



Department Of Orthopaedics & Traumatology Queen Mary Hospital University Of Hong Kong Medical Centre Newsletter



Vol. 2, Issue 2, Oct 2000

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Editors' notes

In this special issue, we have made efforts to describe the Department's structure and its subspecialties' development to readers. The developments of the subspecialties have evolved in response to increasing patients' needs and in recognition of the work and efforts of staff in their interests of developing the subspecialties. We hope the readers will find the information about the Department useful when referring the patients to our Department. To keep up with the "world wide web" trend, the last issue of the Newsletter has been put on the internet. Readers will find it in the Department's web site (<http://www.hku.hk/ortho/ortho/>). To enable easy retrieval and reference via the internet, we will also display the future issues of the Newsletter in the Department's web site. We hope the reader continue to find the Newsletter enjoyable to peruse.

News in Flash

Following the inaugural teleconference between the Department of Orthopaedic Surgery of the University of Hong Kong and the Peking Union Medical College earlier this year, another teleconference was held between the two centres on 12th August 2000. Like the previous teleconference, there was exchange of ideas in the management of some difficult orthopaedic conditions.

The Combined Advanced Orthopaedic Spinal Workshop and Department Research Day

was held on 8th July 2000. Over 30 participants from 8 different local and private hospitals attended the Workshop. The day was made particularly successful with the participation of the overseas and local invited speakers and guests, including Dr Serena Hu from University of California at San Francisco, Dr HK Wong from National University of Singapore, Professor Arthur Yau, Dr KY Fung, Dr WK Ngai, Dr Dicky

Lam, Dr SF Yip and Dr PY Lau.

The followings are the endowed Visiting Professors for this year. Professor B.D. Browner from U.S.A., a specialist in orthopaedic trauma, is invited as the MB Lee Visiting Professor. Professor K. Yonenobu from Japan, a spine specialist, will come as the SC Fong Visiting Professor. Professor R. Capanna, an expert in orthopaedic tumour from Italy, is invited as the HC Yang Visiting Professor.



Advanced Orthopaedic Spinal Workshop

Department Structure and Clinical Services

The present structure was formed in 1995 when a major re-structuring of the Department took place to facilitate a more efficient delivery of clinical services, a higher standard of health care, and better training for the junior doctors. With Professor John Leong as the Head and Chief of Service of the Department, Teams A, B and C were also formed, each with a team head. Under each team were further subspecialties to cater for the public's demands for more specialized orthopaedic care.

Each team has developed its own protocols for patient management and rehabilitation, as well as training and research.

TEAM A

Under the direction of its team head, Professor S.P. Chow, Team A has developed subspecialties in Hand Surgery, Trauma and Foot Surgery.

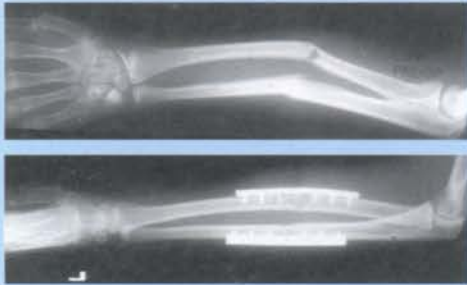
Orthopaedic Trauma Services

Key members: Professor S.P. Chow, Drs T.L. Poon, F. Leung, J. Brockwell and HY Kwok

Queen Mary Hospital is the first hospital in Hong Kong to provide a dedicated daily operating list for musculoskeletal trauma. This has significantly reduced waiting time for patients with fractures that require fixation, and avoided out of hours operating in many instances.

Patients with multiple trauma are managed by the Trauma Team which consists of the Department of Orthopaedic Surgery, the Accident and Emergency Department, Intensive Care Unit and the Department of Surgery. Patients thus managed are guaranteed with the best chance of survival and the best outcome possible with this multidisciplinary approach.

The subspecialty is particularly interested in training and research. Professor S.P. Chow is currently the President of AO East Asia, and as a result, he and his co-workers frequently organize workshops and courses to advance the science of orthopaedic trauma. Currently, many research projects are undertaken, including the PC-Fix device in clinical application in treatment of forearm fractures.



Forearm fracture fixed with PC-Fix

Division of Hand and Foot Surgery

Key members: Prof. S.P. Chow, Drs W.Y. Ip, Boris Fung, K.H. Ng

In the past 30 years, the achievement of Hand Surgery in Department of Orthopaedic Surgery has been recognized locally, regionally and internationally. It has achieved excellently in clinical service, research and training. The Division of Hand and Foot Surgery has been formed since 1998. The objective is to build up the image of a centre of excellence in Hand, Foot and Ankle Service in Queen Mary Hospital for doctors, nurses and health workers. Our mission is to promote the science and art in the care and reconstruction of the hand and foot extremities.

