

years of
**TAN TOCK SENG HOSPITAL
REHABILITATION CENTRE**

1973 ▶ 2023

ADVANCING REHAB • EMPOWERING LIVES

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STEWARTSON

Foreword



► *Dr William Chan, (second from left), Prof Chew Chin Hin (3rd from left),
Dr JMJ Supramaniam (5th from left) and other chest physicians at TTSH Rotary Clinic*

My heartiest congratulations to the Rehabilitation Centre (RC) of Tan Tock Seng Hospital (TTSH) on the 50th Anniversary of dedicated rehabilitative services to the people of Singapore.

The late 1960s and early 1970s were tremendous years for the rapid development of TTSH, from a chest hospital to a general hospital, with new specialties added to general disciplines. Of significance was the development of Rehabilitation Medicine. It was crucial to establish this discipline as it would tremendously support the patients of Neurology, Neurosurgery, Orthopaedic Surgery and General Medicine.

It was such a great honour to be with RC right from the beginning, being involved in panel discussions on establishing the centre, and bearing witness to its official opening on 18 June 1973. As the doctors for the RC were still undergoing training overseas, a Consultant Rehabilitation Team (CRT) was formed, chaired by Dr JMJ Supramaniam, Medical Superintendent of TTSH. The Team also included three senior consultants: Prof N Balachandran (Orthopaedic Surgeon), Dr Loong Si Chin (Neurologist), and Dr Wong Nang Eong (Urologist). When I became the Medical Superintendent of TTSH in 1977, I chaired CRT and was overseeing the progress of all the patients of RC and reviewed them in

weekly case conferences. The Department of Rehabilitation Medicine was officially formed in 1975 with two senior registrars, Dr Robert Don and Dr Tan Eng Seng. With the promotion of Dr Don as Physician and Head of Department in 1978, members of CRT were appointed visiting senior consultants.

I feel very privileged to have witnessed RC's 40th Anniversary in 2013, and again this year for its Golden Anniversary. It is indeed heartening to witness the progress RC has made since its beginning. As TTSH continues to develop the HealthCity Novena this decade, I wish RC well in further developing its strengths in clinical services, education and research, to the benefit of the people of Singapore and beyond.



Prof Chew Chin Hin
Emeritus Consultant
Department of Rheumatology,
Allergy & Immunology

Preface

It is with great pleasure that we dedicate this book to our patients, colleagues and friends who have journeyed with us for the past 50 years!

We are the first Multi-Disciplinary Rehabilitation Centre and the first Department of Rehabilitation Medicine in Singapore. The pioneering spirits led to many practices which are now considered standards of care in all the other rehabilitation services in Singapore. Our Department has trained most of the rehabilitation physicians in Singapore.

To chronicle the whole story of our beloved RC, particularly events and fond memories in the first two decades, we have spent many hours searching for photos and written records from various sources, including

the Singapore National Archives, TTSH Corporate Communications Department, TTSH publications and our own Department's annual reports. We also interviewed pioneer staff, former patients and families, support group members and volunteers. We learned of many heartwarming stories as presented in this book.

We hope this record will become part of our collective memory for our future leaders and rehabilitation professionals.

Our special thanks to everyone who has supported and contributed to this publication, including our senior management, pioneers, colleagues, patients and families, benefactors, volunteers, support groups members, and especially those who have shared their stories and memorable photographs with us.

The Editorial Team

- William Chan
- Alfred Seng
- Tess Hng
- Maran S/O Pakkirisami
- Ops Support Team



In Memoriam

Dato Lee Chee Shan
Benefactor,
TTSH Rehabilitation Centre

Datin Lee (Madam Emma Aw)
Benefactor,
TTSH Rehabilitation Centre

Prof N Balachandran
Honorary Visiting Consultant
TTSH Rehabilitation Centre

Dr JMJ Supramaniam
Chairman of Consultant
Rehabilitation Team

Dr Robert G Don
First Head of Department (HOD)
of Rehabilitation Medicine

Dr Tan Eng Seng
Second HOD of
Rehabilitation Medicine

Sr Yap Toh Kah
First Nursing Officer

Sr Tan Mui Lee
First Rehab Nurse Clinician

Mrs Khaw Bee Hiang
Allied Health Professional (AHP)
Manager

Mdm Lee Meow Leng
Senior Staff Nurse

Dr Adela Tow Peh Er
Senior Consultant and Team Leader,
Spinal Injury Rehabilitation

Mdm Noor Hayati Bte Yaya
Senior Therapist Assistant

TTSH REHABILITATION CENTRE: THE BEGINNING

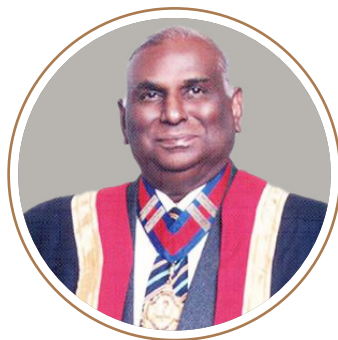
CHAPTER



Rehabilitation Scene Prior to TTSH Rehabilitation Centre

In the early years of Singapore's independence, there was an increasing recognition of the unmet needs of patients with significant physical and cognitive impairments and disabilities due to trauma and diseases, such as spinal injury, poliomyelitis and stroke. The focus of the developing nation was on managing the increasing number of such patients in acute hospitals, which had limited resources.

In the 1950s, orthopaedic surgeons, including Prof N Balachandran at Singapore General Hospital (SGH), were managing patients with



► Prof N Balachandran as President of Singapore Medical Council in the 1990s

poliomyelitis, paraplegia due to tuberculosis of the spine and cerebral palsy with limited number of allied health professionals (AHP). Rehabilitation continued in various facilities for the children, such as Red Cross Home at Tanah Merah, the Children's Society Home, the Spastic Children's Centre at Gilstead Road and Saint Andrew's Orthopaedic Hospital at Siglap. Since 1957, Prof N Balachandran looked after patients with bone and joint tuberculosis in the wards of Mandalay Road Hospital. Mandalay Road Hospital had 3 pre-war wards housing mainly patients with tuberculosis that were cared by Franciscan nuns.



► Franciscan nuns training nursing students at Mandalay Road Hospital



1920s

Mandalay Road Hospital was built in the 1920s to treat pauper women

1949

Franciscan nuns arrived in Singapore and worked at Mandalay Road Hospital

1961

When the Franciscan nuns left and opened Mt Alvernia Hospital, Mandalay Road Hospital was converted into general medical wards under TTSH

With rapid industrialization in the 1960s, more cases of tetraplegia and paraplegia in workers from construction sites were treated in our hospitals. There was little rehabilitation for these young patients, and they were “left at the corridors of SGH and TTSH”. The orthopaedic surgeons started a Spinal Injury Rehabilitation Centre in 2 chronic sick wards at Woodbridge Hospital.



► Sir George Bedbrook

Sir George Bedbrook, an orthopaedic surgeon and pioneer in spinal injury rehabilitation in Perth, Australia, advised the Singapore Government the need to establish a rehabilitation centre for the management of spinal injuries, and emphasised the need to train therapists and doctors in Rehabilitation Medicine.



► Dr JMJ Supramaniam

During the same period, TTSH was transforming from a “Chest” Hospital to a General Hospital, led by the Medical Superintendent, Dr JMJ Supramaniam, with development of specialties such as Neurology, Neurosurgery, Orthopaedic Surgery, Cardiothoracic Surgery, General Medicine and General Surgery. Rehabilitation Medicine was identified as a specialty to support these other departments’ development.



The late 60s and early 70s were tremendous years for the rapid development of TTSH, where new specialties were added to general disciplines. Of significance was the development of Rehabilitation Medicine, because this discipline would tremendously support the patients of the newly developed specialties.

Prof Chew Chin Hin

1971

Dr Robert Don received training in USA and UK (WHO Fellowship) for 22 months

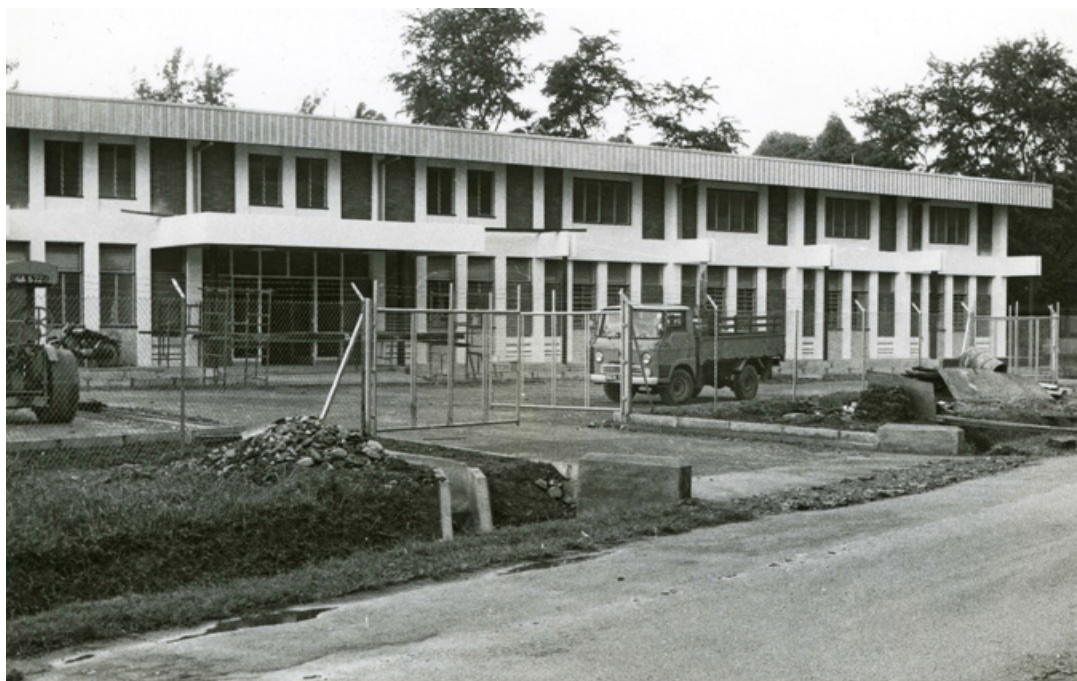
1972

Ms Geraldine Teo was awarded fellowship for training in Christchurch and Auckland, New Zealand in 1972

Planning for TTSH Rehabilitation Centre

The need for facilities for the rehabilitation of patients with spinal cord injuries, cerebral palsy, polio and stroke grew immense. In the latter part of 1968, officials from the Health Ministry visited multiple sites to choose a location for a rehabilitation facility. It was determined by August 1969 that Mandalay Road Hospital would become the site of TTSH Rehabilitation Centre (TTSHRC).

A new building with a physiotherapy gymnasium, occupational therapy workshop, conference room and reception was planned. The funding came from an initial donation of \$100,000 by Dato Lee Chee San, a banker who suffered from a stroke, to the University of Singapore for rehabilitation of hemiplegia. Dato Lee agreed to use his donation for the new TTSHRC for both hemiplegia and paraplegia, and increased the donation by \$140,000, as further funds were needed to complete the building. The Government made provision for the cost of equipment and maintenance.



Ms Geraldine Teo was awarded fellowship for training in Christchurch and Auckland, New Zealand in 1972. Upon her return, she was appointed as Head of Physiotherapy of TTSHRC.

Mrs Daisy Seet, occupational therapist, trained in the UK in the 1950s, received MOH sponsorship for training in New York for six months in 1973, and was appointed as the Head of Occupational Therapy at TTSHRC on her return.



Dr Don recommended me to MOH for training in New York's Institute of Rehabilitation Medicine for 6 months in 1973.

Mrs Daisy Seet

first TTSHRC Occupational Therapy Manager

- ▶ Ms Geraldine Teo (left) – first head of Physiotherapy; and Mrs Daisy Seet (centre, standing), first head of Occupational Therapy; Ms Praema Viswam, first Speech Therapist (seated); and Dr Preima Doraisamy, first Registrar (right)



About Dr Robert G Don



► Dr Robert G Don

Dr Robert G Don, MBBS, DPM, FAMS, FACRM, FAFRM (RACP), was a recipient of the W.H.O. Fellowship in Rehabilitation Medicine and went to New York Institute of Rehabilitation Medicine in 1971 under Dr Howard Rusk. From 1972-1973, he flew to UK and received further rehab training at Royal Free Hospital and at Stoke-Mandeville National Spinal Injuries Centre under Dr Ludwig Guttman. He received the Diploma in Physical Medicine from the Royal College of Physicians (London) in 1973.

As the pioneer rehabilitation physician, he became the first HOD of TTSHRC. He also established the Department of Rehabilitation Medicine in Singapore General Hospital in 1977. He held the role of headship in both Departments until 1981, when he left for private practice.

About Dr Tan Eng Seng



► Dr Tan Eng Seng

Dr Tan Eng Seng, MBBS, DPRM, FAMS, FACRM, FAFRM (RACP) was awarded a fellowship under the Colombo Plan for training in Rehabilitation Medicine in Melbourne, Australia with Dr Bruce Ford, and returned in 1974. He was the longest serving Head of Department from 1981 to 1994.

Apart from his clinical work, he served many voluntary organisations in various capacities. He was the President of the Society for Aid to the Paralysed from 1976 to 1978, and Chairman of the GROW Committee of The Spastic Children's Association of Singapore from 1983 to 1994. He was awarded the Public Service Medal (Pingat Bakti Masyarakat) by the President of Singapore for his contributions to the rehabilitation of the disabled in Singapore.



REHABILITATION CENTRE
TAN TOCK SENG HOSPITAL

**THE
FIRST
DECADE:
1973-1982**

CHAPTER

2



TTSHRC started operation on 26 March 1973 for both inpatients and outpatients.

Official Opening of TTSHRC

TTSHRC was officially opened by Dato Lee Chee Shan, witnessed by the Minister of Health, Mr Chua Sian Chin on 18 June 1973.

It gives me great pleasure to accept this new building complex the cost of construction of which, has been so generously donated by our well-known local philanthropist Dato Lee Chee Shan. It has been built at the costs of \$240,000/-. In accepting this building complex on behalf of Government I would like to put on record our Government's appreciation for this generous gift by Dato Lee.

