



Changi
General Hospital
SingHealth



**Annual
Report**

2016

Department of Orthopaedic Surgery

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5 Tampines Central 1
Tampines Plaza #08-01/05
Singapore 529541

www.cgh.com.sg

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WELCOME MESSAGE



DR JAMES LOH
Chief and Senior Consultant,
Orthopaedic Surgery,
Changi General Hospital

“ ***The Orthopaedic Surgery department looks forward to more exciting challenges in its effort to provide good patient care, educate the next generation of doctors and build stronger links with specialty experts and be on the cutting edge of Orthopaedic Surgery.*** ”

A suitable word to describe the changing landscape of Orthopaedic Surgery over the past few decades is ‘evolution’. We have witnessed the transformation of selected open surgeries to minimally invasive surgeries, the use of computer guided surgeries as well as advances in surgical knowledge and techniques.

The department sees the importance in provision of timely and optimal patient-centric care, especially to Singapore’s eastern community. It maintains general orthopaedic treatment as well as provide subspecialisation treatment to match the different regions of the musculoskeletal system, and in collaboration with Rehabilitation Medicine, Rheumatology and Musculoskeletal Radiology. Thus advancing the standard of care with the aforementioned progress in Orthopaedic Surgery.

Recently, the department underwent an exciting and challenging period. It saw the re-establishment and evolution of spine surgery capability into an Integrated Spine Surgery unit that combines both neurosurgical and orthopaedic spine capabilities.

This is a first in public healthcare institutions as it provides a one-stop approach to spine conditions. The spine unit spearheads minimally invasive spine surgery as well as navigation spine surgery via the use of the O arm (a computerised navigation and scanning system).

During the same period, the Foot and Ankle Surgery unit was re-established. The unit provides treatment such as deformity correction, arthroscopic surgery and total ankle replacement surgery. The unit also advanced the technique of minimally invasive calcaneum (heel bone) surgery.

As a result of the high trauma load that the department treats, the capability of the traumatology subspecialty has also advanced. The traumatology unit deploys complex external fixators for complex fractures with soft tissue loss, deformity correction and bone transport.

The department continues to support the biggest sports medicine centres on the island, namely, Changi Sports Medicine Centre (CSMC) and Singapore Sports Medicine Centre (SSMS), with its surgical expertise for sports related injuries.

It also supports the hospital in the hip value care pathway that optimises treatment of patients with hip fracture.

As much as the clinical aspect of the department has evolved, the department maintains a committed involvement in education. In 2016, two members received awards for best educators in the undergraduate and postgraduate programmes. The department staff members are invited examiners to local and overseas postgraduate examinations.

Getting to this stage is the result of the unity of the department and the strong collaborative support from other departments as well as the hospital’s senior management.

The Orthopaedic Surgery department looks forward to exciting challenges in its effort to provide good patient care, educate the next generation of doctors and build stronger links with specialty experts and be on the cutting edge of Orthopaedic Surgery.

Sincerely,

A handwritten signature in black ink, appearing to be 'James Loh'.

Chief and Senior Consultant,
Orthopaedic Surgery,
Changi General Hospital

DEPARTMENT OF ORTHOPAEDIC SURGERY | AT A GLANCE

Integrating Clinical Care, Research And Education

The Department of Orthopaedic Surgery is a leading referral centre that treats a diverse spectrum of orthopaedic conditions and disorders of the bones, joints and the musculoskeletal systems. We are committed to deliver optimal patient care and outcomes by integrating patient care with translational research and education.

The department has been actively developing its holistic care capabilities in order to provide the highest quality of personalised care in assisting patients suffering from various orthopaedic conditions; to return to their pre-morbid activities as early as possible.

Driven by the latest research, evidence-based medicine along with the adoption of new technologies and innovation, we aim to deliver a more convenient, effective and affordable orthopaedic diagnostic and therapeutic care.

The department of orthopaedic surgery also emphasises on training the next generation of doctors by focusing on education in various sub-specialties of orthopaedic surgery. Through these courses catered specifically to the needs of doctors in training, it has reached out to many beneficiaries of our programmes that include medical students, medical residents, clinical associates, resident physicians, house officers, medical officers, as well as our fellow orthopaedic colleagues in the region.

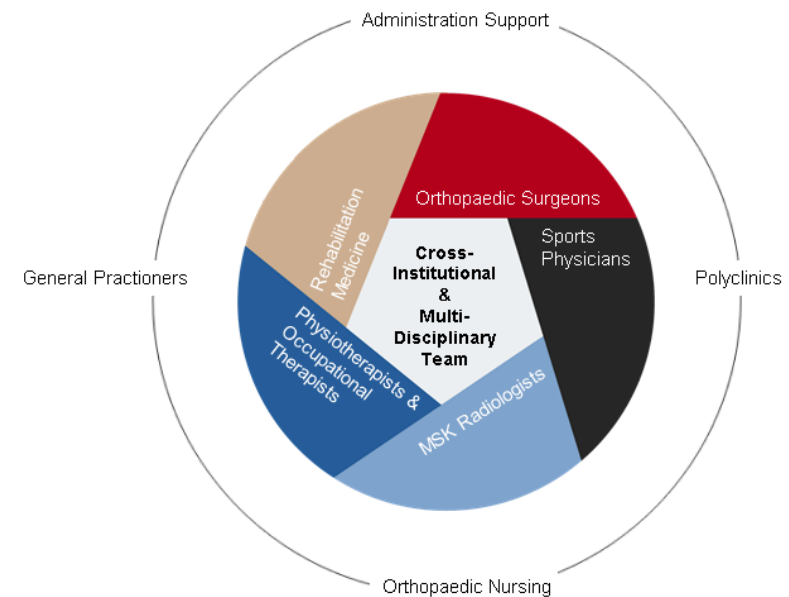
Comprehensive And Integrated Care

The department's commitment to provide good orthopaedic care to its patients reflects the department's growing emphasis on continual advancement of treatment capability and the human aspects of creating strong-rooted talent development.

Together with its physiotherapists, podiatrists, Sports Medicine physicians, occupational therapists, musculoskeletal radiologists, as well as other healthcare professionals, the department offers a comprehensive and integrated care model for its patients.

The department of Orthopaedic Surgery attends to more than 67,000 outpatient visits annually. With this high demand on orthopaedic care, it has never been more important for the team to look into innovative ways to deliver consistent and optimal care to the community in the east.

Equipped with cutting-edge surgical technologies such as minimally invasive techniques and computer-assisted capabilities, the department is also committed to provide compassionate and dedicated care with emphasis on the human touch.



67,409 Outpatient visits in 2016	>15 Emergency orthopaedic admissions daily	855 ValueCare hip fracture studies since December 2014
5,399 Surgeries in 2016	0.03% Surgical site infection rate	>605 Compliments received since 2015

Bringing Orthopaedic Surgery Expertise From Around The World



Our surgeons are trained in top centres all over the world and apply the best medical and surgical practices to our local context. With these skills, they enable the development of care models that centre around the needs of our local patients to provide timely and efficient delivery of medical care.

