

## Qualification in Physical Medicine and Rehabilitation Acknowledgment of an Expanding Speciality

*Work carried out at Rehabilitation Medicine Center clinical Hospital, School of medicine, São Paulo University.*

**W**hen we think about Physical Medicine and Rehabilitation, it is immediately associated to movement physiology and pathology. The motor act and all its implications are the object of the physiatrist study. Pathology of the motor act involves several changes in a number of etiologies that can be caused by factors going from psychic to traumatic, and can also be induced by acute or chronic degenerative diseases or by genetic causes.

Therefore, we basically study the motor function, and beginning with a number of causes, the deleterious effects manifested through neuromuscular mechanisms, which ultimately result in loss of quality, or even in motor disability. This important function is a guarantee of a socially productive life and also of human independence. To illustrate the motor pathology, we have to consider that changes in motor function can be observed in neuromuscular diseases, lack of movement in osteomyoarticular diseases associated with disabling pain, and in neurologic lesions, such as Paraplegic and Tetraplegic lesions. The lack of a segment or a limb can also result in motor disability and, if caused by a congenital defect, as malformation and traumatic or degenerative amputations, will have different clinic expressions with functional effects of different intensity. The pain by itself is an important phenomenon in motor changes.

Disabling pain can be caused by psychoaffective disorders, repetition efforts, microtraumas, acute traumas, and degenerative diseases. Although a patient with

osteomyoarticular lesion may not have a functional disability caused by the lesion, he may have a pain which determines a disability. Thus, the effect of various causes generating pathologic motor changes, can be theoretically divided into functional changes of normal movements, lack of effector segment, pain, and functional disabilities, determining motor changes. As motor dysfunctions and changes are determined, we have to choose therapy. Treatment should always be based on the diagnosis of disability and on the functional prognosis of such pathology.

Some historical data of Physical Medicine and Rehabilitation, a prospective history performed in the United States in the 80's, shows that this discipline had its origins in the 20's. However, it was during the 30's that it really attracted a group of specialists who, beginning with the study and the determination of the biological basis of the physical agents, established a new therapeutic approach.

Virtually worldwide, specially during the war, we have observed the demand for a greater number of specialists.<sup>1</sup> In fact, the history of Physical Medicine and Rehabilitation is closely linked to historical and developmental uniquenesses of each country. In Brazil, poliomyelitis has been always the most important reason for the development of this discipline.

All National and International Organizations, congregating such specialists, were careful in establishing a specific approach for their physicians, and there is no more doubts as to the devices and therapeutics used by the physiatrist.<sup>1</sup> Keeping in mind the basis of the internal medicine, the physiatrist also looks for physical resources which may provide better therapeutic conditions to their patients, and improve their diagnosis procedures.

---

**Address for correspondence:** *Divisão de Reabilitação – Hospital das Clínicas FMUSP  
Av. Dr. Enéas de Carvalho Aguiar, 255 – CEP 05403-000  
P.O BOX 8091 Tel.: (55-11) 282-2811*

---

In fact, when we talk about Physical Medicine and Rehabilitation, we have to consider not only the consensus about the approach used by the physician to treat his patient, who may have a potentially disabling lesion or an established disability, but also the need to prevent, treat or limit the phenomena related to motor function, reestablishing the movement to be applied to patients' daily-life functional activities, locomotion, and to his professional and social performances.

Some specialists in medical teaching favour the idea that a discipline should be characterized by its mortality and morbidity rates. In our opinion, this criterion should be taken into consideration. Actually, when observing the poor data available concerning the epidemiology of the disability, we are faced with a frightening figure.

The World Health Organization (WHO) estimates that approximately 10% of the total population of a country in peace present some type of deficiency, and among those, approximately 4% have physical disabling deficiencies, which are the aim of these specialists.<sup>1</sup>

Concerning morbidity, American investigators ensure that around 10 million people are assisted by governmental health programs, which means effective support concerning budget and the availability of inpatient and outpatient medical assistance.

