

MINISTRY OF SOCIAL JUSTICE AND EMPOWERMENT
NOTIFICATION
New Delhi, the 1st June, 2001

Subject :- Guidelines for evaluation of various disabilities and procedure for certification.

No. 16-18/97-NI. I. - In order to review the guidelines for evaluation of various disabilities and procedure for certification as given in the Ministry of Welfare's O.M. No. 4-2/83-HW.-III, dated the 6th August, 1986 and to recommend appropriate modifications/alterations keeping in view the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995, Government of India in Ministry of Social Justice and Empowerment, vide Order No. 16-18/97-NI. I, dated 28-8-1998, set up four committees under the Chairmanships of Director General of Health Services-one each in the area of mental retardation, Locomotor/ Orthopaedic disability, Visual disability and Speech & Hearing disability. Subsequently, another Committee was also constituted on 21-7-1999 for evaluation, assessment of multiple disabilities and categorization and extent of disability and procedures for certification.

2. After having considered the reports of these committees the undersigned is directed to convey the approval of the President to notify the guidelines for evaluation of following disabilities and procedure for certification:-

1. Visual Impairment
2. Locomotor / Orthopaedic disability.
3. Speech & hearing disability
4. Mental retardation
5. Multiple Disabilities.

Copy of the Report is enclosed herewith as Annexure.

3. The minimum degree of disability should be 40% in order to be eligible for any concessions/benefits.

4. According to the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Rules, 1996 notified on 31.12.1996 by the Central Government in exercise of the powers conferred by sub-section (1) and (2) of section 73 of the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995 (1 of 1996), authorities to give disability Certificate will be a Medical Board duly constituted by the Central and the State Government. The State government may constitute a Medical Board consisting of at least three members out of which at least one shall be a specialist in the particular field for assessing locomotor/Visual including low vision/hearing and speech disability, mental retardation and leprosy cured, as the case may be.

5. Specified test as indicated in Annexure should be conducted by the medical board and recorded before a certificate is given.

6. The certificate would be valid for a period of five years for those whose disability is temporary. For those who acquire permanent disability, the validity can be shown as 'Permanent'.

7 The State Governments/UT Administrations may constitute the medical boards indicated in para 4 above immediately, if not done so far.

8 The Director General of Health Services Ministry of Health and

Family Welfare will be the final authority, should there arise any Controversy/doubt regarding the interpretation of the definitions/classifications/evaluations tests etc.

ANNEXURE

Reports of the Committee set UP to review the guidelines for evaluation of various disabilities and procedure for certification and to recommend appropriate modifications/alterations keeping in view the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act 1995.

In order to review the definitions of various types of disability, the guidelines for evaluation of various disabilities and procedure for certification as given in the Ministry of Welfare's O.M.No.4-2/83-HW.III, dated the 6th August, 1986 and to recommend appropriate modifications/alterations keeping in view the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995, five Sub-Committees were constituted in the areas of Mental Retardation, Orthopedic/Locomotor Disability, Visual Disability, Speech & Hearing and Multiple Disabilities, under the Chairmanship of Dr S.P.Agarwal, Director General of Health Services, vide the Ministry of Social Justice & Empowerment's Order No.16-18/97-NI.I, dated 28.8.1998 and 21.7.1999. A copy each of the Order is at Appendix.I.

2. These Sub-Committees, after detailed deliberations, have submitted their reports. List of participants of the meetings taken by the Committee is at Appendix.II. The reports of the Committees set up to review the guidelines for evaluation of various disabilities and procedure for certification on each of the area of the disabilities are given in Appendix.III.

APPENDIX.I

No 16-18/97-NI.I
Government of India
Ministry of Social Justice & Empowerment
New Delhi Dated 28th August 1998.

