PHYSICAL MEDICINE and REHABILITATION (PMR)

Past, present, and future

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HEALTH

WHO’s definition:
Physical, psychological and socially complete well-being.
IMPAIRMENT

Definition: Any loss or abnormality of psychological, physiological, or anatomical structure or function.
Impairment includes clinical features or manifestations of the disease or condition. Examples: weakness, limited ROM, confusion etc.

In this definition function is the function of a body part, not the whole-person function.
DISABILITY

Any restriction or lack resulting from impairment of ability to perform an activity in the manner or within the range considered normal for a human being.
HANDICAP

A disadvantage for a given individual resulting from an impairment or a disability that limits or prevents the fulfillment of a role that is normal (depending on the age, gender, social and cultural factors) for that individual.
WHO DEFINITIONS

Impairment ↔ Organ or Tissue

Disability ↔ Whole Person

Handicap ↔ Society
• Physical medicine is the use of physical methods and agents in the diagnosis and treatment of the disease, impairment, disability and handicap
PHYSICAL THERAPY

- Physical therapy is the use of physical methods and agents in the treatment of the disease, impairment, disability and handicap
MEDICINE

- Preventive
- Medical (and surgical)
- Rehabilitation
Conventional Medicine

• Concerned with diagnosis,
• Tends to curable diseases.
REHABILITATION

• Diagnosis is not mandatory
• Concerned with functional problems
Rehabilitation is the process of helping a person to reach the fullest physical, psychological, social, vocational, avocational, and educational potential consistent with his or her physiologic or anatomical impairment, environmental limitations, and desires and life plans.
CLASSIFICATION OF DISABILITY AND HANDICAP

1. Orthopedic → Physical
2. Visual → Blind
3. Mental → Psy
4. Hearing → Deaf
5. Speech →
6. Mixt →
7. Others →
PHASES OF REHABILITATION

1. Medical Rehabilitation
2. Vocational Rehabilitation
3. Economical Rehabilitation
4. Social rehabilitation
REHABILITATION TEAM-1

- Physiatrist
- Physiotherapist
- Rehabilitation nurse
- Therapist
- Occupational therapist
- Social worker
REHABILITATION TEAM-2

- Speech therapist
- Psychologist
- Orthotist-Prosthetist
- Vocational councillor
- Others (doctors, etc)
PHYSIATRIST

- Leader of the team.
- Responsible for each intervention
- Evaluates the patient
- Plans.
- Organizes.
- Directs
- Coordinates.
- Controls.
- Motivates.
NURSE

• Controls environmental factors.
• Directs personal care of the patient.
• Manages medication.
• Is responsible for skin integrity.
• Helps ADL and adaptive devices.
• Organizes bowel and bladder program.
• Helps the patient manage their time.
• Informs the team about the status of the patient
• Educates the patient and the family
PHYSIOTHERAPIST

- Performs muscle strength testing.
- Evaluates the length and the tonus of the muscle.
- Exercises the patient especially for gross motor function.
- Teaches how to transfer.
- Instructs the use of wheelchair, canes and crutches.
- Offers physical therapy modalities.
- Educates for posture and walking.
THERAPIST

• Performs some physical therapies such as:
  1. Electrotherapy
  2. Superficial heat (IR, HP, Paraffin)
  3. Deep heat (UST, SWD, MWD)
  4. Traction
  5. Massage
Occupational therapist

- ADL.
- Trains the patient in the functional use of upper extremities.
- Explores the vocational skills.
- Evaluates the home and suggest modifications.
- Trains patients in the use of assistive technology.
- Collaborates with all of the team
Orthotist - Prosthetist

• Evaluation
• Design
• Fabrication of orthosis (braces) and/or prosthesis (artificial limb)
• Follow-up
• Instructs the patients and the family the use and the maintenance of these devices
• Collaborates with all of the team
Speech Therapist

- Evaluates patients with aphasia, dysarthria, apraxia
- Speech, comprehension, reading and writing
- Swallowing, feeding
- Other communicative problems and proper therapies
- High technologies
- Family and patient education and counseling
Psychologist