- Excerpt of speech by Mr Chua Sian Chin, Minister for Health and Home Affairs, at the Opening of the Rehabilitation Centre, TTSH on Monday, 18 June 1973 at 10.00AM



► Dato Lee unveiling the plaque



26 Mar 1973

TTSHRC started operations and admitted inpatients in the rehab wards

1973

There were 100 admissions in the first year

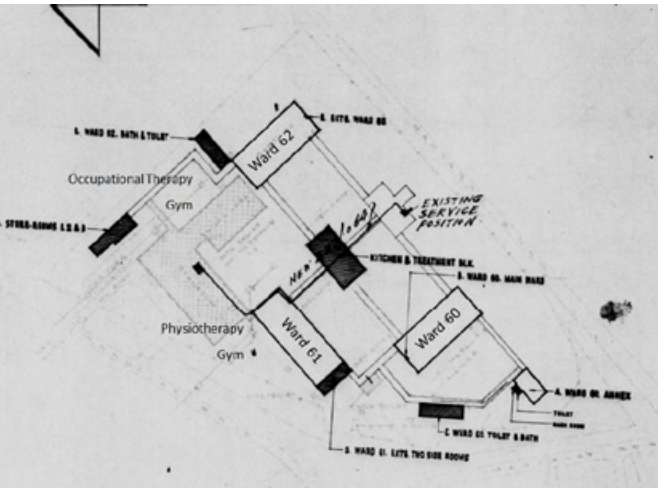


► Patients demonstrating occupational therapy at TTSHRC Opening Ceremony



1973

TTSHRC @ Mandalay Road Before & After



Source: National Archives of Singapore



► Layout Plan of Rehabilitation Centre, Mandalay Road, Public Works Department, Architects' Section, 1972

► Overhead view of the Rehabilitation Centre, Mandalay Road. An international college and a childcare centre occupy the premises now.

► Main Entrance and Ward 61



► Physiotherapy and Occupational Therapy gyms



18 Jun 1973
Official Opening of TTSHRC



► Ward 62



► Ward 60, Central Treatment and Kitchen Block



► Hydrotherapy pool outside Ward 62



1973

The First Year of Operation

In the beginning, there were two rehab wards: Wards 60 and 61, with a combined capacity of 46 beds, with one male ward of 26 beds plus four paying class beds, and one female ward of 16 beds. Patients admitted were suffering from stroke, spinal cord injury, multiple trauma and amputations. In the first year of operations, there were 100 admissions. This tripled the following year in 1974 to 309 admissions.



TTSHRC was managed by a Consultant Rehabilitation Team (CRT) led by the Medical Superintendents of TTSH (Dr JMJ Supramaniam and then Dr Chew Chin Hin). They held weekly to fortnightly conferences at the Centre to review patient progress.



► Dr JMJ Supramaniam and Dr Chew Chin Hin

Nov 1973

Dr Robert Don received training in USA and UK (WHO Fellowship) for 22 months and was appointed senior registrar on his return



► *Group exercise in physiotherapy gym*

The therapists would take turns to bring patients from the wards to the Physiotherapy and Occupational Therapy Gyms. A weekly re-evaluation of all the inpatients was conducted in the gymnasium by the Rehabilitation Team.

In November 1973, Dr Don, returning from his World Health Organization Fellowship, was appointed as the Senior Registrar of the Centre.

“

Sister Yap was very dedicated to her work, supervised us junior nurses closely, and often went home late. Her husband and children would be waiting for her at home.

Sister Mai Yong Hoe

“

I was tasked to start rehab at TTSH at Mandalay Road. During those years, we didn't have any high-tech equipment. Everything required physical strength, us using our bodies, our arms, our legs, and even our minds; to work with our patients, so they attained the goals that we set out with them, for them. Everything that we did, we did for our patients.

Geraldine Teo

The first Nursing Officer was Sister Yap Toh Kah.



► *Sister Yap Toh Kah (rightmost)*



Mrs Deby Sarajiyu Palakrishnan, fondly known as Mrs Pala, was the first medical social worker (MSW) at TTSHRC.



► *Ms Geraldine Teo (first from left) and Mrs Pala (second from left)*



1974

Dr Robert Don was soon joined by Dr Tan Eng Seng in 1974, who received training from Australia.

TTSHRC treated many patients with stroke, head injury, multiple trauma, amputation, rheumatological and other neurological conditions since its inception. There were also paediatric patients with congenital or acquired diseases and injuries.

The Disability and Rehabilitation Profiles was introduced for patients on admission and at discharge. These findings were recorded in the Rehabilitation Medicine Case Record (the Rehabilitation Card).



Weekly clinics were conducted for follow-up of patients with spinal cord injury and stroke at TTSH Rotary Clinic. The doctors of TTSHRC also attended the Amputee Clinic at SGH fortnightly with the orthopaedic surgeons.



► Former patient Alan Ho demonstrating advanced wheelchair skills coming down the stairs.



Sports for the disabled were encouraged since 1974. Two meets were held by the Society for Aids to the Paralysed and Singapore Sports Council for the Disabled. The Australian Paraplegic Sports Team also visited the centre in 1974 and 1975 after they attended the Stoke Mandeville International Games (the predecessor of the Paralympic Games) in the United Kingdom.



“

The outdoor space was very big in Mandalay and the patients could have games like basketball. They didn't behave like patients – we were more like a chalet!

Sister Mai Yong Hoe

1 Jun 1974

Dr Tan Eng Seng received training in Australia (under Dr Bruce Ford) and returned

8 Jul 1974

A third ward, Ward 62, was opened, increasing the inpatient capacity to 82

1974

A disability classification system was introduced: the Disability and Rehabilitation Profiles

2 Aug 1974

The Australian Paraplegic Sports Team led by Dr John Yeo visited the Centre

Dr Tan was promoted to Senior Registrar in October 1975. The Department of Rehabilitation Medicine (DRM) was officially formed in 1975, as stated in the annual report: "The Rehabilitation Centre, in 1975 became known as the Department of Rehabilitation Medicine". This signified the beginning of the first Department of Rehabilitation Medicine in Singapore.



► A Stryker Circo electric bed in the 1970s. This permits turning the spinal cord injured patient without his or her assistance. Other equipment purchased included an electric wheelchair with chin and hand controls.

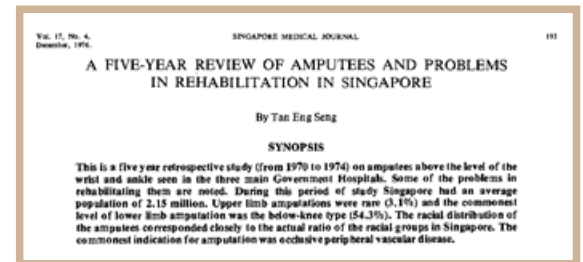
► Minister of Health, Dr Toh Chin Chye, visited the centre in August 1975. Dr Robert Don brought the entourage around TTSHRC.



► TTSHRC received many international visitors, including nurses from Japan.

On 2-7 November 1975, the 5th Pan Pacific Conference of the International Society for Rehabilitation of the Disabled was held in Singapore Conference Hall. Dr Robert Don was Ministry of Health's representative on the organising committee and co-chaired the Industrial Rehabilitation Workshop.

Prof N Balachandran was chairman of the Paraplegic/Prosthetic Workshop, in which six papers were presented by senior staff of TTSHRC. The Department also hosted two visits for the conference delegates with special interests in industrial rehabilitation and planning for rehabilitation centres.



► Dr Tan Eng Seng's presentation

“

I was a junior MSW presenting at this international conference, and was asked by a foreign delegate what my role was at TTSHRC. My answer was that it was not necessary we must be seen doing something all the time. Our presence provided a lot of comfort for the patients.

Mrs Pala

1975

The Department of Rehabilitation Medicine (DRM) was officially formed

31 July 1975

The Australian Paraplegic Sports Team led by Dr John Grant, revisited the Centre on 31 July 1975

Aug 1975

Minister of Health, Dr Toh Chin Chye visited TTSHRC

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Dr Don and Dr Tan attended Prosthetics & Orthotics clinics at SGH on Fridays.

Dr Preima Doraisamy joined the department as a medical officer. She was awarded a Commonwealth Fellowship in Rehabilitation Medicine and went to the United Kingdom from October 1978 to September 1980. She was promoted to Registrar in Rehabilitation Medicine on her return.

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Dr Don was promoted to Physician (Rehabilitation Medicine) and Head of Department in December 1977. He also formed the Department of Rehabilitation Medicine at SGH and was appointed as the Administrative Head in the same year and spent most afternoons there.

Dr Tan was promoted to Acting Physician (Rehabilitation Medicine).

TTSHRC received spinal injured patients directly from the hospital Emergency Department from September 1977, modelled on the practice of Australian Spinal Injury Units.



Christmas party in the 1970s ◀

Dec. 1977

Dr. Robert G Don was promoted to the Head of Department (HOD) of Rehabilitation Medicine

1978

Dr Tan ES was promoted to Physician. Dr Robert Don and Dr Tan ES attended the Rheumatology and Cerebral Palsy clinics at SGH

Dr Don and Dr Tan attended Cardiac Rehabilitation Clinic, Combined Rheumatology Clinic, Cerebral Palsy Clinic and Haemophiliac – Rehabilitation Clinic at DRM SGH.

Ms Geraldine Teo and Mrs Daisy Seet were awarded the Efficiency Medal on National Day, the first time in ancillary service of the Ministry of Health.

Assessment of neurogenic bladder was performed using an air cystometric apparatus, donated by Shaw Foundation.



Hydrotherapy

A donation from Mrs Tjia Sia Tjoe of \$5,000 enabled the Centre to build a hydrotherapy pool in the lawn adjacent to Ward 62, which was completed in September 1980. Paraplegics, tetraplegics, adults and children with debilitating arthritis all benefitted from hydrotherapy.



“

The only swimming pool available for hydrotherapy was located at Alexandra Hospital (AH) before ours was built. Having a pool within our rehab centre saved precious therapy time. The patients always looked forward to their hydrotherapy.

Geraldine Teo

1980

Dr Robert Don and Dr Tan ES flew to Germany for practical training for 3 months

1980

SN Chin Soh Mun left for training in Rehabilitation and Orthopaedic Nursing in Japan

1981

Dr Don resigned from public service, and Dr Tan was appointed as HOD. DRM of TTSH and SGH functioned independently since.

TTSHRC celebrated the United Nation's International Year of the Disabled Persons with public talks, exhibitions and an Open House attended by 1500 school children.



Feb 1981

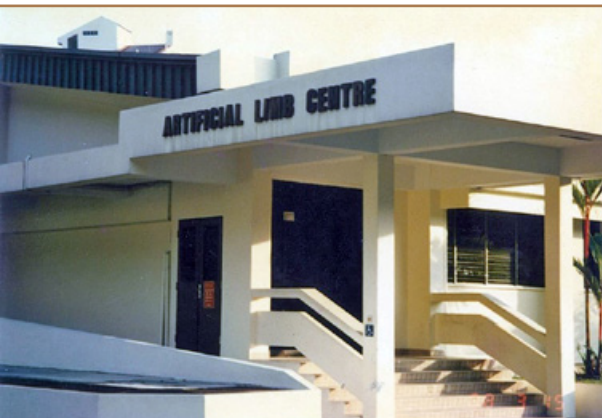
Dr Robert Don resigned as Head of Department. Dr Tan Eng Seng was appointed Head of Department

Sep 1981

TTSHRC celebrated International Year of the Disabled Persons (IYDP)

1981

SN Ng Pak Choo left for training in Rehabilitation and Orthopaedic Nursing in Japan



► Artificial Limb Centre (ALC) in the 1980s



► Opening Ceremony of the Artificial Limb Centre in 1981. Prof Chew Chin Hin, Dato Lee Chee Shan and Datin Lee were at the ceremony.



► ALC also attended to children with lower limb deformities.

TTSH Artificial Limb Centre (ALC) was opened in September 1981, with the Prosthetics and Orthotics Clinic transferred from SGH to TTSH. Weekly amputee clinics were run by Prof Low Yin Peng, Dr Tay Chong Kam (visiting consultant), and Dr Tan Eng Seng.



► Minister for Health, Mr Howe Yoon Chong, visited TTSHRC.



1981
Opening of Artificial Limb Centre (ALC).

1981
Prosthetics and Orthotics Clinic transferred from SGH to TTSH

1981
Visitors from Nagoya Nursing College, Japan and delegates of the 1st Australasian Physiotherapy Congress visited TTSHRC

Grace Ong & William Chan, A Rehab Wedding

Grace Ong has been a patient of TTSHRC since 1978. She sustained a spinal injury from a fallen tree when she was 13 years old. When she was finally able to use the wheelchair three months later, she expressed immense joy in her newfound mobility. After discharge, she was actively involved in wheelchair sports and represented Singapore in various parasport events, including two Paralympics in Seoul 1988 and Barcelona 1992. She continues to be an integral part of TTSH Spinal Support Group (SSG), being the treasurer and actively participating in various SSG programmes.



William was a patient with TTSHRC since the beginning. He lived an active life, was able to drive a modified car and was gainfully employed in the private sector. He was also active in the Spinal Support Group.



“

They really care for us. I always feel that the Rehab doctors, nurses and therapists are more patient. The therapists also help me with my exercises daily.

Grace Ong



“

Mrs Tay (Geraldine Teo) invited me to a Christmas Party, where I met Grace! We married in 1992.

