthopaedic Surgery
Ganga Hospital
Coimbatore, India.

'Small Aim is a Crime'

-Dr. APJ Abdul Kalam

- * Strengthened by Skills
- * Powered by Teamwork
- * Driven by values



Ganga Hospital

313 Mettupalayam Road, Coimbatore - 641 043, Tamilnadu, INDIA.

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Activity Report 2008 - 2010

Founders



Mrs. Kanakavalli Shanmuganathan & Dr. J. G. Shanmuganathan

*Their vision, commitment and hard work laid foundation for this institution ...
...By example, they continue to inspire us.*



Dr S Rajasekaran & Dr S Rajasabapathy
Heads of Departments of Orthopaedics and Plastic Surgery

Vision

- *To showcase to the world the best in patient care, surgical expertise, academics, medical ethics and state-of-the art technology.*
- *To be a center which will be a pride of our country.*

Mission

- *To provide quality treatment at affordable cost so that the expertise will be available to every citizen of our country.*

Department of Orthopaedic Surgery Highlights 2008 - 2010

Year	Out patients	In patients	Surgeries
2008	93,209	12,902	8,662
2009	1,16,931	14,477	9,092
2010	1,11,986	19,317	11,766

Research Milestones

- Department of Scientific and Industrial Research (DSIR) Recognition
- Department of Biotechnology (DBT) : Approval for DTI project
- Approval for Ph D program by Dr MGR Medical University

Corporate Social Responsibilities

- Project "Help Line" - Help for the Helpless
- "Uyir" - A People's Movement Against Road Accidents
- Inauguration of project 'SWASAM' by Former President, Shri APJ Abdul Kalam
- Road Safety Booths

Conferences Hosted

- ASSICON - January 2008
- Combined Instructional Course of ISSLS & ASSI - January 2008
- Ganga Operative Arthroplasty Course- May 2008
- Ganga Operative Spine Course - April 2009
- Ganga Orthopaedic Trauma Course - October 2009
- Ganga Ortho-Physio Course - July 2009
- Ganga Operative Trauma Course - September 2010
- POSI-POSNA Paediatric Fracture Course - October 2010

Prestigious Orations 2008 & 2009

- Prof. Kalyanaraman Oration, Chennai, 2008
- Prof. Ranga Reddy Memorial Oration, OSSAP, Karimnagar, 2009
- S Rangarajan Memorial Oration, Chennai, 2009
- Prof. T K Shanmuga Sundaram Memorial Oration, Trichy, 2009
- Prof. AK Saha Memorial Oration, WBOA, Kolkata, 2009
- Baroda Orthopaedic Association Annual Oration, Baroda, 2009

Salient Awards 2008 to 2010

- ISSLS Prize 2010
- Prof Vyageswarudu Gold Medal - TNOA 2010
- Prof M Ramanathan Consultant Medal - TNOA 2010
- ASSI Publication Award - 2010
- ASSI Basic Science Award - 2010
- ASSI DePuy Best Clinical Research 2010
- ASSI Young Investigator Award - 2010
- Best Published Paper Award - ISSICON 2009
- ASSI DePuy Best Publication Award - 2009
- ASSI Depuy Best Spine Research Award - 2009
- Prof Vyageswarudu Gold Medal - TNOA 2009
- Prof Dhanrajan Gold Medal - TNOA 2009
- Prof M Natarajan Gold Medal - TNOA 2009
- Best Publication Gold Medal - TNOA 2009
- Eurospine Open Paper Award - 2008
- Life time Achievement Award - 2008
- Best Published Paper Award - 2008
- Best Paper Gold Medal, ISSICON 2008

Research Collaborations

- Tamil Nadu Agriculture University, Coimbatore-Gene analysis in patients with back pain
- University of Hongkong - Genetic basis of DDD
- Venkateshwara University, New Delhi - Biochemical analysis of End-Plate in disc prolapse
- Central Leather Research Institute, Chennai
- Analysis of collagen characteristics of Lumbar discs in health & Disease

Prestigious Orations 2010

- Prof. Bavadekar Oration, MOACON, Nasik, 2010
- Silver Jubilee Oration, Indore Orthopaedic Association, 2010
- Golden Jubilee Commemoration Lecture, IOACON, Jaipur, 2010
- Prof. P K Duraiswamy Oration, NZIOACON 2010, Jammu, 2010
- Grand Rounds Lecture, Mayo Hospital, USA

Ganga Hospital - The Journey



1978 - 1991

Established in 1978 in Ramnagar, the hospital is named after Shri. J. S. Gangadharan, father of the founder of the hospital, Dr. J. G. Shanmuganathan.

- 17 beds
- Two Operating Rooms



1991-1996

The First Expansion

- 42 beds
- Four Operating Rooms



1996-2007

The Second Expansion

- 135 beds
- Six Operating Rooms
- Intensive Trauma Care Unit



2007...

New premises on Mettupalayam Road.

- 420 beds
- 18 Operating Rooms
- 10 bedded Intensive Trauma Care Unit
- Accident & Emergency room
- In-house MRI & CT
- Neurosurgery department

Ganga Institute Of Health Sciences

- Diploma in Nursing & Midwifery
- B.Sc., Nursing – 4 years
- Post Basic B.Sc., Nursing – 2 years
- B.Sc., Physician Assistant (Emergency and Trauma Management) – 4 years,



2010...

“ Every morning we have two choices-continue to sleep and dream, or to wake up and chase our dreams ”

“ To do better if possible, and that is always possible ”

The years 2008-10 saw us through significant progress in all the three fields of clinical, academic and research activities of the department. Expansion of the hospital allowed us to cater to 1,19,860 outpatients and perform 11,766 major orthopaedic procedures elevating us to one of the largest orthopaedic units in the world and a major health care provider of our country. In addition, facilities like two universal computer navigated surgery platforms, two 3D ISO-C machines, 10 C-arms for intraoperative fluoroscopy, advanced intraoperative spinal cord monitoring instrumentation, high-end spine surgery microscopes, cell saver equipment to reduce intra-operative blood loss have also helped us to improve the quality of care inspite of the increase in quantity.

On the academic front, the department provides post graduate training in orthopaedics and super-speciality training in spine surgery and trauma surgery. It also provides numerous fellowships which were availed of by 81 Indian and 21 international surgeons in the last three years.

The research activities of the department have helped to place Coimbatore in the world map of Orthopaedic and Spine research. Apart from numerous national research awards, the department was also the proud recipient of the ISSLS Research Awards twice and the EuroSpine Open Paper Award, 2008. The department also has been recognised by the Department of Science & Industrial Research as a Research Unit. In 2010, the department has also been approved by the Tamilnadu Dr MGR Medical University for PhD studies in Orthopaedic surgery.

Our responsibility to the society was consolidated under the programme SWASAM (inaugurated by Shri APJ Abdul Kalam) through ten community service projects. The unit also enthusiastically participated in the Tamilnadu Chief Minister's Below Poverty Line Scheme operating on 7011 patients and thereby becoming the highest single speciality contributor to the scheme in the whole state.

While we move forward, it is my duty to thank our referring physicians for their support, our patients for their trust and above all God Almighty for his continued blessings. It will be our endeavour to improve and continue to be a center which will be a pride of our country.

Prof. S. Rajasekaran

M.S., DNB., F.R.C.S.(Ed)., M.Ch(Liv)., FACS., F.R.C.S.(Eng)., Ph.D
Chairman, Dept of Orthopaedic & Spine Surgery.



Hospital Facilities

The Hospital has elaborate infrastructure that ensures comfort and safety of the patient with the delivery of high quality treatment. In the operating theatres, special care has been taken to maintain the highest level of safety and technical accuracy. The hospital is the only one in the country which can boast of two high-end open navigation platforms (BrainLAB, Germany) along with two ISO-C-3D intra-operative imaging equipments. The operating theatres have ten C-arms and five Carl Zeiss operating microscopes and sophisticated anesthetic equipments to provide high level of intra-operative accuracy and safety.

The in-patient room facilities range from economy rooms to various grades of luxury rooms which provide privacy and comfort for patients. These include six deluxe suites which allow family members of patients from long distances or overseas to stay with the patient and provide the much needed family support.

“ The interest of the patient is the only interest ”
- Dr. W J Mayo

Hospital Facilities

The unit handles around 12000 major orthopaedic surgeries a year. The facilities in the operating theatres have been constantly upgraded to minimize the complication rates.

- b 18 state-of-the-art, fully equipped operating rooms
- b 6 Operating Rooms exclusively to handle emergency trauma
- b 24X7 ready availability of consultant anesthetist, orthopaedic and plastic surgeons
- b 2 Navigation platforms (BrainLAB) with ISO-C 3D C- arms
- b 10 high resolution C-arms
- b Neuro-monitor for intra-operative Spinal cord monitoring
- b Cell saver equipment
- b Extensive inventory of implants

- b Advanced imaging facilities like 1.5 Tesla MRI, CT and ultrasound scans
- b 8 bedded Intensive Trauma Care Unit with Ventilators
- b Regional Blood Bank with component facilities
- b Bone Bank
- b Extended Physiotherapy and Rehabilitation services
- b Round-the-clock ambulance service including mobile ICU
- b 420 seated state-of-the-art Conference hall with facilities for live audiovisual transmission from operation theatres
- b Academic Library with extensive collection of text books and journals and round-the-clock internet access

Supportive services form the cornerstone of success for any surgical unit. The hospital has in-house supportive services like laboratory, regional blood bank and advanced imaging facilities to provide a continuum of patient care right from admission to discharge.



“If you want to walk far, walk together”

- Chinese Proverb

Orthopaedic Staff

Dr. S. Rajasekaran and Dr. S. Raja Sabapathy head and supervise the clinical work of the orthopaedic and plastic surgery departments respectively. The orthopaedic department consists of four additional consultants who have speciality interests in addition to providing trauma care services. The consultants are ably supported by six senior Registrars, nine Registrars, six Spine Fellows, two Trauma Fellows, two Arthroplasty fellows and eleven DNB post graduates.

Prof. Dr. M. V. Daniel is the Academic Director for the Department of Orthopaedic Surgery. His experience as the former Head of Department, Chrisitan Medical College, Vellore has richly benefitted the unit. He also chairs the Ethics Committee of the department.

Chairman, Dept. Orthopaedics Surgery
Prof. S. Rajasekaran

Academic Director
Prof. Dr. M.V. Daniel

Consultants

Dr. J Dheenadhayalan
 • Complex Trauma Reconstruction
 • Upper - Limb Surgery

Dr. T Ajoy Prasad Shetty
 • Spine Surgery

Dr. SR Sundararajan
 • Sports Medicine
 & Arthroscopy

Dr. P Dhanasekara Raja
 • Arthroplasty

Senior Registrars

Dr. N. Rajkumar
Dr. Ramesh Perumal
Dr. Vijay Kamath

Dr. K. Venkatdass
Dr. A. Devendra
Dr. Oommen Mathew

Registrars

Dr. Ravi Chandra Vattipalli
Dr. Geethan
Dr. S. Leo Bernard
Dr. Arun Kamal .C
Dr. Meravanigi Gururaja
Dr. Mohan S. R.
Dr. Prem James Charles
Dr. M. Jayakumar
Dr. S. Rajadurai

Spine Fellows

Dr. Rishi Mugesh Khanna,
Dr. M. Subbiah,
Dr. Abhishek Manu,
Dr. Nipun Bajaj,
Dr. Ashok Thomas,
Dr. Sakthikanal Subramaniam,
Dr. Gaurav Khandelwal
Trauma Fellows
Dr. Srikanth

DNB Trainees

Dr. S. Muthukumar, Dr. Sudhir, Dr. Barun Kumar Golwara, Dr. Noel Naleen Kumar,
Dr. B. M. Venkatdeep, Dr. Sudheer Kumar Reddy K, Dr. Deepak R, Dr. Ajay Gahukamble,
Dr. Kunal Ajay Shah, Dr. Radhakrishna V N, Dr. Balachandra Gopalan

Current Positions

Academic:

- Chairman, Dept of Orthopaedic & Spine Surgery
- Adjunct Professor, The Tamilnadu Dr MGR Medical University.
- Hunterian Professor, Royal College of Surgeons of England, 2011 - 12
- Member, Faculty of Medicine, Annamalai University
- Member, Board of Studies, Bharathiar University

Professional Bodies:

- President-Elect, Indian Orthopaedic Association
- President, Association of Spine Surgeons of India
- Vice President, ISSLS, Canada
- Vice President, Tamilnadu Orthopaedic Association
- President, Association of British Scholars, Coimbatore Chapter

International Awards:

- ISSLS Award 2010, 2004
- EuroSpine Open Paper Award 2008
- Honorary Fellowship, Royal College of Surgeons of England, 2010
- ISSLS Macnab La Rocca Award 2005
- ISSLS Sofamer Danek Award 1996, 2002, 2006
- Harvard Medical International Award, 2007

National Awards

- Golden Jubilee Research Award IOA 2010
- MCI Silver Jubilee Research Award 2002
- Tamilnadu Government Scientist Award 2000
- ASSI Research Awards 2005,06,07,08,09,10
- ASI Hari Om Ashram Alembic Research Award 2004

Publications

- Chief Editor, ASSI Textbook of Spinal Infections & Trauma
- Chief Editor, Video Atlas of Spine Surgery

Reviewer of Journals

- European Spine Journal (Executive Editorial Board Member)
- Spine (Deputy Editor)
- Journal of Bone and Joint Surgery (B).
- INJURY Journal, UK.
- Journal of Orthopaedic Surgery, Hong Kong.
- Journal of Orthopaedic Science, Japan.
- Indian Journal of Orthopaedics.



Prof. S. Rajasekaran

M.S, DNB, F.R.C.S.(Ed), M.Ch(Liv), F.A.C.S.,
F.R.C.S.(Eng), Ph.D.,

Chairman, Dept of Orthopaedic & Spine Surgery.

Dr Rajasekaran has been instrumental in building and shaping the orthopaedic department into a very busy clinical unit with strong academic and research components. He had a brilliant academic career and was the 'Best outgoing student' of Coimbatore Medical College and stood first in the University of Madras in the orthopaedic post-graduate examinations. He was awarded the Khazenifer Gold Medal and Norman Roberts Medal for best performance during his M.Ch exams in Liverpool, UK. He completed his Ph.D in 2000.

He has special interest in spine surgery, arthroplasty and clinical research in major trauma. He has led the unit's basic science research in spinal deformities, disc nutrition and biology and genetics of disc degeneration which have been recognised with numerous awards and published in international journals. He was also instrumental in the evolution of 'Ganga Hospital Open Injury Severity Score' which guides critical decisions in saving and reconstructing severely injured limbs.

Orthopaedic Consultants



L to R : Dr. S.R.Sundararajan, Dr. J.Dheenadhayalan, Dr S Rajasekaran,
Dr. Ajoy Prasad Shetty, Dr. P Dhanasekara Raja

Dr. J. Dheenadhayalan joined the department in 1992 and became Consultant in 1998. Trained in basic Orthopaedics from Mysore, he underwent advanced training at Nuffield Orthopaedic Centre, U.K. and a fellowship in Joint Replacement Surgery at Regensburg and Tubingen Hospitals, Germany. He was the Organising Secretary of the Indo German Orthopaedic Foundation Meeting, 1999 and the Ganga Shoulder-Elbow course in 2007. A founder member of the trauma section of Asia Pacific Orthopaedic Association, he is currently the Council Member of AO Foundation, India. He is the Secretary-General elect for the World Orthopaedic Concern and is the Editorial secretary of the Tamilnadu Orthopaedic Association

Dr. Ajoy Prasad Shetty joined the department in 1994 and became a consultant in 2000. Initially trained in Orthopaedics at Bangalore Medical College, he had advanced training in Spine Surgery at The Queen Elizabeth Hospital, Adelaide, Australia. He was the Organising Secretary for the APOA Operative Spine Course in 2007. He is a regular faculty at AO Spine Courses and was awarded the ISSLS International Fellowship for the year 2007. He is also the co-author of the scientific papers which won the ISSLS Prize 2004 and EuroSpine Award 2008.

Dr.S.R.Sundararajan is consultant in Arthroscopy and Sports medicine . He joined the department in 1998. After receiving advanced training in Arthroscopy and Arthroplasty at Flinders Medical Centre, Australia he returned in 2004 to become Consultant at Ganga Hospital. He has presented papers on trauma at the Asia Pacific Orthopaedic Association meetings and is a regular faculty at National Conferences. He visited Arthroscopy centres in France and Capetown, South Africa to train in current trends in arthroscopy. He won the first prize for paper presentation in annual Indian Arthroscopy Society meeting, Goa in 2008.

Dr. P. Dhanasekara Raja has been a Consultant since 2006. He joined the department in 2002. He completed Fellowships in Arthroplasty and Arthroscopy at Flinders Medical Centre, Adelaide and Fairefield Hospital, Sydney, Australia and was the APOA Travelling Clinical Arthroplasty Fellow in 2010. He has done various clinical research work in joint replacement and has won the "Mohandass Weller Gold Medal" for best paper at IGOF Meeting, November 2005, Vyageshwarudu Gold Medal at TNOACON 2009 and Prof. Ramanathan Gold Medal for Consultants at TNOA conference in 2010. He was also the Organising Secretary for the Intelligent Knee Course, 2006, Ganga Operative Arthroplasty Course, 2008.

Department of Anaesthesia

The department has three Senior Consultants, two Junior Consultants, three Senior Registrars, three Junior Registrars, three Fellows, two Tutors and Ten Post Graduates. The motto of the department is to provide 'Safe Anaesthesia for All'. The Department of Anaesthesia offers 24 hours peri-operative care to the patients. They offer their services as perioperative physicians which encompass preoperative assessment and optimisation including on-arrival nerve and plexus block for patients with severe pain following trauma, resuscitation of polytrauma victims and postoperative pain service apart from intra-operative care.



Dr. C Sekar

Dr. C Sekar joined the institution as a Consultant in 1995. His special interest is in anaesthesia for spine surgery and Ultrasound-guided nerve blocks. He has been an invited faculty for the Oman Medical University Conference for the past two years. He materialized the training initiative at our hospital for the anaesthesia Students from Oman in collaboration with The Oman Medical Specialty Board. He will be the President of City Branch of ISA, Coimbatore Chapter in 2011-12.

Dr. J. Balavenkatasubramanian joined the institution as a Consultant in 1995. He currently serves as the Founder President of Academy of Regional Anaesthesia of India, Member Editorial Board of Indian Journal of Anaesthesia, Academic Council member of Indian College of Anaesthesiologists. He is the National Executive Committee Member of International Trauma Care, Indian Chapter and Scientific Committee member for the South Asian Confederation of Anaesthesiologists conference 2011. He is also National Faculty and Instructor for Comprehensive Trauma Life Support and Faculty Coordinator for Aesculap Academy Ganga Hospital Advanced Regional Anaesthesia Training. He was also invited Faculty for the World Congress of Anaesthesiologists in South Africa 2008 and Argentina 2012. He has delivered 154 lectures at national conferences and 12 lectures at International conferences.



Dr. J Balavenkatasubramanian



Dr. Prabu CR

Dr. Prabu CR joined in the Department of Anaesthesia in 2007 as anaesthetist and intensivist after completing fellowship in UK. He has got special interest in chronic pain management and involved in medical and interventional pain management of such patients in the hospital.



Right to Left : Dr Maheshwari, Dr Nikhil, Dr Lokesh Chinchkhede, Dr Samta, Dr Gurumurthy, Dr. C. Sekar, Dr Mayank Gaur, Dr. Balavenkat, Dr C Prabhu, Dr Ashwini, Dr Gaurav, Dr Hemalatha, Dr Vivekanandan, Dr V Satheesh Kumar, Dr Rajendra,

Anaesthesia Procedures

The Various Anaesthesia Techniques Performed 2008-10

Year	2008	2009	2010
General Anaesthesia	: 1235	1623	1712
Upper Extremity Block	: 780	1012	1182
Lower Extremity Block	: 90	116	140
Spinal Anaesthesia	: 4350	5070	6350
Epidural Anaesthesia	: 950	1710	1270
Continuous Plexus Block	: 144	182	242

Academic Pursuit:

- Post Graduate Training Centre affiliated to National Board of Examinations, New Delhi
4 Trainees per year- DNB(Anaesthesiology)
- Advanced Regional Anaesthesia Training Centre in collaboration with:
 - ◆ Aesculap Academy Regional Anaesthesia Guidance Centre, Germany
 - ◆ Fellowship in Regional Anaesthesia, Dr. MGR Medical University, Chennai
 - ◆ Postgraduate Training for students of University of Oman

Aesculap Academy Guidance Centre for Regional Anaesthesia, Germany

has collaborated with the Department for providing short term training in Regional Anaesthesia. The programme was started in 2007 and so far 220 anesthesiologists from various parts of India and 12 Overseas Trainees from Nigeria, Srilanka and Pakistan have benefited from this programme. This is the only centre in the country which teaches peripheral nerve blocks under this programme.