ORDER

In order to review the definitions of various types of disability, the guidelines for evaluation of various disabilities and procedure for certification as given in the Ministry of Welfare's O.M.No.4-2/83-HW.III, dated the 6th August, 1986 and to recommend appropriate modifications/alterations keeping in view the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995, the following Sub-Committees are hereby constituted in the areas of Mental Retardation, Orthopedic/Locomotor Disability, Visual Disability and Speech & Hearing disability:

I Sub-Committee on Mental Retardation:

1. Dr. S P Aggarwal, Chairperson
Director General
Health Services
Ministry of Health and Family Welfare,
Nirman Bhawan
New Delhi-11

2. Dr.R.Srinivastava Murthy, Co-Chairperson
Prof.&Head,
Deptt. of Psychiatry,
NIMHANS.

Bangalore-22.

3. Dr. G G. Prabhu, Member
Workchil Court
Mysore.

4. Dr. (Mrs.) Neena Vohra, Member
Consultant & HOD,
Psychiatry,
Dr. R.M.L. Hospital, New Delhi.

5. Dr. Anand Pandit, Member
Hony. Prof & Director
KEM Hospital Pune-11.

6. Dr. D.K. Menon, Member-Secretary
Director
National Instt. for Mentally Handicapped Secunderabad

II. Sub-Committee on Locomotor / Orthopaedic Disability:

1. Dr. S P Aggarwal, Chairperson
DGHS.
Ministry of Health Nirman Bhavan New Delhi-11

2. Dr. K.K. Singh. Co-Chairperson
Prof. & Head.
AHMS. New Delhi.

3. Dr. Balu Sankaran, Member
FX-DOHS FX-Chairman ALIMCO. New Delhi

4. Dr. Suranjan Bhattacharji, Member
HOD. Deptt. of PMR
CMC Hospital. Vellore.

5. Dr. R K Srivastava Member
Medical Superintendent.
Safdarjung Hospital New Delhi.

6. Dr. B P Yadav Member
Ex-Chairman
Rehab Council of India
New Delhi

7. Dr. B R Avadhani Member - Secretary
Director IPH
New Delhi

III. Sub - Committee on visual Disability.

1. Dr. S P Aggarwal Chairperson
D.G.H.S.
Ministry of Health
New Delhi

2. Dr. V.K. Dada. Co-Chairperson
Head. Dr R.P. Centre.

Director.
Mohan Eye Institute.
Rajender Nagar.
New Delhi.

4. Shri Lal Advani Member
Consultant
Saket. New Delhi

5. Dr. Bhushabn Punani Member
Blind Men's Association
Ahmedabad

6. Shri S A Datranga Member
National Association for the Blind
Mumbai.

7. Dr. S R Shukla Member-Secretary
Director
NIVH.
Dehradun.

IV. Sub- Committee on Speech & Hearing Disability:

1. Dr. S P Aggarwal Chairperson
D.GH.S. Ministry of Health.
New Delhi

2. Dr.S.K.Kacker. Co-Chairperson
Ex-Director.
AIIMS. New Delhi.

3 Dr S Nikam Member
Director AIIMS, Mysore.

4. Dr. J.M.Hans. Member
Sr.ENT Surgeon. Dr. RML Hospital. New Delhi

5. Dr. M Raghunath Member
Professor in Audiology
PGIMER. Chandigarh

6. Dr. (MRS) RekhaRoy Member-Secretary
Director
AYJNIHH Mumbai-400050.

2. The terms of reference for the Committees are as follows:

- a) Providing uniform definitions and categorisation of degree and extent of the disability.
- b) Recommending authorities competent to give certification.
- c) The Committees will submit their report in two months.

3. TA/DA to the members of the Committee will be borne by the concerned Institute whose Director is included as Member-Secretary of the Sub- Committee.
(Gauri Chatterjee) Joint Secretary to Govt. of India
Tele No. 3381641

To:
All Members of the Committees.
Copy for Information to :
PSs to Secretary (SJ&E)/AS(SJ&E),JS(DD)

ShastriBhavan, New Delhi. Dated 21st July1999

ORDER

It has been decided to constitute a Sub-Committee in the sector of Multiple Disability, in order to have standard definitions and guidelines for evaluation and procedure for certification, and to make appropriate recommendations. keeping in view the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995. Accordingly, a Sub-Committee is hereby constituted in the sector of multiple disability, with the following Members:

1. Dr. SP Aggarwal, Chairman
Director General of Health Services
Ministry of Health & Family Welfare Nirman Bhavan, New Delhi.