- Evaluates the psychological status of the patients
- Tests intelligence, memory and perceptual functioning
- Incorporates the test results into the care plan
- Educates family and patient
- Counseling of the family
Social worker

- Evaluates patients (life-style, family, finances, employment, environmental factors)
- Maintains a continuing relationship with the patient and family
- Coordinates funding resources
- Provides assistance in locating alternative living situations
- Assess vocational barriers
- Provide emotional support in stressful situations
- Facilitates discharge planning
Vocational Councillor

- Assists in developing and attaining realistic vocational goals
- Evaluates vocational interests, aptitudes, and skills
- Councels patients in the work environment
- Organizes activities to develop employer-employee relationship behaviors
- Acts as a liaison between the patient and agencies that provide training or job placement services
- Provides counseling, education, and support to potential employers (job analysis on worksite)
Other Rehabilitation Professionals

- Audiologist
- Bioengineer
- Child life specialist
- Dance therapist
- Dentist
- Dietitian
- Durable medical equipment vendor
- Enterostomal therapist
- Hippotherapist
- Horticultural therapist
- Hospital-based school teacher
- Hydrotherapist
- Kinesiotherapist
- Maxillofacial prosthetist
- Music therapist
- Podiatrist
- Recreational therapist
- Others
LOCOMOTOR SYSTEM

• Rheumatic

• Traumatic & orthopedic

• Neurologic
Some of the conditions in the land of PMR

- Disc herniations
- Osteoarthritis
- Osteoporosis
- Soft Tissue Rheumatisms
- Ankylosing Spondylitis
- Rheumatoid Arthritis
- Chronic Pain
- Temporomandibular Dysfunction
- Neck Pain
- Back Pain
- Low-back pain
- Upper limb pain
- Lower limb pain
- Metabolic bone disease
- Metabolic joint disease
- Myofascial Pain
- Peripheral Vascular Diseases
- Cumulative Trauma Disorders
- Hemiplegia
- Traumatic Brain Injury
- Spinal Cord Injury
- Peripheral Nerve Injury

- Muscular Dystrophies
- Multiple Sclerosis
- Traumatic Locomotor System Diseases
- Vestibular Rehabilitation
- Rehabilitation after arthroplasties
- Parkinson Disease
- Scoliosis
- Spasticity
- Pressure Sores
- Amputee Rehabilitation
- Hand Rehabilitation
- Sports Injury Rehabilitation
- Cerebral Palsy
- Poliomyelitis
- Postpolio Syndrome
- Guillain Barre Syndrome
- Cardiac Rehabilitation
- Pulmonary Rehabilitation
- Pediatric Rehabilitation
- Geriatric Rehabilitation
- Bladder and bowel management
- Others
Clinical Evaluation

- Detailed History of the Patient
- Physical Examination
- Evaluation of Function
- PMR Diagnosis
- Disease
- Impairment
- Disability
- Handicap
Demographic Data

• Name - surname:
• Age:
• Gender:
• Profession:
• Place of birth:
• Marital status:
History & Physical Examination

- Direct from the patient
- From the family, relatives, friends, caregivers, attendants, nurses, doctors, health agency, reports, others
Complaint(s)

• Main complaint(s) (pain, weakness etc.)

• Others (vertigo, vomiting etc.)
History-1

- Date of onset
- Any cause
- Character and severity
- Time relationship
- Location and extension
- Associated complaints
History-2

- Aggravating factors
- Alleviating factors
- Previous treatments and effects
- Progress
- Remissions and exacerbations
History-3

- Previous diseases
- Coexisting diseases
- Surgical interventions
- Trauma
History-4

- Alergy
- Delivery, menses, menopause
- Smoking, alcohol and drug
- Social status
Family History

- Illness in the family
- Cause of deaths
General health state

- Fever
- Blood pressure
- Pulse rate
- Body structure
- Color changes
- Edema
Examination of locomotor and neurologic system

- Inspection
- Palpation & pression
- ROM
- Sensation
- DTR
- Muscle testing
- Special tests
Skin & mucosal examination

- Pressure sores
- Infection
- Maceration
- Ulceration
- Pigmentation
- Hair loss
Ear-nose-throat