Clinical Research

Along with Pfizer International the department has completed a Phase IV clinical research trial - 'Prospective randomized phase IV open label Comparative study of tranexamic acid vs untreated controls for the reduction of blood loss in patients undergoing surgery for long bone fracture'

Overseas Trainees

1. Dr. Ambrose Ruckewee, Nigeria
2. Dr. Olanrewaju N Akanmu, Nigeria
3. Dr. Israle Cole, Nigeria
4. Dr. Salma, Pakistan
5. Dr. Emeka Anthony Onyia, Nigeria
6. Dr. Amuche Azi Adaobi, Nigeria
7. Dr. Ogochukwu Nwoke, Nigeria

Trauma and Regional Anaesthesia Fellowship: Six month Fellowship

1. Dr. Mandeep Kaur, Goa
2. Dr. Samta Kamble, Mumbai
3. Dr. Nitin Gawai Kacheru, Pune
4. Dr. Ottu Etta, Nigeria
5. Dr. Santhakumar, Mysore

Department of Anaesthesia

Ultrasound Guided Nerve Block



On-Arrival Nerve Block



Diplomate of National Board Trainees:

Primary:

Dr. Nikhil
Dr. Ashwini
Dr. Mayank Gaur
Dr. Gaurav Bhattla
Dr. Suman Kumari Kharb

Secondary:

Dr. Maheshwari
Dr. Meenakshi
Dr. Lokesh
Dr. Neeta Pagar



“In nothing do men more nearly approach the Gods than in giving health to men”

- Cicero

With more than 51,000 new out-patients and nearly 12,000 major surgeries in the year 2010, the department stands as a leader in the field of orthopaedic surgery in this part of the world. Nearly 40 major orthopaedic surgeries are performed every day with a similar number in Plastic and Hand surgery department. High quality trauma care is ensured by a healthy symbiosis and collaboration between the orthopaedic, plastic, anaesthetic, neuro and facio-maxillary surgery departments. The clinical work is periodically audited to make sure that high standards are maintained at all stages of treatment.

The high clinical load is well supported by excellent infrastructure facilities with 420 beds, 18 operating theatres, state-of-the art radiology department with in-house MRI and CT scan facilities. The operating theatres have two computer navigation surgery platforms, 3D ISO-C 3D C-arms, high end operative microscopes and state-of-the-art operative equipments all of which help to ensure the best possible results to the patients. Excellent recovery of patients is aided by well equipped department of physiotherapy and rehabilitation.

New Elective Out-Patient Registration

2008	2009	2010
40,113	46,737	51,754

Emergency casualty attendance

2008	2009	2010
11,427	13,716	19,683

Major Orthopaedic Surgeries

2008	2009	2010
8,662	9,092	11,766

Orthopaedic Physiotherapy patients

2008	2009	2010
15,652	23,364	29,028

Trauma Surgery

Upper Limb Injuries			
Year	2008	2009	2010
Total	1390	1723	2427

Lower limb Injuries			
Year	2008	2009	2010
Total	2096	2258	4179



- 10 bedded trauma and emergency reception
- 8 bedded intensive trauma unit
- 6 operating rooms to exclusively handle Orthopaedic trauma
- 6 operating rooms to handle combined injuries
- Extensive inventory of instruments and implants

“ The next best thing to creating life is to save one ”

Trauma Surgery Team



Sitting (Left to Right) : Dr. Ajoy Prasad Shetty, Dr. J Dheenadhayalan, Dr S R Sundararajan, Dr. Dhanasekararaja P
 Standing(Left to Right): Dr. Arun Kamal, Dr. Venkatadass, Dr. Geethan, Dr. Leo Bernard, Dr. Gururaja, Dr. Armstrong,
 Dr. Ravichandra V, Dr. Srikanth KP, Dr. Mohan SR, Dr. Devendra A, Dr. Rajkumar N, Dr.Ramesh P

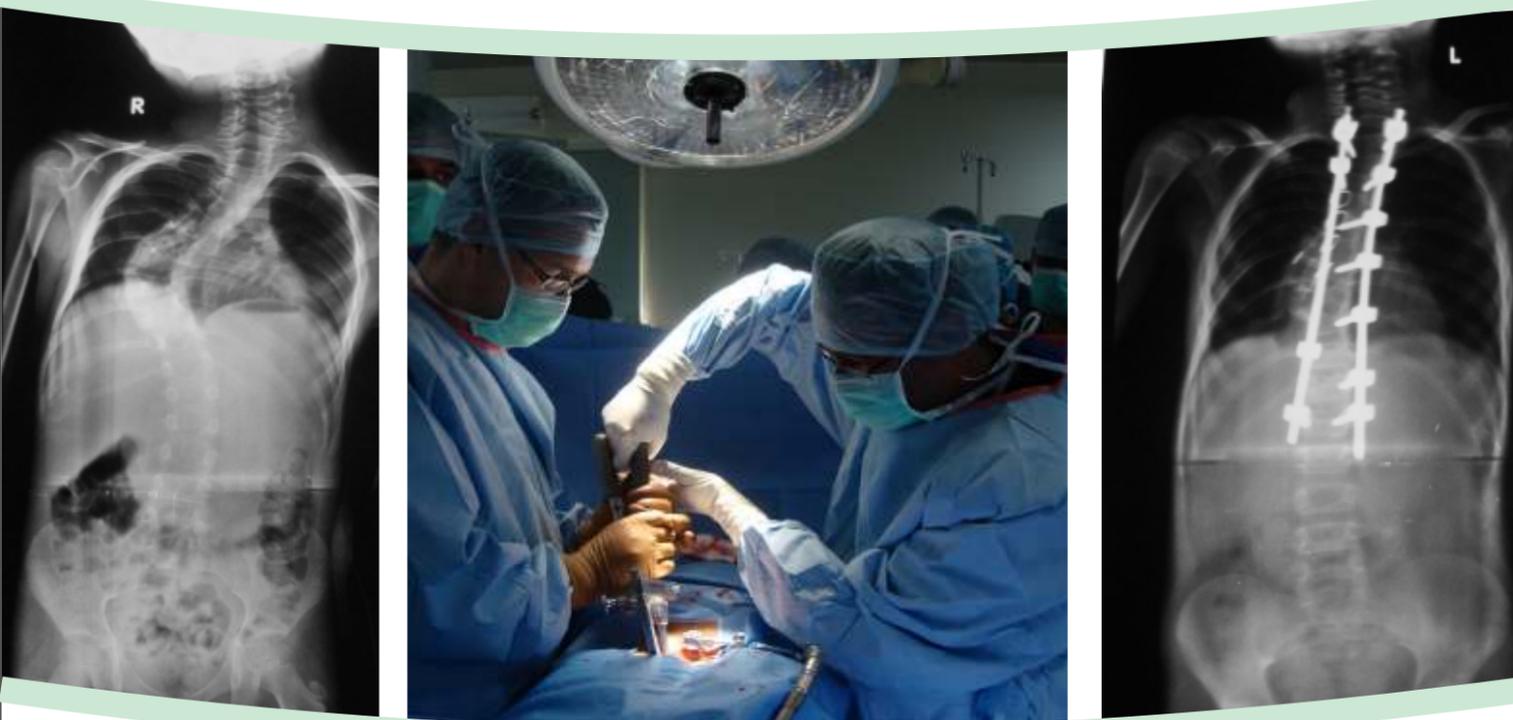
Upper Limb Injuries			
Year	2008	2009	2010
Fractures around shoulder	125	158	204
Humerus fractures	206	198	186
Fractures around elbow	136	128	318
Forearm fractures	425	522	725
Distal Radius fractures	555	789	851
Dislocations and Misc. injuries	43	28	143
Total	1390	1723	2427

Lower limb Injuries			
Year	2008	2009	2010
Fractures around Hip and Pelvis	567	607	1145
Femur fractures	253	323	626
Fractures around Knee	540	694	720
Tibia fractures	463	400	961
Ankle fractures	221	173	363
Dislocations and Misc. injuries	52	61	364
Total	2096	2258	4179

Total Trauma Surgeries			
Year	2008	2009	2010
Total	3486	3981	6606

Ganga Hospital is a tertiary level trauma care centre maintaining an unique level of confidence among people. This is due to the patient care and good results that have been consistently delivered by the team that provides a consultant level input to all patients regardless of severity of injury. The increasing clinical work that is being done here is the evidence of this confidence. This trauma workload is managed by five Trauma Consultants, five Senior registrars, one Trauma fellow, four Registrars and four Tutors. The availability of 11 operation theatres dedicated to trauma surgery and an in-house trauma anaesthesia team available 24 hours of the day allows life and limb saving surgeries to be done without any delay.

Spine Surgery			
Year	2008	2009	2010
Out-patients	15342	18345	20321
In-patients	1210	1502	1696
Surgeries	1035	1223	1301



- 3 exclusive state-of-the-art operation theatres for spine surgery
- Intraoperative ISO C 3D navigation
- Two BrainLAB open navigation platforms
- Intraoperative spinal cord neuro-monitoring facility
- Intraoperative Cell saver equipment
- Bone bank for allografts in spine fusion
- In-house advanced spine imaging facility including 1.5 T MRI with SPACE & DTI Software.

“ You are only as strong as your back is ”



Sitting(Left to right) : Dr. Ajoy Prasad Shetty, Prof. S Rajasekaran
 Standing(Left to right) : Dr. Vijay Kamath, Dr. Abhishek Manu, Dr. M Subbiah, Dr. Gaurav Khandelwal, Dr. Ashok Thomas, Dr. Nipun Bajaj, Dr. Rishi Mugesh Kanna, Dr. Sakthi Kanal Subramaniam

The spine unit attends a busy clinical load of more than 20,000 new outpatients every year and over 1200 major Spine surgeries. Dr Rajasekaran, Head of the Department, Dr Ajoy Prasad Shetty, Senior consultant, six Spine Fellows and a group of spine physiotherapists manage the busy clinical load. The unit functions as a tertiary referral centre, performing high quality spine surgery for all problems from craniovertebral junction to sacrum.

The unit was the first unit in the country to be approved for super speciality training in spine surgery. Apart from numerous traveling fellowships of the World Orthopaedic Concern, it also conducts spine microsurgery courses in association with Carl Zeiss. Operative spine courses are held every other year which attracts delegates from all over India and many neighbouring countries. Recently the unit is also recognized as a research unit by the Department of Scientific and Industrial Research, New Delhi.

Year	2008	2009	2010
Microdiscectomy	251	300	316
Scoliosis & kyphosis	79	82	78
Spinal infections	43	35	32
Spondylolisthesis	124	213	206
Tumor surgery	16	17	21
Cervical spine	180	163	199
Spine fractures	100	173	189
Lumbar canal stenosis	109	128	99
Miscellaneous	133	134	141
Total	1035	1223	1301

The Spine Surgery unit is very strong in clinical and basic science research. The unit has been the proud recipient of many national and international awards such as ISSLS award in 2004 and 2010, EuroSpine Open Paper Award in 2008, Sofamer Danek award in 1996 and 2002, Silver Jubilee Research Award of Medical Council of India in 2004, Hari Om Alembic Award in 2007 and Golden Jubilee Commemoration Award of IOA in 2010. The unit has also more than 70 journal publications in spine surgery and many important chapter contributions in international textbooks.

Arthroplasty Unit

Joint Replacement Surgeries			
Year	2008	2009	2010
Total	574	770	1026



- Computer navigated Joint Replacement with BrainLab Vector vision
- Four Ultra clean operating rooms for joint replacements
- Digital alignment Xrays for planning & templating
- MRI and CT based patient specific instrumentation
- High performance bearing joint replacements

“ The purpose of modern medicine is to not only make people live longer, but also younger....”

Arthroplasty Team



Left to Right: Dr. N. Rajkumar, Dr. S. Rajasekaran, Dr. P. Dhanasekara Raja, Dr. Oommen Mathew

The Arthroplasty unit has grown rapidly performing 1026 joint replacement surgeries in 2010 compared to a mere 56 joint replacements in 1996. The Unit has two consultants Dr S Rajasekaran and Dr Dhanasekara Raja, Senior Registrars Dr N Rajkumar and Dr Oommen Mathew.

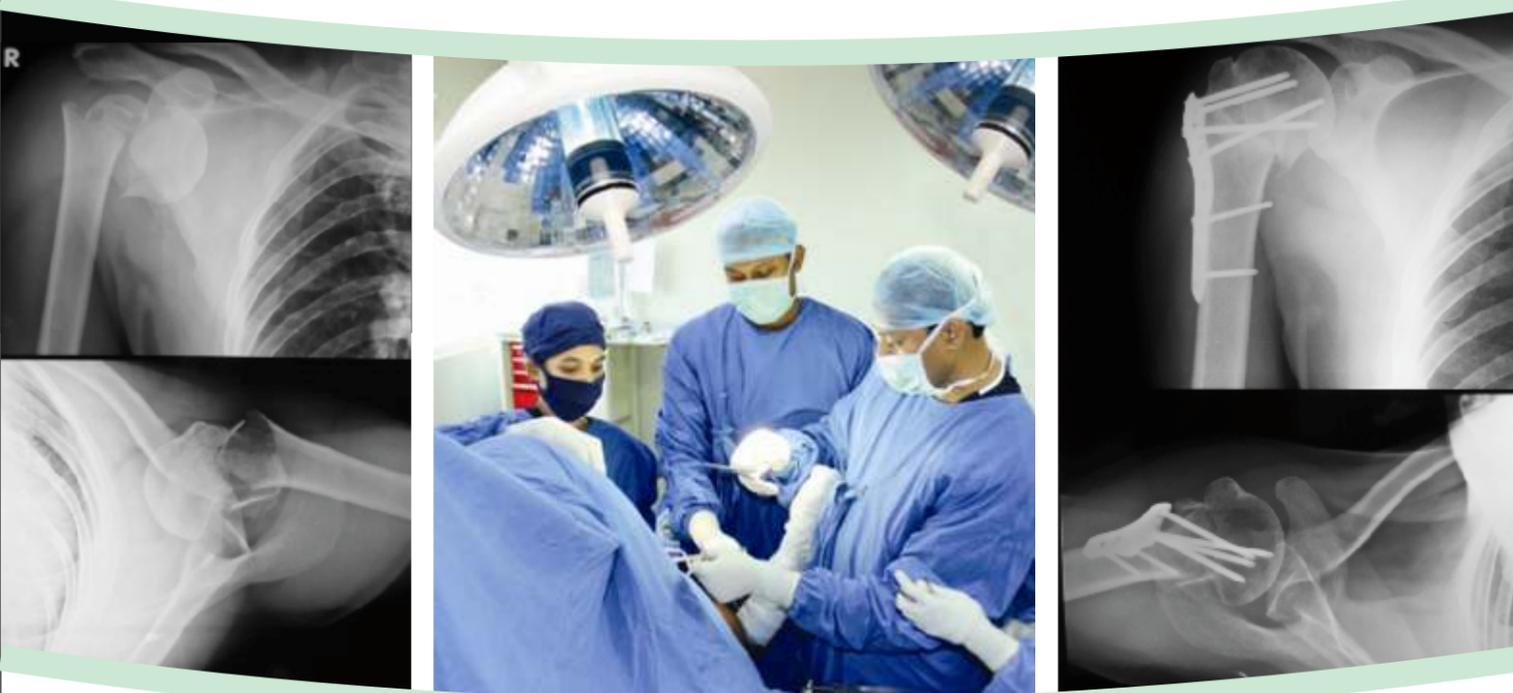
The unit has exclusive ultra clean operating rooms which coupled with strict aseptic techniques and highly trained professionals allow achievement of good results of international standards. Computer navigated joint replacement surgery is routinely performed for both difficult primary and revision surgeries to obtain perfect alignment consistently. The good results obtained have made it possible for us to provide 'Ganga Joint for Life Assurance Programme' – an insurance coverage for our joint replacement patients.

Joint Replacement Surgeries			
Years	2008	2009	2010
Primary Total Knee	436	607	781
Revision Total Knee	9	16	24
Primary Total Hip	120	130	198
Revision Total Hip	9	13	18
Shoulder and elbow	1	4	5
Total	575	770	1026

The unit has adopted all recent advances to give the best functional results to the patients. High flexion knees with rotating platforms, joints with newer bearing surfaces like ceramic on ceramic and modular hips with larger heads are all performed routinely in appropriate patients to achieve the best functional results.

Upper Limb Unit

Surgical Procedures			
Year	2008	2009	2010
Total	997	1178	1347



- Exclusive unit to address shoulder, elbow & wrist problems
- Upper limb out-patient clinic
- Specialised upper limb physiotherapy services
- Advanced diagnostic facilities

“ Excellence is not a skill, it is an attitude ”

Upper Limb Team



L to R: Dr. Srikanth KP, Dr. Ramesh P, Dr. J. Dheenadhayalan, Dr. Devendra Agraharam

The upper limb unit is a specialised unit to address the unique problems of shoulder, elbow and wrist. Upper limbs are involved in precision activities day-to-day and it is important that there is more insight into the natural history, diagnosis and treatment of the problems involving these joints. It has evolved as a separate sub-specialty in orthopaedics and the team as a whole focuses on the entire spectrum of diseases involving the upper limb and strives to deliver the best to the patients.

The unit is headed by Dr J Dheenadhayalan, who has special training in the treatment of musculoskeletal problems of the upper limb. The unit has one senior registrar and two registrars who help in pre-operative work-up and post-operative care. Physiotherapists trained in upper limb therapy aid in completing the continuum of care.

Surgical Procedures			
Year	2008	2009	2010
Shoulder	275	371	323
Inferior Capsular Shift	19	33	29
Rotator Cuff	46	49	24
Arthroscopy	1	4	17
Proximal Humerus Fractures	123	131	164
Clavicle Fractures	30	27	45
Acromioclavicular Joint Dislocations	2	32	6
Stiff Shoulders	54	93	35
Arthroplasty	1	2	3
Elbow Surgeries	158	266	298
Wrist Surgeries	564	541	726
Total	997	1178	1347

Apart from fracture fixation, this unit has special interest in deformity correction surgeries, stiff elbow and major side-swipe injuries. An innovative technique in the treatment of non-union of distal humerus involving plate over a nail with bone grafting has also been devised.

Arthroscopy and Sports Medicine Unit

Surgical Procedures			
Year	2008	2009	2010
TOTAL	361	442	590



- Separate Operation Theatre Complex for Arthroscopic Surgeries and Sports Medicine
- Two advanced arthroscopy units with inbuilt recording
- 3D Chip camera system with digital Monitor
- Advanced Musculoskeletal Radiological screening with ultrasound and MRI for ligament and soft tissue injuries

“ Our wounds and sorrows are healed when they are touched with compassion”

- Buddha

Arthroscopy and Sports Medicine Team



Standing (Left to Right) Dr. Leo Bernard S, Dr. K P Srikanth, Dr. S R Sundararajan, Dr. Arun Kamal

The Arthroscopy and Sports Unit of Ganga hospital is headed by Dr. S R Sundararajan. The unit has a dedicated team of three registrars directed towards the able assessment and guidance of the patients pre-operatively and post-operatively. The unit is well versed in handling complex knee injuries and mainly focused on arthroscopic reconstruction of ligamentous injuries. Major bulk of the arthroscopic surgery comprises of ACL reconstruction which is performed using both Bone Patellar Tendon Grafts and Hamstring Grafts. Modern techniques of fixation as Bioscrews and Cross pins are being used increasingly. The Arthroscopic Unit has a dedicated operation theatre with a special table exclusively for arthroscopic surgeries.

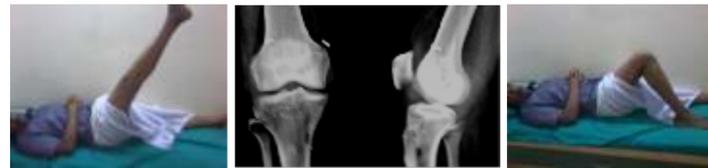
Arthroscopic Surgical Procedures			
Year	2008	2009	2010
ACL reconstruction	202	238	355
PCL reconstruction	5	8	5
Complex ligament reconstruction	35	41	71
Meniscal surgeries	66	81	88
Miscellaneous Including Ankle, Shoulder and Hip scopies	53	64	71
TOTAL	361	432	590

Comprehensive post operative rehabilitation for all Sports and Ligament injuries are guided by an exclusive team comprising of 19 trained physio-therapists. They enable the quick recovery of patients with ligament injuries by a organized program of physio therapy comprising of CPM, IFT and Wax therapy.

