brothers.com, for detailed information on physiotherapy books, visit our website www.jaypeebrothers.com, for detailed information on physiotherapy books,





Disability and Rehabilitation



Shyam D Ganvir

Forewords
GJ Ramteke
Umanjali Damke

JAYPEE

Contents

Section 1: Introduction to ICF, Disability Guidelines According to WHO

Chapter 1: International Classification of Functioning, Disability and Health **1**

Shyam D Ganvir

- Aims *2*

Chapter 2: Disability, its Types, Guidelines for Permanent Physical Impairment and Disability Certification **5**

Shyam D Ganvir, Saqib Syed

- Disability *5*
- Guidelines for Permanent Physical Impairment (PPI) *6*
- Disability Certification *7*

Chapter 3: Disability Models and Acts **9**

Shyam D Ganvir

- Moral Models of Disability *9*
- Biomedical Model of Health *9*
- Medical Model of Disability *10*
- Rehabilitation Model *10*
- Social Model of Disability *10*
- Acts *11*

Chapter 4: Disability: Prevention, Management and Rehabilitation **17**

Shyam D Ganvir, Deepti C Thokal

- Preventing Disability *17*
- Primary Prevention *17*
- Secondary Prevention *18*
- Tertiary Prevention *19*
- Management and Treatment of Disability *19*
- Rehabilitation of Disabled People *19*
- Sociovocational *21*
- Institution-based Rehabilitation *22*
- Community-based Rehabilitation *22*
- Home-based Rehabilitation Program *23*

Chapter 5: Home Exercise Programs for Various Classification of Disabilities **25**

Shyam D Ganvir, Arijit Kumar Das

- Orthosis Use *34*
- Geriatric Homed-based Rehabilitation *35*
- Summary *38*
- Wheelchair Transfer Techniques *38*

Section 2: Community-based Rehabilitation

Chapter 6: Community Development 41

Shwetanjali Bhagra

- Definition of Community Development *42*
- The History of Community Development *42*
- Principles of Community Development *42*
- Values of Community Development *43*
- Characteristics of Community Development *43*
- Objectives of Community Development *43*
- Components of Community Development *44*
- The Method and Process of Community Development *44*
- Steps for Initiating Community Development *46*
- Types of Community *48*
- Types of Community Development Programs *48*
- Effective Approaches to Community Development *49*
- Importance of Community Development *49*
- Role of Community Development Worker/Community Developer *50*
- The Role of Physiotherapists in Community Development *51*

Chapter 7: The Link Between Institution-based Rehabilitation and Community-based Rehabilitation 53

Shwetanjali Bhagra

- Institutional Rehabilitative Strategies *53*
- Institutional Rehabilitation Programs *54*
- Links Between CBR and IBR *55*
- Gaps to be Filled by Local NGOs *56*

Chapter 8: Principles and Role of Community in Rehabilitation 58

Shubhangi Patil

- Definition of Rehabilitation *59*
- Goals of Rehabilitation *59*
- Objectives of Rehabilitation *60*
- Types of Rehabilitation *60*
- The Rehabilitation Team *62*
- Community-based Approach *65*
- Outreach Program for Rehabilitation *70*
- Principles of Rehabilitation *70*
- Role of Community in Rehabilitation *71*

Chapter 9: Evidence Based in Community Physiotherapy 74

Shrikant Bhimrao Darade

- Goals of EBP in Community Physiotherapy *76*
- Steps in Evidence-based Community Physiotherapy *76*
- Challenges to Implement EBP in Community Physiotherapy *79*
- Strategies for Effective Evidence-based Practice *79*
- Methodology for EBP in Community Physiotherapy *81*

Section 3: Basic Concepts of National and International Legislation for Persons with Disability

Chapter 10: Role of National Institutes, District Rehabilitation Center and Primary Health Center **83**

Deepali Nivrutti Hande

- Primary Healthcare Centers *84*
- De-worming *86*
- District Disability Rehabilitation Center *87*

Chapter 11: Appropriate Technology, Assistive Devices Used for Disabled **96**

Shyam D Ganvir, Pratima Sarwadikar

- Appropriate Technology *96*
- Assistive Technology *96*
- Assistive Devices *97*
- Home Automation *98*
- Assistive Technology in Diabetic Foot *99*