Our division offers various types of reconstructive procedure to meet the needs of our patient. These include reconstructive surgery in rheumatoid hand, wrist, foot and ankle, nerve injuries, tetraplegic upper limb reconstruction, upper limb surgery in cerebral palsy and adult foot deformity. We also offer microvascular surgery, including replantation, free tissue transfer such as free fibula graft. Other interests of the division include areas in congenital hand

deformities, traumatic injury in hand and foot requires complicated reconstruction assisted by minimal invasive means (arthroscopic / endoscopic surgery), brachial plexus surgery, special infection such as that caused by *Mycobacteria marinum*.

The Division is characterized by its multidisciplinary approach towards patients' care. For the hand subdivision, there has been a long lasting collaboration among hand surgeons, physiotherapists and occupational therapists. The foot subdivision has an even wider collaboration. The team includes orthopaedic surgeons with special interest in foot and ankle surgery, orthopaedic specialists in wound management and reconstructive surgery, podiatrists (foot care education to foot patients), orthotists (counselling to candidates of amputee before operation), nurse specialists, community nurses (wound care, education, evaluation to diabetic foot patients) and rehabilitation physicians. Other specialists who are frequently consulted include vascular surgeons, endocrinologists, geriatricians and clinical psychologists. It is an art to make liaison with a big group of specialists to maximize the productivity of the whole team and to provide comprehensive patient care. Our goal is to maintain this multidisciplinary approach, which is the way to go in the new millennium.

The Division is strongly interested in research. This is particularly reflected in the past research output in hand surgery. New areas of research interest include foot biomechanics, foot wear, foot orthosis, amputee early fitting prosthesis, wound dressing study on chronic wound, tendon injury and rehabilitation. The clinical research will be incorporated into clinical service. Development of new areas of upper limb reconstruction including functional electrical stimulation, tissue engineering, and robotic devices will be our challenge in the next decade.



Functional electrical stimulation (FES) in patient with Tetraplegia

TEAM B

Dr P Chien is the team head. Within the team, subspecialties developments include total joint replacement, sports medicine and arthroscopic surgery and orthopaedic tumour surgery.

Division of Joint Replacement Surgery

Key members: Drs Peter K.Y. Chiu, T.P. Ng, W.M. Tang



The Division offers primary and revision total hip, knee, elbow and shoulder joint replacements. About 180 joint replacement surgeries were performed each year. Of these, 20 to 25% were revision joint replacement surgeries. The newest equipment for revision surgery including Midas Rex dissecting tools and Ultradrive ultrasonic cement remover are available for the most difficult operations. Patients who are in need of more intense rehabilitation are often referred to MacLehose Medical Rehabilitation Centre post-operatively. The patients are followed up at Special joint replacement clinics for assessment. The Division adopts a multidisciplinary approach and organizes a monthly pre-operative clinic that is a joint venture of joint replacement surgeons, anaesthetists, nursing staff, podiatrists and dental surgeons; the objective is to assess the patients and to educate them.



Educating total joint replacement patient

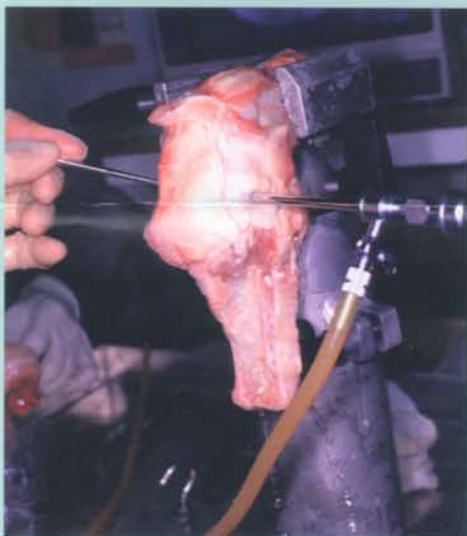
The Division is active in conducting research related to joint replacement surgery. Many publications have been produced by the Division, including

publications in the Journal of Orthopaedic Surgery and Journal of Arthroplasty.

Division of Sports and Arthroscopic surgery

Key members: Drs P. Chien, Jimmy Wong, Daniel Yip

The interest in arthroscopic surgery heightened when Dr Robert Jackson came to the Department and helped organize the International Arthroscopic Association's First Arthroscopic Instructional Course and Workshop in 1985. Since then, with the advance and improvement of instruments and techniques, many joint surgeries previously performed by open means can be effectively performed arthroscopically. The advantage of minimally invasive method with the arthroscopic surgery is obvious. Nowadays, many sports injuries such as anterior cruciate ligament and recurrent dislocation of shoulder can be managed arthroscopically. The Division is thus evolved.