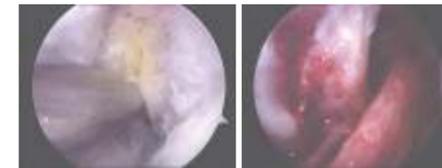
Arthroscopic Views of Absent ACL
and After ACL Reconstruction



Full Range of Motion at Final Follow Up

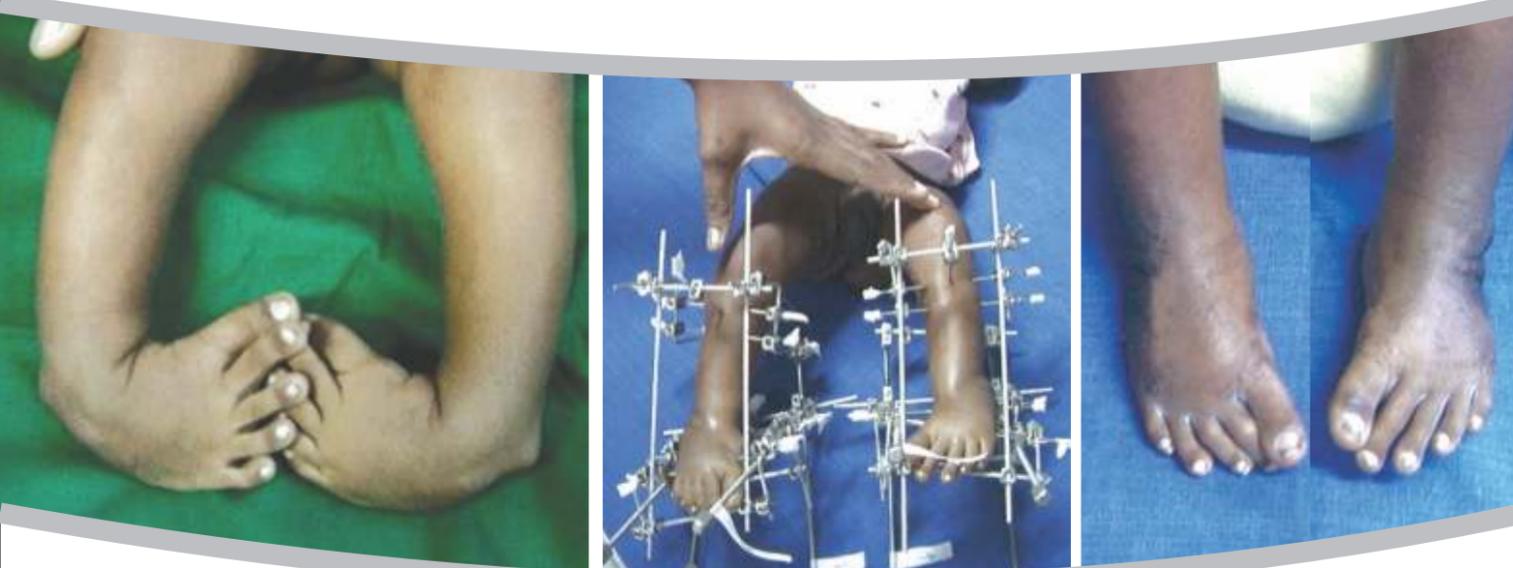


ACL+PCL Reconstructed knee with full range of motion



Arthroscopic View of Muroid Degeneration
of ACL & After ACL Reconstruction

Paediatric Orthopaedic Surgeries			
Year	2008	2009	2010
Total	412	530	702



- CTEV clinic
- Cerebral Palsy clinic
- Deformity corrections
- Limb lengthening
- Dedicated Rehabilitation Services

“In children lie our entire future ”

The Department of Paediatric orthopaedics caters to the needs of the musculoskeletal problems of children. The department runs paediatric out-patient clinics twice a week and club foot clinics once a week. Paediatric fractures form the bulk of the load of the Department which is being managed efficiently by trained orthopedic surgeons and round-the-clock coverage is available for the same.

Neuromuscular problems like cerebral palsy and meningomyelocele forms another cadre of patient population which needs multidisciplinary care. These patients are thoroughly evaluated by a dedicated team and the management options and prognosis are discussed in detail with the parents. The unit is backed up by a good rehabilitation unit which forms the back bone in providing complete and wholesome care for these patients.



L to R: Dr. Ajoy P Shetty , Dr. J. Dheenadhayalan, Dr. K. Venkatadass

Paediatric Orthopaedics			
Year	2008	2009	2010
CTEV - Tenotomy	32	31	49
CTEV - Others	31	33	39
CP	24	53	70
Deformity	22	26	61
DDH	4	15	22
CVT	2	5	2
SUCFE	5	6	5
Limb Lengthening	6	5	3
Infection	8	7	4
Implant Removal	21	18	20
Trauma	210	279	362
Miscellaneous	47	52	65
Total	412	530	702

All congenital problems like Congenital Talipes Equino Varus, Developmental Dysplasia of Hip and Limb deficiencies are addressed by a trained team. Intervention at the appropriate age with adequate expertise in this field forms the basis of success of treatment in these problems.



Eurospine Open Paper Award 2008



ISSLS Prize 2010

Awards

'Honorary Fellowship' of the Royal College of Surgeons, 2010

Dr S Rajasekaran was conferred with the prestigious 'Honorary Fellowship' of Royal College of Surgeons, London by Mr John Black, President, Royal College of Surgeons, England on 13 May 2010 at a function in Bangalore. This Honorary Fellowship was given in recognition of Dr Rajasekaran's pioneering research in Accident and spine surgery and for his contribution to bring international standards of care in Orthopaedics to India.



ISSLS Prize 2010

'A study of effects of in vivo mechanical forces on human lumbar discs with scoliotic disc as a biological model. Results from serial post-contrast diffusion studies, histopathological and biomechanical analysis of 21 human lumbar scoliotic discs'

S Rajasekaran , S Vidyadhara. M Subbiah, V Kamath, R Karunanithi, A Shetty, K Venkateswaran, M Babu, J Meenakshi,



Dr S Rajasekaran receiving the IOA Golden Jubilee Commemoration Lecture Award, Jaipur, 2010

Dr Bavadekar Oration, MOACON, Nasik, 2010

Problem of deformities in spinal tuberculosis
Dr S Rajasekaran

P K Duraiswamy Oration, NZIOACON 2010, Jammu, 2010

Salvage & Reconstruction of Severely Injured Limbs
Dr S Rajasekaran

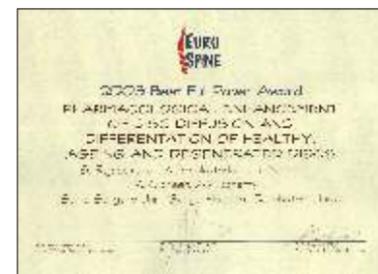
Silver Jubilee Oration
Indore Orthopaedic Association, 2010

Ganga Hospital score in the decision of salvage and reconstruction of limbs in severe open injuries
Dr S Rajasekaran

Eurospine Open Paper Award 2008

'Pharmacological enhancement of disc nutrition and differentiation of healthy, ageing and degenerated discs- Results from serial post-contrast MRI studies in 365 human lumbar discs'

S Rajasekaran, K Venkatadass, J Naresh Babu, K Ganesh, Ajoy P Shetty



Grand Rounds Lecture - Mayo clinic

Dr S Rajasekaran delivered the grand rounds lecture at the Mayo Clinic, Rochester, Minnesota, USA in July 2010



Dr S Rajasekaran receiving the The Twelfth Dr S Rangarajan Memorial Oration Award, Chennai, 2009

Golden Jubilee Commemoration Lecture
IOACON, Jaipur, 2010

Assessment of spinal cord tract integrity by diffusion tensor imaging - evaluation of DTI anisotropy indices & tractography of normal spinal cord, acute & chronic spinal cord injuries - Dr S Rajasekaran

AK Saha Memorial Oration, WBOA, Calcutta, 2009.

Navigation in Spinal surgery - Dr S Rajasekaran

Baroda Orthopaedic Association Annual Oration, Baroda, 2009

Childhood Spinal Tuberculosis Dr S Rajasekaran

Prof T K Shanmuga Sundaram Memorial Oration, Trichy 2009.

Childhood spinal tuberculosis Dr S Rajasekaran

The Twelfth Dr S Rangarajan Memorial Oration, Chennai, 2009.

Achieving Excellence in Trauma Care Dr S Rajasekaran

Prof Ranga Reddy Memorial Oration, Karimnagar, 2009.

Evolution & Treatment of Severe Kyphotic Deformities in spinal tuberculosis Dr S Rajasekaran



Prof Kalyanaraman Oration, Chennai, 2008

Prof Kalyanaraman Oration, Chennai, 2008

'Advances in Surgical Management of TB Spine' Dr S Rajasekaran

Awards

Lecture in "Ether Dome"

at Massachusetts General Hospital, Boston
Dr. S Rajasekaran delivering the lecture on "Spinal Deformities" in July 2010



ASSI DePuy Clinical Research Award 2010

Is cervical pedicle screw fixation safe in children?
Dr Rishi Kanna, ASSICON 2010 Nagpur

ASSI DePuy Young Investigator Award 2010

Clinical Implications of subaxial pedicle morphometrics in asian population
Dr Vijay Kamath,
ASSICON 2010 Nagpur



ASSI DePuy Research Award 2009

Assessment of fiber tract integrity by Diffusion Tensor Imaging -Analysis of normal spinal cord, acute and chronic spinal cord injuries
Dr S Rajasekaran, ASSICON 2009 Chennai

ASSI Best Publication Award 2009

DR S Rajasekaran
ASSICON 2009, Chennai



Awards



Prof Vyageswarudu Gold Medal 2009

Randomised control trial to investigate the use of Navigation for better limb and component alignment in severe varus knees
Dr P Dhanasekara Raja, TNOACON 2009, Coimbatore

Prof Dhanrajan Gold Medal 2009

Sliding-angulation osteotomy of ulna for chronic radial head dislocation following missed Monteggia Injuries - An innovative technique
Dr K Venkatadass
TNOACON 2009, Coimbatore



Dr VT Ingalhalikar Gold Medal 2009

Neurological complications in spine surgery -Can mistakes make masters?
Dr Rishi Kanna
ASSICON 2009, Chennai

ASSI Basic Science Research Award 2010

A study of effects of in vivo mechanical forces on human lumbar discs '
Dr S Rajasekaran, ASSICON 2010 Nagpur



ASSI Publication Award 2010

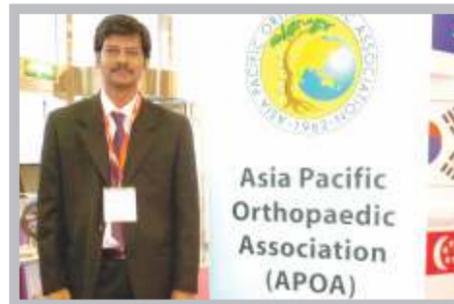
Dr S Rajasekaran,
ASSICON 2010 Nagpur

Travelling Fellowship award, JOA 2008
 Dr N. Rajkumar
 Japan Orthopedic association in
 May 2008. Sapporo, Japan.



Prof M Ramanathan Consultant Medal - TNOA 2010
 Coronal plane osteometry of femur in south Indian patients
 with osteoarthritis of the knees - clinical implications in
 total knee replacement
 Dr P Dhanasekara Raja

Best Paper Presentation Award 1st Prize
 Dr S R Sundararajan
 7th Annual Conference of Indian Arthroscopy Society,
 Goa-2008



APOA Arthroplasty Travelling Clinical Fellowship, 2010
 Dr P. Dhanasekararaja.

Prof Vyageswarudu Gold Medal - TNOA 2010
 Talus day out
 Dr P Ramesh, TNOACON 2010



Best Published Paper Award - ISSICON 2009
 Pharmacological enhancement of disc diffusion and
 differentiation of healthy, ageing and degenerated discs –
 Results from in-vivo serial post-contrast MRI studies in
 365 human lumbar discs
 S.Rajasekaran,ISSICON 2009, Chandigarh

Best Publication Gold Medal - TNOA 2009
 Navigated Iso-C 3D based percutaneous resection
 of osteoid osteoma in Spine and Extremities
 Dr S Rajasekaran



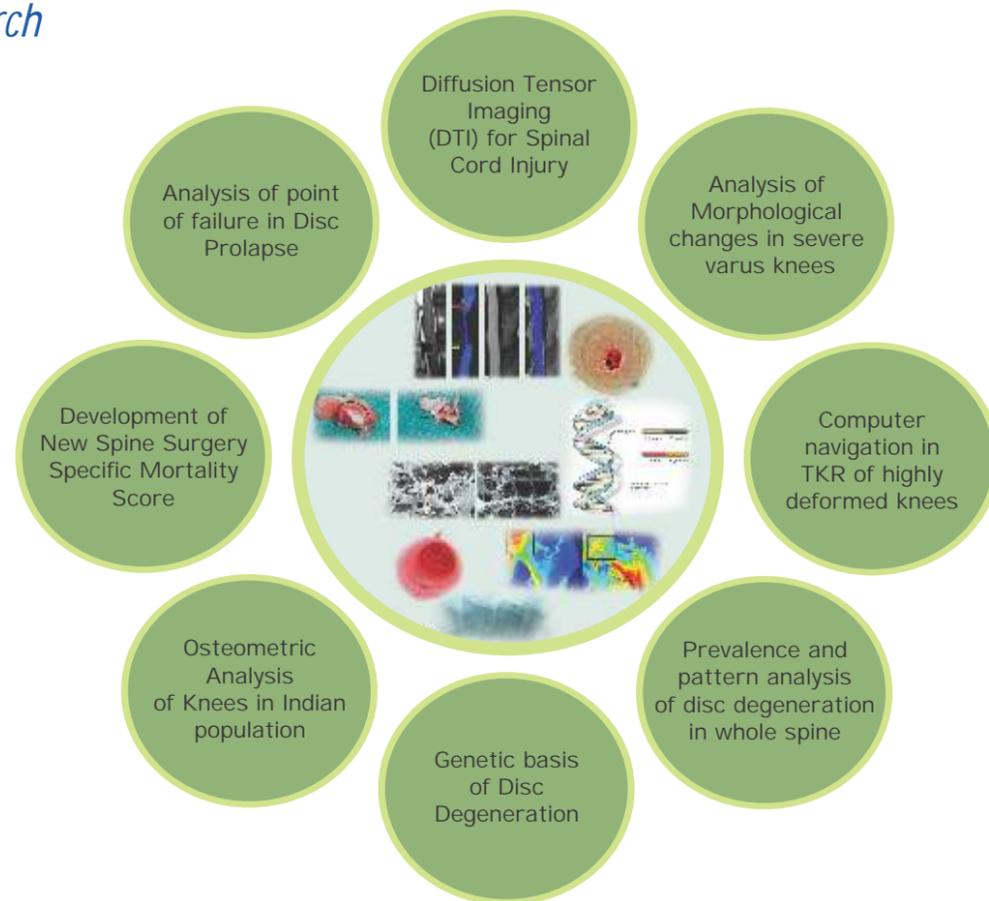
Life time Achievement Award, 2008
 Eminence in Medicare
 Dr S Rajasekaran
 Lions Clubs International Dist 324 B5 2007-08 and
 Organising Committee of the Tamilnadu Lions Meet 2008

Best Published Paper Award - ISSICON 2008
 Buckling Collapse of Spine in Childhood Spine Tuberculosis'
 Best Published Paper Award – 2008 - Dr S Rajasekaran
 ISSICON 2008, Indian Spinal Injuries Center



Prof A Subramaniam Basic Science research award 2009
 Assessment of spinal cord integrity by Diffusion
 Tensor Imaging - Analysis of normal spinal cord, acute and
 chronic spinal cord injuries
 Dr Rishi Kanna,
 TNOACON 2009 Coimbatore

Research



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Ganga Orthopaedic Research & Education Foundation (GOREF)

Ganga Orthopaedic Research & Education Foundation' (GOREF) was established in August 2002 to facilitate and conduct research in all aspects of orthopaedic surgery, in both clinical and basic sciences.

This organization was also awarded the recognition of Scientific and Industrial Research Organisation (SIROs) by the Government of India, Ministry of Science & Technology, Department of Scientific and Industrial Research Organisation (SIRO), New Delhi on 30th April 2009 in recognition of the high quality research performed in the last many years. The foundation has now grown in strength and has to its credit, various activities such as supporting the academic training of the hospital staff, holding scientific meetings and conferences, funding on-going research activities of the department, providing funds for 'Project Helpline' (a project to support the surgical correction of physical deformities of poor children) and also the primary education of deserving under privileged children.

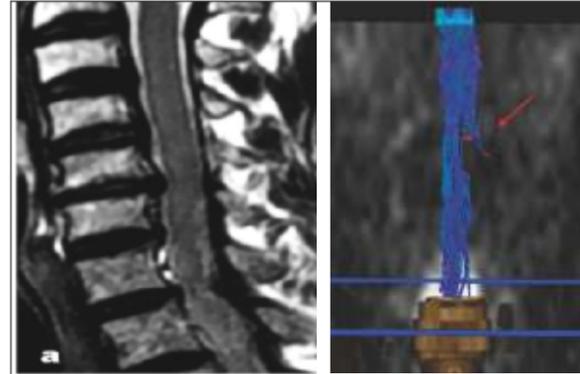
Memorandum of Understanding

- Tamil Nadu Agriculture University, Coimbatore- Gene analysis in patients with back pain
- University of Hongkong- Genetic basis of DDD
- Venkateshwara University, New Delhi- Biochemical and end plate analysis in disc prolapse
- Central Leather Research Institute, Chennai- Effect of mechanical forces in lumbar discs

Diffusion Tensor Imaging (DTI) as a novel method of assessing spinal cord at tract level.

- ASSI – Clinical Science Research Award – 2010
- IOA Golden Jubilee Commemoration Lecture Award - 2011

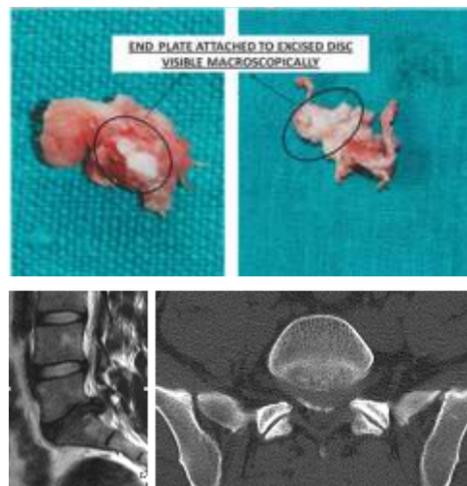
- Conventional MRI assesses the spinal cord as a whole and does not evaluate the spinal cord at the tract level. Hence it is not useful in accurate assessment or prognostication of acute or chronic injuries.
- DTI is a new and emerging technique which can assess individual tracts by measuring the movement of protons.
- This technique has been used widely in the imaging of brain but not in the spinal cord.
- Our study aims at evaluating the sensitivity and specificity of this technique in assessing the extent of damage to the tracts of the spinal cord in both acute injuries and chronic compressive myelopathies.
- We are also aiming to document the DTI datametrics of various parameters like FA and ADC values at various levels of the cervical spinal cord and in different age groups.



Case illustrating the value of DTI. A hemi section of the spinal cord is scarcely visible in the normal MRI. The DTI however shows the disruption of the fibers indicating the hemisection of the spinal cord dramatically.

A multi-modal evaluation of the anatomical site of failure in lumbar disc herniation.

- ASSI – Clinical Science Research Award – 2011



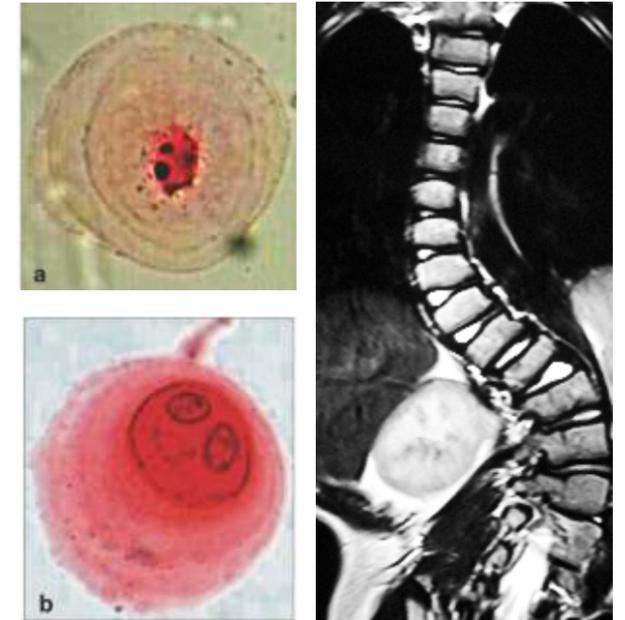
L5-S1 disc extrusion in the MRI showing a rim avulsion fracture of the end plate in the CT scan as the etiology of the avulsion. The excised disc material clearly shows large end plate fragment attached to the extruded disc.