Chapter 12: Schemes and Legislations for Person with Disabilities **100**

Nitin Suhas Nikhade, Pradnya Dumore

- Provisions for Persons with Disabilities in Constitution of India *101*
- National Policy for Persons with Disabilities *102*
- International Legislations for People with Disability *119*

Chapter 13: Accessibility for Persons with Disability **123**

Shyam D Ganvir, Deepak B Anap

- Handrails *131*

Chapter 14: The UN Convention on the Rights of Person with Disabilities **137**

Shyam D Ganvir, Sonyabapu Shewale

- Article 1 *137*
- Article 2 *137*
- Article 3 *138*
- Article 4 *138*
- Article 5 *139*
- Article 6 *140*
- Article 7 *140*
- Article 8 *140*
- Article 9 *141*
- Article 10 *141*
- Article 11 *141*
- Article 12 *142*
- Article 13 *142*
- Article 14 *142*
- Article 15 *143*
- Article 16 *143*
- Article 17 *143*
- Article 18 *144*

- Article 19 *144*
- Article 20 *144*
- Article 21 *145*
- Article 22 *145*
- Article 23 *145*
- Article 24 *146*
- Article 25 *147*
- Article 26 *148*
- Article 27 *148*
- Article 28 *149*
- Article 29 *149*
- Article 30 *150*
- Article 31 *151*
- Article 32 *151*
- Article 33 *151*
- Article 34 *152*
- Article 35 *153*
- Article 36 *153*
- Article 37 *154*
- Article 38 *154*
- Article 39 *154*
- Article 40 *155*
- Article 41 *155*
- Article 42 *155*
- Article 43 *155*
- Article 44 *155*
- Article 45 *156*
- Article 46 *156*
- Article 47 *156*
- Article 48 *157*
- Article 49 *157*
- Article 50 *157*

Chapter 15: Early Identification and Intervention for Detection of Disability **158**

Suvarna S Ganvir, Maheshwari Harishchandre

- Definition by WHO *158*
- Locomotor Disability *159*
- Evaluation of Disability *159*
- Locomotor Disability *160*
- Disability Evaluation of Spine *161*
- Upper Limb Levels Percentage of Amputations *163*
- Lower Limb Levels Percentage of Amputations *164*
- Early Intervention Strategy *166*
- Physiotherapist *170*

Section 4: Elderly Individuals and their Services

Chapter 16: Health Care and Fitness 171

Ashish Wasudeorao Bele

- National Healthcare Delivery System *171*
- Legal Rights and Benefits Related to Health *180*
- Principles of Fitness Training *189*
- Strategies of Health Fitness for Women and Geriatric *192*

Chapter 17: Geriatric Rehabilitation 198

Shyam D Ganvir, Pratima Sarwadikar

- Rehabilitation for Specific Conditions *206*
- Arthritis and Related Musculoskeletal Problems *206*
- Stroke *207*
- Cardiac Disease *208*
- Hip Fracture *208*
- Amputation *208*
- Deconditioning, Sarcopenia, and Frailty *209*
- Falls *209*
- Pain *210*

Chapter 18: Elderly in India 224

Shyam D Ganvir, Abhijit D Diwate

- Aging *224*
- Theories of Aging *225*
- Policy and Programs for the Welfare of Elderly in India *226*
- International Day for Older Persons and National Awards: Vayoshreshtha Samman *229*
- National Council for Older Persons/National Council of Senior Citizens *229*
- The National Policy on Older Persons *230*
- Benefits Extended by Other Central Ministries for the Welfare of Senior Citizens *230*
- Legislations *233*

Chapter 19: Wheelchair Management 235

Shyam D Ganvir

- Wheelchair Users *235*
- Need for Wheelchairs *235*
- Rights to Wheelchairs *235*
- Benefit of Wheelchairs *236*
- Health and Quality of Life *236*
- Economy *237*
- Parts of Wheelchair *239*
- Wheelchair Services *239*
- Pressure Sore *245*
- Appropriate Wheelchair *247*
- Wheelchair Specifications *250*

