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MEDICAL REHABILITATION

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To work in the field of medical rehabilitation is to take part in one of the great adventures of the day. We have acquired a new discipline which perhaps offers more hopeful prospects for the future than many others but which, like the paths through an adventure, still has many obstacles to overcome.

The goal of rehabilitation is to restore patients to physical and mental health so far as this is possible and to assist them to regain their optimal activity and readjust themselves to their environment. This definition is well-known to most of us.

The ideal type of medical rehabilitation is the vertical form, in which the doctor primarily in charge of treatment has possibilities for directly restoring the patient to a useful life in the community. Certain specialties, such as neurology, psychiatry, and rheumatology often have such large groups of patients with long-term diseases that a rehabilitation service of their own would seem to be the most rational solution. This has also been realized with success at several centres.

By horizontal rehabilitation is meant the system by which patients with illnesses expected to result in a long period of disability, or with other handicaps, are transferred to the ordinary rehabilitation centres for continued treatment and assessment.

Rehabilitation has often been regarded as equivalent to the return of a patient to employment. To restore a handicapped person to work is naturally an important form of rehabilitation, from both economic and social standpoints. In many cases, rehabilitation has a more limited goal, for instance to restore a patient's ability to cope either wholly or partially with his daily personal life. Aside from the humanitarian issues involved, this form of rehabilitation is of considerable economic significance.

From the medical point of view, the age distribution in the populations of Western societies, particularly Scandinavia, is in many respects unfavourable. The average life span is now 71 years for men and 74 years for women. At the same time, the nativity rate is low. In 1964, approximately 800,000 of the population of Sweden were over 67 years of age. This figure is expected to have increased to nearly one million by 1970, and to 1.2 million by 1980. In other words, in less than 15 years time 1 in every 8 people will be over the age of 67.

The need for medical care may be calculated in so-called consumption units, and at 70 years of age a man requires approximately eight times as much care as at 30 years of age. Cardiovascular and cerebral diseases, not least those producing unilateral paralysis, predominate in this age group.

I shall not go into detail here regarding the different forms of handicap, but I would like to mention one important group, those due to traffic accidents is roughly 1000, and for every person killed we have three who become disabled.

Of these, we know that 80 per cent of those who sustain even spinal injuries can be restored to an active, productive life if given the benefit of rehabilitation. If such treatment is not given, a long period of disability, with bed sores and severe urinary tract infections, and consequently a heavy tax on the resources of our health services, must be expected. At the same time we are experiencing an increasingly acute crisis in the professions engaged in patient care. It would

Table I. *Population in Sweden*

Year	Inhab. (milj.)	Year	Inhab. (milj.)
1955	7.3	1961	7.5
1956	7.3	1962	7.6
1957	7.4	1963	7.6
1958	7.4	1964	7.7
1959	7.5	1965	7.8
1960	7.5		

therefore appear to be an urgent necessity for society to increase the resources for medical rehabilitation work, so that handicapped members of the community can be made less dependent on outside help than they are at present, and if possible returned to useful work.

The number of beds needed for inpatient medical rehabilitation in Sweden, according to the Central Board of Hospital Planning, is approximately 18 per 100,000 of the population, i.e. about 1400 beds. At present, we have only 180 beds, in other words about a tenth of the calculated requirement.

The following prerequisites are necessary for the creation of a good medical rehabilitation service.

1. Close collaboration and immediate geographical contact with a large general hospital equipped for differentiated medical care.
2. A team of rehabilitation specialists trained to work in cooperation.
3. Early institution of treatment, which should be continued without interruptions.
4. An effective follow-up system.
5. Close cooperation, both locally and functionally, with the social rehabilitation services.

Table II. *Road traffic accidents in Sweden 1955-1965*

		Non-fatal personal injury	
	Fatal	Serious	Slight
1955	871	3022	11,206
1956	834	2856	12,063
1957	886	2782	12,677
1958	876	2675	13,211
1959	939	2662	13,568
1960	970	2514	13,739
1961	1020	2548	14,490
1962	1022	2454	14,042
1963	1126	2555	14,549
1964	1202	2739	15,397
1964	1087	2890	15,231
1965	1110	2755	14,521

The majority of those taking part in the congress had an opportunity yesterday to see the high-class rehabilitation unit at the Danderyd General Hospital. This institution is in many respects a model hospital. We have far too few rehabilitation units of this standard in Sweden.