- It is traditionally believed that lumbar disc herniation is the result of an acute or chronic tear of the annulus which allows the nucleus pulposus to herniate.
- Our hypothesis is that the majority of herniations occur as the result of failure of the end plate as an avulsion of the end plate – annulus junction which allows the nucleus to herniate subligamentously.
- This hypothesis is being verified by the use of plain radiology, thin slice CT, plain MRI, post contrast serial MRI studies, intra-operative evaluation of the herniated material and histopathological studies of the removed disc material.
- Our preliminary results does indicate that avulsion of the end plate may be the primary mode of failure of the disc in majority of the patients.

A Study of Effects of in vivo Mechanical Forces on Human Lumbar Discs with Scoliotic Disc as a Biological Model.

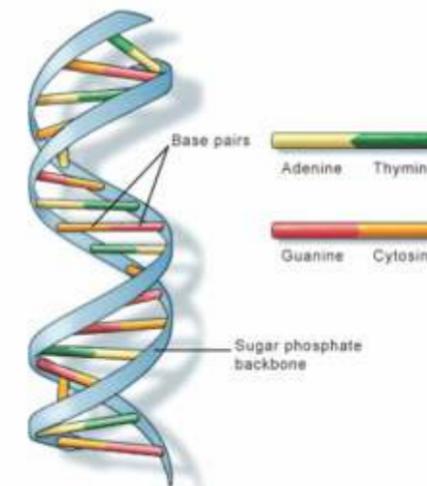
- ISSLS – Basic Science Research Award – 2010
- ASSI – Basic Science Research Award – 2010

- The effect of mechanical stress on the biology of the disc has largely been studied in animal models which may not truly reflect the biology of human lumbar disc. Scoliotic discs of humans offer a perfect study model for both compressive and distractive stresses.
- 6 patients with AIS were assessed with pre and post contrast MRI followed by a histological and biochemical evaluation of the disc material harvested during scoliosis correction surgery.
- The results were compared to normal discs harvested from tumor surgery.
- Our study showed that end plate damages occurred early on both the concave and convex sides and this led to changes in the diffusion leading to early degeneration. These changes were more pronounced in the caudal end segments than in the apex and were more pronounced in patients with truncal deviation.
- Our finding have important implications in the timing and choice of surgery.



Genetic basis of degenerative lumbar disc disease in Indian population

- ASSI – Basic Science Research Award – 2011



- There is growing opinion that disc degeneration has more genetic basis than environmental factors.
- All the studies perform so far have been in the Chinese, Japanese and Finnish population and there are no studies in the Indian population which accounts for 1/6th of the world population.
- This project aims to study the genetics in the Indian population and to find the association of 57 SNP's with very highly selective phenotypes.
- The study is done in collaboration with Genetic department of the Tamil Nadu Agricultural University and the University of HongKong who are experts in similar studies.

Development and validation of a New Spine Surgery Specific Morbidity Score to predict post operative morbidity and mortality in elective spine surgery.

- ASSI – Young Investigator Award - 2011

- Spine surgery can be associated with significant intra operative and post operative complications, the predictors of which are poorly defined. Although Charlson's Comorbidity Index has been used for tumor related surgeries, it is neither sensitive nor specific for spine surgeries.
- In a preliminary study, we have identified the risk factors for development of postoperative complications and have developed a good scoring system by assigning risk stratification weightage to each patient variable.
- This new scoring system will help in directly assessing the risk- benefit ratio of surgery in the older age groups and enables the practicing spine surgeon to adequately inform patients regarding the surgical risk.
- The score was validated in over 500 patients subsequently and was found that our new score was highly specific and sensitive in predicting the complications of spine surgery.

Pre-operative predictors		Score
Age	< 50	1
	50-70	2
	>70	5
ASA	1	1
	2	5
	3	6
	4	7
	5	7
No. of instrumentation levels	≤ 3	1
	> 3	2
Duration of surgery (min)	≤ 180	1
	> 180min	2
Blood loss (ml)	≤ 500	1
	> 500	4

Osteometrical analysis of the distal femurs in Indian patients with respect to total knee replacements

- Prof. M.Ramanathan Consultant Gold Medal- TNOACON 2010



The above AP radio graphs of femur from 2 different patients show that the medio lateral bowing is very different individuals. Currently the jig based system of femoral implantations is based on the osteometrical values of the Western population. This may lead to minor alignment errors of the Total Knee Replacement. Our study aims to document the accurate osteometrical data of the distal femurs of the Indian population.

- Conventional method of resection of distal femur is based on analysis of morphometry of western population which may not be accurate for Indian population.
- Our preliminary radiological review has shown a high incidence of bowing and extra articular deformities in the femur which can significantly alter the alignment of TKR components.
- This study attempts to change the conventional method of using fixed angles of resection for the distal femoral cut during primary total knee replacement.
- The results of the study may help in designing more accurate instrumentation and implants for TKR in Indian population.

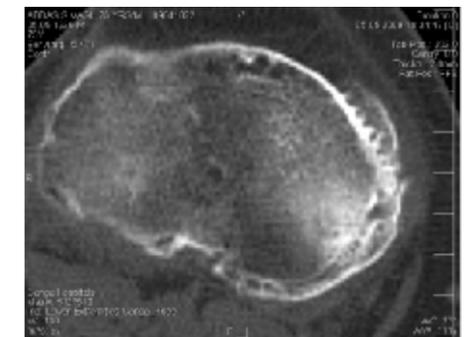
Prevalence and pattern analysis of disc degeneration



- Previous studies have studied the prevalence of MRI changes in the spine and correlated these changes to clinical findings but have the drawbacks and have focused on a single or few changes. Studying the association of MRI changes with disc degeneration will help in determining the factor most influencing disc degeneration.
- Our objectives are 1) to examine the pattern and prevalence of MRI changes in the spine and correlate the changes to age, pain symptoms and occupation. 2) to examine the association of various MRI findings to one another within each spinal level. 3) To determine patterns of distribution of disc degeneration in the spine. This may provide insights into the aetio-pathogenesis of Disc Degenerative Disease.

Morphological changes of upper end of tibia in severe varus knees:

- Our anatomical and radiological analysis has shown significant changes in bone density and morphology with severity of deformity in arthritic knee patients.
- In severe varus knees, there is bone migration and eburnation on the posteromedial aspect of the medial plateau of the tibia leading to alteration in the shape of the upper tibial surface.
- The changes in morphology, if not recognized, can lead to errors in component placement during total knee replacement.
- Our study involves documentation of the extent of the morphological changes with the severity of varus and identification of landmarks for accurate component placement.

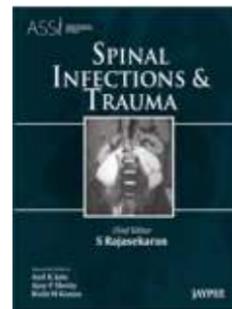


Application of computer navigated surgery in improving alignment and ligament balancing in severely deformed knees.



- The role of navigation in TKR has been established in the west.
- However we have observed that deformities both intra and extra articular are more pronounced in Indian population due to nutritional and social causes.
- Achieving accurate alignment in severely deformed knees with and without bone loss is a challenge. The role of navigation in this situation has not been assessed and reported in the literature.
- We are aiming to define its role in the severely deformed knees in Indian population to assess its efficacy and cost effectiveness in clinical practice.

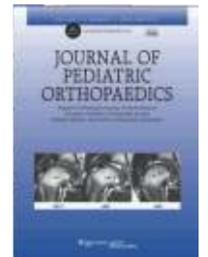
Text Book Chapters - 13
 Publications in International Journals - 42
 Publications in National Journals - 12



“Medical men must discuss with other medical men - for discussion promotes understanding, removes doubts and increases knowledge”

- Charaka, 6th century B.C

- 1 ISSLS Prize Winner: A Study of Effects of In Vivo Mechanical Forces on Human Lumbar Discs With Scoliotic Disc as a Biological Model: Results From Serial Postcontrast Diffusion Studies, Histopathology and Biochemical Analysis of Twenty-One Human Lumbar Scoliotic Discs. Rajasekaran S, Vidyadhara S, Subbiah M, Kamath V, Karunanithi R, Shetty AP, Venkateswaran K, Babu M, Meenakshi J. Spine . Vol 35, No.21, 2010, pg 1930-194.
- 2 Intraoperative Computer navigation guided cervical pedicle screw insertion in thirty three complex cervical spine deformities. Rajasekaran S, Kanna RM, Shetty AP. J Craniovert Jun Spine 2010, 1: 7:38-43.
- 3 Comparison of prognostic value of different MRI classifications of signal intensity change in cervical spondylotic myelopathy. Avadhani A, Rajasekaran S, Shetty AP. Spine J. 2010 Jun;10(6):475-85.
- 4 Lumbar Vertebral Growth is governed by 'Chondral Growth Force Response Curve' rather than 'Hueter-Volkman Law'. A clinico-biomechanical study of growth modulation changes in Childhood Spinal Tuberculosis. ACCEPTED FOR PUBLICATION IN SPINE
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- 6 Kanna RM, Shetty AP, Rajasekaran S. Anatomical Feasibility of Pediatric Cervical Pedicle Screw Insertion by Computerised Tomographic Morphometric Evaluation of 376 Pediatric Cervical Pedicles' Accepted for publication in Spine journal.
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- 14 Jayaswal A, Upendra BN, Avadhani A, Rajasekaran S. Dual growth rods for infantile scoliosis.. Eur Spine J. 2010 Feb;19(2):349-50.
- 15 Grevitt M, Kamath V, Avadhani A, Rajasekaran S. Correction of thoracic kyphosis with Ponte osteotomy.. Eur Spine J. 2010 Feb;19(2):351-2.



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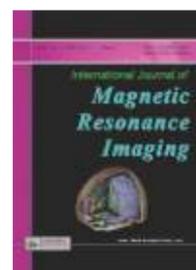
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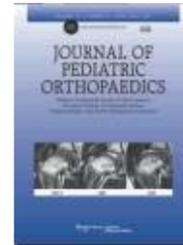
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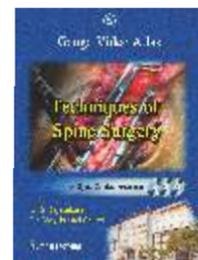
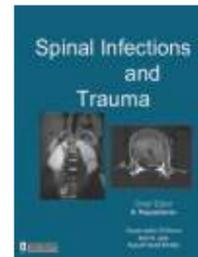


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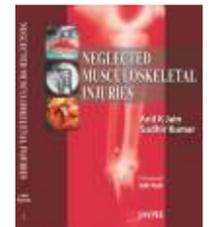
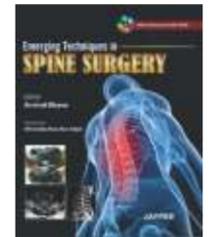
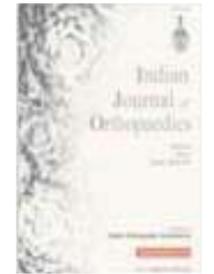


TextBook Chapters

- 1 ASSI Textbook of Spinal Infections and Trauma, Jaypee Brothers, 2010
Chief Editor Dr.S Rajasekaran
Associate Editors: DrAjoy Prasad Shetty, Dr Rishi Mugesh Kanna
Authored three chapters
- 2 Techniques of Spine Surgery. Ganga Video Atlas. Jaypee Brothers.
Dr. S Rajasekaran, Dr Ajoy Prasad Shetty
- 3 Author in Textbook of Orthopedics and Trauma 2nd Edition 2008,
Editor Dr. G S Kulkarni
"The Problem of Deformity in Spinal Tuberculosis"
"Open fractures"
"Diaphyseal Fractures of Tibia and Fibula in Adults".
"Cervical Spine"
- 4 Author in Emerging Techniques in Spine Surgery, 2009,
Editor Dr. Arvind Bhave
"Kyphosis in Spinal Tuberculosis (TB) – Evolution, Prevention and Management". Rajasekaran S.
- 5 Author in Neglected Musculoskeletal Injuries, 2009,
Editor Dr. AK Jain
"Neglected Spinal Trauma". Rajasekaran S, Kamath Vijay HD,
Saumyajit Basu, Dilip Sengupta.
- 6 Author in Clinical Research Made Easy. A Guide to Publishing in Medical Literature, 2010,
Editor Dr. Mohit Bhandari & Dr. Parag Sancheti"Conducting a Randomised Controlled Trial" Simrit Bains, S Rajasekaran
- 7 Author in Textbook of Anaesthesia, 2nd Edition 2008,
Editor Dr. Satish Deshpande "Perioperative Cognitive Dysfunction".
Dr. Balavenkat



1. Intraspinal anomalies in scoliosis: An MRI analysis of 177 consecutive scoliosis patients. Rajasekaran S, Kamath V, Kiran R, Shetty AP. Indian J Orthop. 2010 Jan;44(1):57-63.
2. Iso-C3D navigation assisted pedicle screw placement in deformities of the cervical and thoracic spine. V Rajan V, Kamath V, Shetty AP, Rajasekaran S. Indian J Orthop. 2010 Apr;44(2):163-8.
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7. Ashish Jaiswal, Ajoy P Shetty, Rajasekaran S. Role of Intraoperative Iso-C based navigation in challenging spine trauma. IJO, Volume 41, Issue 4, Oct-Dec, 2007.
8. Vidyadhara S, Ajoy P Shetty, Rajasekaran S, M.B. Pranesh. Cervical Laminectomy – revisited – its role in myelopathy secondary to multilevelspondylosis and ossified posterior longitudinal ligament (OPLL). Journal of Tamilnadu Orthopaedic Association, Volume 32, 2006.
9. Rajasekaran S, Vidyadhara S, Perumal Ramesh, Ajoy P.Shetty,. Randomised clinical study to compare the accuracy of navigated and non-navigated thoracic pedicle screws in deformity correction surgeries. Vol 32, No.2, pp E56-E64, SPINE 2007.
10. Rajasekaran S, Naresh Babu J. Translaminar facet screw (Magerl's) fixation. Neurology India, Dec 2005.
11. Simrit Bains, S Rajasekaran. Conducting a Randomised Controlled Trial. Clinical Research Made Easy. A Guide to Publishing in Medical Literature. Editor Dr Mohit Bhandari and Dr Parag Sancheti. Chapter No.20, Pg No.211-220, 2010
12. Rajasekaran S. Kyphosis in Spinal Tuberculosis (TB) – Evolution, Prevention and Management. Emerging Techniques in Spine Surgery, Editor Dr Arvind Bhave, Chapter No.24, Pg No.252-262, 2009.
13. Rajasekaran S, Kamath Vijay HD, Saumyajit Basu, Dilip Sengupta. Neglected Spinal Trauma. Neglected Musculoskeletal Injuries. Editor Dr AK Jain, Chapter No.10, Pg No.142-159, 2009.





Presentations

INTERNATIONAL66

NATIONAL132

“Perfection is achieved, not when there is nothing more to add, but when there is nothing left to take away”.
Antoine de Saint

International

Combined Congress of the 13th Pan Arab Orthopaedic Associations & 12th GCC Orthopaedic Associations, Muscat, Sultanate of Oman, 2008

- Open injury in the management of severely injured limbs. - Dr S Rajasekaran
- Computer navigational spine surgery in difficult situations. - Dr S Rajasekaran
- Role of computer navigated surgery in TKR in severely deformed knees. -Dr S Rajasekaran

Annual Meeting of Japanese Orthopaedic Association, Japan, 2008.

- Prediction of management outcome in type IIIA & B open injuries: Prospective study in 293 injuries - Dr S Rajasekaran
- A score for predicting salvage and outcome in Gustilo Type-IIIA and Type-IIIB open tibial fractures. - Dr S Rajasekaran
- Total Knee replacement in severe varus knees with and without navigation. - Dr S Rajasekaran
- Natural evaluation and clinical management of severe kyphosis in spinal tuberculosis and other disorders- Dr S Rajasekaran
- Cervical spine reconstructive surgery using computer navigated systems. - Dr S Rajasekaran
- Diffusion in human lumbar discs can be enhanced pharmacologically with oral nimodipine. - Dr S Rajasekaran

Annual Meeting of AAOS (American Academy of Orthopaedic Surgeons) San Francisco, USA, 2008

- Long term results of immediate primary bone grafting in type-IIIA and type-IIIB open injuries. - Dr S Rajasekaran
- Randomized clinical study to study accuracy of Navigated Pedicle Screws in Deformity Surgeries- Dr S Rajasekaran
- Closing-Opening Wedge Osteotomy to correct Severe Post - Tubercular Kyphosis. - Dr S Rajasekaran

- Diffusion in Human Lumbar Discs can be enhanced pharmacologically with oral nimodipine.- Dr S Rajasekaran

SICOT XXIV Triennial World Congress, Hong Kong, 2008

- Role of Navigation in Spine Surgery. - Dr S Rajasekaran
- Post traumatic adult deformity surgical techniques - Dr S Rajasekaran
- Spinal infections Evolution and treatment of severe kyphotic deformities in spinal tuberculosis - Dr S Rajasekaran

The 15th International Meeting on Advanced Spine Techniques (IMAST), Hong Kong, 2008

- Randomised Clinical study to study the accuracy of navigated pedicle screws in deformity surgeries - Dr S Rajasekaran
- Buckling Collapse of the Spine in Childhood Spinal Tuberculosis - Dr S Rajasekaran
- A study of effect of mechanical forces on endplates of lumbar vertebrae – Scoliotic Disc as a Biological Model - Dr S Rajasekaran
- Intraoperative Iso-C Three dimensional navigation allows percutaneous excision of spinal osteoid osteomas - Dr S Rajasekaran
- Intraoperative Iso-C based navigation in challenging spine trauma - Dr S Rajasekaran
- Growth modulation changes in kyphotic deformity in children as a clinical model for mechanostat theory & chondral growth force response curve - Dr S Rajasekaran

Spine week, Geneva, Switzerland, 2008

- Symposium on Imaging and Navigation in spine surgery - Dr S Rajasekaran



Dr. S Rajasekaran at Spine Section meeting, SICOT, Hong Kong, 2008



Dr. S Rajasekaran at Toronto during SRS travelling fellowship

International Presentations

- Introduction of navigation into clinical practice: How to avoid common pitfalls - Dr S Rajasekaran
- Navigation in special situations in cervical spine - Dr S Rajasekaran
- EuroSpine Open Paper Award – Pharmacological enhancement of disc diffusion and differentiation of healthy, ageing and degenerated discs - Dr S Rajasekaran
- End plate damage score and correlation to disc degeneration - Dr S Rajasekaran

Spine week, Geneva, Switzerland, 2008

- ISSLS Debate – Low back pain – A cultural phenomenon - Dr S Rajasekaran
- Low back pain is more a cultural issue that rarely requires surgery - Dr S Rajasekaran
- Altered diffusion patterns in intervertebral discs can identify healthy, ageing and degenerated discs – An in vivo serial post contrast diffusion study in 365 human lumbar discs - Dr S Rajasekaran
- Diffusion in human lumbar discs can be enhanced pharmacologically with oral nimodipine - Dr S Rajasekaran
- Intraoperative Iso-C arm based navigation in challenging cervical spine fixations - Dr S Rajasekaran
- Management of Posttubercular Kyphosis - Dr S Rajasekaran

AOSpine New Concepts in Spine Surgery and Navigation, Munich, Germany, 2008

- Closing opening osteotomy for correction of severe deformities - Dr S Rajasekaran
- Advanced navigated spine surgery - Dr S Rajasekaran

World Forum for Spine Research – The Intervertebral Disc, Kyoto, Japan, 2008

- Applications of diffusion studies by serial post contrast MRI in evaluating disc nutrition. - Dr S Rajasekaran

Combined Instructional Course of ISSLS (International Society for the Study of Lumbar Spine) & ASSICON (Association of Spine Surgeons of India Conference), 2008

- What type of evidence matters clinically? - Dr S Rajasekaran

AOSpine New Concepts in Spine Surgery and Navigation, Munich, Germany, 2008

- Closing opening osteotomy for correction of severe deformities - Dr S Rajasekaran
- Advanced navigated spine surgery - Dr S Rajasekaran

World Congress of Anaesthesia, Cape Town, South Africa, 2008

- Experiences in setting up Ambulance Services - Dr. Balavenkat
- Serial lactate measurements in prognosticating outcome in polytrauma patients - Dr. Balavenkat
- Continuous Femoral block for geriatric patient with hip fracture: Does it change the outcome? - Dr. Balavenkat
- De-escalating physical status by technique and technology- A supportive case report - Dr. Balavenkat
- Role of Segmental Epidural in Moya Moya Disease for incidental surgery-a case report - Dr. Balavenkat

SRS 44th Annual Meeting, San Antonio, USA, 2009

- Severe Kyphosis – 'Buckling Spine' Development and Biomechanical Basis - Prof. S. Rajasekaran

55th Congress South African Orthopaedic Association, Central Drakensberg-Champagne Valley, South Africa, 2009

- Primary vertebral tumors of bone-Management strategies- Prof. Rajasekara

- Progression and correction of severe kyphotic deformities in spinal TB - Prof. S. Rajasekaran
- Post traumatic kyphotic deformities - Prof. S. Rajasekaran
- Use of scores in assessing salvage and amputation - Prof. S. Rajasekaran

Spondylosis and Spondylitis. New Aspects in the Surgical Treatment of Degenerative and Inflammatory Disorders of the Spine, Livorno, Italy, 2009

- Current concepts in the management of spinal tuberculosis - Prof. S. Rajasekaran
- Evolution and correction of severe kyphotic deformities - Prof. S. Rajasekaran

AOSpine Global Interactive Course, Kuala Lumpur, Malaysia, 2009.