In 1982, in the United States, labor compensation has been approximately US\$ 13 billion and social security US\$ 23,1 billion, which means a high social-economic cost of morbidity in people with some deficiency.<sup>(2)</sup>

Kottke<sup>3</sup> states that 3% to 5% of the population need Rehabilitation Assistance during their lives.

If we remember the technical and scientific approach of the discipline, and if we think about qualification in Physical Medicine and Rehabilitation, it's necessary to consider medical areas which consolidated their practices based on patient functional uniquenesses. Some examples are:

– “Children are not a small adult”. This statement gave origin to an area of knowledge which, together with clinical specialties, favoured an age group that really has different biological limits when compared to adults, and in which the interventions should necessarily respect the growth and development processes.

– Geriatrics was developed under the statement that the aging process also has characteristics that should be respected. Nowadays, elderly care is an area of huge investments concerning research and teaching, because of its aim to prevent impairment of quality of life.

When we understand the needs of the infant and the elderly we admit that, due to their established functional limitations, changes in their physiologic and biological limits and the complexity of deleterious effects, resulting from motor limitation and disability, disabled patients need

specific health care, which implies the assistance of a specialist who will develop health programs for the disabled patient, that is, the physiatrist.

Being manifested in different intensities and responsible for the impairment of different systems in the human body, they can coexist with transient and permanent disabilities. Some examples will illustrate this issue:

– Vertebral chronic pain is commonly associated with postural problems due to professional activities or congenital development problems. These situations can result in reactive depression, and specially in women, its misuse can accelerate osteoporotic process, just to mention some correlated disorders.

– Medular lesion through trophic changes in skin and lack of vascular and nervous stimuli caused by neurologic changes, can induce scars; immobility, para-articular calcification, vesicourethral and cardiopulmonary dysfunctions are disorders that require attention and specialized follow-up.

Rehabilitation Medicine was certainly the first area of medical knowledge to be concerned with the quality of life and to develop strategies to prevent and reduce human being disability and degeneration.

Its necessary to observe that Qualification in Physiatrics is necessarily linked to Qualification in Clinical Medicine aimed at patients with transient or permanent disabilities.

Due to constant changes in concepts, the task of defining and limiting medical disciplines is not easy. When mentioning clinical medicine training, Professor Clementino Fraga Filho<sup>2</sup> reports to studies, conferences and discussions, which since 1961 are held in an attempt to define training and Qualification in Clinical Medicine. It's the physician who will determine the procedures, and help other specialists in approaching these patients and who will have the opportunity to observe the dynamics of a team able to offer the appropriate care in initial and acute stages of a lesion, aiming to prevent further sequelae and limit established disabilities caused by the disease, and also to follow-up these patients, until they are discharged, in order to evaluate the need and the opportunity to refer these patients to a Rehabilitation Center.

The correlation between Clinical Medicine and Physical Medicine and Rehabilitation or Physiatrics allows us to ratify some of the principles established by various organizations about qualification in clinical medicine, extrapolating these principles to Rehabilitation Medicine.<sup>(2)</sup>

1) Knowledge of clinic scientific basis, taking into account that Current Medicine is a science, in its basis and teaching methodology;

2) Skill to gather data, aiming at formulating diagnostic hypothesis; development of the ability to gather

elements by anamnesis and physical examination and to analyse these elements,<sup>2</sup> in order to solve diagnosis and functional prognosis problems;

3) Criteria to choose complementary examinations and the ability to analyse the results. It is essential, due to the great number of examination available, some of them highly complex and expensive, to proceed a criterious application;<sup>2</sup>

4) Ability to apply epidemiological methods to study clinical problems: disease frequency, causality, risk factors, clinical measurements, necessity to take into account cost/benefit when deciding about the functional diagnosis and rehabilitation therapy;

5) Criteria to address patients to another specialist. A good background will give physiatrists the opportunity to solve great part of the problems, without referring patients;

6) Thorough knowledge of the patients and their family and environment interrelations, revealing the need to proceed an overall evaluation of psychosomatic aspects and the influence of social, professional and environmental factors in the progression of the disease;

7) Ability to perform the commonest invasive procedures, such as venal punctions, arthrocentesis, vesical catheterism, scars debridement, and nervous blocking.