DEPARTMENT OF ORTHOPAEDIC SURGERY | AT A GLANCE



Foot and Ankle Surgery

- Complex foot and ankle fracture fixation
- Minimally invasive fracture fixation
- Ankle arthroscopy

Hip and Knee Surgery

- Peri-prosthetic fracture fixation
- Complex primary hip and knee replacement
- Revision reconstruction

Integrated Spine Surgery

- Computer navigation
- Minimally invasive spine surgery
- Spine trauma
- Degenerative spine

Shoulder and Elbow Surgery

- Complex shoulder and elbow fracture fixation
- Arthroscopic surgery
- Shoulder and elbow replacement

Sports Surgery

- Arthroscopic surgery
- Cartilage surgery
- Joint preservation surgery

Trauma and Limb Salvage Surgery

- Complex bone and joint fracture fixation
- Limb salvage surgery
- Ring fixator
- Bone infection

Staff Members

Foot and Ankle Surgery

Dr Kinjal Vidyut Mehta (Director)
MBBS, MRCS (Edin), Mmed (Orth) FRCSEd (Orth)
Consultant

A/Prof Low Boon Yong
MBBS, FRCS (Edin)
Senior Consultant

Dr Charles Kon Kam King
MBBS, MRCS (Edin), Mmed (Orth), FRCSEd (Orth)
Associate Consultant

Hip and Knee Surgery

Dr Sean Leo Pien Ming (Director)
MBBS, MRCS (Edin), Mmed (Orth), FRCSEd (Orth)
Senior Consultant

Dr James Loh Sir Young
MBBS, FRCSEd (Surgery), FRCSEd (Orth)
Senior Consultant

Dr Adrian Lau Cheng Kiang
MBBS, MRCS (Edin), Mmed (Orth), FRCSEd (Orth)
Consultant

Integrated Spine Surgery

Dr Dinesh Sree Kumar (Director)
MBBS, MRCS (Edin), FRCSEd (Neurosurgery)
Consultant

Dr Loo Wee Lim
MBBS, MRCS (Edin), Mmed (Orth), FRCSEd (Orth)
Consultant

Dr Andy Yeo Kuei Siang
MBBS, MRCS (Edin), Mmed (Orth), FRCSEd (Orth)
Consultant

Shoulder and Elbow Surgery

Dr Kuo Chung-Liang
MBBS, MRCS (Edin), FRCS (Orth Surg) (Edin)
Consultant

Dr Bryan Wang Dehao
MBBS, MRCS(Ed) , MMed (Orth), FRCSEd (Orth)
Consultant

Sport Surgery

Dr Ong Kee Leong (Director)
MBBS, MRCS (Edin), Mmed (Orth) FRCSEd (Orth)
Consultant

Dr Dave Lee Yee Han
MBBS, MRCS (Edin), Mmed (Orth), FRCSEd (Orth)
Consultant

Trauma and Limb Salvage Surgery

Dr David Chua Thai Chong (Director)
MBBS, FRCS (Edin)
Senior Consultant

Dr Andy Yeo Kuei Siang
MBBS, MRCS (Edin), Mmed (Orth) FRCSEd (Orth)
Consultant

General Orthopaedic Surgery

Dr See Hung Foo
MBBS, FRCS (Glasg), FAMS
Senior Consultant

Dr Low Cheng Ooi
MBBS, FRCS (Glasg), FAMS
Senior Consultant

Service Staff Doctors

Dr Tay Poi Hoon
MBChB , MRCS (Edinburg)
Staff Registrar

Dr David Mao Weijia
MBBS, B.Med.Sci, MRCS (Edinburg)
Staff Registrar

Dr S B M Darshana Chandrakumara
MBBS, MRCS (England)
Resident Physician

Dr Thalanki Srikan
MBBS, M.S .Orthopaedic
Resident Physician

Dr Chachan Sourabh
MBBS, M.S .Orthopaedic , MRCSEd
Resident Physician

Dr Ankit Prasad
MBBS, M.S .Orthopaedic
Resident Physician

Dr Nicholas Lim Sern Han
MBBS, MRCS (Edinburg)
Resident Physician

Dr Raj Kumar Socklingam
MBBS (AIMST)
Clinical Associate

Dr Eric Hernandez Pagkaliwagan
MD
Clinical Associate

Dr Tejerero Pilipinas Ong
MD
Clinical Associate

Administrative Staff

Ms Jollie Wang
Executive

Ms Teo Saw Chiok
Secretary

Ms Janice Chong
Senior Administrative Assistant

Ms Siti Noorizan
Administrative Assistant



OUR TEAM AND SERVICES

The CGH Orthopaedic Surgery is a leading referral centre which treats a diverse spectrum of orthopaedic conditions and disorders of the bones, joints and the musculoskeletal systems.

Driven by the latest research and evidence-based medicine, the Department of Orthopaedic Surgery is committed to deliver the highest quality of personalised diagnostic and therapeutic care with an aim to assist patients who suffered from various orthopaedic conditions to return to their pre-morbid activities as early as possible.

Over the past few decades, the department has evolved from general orthopaedics to a highly specialised orthopaedic team.

Its orthopaedic specialist doctors and surgeons provide professional consultation and treatment for an extensive range of orthopaedic conditions and disorders at our Shoulder & Elbow, Integrated Spine, Hip & Knee, Foot & Ankle, Sports Surgery and Trauma Clinics.

Department Mentors

The most senior surgeons in the department had served as department chief in their careers. In addition to serving as department chief, they held several other appointments within the hospital, bringing with them a wealth of experience from the different and oftentimes challenging situations faced.

They currently serve as mentors and stand ready to impart knowledge and wisdom to junior doctors through providing orientation to potential medical students, mentoring medical students and residents, counselling and giving valuable advice on complex surgical conditions.



