Rehabilitation

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The medical school at McMaster University has made a major commitment to the field of rehabilitation medicine. The investment seemed justified because of the importance of chronic disease and disability. This commitment imposed a responsibility on the school to develop appropriate educational programmes for medical students, residents and allied health professionals, and challenged us to devise new approaches to clinical services for patients requiring special rehabilitation. Developed initially through the leadership of Dr J. C. Sibley and Dr B. Talbot, the rehabilitation programmes have grown rapidly into a busy clinical service which forms part of an integrated regional programme.

CONCEPT OF REHABILITATION
It is accepted dogma that, ideally, rehabilitation should be an integral part of all medical care, and include consideration of the whole person and his family, the psychosocial implications of his illness, and those components of treatment which assist the patient in achieving full recovery within the limits of his illness. Therefore, rehabilitation is based on attitudes, and is not necessarily achieved by using some specific method of treatment. The behaviour of all practitioners and teachers of clinical medicine should, by precept and example, reflect these attitudes.

For patients with a major physical disability or chronic illness, such as stroke, spinal cord injury or rheumatoid arthritis, the achievement of independence and restoration to customary family, social and vocational roles is very difficult. Because the problems of these patients with severe illness are so complex, treatment requires the participation of people from many branches of medicine and frequently calls for special facilities.

REHABILITATION PROGRAMMES
The programmes are based at a rehabilitation hospital of 71 beds, operated by Chedoke Hospitals, and are directed by full-time staff in the Department of Medicine. Along with other services in paediatrics and psychiatry, they constitute a multifaceted teaching unit called the Chedoke-McMaster Centre. The rehabilitation unit is recognised as a regional referral centre for
patients with complex neurological, orthopaedic and rheumatological problems. Within this broad programme, four specific sub-programmes have been developed for patients with spinal cord lesions, strokes, amputations and rheumatic diseases, according to the matrix organisational structure. One physician heads each programme, and in each case he is responsible for the clinical care and related education and research activities within his programme. He is assisted by a tightly knit team of allied health professionals representing all the disciplines involved in management, and the team is supported by a number of visiting consultants.

**Spinal Cord Programme**

Acute care for most patients is provided in the neurosurgical unit at the Hamilton General Hospital. Appropriate liaison has been established between this unit and the rehabilitation centre to facilitate a consistent approach to management. Dr S. M. Dinsdale is responsible for the rehabilitation programme at the Chedoke–McMaster Centre. The unit at present has an average caseload of about 16 in-patients, and this number is expected to grow to a maximum of 25 in the next one to two years. Careful attention is being paid to the problems related to discharge, continued medical care, accommodation, vocation, social activities, sports, etc.

**Stroke Programme**

The basis for this programme is the conviction that early intervention with an appropriate and well co-ordinated rehabilitation programme will significantly hasten recovery, and improve the level of functional independence ultimately achieved by the patient. Most patients with a stroke can be treated in the acute hospitals with continuing therapy given through home care or out-patient services, and an important aim of the programme is to improve the level of this general care throughout the region rather than to create a large in-patient unit. This is being achieved through a strong community orientation. The stroke service at the Chedoke–McMaster Centre averages about 12 in-patients, and is a key resource for the education of students, physicians and other health professionals.

**Amputee Programme**

The Henderson General Hospital has operated a large clinic for amputees for a number of years under the direction of two orthopaedic surgeons, Drs A. H. MacMillan and R. C. Detwiler. The involvement of McMaster University has led to an expanded role for this clinic, which is now regarded as a regional referral clinic with educational responsibilities.
To support this clinic a large prosthetic (and orthotic) workshop was built at the Chedoke–McMaster Centre. Clinics are held at the Henderson General Hospital, with an average weekly attendance of about twenty patients. Dr S. N. Banerjee has overall responsibility for the academic and teaching components of the programme and for the care of those cases specially selected for treatment at the Chedoke–McMaster Centre.

**Rheumatology Programme**

The rheumatic diseases unit, directed by Dr J. I. Frid, is an integral part of the rehabilitation programmes and is based at the Chedoke–McMaster Centre. There is a 29-bed in-patient unit for patients requiring a multidisciplinary approach because of the nature and complexity of their problems. Strong support is given by a group of consulting orthopaedic surgeons who collaborate in assessment and management of all patients. Clinical investigations, patient care and research in acute connective tissue diseases occur in other units in the network.

**Special Services**

All the rehabilitation programmes have access to the specialised personnel and resources needed for good patient care, education and research. A work and effort laboratory allows precise measurements of function and therefore appropriate treatment prescription for those patients with cardio-respiratory disease.

Electromyography has a prominent place in assessment and follow-up of patients with spinal cord lesions and chronic renal disease, and is an important diagnostic tool for many neuromuscular problems. About 80 patients are seen in the EMG laboratory each month. There is a pre-vocational assessment unit in the building, offering a structured programme to evaluate the work potential of patients with many types of disabilities.

**Liaison with Other Hospitals**

The Chedoke–McMaster Centre is recognised as a regional referral centre for patients with special rehabilitation problems. Patients are admitted because they require the resources provided within its programmes, and because they have identifiable potential for improvement. As facilities exist in the other hospitals for treatment of patients with more straightforward problems, liaison has been established between the various institutions to define respective relationships. This has in part been achieved through the Rehabilitation Medicine Sub-Committee of the Hamilton District Health Council.

An important link in the network is the 79-bed general rehabilitation unit
at the Henderson Hospital, directed by Dr A. L. Bass. It complements the special unit at the Chedoke–McMaster Centre, and offers residents experience of a wider spectrum of cases.

**Research**

Some specific research activities within programmes have begun. Examples are clinical research in orthopaedic management in rheumatoid arthritis, evaluation of power-assisted splints and tendon transplants in quadriplegia, methods of improving urological care of the neurogenic bladder, including intermittent catheterisation, fabrication and trial of new types of plastic splints for hemiplegia, and studies on stump breakdown.

Several research projects have more general interest. Dr Dinsdale is supervising a trial of the problem-orientated medical record as used on the rehabilitation unit. All staff are participating in a long-term data collection system of demographic information and indices of function. These data will assist in defining the populations being reached, the sources of referral, etc., and will provide a measure by which the results of treatment can be evaluated. It is hoped that a biomedical engineer can be recruited to allow development of special projects within all the programmes, but especially in the fields of prosthetics, orthotics and electronic environmental control systems for the severely disabled.

**The Chedoke–McMaster Centre—a Summary**

The rehabilitation programmes, together with programmes in paediatrics (haemophilia, cystic fibrosis, mental retardation, physically handicapped) and psychiatry (child and family), form the Chedoke–McMaster Centre. Although apparently diverse, these programmes have much in common. The medical problems are chronic, and treatment is complex, necessitating a multidisciplinary approach to management. The aim for each patient is effective care leading to re-integration with the family and community. This is facilitated by involvement of the family throughout treatment and proper preparation of patient and family for discharge. Community links have to be developed, involving physicians, health units, social agencies, and schools. Finally, all programmes have the objective of encouraging community responsibility for care whenever possible.

The long-range expectation of the medical school, in its commitment to rehabilitation, is better patient care. This will be realised both by the specialised units at the Chedoke–McMaster Centre, and helping all the hospitals and the medical community by guidance and example.