Using porcine knees in training arthroscopic techniques

The Division offers treatment to many shoulder and knee problems. For examples, rotator cuff problems, frozen shoulders, cruciate ligaments and menisci problems are managed by the Division. Hip, ankle and elbow arthroscopy are also performed. For ease of follow up and continuation of care, a Sports and Shoulders Clinic is set up for this group of patients. The Division provides a comprehensive training on the arthroscopic techniques and offers trainees a laboratory hand-on experience.

Subspecialty in Tumour

Key members: Drs P Chien, Jimmy Wong, Daniel Yip

Although not a formal division, the majority of the malignant musculoskeletal tumours, except those in the spine and the hand, are managed by team B. Centralizing tumour surgery to one team allows the development of a multidisciplinary approach, supported by designated bone bank specialist, clinical oncologist, clinical psychologist, radiologist, rehabilitation specialist, pathologist and paediatricians. With the support and supply of the Bone Bank in the Department, massive allograft is available for use in the limb salvaging surgery. The objective is to achieve the best possible functional and oncological outcome while salvaging the involved extremity.



Massive allograft used in limb salvage

TEAM C

The team is led by Professor Keith DK Luk. It has two main subspecialties i.e. Paediatric Orthopaedics and Spine surgery.

Division of Paediatric Orthopaedics

Key members: Drs YH Li, W Chow

The Division provides a comprehensive clinical service to the paediatric population both at Queen Mary Hospital and at Duchess of Kent Children's Hospital which is the only hospital in Hong Kong specially built for children. The Division manages all Paediatric Orthopaedics patients with either congenital or acquired conditions, including orthopaedic trauma. The main services include management of congenital anomalies e.g. fibular

hemimelia, femoral deficiency, radial club hand, congenital dislocation of hip, clubfoot, neuromuscular diseases such as cerebral palsy, muscular dystrophy and spina bifida, gait analysis, seating service for non-ambulatory patients, scoliosis, leg lengthening, trauma and developmental disorders such as flatfoot, intoeing, knock knee and bowleg.

There is a gait laboratory at Duchess of Kent Children's Hospital providing gait analysis service and research in neuromuscular patients. Duchess of Kent Children's Hospital is a major center in leg lengthening using Ilizarov and Orthofix methods. Problems treated include leg length inequality, short stature, bone & joint deformity, clubfoot, joint contracture and congenital pseudoarthrosis.



Ilizarov device on the left leg

The division has a six-monthly fellowship programme for overseas orthopaedic surgeons. This programme is very popular and well received. The main research interests include gait analysis, selective dorsal rhizotomy in cerebral palsy patients, leg lengthening, Perthes disease, fracture healing in children and the use of Ilizarov method in the treatment of clubfoot.

Spine Surgery

Key members: Prof. KDK Luk, Drs K. Cheung, YW Wong, YK Chan

The whole spectrum of spinal surgery is well developed in this Department. It has had over thirty years of experience, and objective criteria of its success are found in the numerous publications on this subject from this Department in the most reputable international orthopaedic journals, and in the numbers of invitations

to sit on their editorial boards including those of Spine, European Spine Journal, Journal of Spinal Disorders etc.

The pattern of spinal diseases in Hong Kong has changed dramatically since the 1960s. From the prevalence of spinal infection in the 50s and 60s, the emphasis has shifted to deformities, degenerative diseases, spinal injuries and malignancies in the 80s and 90s.

Degenerative diseases of the spine, from the cervico-occipital to the lumbosacral junction and tumours of the spine are dealt with mainly at Queen Mary Hospital. The first spinal surgery performed with an intra-operative spinal cord electrophysiological monitoring system in Hong Kong was carried out by this Department in 1993. Multimodality monitoring is now routinely used in the majority of deformity corrections and cervical spine procedures.

The spine service at the Duchess of Kent Children's Hospital forms the main bulk of clinical service in spine surgery. It is the one of the two designated centres by the Hospital Authority for scoliosis surgery and receives tertiary referrals from all areas of the SAR and overseas. Over 180 spine operations were recorded last year alone. The experience of spinal surgery at Duchess of Kent Children's Hospital can be reflected by its history and record keeping. All notes and records are kept from the first day of presentation, and many of the records date back to thirty or more years. The filing system has recently been computerized and this will certainly further facilitate both prospective and retrospective researches.

