

LEADING ARTICLE  
REHABILITATION MEDICINE  
AN INTRODUCTION TO A NEW DISCIPLINE IN MEDICINE

By R. G. Don

Quote:

U. Thant in his speech to the World Rehabilitation Fund, Inc New York, 1971.

"In no field of technical assistance is the need for social action and human solidarity greater than in the field of services to the disabled. Nor is there any other area in which assistance makes a deeper and more personal impact on the lives of the persons aided." Following this, in May 1972, Kurt Waldheim, the present Sec./Gen. U.N. declared 1970-1980, a "decade of Rehabilitation" based on the recommendations of Rehabilitation International.

The World Health Organisation defines health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

Frequently, because of an extremely limited frame of reference, no differentiation is made between the host and environmental characteristics of one disabled person and those of any other. For example, though clinical pictures of Hemiplegics may be identical, other variables must be considered in order to provide a true profile of the particular patient. The inadequacy of clinical diagnosis has been apparent for several decades to those who treat the physically handicapped. Out of the need for a more complete expression, a concept of functional diagnosis has emerged. The ideal functional diagnosis should define patient need and suggest prognosis. Function is not interpreted as somatic function but as ability to live in society in a dignified and if possible, productive manner. It evaluates the degree and form of physical disability. However, the ultimate destiny of the handicapped lies in the availability of appropriate continuous, dynamic medical rehabilitation services developed out of creative professional exploration into every avenue of patient need. The practice of Rehabilitation medicine involves the medical examination and evaluation of the disabilities, and the abilities of the patients, defining their

handicaps; the prescription and medical supervision of physical and occupational therapy, continual re-evaluation, co-ordination of other rehabilitation procedures, social and vocational assessment and finally emplacement in society.

The symptoms and signs required for the diagnosis of disability are not synonymous with those required for diagnosis of disease.

Eg. 20 year old university student fractures his (L) Humerus in a Road Traffic Accident. He complains that he cannot raise his hand, cannot straighten his fingers and that his grip is weak. Examination reveals paralysis of wrist and finger extensors and sensory loss over the dorsum of the first digit and metacarpal.

The *diagnosis* is clear—the patient having in addition a (L) Radial Nerve palsy.

The *disability* is not clear and has not yet been diagnosed.

One question should be asked. "With which hand do you usually write?" If he is left-handed then one very important additional examination point has been elicited. After the fracture has been treated, the patient's writing skill must be assessed. If he is unable to write then his disability diagnosis includes "Inability to write" and this constitutes one major handicap.

Now consider further the possibility that the patient was (R) handed. Then the writing disability would not have been present, yet the disease remains the same. This illustrates that there is no absolute correlation between a disease and the spectrum of disability problems that may be associated with it. The disability is dependent on the patient's total requirements.

Now let us return to our original patient. Suppose he is advised that his Radial nerve will not regrow successfully. As a result he enters a deliberate systematic training program to develop writing ability with his normal (R) hand and succeeds. He then has eradicated this particular disability, although the (L) Radial Nerve palsy remains. There is no absolute relationship between a disease and the amount of residual disability. Disability problems can be removed even though the disease is unchanged. Thus the ability of a

patient and his physician to remove disability in the face of chronic disease is dependent on the residual capacity of the patient for physiological and psychological adaptation. His residual strength must be evaluated and built upon to "work around" impairment in order to remove disability and restore the "loss of function."

Rehabilitation Medicine is the restoration of handicapped individuals to the fullest physical, mental, social and economic usefulness of which they are capable. Rehabilitation medicine is a creative procedure which includes the co-operative efforts of various medical and surgical specialists and their associates in other health fields. It is a multi-disciplinary effort directed by the specialist in Rehabilitation Medicine, assisted by physicians in other clinical fields such as internal medicine, paediatrics orthopaedic surgery, neurology, neurosurgery, plastic surgery, and psychiatry. These physicians in turn are assisted in various aspects of the rehabilitation effort by a team of associates in the allied health professions including physical therapists, occupational therapists, rehabilitation nurses, speech therapists, medical social workers, vocational counselors, clinical psychologists and prosthetists/orthotists. In a modern department of Rehabilitation medicine, when a physically disabled patient is admitted he is first evaluated by the physician and then by each member of the team in order to determine his physical, mental, social and vocational abilities and thus define his handicaps.

The team takes a dynamic approach especially towards the positive, rather than the negative, aspects of his remaining abilities. When this is done, a comprehensive program is drawn up for the patient set towards attaining a realistic goal. The patient's family is where possible, always involved in the team approach.