2. Smt. Aloka Guha. Member
Director,
Spastics Society of Tamil Nadu,
Opp.TTTI, Taramani Road,
Ohennai-13

3. Dr. H.C. Goyal, Member
Consultant,
Rehabilitation Department Safdarjung Hospital, New Delhi.

4. Dr. Uma Tuli, Member
General Secretary
Amar Jyoti Charitable Trust, N-192, Greater Kallash -1 New Delhi - 110048.

5. Dr DK. Menon, Member- Secretary
Director,
National Institute for the Mentally Handicapped, Manovikasnagar, Secunderabad-500 009,

3. The terms of reference for the Committee are as follows:-
(a) Providing uniform definitions and categorisation of degree and extent of the disabilities.
(b) Recommending authorities competent to give certification.
(c) The Committee will submit its report in two months.

4. TA/DA to the members of the Committee will be borne by the National Institute for the Mentally Handicapped, Secunderabad.
(Gauri Chatterji)
Joint Secretary to the Government of India.
Tele No.338 1641.

To:
All Members of the Committees
Copy for information to:-
PSs to Secretary (SJ&E)/ AS (SJ&E)/ JS(DD).

APPENDIX.II

List of participants of the meeting held on 29.2.2000 under the Chairmanship of Dr. S.P.Agarwal, Director General of Health Services with the Members of Subcommittee constituted vide Order No.16-18/96-NI.I (PWD). dated 28.8.1998 of Ministry of Social Justice & Empowerment

1. Dr. R.K. Srivastava, Addl. Director General of Health Services.
2. Dr. V.K. Dada, Head, R.P. Centre, AIIMS, New Delhi.
3. Dr. R.Srinivasa Murthy, Prof. & HOD, Deptt. of Psychiatry, NIMHANS, Bangalore.
4. Dr. O.K. Menon, Director, NIMH, Hyderabad.
5. Dr. Rekha Roy, Director, NIMH, Mumbai.
6. Dr. S.R. Shukla, Director, NIVH, Dehradun.
7. Dr. Dharmendra Kumar, Officiating Director, NIRTAR, Cuttack.
8. Dr. A.S. Bais, Deputy Director General (Medical).
9. Dr. S.Chug, Consultant in Medicine & Chairman, Medical Board, Dr. RML Hospital.
10. Dr. L.S. Chauhan, ADG (IH),
11. Dr. A.N. Sinha, CMO (HA).

List of participants of the meeting held on 17.8.2000 under the Chairmanship of Dr. S.P.Agarwal, Director General of Health Services with the Members of Sub-Committee constituted vide Order No.16-18/96-NI.I (PWD). dated 21.7.1999 of Ministry of Social Justice & Empowerment.

1. Dr. R.K. Srivastava, Addl. Director General of Health Services
2. Dr. H.C. Goyal, Consultant & HOD, Rehabilitation, S.J.Hospital. New Delhi.
3. Dr. O.K. Menon, Director, National Institute for the Mentally Handicapped, Secunderabad.
4. Smt. Alok Guha, Director, Spastic Society of Tamil Nadu, Opp. TTTI, Taramani Road, Chennai-13.
5. Dr. A.N. Sinha, CMO (HA).

APPENDIX.III

A. MENTAL RETARDATION

1. Definition:- Mental retardation is a condition of arrested or incomplete development of the mind, which is especially characterised by impairment of skills manifested during the development period which contribute to the over all level of intelligence, i.e., cognitive, language, motor and social abilities.

2. Categories of Mental Retardation:-

2.1 Mild Mental Retardation:- The range of 50 to 69 (standardised IQ test) is indicative of mild retardation. Understanding and use of language tend to be delayed to a varying degree and executive speech problems that interfere with the development of independence may persist into adult life.

