

The Care of Paraplegics and Tetraplegics in Singapore

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Summary

A brief description of the evolution of the spinal injury unit in Singapore is given. Based on statistics gathered between 1973 and 1983 on all of the 713 traumatic cases treated at this unit, the causes, pattern and effect of spinal cord injury in Singapore are analysed, and highlights on the other supporting services available in Singapore for paraplegics and tetraplegics, from long term institutional care and hostel accommodation to vocational assessment, training and placement are given.

Key words: *Paraplegic and tetraplegic patients; Management of spinal paralysed people; Singapore.*

Introduction

Singapore is an island nation situated just south of the equator in the midst of the Asian nations of which it is a member. It has a population of 2.5 million living in an area of about 620 sq kms. In the last two decades industrialisation has gained momentum in the country and with this the inevitable increase in industrial accidents causing injuries to the head, spine and limbs. There were no proper facilities for the treatment and rehabilitation of the physically disabled in those days until a philanthropist banker donated a substantial sum of money to establish a medical rehabilitation centre in 1963 with one condition that the centre should also rehabilitate those with strokes, as he himself had had a stroke. A search for a suitable site was then carried out by an ad-hoc committee, mainly comprised of orthopaedic surgeons, with the help and expert advice of Sir George Bedbrook, who was then the Director of the Royal Perth (Rehabilitation) Hospital, Shenton Park, Western Australia, the first and only spinal cord injury was established in one of the general hospitals in Singapore, the Tan Tock Seng Hospital.

The Spinal Unit, Department of Rehabilitation Medicine, Tan Tock Seng Hospital

The department was established in 1973 and today we have 77 beds of which about 40 are reserved for spinal cord injury patients. This centre insists on early admission of all who have a spinal cord injury and, to ensure the best chance of recovery, an aggressive conservative treatment approach for all cases is adopted. All newly acquired traumatic spinal cord injury cases are first admitted to the nearest acute general hospital where life-threatening associated injuries are first treated before they are transferred to the centre. Due to the limited number of beds available for spinal injury cases the centre has to impose a ruling that allows patients to stay for a maximum period of 6 months, although this is not ideal. In addition, only those with unstable spinal fractures with or without neurological deficits qualify for admission. The centre is managed by a team of doctors qualified in rehabilitation medicine, therapists and trained nurses. As in other centres in Australia, Britain and America, we have a panel of consultants consisting of orthopaedic surgeons, a uro-surgeon and a neurosurgeon who visit the centre weekly to help in the management of patients.

During the past 10 years an average of 101 new spinal injury patients have been admitted each year of which 68 are traumatic in origin. Thirty-six per cent of the traumatic cases treated resulted from industrial accidents, the majority were from the building industry, 34 per cent from road traffic accidents, a high percentage of whom were due to accidents involving motorcyclists. This annual admission rate would have doubled if our stringent criteria of admission to the centre was not enforced.

Our latest survey of 713 traumatic cases treated in the centre (604 males and 109 females) between 1973 and 1983 shows that 74.5 per cent remained in the centre for less than three months. When discharged 81.6 per cent were totally independent in activities of daily living and 54.8 per cent were able to ambulate independently. Forty-three point nine per cent had cervical lesions, 26.8 per cent thoraco-lumbar lesions (T10 to L1) and 5.9 per cent had thoracic lesions. Thirty-four per cent of the total were due to vehicular accidents, 35 per cent from industrial accidents, 26 per cent from accidents at home and 5 per cent from crime and from a sporting accidents. Sixty-two per cent of vehicular accidents resulted in injuries to the cervical region, whereas the common sites in industrial accidents were the thoraco-lumbar region (38%) cervical region (35%) and lumbar region (23%). The reason for this was that most industrial accidents resulted from workers falling from heights from uncompleted buildings and landing on their feet or buttocks.