William Chan

Jan 1982

SN Wang Lee Moi left for a nine months course in Rehabilitation and Orthopaedic nursing in Japan

1982

Ms Geraldine Teo and Mrs Daisy Seet were promoted from Grade II to Grade I

1982

Minister for Health, Mr Howe Yoon Chong visited TTSHRC

Nov 1982

Dr Tan ES was elected fellow of ACRM

**THE
SECOND
DECADE:
1983-1992**

CHAPTER

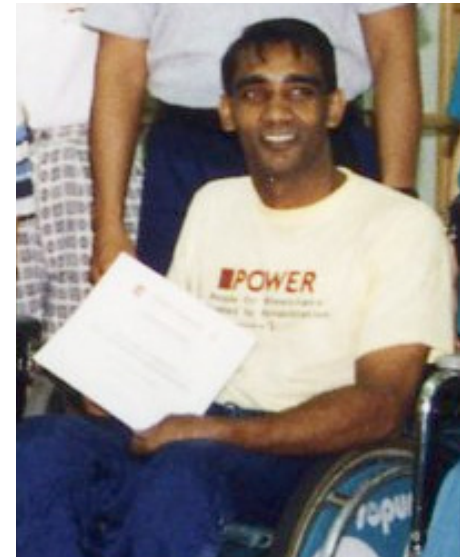
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Raja Singh, founding chairman of Spinal Support Group

In 1983, Mr Raja Singh sustained a spinal cord injury while training for a triathlon. The initial period was emotionally challenging. He was then reassured by the Singapore Armed Forces that they would provide support. He was determined to make an impact and lead a meaningful life. He was involved in wheelchair racing and competed at two Paralympics. He coached the wheelchair racing team in 2006 and returned to hand cycling in the 2014 Asian Para Games. He was appointed as chef de mission at the 2015 ASEAN Para Games in Singapore. He became the founding chairman of Spinal Support Group in 1993. He also co-founded a company providing rehab equipment.



Sep 1983

Dr Tan ES attended the 2nd Western Pacific Cerebral Palsy Association Meeting in Perth, Australia

Sep-Oct 1983

Dr Preima Doraisamy was awarded a one month SEAMIC Travel Research Fellowship

Nov 1983

Dr Tan ES attended the W.H.O. Regional Workshop on National Planning of Rehabilitation and Disability Prevention Programme held in Manila, Philippines

Gilbert Tan, songwriter and mouth painter

Gilbert Tan was an architectural draftsman before his spinal cord injury in 1983. He fractured his neck when he dived into a swimming pool and became a tetraplegic. In his book *HospiTales*, he infused humour in his tough journeys to triumph since his spinal cord injury. He started as a stipendiary with the Mouth and Foot Painters Association (MFPA) in 1989 and was promoted to Associate Member in 1994. He also wrote songs, sang and produced record albums and cassettes. He gave motivational talks to inspire others to face challenges head on in life. Gilbert actively participates in disability support groups, VWOs and volunteers his time to visit and counsel PWDs.



Failure is not an option; To choose to be hardworking, to choose to do something about your situation, to choose to look on the bright side, and take it one step at a time, one day at a time.

Gilbert Tan



Source: St Andrew Mission Hospital website

► Dr Tan and Dr Preima attended weekly meetings at St Andrew's Mission Hospital for Children at Tanjong Pagar.

In 1985, Rehabilitation Medicine was recognised as one of the 32 specialties in the beginning of specialist certification by the Academy of Medicine Singapore (AMS) and School of Graduate Medical Studies NUS.



► Senior Minister of State for Health and Foreign Affairs, Mr Yeo Cheow Tong, visited TTSRHC in April 1985.



18 Jan 1984

Sir George Bedbrook, as the President of International Medical Society of Paraplegia, visited TTSRHC with two eminent professors from the United Kingdom

1984

60 members of the Chiba Prefecture Physically Handicapped Association, Japan, visited TTSRHC

1984

Dr Preima Doraisamy was promoted to Senior Registrar (equivalent to current Associate Consultant)

1986

Sebastian Tan

Sebastian Tan was injured in a rugby union game while representing SAF in 1986 and sustained a cervical cord injury. He spent nine months in hospital, including six months in TTSHRC.

Two years later, he was able to find employment in a taxi company's call centre. He was very motivated to complete his education, studying part time while working full time. From completing certificate and diploma courses, he eventually graduated from the University of Western Australia with a Bachelor of Business Administration in 2006. He also started his own business supplying equipment for the disabled.



► Sebastian (centre left), with other spinal cord injured patients, in TTSHRC in 1986



Paediatric Rehabilitation

Even before the official opening of TTSHRC, rehabilitation for children was provided for by various organisations including Mandalay Road Hospital. The centre continued to cater for paediatric patients requiring rehabilitation for various causes.



Jun 1985

The occupational therapy service for medical and surgical departments in TTSH was transferred to DRM. This service mainly dealt with hand rehabilitation

Jul 1985

Ms Geraldine Teo took part in a symposium on "Interdisciplinary Approach to Rehabilitative Day Care of the Elderly" organised by Apex Day Care Centre

Oliver Hu, youngest patient of TTSHRC

In 1986, TTSHRC received its youngest patient, Oliver Hu. At just 13 months old, Oliver suffered a brain tumour that required urgent surgery. The post-op recovery period was stormy. By the time Oliver was discharged home, he was emaciated, entirely bedbound and also visually impaired. He was accepted for outpatient therapy at TTSHRC.

*Oliver Hu (3rd from the left) with his parents Mr and Mrs Hu. ◀
Dr Alfred Seng (rightmost) is part of the editorial team.*



Mrs Geraldine Tay and occupational therapist Ms Lau Cheng Mun adapted their adult techniques to stretch out his tight back muscles and painful joints. After six months, he began to sit and walked with a walking frame. The walking frame was loaned to Oliver for him to prance around his home on weekends. His parents marvelled at his tremendous recovery, and deeply appreciated the role TTSHRC played in helping Oliver regain a normal childhood. Today, Oliver holds a diploma in hotel management and is a proud father to his beautiful daughter, Deborah.



“

I would drop Oliver every morning 9am at TTSHRC. It was somewhat like a childcare centre. Geraldine would even cook for Oliver.

Mrs Hu

Feb 1986

Dr Tan ES attended the 5th World Congress of International Rehabilitation Medicine held in Manila, Philippines

Feb 1986

Professor Don A Olsen, President of the American Congress of Physical Medicine and Rehabilitation, led a team of rehabilitation experts to visit the centre

Jun 1986

Dr Preima attended the International Medical Society of Paraplegia's Annual Scientific Meeting in Scandinavia

Spinal Urology in TTSHRC

The first urodynamic device, Urodyn 5000, was purchased in November 1987. The first rehab physicians and geriatricians were trained by urologists in performing these tests. By 1990, 279 of these tests were performed.

Before 1987, persons with spinal cord injury could only choose an indwelling catheter (IDC) or the bladder compression method to empty the bladder. Intermittent catheterization (IMC) of the bladder was introduced in July 1987, reducing the rate of bladder accidents in public and urinary tract infections.



► Setup of urodynamic studies at TTSHRC



► Prof Philip Choo (back row, 6th from left), Group Chief Executive Officer NHG, was posted to DRM as a geriatric registrar until November 1987.

“

I recall that inserting an indwelling catheter or compressing my bladder manually were the only options in the beginning. We frequently soiled our bedsheets as we had no diapers then.

Grace Ong



► Organising Chairman, Dr Tan Eng Seng, presenting a token of appreciation to Prof Foo Keong Tatt, Father of Urology in Singapore.



On 24-25 February 1990, DRM co-organised a workshop with Department of Surgery, Toa Payoh Hospital, and Singapore Urological Association on 'Bladder Dysfunction, Infertility and Sexual Dysfunction in Paraplegics'.

Jul 1986

Dr Preima attended the International Society of Prosthetics and Orthotics 5th World Congress in Copenhagen, Denmark

Aug 1986

Mr Peter Edmund, Secretary of the Royal College of Surgeons, Edinburgh, visited TTSHRC in August 1986

Dec 1987

Dr Ng Yau Yung, Chief of Geriatrics Department in Princess Margaret Hospital, Hong Kong, visited the department

Anterior sacral root stimulator implantation, for augmenting micturition without suprapubic tapping and compression, was introduced to Singapore by Dr Timothy Lee, neurosurgeon of the National University Hospital, and implanted in three spinal injured patients of TTSHRC in 1991.

Group photo of TTSHRC staff in the early 1990s ◀



Minister of Health and Community Development Mr Yeo Cheow Tong visited TTSHRC during the restructuring of TTSH.



1989

Dr Edward Menon joined DRM as Registrar in 1989

1989

Dr Pang Weng Sun and Dr Chan Kin Ming, geriatric registrars, were attached to DRM for three months

1991

Dr Peter Lim joined the department as senior registrar

DRM recruited two advanced trainees in rehab medicine, Dr Kong Keng He and Dr Chan Kay Fei. Their third year of training comprised 12 months in a subspecialty of their choice overseas.



► Dr Tan Eng Seng at ward rounds, with Dr Chan Kay Fei as the registrar.



► Dr Chan Kay Fei (left) and Dr Kong Keng He having work discussions in the Doctors' Room



1992

An orthotic splinting service and an alternative communication programme for aphasia using a computer were introduced



► Brother Azahary with ward nurses in Ward 61

1992

TTSHRC staff provided teaching to nursing and allied health students at Nanyang Polytechnic after it was established in 1992

THE THIRD DECADE: 1993-2002

CHAPTER

4



TTSHRC 20th Anniversary

The 20th Anniversary was celebrated in TTSHRC in May 1993, with guests-of-honour Datin Lee, wife of our benefactor Dato Lee; and Prof Feng Pao Hsü, Chairman Medical Board of TTSH. A two-week open house and a public forum on "Stroke Management at Home" was organised.



Apr 1993

Dr Peter Lim left the department and returned to Texas, USA

May 1993

Dr Tan ES became a foundation fellow of AFRM

Adios Mandalay, Ang Mo Kio Here We Come - The Last Christmas Party

TTSHRC celebrated its last Christmas in Mandalay Road with Datin Lee dressed as Santarina. Patients and staff gathered in the physiotherapy gym for an afternoon of food, songs and games.

Mr and Mrs Santa Claus gave a surprise visit from the North Pole ◀



Jul 1993

A/Prof Robert Oakeshott, Director of Royal Rehabilitation Centre of Sydney, visited as Health Manpower Development Programme (HMDP) Expert

Nov 1993

Dr William Chan joined DRM in November 1993

1993

The Sakura Groomers

The Sakura Groomers are volunteers from The Japanese Association Singapore. Since 1993, these wonderful ladies would offer grooming services to our inpatients every Tuesday morning. With a few basic tools, they work their magic on our patients, even if they are bedbound. Over three decades, they bring joy to and uplift the spirits of our patients.



► The Sakura Groomers were presented the “Most Admirable Friend of TTSHRC Award” during the 35th Anniversary Dinner.

1993

Two more advanced trainees, Dr Karen Chua and Dr Adela Tow, joined the department

1993

Mrs Khaw Bee Hiang was appointed as AHP Manager

Spinal Support Group (SSG)

SSG started in 1993 for former patients to connect with the newly injured. The members forged close bonds and organised their own outings including road trips to Malaysia.



“

In 1993, a group of staff and spinal cord injured came forward to form a group, whose main function was to provide moral support to the newly injured, and to educate and provide social opportunities for the spinal cord injured.

Dr Adela Tow

Senior Consultant, Rehab Medicine



► SSG Breakaway Camp



► SSG member providing befriending services

1993

Ultrasound measure of residue urine introduced

1993

Dr Pandora Aung Gyi, WHO fellow from Myanmar, spent six months in the department

Dr William Chan was appointed as Acting Head of Department in April, confirmed in July, and also appointed Administrator for TTSHRC in September.

The ward-based multi-disciplinary rehabilitation teams were reorganised to diagnostic group-based inter-disciplinary teams. The initial three teams were: Spinal Injury Rehabilitation, Stroke Rehabilitation, Head Injury & Orthopaedic Rehabilitation.



▶ ANC Yap Yen Mui (2nd from left)



▶ NO Lee Chin Lan (centre), SAN Doreen Oh behind Sr Lee



▶ Sr Mai Yong Hoe

Moving To Ang Mo Kio Community Hospital (AMKCH)

TTSHRC was relocated to AMKCH with 98 beds, specialist outpatient clinics and a large team-based gymnasium. The historic move took place on Saturday, 30 April 1994. Staff and volunteers spent the morning loading and unloading boxes, equipment and furniture. The move was effected smoothly by Sister Lee Chin Lan, Sister Teo Poh Neo, Sister Magdalene Lim and AHP Manager Mrs Khaw Bee Hiang.



This is a special place for me. I started nursing here, and now, I close here as well.

NO Lee Chin Lan,
former rehab nursing officer



1994

DRM Specialist Outpatient Clinic (SOC) was moved from the Rotary Clinic (SOC D) to TTSHRC

Jul 1994

Dr Kong Keng He left for one year HMDP fellowship in Houston, Texas, USA

Oct 1994

Prof Trilok Monga, Baylor College of Medicine, Texas, USA, invited as HMDP Visiting Expert, advising MOH on the development of Stroke Rehabilitation in Singapore



► ... and the new sign goes up.



► “Easy does it!” – a patient arrives at the new location



► “... and all this goes into the other room...”



TTSHRC at Mandalay became the new Staff Recreation Centre. I enjoyed learning taichi there. We organised a Spinal Support Group gathering there but had to carry some wheelchair persons up the newly-installed steps into the building. Accessibility for people with disabilities wasn't on many people's minds back then. We have come a long way since.

Dr William Chan

1994

TTSHRC introduced the Modified Barthel Index (MBI) by Shah

1994

TTSHRC participated in the TTSH Second Annual Scientific Meeting, conducting a 1.5-day Rehabilitation Workshop and a half-day public forum

1994

DRM initiated collaborations with other TTSH departments for hip fracture and spinal injuries

► First Chinese New Year celebrations in 1995, after moving to AMKCH



Feb 1995

Dr Chan Kay Fei left for a one-year HMDP fellowship in Houston, Texas

Spasticity Service

TTSHRC Spasticity Service started in 1995 by Dr Kong Keng He, using botulinum toxin and alcohol injections. The service involved therapists and nurses with serial casting.

This service is now a full-fledged programme with a multi-disciplinary team. The Spasticity Clinic is equipped with a nerve stimulator and ultrasound equipment, which enhance the precision of nerve and motor point injections.



We used the most basic materials to generate solutions for our patients. For example, we used therapy putty to fabricate a toe spreader to manage toe clawing.

A/Prof Wee Seng Kwee, Senior Principal Physiotherapist



Jul 1995

The Department published its inaugural newsletter, Rehab POST

DRM took over the coordination and management of the multi-disciplinary Pain Clinic in SOC D from the Department of Anaesthesiology in April 1995. Acupuncture was provided at the Pain Clinic by a therapy assistant who was trained in TCM acupuncture.