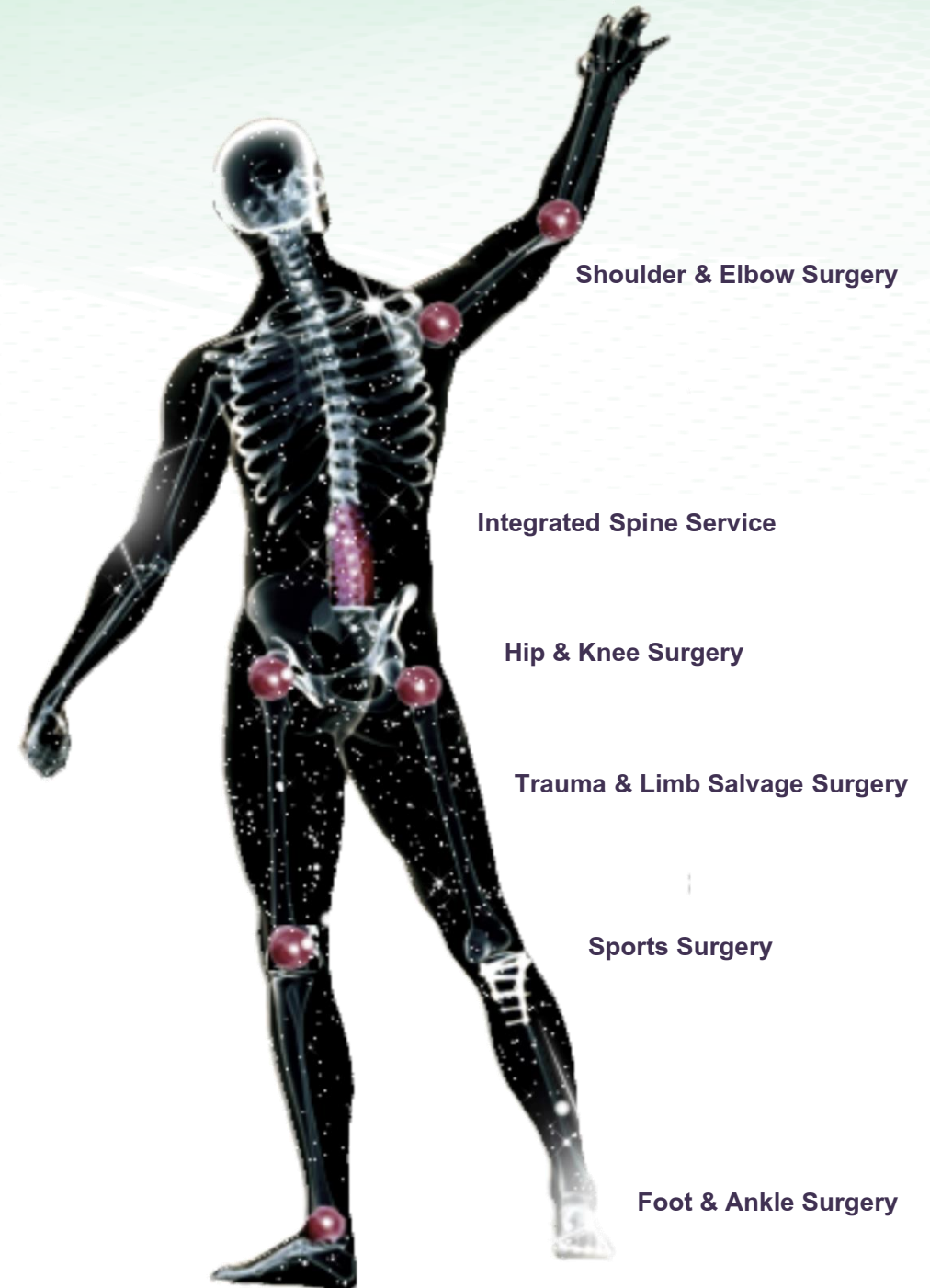
A/Prof Low Boon Yong
Senior Consultant



Dr See Hung Foo
Senior Consultant



A/Prof Low Cheng Ooi
Senior Consultant



Foot and Ankle Surgery

The Foot and Ankle Surgery unit is highly specialised in the diagnosis, management, and treatment of patients with musculoskeletal conditions of the foot and ankle.

Utilising a regional based approach to the musculoskeletal conditions of this region, the unit has a repertoire of capabilities that ranges from fixation of complex fractures, reconstruction of the degenerated ankle to deformity correction.

In recent years, the unit has also developed minimally invasive surgical techniques to reduce morbidity to the patient. This facilitates a quicker recovery period and earlier return to daily activities and work. The unit is also in active collaboration with podiatrists and physiotherapists as well as the usage of sports and exercise medicine to enhance the outcome of patients.



(From left)

Dr Kinjal Vidyut Mehta
Consultant & Director

A/Prof Low Boon Yong
Senior Consultant

Dr Charles Kon Kam King
Associate Consultant

The Foot and Ankle Surgery unit has a repertoire of capabilities that ranges from fixation of complex fractures, reconstruction of the degenerated ankle to deformity correction.



(Above) Total ankle replacement surgery



Calcaneum fracture treated by fixation using minimally invasive surgical technique



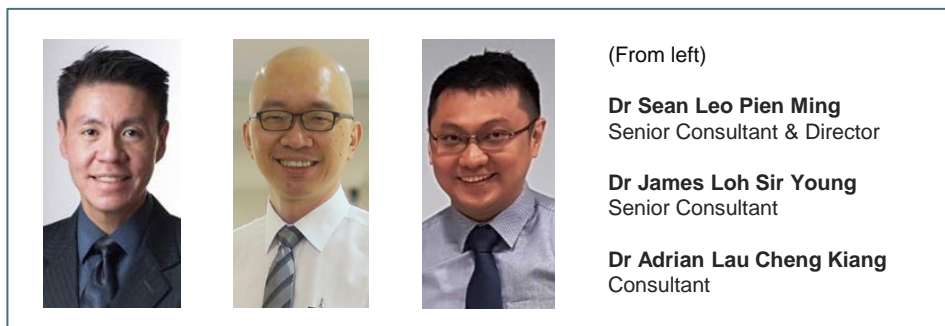
Total ankle replacement x-ray

Hip and Knee Surgery

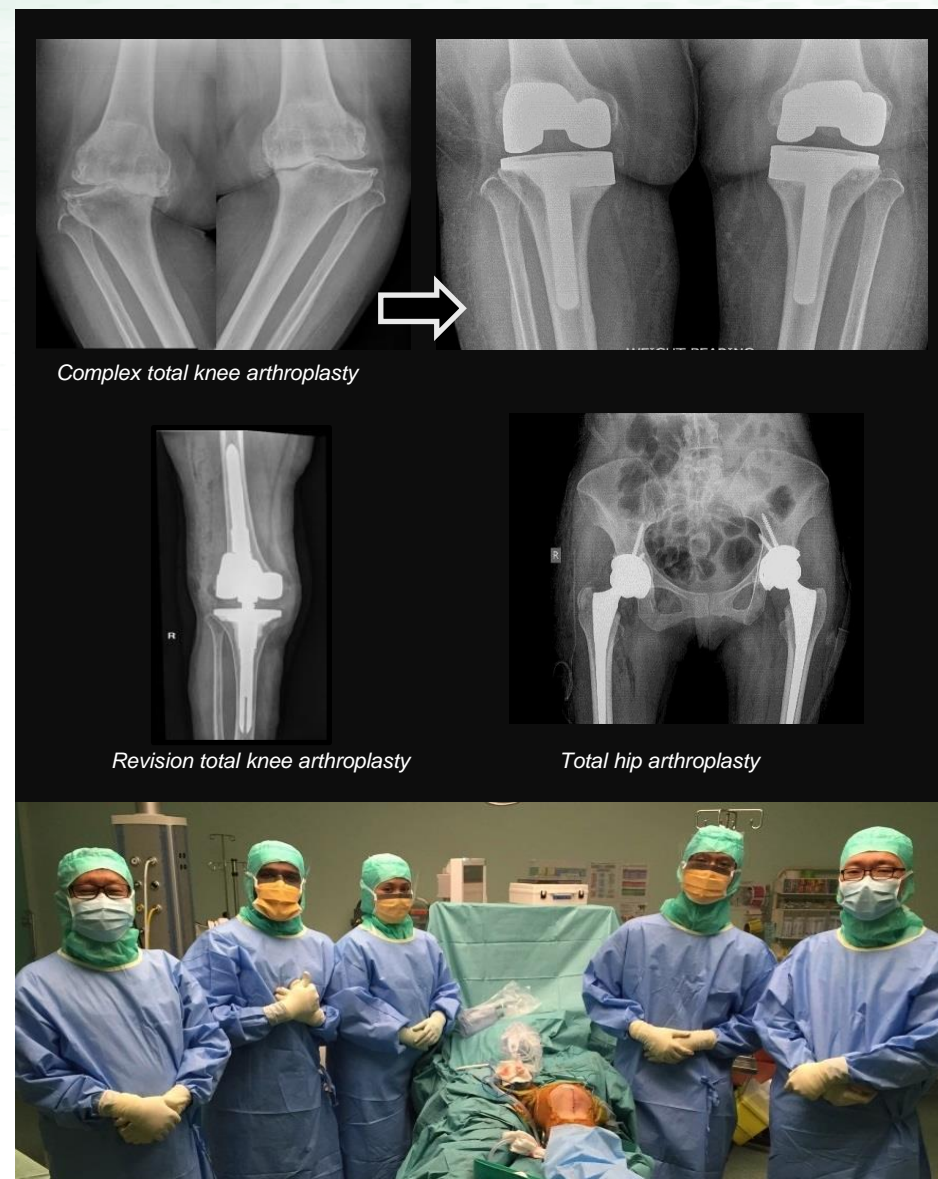
The Hip and Knee Surgery unit approaches the varied conditions at these two regions of the lower limb via a repertoire of surgical capabilities that include fracture fixation, joint preservation work, arthroscopic surgery, limb re-alignment and joint replacement.