Home care for paraplegics and tetraplegics

Over 75 per cent of the population live in high-rise flats in Singapore and the question of accessibility for the physically disabled is very important. Most of the old generation type of flats do not have lifts that stop at every floor. Therefore, to ensure safe and easy accessibility for our patients a home visit is made by our staff (medical social worker, occupational therapist and physiotherapist). Relatives are advised on the care of the disabled at home, and on any physical altera-

tions needed to ensure safe and easy accessibility. Patients are encouraged to go home during the weekends on a trial basis before they are formally discharged. Domiciliary nursing care is provided by the home nursing foundation (a branch of the primary health care services) for those elderly paraplegics and the very disabled young patients. All patients are followed up regularly at our spinal clinic for the rest of their lives.

If home care is not possible, especially for tetraplegics and elderly paraplegics, alternative arrangements are made for them to be looked after in institutions. In Singapore, there are many institutions, both private and public, which provide long-term care for the chronic sick and the severely disabled. Some charge a fee while others are free. The following are some of the institutions to which we normally refer our difficult and deserving cases:

1. The Chronic Sick Unit, Woodbridge Hospital

This unit was opened by the government in 1963 for the long-term care of the chronic sick and the physically disabled including paraplegics and tetraplegics. It is situated next to the Woodbridge Psychiatric Hospital and has 117 beds. Most of the patients are destitutes who are given free treatment while others have to pay a fee. The medical staff, doctors, nurses and medical social workers are provided by the Woodbridge Hospital, and doctors from our centre visit the unit regularly to advise on treatment and rehabilitation.

2. Kwong Wai Shiu Hospital

This hospital has been in existence for more than 20 years, and is run by a Chinese clan association to provide services for the aged sick destitutes and it also admits severe tetraplegics.

3. Nursing homes run by missionaries

There are a number of nursing homes in Singapore started by various missionary groups and supported by the government by way of annual block grants. Most of them provide free services for the aged sick and the physically disabled. The longer established homes are the Villa Francis Home (Catholic), the Home For The Aged Sick, the Singapore Cheshire Home, the Salvation Army Home, the Mt. Alvernia Hospital (two wards are set aside for the aged sick and physically disabled), the Ramakrishnan Mission Home and the Red Cross Home.

4. Private Nursing Homes

Many private nursing homes owned by retired nursing personnel and entrepreneurs are available for severely disabled tetraplegics for a fee. These homes are closely monitored by the Ministry of Social Affairs and the Ministry of Health to ensure the standard of service is adequately maintained.

Vocational services for the paraplegics

Singapore has many paraplegics who are within the employable age group (16 to

55 years). In this survey of 713 cases treated in our centre, 30 per cent were males and 7 per cent females who come within this age group. Those who wish to work are first referred to either:

1. The Disablement Resettlement Officer (D.R.O.) of the Ministry of Labour,
2. The Officer In-Charge of the Rehabilitation Section of the Ministry of Social Affairs.

Each of these sections keeps a register for those job seekers and finds suitable work in factories and commercial firms for them. Initially the candidates have training for 6 to 9 months during which period the ministries pay them an allowance. This is called the 'DP2 Scheme' of the Ministry of Labour. At the end of this trial period the factories or firms can either accept them into their main workforce and pay them accordingly, or they can reject them with supporting reasons. In Singapore there is no quota imposed by the government on the employment of the disabled persons in factories and commercial firms, unlike Japan and most western countries.