The Centre for Spinal Disorders established at the Duchess of Kent Hospital in 1997 is the first of such kind in Asia, managing chronic back problems, the aftermaths of spinal injury and its sequelae through an integrated multi-disciplinary approach.

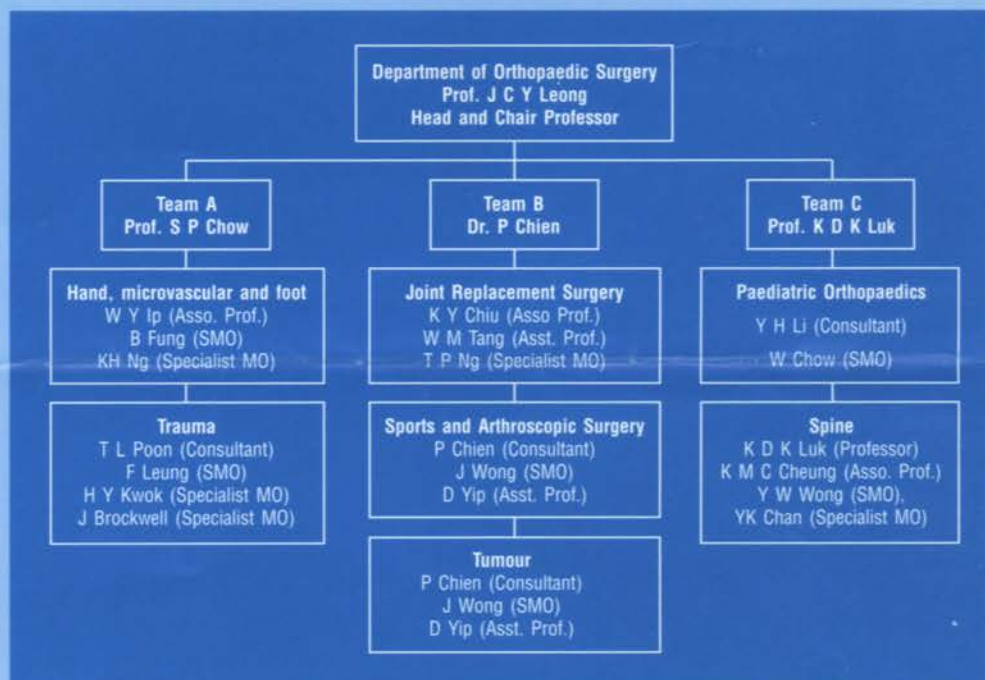
Apart from the strong rehabilitation team for the patients with spinal disorders, a **Centre for Paraplegic Walking** is also established to aid the paraplegic patients. Functional Electrical Stimulation (FES) and special orthotics are used to help these patients regaining their lifestyles and confidence. Selective dorsal rhizotomy, a surgical procedure recently introduced to relieve the spasticity in the lower limbs of paraplegics and patients with cerebral palsy, has greatly enhanced the ambulatory potential of these patients.

In 1999, the Division of Spine Surgery collaborated with the Peking Union Medical College in the formation of a Center for Spinal Surgery. Through this establishment, teleconferences are being held once every three months when

clinical information is freely exchanged. Four exchange spine surgeons and two theatre nurses have since received training in the department for 2 to 6 months.

Research Support

The Department's dedication in achieving the highest standards in both clinical services and scientific research is reflected by its establishment of the **Orthopaedic Research Centre**. Research facilities consisting of 8 distinct laboratories with their state of the art equipment located at the Duchess of Kent Children's Hospital and Queen Mary Hospital provide full technical and scientific support to the research team members to ensure the continuation of the Department's tradition of quality research.



Only key members are shown in this organization chart.

Donations

Dr Tam Sai Kit Visiting Professorship in Orthopaedic Surgery

Dr Tam Sai Kit, a graduate of the University of Hong Kong, has generously donated a sum of HK\$1,200,000 to the Department to establish the Visiting Professorship in Orthopaedic Surgery, in recognition of the high quality patient-care services and research taking place in the Department. The fund will be used to invite persons of prominence to visit the Department. It may also be used for academic, research and training

developments in orthopaedic surgery and related disciplines.

Dr Li Dak Sum Research and Development Fund in Orthopaedic Surgery

A generous sum of HK\$3,000,000 was donated by Dr Li Dak Sum to establish the Research and Development Fund in Orthopaedic Surgery. The fund will be used for academic, research and training developments in orthopaedic surgery, especially related to disorders of the spine.



C4/5 flexion distraction injury fixed with implants