- ❖ Cushion *252*
- ❖ Wheelchair Fitting *257*
- ❖ Transfers *262*
- ❖ Wheelchair to Bed *263*
- ❖ Wheelchair to Bed by Placing Legs on the Bed *263*
- ❖ Assisted Standing Transfer *264*
- ❖ Transfer Board *265*
- ❖ Emotional Health Problems *266*
- ❖ Energy and Emotions *266*
- ❖ General Health *268*

Chapter 20: Environment Modifications for People with Disabilities and Elderly Individuals **270**

Deepti Nandlal Wadhwa

- ❖ Access to Building *270*
- ❖ Controls and Operating Mechanisms *275*

Chapter 21: Integrated Treatment Approach for Neuromuscular Dysfunction in Elderly **279**

Sanjivani Kamble

- ❖ Ageing *279*
- ❖ Common Health Issues that Come with Ageing *279*
- ❖ The Brain's Aging *279*
- ❖ Key Elements of the Assessment of Neurologic Examination in Geriatric Population *280*
- ❖ Integrated Treatment Approach for Neuromuscular Dysfunction in Elderly *280*
- ❖ Health Advantages of Integrated Treatment Approach *283*
- ❖ What to Look for in a Long-term Care Setting for Integrated Therapy *283*

Appendices

Appendix 1: Geriatric Assessment *285*
Appendix 2: Orthosis Prescription Assessment *291*
Appendix 3: Prosthesis Prescription Assessment *295*
Appendix 4: Short Falls Efficacy Scale—International *302*

Index ***305***

CHAPTER

2

Disability, its Types, Guidelines for Permanent Physical Impairment and Disability Certification

Shyam D Ganvir, Saqib Syed

LEARNING OBJECTIVES

Through this chapter, the reader will be able to:

- Gain knowledge about disability, it's types and grades.
- Understand guidelines for permanent physical impairment.
- Will have insight on guidelines for disability certification.

DISABILITY

According to World Health Organization "disability is any restriction or lack of ability to perform an activity in the manner or within the range considered normal for a human being."

Disabilities may be classified as mild, moderate, severe and profound. Categorization of disabilities is a difficult task.

Government of India has suggested certain norms. Disability Act of 1995 also specifies certain norms for classification based on severity to help certification for receipt of certain benefits under different schemes.

The government of India has put in place an Act for the disabled to make sure the disabled also form an important part of nation building.

The Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995 came into force on February 7, 1996. It is a significant step which ensures equal opportunities for the people with disabilities.

The Act provides for both the preventive and promotional aspects of rehabilitation like education, employment and vocational training, reservation, research and manpower development, creation of barrier-free environment, rehabilitation of persons with disability, unemployment allowance for the disabled, special insurance scheme for the disabled employees and establishment of homes for persons with severe disability, etc.[1]

JAYPEE BROTHERS

Types of Disability

- Locomotor Disability
- Visual Impairment
- Hearing Impairment (Deaf and Hard of Hearing)
- Speech and Language Disability
- Intellectual Disability
- Mental Illness
- Disability caused due to Chronic Neurological Conditions
- Disability caused due to Blood Disorder
- Multiple Disabilities

Autism, learning disabilities, etc., emphysema, cancer, heart disease, multiple sclerosis, etc. are other types of disabilities. Disabilities may be classified as mild, moderate, severe and profound. Categorization of disabilities is a difficult task. Government of India has suggested certain norms. Disability Act of 1995 also specifies certain norms for classification based on severity to help certification for receipt of certain benefits under different schemes.[2]

Grades of Disability

- **Mild:** Less than 40%
- **Moderate:** 40% and above
- **Severe:** 75% and above
- **Profound:** 100%

For all concessions eligibility is only for those with 40% and above.[2]

GUIDELINES FOR PERMANENT PHYSICAL IMPAIRMENT (PPI)

- The estimation and measurement should be made when the clinical condition has reached the stage of maximum improvement from the medical treatment.
- Normally the time period is to be decided by the medical doctor who is evaluating the case for issuing the PPI certificate as per standard format of the certificate.
- The upper limb is divided into two components; the Arm Component and 'Hand Component.'
- Measurement of the loss of function of 'Arm Component' consists of measuring the loss of Motion, Muscle Strength and Co-ordinate Activities.
- Measurement of loss of function of Hand Component consists of determining the Pretension, Sensation and Strength.
- The impairment of the entire extremity depends on the combination of the functional impairments of both components.[3]