The unit performs complex primary total hip and knee replacements to revision total hip and knee replacements for degenerative joints. It also regularly treats peri-prosthetic fractures in such patients. Limb re-alignment (osteotomy) is within its repertoire of capabilities in addressing the degenerative joint in selected patients.

The unit also performs hip and knee arthroscopies for joint preservation such as cartilage surgery, meniscal treatment and complex ligament reconstruction.



The Hip and Knee Surgery Unit approaches the varied conditions at these two regions of the lower limb via a repertoire of surgical capabilities that include fracture fixation, joint preservation work, arthroscopic surgery, limb re-alignment and joint replacement.



Joint replacement team with Burmese surgeon on attachment

Integrated Spine Surgery

Set up in July 2015, CGH's Integrated Spine Service (ISS) is the first public healthcare institution in Singapore to combine the expertise of neurosurgeons and orthopaedic surgeons in a one-stop service for spine surgery patients.

It provides a patient-centric care that enables the patient to gain access to either neurosurgical or orthopaedic care of the spine in a timely manner. It also offers the combined effort of both surgical capabilities in addressing complex spine conditions, such as spine fractures, degenerative spine, as well as deformity correction to nerve impingement decompression.

The ISS utilises computerised imaging systems, including the O Arm, that improve surgery precision and allow for greater use of minimally invasive surgical techniques in spine surgery, resulting in improved outcomes and shorter recovery times for patients.



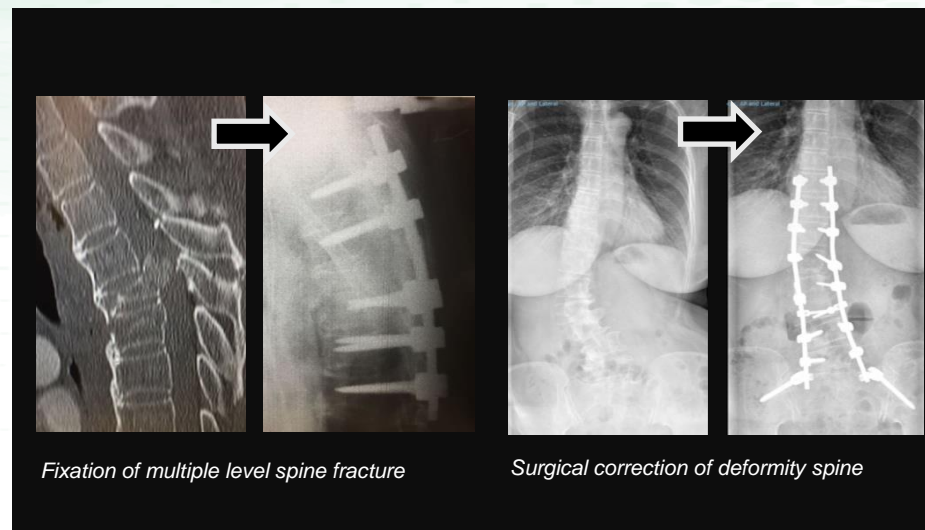
(From left)

Dr Dinesh Sree Kumar
Consultant & Director

Dr Loo Wee Lim
Consultant

Dr Andy Yeo Kuei Siong
Consultant

The Integrated Spine Surgery Unit provides a patient centric care that enables the patient to gain access to either neurosurgical or orthopaedic care of the spine in a timely manner, and offers the combined effort of both surgical capabilities in addressing complex spine conditions.



Fixation of multiple level spine fracture

Surgical correction of deformity spine

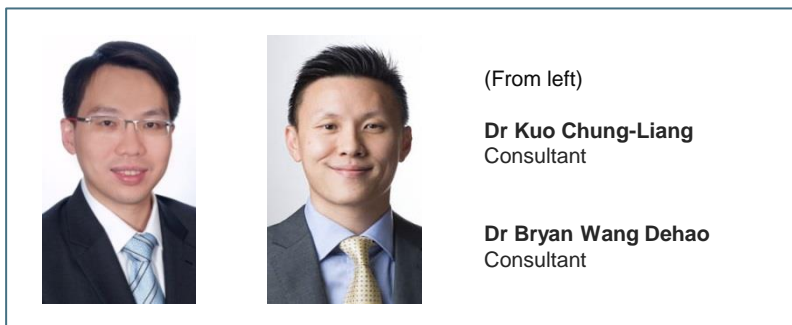


Computerised navigation and minimally invasive surgery

Shoulder and Elbow Surgery

The Shoulder and Elbow Surgery unit provides services that encompass the fixation of complex fracture (shoulder, elbow and arm), soft tissue preservation work (repairing of shoulder cuff tears, stabilisation of unstable shoulders and elbows with open surgery or arthroscopic means), limb re-alignment and joint replacement (shoulder and elbow arthritis and complex fractures).

The unit is advancing its fracture treatment with the use of nailing selected complex fractures of the humerus (upper arm bone). This is a newly available capability that minimises blood loss via a minimally invasive technique. With the high trauma load in the institution, the shoulder and elbow surgeons have amassed significant experience in this skillset that translates to a higher standard of care for their patients.



The patient with an arthritic shoulder or elbow is potentially a candidate for joint reconstruction surgery in this ailed region via reverse shoulder arthroplasty or total elbow replacement.



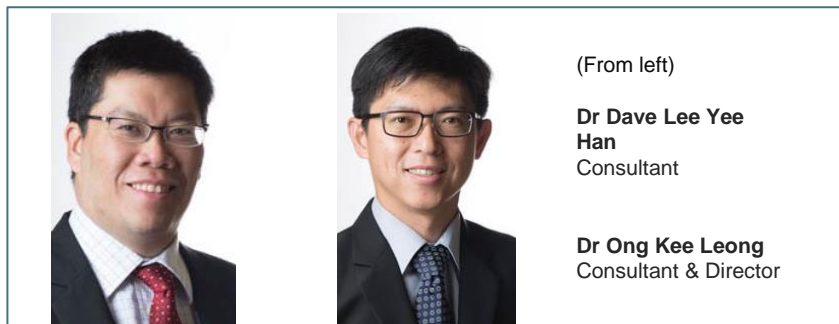
Shoulder arthroscopy scope

Sports Surgery

The Sports Surgery unit supports the biggest Sports Medicine department on the island, namely, Changi Sports Medicine Centre. It provides timely surgical intervention to the sporting population and helps get them back in the game.