► A hospital symposium on the “Comprehensive Management of the Lower Limb Amputees Towards the 21st Century” was organised on 20 August 1995.

1995

DRM partnered with TTSH urologists in the setting up of the Spinal Urology Clinic

The department collaborated with urologists Dr Tan Peng Kok and Dr David Consigliere to start the Spinal Urology clinic to treat neurogenic bladder and male fertility.



Dr Tan Peng Kok performing a renal ultrasound for a patient in the Spinal Urology Clinic



► *Br Zing demonstrating technique of intermittent catheterisation*



- *On 5 November 1995, DRM supported TTSH urologists in hosting HMDP expert Dr David G Thomas for training of spinal urology, and a public forum on "Coping with Spinal Injury" at the Society for Aid to the Paralysed.*



1995

Speech therapists collaborated with AMKCH in-house radiologists to perform the first videofluoroscopy for the assessment of swallowing in TTSHRC

Kelvin Aik

Kelvin Aik became paraplegic since a road traffic accident in the 1990s. He regained independence in daily activities and advanced wheelchair skills in TTSHRC. He was determined to complete his education and learnt to navigate stairs daily from his non-lift landing flat. He is married with a son, holds a senior management role in a telco company, and drives a modified car to work daily. He also represented Singapore as a parachooter in the 2005 ASEAN Para Games.



“

My days spent at TTSH Rehab were very memorable. The therapists played a very important role in my road to recovery. It built the foundation and prepared me physically to integrate back into society.

Kelvin Aik

The Head Injury Monitoring Room (HIMR) was completed by second quarter of 1996. Agitated patients were managed in this safe and quiet environment. The Westmead Post Traumatic Amnesia Scale was also introduced.

Head Injury Support Group

The Head Injury Support Group began in 1996, with AHPs, neurosurgeons and rehab physicians from NUH, SGH and TTSH. The group organised talks to support survivors of head injury and their caregivers.



POWER Programme

TTSH started a special community programme called People on Wheelchairs Enabled by Rehabilitation (POWER). It highlighted the capabilities and needs of the disabled, and the role of support groups and services available in Singapore. It also raised funds to assist the disabled and needy patients of TTSH. The event was held on 21 April 1996, with Minister for Health and Minister for Information and the Arts BG(NS) George Yeo as the Guest-of-Honour. The 1000-km ultra-wheelathon from Singapore to Penang was completed by Dr William Tan, renowned wheelchair athlete, with the support of volunteer cyclists and a medical contingency team.



The basic idea was to portray an individual with disability that is active. The initial logo was done in burgundy that represents the institution. The design was slanted for that “active” look. What stood out for me at POWER was the camaraderie among staff and volunteers. People with disabilities were very determined and they all had a “Never-give-up” attitude.

M Azahary M Arif

Nursing Officer, Designer of POWER logo

Jan-Feb 1996

DRM received one doctor from Malaysia for fellowship training

Apr 1996

HMDP expert Prof Lindsay McLellan visited DRM (Head Injury Rehabilitation) for two weeks

Aug 1996

HMDP expert Dr Peter Edmond visited DRM (Spinal Injury Rehabilitation) for two weeks



► Prof. Balachandran and his wife attending the opening ceremony.



► Minister for Health and Minister for Information and the Arts BG(NS) George Yeo at the flag-off.

Aug 1996

Dr Adela Tow left for a 15-month fellowship in Houston, Texas, USA (Spinal Injury Rehabilitation and Acupuncture)

Oct 1996

DRM received two doctors from Myanmar for WHO Fellowship in Rehabilitation Medicine



A public forum on Spinal Injury Prevention and Rehabilitation was held on 28 April 1996 at the Singapore Marriott Hotel. Mr Fabian Blattman, senior lecturer for the Spinesafe Programme in Sydney, Australia, shared his experience on spinal injury prevention. He also visited schools, spreading the same message.

Substantial funds were raised for the TTS 150th Anniversary Charity Fund, which benefitted needy patients who required equipment such as wheelchairs and prostheses.



**残疾人受益新方法：
脊椎植晶片，解决尿失禁困扰**

谢高燕 报道

在残疾人中，有约百分之二十的人，患有尿失禁。过去，他们只能通过药物治疗，但效果不佳。最近，一种新的治疗方法——脊椎植晶片，为这些人带来了福音。这种手术是由神经外科医生谢高燕主持的。她指出，这种手术的成功率很高，而且不会给患者带来太大的痛苦。许多患者在接受手术后，尿失禁的症状得到了明显的改善。这不仅提高了他们的生活质量，也减轻了家庭的负担。谢医生表示，她将继续努力，为更多有需要的患者提供先进的医疗技术。

林述祖医生说，在残疾人中，尿失禁是一种常见的并发症。过去，他们只能通过药物治疗，但效果不佳。最近，一种新的治疗方法——脊椎植晶片，为这些人带来了福音。这种手术是由神经外科医生林述祖主持的。他指出，这种手术的成功率很高，而且不会给患者带来太大的痛苦。许多患者在接受手术后，尿失禁的症状得到了明显的改善。这不仅提高了他们的生活质量，也减轻了家庭的负担。林医生表示，他将继续努力，为更多有需要的患者提供先进的医疗技术。

“

I underwent an operation in 1993 for inserting the Anterior Sacral Nerve Stimulator for my bladder control. The surgery was performed by Dr Timothy Lee, Neurosurgeon of NUH.

Sebastian Tan

▶ A local chinese newspaper featured the POWER 1996 public forum, which DRM collaborated with NUH Division of Neurosurgery, TTS 150th Anniversary Charity Fund, and SGH Department of Hand Surgery to present the state-of-the-art surgical management for tetraplegia.

1996
Mdm Sim Teck Meh was appointed as Rehab Nursing Officer

1996
TTS150th Anniversary Charity Fund began to use the American Spinal Injury Association (ASIA) Impairment Scale for SCI inpatients

Salimah Ishak

Salimah Ishak had transverse myelitis in 1993, causing tetraplegia. During occupational therapy, she picked up extra skills such as computing. It was extremely tough at first and Salimah was unable to communicate using sign language with her hearing-impaired mother. They relied on lip reading entirely until she regained some hand function to sign again.



Salimah completed 'N' Levels for English and Mathematics. She received further training and was employed as a graphic designer. Despite her physical challenges, she is able to support her family including two young sons. Although every milestone she achieved was built on much effort and tears, her mother's can-do spirit and support strongly influenced her decision to explore open employment.



Hospital aid for disabled girl



Salimah trying out an electric wheelchair with help from her occupational therapist, Ms Connie Goh.

“

I was very depressed in the beginning and cried daily. What made the difference was the uplifting gym environment, where my therapists were like family and showered me with warmth and motivated me to press on.

Salimah Ishak

“

I have always dealt with the challenges that life has handed me by focusing on what I can do. This reinforces my sense of control. I see every failure as an opportunity to learn and to do better next time.

Salimah Ishak

- ▶ Salimah was the first recipient of TTSH 150th Anniversary Charity Fund, which allowed her to purchase medical equipment.



1996

New multi-disciplinary rounds were conducted with Neurosurgery, Orthopaedic Surgery, Neurology and Rheumatology

1996

A new Multi-Disciplinary Musculoskeletal (MSK) Clinic was opened in Rotary Clinic SOC D in collaboration with the Department of Orthopaedic Surgery, Neurosurgery and Clinical Support Services



Singapore National Stroke Association
 c/o Brain & Spine Centre,
 32 Jalan Tan Tock Seng, Singapore 308434
 Tel: 3596 020 Fax: 2564 755

Singapore National Stroke Association (SNSA)

Dr William Chan joined the pro tem committee for the formation of SNSA in 1996, which supports stroke survivors in the hospitals and the community. DRM doctors remain active in SNSA as EXCO members. TTSHRC staff also conducts the Stroke Self-Management Programme initiated by SNSA.



1st STROKE awareness Week
 1st to 20th March 1998
 Public Forums were held during the weekends at the four

► The first Stroke Awareness Week in 1998 organised by SNSA was held in TTSH auditorium. Several SNSA activities also took place in TTSHRC gym.



TTSHRC staff attending Step Out for Stroke, organised by SNSA in 2017



► Mdm Sim Teck Meh, (front row, right)

Madam Sim Teck Meh, Senior Nursing Officer / Ops Manager, 1996-2012

Mdm Sim was posted to TTSHRC as the senior Nursing Officer, managing the rehab ward and SOC. She became the Ops Manager for TTSHRC when Sr Patma was appointed as UNO.



There were challenging moments when patients refused to go home and had unrealistic expectations. We started intervention early to manage their expectations and care needs. We had many parties as one big family. The important thing is to appreciate people and build relationships. We should keep this culture alive.

Mdm Sim Teck Meh

1996
 Inpatient days increased to over 30,000

1996
 Outpatient attendances doubled from 1992 to 1996

1997

POWER 1997 was launched on 13 July 1997 at East Coast Park. It comprised two activities: a three-island six-day canoeing expedition (called POWERthon) from Singapore to Batam and Bintan, and a POWER Carnival.



► DRM started electro-diagnostic services (electromyography, nerve conduction studies) from May 1997.



► TTSHRC received the highest number of 'Caring Awards' in 1997, including a 'Team Caring Award'



Jan 1997

Dr Karen Chua left for a one-year HMDP at Houston, Texas, USA for brain injury rehabilitation

1997

A new Spine Clinic was opened in SOC D in collaboration with Departments of Orthopaedic Surgery and Neurosurgery. DRM consultants conducted two of the five daily sessions

1998

Dr William Chan was appointed Chairman of the Rehabilitation Medicine Specialist Training Committee (RM STC) from 1998 to 2004. The RM STC introduced a Structured Training Curriculum and Objective Standardised Clinical Examination as part of the final exit assessment for all trainees.

In January 1998, HMDP Visiting Expert Prof Susan Langmore gave a workshop on Fibreoptic Endoscopic Evaluation of Swallowing (FEES) to TTSH speech therapists. TTSH Rehab STs then collaborated with our ENT surgeons to start a FEES service at main TTSH and TTSHRC.

Dysphagia Table during mealtimes also began as an intervention for patients with stroke or acquired brain injury with difficulty swallowing. The guided strategies and supervised practice provided a safe progression of swallowing rehabilitation.



“

Dr Ravi Seshadri, ENT surgeon, supported my paper to the medical board requesting ST to perform FEES. The disinfection tubing was the brainchild of Mrs Sarah Wallace's husband (Andy) over drinks one night after work. He bought the materials from a hardware stall in Balestier Road.

Phua Sin Yong

former Head of Speech Therapy

Jan 1998

Dr Yen Hwee Ling left for a one-year HMDP fellowship at Sydney, Australia for neurorehabilitation and acupuncture

1998

In February 1998, HMDP Visiting Expert Prof James House, Hand Surgeon, was invited by SGH hand surgeon Dr David Khoo and DRM to speak at a seminar “Care of the Hand in the Disabled”. Dr David Khoo contributed to the development of tendon transfer surgery for persons with neurological diseases and injuries. Tendon transfer procedures were explored with hand surgeons from NUH and SGH.



“

I received tendon transfer surgery for my upper limbs by Dr David Khoo and Dr Yong Fok Chuan in the late 1990s. This improved my upper limb functions and allowed me to be more independent in my daily activities. I was eventually able to drive a modified car and continue open employment.

Sebastian Tan

A ‘Spinal Cord Injury’ seminar was held on 28 March 1998 with HMDP visiting experts from Kessler Institute of Rehabilitation, New Jersey, USA. Rehab physiotherapist Elaine Koh invited Ms Sue Kida, Director of Rehab Services at Kessler, and colleagues to speak on their parawalk programme for patients with spinal cord injury.



10-13 Dec 1998

TTSHRC attended the 1st ASEAN Rehabilitation Medicine Association Congress in Chiang Mai, Thailand



► Various activities in TTSHRC in the 1990s

1998

Br Zing Mee Seng was appointed as TTSHRC Unit Nursing Manager

1998



► Dr Luisa Lee, TTSH CEO, presented a token of appreciation to Mrs Winnie Tan, who sponsored the event.



TTSHRC 25th Anniversary

On 12 Sep 1998, TTSHRC celebrated its 25th Anniversary. Together with Anderson Junior College, a telematch involving TTSHRC staff, former patients with family members, members of SNSA and Handicaps Welfare Association, and AJC students was organized.



► Three teams (Green, Blue, Yellow) comprising AJC students, TTSHRC staff and former patients pitted against each other at wheelchair basketball matches held in the outdoor court

1998

An additional Stroke Rehab team was formed



► TTSHRC colleagues attended the 1st ASEAN Rehabilitation Medicine Association Congress in Chiangmai, Thailand.



► Dr Sherry Young (2nd from right) joined DRM and led the new stroke team.



► "Dr Krisna Piravej, rehab physician from Chulalongkorn University, Bangkok, visited TTSHRC.

1998

Dr William Chan was founding vice president of the ASEAN Rehabilitation Medicine Association

Weekly multidisciplinary Amputee Rounds started in January, involving Department of Orthopaedic Surgery, Department of General Surgery, Department of Rehabilitation Medicine, wound nurses and AHP colleagues.

In April, DRM collaborated with various departments to co-manage patients requiring rehabilitation services at the new TTSH building. This service managed patients who only required short period of inpatient rehabilitation to reach their goals before discharge.

► TTSHRC team with the new TTSH logo



Apr-Jul 1999

Dr Kong Keng He was awarded the TTSH Training Grant to attend an Introductory Course in Acupuncture, in Beijing, China

Oct 1999

DRM started providing consultant coverage for the new Division of Rehab Medicine at NUH (12 hours per week)

1999

A new UDS machine was commissioned

2000

In preparation for the Development Planning Committee (DPC) paper for the design of the new TTSHRC, Dr William Chan, Mdm Sim Teck Meh (Unit NO), Mr Loke Swee Onn (AHP Manager Rehab Centre), Mr Peter Tan (Commissioning Secretariat Manager) and staff from CPG Corporation visited several rehabilitation centres in Europe and USA.