2.2 Moderate Mental Retardation:- The IQ is in the range of 35 to 49. Discrepant profiles of abilities are common in this group with some individuals achieving higher levels in visuo-spatial skills than in tasks dependent on language while others are markedly clumsy but enjoy social interaction and simple conversation. The level of development of language

in variable: some of those affected can take part in simple conversations while others have only enough language to communicate their basic needs.

2.3 Severe Mental Retardation:- The IQ is usually in the range of 20 to 34. In this category, most of the people suffer from a marked degree of motor impairment or other associated deficits indicating the presence of clinically significant damage to or mal-development of the central nervous system.

2.4 Profound Mental Retardation:- The IQ in this category estimated to be under 20. The ability to understand or comply with requests or instructions are severely limited. Most of such individuals are immobile or severely restricted in mobility, incontinent and capable at most of only very rudimentary forms of non-verbal communication. They possess little or no ability to care for their own basic needs and require constant help and supervision,

3. Process of Certifications:-

3.1 A disability certificate shall be issued by a Medical Board consisting of three members duly constituted by the Central/State Government. At least, one shall be a Specialist in the area of mental retardation, namely, Psychiatrist, Paediatrician and clinical Psychologist.

3.2 The examination process will consist of three components, namely, clinical assessment, assessment, of adaptive behaviour and intellectual functioning.

B. VISUAL DISABILITY

1. Definition:- Blindness refers to a condition where a person suffers from any of the condition, namely,

i) total absence of sight; or

ii) visual acuity not exceeding 6/60 or 20/200 (snellen) in the better eye with best correcting lenses; or

iii) limitation of field of vision subtending an angle of 20 degree or worse;

2. Low Vision:- Persons with low vision means a person with impairment of vision of less than 6/18 to 6/60 with best correction in the better eye or impairment of field in any one of the following categories:-

a) reduction of fields less than 50 degrees

b) Heminaopia with macular involvement

c) Altitudinal defect involving lower fields.

3. Categories of Visual Disability

All with correction

Category	Better eye	Worse eye	% age impairment
Category 0	6/9-6/18	6/24 to 6/36	20%
Category I	6/18-6/36	6/60 to Nil	40%
Category II	6/40-4/60 or field of vision 10°-20°	3/60 to Nil	75%
Category III	3/60 to 1/60 or field of vision 10°	F.C. at 1 ft. to Nil	100%
Category IV	F. C. at 1 ft. to Nil or	F.C. at 1 ft. to Nil	100%

	field of vision 10°		
One eyed persons	6/6	F. C. at 1 ft. to Nil or field of vision 10°	30%

Note: F.C. means Finger Count

4. Process of Certification

A disability certificate shall be issued by a Medical Board duly constituted by the Central/State Government having, at least three members. Out of which, at least one member shall be a specialist in ophthalmology.

B. SPEECH & HEARING DISABILITY

1. Definition of Hearing: - A persons with hearing impairment having difficulty of various degrees in hearing sounds is an Impaired person.

2. : Categories of Hearing Impairment.

Category	Type of Impairment	D B Level	Speech discrimination	% age of impairment
I	Mild hearing Impairment	DB 26 to 40 dB in better ear	80 to 100% in better ear	Less than 40% to 50%
II (a)	Moderate hearing	41 to 60 dB in better ear	50 to 80% in better ear	40% to 50%
II (b)	Severe hearing Impairment	61 to 70 dB hearing Impairment in better ear	40 to 50% in better ear	51% to 70%
III	a) Profound hearing Impairment	71 to 90 dB	Less than 40% in better ear	71% to 100%
	c) Total deafness	91 dB and above/in better ear/to hearing	Very Poor discrimination	100%

i) Pure tone average of hearing in 500, and 2000 HZ, 4000 HZ by conduction (AC and BC) should be taken as basis for consideration as per the test recommendations.

ii) When there is only as island of hearing present in one or two frequencies in better ear, it should be considered as total loss of hearing.

iii) Wherever there is no response (NR) at any of the 4 frequencies (500, 1000, 2000 and 4000 HZ), it should be considered as equivalent to 100 dB loss for the purpose of classification of disability and in arriving at the average.