JAYPEE BROTHERS

DISABILITY CERTIFICATION

Guidelines for Certification

Pursuant to the Rules on Persons with Disabilities (Equal Opportunity, Protection of Freedoms and Complete Participation), 1996 notified by the Central Government on 31 December 1995 in the exercise of the powers bestowed by Sections (1) and (2) of Section 73 of the Act on Persons with Disabilities, the person authorized to grant a disability certificate shall be a medical board; Consisting of at least three representatives, of which at least one is a professional in a particular area for the evaluation of locomotor/visual, including affected vision/hearing and speech impairment, intellectual retardation and leprosy, as the case may be, properly named by the federal and state governments.[2]

The specified tests, as indicated in the Guidelines, should be carried out by the Medical Board and recorded before the certificate I have issued. The certificate would be valid for a period of five years for persons whose disability I is temporary while it is valid for a lifetime in the case of permanent disability.[2,3]

The Director General of Health Services, Ministry of Health and Family Welfare will be the sole authority in the event of any dispute/doubt regarding the interpretation of definitions/ classifications/assessments/tests, etc. In order to be eligible for any concession/benefit, the minimum level of impairment should be 40%. Various benefits, in accordance with and in accordance with the PWD Act, various benefits and allowances are to be given to affected persons.[3]

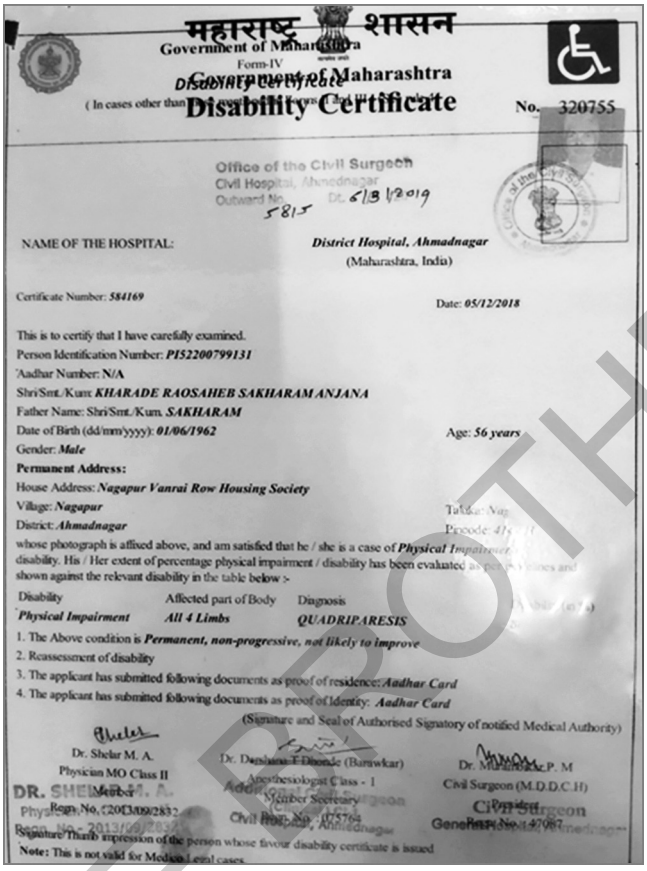
Guidelines for certification:

- The person authorized to grant a disability certificate shall be a medical board.
- Consisting of at least three representatives, of which at least one is a professional in a particular area for the evaluation of locomotor.
- The specified tests, as indicated in the guidelines, should be carried out by the Medical Board and recorded before the certificate I have issued.
- The certificate would be valid for a period of five years for persons whose disability is temporary while it is valid for a lifetime in the case of permanent disability.
- In order to be eligible for any concession/benefit, the minimum level of impairment should be 40%.[4]

Contents of Certificate

- **Type of disability:** Which are come under 21 types of disabilities.
- **Extent of disability:** Like in percent, verity of benefits from government associated with the degree of disability.
- **Permanence of disability**: It is mentioned that is it permanent or temporary.
- **Validity period:** It is according to Medical Association.[4]