The provision of timely and patient-centric surgical care for sports related injuries encompasses weekend warriors and national athletes.

The surgical care includes treatment of shoulder, elbow, hip, knee, foot and ankle injuries. The treatment includes treatment of instability via arthroscopic means and complex joint preservation techniques.



The department supports the biggest Sports Medicine department on the island, namely, Changi Sports Medicine Centre, providing timely surgical intervention to the sporting population and helps get them back in the game.



Trauma And Limb Salvage Surgery

The Trauma And Limb Salvage Surgery unit approaches the varied conditions of the orthopaedic trauma on the island. This high workload translates to a tremendous amount of experience in this subspecialty of Orthopaedic Surgery. The spectrum of trauma ranges from road traffic accidents, fall from height, industrial accidents to home accidents.

The orthopaedic trauma surgeons are equipped with advanced training in orthopaedic trauma surgery to handle difficult injuries such as mangled extremities, complex fractures with soft tissue loss, pelvic and acetabular fractures.

The unit has the capability to perform frame fixation to salvage badly injured limbs. They also work closely with other specialists to enable a multi-disciplinary approach to complex cases to optimise the care for these patients.

The orthopaedic trauma surgeons are also actively involved in trauma education such as international courses and symposiums, as well as research.



(From left)

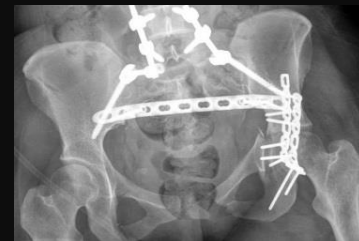
Dr David Chua Thai Chong
Senior Consultant &
Director

Dr Andy Yeo Kuei Siong
Consultant

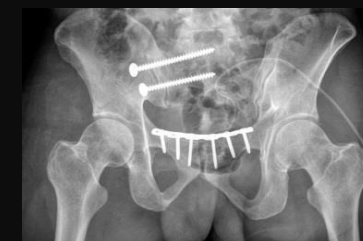
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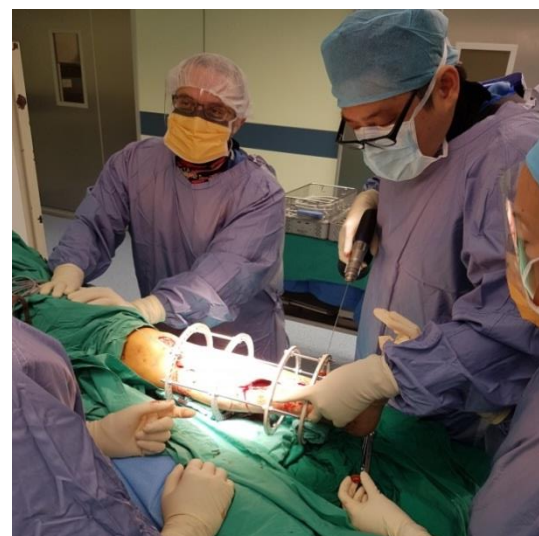
Computer navigation minimally invasive fixation



Pelvic fracture fixation



Sacro-iliac screw fixation



Operative procedure of putting on an Ilizarov frame (external fixator). This device enables bone transport, correction of malaligned fractures and salvage of selected limb injuries that would otherwise end in limb loss. This skillset is an important component in the armamentarium of the orthopaedic trauma unit.

Service Staff Doctors

We have a very dedicated team of service staff doctors in the department of Orthopaedic Surgery.

Our staff doctors demonstrate a very cohesive approach to the provision of good and timely patient care.

Their dedication and professionalism can be seen in the amount of compliments the department receives due to their good work. Although they come from diverse backgrounds, they share the common goal of wanting to provide optimal care for their patients.

Besides their clinical commitment, they also actively participate in research, conferences and educational meetings.

A number of doctors have also completed their surgical examinations.



Dr Tay Poi Hoon
Staff Registrar



Dr David Mao Weijia
Staff Registrar



Dr Sourahb Chachan
Resident Physician



Dr S B M Darshana Chandrakumara
Resident Physician



Dr Thalanki Srikan
Resident Physician



Dr Ankit Prasad
Resident Physician



Dr Nicholas Lim Sern Han
Resident Physician



Dr Eric Pakaliwagan Hernandez
Clinical Associate



Dr Raj Kumar Socklingam
Clinical Associate



Dr Tejerero Pilipinas Ong
Clinical Associate

Nursing Staff

The orthopaedic clinic has the heaviest workload in the institution and the department also sees a very big number of inpatients daily. The proper care for the orthopaedic patients is not complete without the orthopaedic nurses.

The department is supported by a dedicated team of orthopaedic nurses who play an invaluable role in ensuring nursing care that centres around the needs of the patient. Their duties span a broad spectrum that includes wound care, blood investigations, counselling and plaster care. They are often involved in projects to upgrade the workflow to improve patient care.

The senior nurses regularly participate as instructors in the plaster and traction courses conducted by the department of Orthopaedic Surgery.



Operating Theatre Nurses



Dedicated and caring specialist outpatient clinic nurses



The orthopaedic plaster workshop for nurses

Physiotherapy & Occupational Therapy

The department is supported by a highly-dedicated team of musculoskeletal physiotherapists and occupational therapists. These dedicated therapists provide pre-surgery and post-surgery rehabilitation, in addition to enhancing conservative measures for selected musculoskeletal conditions.

Their duties cover the inpatient and outpatient sections of the public healthcare institution, as well as provide on-call support for patients during public holidays and weekends. The therapists are stationed at the Changi Sports Medicine Centre and the Rehabilitation Centre. The Rehabilitation Centre also provide hydrotherapy for selected patients. Together with the clinicians, they have played invaluable roles in ensuring the best recovery outcomes to patients with musculoskeletal disorders.



Dedicated team of Physiotherapists and Occupational Therapists

Administrative Staff

We have a very dedicated team of administrative staff that plays a vital role in providing 'behind the scenes' support in the running of the Department of Orthopaedic Surgery.

The four-member team handles a wide range of administrative work including doctors' rosters, documents, casenotes arrangement, administration requests from other departments and meetings. They are often involved in supporting educational and research matters such as the organisation of clinical courses and workshops for doctors.



Ms Teo Saw Chiok
Secretary



Ms Jollie Wang
Executive



Ms Janice Chong
Senior Admin.
Assistant



Ms Siti Noorizan
Admin. Assistant

A CENTRE FOR LEARNING & PROFESSIONAL DEVELOPMENT

Learning – A Continuous Journey

The department recognises the importance and value in teaching the next generation of doctors, as well as keeping its staff at the cutting edge of the specialty through constant skill and knowledge upgrade.