8) Development of an appropriate humanitarian and ethical behavior towards patients and their families. Although considered one of the most important aspects, ethics and bioethics teaching, which is a result of scientific and technological improvements, is the most underestimated branch of medical education, nowadays;<sup>(2)</sup>

9) Team work skills. Training should start early, during graduation, to establish a team work relationship and respect towards other health professionals;<sup>(2)</sup>

10) Knowledge of health problems of the community and awareness of the social commitment of the physician.<sup>(2)</sup> This reflects the role played by the physiatrist in relation to an essential aspect, that is, the responsibility of Medical Schools in face of the society and their understanding of the real possibilities of a disabled patient.

11) Training in specific diagnostic activities that involve muscle and nerves electroneurophysiologic evaluations (classic electrodiagnosis, electroneuromyography, and induced potential), dynamic evaluation of movement, and myoarticular dynamometry.

Qualifications in Physical Medicine could also be evaluated by national and international publications. Despite some variations and a greater interest in a specific subject, all books in this area discuss the following subjects:

1. Medications Used in Rehabilitation
2. Therapeutic Modalities: Physical Agents
3. Exercise: Principles, Methods and Prescription  
Exercise and Rest
4. Electrodiagnosis – Electroneuromyography Evoked Potential
5. Fibromyalgic and Miofascial Pain Sd
6. Chronic Pain
7. Orthesys, Prothesys and Assistive Devices
8. Spinal Cord
9. Hemiplegy
10. Cerebral Palsy
11. Polyomelite
12. Immobility Sd
13. Social and Vocational Rehabilitation
14. Speech Therapy
15. Daily-living Activities
16. Gait Analysis

Based on this data, it is easy to verify that, in specialized books, such subjects are not listed, since the definition of physiatrist's qualification is well established.

Finally, procedures involving a discipline should be classified and defined as to therapeutic and diagnostic resources. It should be understood that therapeutic resources alone do not define a discipline, but should, for patient safety sake, be applied only by a specialist or supervised by him, since therapy means knowledge of the pathology and concurrent disorders, their effects and side reactions and also of applicability limits.

Concerning diagnostic procedures, update demands that specialists be well informed and update themselves constantly. However, it is important to emphasize that many diagnostic processes are common to various areas of medical knowledge, being frequently better performed by professionals that are dedicated exclusively to this specific area.

Since knowledge is dynamic and for that reason changeable, there will never be a work which by itself will exhaust the subject. Many discussions and studies are needed to improve the discipline and update specialists.

Last but not least, it should be stressed that: Refinement, ethics, and qualification should prevail in the relation physician-physician and physician-patient.

Refinement of knowing and being able to refer patients to a procedure that is far beyond their background, assuring that it is ethical and adequate to request new procedures, and also ensuring that this is based on patients real needs, and not on the "generous" attitude to favour another health professional, with the qualification to recognize ones own limits, allowing patients to have a better diagnostic and therapeutic treatment.

---

## REFERENCES

---

1. DELISE, J. A & GORDON M. M. – Donald Rehabilitation Medicine Past, Present and Future in Rehabilitation Medicine: Principle and Practice Edited by Joel a Dilise. J. B. Lippincott, Philadelphia, 1988.
2. FRAG FILHO, C. et al. – Ensino de Clínica Médica – **Rev Ass Med Brasil** 1993, 39 (4) 198-200.
3. KOTTKE F.J. – Future Focus of Rehabilitation Medicine – **Arch Phy Med Rehab** 61:1 - 6, 1980.