JAYPEE BROTHERS



महाराष्ट्र शासन

Government of Maharashtra

Form-IV

Government of Maharashtra

Disability Certificate

(In cases other than [illegible])

No. 320755

Office of the Civil Surgeon
Civil Hospital, Ahmednagar
Outward No. 5815 Dt. 6/3/2019

NAME OF THE HOSPITAL: *District Hospital, Ahmadnagar* (Maharashtra, India)

Certificate Number: *584169*

Date: *05/12/2018*

This is to certify that I have carefully examined.
Person Identification Number: *PI52200799131*
Aadhar Number: N/A
Shri/Smt./Kum: *KHARADE RAOSAHEB SAKHARAM ANJANA*
Father Name: Shri/Smt./Kum. *SAKHARAM*
Date of Birth (dd/mm/yyyy): *01/06/1962*
Age: *56 years*
Gender: *Male*
Permanent Address:
House Address: *Nagapur Vanrai Row Housing Society*
Village: *Nagapur*
District: *Ahmadnagar*
Taluka: *Nag*
Pincode: *41[illegible]*

whose photograph is affixed above, and am satisfied that he / she is a case of *Physical Impairment* [illegible] disability. His / Her extent of percentage physical impairment / disability has been evaluated as per [illegible] and shown against the relevant disability in the table below :-

Disability	Affected part of Body	Diagnosis	[illegible]
Physical Impairment	*All 4 Limbs*	*QUADRIPARESIS*	[illegible]

1. The Above condition is *Permanent, non-progressive, not likely to improve*
2. Reassessment of disability
3. The applicant has submitted following documents as proof of residence: *Aadhar Card*
4. The applicant has submitted following documents as proof of Identity: *Aadhar Card*

(Signature and Seal of Authorised Signatory of notified Medical Authority)

Dr. Shelar M. A.
Physician MO Class II
Member
Regn. No. 2013/09/2832

Dr. Darshana T Dhonde (Barawkar)
Anesthesiologist Class - 1
Member Secretary
Regn. No. 075764

Dr. Murali [illegible] P. M
Civil Surgeon (M.D.D.C.H)
President
Regn. No. 47087

Signature/Thumb impression of the person whose favour disability certificate is issued

Note: This is not valid for Medico Legal cases.

REFERENCES

1. https://www.disabilityaffairs.gov.in/content/page/guidelines.php
2. Disability Assessment and Certification: Based On Gazette Notification.
3. https://enabled.in/wp/guidelines-for-evaluation-of-permanent-physical-impairment-in-lower-limb/
4. https://www.vikaspedia.in/education/parents-corner/guidelines-for-parents-of-children-withdisabilities/disability-certificate

JAYPEE BROTHERS

for detailed information on physiotherapy books, visit our website www.jaypeebrothers.com, for detailed information on physiotherapy books, visit our website v

Disability and Rehabilitation

Disability and Rehabilitation, a comprehensive guide for undergraduate physiotherapy students. The book is an excellent attempt towards introducing the students to the basic concept and policy aspects of rehabilitation, which enables persons with disability to achieve better health. The book highlights the problem of sparse evidence in rehabilitation and emphasizes the need for an evidence-based approach to rehabilitation.

Salient Features

- Easy-to-follow simple language, self-explanatory and presentation for the students
- Provides attractive schematic representation
- Covers a wide range of contents in the relevant area
- Contains concise and comprehensive text information

Shyam D Ganvir PhD PGDGC MBA is Principal, Department of Community Physiotherapy, DVVPF's College of Physiotherapy, Ahmednagar, Maharashtra, India. He is an academician with 22 years of teaching experiences. He worked as a member of sectoral working group member for revised NAAC manual. He is the receiver of Best Principal Award from IAP 2023.

Printed in India

Available at all medical bookstores or buy online at www.jaypeebrothers.com

JAYPEE BROTHERS
Medical Publishers (P) Ltd.
EMCA House, 23/23-B, Ansari Road, Daryaganj, New Delhi - 110 002, INDIA
www.jaypeebrothers.com

Join us on facebook.com/JaypeeMedicalPublishers

Shelving Recommendation
PHYSIOTHERAPY

ISBN 978-93-5465-964-5