The modern type general hospital is today something entirely different from the traditional hospital—it includes services providing preventive, curative and rehabilitation procedures—all features which give it a new character. Medicine today is developing into a social science. The practice of rehabilitation medicine is growing rapidly in importance because of the changing concepts with regard to the approach that the modern physician should take toward the management of his patients. We know today that in the care of the sick and disabled, one should go beyond the antiquated approach in which the physician concerned himself simply with the diagnosis of a static pathological process, provided the necessary surgical procedures for elimination of

the pathological lesion or administered the necessary drugs to cure a specific disease and then dismissed his patient with the conclusion that his responsibilities had ended. Today the physician realises that he must take a dynamic approach and concern himself not only with the physical disability but also with the psychologic, social and vocational problems of the patients.

The amount of chronic illness among aging and aged persons is increasing. In addition the amount of physical disability arising from road traffic accidents, industrial injuries, domestic accidents and wars has increased considerably and these factors coupled with modern scientific advancements in the cure and stabilisation of acute diseases has left us with, as one physician put it "epidemics of disability".

Rehabilitation medicine is the clinical management of disability.

The classic model of personal health care is divided into 3 phases.

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| 1. Preventive phase | } optimum health |
| 2. Curative phase   |                  |
| 3. Rehabilitation   |                  |

Any attempt to bring a patient towards optimum health thus involves rehabilitation—which follows that every physician practises to some extent rehabilitation. However when the degree of physical disability is so great or complicated that it involves a concerted effort to rehabilitate a patient then Rehabilitation medicine as a new discipline is called upon to complete the total care of the patient.

The facilities for the disabled need to be re-assessed in the community. Legislations are required to provide public amenities such as specialised equipment, architectural adaptation in homes and industry, quotas for employment, transportation, hostels and industrial/vocational rehabilitation services.

An epidemiological approach to disability is the first step in this direction as it provides an analysis of the hosts, agents and environmental factors involved in disability. An assessment of this kind of data could furnish wider, more basic knowledge from which to create more individualised and advantageous facilities and services and a scientific approach to disability.

Like all clinical medicine, rehabilitation medicine is concerned with prevention, diagnosis and treatment. However for the specialist, prevention takes on a special meaning. It includes methods of avoiding secondary conditions. In addition to the pathological diagnosis there is the assessment of deficits or limitations, as well

as of residual potential, of mobility, self-care, communication skills and similar normal human functions. Treatment is centered around the amelioration of the consequences of disease in the context of previously mentioned normal human functions.

If one looks through the numerous catalogues on equipment for Rehabilitation Medicine, he would be impressed by the countless number of devices, aids, appliances and gadgets which are demonstrated. As such one can only conclude that the forms of disability affecting different patients are so diverse and complicated that *no single* adaptation can be standardized. Towards this end, continuous research in this field with the application of bio-engineering principles, electronics and plain common sense, is being carried out in the invention and construction of devices to adapt a disabled patient to his environment. Some outstanding examples are the P.O.S.M. (Patient Operated Sensitised Mechanism) electronic controls for operation of a typewriter or household gadgets by mouth/suction for tetraplegics, and modern myo-electric techniques used in artificial limbs. In addition new concepts of reconstructive surgery for the disabled have been introduced and are being evaluated currently. Research is also being carried out in cardiac and pulmonary physiology in the rehabilitation of the disabled e.g. estimation of energy expenditure in the propulsion of a wheelchair of that required for walking by a bilateral amputee.

It can be envisaged that eventually Rehabilitation Medicine can grow into enormous proportions unless the field is specifically defined. As a speciality it should be confined to the management of physically disabled such as paraplegics hemiplegics or amputees. However other specialists like cardiologists for example should be involved in cardiac rehabilitation, chest physicians in pulmonary rehabilitation and so on. The responsibility of rehabilitation is the physician himself—

it is only when this becomes a problematical task as in the severely handicapped that the Department of Rehabilitation Medicine takes over—whether it is at the initial (curative) phase or later when the acute condition has been stabilised.

In conclusion, I would like to summarise the objectives of Rehabilitation Medicine as defined by Dr. Howard Rusk of the Institute of Rehabilitation Medicine, New York.

1. To eliminate the physical disability if that is possible.
2. To reduce or alleviate the disability to the greatest extent possible.
3. To retrain the person with a residual physical disability to live and to work within the limits of the disability but to the best of his capabilities.

Effective rehabilitation depends upon the skills and services of members of many professions. The physician, however, by the very nature of the problem, must be the leader of the team. Fundamental to the effectiveness of all the component disciplines of rehabilitation is the adequacy and affluency of the medical services. If self-sufficiency in job placement or adequacy of self-care is the end objective of rehabilitation, certainly rehabilitation—oriented medical care starting at the earliest possible moment following acute illness or injury is the foundation.

#### REFERENCES

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