Lo Hei with Mrs Ruby Lai, CPG senior architect (far right) ◀



▶ Rehaklinik Bellikon and Suva Rehabilitation Centre in Switzerland



▶ Neurologisches Rehabilitations-Zentrum Leipzig, Germany



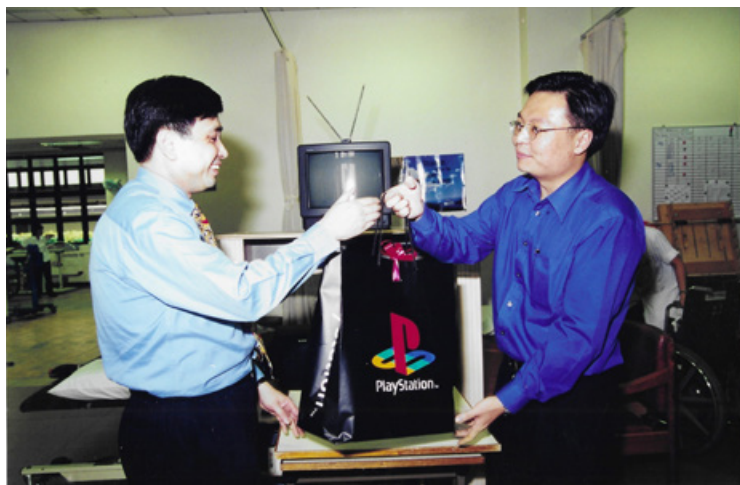
▶ Spaulding Rehabilitation, Boston, USA

2000

Dr Yap Eng Ching left for one-year HMDP fellowship in Houston, USA for musculoskeletal rehabilitation

Aug 2000

Dr Karen Chua awarded a TTSH Training Grant to attend an Introductory Course in Acupuncture, in Beijing, China



▶ TTSHRC received the donation of a gaming console from Sony on 18 Aug 2000.



▶ DRM organised an Acupuncture course in TTSH on 5 Aug 2000, attended by specialists and GPs.

2000

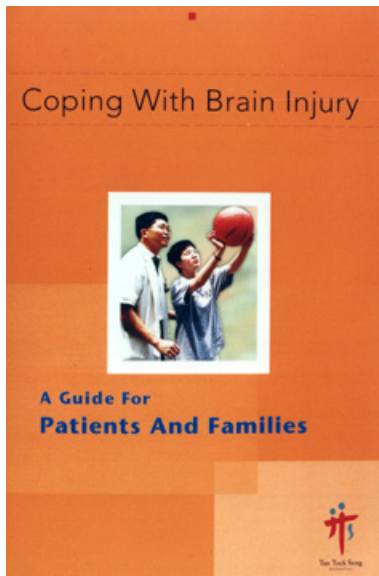
DRM started teaching third-year NUS medical students as part of their Community Medicine rotation

2000

Medical acupuncture was established in 2000 in TTSH as an adjunct therapy for patients with pain and neurological conditions

TTSH formed the Complementary Integrative Medicine (CIM) Clinic in the new TTSH Medical Centre. Four of the DRM consultants with TCM acupuncture accreditation provided services in this clinic.

A full-time rehab medicine inpatient service (RCE) commenced with a consultant and medical officer on-site in new TTSH in September 2001.



► 'Coping with Brain Injury – A Guide for Patients and Families' was launched on 22 August 2001 at TTSH Theatre. This guidebook has 16 chapters that comprehensively covers rehabilitation and living well after a brain injury.



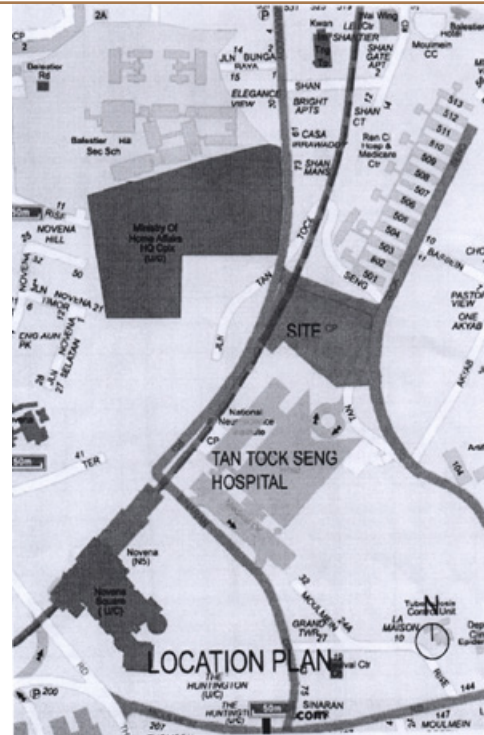
► Sr Tan Mui Lee, Rehab Nurse Clinician (centre right)

Apr 2002
Neuro-Rehab Unit at NNI was formed

2002
The department was accredited by AFRM (RACP) for three training posts for AFRM trainees



▶ CIM deployed a TCM acupuncturist to provide inpatient acupuncture service at TTSHRC.



▶ TTSH prepared a Development Planning Committee (DPC) paper for Ministry of Health and Ministry of Finance on the building of the new rehabilitation centre, co-locating with the new CDC. This was the site of the new rehab centre proposed in the DPC paper.



▶ In Feb 2002, Dr William Chan attended an Australian Clinical Practice Improvement Programme (CPIP) workshop and became a local faculty member.

2002

Dr Kong Keng He and Dr Karen Chua voted as Best Teachers (Senior Doctors, Division of Medicine)

2002

By 2002, inpatient days reached a record of 39,413 patient days. Outpatient attendances reached a total of 9,077

**THE
FOURTH
DECADE:
2003-2012**

CHAPTER

5



During the SARS outbreak in February to June 2003, DRM deployed a medical officer to the SARS wards. The SARS outbreak led to the rethinking of the requirements of the new CDC. The DPC plan of 2002 for the new TTSHRC to be co-located with the new CDC was therefore put on hold.

Dr Kong Keng He was appointed HOD on 1 July 2003 to 30 June 2006.



► TTSHRC team conducted training at Laos National Rehab Centre in 2004, 2005 and 2006. This was a Singapore International Foundation funded tie-up with Laos.

Community Rehabilitation Programme (CRP)

CRP was a charity-funded programme initiated in 1998 at Mount Alvernia Hospital which was later transferred to TTSHRC in 2004. The island-wide programme provides home therapy for patients with limited access to day rehabilitation services. CRP therapists and nurses practise the trans-disciplinary care model, learning different skills from each other for wound care, nasogastric tube (NGT) care, and training in daily activities.



“

At TTSHRC, rehabilitation extends beyond hospitalization. Regular outings, community sports and overnight camps engage patients and family members to be active partners in their own rehab programme.

Dr Chin Lay Fong

Principal Physiotherapist

2003

Sr K. Patmavali was appointed as TTSHRC Unit Nursing Manager

2003

TTSHRC commenced training on the use of Functional Independence Measure (FIM)

Feb 2004

A Fibromyalgia Wellness programme was piloted by Dr Adela Tow

May-Sep 2004

DRM provided inpatient rehab service in Alexandra Hospital

TTSH rehab specialists began to provide consultancy services to National University Hospital, AMKCH, Bright Vision Hospital, St Luke's Hospital and SWAMI Home.

Dr Kong Keng He was invited as an external examiner for University of Malaya Master of Rehabilitation Medicine exam.

Dr Chan Kay Fei was appointed Acting HOD on 1 July 2006 and HOD on 1 July 2007.

Dr Kong Keng He was appointed HOD of the hospital's Complementary and Integrative Medicine Department from 1 July 2006.

Dr Karen Chua collaborated with neurosurgeons from National Neuroscience Institute, Singapore, to start intrathecal baclofen (ITB) treatment for patients with severe spasticity. Five patients receiving this treatment achieved long-term reduction in spasticity with gains in function.



Aaron Yeo, mouth painter extraordinaire

Aaron Yeo became tetraplegic after a road traffic accident in 2006. He was introduced to mouth painting by Gilbert Tan, and through painting, he discovered a hidden talent. He was a scholarship holder of The Association of Mouth and Foot Painting Artists of the World in 2009. In 2015, he represented Singapore in wheelchair table tennis at the ASEAN Para Games, and clinched a gold in the men's team Class 1-2 and a silver in the men's singles Class 1 event.



“

TTSH Rehab helped me gain confidence to integrate back to society and to achieve what I thought was impossible after a spinal cord injury.

Aaron Yeo

Oct 2004

HMDP Visiting Expert Dr Andrew Fisher (Musculoskeletal Rehab) visited the centre

2004

Dr Kong Keng He was appointed as chairman of Rehab Medicine Specialist Training Committee

2004

TTSHRC was accredited in the use of the Functional Independence Measure (FIM) as a globally recognized functional outcome measure

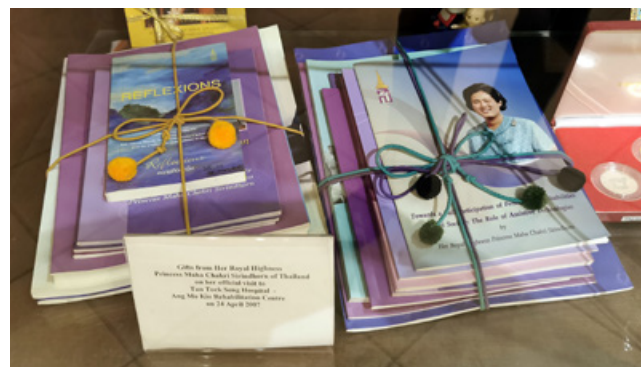
Feb, Dec 2005

TTSHRC conducted two training sessions at Laos National Rehab Centre

On 23-26 April 2007, DRM organized the first TTSH Neurorehabilitation Meeting in conjunction with the inaugural International Convention for Rehabilitation Engineering & Assistive Technology (i-CREAtE 2007). i-CREAtE was formally launched by Her Royal Highness (HRH) Princess Maha Chakri Sirindhorn, Kingdom of Thailand 24th April 2007. This was a joint effort by the two countries to promote Assistive Technology for people with disabilities in Southeast Asia.



► Gifts from Her Royal Highness Princess Maha Chakri Sirindhorn of Thailand on her official visit to TTSHRC on 24 April 2007



Sexual Wellness Service

Principal Occupational Therapist Shirlene Toh obtained a Masters of Health Science (Sexual Health) at University of Sydney and started the Sexual Wellness Service. She offers one-on-one support and counselling to patients with physical disability, and individualized educational sessions to explore issues surrounding sexual attitudes, sexual response, sexual function and relationships.



2005

TTSHRC received two residents from University of Malaya Master of Rehabilitation Medicine programme

2005

Principal Physiotherapist Lim Pang Hung obtained a Certificate in Casting

Oct 2006

Dr Tjan Soon Yin left for a one-year HMDP fellowship on Musculoskeletal & Pain Rehab at Adelaide, South Australia

2006

Dr Kong Keng He led the Singapore International Foundation's "Train the Trainers" series of workshops in Laos

TTSHRC 35th Anniversary

On 10 October 2008, the department celebrated its 35th Anniversary with a staff party. All rehab staff gathered in the rehab gym for an afternoon of fun and games.



- The 35th Anniversary logo was designed by Principal OT Soh Yan Ming (2nd from left, front row), and it symbolizes vitality, new beginnings and serenity.

That evening, the 35th Anniversary Dinner & Dance took place at Grand Copthorne Waterfront Hotel.



2005

Rehab nursing leaders were attached to Rehabilitation Institute of Chicago for one month and brought back the concept of cohorting dependent patients in cubicles with ceiling hoists installed

Mar 2007

Dr Samantha Yap left for a six-month HMDP fellowship on Community Brain Injury Rehab in Sydney, Australia

2007

Dr Neo Jong Jong completed AFRM training and became the first fully locally trained AFRM fellow in the department

The Lokomat

In 2008, TTSHRC became the first department in Singapore to purchase the Lokomat machine to provide robotic-assisted gait training for patients.

Matthew Tan

In 2010, Matthew was a 16-year-old student who excelled in school and sports (Judo). During a national judo competition that year, he sustained a severe traumatic brain injury. When he woke up, he was unable to swallow or communicate, and was very weak. Matthew spent several months at TTSHRC and gradually regained some function in walking, self-care and communication with the help of a dedicated rehab team. He continued to receive outpatient therapy and returned to his secondary school.

Matthew on the Lokomat machine during his rehab stay ◀



▶ Matthew with his therapists Lim Pang Hung and Tegan Plunkett.

He graduated from Nanyang Polytechnic with a Diploma in Social Sciences (Social Work) in 2016.

Today, Matthew is gainfully employed and shares his amazing journey of recovery on various platforms, inspiring many brain-injured patients to excel. He was involved with TTSHRC celebratory events such as the 40th Anniversary celebrations and TTSH HealthCity Day 2017.



The Lokomat trained my walking and reawakened those senses, while the occupational therapists taught me how to feed myself, to dress, to transfer myself to a wheelchair independently. My therapists gave me hope for the future and I'm appreciative of being able to do the simple things and lead a normal life.

Matthew Tan

2007

A/Prof Wee Seng Kwee became a Certified Brain Injury Specialist with Academy of Certified Brain Injury Specialists, USA

2007

Rehab Nursing CPIP project "To Ensure all Neurogenic Dysphagia Patients are served with the prescribed diet" was awarded Merit Award at the NHG Poster Competition

Oct 2008

Delegates from Sirindhorn National Medical Rehabilitation Centre visited TTSHRC



► The 'Let's Walk' Programme was featured in *The New Paper* in August 2012.

TTSHRC nurses and physiotherapists started the 'Let's Walk' programme. The programme promotes walking exercises that are conducted in the wards on three customised tracks with distance markers, guiding lines and visual cues. This reduced patients' length of hospitalisation by two days.



► Let's Walk Programme



Rehabilitation Awareness Day

TTSHRC organized Rehabilitation Awareness Day on 24 April 2009. The Lokomat was showcased at TTSH Main Atrium at Novena for the 3rd i-CREATE Conference, which was graced by Her Royal Highness (HRH) Princess Maha Chakri Sirindhorn from Thailand.