- Case Presentation – Post operative discitis - Prof. S. Rajasekaran
- Case Presentation – 'Spinal tuberculosis' - Prof. S. Rajasekaran

- Post operative discitis and its management - Prof. S. Rajasekaran
- Management of late onset Potts paraparesis and correction of angular deformity - Prof. S. Rajasekaran
- Pathophysiology of kyphosis in spinal tuberculosis - Prof. S. Rajasekaran
- Management of deep wound infection - Prof. S. Rajasekaran
- Implementing spinal navigation in daily clinical routine Cervical disc replacement - Prof. S. Rajasekaran

International Course on Spine, Khajuraho, 2009

- Do we really need to shift to Minimally Invasive Spine Surgery? - Prof. S. Rajasekaran
- Is the Industry influencing evidence? Dr. S. Rajasekaran
- ASSI from here to where? - Prof. S. Rajasekaran

Edinburgh International Trauma Instructional Course, Edinburgh, 2010

- Thoracolumbar Fractures – Prof. S. Rajasekaran
- Primary Skin Closure. What is its role? - Prof. S. Rajasekaran

- The Ganga Classification – Prof. S. Rajasekaran
- When should open wounds be closed primarily? - Prof. S. Rajasekaran

70th Annual Scientific Meeting of Australian Orthopaedic Association, Adelaide, Australia, 2010.

- In vivo Evaluation of Lumbar Discs by post contrast MRI studies – Prof. S. Rajasekaran
- Severe kyphotic deformities of the spine and its treatment – Prof. S. Rajasekaran
- Comparison of prognostic value of MRI classifications of signal intensity change for cervical spondylotic myelopathy - Prof. S. Rajasekaran

17th International Meeting on Advanced Spine Techniques, 2010.

- The safety of Cervical Pedicle Screw Fixation in Children- A Radiological and Clinical Study - Prof. S. Rajasekaran
- Functional Outcome of Direct Repair of Spondylolysis by Buck's Fusion Thoracolumbar Burst Fractures treated with posterior short segment fixation- Is – surgical arthrodesis required? – A prospective study. – Prof. S. Rajasekaran

POSI-POSNA International Paediatric Fracture Course, Colombo, 2010

- Management of Supracondylar Fracture Humerus in children with pink pulseless hand - Dr. K. Venkatadass
- Management of comminuted femur fracture in adolescents – Dr. K. Venkatadass
- Management of Slipped Capital Femoral Epiphysis – Dr. K. Venkatadass
- Missed Monteggia Injuries in children - Dr. K. Venkatadass

Scoliosis Research Society Travelling fellowship, USA (Chicago, New York, Boston, Toronto), 2010 Children's Memorial Hospital, Chicago

- The role of serial diffusion contrast MRI studies in Low Back Pain

- NYU Hospital for Joint Diseases, New York - Prof. S. Rajasekaran



Dr S Rajasekaran at SICOT / SIROT 2008 XXIV Triennial World Congress, Hong Kong



Dr S Rajasekaran



Dr S Rajasekaran at Grand Rounds Lecture - Dartmouth



Dr S Rajasekaran with fellow SRS travelling fellows, USA

International Presentations

Evolution and correction of severe kyphotic deformities in spinal tuberculosis

Massachusetts General Hospital, Boston

- Children's Hospital, Harvard Medical School, Boston – Prof. S. Rajasekaran
- Evolution and correction of severe kyphotic deformities in spinal tuberculosis Hospital for Sick Children, Toronto Prof. S. Rajasekaran
- Evolution and correction of severe kyphotic deformities in spinal tuberculosis -Prof. S. Rajasekaran
- Role of Iso-C Intra-operative navigation in challenging cervical spine problems - Prof. S. Rajasekaran

AOSpine Asia Pacific Research Committee Meeting, Osaka, Japan, 2010.

- India Project / Role of Research in AP region - Prof. S. Rajasekaran

1st Annual Meeting of Cervical Spine Research Society, Asia Pacific Section, Kobe, Japan, 2010.

- Intra operative ISO-C navigation in complex upper cervical problems – Prof. S. Rajasekaran

39th annual meeting of the Japanese Society for Spine Surgery and Related Research, Kochi, Japan, 2010

- Role of intraoperative computer navigation in difficult spine surgeries – Prof. S. Rajasekaran

Annual Meeting of ISSLS (International Society for the Study of Lumbar Spine), Auckland, New Zealand, 2010

- Prevalence and patterns of disc degeneration in thoracic and cervical spine associated to lumbar disc degeneration in a population with and without low back pain – Magnetic resonance imaging analysis in two hundred and ninety nine individuals – Prof. S. Rajasekaran

- Spine Workshop - The role of end plate in disc degeneration and low back pain'. Lumbar Vertebral Growth is governed by Chondral Growth Force Response Curve' rather than 'Hueter-Volkman Law'. A clinico-biomechanical study of growth modulation changes in childhood spinal tuberculosis Prof. S. Rajasekaran
- A study of effects of in vivo mechanical forces on human lumbar discs with scoliotic disc as a biological model. Results from serial post-contrast diffusion studies, histopathological and biomechanical analysis of 21 human lumbar scoliotic discs - Prof. S. Rajasekaran

Clinical meeting, University of Malaysia medical centre, Kuala Lumpur, 2010

- Staged revision of infected hip and knee replacements using articulating cement spacer - Dr. P. Dhanasekara Raja

American Society of Anaesthesiologists National Meet, San Diego, USA, 2010

- Effect of Low Dose Intrathecal Clonidine on the Blood Loss in Primary Total Hip Arthroplasties – Dr. Balavenkat
- Anaesthetic Management of an Open Fracture Dislocation Ankle in a Geriatric Patient with Impaired Coagulation – Dr. Balavenkat
- Role of On Arrival Continuous Femoral Block in Preoperative Optimisation of a Nonagenarian with Hip Fracture – Dr. Balavenkat

APOA (Asia Pacific Orthopaedic Association) Conference, Taipei, Taiwan, 2010

- Coronal plane osteometry of femur in patients undergoing total knee replacement – clinical implication. Randomised trial for better limb alignment in total knee replacement with navigation in severe varus knees Dr. P. Dhanasekara Raja



Dr Rajasekaran at Davos, Switzerland



Dr S Rajasekaran with Dr Oheneba Boachie Hong Kong



Dr Dhanasekara Raja with Prof David Choon, University of Malaysia Hospital, Kuala Lumpur

National Presentations

Osteolife meet, Orissa, 2008.

- Decision making in severely injured limbs Prof. S. Rajasekaran
- Evolution and correction of severe post-spinal tuberculosis kyphosis in children Prof. S. Rajasekaran
- Application of computer navigation in joint replacement and spine surgery – Prof. S. Rajasekaran

TNOACON (TamilNadu Orthopaedic Association Conference), Kodaikanal, 2008

- Compartment syndrome – Prof. S. Rajasekaran
- Disc Dilemma – Prof. S. Rajasekaran
- Post traumatic cervical spine deformity-management – Dr. Ajoy Prasad Shetty
- Arthroscopic management of intra articular cysts of knee joint- A prospective study - Dr. S.R. Sundararajan
- General principles of open intra-articular fractures – Dr. J. Dheenadhayalan
- Pink Pulseless Hand in Displaced Supracondylar Fractures of Humerus in Children – our Experience – Dr. Ramesh .P

IOACON (Indian Orthopaedic Association Conference), Bangalore, 2008

- Fundamentals of Clinical Research Prof. S. Rajasekaran
- Lumbar Canal Stenosis – Prof. S. Rajasekaran
- Evolution and treatment of kyphosis in Spinal TB Prof. S. Rajasekaran
- Conducted workshop on posterior pedicular fixation of the cervical spine – Prof. S. Rajasekaran
- Conducted workshop on posterior fixation for AIS: Decision making in the method of surgical management – Prof. S. Rajasekaran

AO Spine Basic Course, Kolkata, 2008

- TB Spine –Management Strategy Prof. S. Rajasekaran
- Occipito Cervical Spine Injuries, Classification Prof. S. Rajasekaran
- Solitary Vertebral Lesion – Prof. S. Rajasekaran
- Case Presentation-Occipitocervical Pathology -Prof. S. Rajasekaran



Prof S Rajasekaran



Dr Ajoy Prasad Shetty



Dr S Raja Sabapathy



Prof. Peter Chiu & Dr. F.Y. Nung, Queen Mary Hospital, Hong Kong

- Management of Spinal Tuberculosis - Dr. Ajoy Prasad Shetty
- Classification of spine injuries - Dr. Ajoy Prasad Shetty
- Solitary vertebral lesion – Dr. Ajoy Prasad Shetty

Institute of Neurology, Madras medical College & Govt General Hospital, Chennai, 2008

- Prof S Kalyanaraman Oration: Advances in Surgical Management of TB Spine – Prof. S. Rajasekaran

Ganga Operative Spine Course, Coimbatore, 2008

- Live Demonstration of Spinous Process Splitting Approach – Prof. S. Rajasekaran

MACME CME programme, Chennai, 2008

- Management strategies of Pain Relief in polytrauma – Dr. Balavenkat
- Geriatric Anaesthesia – Dr. Balavenkat

K.S. Hegde Medical College, Manglore, 2008

- Role of Regional Anaesthesia in Orthopaedic surgery – Dr. Balavenkat
- Live workshop on Peripheral nerve blocks Dr. Balavenkat

Madras Medical College, Chennai, 2008

- Live workshop on Regional Anaesthesia Dr. Balavenkat

12th National Conference of International Trauma Care, Cochin, 2008

- Pre-Hospital Care: Guidelines for India Dr. Balavenkat

First National Conference of Obstetric Anaesthesia, Chennai, 2008

- Pregnant Polytrauma patient: Anaesthetic consideration – Dr. Balavenkat

State Conference of Indian Society of Anaesthesiologists, Andhra Pradesh, 2008

- What is New in Trauma Anaesthesia? Dr. Balavenkat

National Presentations

Annual meet of Laboratory Technicians, Loyola College, Chennai, 2008.

- Trauma deaths –an enigma: Can the laboratories reverse the trend? - Dr. Balavenkat

CME on USGRA, Mumbai, 2008

- Does Regional Anaesthesia change the perioperative outcome? – Dr. Balavenkat
- Peripheral Nerve Stimulator Vs UltraSound Guided nerve Block – Dr. Balavenkat
- Live Workshop on Peripheral Nerve Blocks Dr. Balavenkat

Paediatric Spine update, Madurai, 2008

- Management of scoliosis Dr. Ajoy Prasad Shetty

Cervical spine update, Bangalore, 2008

- Multiple level cervical disc prolapse Dr. Ajoy Prasad Shetty
- High cervical disc prolapse Dr. Ajoy Prasad Shetty

Paediatric Orthopaedic Society of India, POSI, POSICON, Coimbatore, 2008

- Congenital scoliosis- Evaluation & Management – Dr. Ajoy Prasad Shetty
- Use of Ponseti's technique in recurrent clubfeet following Kite's method of correction - Dr. K. Venkatadass
- Sliding – angulation osteotomy of proximal ulna for persistent radial head dislocation: A novel technique – Dr. K. Venkatadass
- Management of Supracondylar Fracture Humerus in children with pink pulseless hand - Dr. Ramesh .P

Orthopaedic Association of South Indian States (OASISCON), Pondicherry, 2008

- Biological fixation in distal tibia "Save the Tissues – Dr. J. Dheenadhayalan
- Management of Post Traumatic bone gaps - Dr. J. Dheenadhayalan

- CME: Management of proximal humerus fractures – Dr. J. Dheenadhayalan
- Cervical disc prolapse –Approach & Practical tips – Dr. Ajoy Prasad Shetty

VR ORTHOCON, Coimbatore, 2008

- Sirus nailing of femur Surgical technique and complications - Dr. J. Dheenadhayalan

OSSAP (Orthopaedic Surgeons Society of AP), Karimnagar, Andhra Pradesh, 2009

- Prof Ranga Reddy Memorial Oration - Evolution & Treatment of Severe Kyphotic Deformities in spinal tuberculosis – Prof. S. Rajasekaran
- VSN Murthy Memorial lecture: Strategies for avoiding complications in the management of open grade IIB fractures – Prof. S. Rajasekaran

Indian Chapter of Spinal Arthroplasty Society, Chennai, 2009

- Spine Surgery-Vision 2020-Prof. S. Rajasekaran

Prof T K Shanmuga Sundaram Memorial CME on Pediatric Orthopaedics, 2009.

- Childhood spinal tuberculosis Dr. S. Rajasekaran
- Management of spinal cord problems -Prof. S. Rajasekaran

Decision Making in Spine Surgery and Spinal Techniques (Lumbar Spine), 2009.

- Decision making in lumbar disc prolapse - Prof. S. Rajasekaran
- Microdiscectomy & Decompression - Prof. S. Rajasekaran
- Approach to Failed Lumbar Disc Surger - Prof. S. Rajasekaran
- Interbody Fusion (TLIF/PLIF) Prof. S. Rajasekaran
- MagerIs screw Fixation / Biological fixation / Buck's screw – Prof. S. Rajasekaran



Dr. J. Dheenadhayalan



Dr. S.R. Sundararajan



Dr. P. Dhanasekara Raja

National Presentations

Karnataka State Orthopaedic Conference, Mangalore, 2009.

- Congenital scoliosis – Diagnosis and Management – Prof. S. Rajasekaran
- Cervical myelopathy – spectrum of presentation and management – Prof. S. Rajasekaran
- Navigation assisted TKR – Myths and realities – Prof. S. Rajasekaran

ASSICON (Association of Spine Surgeons of India Conference), Chennai, 2009

- Artificial Cervical Disc - An expensive gadget one does not need? - Prof. S. Rajasekaran
- The role of navigation in deformity correction – Prof. S. Rajasekaran
- MIS Lumbar Spine – Prof. S. Rajasekaran
- Neurological complications in spine surgery – Can mistakes make masters - Dr. Rishi .M Kanna
- Diffusion tensor Imaging of the calf spinal cord – An in-vitro analytical study - DR. Rishi .M Kanna
- Revision spine surgery- Failed Back or Failed Surgeon? – Dr. Rishi .M Kanna
- Acute phase reactants as a predictor of post-operative infection in spine surgery - Dr. Parthasarathy Srinivasan
- Odontoid fracture fixation: Comparison between anterior and posterior surgery - Dr. Ashwin Avadhani

Kerala Orthopaedic Association Conference, Perinthalmanna, 2009

- Dilemmas in Disc Surgery – Prof. S. Rajasekaran



Dr Arun



Dr Rishi Mugesh Khanna



Dr. A. Devendra

West Bengal Orthopaedic Association Conference, Calcutta, 2009.

- Ganga Hospital Open Injury Severity Score in the decision for salvage and reconstruction sequence in severely injured limbs Prof. S. Rajasekaran
- AK Saha Memorial Oration: Navigation in Spinal surgery – Prof. S. Rajasekaran

Ganga Orthopaedic Trauma Course, Coimbatore, 2009

- Ganga Hospital Score – Salvage and Beyond - Prof. S. Rajasekaran
- Polytrauma – A challenge to Milieu Interior - Dr. Balavenkat
- Percutaneous SI joint fixation - Dr. Ajoy Prasad Shetty
- Failed DHS – Not a quiet walk in the park - Dr. S.R. Sundararajan
- Avoiding Pitfalls in IM Nail – Getting There smartly – Dr. S.R. Sundararajan
- Evaluation of clinical and functional outcome in the management of knee dislocation - Dr. S.R. Sundararajan
- Total Shoulder Replacement - Dr. J. Dheenadhayalan
- Late Presentation in Femoral Neck Fractures-overcoming a challenge -Dr.J.Dheenadhayalan
- Subtrochanteric Fractures – Tips, Tidbits and Surgical Pearls -Dr. J. Dheenadhayalan
- Syndesmotic injuries – Anatomical Dictates - Dr. J. Dheenadhayalan
- Periprosthetic femoral fractures – Problem at the tip – Dr. P. Dhanasekara Raja
- Shoulder girdle injuries and treatment - Dr. Ramesh P.
- Chest Injuries – A Ticking Time Bomb - Dr. Ravindra Bhat

National Presentations

- Geriatric Anaesthesia in Trauma
Dr. Ravindra Bhat
- Massive Blood Transfusion – a Necessary Evil –
- Dr. C. Sekar
- ARDS – Just when you thought it was over
- Dr. V.M. Balasubramani
- Head Injuries – Let Down from the Top
- Dr. G. Venkatesh

UPORTHOCON (UP Orthopaedic Association Conference), Lucknow, 2009.

- Decision making in management of severely injured limbs - Prof. S. Rajasekaran
- Role of computer navigation in challenging spine surgeries - Prof. S. Rajasekaran
- Evolution and correction of severe kyphotic deformities in spinal tuberculosis
- Prof. S. Rajasekaran

WIROC (Western India Regional Orthopaedic Conference), Mumbai, 2009

- Use of Navigation in modern spine surgery – Prof. S. Rajasekaran
- Diffusion MRI scan – a breakthrough in imaging neuronal injury -Prof. S. Rajasekaran
- Dr R J Katrak Oration: Ganga Hospital Score in the Management of severely injured limbs
Prof. S. Rajasekaran

IOACON (Indian Orthopaedic Association Conference), Bhubaneswar, Orissa, 2009

- Pains and Pleasures of Accreditation process
Prof. S. Rajasekaran
- Navigation in cervical spine surgery
Prof. S. Rajasekaran
- Is Globalisation of Orthopaedic education possible? – Prof. S. Rajasekaran

- Complications of LCP – Prof. S. Rajasekaran
- Assessment of fiber tract integrity by Diffusion Tensor Imaging - Analysis of calf spinal cord specimens – Dr. Rishi .M Kanna

Sundaram Medical Foundation, Chennai, 2009

- Dr. S. Rangarajan Memorial Oration: Achieving Excellence in Trauma Care -Prof. S. Rajasekaran

Prof T K Shanmuga Sundaram Memorial CME on Pediatric Orthopaedics, Chennai, 2009

- Oration Topic: Childhood spinal tuberculosis – Prof. S. Rajasekaran
- Management of spinal cord problems – Prof. S. Rajasekaran

Annual CME RACE, Sri Ramachandra Medical College, Chennai, 2009

- Perioperative Blood Conservation Strategies – Dr. Balavenkat

Anaesthesia update conducted by Neon laboratories, New Delhi, 2009

- Role of Clonidine in Regional Anaesthesia – Dr. Balavenkat

CME on Anaesthesia Update, Mumbai, 2009

- Role of Clonidine in modern anaesthetic practice – Dr. Balavenkat
- Role of Regional Anaesthesia in orthopaedic surgery – Dr. Balavenkat

Guidelines CME at Dheenath Mangeshkar Hospital, Pune, 2009

- Current Guidelines in Polytrauma – Dr. Balavenkat

Guest lecture Airforce Medical College, Pune, 2009

- Upper Extremity blocks – Dr. Balavenkat

National Presentations

Annual CME, Stanely Medical College, Chennai, 2009

- Consensus and Controversies in managing Polytrauma – Dr. Balavenkat

Ganga Orthopaedic Physiotherapy Course, Coimbatore, 2009

- Clinical evaluation of low back pain Cerebral palsy –clinical view
- Dr. Ajoy Prasad Shetty
- Arthroscopic management of Knee injuries – Dr. S.R. Sundararajan
- Functional anatomy and clinical examination of the knee joint - Dr. S.R. Sundararajan
- Anatomy and Dynamics – Shoulder and shoulder Trauma - Dr. J. Dheenadhayalan
- Clinical Evaluation and Advances in Shoulder Surgeries - Dr. J. Dheenadhayalan
- Osteoarthritis of knee and its management – Dr. P. Dhanasekara Raja
- Fractures around the knee – Dr. P. Dhanasekara Raja

TNOACON (TamilNadu Orthopaedic Association Conference), Coimbatore, 2009

- Should the fracture level be instrumented in unstable thoracolumbar burst fractures?
- Dr. Ajoy Prasad Shetty
- Ankle arthrodesis for complex hindfoot deformities – Dr. J. Dheenadhayalan
- Shoulder arthroplasty surgical technique – Dr. J. Dheenadhayalan
- Randomised control trial to investigate the use of Navigation for better limb and component alignment in severe Varus knees – Dr. P. Dhanasekara Raja
- Comparison of limb and component alignment in knees with varus >15°: A Prospective Randomized Study Of 86 Knees using navigation – Dr. P. Dhanasekara Raja

Guest lecture BJ Medical College, Pune, 2009

- Recent trends in Regional Anaesthesia – Dr. Balavenkat

Anaesthesia Update, Chennai, 2009

- Clonidine a new adjunct to Regional Anaesthesia – Dr. Balavenkat

PG Assembly Bangalore Medical College, Bangalore, 2009

- Anaesthetic considerations in Total Hip Arthroplasty – Dr. Balavenkat

National Conference of International Trauma Care, Kolkatta, 2009

- Crash 2 Trial: Role of Tranexamic Acid in Trauma – Dr. Balavenkat

South Zone Regional Anaesthesia Conference, Hyderabad, 2009

- Intravenous Paracetamol: Revisited –Dr. Balavenkat

Annual Gujarat State Conference of ISA, Gujarat, 2009

- Recent trends in the management of a polytrauma patient – Dr. Balavenkat
- Live workshop on Regional Anaesthesia – Dr. Balavenkat

World Anaesthesia Day CME. YB Chavan Auditorium, Mumbai, 2009.