3. Process of Certification -

A disability certificate shall be issued by a Medical Board duly constituted by the Central and the

- State Government. Out of which, at least, one member shall be a specialist in the field of ENT.
C. LOCOMOTOR DISABILITY

1 Definition .-

- i) Impairment: An impairment in any loss or abnormality of psychological, physiological or anatomical structure or function in a human being.
- ii) Functional Limitations: Impairment may cause functional limitations which are partial or total inability to perform those activities, necessary for motor, sensory or mental function within the range or manner of which a human being is normally capable.
- iii) Disability: A disability, is any restriction or lack. (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being.
- iv) Locomotor Disability: Locomotor disability is defined as a persons inability to execute distinctive activities associated with moving both himself and objects, from place to place and such inability resulting from affliction of musculoskeletal and/or nervous system.

2. Categories of Locomotor Disability

The categories of locomotor disabilities are enclosed at Annexure-A.

3. Process of Certification

A disability certificate shall be issued by a Medical Board of three members duly constituted by the Central and the State Government, out of which, at least, one member shall be a specialist from either the field of Physical Medicine and Rehabilitation or Orthopaedics.

Two specimen copies of the disability certificate for mental retardation and others (visual disability, speech and hearing disability and locomotor disability) are enclosed at Annexure-B. It was also decided that whenever required the Chairman of the Board may co-opt other experts including that of the members constituted for the purpose by the Central and the State Government.

On representation by the applicant, the Medical Board may review its decision having regard to all the facts and circumstances of the case and pass such order in the matter as it thinks fit.

**ANNEXURE-A LOCOMOTOR DISABILITY
REVISED GUIDELINES FOR EVALUATION OF THE PERMANENT PHYSICAL
IMPAIRMENT**

1.1 Guidelines for Evaluation of Permanent Physical Impairment of Upper Limb

- 1. The estimation of permanent impairment depends upon the measurement of functional impairment and is not expression of a personal opinion.
- 2. 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.
- 3. The upper limb is divided into two component parts; the arm component and the hand component.
- 4. Measurement of the loss of function of arm component consists of measuring the loss of motion, muscle strength and co-ordinated activities

5. Measurement of loss of function of hand component consists of determining the prehension, sensation and strength. For estimation of prehension opposition, lateral pinch cylindrical grasp, spherical grasp and hook grasp have to be assessed as shown in Hand Component of Form A Assessment Proforma for upper extremity.

6. The impairment of the entire extremity depends on the combination of the functional impairments of both components

2 ARM COMPONENT

Total value of arm component is 90%

1.2.1 Principles of evaluation of range of motion (ROM) of joints

1. The value of maximum ROM in the arm component is 90%
2. Each of the three joints of the arm is weighed equally (30%;

Example:

The intra articular fractures of the bones of right shoulder joint may affect range of motion even after healing. The loss of ROM should be calculated in each arc of motion as envisaged in the Assessment Form A (Assessment Proforma for Upper Extremity).

Arc of ROM	Normal value	Active ROM	Loss of ROM
Shoulder Flexion-	0-220	110	50%
Rotation	0-180	90	50%
Abduction-Adduction	0-180	90	50%

Hence the mean loss of ROM of shoulder will be $50+50+50/3 = 150/3 = 50\%$

Shoulder movements constitute 30% of the motion of the arm component, therefore the loss of motion for arm component will be $50 \times 0.3 = 15\%$ If more than one joint of the arm is involved the loss of percentage in each joint is calculated separately as above and then added together.

1.2.2. Principles of evaluation of strength of muscles:

1 Strength of muscles can be tested by manual method and graded from 0-5 as advocated by Medical Research Council of Great Britain depending upon the strength of the muscles.

2. Loss of muscle power can be given percentages as follows:

Manual muscle Strength grading percentage	Loss of Strength in
0	100%
1	80%
2	60%
3	40%
4	20%
5	0%

3. The mean percentage of loss of muscle strength around a joint is multiplied by 0.30.

4. If loss of muscle strength involves more than one joint the mean loss of percentage in each joint is calculated separately and then added together as has been described for loss of motion.