2008

TTSHRC introduced Constraint Induced Movement Training (CIMT) and dynavision for inpatient rehabilitation

2008

Rehab Nursing CIPI project "To Ensure all Neurogenic Dysphagia Patients are served with the prescribed diet" was awarded the NHG CIPI Sustainability Award

May 2009

Dr Kong Keng He and Dr Karen Chua received the Best Teachers Award (Senior Doctors, Division of Medicine)



▶ Wheelchair participants set a Singapore record for 'The Most Number of 100m Laps Covered on Wheelchairs in One Hour' on that day.



▶ Dr Chan Kay Fei, A/Prof Wee Seng Kwee, Mr Christopher Kuan and Brother Derek were awarded a team HMDD for robotics at Waseda University, Japan, in October 2009.



▶ TTSHRC nurses organised a Rehab Nursing Seminar in November 2009.

Aug 2009

Dr Tjan Soon Yin appointed as Adjunct Asst Professor in National University Singapore

2009

Ms Doreen Yeo was appointed as Head of Rehab Allied Health Services

2009

Dr Karen Chua was Clinical PI in an Advanced Brain Computer Interface (BCI) technology research for wrist and hand rehabilitation with A*Star, Science Engineering Research Council (SERC)

A Memorandum of Understanding (MOU) was signed with Hocoma AG (Robotics Company based in Zurich) on 16 June 2010 to be their international training consultants and co-develop rehabilitation technologies.



Driving Assessment and Rehabilitation Programme (DARP)

TTSHRC and main TTSH Occupational Therapy colleagues set up DARP at TTSHRC. The programme assesses, trains and certifies the fitness of people with disabilities to return to driving and recommends car modifications when required.



THE STRAITS TIMES

Me And My Car: Stroke survivor gets back behind wheel in modified VW



Mr Nelson Tan and his modified Volkswagen T-Cross. Photo courtesy: NTH

- ▶ Successful stories of people with disabilities regaining the ability to drive modified cars, made possible by DARP.

ICU Rehabilitation

Dr Neo Jong Jong returned from a six-month HMDP in Toronto, Canada on Trauma rehab. She commenced ICU Rehab Rounds and Trauma Rounds with TTSH intensivists and allied health professionals.

The average length of stay for such patients at its surgical intensive care unit (SICU) reduced by 33% after early mobilisation with improved mobility.



- ▶ Early Mobilisation programme in ICU received the TTSH Milestone Award in 2018.

- ▶ Dr William Chan joined the NHG CPIP faculty in conducting three workshops for nurses in Thailand, supported by Temasek Foundation.



2009

Dr Adela Tow, A/Prof Wee Seng Kwee and Chan Poh Leng were co-PIs with NTU engineers on a biofeedback gait rehabilitation device for stroke and SCI patients

Jan 2010

Dr Kong Keng He, Dr Karen Chua, Dr Chan Kay Fei were appointed as adjunct associate professors in Nanyang Technological University

Jan 2010

Dr Deshan Kumar Rajeswaran received the TTSH Best Teachers Award (Junior Doctors, Division of Medicine)

Centre for Advanced Rehabilitation Therapeutics (CART)

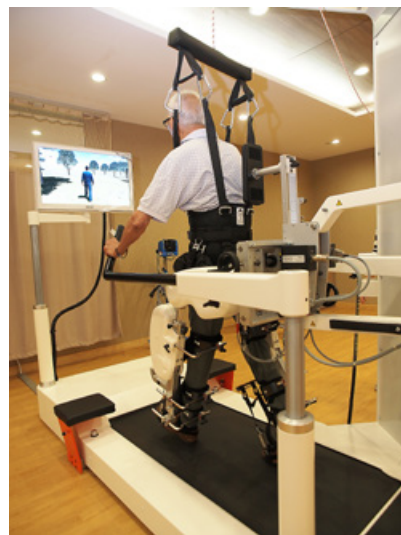
Dr Chan Kay Fei mooted the idea of a centre that harnesses rehabilitation technology to complement conventional rehabilitation care. As such, CART started as a rehab technology hub and a specialist outpatient clinic in 2011.



“

CART started out as a dream, to think about how technology could help us serve more patients. It is not just high tech but high touch. It really requires a group of dedicated people willing to embrace technology to deliver rehab to more patients.

Dr Chan Kay Fei



- ▶ CART opened on 18 August 2011 at TTSH Clinic 5B. The clinic integrated robotics and other technologies with conventional rehab, and provided rehab specialist outpatient clinic assessments and follow-ups in one location.

2010

Trauma rehab multidisciplinary rounds were started in TTSH

2010

DRM participated in Home Ventilatory Service with TTSH Department of Anaesthesiology

2010

DRM started providing MSK diagnostic ultrasound services to AMKCH

2010

A research project on BCI technology in wrist and hand rehabilitation in stroke patients won the Global BCI Award for 2010

Integrated Hip Fracture Care Programme (IHFCP)

In 2011, DRM collaborated with Departments of Orthopaedic Surgery and Geriatric Medicine to set up the Integrated Hip Fracture Care Programme (IHFCP) in TTSH. It received the MOH Health Services Development Project (HSDP) funding of \$5.6 million for the 5-year programme. The programme resulted in improved functional outcomes, reduction in length of stay and mortality for these patients.



► In 2016, the Integrated Hip Fracture Care Programme won the TTSH Milestone Award.



► Dr William Chan received the NHG Outstanding Citizenship Award



► Dr William Chan with colleagues from Departments of Orthopaedic Surgery and Geriatric Medicine receiving the TTSH Milestone Award in 2016.

Rehabilitation Medicine Senior Residency Training Programme



► Rehab physicians in the department (photo taken in 2012)



MOH reformed specialist training in 2012, with the introduction of American-styled Residency Training Programmes for all specialist training in Singapore. The Rehabilitation Medicine Residency Advisory Committees (RAC) was formed with Dr Kong Keng He as the first Chairman of the RAC.

Dr William Chan was appointed as Programme Director for the NHG Rehabilitation Medicine Senior Residency Programme from 2012 to 2018. Design of the programme was facilitated by two core curriculum faculty members, Dr Neo Jong Jong and Dr Deshan Kumar Rajeswaran. Since the inception of DRM, TTSH has led in the training of specialists in Singapore. A total of 36 advanced trainees have graduated since DRM celebrated its 20th anniversary.

2010

DRM collaborated with TTSH Department of Psychological Medicine on (EMMAS) Effective Mood Management after Stroke

2010

TTSHRC Nursing received the CPIP Gold Award for its project on 'Intermittent Catheterisation for Patients during Home Leave'

2010

TTSHRC was recognized as a training centre for nursing students from China, Hong Kong, Korea and Thailand

2012

Kelvin Leong, Stroke Survivor

Kelvin Leong was 33 when he suffered a haemorrhagic stroke in 2012, which affected his mobility and paralysed his left arm. He received inpatient and outpatient rehabilitation at TTSHRC, and after 15 months of perseverance, he became independent again. He enjoys baking and eventually started One-Handed Baker (OHBaker at ohbaker.sg), a home-based business. Today, he serves as Vice-President of Singapore National Stroke Association, and strives to amplify the voices of stroke survivors through awareness campaigns.

- Kelvin's story of resilience inspired many stroke survivors. He is now the Vice-President of SNSA.



Underlying conditions like hypertension and diabetes could increase risk of stroke in younger people

Stroke at 33

“
Before starting my rehab, I yearned to return to the normalcy of my pre-stroke life. However, as I undergo daily morning therapy sessions, I've gradually come to accept that a full recovery is unlikely. Instead of dwelling on what I used to have and could do, I chose to focus on recovering to the best of my ability and becoming as independent as possible. I remind myself to be genuinely grateful for what I still have and the many things I am still capable of achieving.

Kevin Leong

- Kelvin celebrated his 34th birthday at TTSHRC.

Living Well More young people hit by stroke



Mar 2011

Dr Neo Jong Jong left for a six-month HMDP in trauma rehabilitation in Toronto, Canada

Aug 2011

Opening of CART, with Dr Karen Chua as CART Clinical Director

2011

Principal PT Wee Seng Kwee received the TTSH Critical Talent Special Recognition Award

2011

Rehab Nursing Officer Heng Wei Ling went on a HMDP Clinical Attachment in NeuroRehabilitation at Rehabilitation Institute of Chicago, USA

Amputee Support Group

With a rising number of patients with limb amputations, TTSHRC and AMK-THKH collaborated to form the Amputee Support Group (ASG) in 2012. ASG offers a safe and supportive platform for amputees and their carers to share their challenges and experiences, and provide helpful information by the rehabilitation professionals to ensure optimal care and re-integration to the society.



▶ ASG introduced adaptive sports to its members in 2017. These sports included rock climbing and kayaking.



▶ ASG organized monthly sessions in the form of either outings or in-house sharing/dialogue sessions by various invited speakers.

Tan Whee Boon, dedicated ASG befriender

Mr Tan Whee Boon lost part of his four limbs when he was critically ill from a severe blood infection in July 2015. Attending ASG gatherings was precious to him, especially in the initial phase. He valued opportunities to learn from other members with amputations. Mr Tan has become a dedicated ASG befriender and hopes to empower others to live an enriching life.



“

I spent three months in TTSHRC to rebuild my strength, learn to walk on a prosthesis and manage my daily activities. Therapy was tough and painful, but I kept myself motivated. My therapists were very helpful in setting goals with me.

Tan Whee Boon
recipient of the
Goh Chok Tong Enable Award in 2021



▶ Mr Tan Whee Boon (front row, left) with other ASG members

2011

DRM began regular visiting consultant rounds at Khoo Teck Puat Hospital when it opened

Aug 2012

Dr Kong Keng He led a team on a HMDP on Complementary Integrative Medicine at Mayo Clinic, USA

2012

Dr Loh Yong Joo completed Masters in Clinical Investigation

2012

Principal PT Wee Seng Kwee was awarded a TTSH scholarship for a PhD in Rehabilitation Technologies, and TTSH Outstanding Clinical Educator Award



Having been hospitalised from end 2012-early 2013 due to my leg amputation, I appreciated the support of the TTSH Rehabilitation Team very much. I can see them helping other patients with amputations like myself. Many of them work tirelessly to ensure our comfort to go through these trying times.

Lawrence Lee Him



I was a patient in TTSH back in 2013 when my left leg was amputated due to road traffic accident. TTSH Rehab helped me a lot for my recovery. Along the way I met so many great people. Now I'm able to find a job, upgrade my skills and to be involved in sports. I would like to thank TTSH Rehab for being part of my recovery.

Muhammad Aidil Bin Khalip

The New TTSHRC as part of the HealthCity Novena

After the outbreak of SARS in 2003, the department worked with the Commissioning Secretariat to identify a location and design for the new rehab centre. In 2012, as part of the HealthCity Novena Master Plan, the concept of the Integrated Care Hub (ICH), which includes the tertiary rehabilitation inpatient programmes of TTSHRC, was accepted by MOH.

2012

Dr Karen Chua received the NHG Outstanding Citizenship Award

2012

NC Maran had a two-week attachment in Indianapolis Rehabilitation Hospital, Indiana, USA. He implemented a handover transfer guideline in TTSHRC upon his return

2012

Br Derek Tan appointed as TTSHRC Unit Nursing Manager



**THE
FIFTH
DECADE:
2013-2022**

CHAPTER

6



TTSHRC began collaborating with a few more community partners, such as NTUC Elder Care (Serangoon) and SPD Transition to Employment programme, whose objective was to support patients with complex rehabilitation needs to re-enter the workforce.

TTSH Rehab 40th Anniversary

TTSHRC celebrated its 40th anniversary in year 2013, starting with a staff and patient party on 28 March 2013 at AMKCH. It was a retro-themed party with staff performing songs and dances.



► The event poster, designed by Dr Rathi, embedded the words 'Rehab 40 Party' into the silhouette of a disco dancer.



► Sister Patma, Ms Doreen Yeo, Dr Chan Kay Fei and Mdm Sim Teck Meh cutting the Rehab40 cake.



► Contendees for the Best Dressed Competition



► The 40th Anniversary logo was designed by rehab nurse Toh Geok Eng. For her winning design, she received the only yellow polo tee with the logo printed on it while all the others were black.

2013

Dr Karen Chua led a team on a HDMP in Neurovisual Rehabilitation in Germany

2013

AHS Clinical Educator Outstanding Awards were presented to rehab therapists Chok See San, Shirlene Toh, Chin Lay Fong and Lim Pang Hung

Jul 2014

Dr Tjan Soon Yin was appointed HOD

Sep 2014

A MOU formalising the collaboration between NHG, NTU and A*STAR in establishing RRIS was signed at SHBC 2014 Opening Ceremony on 26 September 2014

The official 40th Anniversary celebration took place at TTSHRC gym in January 2014, attended by pioneers and former patients.



2014
DRM was awarded the NUS Yong Loo Lin School of Medicine Dean's Teaching Excellence Award

2014
Senior Residents from Orthopaedic Surgery, Geriatric Medicine, Family Medicine and Advanced Internal Medicine began rotating to DRM as part of residency training

2014
TTSH was awarded the prestigious Gold Asian Hospital Management Award for promoting Early Mobilisation in the ICU and High Dependency Units through transdisciplinary care

Wong Zi Heng

Wong Zi Heng was 21 when a dive caused a cervical cord injury in 2013 and became tetraplegic. He spent several months in TTSHRC relearning how to perform his daily activities and then continued outpatient rehabilitation at SPD's Transition to Employment programme. He subsequently completed his university degree in Physics from NUS and became valedictorian of his cohort in 2017. In 2022, he was presented the Goh Chok Tong Enable Award for his achievements and service to the community. He is now a physics and mathematics teacher at a local secondary school.



10 years ago, I fractured my neck and became paralysed. As I did my rehab at TTSH, I was uncertain what the future holds for me. Through this journey, I kept an open mind in trying out what I can do and I'm grateful for the many opportunities that showed up in life. Today, I'm thankful to have the privilege to be a teacher to my students.

Wong Zi Heng



2015

Dr Deshan Kumar left for a one-year HMDP in diagnostic neurostimulation for stroke in Auckland, New Zealand

Jan 2016

Dr K Palaniappan left for a six-month HMDP in geriatric rehabilitation in Sydney, Australia

MOH started providing subvention for CRP under the Intermediate Long Term Care programme. With this subvention, CRP services became more accessible to more patients. Seniors above the age of 60 also began to have subsidies for their home equipment covered by the Senior Mobility Fund (SMF).