- Neuraxial, Intravenous and Peripheral strategies for postoperative pain relief Dr. Balavenkat
- Role of Intravenous Paracetamol in postoperative pain relief – Dr. Balavenkat
- Peripheral Nerve Stimulator vs Ultrasound – Dr. Balavenkat

National Conference of RSACP, New Delhi, 2009

- Anaesthetic Equations in Major Spine Surgery – Dr. Balavenkat



Dr. J. Dheenadhayalan



Dr. Srikanth K P



Dr Ajoy Prasad Shetty



Dr Balavenkat



Dr K Venkatdass



Dr SR Sundararajan

National Presentations

- Health Care Cost and Functional Outcome Analysis in Limb Salvage versus Below Knee Amputation – Dr. Ramesh .P
- Intramedullary nail Arthrodesis for comminuted open floating knee injuries – Dr. Srikanth .K.P
- An end plate defect score to prognosticate degenerative disc disease. Results of an in vivo MRI study in 365 human lumbar discs – Dr. Vijay Kamath
- Sliding-angulation radial osteotomy of ulna for chronic head dislocation following missed Monteggia Injuries – An innovative technique - Dr. K. Venkatadass
- Functional outcome of open Grade IIIA and III B supracondylar fracture femur - Dr. Ravichandra
- Application of Classification And Regression Tree (CART) analysis in improving decisions of salvage and sequencing of treatments in challenging limb trauma – an analysis of the utility of various scores – Dr. K. Karthik
- Medical Errors in Orthopaedic Trauma Unit – A Prospective analysis - Dr. S. Muthukumar
- Treatment of coronal split tibial condyle fracture by posterior approach -Dr. Sudhir Ganesan
- Sensitivity & Specificity of MRI and clinical findings, comparison with arthroscopy on knee pathology – Dr. Ravikumar .P
- Evaluation of clinical and functional outcome in the management of knee dislocation – A retrospective study of 19 patients – Dr. Balamurugan
- Assessment of fiber tract integrity by Diffusion Tensor Imaging – Analysis of normal spinal cord, acute and chronic spinal cord injuries - Dr. Rishi .M Kanna

AO Spine Principles course, 2009.

- Outcome of surgical treatment of degenerative spondylolisthesis - Dr. Ajoy Prasad Shetty
- Classification of Subaxial Cervical Spine Injuries – Dr. Ajoy Prasad Shetty
- Bone Grafts, Substitutes and Cages - Solitary Vertebral collapse - Dr. Ajoy Prasad Shetty

Spine update – Lumbar spine disorders, Vishakapatnam, 2009

- Failed disc surgery - Post operative discitis – Dr. Ajoy Prasad Shetty
- Microdiscectomy –Video Demonstration – Dr. Ajoy Prasad Shetty

AO Spine update on Spine trauma, Trivandrum, 2009

- Spine Biomechanics – Dr. Ajoy Prasad Shetty
- Case presentation- Upper cervical trauma – Dr. Ajoy Prasad Shetty
- Debate for posterior approach for thoracolumbar burst fracture – Dr. Ajoy Prasad Shetty
- Upper cervical injuries - Classification & Management- Dr. Ajoy Prasad Shetty

Orthopaedic Association of South Indian States (OASISCON), Cochin, 2009

- Symposium on tibial condyle injuries – Dr. J. Dheenadhayalan
- Distal tibia fractures- Surgical Technique – Dr. J. Dheenadhayalan
- CME on locking plates of distal tibia and distal radius at Lakeshore hospital - Dr. J. Dheenadhayalan
- Shoulder girdle injuries – Dr. J. Dheenadhayalan

Shoulder Symposium at SPOT Hospital, Chennai, 2009

- Internal fixation of proximal humerus fractures – Dr. J. Dheenadhayalan
- Live Surgery on Proximal humerus fracture fixation – Dr. J. Dheenadhayalan

Coimbatore Orthopaedic Society Meeting, Coimbatore, 2009

- Rotator cuff pathology and management – Dr. J. Dheenadhayalan

AO Principles course, Coimbatore, 2009

- Management of open fractures – Dr. J. Dheenadhayalan
- Management of distal femur fractures – Dr. J. Dheenadhayalan
- Management of subtrochanteric fractures – Dr. J. Dheenadhayalan
- LISS fixation in distal femur fractures – Dr. J. Dheenadhayalan

Orthopaedic trauma and complications meet, Coimbatore, 2009

- Syndesmotic injuries of the ankle – Dr. J. Dheenadhayalan

Indian Society of Hip and Knee Surgeons (ISHKS), New Delhi, 2009

- Comparison of limb and component alignment in knees with varus >15°: A Prospective Randomized Study Of 86 Knees using navigation- Dr. P. Dhanasekara Raja

Ranawat Orthopedic Course, Kolkata, 2010.

- Patellar resurfacing – To do or not to do? – Prof. S. Rajasekaran
- Autologous chondrocyte implantation in osteoarthritis – Prof. S. Rajasekaran

IOACON (Indian Orthopaedic Association Conference), Jaipur, 2010.

- Assessment of spinal cord tract integrity by diffusion tensor imaging - evaluation of DTI anisotropy indices & tractography of normal spinal cord, acute & chronic spinal cord injuries Prof. S. Rajasekaran
- Changing Scenario of WOC-Prof. S. Rajasekaran
- Pearls and Pitfalls in spine navigation - Role of Navigation - Prof. S. Rajasekaran
- Clinical evaluation of a failed disc surgery – Prof. S. Rajasekaran

National Presentations

- Coronal plane osteometry of femur in patients undergoing total knee replacement – clinical implication – Dr. P. Dhanasekara Raja
- Open injuries of the astragalus and fate after their fixation – Dr. Ramesh .P
- Management of infected joint replacements by a two stage revision with cement spacer - Dr. Ramesh .P

Baroda Orthopaedic Association Annual Oration, Alkapuri, Baroda, 2010

- Childhood Spinal Tuberculosis – Prof. S. Rajasekaran
- Role of Computer Navigation in Spine Surgery – Prof. S. Rajasekaran
- Dilemmas in Management of Lumbar Disc Disease – Prof. S. Rajasekaran

MOACON (Maharashtra Orthopaedic Association), Nasik, 2010

- Dr Bavadekar Oration: Problem of deformities in spinal tuberculosis - Prof. S. Rajasekaran
- Open Injuries – Management Overview – Prof. S. Rajasekaran
- The 'Angels of Death' in major injuries – Prof. S. Rajasekaran
- Debridement – Key to Success – Prof. S. Rajasekaran
- Challenging Case Discussions – Prof. S. Rajasekaran
- Role of antibiotics in open fractures – Dr. Ramesh .P

Joint Meeting of International Spinal Cord Society (ISCoS), Asian Spinal Cord Network (ASCoN) & Spinal Cord Society (SCS), Indian Spinal Injuries Centre, Delh, 2010

- Thoracolumbar fracture classifications systems and their role in determining treatment – Prof. S. Rajasekaran
- Thoracolumbar Burst Fractures - How will I manage it? – Prof. S. Rajasekaran



Dr. P. Dhanasekara Raja



Dr. J. Dheenadhayalan



Dr. Virupaksha



Dr. J. Dheenadhayalan



Dr S Rajasekaran at Malaysian Spine Society meeting

National Presentations

POSI POSNA Pediatric Fracture Course, Ganga Hospital, Coimbatore, 2010

- Missed Monteggia Injuries – Prof. S. Rajasekaran
- Spine Fractures in Children – Dr. Ajoy Prasad Shetty
- Open injuries in Children – Dr. J. Dheenadhayalan
- Management of Supracondylar Fracture Humerus in children with pink pulseless hand – Dr. K. Venkatadass
- Management of comminuted femur fracture in adolescents - Dr. K. Venkatadass

Annual State Conference of Orthopaedics (OSSAP 2010), Gandhi Medical College, Secunderabad, 2010

- Dilemmas in Lumbar Disc Disease – Prof. S. Rajasekaran

Annual Conference of Central Zone of Indian Orthopaedic Association (CEZCON), Jaipur, 2010

- Management of severe spinal deformities – Prof. S. Rajasekaran

Ganga Operative Trauma Course, Ganga Hospital, Coimbatore, 2010

- Ganga Hospital Score – Salvage and Beyond – Prof. S. Rajasekaran
- Morbidity and Mortality Determinants Following Trauma – Prof. S. Rajasekaran
- SI joint fixation – Dr. Ajoy Prasad Shetty
- Aseptic nonunion of femur shaft fractures – Dr. J. Dheenadhayalan
- Surgical management principles in Distal tibia fractures Dr. S.R. Sundararajan

North East Regional Orthopaedic Surgeons Association (NEROSA) Midterm CME, Guwahati, Assam, 2010.

- An over view & current concepts of management of open fractures - Prof. S. Rajasekaran
- Philosophy of Ganga Hospital Score for Open Fractures – Prof. S. Rajasekaran

Continuing Orthopaedic Education (COE), Hotel Gateway, Mangalore, 2010

- Open fractures around shoulder – Prof. S. Rajasekaran
- Pathogenesis and sequence of events in Rotator cuff tears - Prof. S. Rajasekaran



Dr. S.R. Sundararajan



Dr. N. Rajkumar



Dr S Rajasekaran

Annual day Celebration of Indore Orthopaedic Association, Indore, 2010

- Silver Jubilee Oration: Ganga Hospital score in the decision of salvage and reconstruction of limbs in severe open injuries – Prof. S. Rajasekaran
- Problem of severe kyphotic deformities in spinal tuberculosis - Prof. S. Rajasekaran

Instructional Course in Spine (ICS), Golden Landmark Resort, Mysore, 2010

- Avoiding errors in decision making in spine surgery – Prof. S. Rajasekaran
- Discitis – Prof. S. Rajasekaran
- Salvage of S1 screws – Dr. Ajoy Prasad Shetty
- Problem of severe kyphotic deformities in spinal tuberculosis – Prof. S. Rajasekaran

9th Annual Conference of Orthopaedic Association of South Indian States (OASISCON), Vadapalani, Chennai, 2010

- Current concepts in the Management of TB Spine – Prof. S. Rajasekaran
- Possibility of External Fixator Osteosynthesis in treatment of damages and diseases of Vertebra – Prof. S. Rajasekaran
- Sideswipe injuries of the elbow – Dr. J. Dheenadhayalan
- Who does better? Salvage or Early Below knee amputation in mangled Extremities. -Dr. Ramesh .P
- Management of bone defects in primary total knee arthroplasty -Dr. Ommen Mathew
- Damage Control Orthopaedics: Anaesthesiologists Concern – Dr. Balavenkat
- Timing of definitive surgery in major polytrauma-current thinking - Dr. Balavenkat

Jog Hospital's Orthopaedic Interactive Training Seminar, Pune, 2010.

- Decision Making in Spinal Injuries – Prof. S. Rajasekaran
- Examinations of Hip Joint Unilateral / Bilateral – Prof. S. Rajasekaran

Delhi Orthopaedic Association MIDCON, Delhi, 2010

- Management Strategies for difficult / watershed spinal fractures - Prof. S. Rajasekaran

Ortho Clinics, Mumbai (Scientific Webcast Symposium), 2010

- Ganga Hospital Score in Salvage & Limb Reconstruction Pathways in Severely Injured limbs – Prof. S. Rajasekaran

TRAUMACON, Mumbai, 2010

- Aseptic non union femoral shaft following intramedullary nailing - Prof. S. Rajasekaran
- Aseptic non union femoral shaft following intramedullary nailing - Prof. S. Rajasekaran
- Selecting patients for conservative care and the ideal regimen - Prof. S. Rajasekaran
- Controversial therapies :High dose Methyl prednisolone : Stem cell therapy - Prof. S.Rajasekaran

Spine CME & Workshop 2010, Karnataka Institute of Medical Science, Hubli.

- Overview of TB Spine – Prof. S. Rajasekaran
- Live surgical demonstration of TB Spine – Prof. S. Rajasekaran

Launch of Course on Back Pain Management & Spine Surgery.: IMA, ASSI & India Medtronics, Chennai, 2010.

- Back Pain Management & Recent Advances in Spine Surgery - Prof. S. Rajasekaran

Annual Conference of North Zone Indian Orthopaedic Association (NZIOACON), Jammu, 2010

- P K Duraiswamy Oration: Salvage & Reconstruction of Severely Injured Limbs - Prof. S. Rajasekaran
- Role of Computer Navigation in spine surgeries – Prof. S. Rajasekaran
- Current Trends in Childhood Spinal Tuberculosis – Prof. S. Rajasekaran



Dr. J. Dheenadhayalan



Dr S Rajasekaran



Dr Parthasarathy Srinivasan

National Presentations

34th Annual Conference of Karnataka Orthopaedic Association, St John's Medical College, Bangalore, 2010

- Making the right decisions in Disc Surgery – Prof. S. Rajasekaran
- Session on Spondylolisthesis: Evidence based approach – concluding remarks – Prof. S. Rajasekaran
- Six Sigma in Orthopaedic Practice – Prof. S. Rajasekaran

TNOACON (TamilNadu Orthopaedic Association Conference), Courtallam, 2010

- Complications in the Management of Lower Cervical Spine injuries -Prof. S. Rajasekaran
- Disc Dilemmas – Prof. S. Rajasekaran
- Combined DCS and intramedullary nail for failed subtrochanteric fractures- An innovative technique – Dr. J. Dheenadhayalan
- Coronal Plane Osteometry of South Indian Patients with Arthritic Knees – Clinical Implications in Distal Femoral Cut during Total knee Arthroplasty -Dr. P. Dhanasekara Raja
- Talus Dayout- Should it go in or stay out ? – Dr. Ramesh .P
- Ultrastructural changes in the intervertebral discs due to altered mechanical loading – An electron microscopic analysis using scoliotic disc as biologic model – Dr. K. Venkatadass
- Aseptic nonunion in femur shaft fractures- plate rod construct - Dr. Srikanth .K.P
- Management of ACL avulsion fractures by Arthroscopic staple fixation - Dr. Leo Bernard

Gujarat Orthopaedic Association Conference, Surat, 2010

- Lumbar disc surgery – What is in, what is out? – Prof. S. Rajasekaran
- Symposium on Lumbar Spinal Stenosis – Minimally Invasive Surgery - Prof. S. Rajasekaran
- Hip Masters Course – Bipolar Hips – Prof. S. Rajasekaran
- Hip Masters Course – Cementing Techniques – Prof. S. Rajasekaran

National Presentations

- Posterior approach(RS) maximising acetabular exposure/retractors placement/closure tips – Prof. S. Rajasekaran

ASSICON (Association of Spine Surgeons of India Conference), Nagpur, 2010.

- A study of Effect of invivo Mechanical forces on Human Lumbar Discs with Scoliotic disc as a Biological Model – Prof. S. Rajasekaran
- Safe Spine Surgery – Prof. S. Rajasekaran
- Ostotomies for correction of kyphosis in ankylosing spondylitis - Prof. S. Rajasekaran
- Thoracolumbar burst fractures treated by posterior short segment fixation. Is surgical arthrodesis necessary? – Dr. Vijay Kamath
- Clinical Research Award. Is cervical pedicle screw fixation possible in children? - evaluation of invitro – Dr. Rishi .M Kanna
- pedicle morphometrics and analysis of pedicle screw fixation in fifteen complex paediatric deformities – Dr. Rishi .M Kanna
- Analysis of Functional Outcome of Direct Repair of Spondylolysis by Buck's Method – Dr. Subbaih
- Evaluation of comorbidities as indicator of postoperative complications in spine surgery: Is Charlson comorbidity index alone a sensitive indicator? - Dr. Abhishek Manu
- Posterior transpedicular instrumentation without fusion in the surgical management of thoracolumbar and lumbar tuberculous spondylodiscits -Dr. Ashwin Avadhani

Annual Conference of Kerala Orthopaedic Association, Palakkad, 2010

- Indications and Complications of LCP – Prof. S. Rajasekaran
- Two stage revisions of infected hip and knee replacements using articulating cement spacer – Dr. Ommen Mathew
- The role of Tranexamic acid in reduction of blood loss in total knee replacement – Dr. Shiby John

Advances & Techniques in Joint Replacement Surgery, Kolkatta, 2010

- Current Status of Cartilage Grafting – Prof. S. Rajasekaran
- Patellar Resurfacing- Pros and Cons – Prof. S. Rajasekaran

Annual Conference of Indian College of Anaesthesiologist, New Delhi, 2010

- Perioperative fluid therapy- Current Issues – Dr. Balavenkat

CME Workshop at KSHEMA, Mangalore, 2010

- Regional Anaesthesia – Dr. Balavenkat

Maharashtra State Anaesthesia Conference, Nasik 2010

- Role of Anaesthesiologist in Polytrauma – Dr. Balavenkat
- Guidelines for DVT Prophylaxis in High Risk Patients – Dr. Balavenkat
- Regional Anaesthesia Workshop – Dr. Balavenkat
- Silver Day Problems in Ploytrauma – Dr. Balavenkat
- Golden Hour in Trauma- Lessons learnt – Dr. Balavenkat

MASCON (Mumbai Anaesthesiology Society Conference), Mumbai, 2010

- Live Demonstration: Regional Anaesthesia – Dr. Balavenkat
- Hands on Workshop – Dr. Balavenkat
- Intravenous Paracetamol in current postoperative pain mamangement - Dr. Balavenkat
- CSE: How to make it work? – Dr. Balavenkat
- Geriatric patient with Neck Of Femur Fracture with multiple comorbid condition: Best Anaesthetic Practice – Dr. Balavenkat
- Panel Discussion on Polytrauma Management Principles – Dr. Balavenkat



Dr S Raja Sabapathy



Dr Balavenkat



Dr S Rajasekaran

National Presentations

West Zone Anaesthesia ISA National Conference, Navsari, Gujarat, 2010

- Continuous Perineural Catheter: Has it come to stay? – Dr. Balavenkat

South Zone Anaesthesia National Conference, Thrissur, Kerala, 2010

- Geriatric Patient for Hip Surgery – Dr. Balavenkat

International Conference of Trauma Care, India Habitat Centre, New Delhi, 2010

- Do Biochemical Markers Prognosticate Outcome in Major Polytrauma? – Dr. Balavenkat

Annual Conference of Association of Physician Assistants of India, GKNM Hospital, Coimbatore, 2010

- How to become better than the best? – Dr. Balavenkat

KANISACON, Kanyakumari, 2010

- Patient with Traumatic Brain Injury for Incidental Surgery – Dr. Balavenkat
- Panel Discussion - 75 year old patient with coronary artery disease with for fracture neck of femur – Dr. Balavenkat

CME of Mysore ISA, Mysore, 2010

- Newer Trends in Regional Anaestheisa – Dr. Balavenkat
- Intravenous Paracetamol – Dr. Balavenkat

Regional Anaesthesia CME, Annual Meeting of the ISSP, Miraj, Maharashtra, 2010.