The staff members are heavily involved in residency programmes for Orthopaedic Surgery, Family Medicine and PGY1 (Postgraduate Year One). A number of its staff members were awarded for their contribution as educators.

The modalities of teaching include regular morning trauma and subspecialty rounds, in-house courses, national level and international courses.

The department also offers fellowship in various subspecialties such as spine surgery, hip and knee surgery, sports surgery and trauma surgery.



Skills development course conducted by the CGH Orthopaedic Surgery



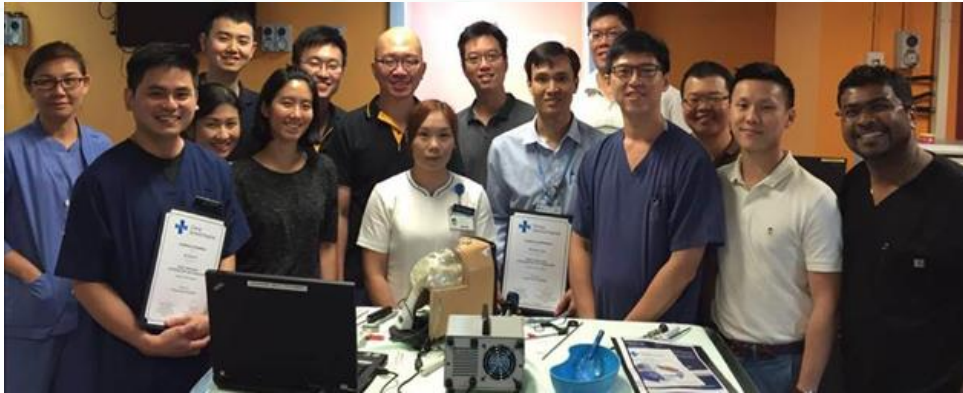
(From top)

- Certificate of attendance presentation to Dr Min Min Thein, Clinical Fellow from Myanmar, on his completion of arthroplasty fellowship in CGH
- Dr Nyuyen Ngoc Tiep, clinical fellow from Vietnam (middle), receiving certificate of attendance upon completing sports surgery fellowship attachment in CGH
- Case discussion during Orthopaedic Surgery's morning trauma round



In-house Courses

Within the institution, the department regularly conducts training courses for junior doctors. These include residents, staff doctors, house officers and nurses. The department also extends such courses to doctors from the polyclinics. The department aims to upgrade the skillset of the participants via hands-on training and practical application of knowledge.



Basic shoulder arthroscopy course

The basic shoulder arthroscopy course uses simulation models for training residents. It enables the participants to appreciate the basic skillsets required for arthroscopy of the shoulder.

These courses are often over-subscribed and given that, some courses need to be held more than once a year. The department strongly believes in teaching the next generation of doctors to ensure continuity of good medical care for the community.



Spine surgery cadaver course

The spine surgery cadaver course is organised annually to provide hands on training for residents interested in Spine surgery. It includes instrumentation with imaging.



Plaster and traction course

The plaster and traction course is a compulsory course for junior doctors rotating through the department. It focuses on the basics of making casts and traction for fractures.



Total Knee Arthroplasty Sawbone Course

The total knee arthroplasty sawbone course just celebrated its 10th anniversary. It guides the participants in the basic steps of knee replacement surgery.

National Courses

Locally, the department supports the orthopaedic community in many aspects including the annual scientific meetings and training courses for orthopaedic related personnel. Staff members are often invited to chair symposiums and hands-on training events. This translates to sharing of expertise knowledge and developing good working relationships with other institutions.



Dr Andy Yeo (Co-chairman) – Improving Outcomes in Polytrauma Symposium 38th SOA Annual Scientific Meeting on 15 October 2015



Dr Andy Yeo (Co-chairman) AO Trauma Course – Advanced Principles of Fracture Management for Operating Room Personnel, August 2016

International Courses

The department is actively involved in teaching activities in the ASEAN region. These activities take place both locally and overseas. These courses provide updates on the latest skillsets and enable the participants to upgrade their surgical capabilities. The participants are usually from the ASEAN region but had also included Taiwan and Hong Kong surgeons. These courses provide hands-on cadaver training to simulate real time surgery. These courses also enables the faculty to meet instructors from other countries and share their experiences.



(From top)

Shoulder & knee arthroscopy course for surgeons from Philippines – August 2016

Knee arthroscopy course for surgeons from Myanmar & Vietnam

International Conferences

The department recognises the importance of exchanging skillset and knowledge with surgeons from around the world through visitations, courses and fellowships.

Staff are usually invited as speakers to various scientific meetings.

The department collaborates with surgeons in the region such as Thailand, Philippines, Hong Kong, Vietnam and Myanmar, to teach and exchange expertise and skillset as well as build long-standing professional partnerships.



(From Left)

Dr Loo Wee Lim delivering a lecture as international faculty at the 22nd Annual Conference of Cambodian Society of Surgery, 2016

Dr James Loh speaking at the 2016 Asia-Pacific Knee, Arthroscopy & Sports Medicine Society Congress, Hong Kong, 2016, in conjunction with the International Forum of Orthopaedics Sports Medicine and Arthroscopic Surgery (IFOSMA) congress



Dr David Chua Thai Chong (fifth from left), chairman of the Singapore Orthopaedic Association 2015



Dr Dave Lee Yee Han speaking at the International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine, Shanghai, 2017

Examinations

The senior staff in the department participate in the undergraduate examinations (MBBS), post graduate examinations (Mmed) and exit examinations (FRCSEd (Orth)).

The department actively supports the annual exit examinations for orthopaedic surgeons in the country. In 2014 and 2015, it organised and ensured the smooth execution of this examination. This examination is organised over a period of a few days and passing this certifies that the individual is ready to become a specialist. The examination consists of three components, namely written, oral and clinical. Preparations take place months ahead in terms of sourcing of venue, examination materials and resources. The department received positive feedback regarding its organisation of this examination in the institution.

The other staff members are often involved in the preparation courses and often have informal requests for tutorials. This aspect of department unity is a reflection of the dedication and passion to teach.



Chief of the CGH Orthopaedic Surgery department Dr James Loh representing Singapore in the Board of Examiners for Hong Kong FRCSEd (Orth) in 2016

Examiners



A/Prof Low Boon Yong
Senior Consultant,
Foot and Ankle Surgery,
Dept. of Orthopaedic Surgery



Dr David Chua Thai Chong
Senior Consultant & Director,
Trauma & Limb Salvage Surgery,
Dept. of Orthopaedic Surgery



Dr James Loh Sir Young
Senior Consultant,
Hip & Knee Surgery,
Chief,
Dept. of Orthopaedic Surgery



Successful candidates and the board of examiners making a toast after the FRCSEd(Orth) in 2015 which was organised by the department

QUALITY & PATIENT SAFETY IMPROVEMENT PROGRAMMES

The department of Orthopaedic Surgery aims to deliver transformative care through continuous improvement initiatives in the various segments of our patient touch points. The team collaborates and learns from each other to analyse, develop, implement and refine its quality improvement and patient safety policies.

The department has championed various hospital-wide improvement programmes. Underpinned by its commitment to provide quality care to patients and to achieve better patient outcomes, it has also taken part in the Singapore Healthcare Improvement Network (SHINe) programmes since 2015.