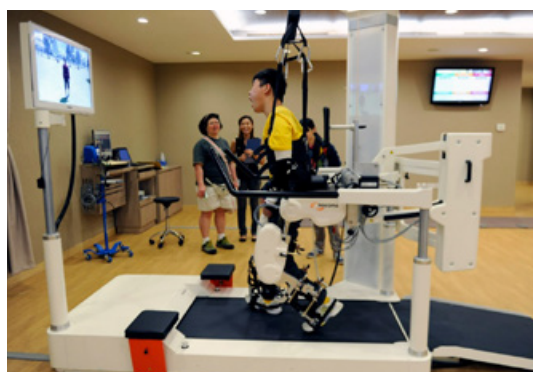
In March 2014, Dr Adela Tow led a team on HMDP to Shepherd Center, Atlanta, USA. They learned about the best practices of respiratory care in spinal cord injury. This benefitted TTSHRC patients as the use of cough assist and breath stacking techniques were introduced since.

Dr Tjan Soon Yin was appointed HOD on 1 July 2014.

Through structured training and competency audits, TTSHRC occupational therapists upskilled the therapist assistants (TA) to facilitate ward-based Activities of Daily Living (ADL) training to mild stroke patients. This gave patients more opportunities for practicing self-care with TAs.



In Dec 2014, Dr Yen Hwee Ling led a team on HMDP on paediatric robotic rehabilitation at Spaulding Rehabilitation Centre, Boston, USA. Upon their return, intensive robotic assisted gait training using the Paediatric Lokomat began in CART the following year.



▶ Children with cerebral palsy and other neurological conditions are referred from NUH, KKH and private centres to TTSH CART for robotic-assisted gait training.

2016

DRM consultants supported Division of Medicine in managing medical subacute cases in Renci wards 7 and 10, and provided medical officers for Ward 6

2016

A/Prof Wee Seng Kwee received the TTSH Outstanding Clinical Educator Award, and NHG Teaching Award for Allied Health Senior Educators

Early Supported Discharge (ESD)

The ESD home-based rehabilitation programme (HBR) was a collaboration of the TTSH Acute Stroke Unit with CRP. TTSHRC started HBR in 2016. ESD and HBR ensure early reintegration of patients to home and community. Rehabilitation goals are contextualised and relevant to the patient. A case manager coordinates care with all care team members. Progress and further rehabilitation goals are discussed, planned and followed up by the case manager of each patient. The HBR has evolved to include patients with various neurological and musculoskeletal conditions in later years.



Rehabilitation Research Institute of Singapore (RRIS)

“

The future of rehabilitation medicine is very exciting as we continue to remain relevant, proactive and empathetic advocates for our patients and their families. We are focused on harnessing new technologies to achieve transformational outcomes for our patients, their families and our staff.

Dr Chan Kay Fei



► RRIS is located in Lee Kong Chian School of Medicine (LKCSOM) @ Novena

Mar 2017
Groundbreaking Ceremony of ICH

Mar 2017
TTSHRC organised a workshop on Rehab Robotics at CART, which saw full house attendance by doctors and allied health professionals from Singapore and the region

Aug 2017
TTSHRC staff were invited to the inaugural Advanced Rehab Technology Seminar organized by Taiwan Rehab Society and National Taiwan University from 5-6 August 2017



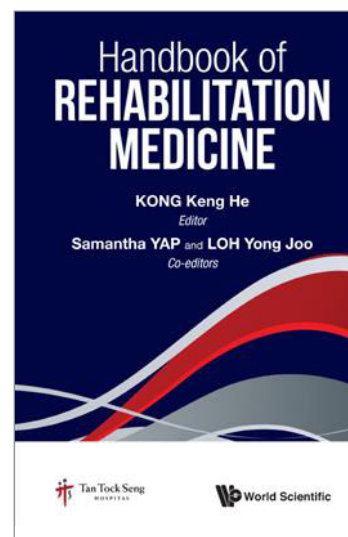
- ▶ RRIS developed the Mobile Robotic Balance Assistant (MRBA) – a combined gait assistive robot and powered wheelchair. Prototypes were refined for clinical trials in TTSH and YCH. President Halimah Yacob had a preview of MRBA in October 2019.



- ▶ A/Prof Wee demonstrating the MRBA to Minister of Health Mr Ong Ye Kung at the official opening of CART in April 2022.

TTSHRC speech therapists initiated a Supported Conversation Group Therapy for patients with chronic aphasia and volunteers, where they are provided opportunities to use communication strategies in a supported environment. Since the Covid-19 pandemic, the group therapy has adopted a virtual format via teleconsultations. Together with a rehab Psychologist, Social Communication Group Therapy was also started for patients with acquired brain injury to practise social communication skills.

DRM doctors published the Handbook of Rehabilitation Medicine. The book consists of 19 chapters covering a diverse range of topics in rehabilitation.



Our research often crosses disciplines, involving engineers, scientists, clinicians and AHPs. We need to expand our understanding of complex rehab needs in various forms of impairments, harnessing technology to enhance therapy.

Dr Matthew Tay
Consultant

2017

Ms Leong Yoke Yin was appointed as Assistant Director of Nursing overseeing TTSHRC

2017

Sr Magdalene Lim was appointed as TTSHRC Unit Nursing Manager

2017

CRP started serving patients with home ventilatory needs

The Beginning of Integrated Care Hub (ICH)

ICH Groundbreaking Ceremony was held on 21 March 2017, graced by Senior Minister of State for Health Amy Khor as Guest of Honour. This was also held in conjunction with HealthCity Day, to mark the important development milestones in the campus.

ICH forms the rehabilitative pillar of HealthCity Novena. Tertiary rehabilitation in ICH will serve patients with complex needs, such as patients with traumatic brain injury, spinal cord injuries, severe strokes and amputations. The rehab facilities include a sports hall and simulated environments for community living. It is also equipped with robotics and virtual reality training to complement conventional therapy.



Our ICH aims to help patients who have gone through serious or devastating illness or trauma, to regain their functional abilities, so that they can find meaning and purpose in their lives again.

Assoc Prof Thomas Lew
CMB, TTSH



► Former TTSHRC patients, Tan Whee Boon and Matthew Tan, were invited to the Groundbreaking Ceremony.



► Introducing Senior Minister of State for Health Amy Khor to various rehab equipment

In June 2017, Dr Loh Yong Joo led a team to explore rehabilitation technologies in various European centres. They visited Geneva (Campus Biotech, Mindmaze Headquarters, University Hospital of Vaud), Zurich (Rehaklinik Zihlschlacht, Kliniken Valens) and Finland Digirehab Consortium (Nordic Health, Ruskeasuo Centre, Turku Centre for Cognitive Neuroscience, Turku Gamelab).



► Fujita Rehab Services (part of Fujita Health University), the top private provider of rehabilitation in Japan, visited CART in January 2017.

2017

Lim Pang Hung, Senior Principal Physiotherapist, received the NHG Education Leaders Award

2017

The Integrated Hip Fracture Care Programme received the NHG Team Recognition Award - Bronze

2017

Dr Wong Chin Jung left for an eight-month Cancer Rehabilitation Fellowship at Toronto Rehabilitation Institute

Mar 2017

Dr Karen Chua received the National Day Award 2017

Sports Integration Programme

TTSHRC therapists started the Sports Integration Programme, which provided a platform for PwD to access information, build interest, develop skills, receive support and links to community partners. The activities include table tennis, badminton, seated volleyball and futsal.



- ▶ TTSHRC acquired Hocoma Armeo®Power and started an inpatient upper limb robotics training programme.

TTSHRC speech therapists started a Supported Conversation Caregiver Training Workshop in 2017, aiming to improve communication between the aphasic patients and the families and carers, with practice through role play.

Senior residents of DRM commenced elective postings at KTPH Sports Medicine clinic. Some also completed disabled sports classification courses.



- ▶ Rehab senior residents and therapists joining in a game of wheelchair rugby with people living with disabilities.

2018

Ms Sharon Sew was appointed as Head of Rehab Allied Health Services

2018

Dr William Chan received the NHG Distinguished Achievement Award

2018

“Early Mobilisation in ICU” received the TTSH Milestone Award

2018

Dr Loh Yong Joo received the TTSH Excellence Award (Silver)



Dr Wong Chin Jung returned from a cancer rehab fellowship at Toronto Rehab Institute, Canada and started Cancer Rehabilitation Clinics at Singapore Cancer Society and TTSH Department of Medical Oncology.



Dr Tham Shuen-Loong collaborated with paediatricians in KKH and started a transitional rehab programme for their adolescents approaching adulthood with physical and/or cognitive/behavioural impairments.

A Stroke Rehabilitation Unit in AMK-THKH was established, which was a tripartite collaboration between TTSHRC, National Neuroscience Institute (NNI), and AMK-THKH.

- The centre also began preparations to set up a Ventilatory Rehab Unit (VRU) in ICH by stepping up training for its doctors, nurses and allied health therapists.

2018
Joanna Lim Peck Hoon, Senior Patient Service Associate, received the MOH Efficiency Medal

May 2019
TTSHRC purchased Ekso, a wearable bionic exoskeleton

2019
Dr William Chan was conferred Emeritus Consultant



► Dr William Chan was conferred Emeritus Consultant.



► Dr Tham Shuen-Loong (far left) became Programme Director of NHG Rehabilitation Medicine Senior Residency Programme.

The Ventilatory Rehab Unit was piloted this year.



► Dr Robert Teasell, Medical Director of Stroke Rehabilitation Programme at Parkwood Institute, London, visited TTSHRC.

2019

Dr Tham Shuen-Loong took over as Programme Director of NHG Rehabilitation Medicine Senior Residency

2019

Ms Wee Fong Chi was appointed as Deputy Director of Nursing overseeing TTSHRC

2019

Two rehab senior residents, Dr Teo Wee Shen and Dr Alfred Seng, were awarded the Best Teachers Award (Junior Doctors) and TTSH Top 10 Teachers Award respectively

Dr Loh Yong Joo became Director, Clinical Innovation in TTSH Clinical Research & Innovation Unit.

During the height of the COVID-19 pandemic, many TTSHRC staff were deployed to main TTSH campus for clinical and administrative roles.

DRM started weekly COVID-19 multidisciplinary rehab rounds for recovering COVID-19 patients. Those with significant functional impairments were transferred to TTSHRC for inpatient rehabilitation.



▶ Mr Sarker Raju, Singapore's COVID-19 'Case 42', was discharged after a 5-week rehab stay at TTSHRC.



▶ Transcranial Magnetic Stimulation (TMS) service was started for early prognostication for post-stroke upper limb recovery.



Therapeutic Horticulture Programme

Therapeutic Horticulture Programme at TTSHRC was led by Principal Physiotherapist Davina Koh. The programme established a therapeutic garden for patients during their inpatient rehabilitation stay. The team collaborated with Edible Garden City, supported by Lam Soon Singapore.

2020

The department started using tele-consultations

Dec 2020

The first VRU patient requiring invasive ventilation was admitted to TTSHRC

2020

TESA Awards were presented to TTSH SOC@AMK (Platinum) and CART (Titanium)



► The Therapeutic Horticulture Programme was featured on a documentary “Show Me the City: On The Wild Side” on Channel News Asia. Senior OT Jannah shared how horticulture could have a therapeutic effect on patients.

TTSHRC speech therapists started Electrical Stimulation for Dysphagia Management for patients with stroke, the first in a restructured hospital in Singapore, as an adjunct to conventional dysphagia exercises.

TTSHRC was actively engaged in the planning of the MOH OneRehab Framework.

CRP began a partnership with Tsao Foundation and Happee Hearts charity to serve adults with intellectual disability in the community.



Depending on the activities you select, and the plants that you choose, it can help improve patients' sitting and standing tolerance and balance. Their upper limb strength and hand coordination may improve too. This may also enhance their cognitive function and attention span.

Nurul Jannah Binte Kamaludin
Senior Occupational Therapist

2020

Five research grants were awarded to DRM, with a combined funding of \$11.85 million

2021

A/Prof Kong Keng He received the NHG Distinguished Senior Clinician Award

2021

Dr Tham Shuen-Loong and Dr Wong Chin Jung were awarded the NHG Teaching Award for Senior Doctors

Dr Loh Yong Joo was appointed HOD on 1 January 2021.

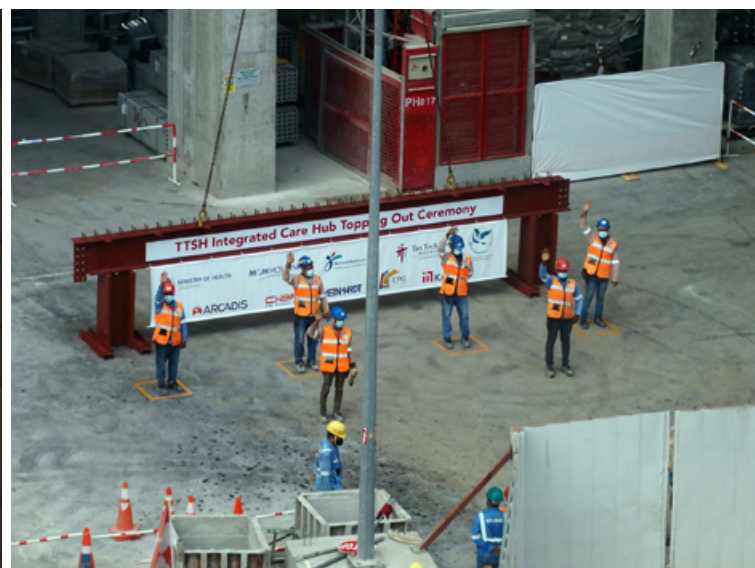


▶ TTSHRC staff received the NHG Healthcare Innovation Award for the collaborative work with NTU Robotics Research Centre on the H-Man upper limb robotic device.

▶ On 5 August 2021, TTSHRC became the first Ekso centre in Asia Pacific to complete one million steps.

ICH Topping Out Ceremony

ICH Topping Out Ceremony took place on 27 May 2021. It was an important construction milestone as the last structural beam was lifted and placed onto the highest point of ICH to symbolize completion of the building.