- Regional Anaesthesia Trends and Tribulations – Dr. Balavenkat
- Live workshop on Regional Anaesthesia – Dr. Balavenkat



Dr J Naresh Babu



Dr. Vijay Kamath



Dr Ashish Jaiswal

RAW, Mumbai, 2010

- Live Regional Anaesthesia workshop - Upper Extremity Blocks – Dr. Balavenkat
- Challenging Case Scenarios of Cardiac Patient for Noncardiac Suregry and the Role of Regional Anaesthesia – Dr. Balavenkat
- PRO & CON session on PNS vs Ultrasound in Regional Anaesthesia - Dr. Balavenkat

ISA meeting, Hotel Ratna Residency, Coimbatore. 2010

- Role of Intravenous Paracetamol in Postoperative Pain Management - Dr. Balavenkat

RACE, Sri Ramachandra Medical College, Chennai, 2010

- Intubating LMA vs Fiberoptic Bronchoscope in intubating a patient with unstable cervical spine fracture – Dr. Balavenkat

Annual Regional Anaesthesia CME, Meenakshi Mission Hospital, Madurai, 2010

- Regional Anaesthesia: Newer Trends – Dr. Balavenkat

Paediatric Orthopaedic Society of India, POSI, POSICON, Hyderabad, 2010

- Evaluation of clubfeet treated by Ponseti's technique – An analysis of form, function & radiology at 2 yrs follow-up – Dr. K. Venkatadass

Academics

Courses

The Tamilnadu Dr MGR Medical University, Chennai.

- Ph.D in Orthopaedic Surgery
- Fellowship in Arthroplasty
- Fellowship in Spine Surgery
- Fellowship in Limb Reconstruction Surgery

National Board of Examinations, NewDelhi

- DNB Orthopaedic Surgery
- FNB Spine Surgery
- FNB Trauma Surgery

International Fellowships

Paramedical Courses

- B.Sc Physician Assistant



Academic Director
Prof. Dr. M.V. DANIEL
MS (GEN). MS (Ortho). FACS (Ortho).

Academics has been one of the strong pillars of Ganga Hospital and the high academic standards has helped to place Coimbatore in the world map of training centres in both orthopaedics and hand surgery. The institution was one of the first in the country to be recognised for basic orthopaedic post graduate training and the first for super speciality training in spine surgery. The orthopaedic unit also is recognised for PhD in orthopaedic surgery and runs numerous fellowships which are fiercely competed for both nationally and internationally.



Clinical Director
Prof. S Rajasekaran
M.S.(Orth)., D.Orth., D.N.B, F.R.C.S(Ed)., F.R.C.S(London),M.Ch. (Liverpool)., FACS, Ph.D

The academic activities are supervised by the Academic Director Prof M V Daniel, Former Head of Department of Orthopaedic Surgery, Christian Medical College, Vellore and guided by Dr S Rajasekaran, Clinical Director. Prof Daniel is also the Chairman of the Institutional Review Board of the research wing of the unit. His vast experience in the field for many decades and his passion for discipline and documentation have been a strong strength for the unit.

Formal Courses

PhD Course in Orthopaedics Surgery

The orthopaedic unit has a PhD course that entails research in both clinical and basic science in any field of orthopaedic surgery. The four year programme enrolls full time research workers. The research work is funded by Ganga Orthopaedic Research & Education Foundation.

FNB Spine Surgery

The Spine Department was the first unit in India to be recognised by the National Board of Examinations, New Delhi, for super-speciality training in Spine Surgery. The fellows are selected by an All India Entrance Examination and the two year course is open to both Orthopaedic and Neurosurgeons..

FNB Trauma Surgery

The busy trauma unit with a large turnover of cases is recognised by the National Board of Examinations, New Delhi for two-year super speciality training in trauma surgery.

Diplomate of National Board (DNB) in Orthopaedic Surgery

The department is recognised for Post graduate training in Orthopaedic Surgery by the National Board of Examinations (NBE) since 1997 and currently trains six candidates every year.

The Tamilnadu Dr M.G.R Medical University fellowships

One year super speciality fellowship training programmes are offered in the fields of Limb Reconstruction Surgery, Arthroplasty Surgery and also Spine Surgery. These fellowships offer a well-balanced curriculum and training involving clinical and research work.

B.Sc. Physician Assistant, Emergency and Trauma Management Course

This course is conducted in collaboration with Avinashilingam University. The students are formally trained to provide diagnostic, therapeutic, and preventive health care services.

Till Date :

- DNB Orthopaedic Surgery - 44
- FNB Spine Surgery - 19
- FNB Trauma Surgery - 2
- B.Sc Physician Assistant - 36
- WOC Training Fellowship - 89
- International Fellowship - 55

D.N.B POSTGRADUATES

2008

Dr Sudhir G
Dr Muthukumar S
Dr Satyanarayana Reddy
Dr Ravikumar P

2009

Dr Ajay Gahukamble
Dr Barun Kumar Golwara
Dr Kunal Ajay Shah
Dr Noel Naleen Kumar

2010

Dr Balachandra Gopalan
Dr Deepak R
Dr B M Venkatdeep
Dr Sudheer Kumar Reddy K
Dr Sivaraj
Dr Radhakrishna V N

D.N.B POSTGRADUATES IN 2010



Dr Sudhir, Dr Balachandra Gopalan, Dr. Muthukumar, Dr Barun Kumar Golwara, Dr Noel Naleen Kumar, Dr Ajay Gahukamble, Dr Deepak R, Dr Kunal Ajay Shah, Dr Sivaraj, Dr Sudheer Kumar Reddy K, Dr Radhakrishna V N, Dr B M Venkatdeep,

Prof. Dr. MV Daniel Gold Medal



Prof. Dr. MV Daniel

Prof. Dr. M.V. Daniel Gold Medal

This gold medal has been introduced in the name of Prof. Dr. M.V. Daniel, our Academic Director, and will be awarded to the Resident Doctor in the department of Orthopaedics who has exhibited exemplary commitment towards patient care.

The Gold Medal for the year 2008, 2009 and 2010 has been awarded to Dr. Devendra A, Dr. Srikanth KP and Dr. Ravichandra Vattipalli respectively



Dr. Devendra A receiving the Prof. Dr. MV Daniel gold medal 2008 from Chairman Dr JG Shanmuganathan



Dr. Devendra
Recipient of the award in 2008



Dr. Srikanth KP
Recipient of the award in 2009



Dr. Ravichandra V
Recipient of the award in 2010



Ganga Institute of Health Sciences

Ganga Institute of Health Sciences was inaugurated in 2010 with the aim of producing highly skilled graduates in nursing and allied fields, who will serve with compassion and commitment.

The Institute that comprises of the nursing College and the Nursing School is situated in Vattamalaipalayam, 8 kms from Ganga Hospital. The 13.4 acre campus houses the spacious 45,000 sq. ft structure encompassing class rooms, Pre Clinical labs, library, auditorium and women's hostel.



Courses Offered:

- Diploma in Nursing & Midwifery
- B.Sc., Nursing – 4 years
- Post Basic B.Sc., Nursing – 2 years
- B.Sc., Physician Assistant
(Emergency and Trauma Management) – 4 years.

Visiting Professors

The institution has grown with the culture of inviting visiting professors every year which is of great benefit to the entire team. Pioneers in various specialties are invited to deliver lectures, take ward rounds and to perform surgeries in their areas of specialization. This gives a wonderful opportunity for all the staff members of the team from the trainee to the senior consultant to update themselves and learn the tips and tricks.



Visiting Professor 2008



Prof. Marc F Swiontkowski
USA

We were privileged to have Prof. Marc F Swiontkowski from the University of Minnesota, USA as our visiting professor for the year 2008.

He is an eminent orthopaedic surgeon with special interest in major complex trauma reconstructions, femoral neck fractures in young individuals, non-unions and has done extensive research in the management of open injuries.

A national level trauma symposium was organized at the end of the week which was attended by over 200 delegates from all over India.

Visiting Professor 2009



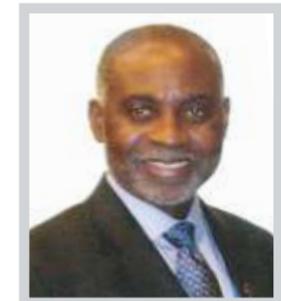
Prof. Jegan Krishnan
Australia

Prof. Jegan Krishnan from Flinders Medical Centre & Repatriation General Hospital, Adelaide, Australia was our visiting Professor for the year 2009.

He is a member of several professional bodies including The Australian Shoulder and Elbow Society, the Australian Hip Society and the Australian Hand Surgery Society.

He was awarded the prestigious American British Canadian Travelling Orthopaedic Fellowship 2000.

Visiting Professor 2010



Dr Oheneba Boachie
USA

Dr Boachie is Professor of Orthopaedic Surgery at Weill Cornell Medical College and Chief of the Scoliosis Services and Associate Attending Orthopaedic Surgeon at Hospital for Special Surgery and New York-Presbyterian Hospital.

Dr Boachie was our visiting professor for 2010. He has won numerous awards for his research work including the prestigious Russell Hibbs Award for the Best Clinical Research Paper (SRS 2002) and the Louis Goldstein Award for the Best Clinical Poster at SRS (1999, 2002).





Dr. S Rajasekaran with Prof. James Scott Prof. Frank Horan and Prof. David Jones during their visit to Ganga Hospital in 2008

Prof James Scott, London (Chief Editor, Journal of Bone and Joint Surgery (B))

"Immensely impressed with all aspects of the hospital, the breadth of pathology, the extraordinary high standard of surgery and ancillary care, teaching and training".

Prof Frank Horan, London(Emeritus Editor, Journal of Bone and Joint Surgery (B))

"A most enjoyable visit. I am immensely impressed by the organisation and standards of case which are quite outstanding".

Prof David Jones, London (President, British Orthopaedic Association)

"This visit confirms the world class set up in Ganga Hospital. I have heard so much about it and was not disappointed.The clinical excellence and hospitality were unforgettable".

Prof Jean Dubousset, France

"I discover not only the quality of the work done here on clinical, pathological and research field but also the amount of psychological, social and moral care that are given to the patient and their family. In addition the exceptional organisation lead to an exceptional efficiency and I will encourage all people of my country not only the scientific ones but also the administrative manager of our public hospital to come and see what it is done in Ganga Hospital."



Mrs. & Prof. Jean Dubousset , France during their visit to Ganga Hospital



Mike Lawrence, Associate Editor, JBJS (B), UK

Prof Mike Lawrence, UK

"It was a great pleasure to visit the hospital and see the amount of complex trauma patients being treated with a different philosophy"

Visit of the Royal College of Surgeons of England

A delegation from the Royal College of Surgeons of England visited Ganga Hospital in May 2010



The Japanese Society for Spine Surgery and Related Research



Dr Tamoaki Koakutsu
Japan

I am very delighted to visit such a famous spine centre. The experience was very useful



Dr Ikuho Yonezara
Japan

Many cases and excellent Surgical techniques were amazing. I spent delicious time in the department of orthopaedic surgery during this visit.



Dr Mitsuhiro Kamiya
Japan

I will not forget your great surgeries and spicy Indian food forever. Good and enjoyable experience



Dr Minori Kato
Japan

I am very happy to study with Dr S Rajasekaran in Ganga Hospital. Thank you very much for your kindness.



Dr Hiromu Ito
Japan

I was amazed at how efficient and productive this hospital is. I enjoyed a lot and learnt a lot. Thank you for your hospitality.



Dr Masohito Takahashi
Japan

I am glad to see you all staff and fellows and to study large variety of cases including TB spine.

International Fellows



Dr Abdalla Elimam
UAE

"I give my grateful thanks to Dr Rajasekaran for inviting me to undergo training fellowship in trauma in Ganga Hospital"



Dr Alushula Daniel Ongong
KENYA

"I appreciate the commitment, togetherness, team work and aboe all one goal to all-help the one person - PATIENT"



Dr James Otieno Obondi
KENYA

"Your institution is honoured and is a hallmark in pursuit of medical excellence. Keep it up. God bless you"



Dr Magdi Mohammed
UAE

"Although this is a private hospital it is ethical, patient is the top priority, the second thing is the support that it gives to education & research"

Major Courses & Conferences 2008-2010

COMBINED INSTRUCTIONAL COURSE OF ISSLS & ASSI

(International Society for the Study of Lumbar Spine, Canada) &
ASSI (Association of Spine Surgeons of India)
Date: 17th - 20th January 2008



We hosted the First Instructional course of the ISSLS in India as a pre-conference event on the theme "Show me the Evidence".

International Faculty:
Gunnar Andersson, USA
Margareta Nordin, USA
Stefano Boriani, Italy
Raghu Natarjan, USA
Alan Hammer, UK
Robert Pflugmacher, Germany

Marek Szpalski, Belgium
Alexander R Vaccaro, USA
Ashish Diwan, Australia
Vijay Goel, USA
Anand Agarwal, UK
Dennis McGowan, USA

Ganga Operative Spine Course

30th April to 3rd May 2009



Ganga Operative Spine Course was conducted by the Spine Unit of Ganga Hospital in association with the Association of Spine Surgeons of India and AO Spine. 300 delegates from all parts of the world attended the course.

International Faculty:
Kuniyoshi Abumi, Japan
Max Aebi, Switzerland
JY Chung, Korea
Michael Grevitt, England
Keith Luk, Hong Kong
Hee Hwan Tak, Singapore
S Govender, South Africa
Janusz Bonkowski, Newzealand

Ganga Ortho Physio Course

Date: 18th & 19th July, 2009



Ganga Ortho Physio Course 2009 was organized with the aim of bringing the orthopaedic surgeon and the therapist together so that all common orthopaedic problems can be discussed in great detail.

Faculty:
Dr. Ramamoorthy, Coimbatore
Dr. Tj Ranganathan, Coimbatore
Dr. Ali Irani, Mumbai
Dr. Edmound D'coutho, Coimbatore
Prof. Nagarani, Coimbatore
Prof. Gladson Jose, Erode
Prof. Arun Vijay, Coimbatore
Prof. Rajan Samuvel, Salem
Prof. Parameshwari, Coimbatore
Prof. Amal Mohan, Chennai

Ganga Orthopaedic Trauma Course

23rd - 25th October, 2009



Ganga Orthopaedic Trauma Course was conducted from 23rd to 25th October, 2009. The aim of the course was to emphasize on principles and practice of trauma surgery with update on current trends.

International Faculty:
Jegan Krishnan, Australia
Ruurd Lukas Jaarsma, Australia
Peter Tamblyn, Australia

POSI - POSNA Paediatric Fracture Course

23rd & 24th October 2010



The POSI-POSNA Paediatric Fracture Course 2010 was conducted by eminent faculty both from POSNA & POSI.

International Faculty :
Kaye Wilkins, Texas, USA
Elizabeth Szalay, New Mexico, USA
Marcella Woiczik, Saltlake city, Utah, USA

Ganga Operative Trauma Course 2010

September 23 to 26, 2010



Ganga Operative Trauma Course 2010 was specially designed to be unique to provide a comprehensive update of the commonly and rarely performed trauma surgeries.

International Faculty:
Michael Blauth, Austria
Freed Kagda, Singapore
Pol Rommens, Germany
Takeshi Sawaguchi, Japan

Ganga Operative Arthroplasty Course 2008



Dr. J.L. Briard
France



Dr Manjit S Bhamra
UK



Dr. Med. Heiko Graichen
Germany



Dr Michael O' Sullivan
Australia



Dato Dr K S Sivananthan
Malaysia



Dr Jegan Krishnan
Australia

Ganga Operative Spine Course 2009



Kuniyoshi Abumi
Japan



Max Aebi
Switzerland



Chung Chek Wong
Malaysia



Anand Agarwal
United Kingdom



Janusz Bonkowski
New Zealand



JY Chung
Korea



Michael Grevitt
United Kingdom



Keith Luk
Hong Kong



Hee Hwan Tak
Singapore

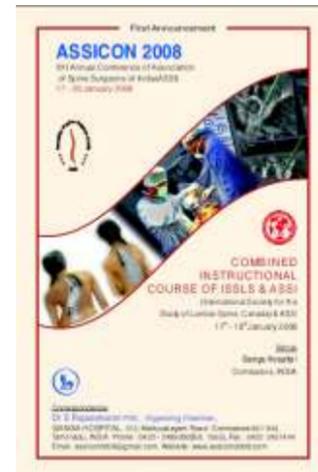
ASSICON 2008 & Combined Instructional Course of ISSLS & ASSI 2008



Gunnar Andersson
USA



Alexander R Vaccaro
USA



Vijay Goel
USA



Dennis McGowan
USA



Robert Pflugmacher
Germany



Margareta Nordin
USA



Alan Hamner
United Kingdom



Ashish Diwan
Australia



Marek Szpalski
Belgium



Anand Agarwal
United Kingdom



Raghu Natarajan
USA



Stefano Boriani
Italy

Ganga Operative Trauma Course 2010



Prof Takeshi Sawaguchi
Japan



Prof Michael Blauth
Austria



Fared Kagda
Singapore



Prof Pol.Rommens
Germany



Ben Hewitt
Australia

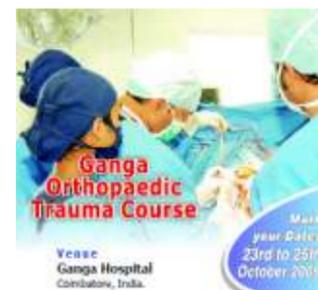
Ganga Orthopaedic Trauma Course 2009



Peter Tamblin
Australia



Ruurd Lukas Jaarsma
Australia



Dr. Ben Hewitt
Australia



Prof. Rene Zellweger
Australia

'POSI-POSNA Paediatric Fracture Course 2010'



Prof. Kaye Wilkins
USA



Prof Elizabeth Szalay
USA



Prof Marcella Woiczik
USA

Dr APJ Abdul Kalam with a patient in the "SWASAM" ward during its inauguration on 3rd May 2008



Service to others is the rent we pay for the privilege of living on this earth

- Muhammed Ali



Ganga Hospital has been sensitive to its obligations to the society and has been an enthusiastic partner in many social service projects. The ongoing projects of both the orthopaedic and plastic departments were consolidated and new ones initiated under one umbrella of 'Project SWASAM' which was inaugurated by Former President Shri APJ Abdul Kalam on 3rd May 2008. The project has literally brought a 'breath of new life' to hundreds of patients leading cutting-edge technology but who could not afford it.

10 Projects under 'SWASAM'

- Project Helpline - Free deformity correction surgeries
- "Help for the Hands in Need" Project
- UYIR – People's Movement against road accidents.
- Road Safety & First aid awareness programmes for School Children and college students
- Ganga Hospital Accident Helpline Centres
- Ganga Free First Aid Centre with St John's Ambulance, Tirupur
- Project 'Smile train'
- Ganga Hand Injury Support Group
- Educational activities under Ganga Orthopaedic Research & Education Foundation
- Rural Health programmes.



"Visiting your hospital and seeing your Helpline project made me believe in God (for a person who is a non-believer). God resides not in our imaginations, but in the good intentions of people like you".

- Suhashini



A People's Movement Against Road Accidents

Unfortunately more Indians between the age of 25-40 die on the roads than by any disease. A study by the hospital revealed that 60% of the accidents were caused by rash driving and non-adherence to road safety rules. UYIR is a collaboration of Ganga Hospital with Rotary Clubs of Dist 3200 to increase public awareness and compliance to road safety rules. Many meetings are held with public transport drivers, policemen, school and college students about road safety rules and on first aid measures.

- 1,10,000 death per year on Indian roads
- One death every 6 minutes
- By 2020, every 3 minutes

You cannot create life,
you can save one



Chief Minister's Below Poverty Line Scheme.