In 2014, it pioneered the Valued Care Hip Fracture Program, which aims to improve the functional status and quality of life for patients with fragility hip fracture through reliable delivery of evidence-based and cost effective care.

The department is in the midst of developing the Value Driven Outcome (VDO) initiatives for Total Knee Arthroplasty (TKA) and Total Hip Arthroplasty (THA).

It values the commitment of its our team members to bring together a wealth of knowledge, expertise and experience from across the healthcare ecosystem.



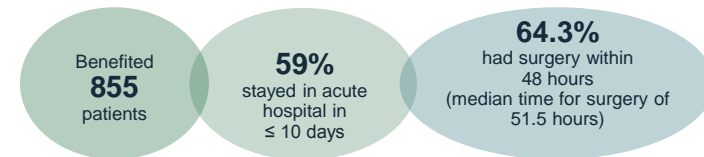
Valued Care Hip Fracture Program

Launched in December 2014, the Valued Care (VC) programme is a value-based healthcare model offered to patients admitted to Changi General Hospital (CGH) with hip fracture. It aims to improve the functional status and quality of life for patients with fragility hip fracture through reliable delivery of evidence-based cost effective care for patients. The Clinical Core Teams is led by an Orthopaedic Surgeon, co-managed by a team of members that include clinical representatives from Orthopaedic Surgery, Geriatrics, Anaesthesia, Nursing, and Physiotherapy.

The programme aims to improve patient's outcomes and quality of life, as well as to keep them functional, independent and active in their community. CGH's VC Hip Fracture program incorporates 22 best-practice elements to stabilise and fast-track hip fracture patients (many of whom are elderly) for surgery.

Among acute care indicators, the team strives to reduce time-to-surgery for hip fracture, early mobilisation and reduced length of acute hospital stay. As part of the patient-centric care, we also evaluate mid to long term patients' reported outcomes such as Modified Barthel Index following their discharge.

Since its implementation to the end of March 2016, the programme has achieved the following results,



At 12 months,

57% returned to baseline
functional state

92.4% did not require long-term
institutionalised care

Key improvements made included:

- E-design and streamlining of care processes to focus on delivery of patient care;
- Implementation of clinical protocols to standardise care delivery and reduce unnecessary care variations; and
- Development of a holistic case management model.

To enhance and integrate post-acute care for seamless care transition across continuum, clinical and operational processes were redesigned to focus on reducing unnecessary care variations and healthcare utilisation. Total cost of care per episode as well as over diseases life cycles across care continuum are currently tracked for future cost effectiveness analysis.

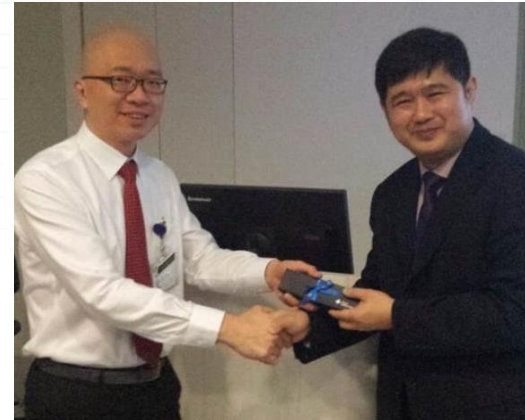
FRIENDS AROUND THE REGION

The department is actively involved in international courses and meetings. Such events involve an international faculty. These events are organised locally and overseas and provide a platform for establishing ties with other institutions and possibilities for future collaborations. It also brings together like-minded individuals to share knowledge, expertise, skills and promote friendship.



A/Prof Hyuksoo Han (second from left) from Seoul National University Hospital, invited faculty for the Quadriceps Tendon Harvesting course with the doctors from the Orthopaedic Surgery Department on 11 February 2017

Prof Myint Thuang from the University of Medicine 1, Yangon, Myanmar, President ASEAP with Dr James Loh at the Myanmar Orthopaedic Society Meeting 2012



Dr James Loh presenting a memento to A/Prof Peter Yau WP, invited lecturer from the University of Hong Kong



Dr Charlee Sumetthavanich from Lerdsin Hospital receiving a token of appreciation as invited speaker



CGH Chulalongkorn Hip & Knee International Course on 29 – 31 June 2012



ASEAN Orthopaedic Association, Senior Travelling Fellows in 2015

COMMUNITY OUTREACH AND ENGAGEMENT

The department aims to contribute to the community through active involvement in charity programmes and support for medical related causes. Led by its belief in giving back to society, members of the team held important positions in such organisations outside of work commitments. Besides giving back to local organisations, they also engage in overseas relief missions.

This is a dedication to extend helping hands beyond the hospital based medical services.

Professor Low Boon Yong has inspired younger staff members to follow in his footsteps, having been active in charity for many years.



A/Prof Low Boon Yong received an appreciation award presented by the late president S. R. Nathan during the Children's Charities Association of Singapore's Annual Presentation as the Chairman in 2003



“ Aiming to build sustainable and impactful community-focused and driven programmes, various outreach programmes in patient education and medical aids are championed by our staff members. A dedication to extend helping hands beyond the hospital-based medical services. ”



Dr Tay Poi Hoon in Nepal during one of her many humanitarian missions

AWARDS AND ACHIEVEMENTS

The department is committed to provide timely provision of quality patient care in a consistent manner and also to treat each patient as an individual according to his or her specific needs. It is an ongoing effort that is recognised from the many awards its staff members have garnered over time. In a similar manner, the junior staff members have continued the passion of the department to teach and their awards are proof of that dedication.

Caring Awards

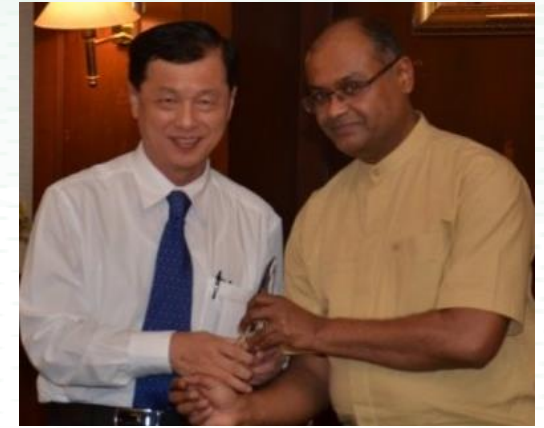


Dr James Loh (left) receiving Caring Award presented by Minister for Health Mr Gan Kim Yong, 2015

Donald Gunn Lecture And Teaching Excellence Awards

Over his lengthy career, A/Prof Low has touched many lives, both as a physician and a mentor. To his patients, he has always been a kind and caring doctor who always took extra precautions to safeguard their wellbeing.

To his juniors and mentees A/Prof Low is approachable and amicable. He is someone who goes the extra mile to help other people, while at the same time, shying away from acknowledgement and rewards. As noted by one of his mentees: "He doesn't do things for recognition, gratitude or returned favours – he helps people because that is just who he is."