The regional hospitals should be the first to acquire organized, complete rehabilitation units, since medical and nursing staffs ought soon to be available in sufficient numbers to cope with them. In view of the present shortages of manpower in Sweden it is not possible, today, to establish complete rehabilitation units at the general-hospital level, except in very special cases where circumstances warrant it. The regional hospitals, i.e. the true or potential university hospitals, have as one of their most important objects within their rehabilitation departments, the promotion and encouragement of new methods and research in the field of rehabilitation.

The work should be so organized that the problems presented by a handicapped patient suffering from complicated functional disturbances can be analyzed at regular conferences attended by all members of the rehabilitation team: physician, orthopedic surgeon, clinical neurophysiologist, clinical physiologist, neurologist, and any other medical specialists necessary for the assessment of the case. Medical technicians should also be available for consultation, and possibly these should be working in collaboration with our Institutes of technology, industries or other organs engaged in technical research.

Many related problems of a purely technical nature, such as transportation, lifting, bed-making, and the like, could also be rationally discussed from the biotechnological aspect by the team, and improvements would undoubtedly result.

The programme should include possibilities for necessary cooperation between the clinical physiological and clinical neurophysiological laboratories, and between the departments of psychiatry and of psychiology.

This concentration of medical and technical specialists around difficult problem cases is a rational way of successfully developing new methods and cross-research between different disciplines.

In the long run, also, such an organization has a staff-saving effect. It also involves continuation courses, and acts as a spur to both the medical and the technical staffs. It has been tried with success at a few institutions in other countries. This is the type of organization which we hope to realize in our university hospitals of the future.

I shall also say a few words on staff problems. According to the latest statistics from the Board of Health, about 20 per cent of the appointments available for physiotherapists are vacant. In this situation it would seem natural to aim at increasing the resources for the training of occupational therapists and physiotherapists. There is no lack of applicants for such training. Many of our young people are on waiting lists, hoping for a chance to help us with our difficult medical problems. In the past two years, however, just under a third of the applicants to the physiotherapy training institutes and only a fifth of those desiring to enter schools of occupational therapy have been admitted. In the state enquiry into the conditions in these professions, carried out a few years ago, the State Committee stressed the value of well-organized training institutions led by permanently employed teachers. All these problems connected with training will have to be solved in the near future, if our rehabilitation services are to be adequately staffed.

Our congress has two main themes.

1. Physical training of the disabled.
2. Medical aspects on assessment of the working ability.

In physical activity, stress arises not only in the muscles directly involved, but also in the heart and lungs as a result of the increased oxygen consumption required by the work. It is a practical rule, that in all physical activity of fairly long duration not more than half the maximum physical working capacity should be drawn upon, and the capacity varies with factors such as physical fitness and age. The same work which in a physically fit man requires, for instance, only 20 per cent of his maximum physical capacity may take 60 per cent of the full capacity in a man in poor physical condition and thus in the latter puts a considerable strain on the body. Physical fitness is thus a good insurance against strain due to heavy work. This is the case in normal, healthy people. The same is true for patients with somatic handicaps. We need to gain more knowledge regarding the correct principles for this physical retraining therapy, both in the case of patients with diseases in the cardiovascular and respiratory systems and of those with locomotor involvement.

Our congress will also throw some light on a subject of perhaps even greater importance: tests for psychological and psychiatric assessment. Our possibilities for determining how disabled patients, with their limited physical capabilities, can best be occupied depend, of course, on close cooperation between the medical rehabilitation organization, the industrial health services, and the social rehabilitation services, especially those engaged in qualified vocational evaluation and resettlement. Good contacts with the Institute of Occupational Health and our institutions for social medicine are also necessary. It is this integration, which today is only in its infancy, upon which we are setting our hopes for the future.

With these brief remarks, I have also endeavoured to sketch the reasons for the subjects chosen for this congress. A Scandinavian congress has many purposes. One thinks first, perhaps, of the purely scientific collaboration, but many other common problems also unite Scandinavian doctors working in the field of rehabilitation. In many respects, our countries have a similar social structure, and they are all undergoing rapid technical and social changes, a fact which is having a considerable effect on our profession as well as on the working conditions within our particular sphere. I am referring especially to several fundamental developments in the medical world of today, in which two tendencies in particular are becoming predominant: first, the increasing significance of medical techniques in both diagnosis and therapy, and second, the growing realization of the responsibility of society with regard to the mental, economic, and social needs of the ill and incapacitated. Rapid developments necessitate taking a stand, which is often difficult to do. But I think we can help one another to throw light on our problems. And this is one of the main purposes of the congress.

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