1.23 Principles of evaluation of coordinated activities:

1 The total value for coordinated activities is 90%
Ten different coordinated activities should be tested as given in Form A. (Appendix.I of Annexure-A)

2. Each activity has a value of 9%

1.2.4 Combining values for the Arm Component:

The total value of loss of function of arm component is obtained by combining the value of loss of ROM, muscle strength and coordinated activities, using the combining formula.

$$\frac{a+b(90-a)}{90}$$

where a = higher value
b = lower value

Example

Let us assume that an individual with an intra articular fracture of bones of shoulder joint in addition to 16.5% loss of motion in arm has 8.3% loss of strength of muscles and 5% loss of coordination. These values should be combined as follows:

Loss of ROM - 16.5%	$16.5 + \frac{8.3(90-16.5)}{90}$
	= 23.33%
Loss of strength of muscles - 8.3%	
To add	
Loss of coordination - 5%	$23.3 + \frac{5(90-23.3)}{90} = 27.0\%$

So the total value of loss of function in Arm component will be 27.0%

1.3 HAND COMPONENT:

1 Total value of hand component is 90%

2 The functional impairment of hand is expressed as loss of prehension, loss of sensation and loss of strength

1.3.1 Principles of evaluation of prehension:

1 Total value of prehension is 30%
It includes

- a) Opposition - 8%
Tested against - Index finger - 2%

- Middle finger - 2 %
- Ring - 2%
- Little finger - 2%

- b) Lateral pinch - 5% - Tested by asking the patient to hold a key between the thumb and lateral side of index finger.
- c) Cylindrical grasp - 6% Tested for
 - i) Large object of 4 inches size - 3%
 - ii) Small object of 1 inch size - 3%
- d) Spherical grasp - 6% Tested for
 - i) Large object of 4 inches size - 3%
 - ii) Small object of 1 inch size - 3%
- e) Hook grasp - 5% - Tested by asking the patient to lift a bag

1.3.2. Principles of Evaluation of sensation:

1. Total value of sensation in hand is 30%
2. It should be assessed according to the distribution given below:
 - i) Complete loss of sensation
 - Thumb ray 9%
 - Index finger 6%
 - Middle finger 5%
 - Ring finger 5%
 - Little finger 5%
 - ii) Partial loss of sensation: Assessment should be made according to percentage of loss of sensation in thumb/finger(s)

1.3.3. Principles of Evaluation of strength

1. Total value of strength is 30%
2. It includes:
 - i) Grip strength 20%
 - ii) Pinch strength 10%

Strength of hand should be tested with hand dynamo-meter or by clinical method (grip method).

Additional weightage - A total of 10% additional weightage can be given to following accompanying factors if they are continuous and persistent despite treatment

1. Pain
2. Infection
3. Deformity
4. Mal-alignment
5. Contractures
6. Cosmetic disfiguration

- 7. Dominant extremity-4%
- 8. Shortening of upper limb

First 1" - No weightage
 For each 1" beyond first 1" -2%

The extra points should not exceed 10% of the total Arm Component and total PPI should not exceed 100% in any case.

1.3.4. Combining values of hand component:

The final value of loss of function of hand component is obtained by summing up values of loss of prehension, sensation and strength.

1.3.5. Combining values for the Extremity:

Values of impairment of arm component and impairment of hand component should be added by using combining formula:

$$a+b \frac{(90-a)}{90} \quad \begin{array}{l} a = \text{higher value} \\ b = \text{lower value} \end{array}$$

Example:

$$\begin{array}{ll} \text{Impairment of Arm - 27\%} & 64 + \frac{27(90-64)}{90} \\ \text{Impairment of hand - 64\%} & = 71.8\% \end{array}$$

The total value can also be obtained by using the Ready Reckoner table for combining formula given at

Appendix.II of Annexure.A.

2. Guidelines for Evaluation of permanent physical Impairment in Lower Limb.

The measurement of loss of function in lower extremity is divided into two components: Mobility and standing components

2.1 Mobility Component:-

- 1 Total value of mobility component is 90%
2. It includes range of movement (ROM) and muscle strength

2.1.1. Principles of Evaluation of Range of Movement:

1. The value of maximum range of movement in mobility component is 90%
2. Each of three joints i.e. hip, knee and foot-ankle component is weighed equally - 30%.