2021

Ms Cheryl Tan, Senior Physiotherapist, was awarded the NHG Inter-professional Teaching Award

2021

A/Prof Wee Seng Kwee, Senior Principal Physiotherapist, received the NHG Outstanding Citizenship Award and TTSH Outstanding Clinical Educator Award

2021

Dr Matthew Tay completed Masters in Clinical Investigation

2021

TTSH SOC@AMK received the TESA Award (Platinum)

Institute of Rehabilitation Excellence

Institute of Rehabilitation Excellence (IREx) was formed in 2021, with Dr Kong Keng He as the Director. Working with key strategic partners LKCSOM, RRIS and Agency for Science, Technology and Research (A*STAR), IREx works on translational clinical research, innovation and education.

Relocation of CART

CART was relocated to Level 1, Annex 2 Building of TTSH on 18 Oct 2021. Rehab SOC@AMK was also co-located with CART, combining subsidised and private outpatient tertiary rehabilitation services and providing conventional and state of the art rehabilitation therapeutics including robotics and virtual reality.



The department began to provide visiting consultancy services to SPD Toa Payoh and advised on the use of rehabilitation technologies in St Hilda's Day Rehabilitation Centre.



2021

TTSHRC Nursing received the CPIP Merit Award for its project on 'Fall Prevention in Rehab Wards'

2021

Five more research grants, with a total funding of more than SGD \$3 million, were awarded to the department

2021

SCI team therapists won NHG Best Project Award

Jul 2022

New visiting consultancies with Yishun Health began

Jul 2022

DRM provided rehab physician support to grow inpatient rehab programmes for Renci Hospital



▶ CART was officially opened on 18 April 2022 by Minister of Health Mr Ong Ye Kung.



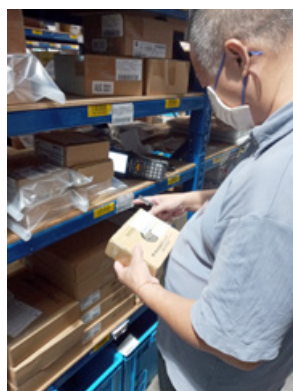
▶ A Memorandum of Understanding (MOU) was signed with Stroke Support Station (S3) to support stroke survivors in the community.

Work Re-Integration & Sustainable Employment (Work-RISE) Programme at CART

The Return-to-Work (RTW) clinic was set up by occupational therapists to assess, train and recommend work duties for patients to return to work, and assuring safe transition back to work.



▶ Interaction between Health Minister Ong Ye Kung and a patient at RTW Clinic during the official opening of CART



▶ Assessing a patient's actual work performance during a worksite visit



▶ Emeritus Consultant Dr William Chan was presented the Lee Foundation-NHG Lifetime Achievement Award for his pivotal role in developing rehabilitation care in Singapore.

2022

Dr Matthew Tay left for a one-year HMDP in Interventional Physiatry at Toronto Rehabilitation Institute, Canada

2022

A/Prof Karen Chua and Dr Lui Wenli were awarded the NHG Teaching Award for Senior Doctors

2022

A/Prof Tham Shuen-Loong and Dr Wong Chin Jung received the NHG Inter-professional Teaching Award

Last Christmas Party at AMK

TTSHRC celebrated its last Christmas party in AMK on 23 Dec 2022 with patients participating in art & craft and chairobics. In the afternoon, rehab staff had song and dance performances.



2022

A/Prof Wee Seng Kwee received the Honour Roll TTSH Outstanding Clinical Educator Award, and Outstanding Physiotherapist Award 2022 from Singapore Physiotherapy Association

2022

Ms V N Geetha Devi, Patient Service Associate Supervisor in CART, was awarded the MOH Long Service Medal

2022

Dr Wong Chin Jung assisted in crafting prehabilitation programmes for cancer patients going for surgery

TTSHRC Family



2022
Eleven staff of TTSHRC were awarded the Commendation Medal (COVID-19)

2022
SCI team therapists were awarded the NHG Best Project Award for Sustaining Quality

2022
DRM began delivering quarterly educational talks to Home Nursing Foundation



**2023
AND
BEYOND**

CHAPTER

REHAB NURSING WEBINAR 2023

18 MARCH 2023, SATURDAY 1PM TO 4PM

TISH Rehabilitation Centre strives to convert every moment into a rehabilitation moment by equipping patients with skills to better manage activities of daily life, such as eating and moving. How do we manage and support our patients and caregivers to do this well? Let's find out more from our physiotherapist and nurses on how they accomplish this with the transdisciplinary care team!

OUR SPEAKERS

- Every Moment a Rehab Moment: Optimise Patient's Care through Activities**
Mr Simon Lau
Sr Physiotherapist
- A Shoulder to Care On: Shoulder Sakulation**
Ms Lamara Joyce Ann
Sr Staff Nurse
- Let's Jalan Improve Mobility**
Ms Sun Waiying
Sr Staff Nurse
- Let's Makan Safely and Together**
Ms Avelina Ann The Annmar
Asst Nurse Clinician

Join us now to win prizes!

Scan the QR Code to Register!

Or visit: <https://rehabnursingwebinar2023.tish.com.sg>
Registration fee is not required.

2 CPE Points will be accredited.
Registered participants will receive an email notification with the Zoom Webinar details for the event.
For more information or enquiries, kindly email: rachel_an.lim@tish.com.sg.

 Tan Tock Seng HOSPITAL



▶ TTSRHC Nursing organised its first Rehab Nursing Webinar on 18 March 2023.



▶ The fourth Singapore-Shanghai Comprehensive Cooperation Council (SSCCC) meeting on 24 April 2023 witnessed the signing of a MOU between NHG, Shanghai Ruijin Hospital and Ruijin Rehabilitation Hospital. Delegates from Shanghai also visited CART and RRIS.

Aug 2023

Ms Tess Hng, Principal MSW, received the National Day Award, Efficiency Medal

Sep 2023

A/Prof Karen Chua received the NHG Research Mentor of the Year Award



▶ SSG, ASG and the Sakura Groomers received the Outstanding Volunteer Group Award from TTSH Centre for Healthcare Activation on 20 May 2023

RESTORES trial: RESToration Of Rehabilitative function with Epidural Spinal Stimulation

NMRC National Medical Research Council

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 Co-Investigator Asso Prof Wee Seng Kwee Senior Principal Physiotherapist Clinic for Advanced Rehabilitation Therapeutics Tan Tock Seng Hospital	 Co-Investigator Dr Maszczyk Tomasz Scientist Computing & Intelligence Institute of High Performance Computing A*STAR		



▶ TTSHRC collaborated with NNI and A*STAR on epidural spinal cord stimulation coupled with rehabilitation for motor improvement in chronic incomplete spinal cord injured patients, a first in Asia.

▶ Dr Valerie Ng led a rehab team to North West Regional Spinal Injuries Centre, Southport and Ormskirk Hospital for a three-week team HMDP on the Ventilatory Rehabilitation Unit.

Sep 2023

Dr Valerie Ng received the NHG Inter-Professional Teaching Award

Sep 2023

Dr Tan Ping Ping received the NHG Teaching Award for Senior Doctors

TTSHRC Golden Anniversary Celebrations

Rehab50 Logo Design Competition

The first event was the Rehab50 (R50) logo design competition. ANC Xu Yanli's winning design celebrates 50 years with the Rehab family. She explained that the four figures in the logo using different walking aids symbolise TTSHRC patients with different rehabilitation needs and their recovery is our goal.



► Winners of the logo design competition



► The editorial team visited the old premises of TTSHRC at Mandalay Road on 18 June 2023, exactly 50 years after it was officially opened.

R50 Symbolic Walk

The R50 Symbolic Walk was an 11-km walk from TTSHRC to the new Integrated Care Hub (ICH) in Novena, held on 2 July 2023, Sunday. Approximately 130 TTSHRC staff, family members and pioneers participated in the event.



► The R50 Symbolic Walk was flagged off by TTSH CEO Dr Eugene Fidelis Soh.



► Senior management and invited guests were joined by TTSHRC pioneer staff at Mandalay Road.



► Dr Loh Yong Joo, TTSH Rehab HOD, gave the closing speech



► Dr Loh Yong Joo hosted lunch for the rehab pioneers after the symbolic walk.

2 July 2023
R50 Symbolic Walk

19 October 2023
R50 Celebration Dinner

The R50 Celebratory Dinner will be on 19 October 2023 at Singapore Marriott Tang Plaza Hotel. A commemorative video and this photobook will be launched at the dinner.



► Publicity posters for the R50 Symbolic Walk and the R50 Anniversary Dinner



► More publicity posters



Adios Ang Mo Kio



ICH Here We Come



Behind the Scenes: Interviews with Rehab Pioneers, former staff and patients



▶ With Prof Chew Chin Hin



▶ With Mrs Dolores Don, wife of Dr Robert Don



▶ With Mrs Winnie Tan, wife of Dr Tan Eng Seng



▶ With former TTSHRC staff and SSG members



▶ With former TTSHRC staff and former patient



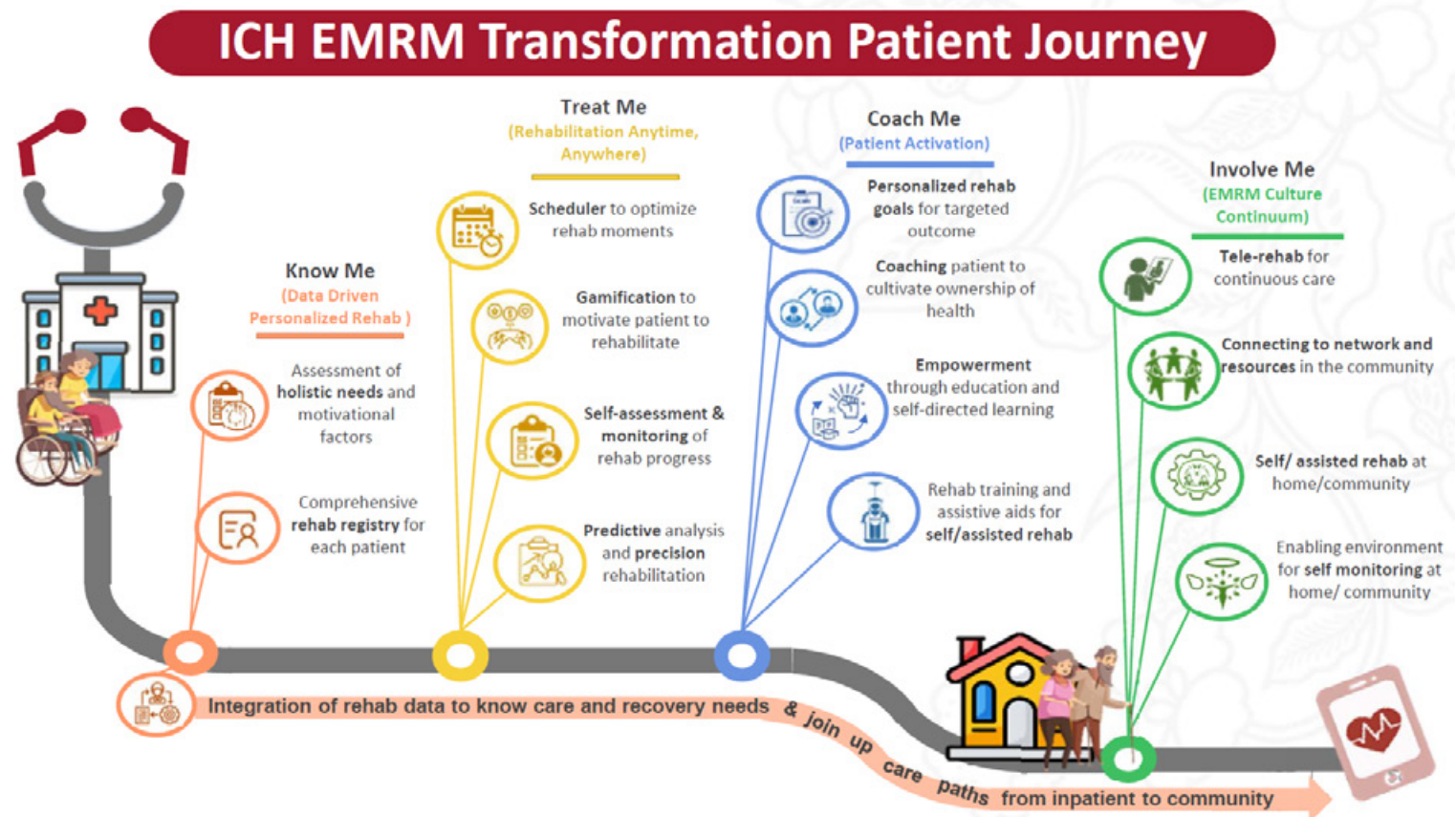
▶ With former Nursing leaders of TTSHRC



Beyond 2023: Advancing Rehab, Empowering Lives

Aligning with the core values of Central Health 2030 - 'Better People deliver Better Care to build Better Community for Better Health and Better Value', TTSHRC will continue to groom future leaders and better tertiary rehabilitation professionals to provide better value and better care for its patients, working closely with its partners to enable a better and healthier community, driving better health outcomes.

To maintain tertiary care excellence in specialized rehabilitation services, TTSHRC will continue to explore state-of-the-art diagnostics and therapeutics, and enhance its skills and capabilities to manage varying conditions with rehabilitation needs.



As TTSH strives towards future health excellence, TTSHRC will strengthen its efforts in research, innovation and education.

Through fostering partnership with academic and industry partners, TTSHRC hopes to translate clinical research and innovation programmes to extend its service collaborations and build an ecosystem where clinicians, therapists and researchers could collaborate in the design and co-development of new technologies, as well as test and validate novel devices.

TTSHRC also hopes to co-share and co-learn with like-minded healthcare colleagues, rehabilitation providers, patients and caregivers, and build a rehabilitation educational ecosystem together with our academic partners like Nanyang Technological University and Singapore Institute of Technology.

Finally, TTSHRC will integrate and align with MOH National One-Rehab framework, working closely with community partners to ensure that patients and caregivers would be well supported and empowered in their rehabilitation journey.

**Dr Loh Yong Joo, HOD
TTSH DRM**





Advancing Rehab
Empowering Lives

Tan Tock Seng Hospital
Rehabilitation Centre

1973 ▶ 2023