- Whispering test
- Audiogram
- Otoscopic examination
- Teeth repair
- Gingivitis
- TMJD
- Poor nutrition
Respiratory system

- Inspection
- Auscultation
- Palpation
- Percussion
- Respiratory tests
Cardio-vascular system

- Auscultation
- Palpation
- DVT
- Varices
- Raynaud phenomenon
- Doppler
Gastro-intestinal system

- Inspection
- Auscultation
- Palpation
- Percussion
Urogenital system

- Incontinence
- Maceration
- Ulceration
- Urinary retention
- Residual urine
- Orchitis
- Epididimitis
- Penile fistulas
Communication

- **Listening**
  - Do you have difficulty hearing?
  - Do you use a hearing aid?
- **Reading**
  - Do you have difficulty reading?
  - Do you need glasses to read?
  - Do others find it hard to understand what you say?
- **Speaking**
  - Do you have difficulty putting your thoughts into words?
  - Do you have difficulty finding words?
  - Can you write?
- **Writing**
  - Do you use any communication aids?
Eating

• Can you eat without help?
• Do you have difficulty opening containers or pouring liquids?
• Can you cut meat?
• Do you have difficulty handling a fork, knife or spoon?
• Do you have problems bringing food or beverages to your mouth?
• Do you have problems chewing?
• Do you have difficulty swallowing solids or liquids?
• Do you ever choke?
• Do you regurgitate food or liquids through your nose?
Grooming

• Can you brush your teeth without help?
• Can you remove and replace your dentures without help?
• Do you have problems fixing and combing your hair?
• Can you apply your make-up independently?
• Do you have difficulty shaving?
• Can you apply deodorant without assistance?
Bathing

• Can you take a tub or shower without help?
• Do you feel safe in the tub or shower?
• Do you use a bath bench or a shower chair?
• Can you accomplish a sponge bath independently?
• Are there parts of your body you can not reach?
Toileting

• Can you use the toilet without help?
• Do you need help with clothing before and after using the toilet?
• Do you need help with cleaning after a bowel management
Dressing

• Do you dress daily?
• What articles of dressing do you regularly wear?
• Do you need assistance putting on or taking off your underwear, shirt, slacks, skirt, dress, coat, stockings, panty hose, shoes, tie, etc.?
• Do you need help with buttons, zippers, hooks or shoelaces?
• Do you need clothing modifications?
Bed Activities

• Can you turn onto your front, back, and sides without assistance?
• Can you lift your hips off the bed when supine?
• Do you need assistance to sit or lie down?
• Do you have difficulty maintaining a seated position?
• Can you operate the bed controls on an electric hospital bed?
Transfers

• Can you move between the bed, toilet, bath bench, shower chair, standard seating, or car seat and the wheelchair without help?
• Can you get out of bed without difficulty?
• Do you need assistance to stand from low or high seats?
• Can you get on and off the toilet without help?
Wheelchair Mobility

• Do you propel a wheelchair?
• Do you need help to lock the wheelchair brakes before transfers?
• Do you need assistance to cross high-pile carpets, rough ground, or inclines?
• How far and how many minutes can you wheel before you need rest?
• Can you independently move about your living room, bedroom, and kitchen?
• Do you go shopping, restaurants, and friends’ home
Ambulation

- Do you walk unaided?
- Do you use a cane, crutches, or a walker to walk?
- How far and how many minutes can you walk before you must rest?
- What stops you from getting further?
- Do you feel unsteady or do you fall?
- Can you go upstairs and downstairs unassisted?
- Do you go shopping, restaurants, and friends’ home?
- Can you use public transportations without help?
Operation of a motor vehicle

- Do you have a valid driver’s licence?
- Do you own a car?
- Do you drive your car to go shopping, restaurants, and friends’ home?
- Do you drive in heavy traffic or over long distances?
- Do you use hand controls or other automobile modifications?
- Have you experienced any motor vehicle accidents or received any citations for improper operation of a motor vehicle since your illness or injury?
Laboratory

- RBC, WBC, Hct
- Sedimentation rate
- Urinary analysis
Rx, CT, MRI, scintigraphy and other advanced technics
Therapy and/or rehabilitation