3. The Vocational Assessment and Placement Centre (V.A.P.C.) was recently established by the Singapore Council of Social Service and the maintenance was handed over to the Handicap Welfare Association. Young prospective disabled persons are referred here for assessment by the various organisations and the two ministries. At the end of the assessment each candidate is given a report on his abilities and advised as to what type of vocational training is most suitable for him. The Handicap Welfare Association is the only association in Singapore which is managed by disabled persons themselves. Eighty per cent of its members are gainfully employed, and the Association offers services ranging from vocational assessment and recreational activities to job placement and allocation of home-bound jobs for those members who are unable to seek open employment.
4. The Vocational and Industrial Training Board (V.I.T.B) offers courses for the less disabled who have a minimum qualification of grade primary six. The courses available include commerce, computer programming, draughtsmanship, woodwork and metalwork. Each successful candidate is awarded a V.T.I.B. certificate which enables him to find jobs in the open market. The V.I.T.B. is a branch of the Ministry of Education.
5. The Society for Aid to the Paralysed (S.A.P.) was formed in 1967 to assist the physically disabled. It runs a sheltered workshop. At present there are about 50 disabled persons working there. This workshop provides training and jobs for those not suitable for open employment and transport is provided by the Society. It receives workers sent by the Ministry of Labour under the 'DP2 Scheme'. The Society also promotes sports and recreation for its disabled members and offers scholarships for deserving members and their children, and sends out organised teams of volunteers (mainly nurses) to visit homes of those who are very disabled, and provides home-bound jobs for those unable to come out of their homes.

At present the Society is planning to set up a Vocational Training Centre for the Physically Disabled with the help of the V.I.T.B. whereas V.I.T.B. provides training for the normal, this centre will provide training for the

disabled. It is hoped that courses in commerce, woodwork, metalwork, draughtsmanship and computer programming will be incorporated in the training programme once this centre is established.

For the convenience of disabled persons and for the ease of administration, we are working on the feasibility of getting these three services (the V.A.P.C., the Vocational Training Centre and the Sheltered Workshop) located in one complex rather than having them in different districts.

6. The Singapore Red Cross Society maintains a hostel in the midst of the Jurong Industrial Estate for about 15 disabled persons who are gainfully employed in the various factories in that estate. Each person pays a fee to stay in the hostel but transport is provided free for them to go to and from their working places. It is hoped that more of such hostels will be opened in the various industrial estates for disabled workers in the near future so that more disabled persons will be able to partake in the economy of Singapore by contributing their skills in factories.

Conclusion

Those with paraplegia and tetraplegia living in Singapore are now benefitting from the fairly comprehensive medical and social amenities available to them. As a result of these services most of the spinal disabled are well looked after and in fact many have subsequently become successful accountants, managers, counsellors and clerks. Some even become successful entrepreneurs. In view of the shortage of labour in Singapore it is the intention of the government to encourage as many of its citizens as possible to be gainfully employed, whether they are disabled or normal. Every effort is given to make it convenient for the disabled to be gainfully employed so that they are an asset rather than a liability to society. Therefore the problems of accessibility and transportation, the two major obstacles that prevent most disabled persons using wheelchairs from seeking open employment, are now being actively looked into by the relevant authorities. When these two problems are solved, it is hoped that more and more young paraplegics will be able to go into open employment.

Résumé

On donne une courte description de l'évolution de l'unité pour le traitement des blessures vertébrales à Singapour. En partant de la statistique recueillie entre 1973 et 1983 sur la totalité des 713 cas traumatiques traités par cette unité on analyse les causes, le tableau clinique et l'effet de la blessure de la moëlle épinière à Singapour, et on met en relief les autres services supportifs dont on dispose à Singapour pour les paraplégiques et les tétraplégiques, depuis les soins de longue durée dans une institution et l'hébergement dans un foyer spécial jusqu'à l'évaluation sur le plan professionnel, l'entraînement et la mise en emploi.

Zusammenfassung

Man gibt eine kurze Beschreibung der Wirbelverletzungseinheit in Singapur. Mit der zwischen 1973 und 1983 gesammelten Statistik über sämtliche 713 durch diese Einheit behandelte traumatische Fälle als Ausgangspunkt analysiert man die Ursachen, das klinische Bild und die Wirkung der Rückengraterverletzung in Singapur, und hebt die anderen den Paraplegischen und Tetraplegischen in Singapur zur Verfügung stehenden Hilfsdienste hervor, von der langfristigen Pflege in einer Institution und der Beherbergung in einem Sonderheim bis zur beruflichen Auswertung, Ausbildung und Arbeitversorgung.