Total Number of Cases Upto 31 Dec 2010		
1.	Total Knee Replacement	849
2.	Total Hip Replacement	220
3.	ACL Reconstruction	280
4.	Long Bone Trauma	2571
5.	DHS	335
6.	Bipolar Hemiarthroplasty	337
7.	Spinal Fusion	434
8.	Discectomy	443
9.	Laminectomy	142
10.	Scoliosis	049
11.	Tb Spine	026
12.	Kyphosis	011
13.	Spinal Tumor	018
14.	Fracture Spine	093
15.	Hand And Plastic Surgery	1203
16.	Others	678
Total		7011

Accidents and life threatening diseases pose a major crisis especially to people who are below poverty line. The Tamilnadu Government Chief Minister's Below Poverty Line Scheme is a great boon to these patients. From the time of its inception, the orthopaedic unit has willingly participated in the scheme in spirit and action and to date has performed more than 7000 major orthopaedic spine and joint replacement procedures making it the largest service provider of a single speciality in the country.

Total cost of surgical procedures
Rs. 41.1 crores
Total Government reimbursement
Rs. 21.3 crores
Total Hospital Subsidy
Rs. 19.8 crores

Ganga Hospital Accident Helpline Centres



The Accident Helpline Center in Palaghat

Ganga Hospital in association with Rotary District 3200 has started Accident Help line centres at areas including Mavuthampathy, Kanjikode, Madhukarai by-pass and Palghat. The aim of these centres is to provide immediate aid to highway accident victims and transport them to the nearest hospital. Ambulances are stationed at all these centres, manned by the paramedical staff of Ganga Hospital. To date, 650 high-way road traffic accident victims have been resuscitated by these centres and transported for immediate specialist care.



The Honorable Governor of Tamil Nadu, Sardar S. S Barnala felicitates the Dr. J. G. Shanmuganathan, Chairman, Ganga Hospital

Ganga Free First Aid Centre with St John's Ambulance, Tirupur

Ganga Hospital along with St John's Ambulance Services started a Centre for free First aid care at Tirupur on 27th May 2001. The center aims at providing emergency care and ambulance services to transport traumatized patients to the nearest parent centre at the earliest. Since its inception, 41,593 patients had benefited, with 20,804 patients treated in 2004-05.

"Freedom from Pain Walk"

Joint pain and back pain disable more than 170 million Indians, incapacitating them from normal professional and leisure activities. Medical advances such as joint replacement surgery has been a boon to such patients providing them a second lease of life with freedom from pain.

The arthroplasty unit of Ganga Hospital has played a lead role in increasing the awareness of these cure among the public and carrying the benefits of surgery to the poor and needy. Every year, a walkathon programme is conducted where patients who have undergone total joint replacement participate in a walk and games competition signifying the conquest of pain.



Patients who underwent joint replacement participating in a walk-race during Walkathon 2010



(Above) :Cine actor Sivakumar inaugurating the Walkathon 2009

(Right) :Famous playback singer Padmashree Dr. S.P. Balasubramaniam inaugurating the Walkathon 2010





Prof. Gunnar Andersson, Rush University Medical Centre, Chicago, inaugurating the Ganga Spine Microsurgery Training Centre in January 2008

Ganga Spine Microsurgery Training Centre was inaugurated by Prof. Gunnar Andersson, Chairman, Dept. of Orthopaedic Surgery, Rush University Medical Centre, USA in January 2008. To transfer the knowledge and experience of the unit, the spine department of Ganga Hospital in collaboration with Carl Zeiss started a unique microsurgical training centre equipped with a permanent wet lab utilizing the latest Zeiss operating microscopes and high quality surgical instruments, which will be first of its kind in the world.

The purpose of the course is to establish and strengthen the foundation of microsurgical skills in spine surgery. The course has two modules. In the clinical training module, the trainee spends two days in the operating theatre assisting and observing spinal microsurgeries along with other spinal instrumentation surgeries. In the lab module, the trainee is given hands-on training in the wet lab. The course is designed to benefit practising orthopaedic surgeons, spine surgeons and neurosurgeons by teaching them the nuances and techniques of basic microsurgical procedures like lumbar microdiscectomy, micro decompression, anterior cervical microdiscectomy, intra dural surgeries and repair of dural tears.



Trainees gaining skills in the wet-lab

Trainees in the past two years..

International

- Dr Abdul Halim Yusof, Malaysia
- Dr Ahmed Tajuddin, Abdullah, Malaysia
- Dr Lim Phaik Gan, Malaysia
- Dr Abu Baker, Bangladesh
- Dr Khoo Eng Hooi, Malaysia
- Dr Kishore Kumar M, Muscat

National

- Dr Pankaj G Gujar, Maharashtra
- Dr Rajiv Shah, Vadodara
- Dr Muthuraj, Nagercoil
- Dr Ajay Krishnan, Surat
- Dr Arul Durai Arasu, Dindigul
- Dr Thiraviam T, Nagercoil
- Dr Ashok D, Trivandrum
- Dr Sachithanandam V, Erode
- Dr Saheel Maaqid, J & K
- Dr Renjit Kumar J, Kerala
- Dr Ashok M Ghodke, Mumbai
- Dr Ravi K, Kerala
- Dr Rashid A S, Kerala
- Dr Abdul Jaleel T K, Kerala
- Dr Sunil Kumar H, Bangalore
- Dr Ramanand Mishra, Gorakhpur
- Dr Mallikarjuna Reddy, Karnataka
- Dr B V R N Varma, Vizag
- Dr Sundararajan N D, Gopichettipalayam
- Dr Natesh J, Bangalore
- Dr V.Surya Prakash Rao, Hyderabad
- Dr Mathew P Daniel, Kerala
- Dr Sudheer U, Kerala
- Dr Antony Joseph Thoppil, Kerala
- Dr Gowrishankar Swamy LG, Bangalore
- Dr Karthikeyan R, Coimbatore
- Dr Rajesh Khanna G, Chennai
- Dr Jim F Vellara, Thrissur
- Dr Rahul Singh, Saharanpur
- Dr Shanmugasundaram P, Chennai
- Dr Gautam Prasad, Mumbai
- Dr Venugopal S, Bangalore
- Dr Veushj Sharma, Punjab

There is a huge demand for bone graft at our institution due to the enormous number of polytrauma and tumor patients who need complex reconstructive procedures.

The Tissue Bank at the Department of Orthopedics at the Ganga Hospital was launched with the technical assistance from Tissue Bank at the Tata Memorial Hospital Mumbai. Located within the hospital premises, it is a self-funded, non-profit tissue bank aimed at providing class leading service. It is only the third tissue bank in India to use Gamma irradiation as a method of sterilization. The bank follows International Atomic Energy Agency (IAEA) standards followed by most of the Tissue banks in the world.

The bank is currently using well processed and gamma irradiated cortico cancellous bone allografts from tibial slices and femoral heads, bones from amputated stumps in various clinical conditions like comminuted fractures and Non-unions with bone loss of both upper & lower limbs, revision joint replacement surgeries, tumor and spinal fusion surgeries. The grafts are screened for HIV, HCV, HBV and syphilis to eliminate risk of disease transmission.

Dr. P. Dhanasekara Raja has received the Degree of Diploma in Tissue banking from National University of Singapore. Dr. Devendra is the Scientific Officer in charge of preparation, processing, storage and transportation of the allografts. He has received training in the Tata Memorial Bone Bank in Mumbai and has also undergone training in the National University, Singapore.



Dr. Devendra using the Wet Laboratory with ultrasonic cleanser, Incubator & Water Shaker bath



Dr. P. Dhanasekara Raja receiving the Diploma in Tissue Banking Certificate from Prof Aziz Nather, Director of Tissue Bank, National University of Singapore.



Fresh frozen allografts: Long bones with triple wrap and bone slices packed in PE boxes are stored after gamma irradiation

Allografts Processed at Tissue Bank			
Type of Graft	2008	2009	2010
Femoral heads	67	117	78
Tibial slices	45	144	37
Strut Grafts	15	20	10



Grade IIIB Open comminuted fracture of distal femur with 13cm bone loss treated by single stage reconstruction with fibular strut graft and autografts.

Awards and Distinctions



ASSICON (Association of Spine Surgeons of India) 2011 Conference
Jan 27 to Jan 30, 2011 at Hotel Trident, Mumbai

Dr S Rajasekaran delivering the PRESIDENTIAL ORATION on Friday, Jan 28th on 'Can India lead the world in Academics & Health Care Delivery'

ASSI - Clinical Research Award - 2011: for the paper on " Disc Prolapse Results from End Plate Failure rather than rupture of Annulus Fibrosus. Results of a Comprehensive Clinical, Radiological, Histopathological and Intraoperative Microscopic Analysis of 147 Lumbar Disc Herniations. Dr S Rajasekaran

ASSI - Basic Sciences Award - 2011: for the paper on "The Genetic Basis of Degenerative Disease of Human Lumbar Discs.. An Evaluation of the Association of 58 Single Nucleotide Polymorphisms in 35 Structural, Degradative and Inflammatory Candidate Genes with Lumbar Disc Degeneration. Dr S Rajasekaran

Hunterian Professorship 2011/2012

Dr S Rajasekaran has been awarded the prestigious Hunterian Professorship for the year 2011/2012 by the Royal College of Surgeons of England. He will deliver the lecture on "Buckling collapse of Paediatric spine" on September 13th 2011 at Dublin during the combined congress of British Orthopaedic Association and Irish Orthopaedic Association

IOA President Elect 2011

Dr S Rajasekaran has been elected to the post of the 'President-Elect' for the year 2011 of the Indian Orthopedic Association (IOA), the premier academic body of Orthopedic surgeons in India

ASSI President 2011

Dr S Rajasekaran has been re-elected to the post of the President of the Association of Spine Surgeons of India (ASSI) for the year 2011



ASSI Textbook of Spinal Infections and Trauma

Dr S Rajasekaran is the Chief editor for the ASSI textbook of Spinal Infections and Trauma. Dr Ajoy Prasad Shetty is the co-editor of this textbook. The text book was released at the ASSICON 2011 held at Mumbai in January 2011



Dr S Rajasekaran has been appointed as an Executive Editorial Board member of the 'European Spine Journal' which is the official publication of Eurospine, the Spine Society of Europe. He has also been appointed as the deputy Editor in the 'Spine' journal which is the largest circulated super-speciality journal in the field of spine surgery



Awards and Distinctions



TNOA Prof P Dhanarajan Medal for Innovative work in orthopaedic trauma was won by Dr J Dheenadhayalan at TNOACON 2011, Madurai, for his presentation titled 'An Innovation for Perfect Docking in Bone Transport for Grade IIIB Open tibial fractures with bone loss'

TNOA- Prof M Ramanathan Consultant - Gold Medal was won by Dr Ajoy Prasad Shetty for his presentation titled 'Safe Techniques in minimally invasive Pelvic fracture fixation. Role of CT based Pelvic morphometry and use of ball probe technique' at TNOACON 2011 held at Madurai



BEST PAPER AWARD - POSICON 2011 was won by Dr K Venkatadass for his presentation titled 'Ultrastructural changes in the intervertebral discs due to altered mechanical loading - An electron microscopic analysis using scoliotic disc as biologic model.' at POSICON 2011 held in Chandigarh.

Dr Balavenkatasubramanian took over as the founder President of the Academy of Regional Anesthesia of India



TNOA Prof C Vyageswaradu Medal was won by Dr S Rajadurai for his presentation titled 'Management of bone defects in Primary Total Knee replacement - A two years study at TNOACON 2011 held at Madurai'

ASSI - Young Investigator Award - 2011: for the paper on " A Validated New Spine Surgery Specific Morbidity Score to Predict Postoperative Morbidity and Mortality in Elective Spine Surgery. Development and Validation of a New Spine Surgery Specific Morbidity Score to Predict Postoperative Morbidity and Mortality in Elective Spine Surgery".



TNOA Prof A Subramaniam - Gold Medal was won by Dr S Sakthi Kanal for his presentation titled 'The genetic basis of degenerative disease of Human Lumbar discs' at TNOACON 2011 held in Madurai

2011.... New Year ... New Milestones...



Dr. Dhanasekararaja has been awarded the Adult reconstructive fellowship at Ranawat Orthopedic Centre for the year 2011. He will visit Hospital for Special Surgery, NewYork.

Dr.Subbiah M has been awarded the Travelling fellowship of the Asia Pacific Orthopedic Association for 2011. He will visit spine centres in Beijing and Japan



Dr. Rishi Mughesh Kanna has been selected to undergo fellowship training in spine surgery at Queens Medical Centre, Nottingham, UK

Dr. Ashok Thomas has been awarded the AOSpine India Research grant for the study -"Spinous Process Splitting decompression Vs Conventional decompression in Lumbar Canal Stenosis".



Dr. Janardhan Yerramshetty Ph.D has joined the department as Research Co-ordinator

Department Secretaries

The organisation of conferences and the academic activities of the Department are ably assisted by the Departmental Secretaries Mr Mohana Krishnan V and Mr Prabhu G.



Mr Prabhu G & Mr Mohana Krishnan V

Dr APJ Abdul Kalam with a patient in the SWASAM ward during its inauguration



“There are no great acts, only small acts done with great love”

- Mother Teresa



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4.	Long Bone Trauma	2571
5.	DHS	335
6.	Bipolar Hemiarthroplasty	337
7.	Spinal Fusion	434
8.	Discectomy	443
9.	Laminectomy	142
10.	Scoliosis	049
11.	Tb Spine	026
12.	Kyphosis	011
13.	Spinal Tumor	018
14.	Fracture Spine	093
15.	Hand And Plastic Surgery	1203
16.	Others	678
Total		7011

Accidents and life threatening diseases pose a major crisis especially to people who are below poverty line. The Tamilnadu Government Chief Minister's Below Poverty Line Scheme is a great boon to these patients. From the time of its inception, the orthopaedic unit has willingly participated in the scheme in spirit and action and to date has performed more than 7000 major orthopaedic spine and joint replacement procedures making it the largest service provider of a single speciality in the country. The approximate cost of the surgery performed is about Rs..... per year.

- Total cost of surgical procedures Rs. 24,25,28,821
- Total Government reimbursement Rs.
- Total Hospital Subsidy - Rs.

Ganga Hospital Accident Helpline Centres



The Accident Helpline Center in Palghat

Ganga Hospital in association with Rotary District 3200 has started Accident Help line centres at eight areas including Mavuthampathy, Kanjikode, Madhukarai by-pass and Palghat. The aim of these centres is to provide immediate aid to highway accident victims and transport them to the nearest hospital. Ambulances are stationed at all these centres, manned by the paramedical staff of Ganga Hospital. To date, 650 high-way road traffic accident victims have been resuscitated by these centres and transported for immediate specialist care.



The Honorable Governor of Tamil Nadu, Sardar S. S Barnalafelicitates the Dr. J. G. Shanmuganathan, Chairman, Ganga Hospital

Ganga Free First Aid Centre with St John's Ambulance, Tirupur

Ganga Hospital along with St John's Ambulance Services started a Centre for free First aid care at Tirupur on 27th May 2001. The center aims at providing emergency care and ambulance services to transport traumatized patients to the nearest parent centre at the earliest. Since its inception, 41,593 patients had benefited, with 20,804 patients treated in 2004- 05.

Freedom from Pain

Joint pain and back pain disable more than 170 million Indians, incapacitating them from normal professional and leisure activities. Medical advances such as joint replacement surgery has been a boon to such patients providing them a second lease of life with freedom from pain.

The arthroplasty unit of Ganga Hospital has played a lead role in increasing the awareness of these cure among the public and carrying the benefits of surgery to the poor and needy. Every year, a walkathon programme is conducted where patients who have undergone total joint replacement participate in a walk and games competition signifying the conquest of pain.



Patients who underwent joint replacement participating in a walking race during Walkathon 2010



Ganga Spine Microsurgery Course



Photograph taken during the inauguration of the Ganga Spine Microsurgery Training Centre in January 2008.

Delegates in the past two years..

Ganga Spine Microsurgery Training Centre was inaugurated by Prof. Gunnar Andersson, Chairman, Dept. of Orthopaedic Surgery, Rush University Medical Centre, USA in January 2008. To transfer the knowledge and experience of the unit, the spine department of Ganga Hospital in collaboration with Carl Zeiss started a unique microsurgical training centre equipped with a permanent wet lab utilizing the latest Zeiss operating microscopes and high quality surgical instruments, which will be first of its kind in the world.

The purpose of the course is to establish and strengthen the foundation of microsurgical skills in spine surgery. The course has two modules. In the clinical training module, the trainee spends two days in the operating theatre assisting and observing spinal microsurgeries along with other spinal instrumentation surgeries. In the lab module, the trainee is given hands-on training in the wet lab. The course is designed to benefit practising orthopaedic surgeons, spine surgeons and neurosurgeons by teaching them the nuances and techniques of basic microsurgical procedures like lumbar microdiscectomy, micro decompression, anterior cervical microdiscectomy, intra dural surgeries and repair of dural tears.

International

Dr Abdul Halim Yusof, Malaysia
 Dr Ahmed Tajuddin, Abdullah, Malaysia
 Dr Lim Phaik Gan, Malaysia
 Dr Abu Baker, Bangladesh
 Dr Khoo Eng Hooi, Malaysia
 Dr Kishore Kumar M, Muscat

National

Dr Pankaj G Gujar, Maharashtra
 Dr Rajiv Shah, Vadodara
 Dr Muthuraj, Nagercoil
 Dr Ajay Krishnan, Surat
 Dr Arul Durai Arasu, Dindigul
 Dr Thiraviam T, Nagercoil
 Dr Ashok D, Trivandrum
 Dr Sachithanandam V, Erode
 Dr Saheel Maajid, J & K
 Dr Renjit Kumar J, Kerala
 Dr Ashok M Ghodke, Mumbai
 Dr Ravi K, Kerala
 Dr Rashid A S, Kerala
 Dr Abdul Jaleel T K, Kerala
 Dr Sunil Kumar H, Bangalore
 Dr Ramanand Mishra, Gorakhpur
 Dr Mallikarjuna Reddy, Karnataka
 Dr B V R N Varma, Vizag
 Dr Sundararajan N D, Gopichettipalayam
 Dr Natesh J, Bangalore
 Dr V.Surya Prakash Rao, Hyderabad

Dr Mathew P Daniel, Kerala
 Dr Sudheer U, Kerala
 Dr Antony Joseph Thoppil, Kerala
 Dr Gowrishankar Swamy LG, Bangalore
 Dr Karthikeyan R, Coimbatore
 Dr Rajesh Khanna G, Chennai
 Dr Jim F Vellara, Thrissur
 Dr Rahul Singh, Saharanpur
 Dr Shanmugasundaram P, Chennai
 Dr Gautam Prasad, Mumbai
 Dr Venugopal S, Bangalore
 Dr Veushj Sharma, Punjab



Dr Ajoy Shetty guiding trainees at the spine microsurgery wet lab

Ganga Hospital Tissue Bank

There is a huge demand for bone graft at our hospital due to the enormous number of polytrauma and tumor patients who need complex reconstructive procedures..

The Tissue Bank at the Department of Orthopedics at the Ganga Hospital was launched with the technical assistance from Tissue Bank at the Tata Memorial Hospital Mumbai. Located within the hospital premises, it is a self-funded, non-profit tissue bank aimed at providing class leading service. It is only the third tissue bank in India to use Gamma irradiation as a method of sterilization . The bank follows International Atomic Energy Agency (IAEA) standards followed by most of the Tissue banks in the world.

The bank is currently using well processed and gamma irradiated cortico cancellous bone allografts from tibial slices and femoral heads, bones from amputated stumps in various clinical conditions like comminuted fractures and Non-unions with bone loss of both upper & lower limbs, revision joint replacement surgeries, tumor and spinal fusion surgeries. The grafts are screened for HIV, HCV, HBV and syphilis to eliminate risk of disease transmission.

Dr. P. Dhanasekara Raja has received the Degree of Diploma in Tissue banking from National University of Singapore. Dr. Devendra is the Scientific Officer in charge of preparation, processing, storage and transportation of the allografts. He has received training in the Tata Memorial Bone Bank in Mumbai and has also undergone training in the National University, Singapore.

What are the advantages of Tissue Bank?

- Avoids the disadvantages of surgical procedure for harvesting autograft like blood loss, pain, increased operating time.
- Avoids sacrifice of the patient's normal structures.
- Provides unlimited quantity and morphology of allografts.

Allografts Processed at Tissue Bank

Type of Graft	2008	2009	2010
Femoral heads	67	117	78
Tibial slices	45	144	37
Strut Grafts	15	20	10



Dr. Devendra using the Wet Laboratory with ultrasonic cleanser, Incubator & Water Shaker bath



Dr. P. Dhanasekara Raja receiving the Diploma in Tissue Banking Certificate from Prof Aziz Nather, Director of Tissue Bank, National University of Singapore.



Fresh frozen allografts: Long bones with triple wrap and bone slices packed in PE boxes are stored after gamma irradiation



Grade IIIB Open comminuted fracture of distal femur with 13cm bone loss treated by single stage reconstruction with fibular strut graft and autografts.