A/Prof Low Boon Yong (left) awarded the Orthopaedic Teaching Excellence Award for year 2012-2015



A/Prof Low Boon Yong (right) receiving the Donald Gunn Lecture Award 2015 presented by Dr David Chua, Chairman of Singapore Orthopaedic Association

RiSE Awards

The Residency in SingHealth Excels (RiSE) Awards honours and recognises the key achievements and exemplary contributions of our residency faculty and residents.

The Outstanding Faculty Award is awarded to the top 5% faculty nominated by the programme, in recognition of the faculty's commitment and contribution to residency.

Dr David Chua

- Residency in SingHealth Excels (RiSE) Awards– Outstanding Faculty – 2013/2014, 2014/2015 & 2016/2017

Dr Ong Kee Long

- Residency in SingHealth Excels (RiSE) Awards– Outstanding Faculty – 2014/2015 and 2015/2016

Best Educator Award

The Best Educator Award is an annual award given out to deserving educators from all three disciplines – Medical, Nursing and Allied Health.

Dr Loo Wee Lim

- EHA-CGH Best Educator Award – 2016

Dr Ong Kee Long

- EHA-CGH Best Educator Award – 2015 and 2016

Dr David Chua

- EHA-CGH Best Educator Award – 2014 and 2015

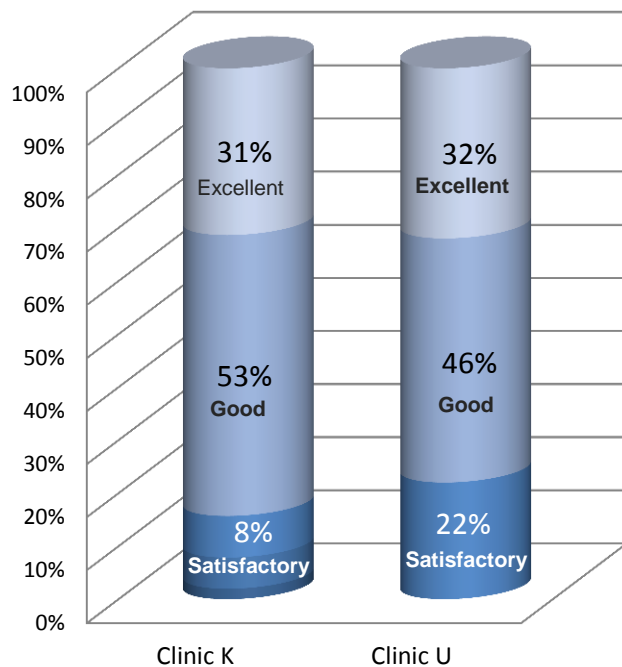


(From top) Minister for Health Mr Gan Kim Yong presenting the EHA-CGH Best Educator Award 2016 to Dr Loo Wee Lim and Dr Ong Kee Long during the Eastern Health Alliance Scientific Meeting 2016

PATIENT SATISFACTION SURVEY 2016

Understanding the service experience level of our patients is part of a broader initiative to help improve the quality and safety of healthcare services provided to the patients in the Department of Orthopaedic Surgery. The Department took part in the CGH's Internal Patient Satisfaction Survey in 2016 to understand how patients perceive their interactions with the healthcare system through their experience when engaging the services at the Orthopaedic Specialist Clinics in CGH. The results of the survey provides rich insights to assist in the improvement of the department's services.

Internal Patient Satisfaction Survey 2016



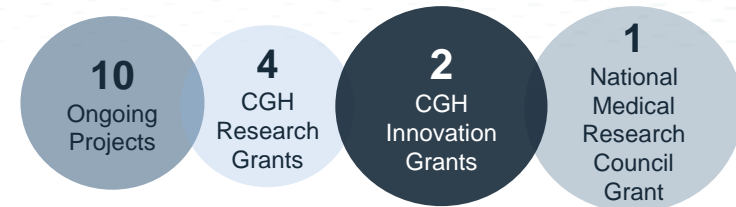
Percentage of responders who rated their overall satisfaction as	
'Excellent' & 'Good'	
Clinic K	: 84%
Clinic U	: 78%
Overall	: 81%

RESEARCH AND INNOVATION

The CGH Orthopaedic Surgery combines world-class medical care with translational scientific research and meaningful healthcare innovation to provide the best possible treatment for patients.

Papers published (2016 – 2017) **15**

Book Chapters (2016 – 2017) **2**



Representatives of CGH visit one of the world's leading institutions, Hospital for Special Surgery, in New York in 2016 to learn and adopt best practices

IN REVIEW

2014 - 2016

2014

Launch of the Valued Care Hip Fracture Program

The Valued Care (VC) programme, a value-based healthcare model was launched to improve the functional status and quality of life for patients with fragility hip fracture.

2015

Singapore Orthopaedic Association Chairman Appointment

Dr David Chua was appointed Chairman of the Singapore Orthopaedic Association and organised its annual scientific meeting.

Donald Gunn Lectureship Award

A/Prof Low Boon Yong was awarded the lectureship

2016

10th Knee Replacement Sawbone Course

Dr Adrian Lau chaired this course in knee replacement surgical techniques for residents which saw its 10th successful run.

Singapore Healthcare Improvement Network (SHINe)

The SHINe Programme seeks to improve healthcare standards and patient safety. It includes a series of projects across the island involving different disciplines

CGH Orthopaedic Surgery Department is involved in the *Prevention of Venous Thromboembolism (VTE) in Hip fracture patients*

Foot & Ankle Surgery

Establishment of service and the development of increased capabilities that include deformity correction and arthroscopic surgery

Integrated Spine Service (ISS)

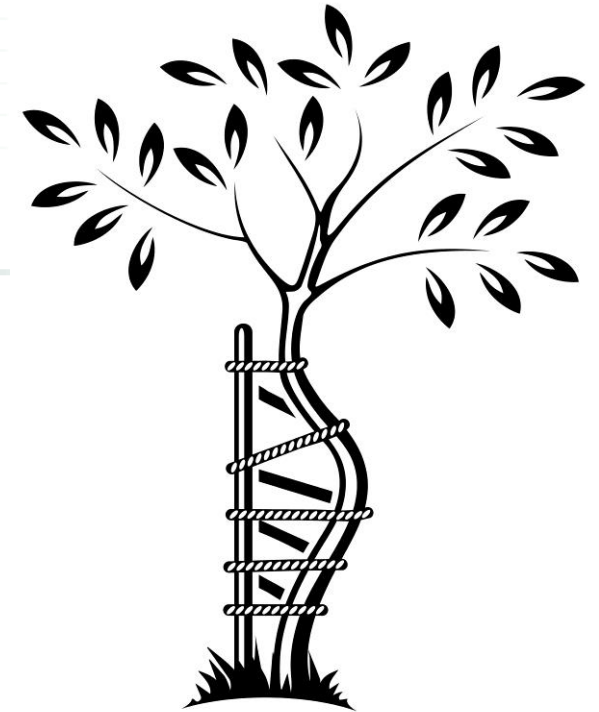
The ISS Unit that combines neurosurgical and orthopaedic capabilities to provide a one-stop care for the patients was set up

FRCSEd (Orth) HONG KONG

Dr James Loh was invited as an examiner for the orthopaedic specialist certification examination in Hong Kong

AOTP Course

Dr Andy Yeo co-chaired this national surgical technique course for operating room personnel







Changi
General Hospital

SingHealth

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