Example:

A fracture of right hip joint bones may affect range of motion of the hip joint. Loss of ROM of the

affected hip in different are should be assessed as given in Form B (Assessment Proforma for lower extremity). (Appendix.I of Annexure.A)

Affected Joint - Rt. Hip:

Arc of Movement	Normal ROM	Active ROM	Loss in percentage
Flexion-Extension	0-140	70	50%
Abduction-Adduction	0-90	60	33%
Rotations	0-90	30	66%

$$\text{Mean loss of ROM of Rt Hip} = \frac{50+33+66}{3} = 50\%$$

Since the hip constitute 30% of the total mobility component of the lower limb the loss of motion in relation to the lower limb will be $50 \times 0.30 = 15\%$

If more than one joint of the limb is involved the mean loss of ROM in percentage should be calculated in relation to individual joint separately and then added together as follows to calculate the loss of mobility component in relation to that particular limb.

For example.

Mean loss of ROM of Rt. Hip 50%
 Mean loss of ROM Rt. Knee 40%
 Loss of mobility component of Rt. Lower Limb will be
 $(50 \times 0.30) + (40 \times 0.30) = 27\%$

2.1.2. Principle of Evaluation of Muscle Strength:

1. The value for maximum muscle strength in the limb is 90%
 2. Strength of muscles can be tested by Manual Method and graded 0-5 as advocated by MRC of Great Britain depending upon the residual strength in the muscle group.

3. Manual muscle grading can be given percentage like below:

Power Grade of Ms	Loss of strength in percentage
0	100%
1	80%
2	60%
3	40%
4	20%
5	0%

4. Mean percentage of muscle strength loss around a joint is multiplied by 0.30 to calculate loss in relation to limb

5. If there has been a loss muscle strength involving more than one joint the values are added as has been described for loss of ROM

2.1.3. Combining values for mobility component:

1. The values of loss of ROM and loss of muscle strength should be combined with the help of

combining formula: $a + \frac{b(90-a)}{90}$

90

(a = higher value, b = lower value)

Example: Let us assume that the individual with a fracture of right hip bones has in addition to 16% loss of motion, 8% loss of muscle strength also.

Combined values

Motion-16% $\frac{16 + 8(90-16)}{90}$

Strength-8% = 22.6%

2.2 Stability component:

1. Total value of the stability component is 90%

2. It should be tested by clinical method as given in Form B (Assessment Proforma for lower extremity). There are nine activities, which need to be tested, and each activity has a value of ten per cent (10%). The percentage valued in relation to each activity depends upon the percentage of loss stability in relation to each activity.

2.3 Extra points:

Extra points have been given for pain, deformities, contractures, loss of sensations and shortening. Maximum points to be added are 10% (excluding shortening). Details are as following.

i) Deformity	In functional position	3%
	In non-functional position	6%
ii) Pain	Sever(grossly interfering with function)	9%
	Moderate (moderately interfering with function)	6%
	Mild (mildly interfering with function)	3%
iii) Loss of sensation	Complete Loss	9%
	Partial Loss	6%
iv) Shortening	First 1/2"	Nil
	Every 1/2" beyond first 1/2"	4%
v) Complications	Superficial complications	3%
	Deep complications	

3. Guidelines for Evaluation of Permanent Physical Impairment of Trunk (Spine)

Basic guidelines:

1. As permanent physical impairment caused by spinal deformity tends to change over the years, the certificate issued in relation to spine should be reviewed as per the standard format of the certificate given at **Annexure -B of Appendix.III.**

2. Permanent physical Impairment should be awarded in relation to spine and not in relation to whole body.

3. Permanent physical Impairment due to neurological deficit in addition to spinal impairment should be added by combining formula. The local effects of the lesions of the spine can be conventionally divided into traumatic and non-traumatic. The percentage of PPI in relation to each situation should be valued as follows:

3.1 TRAUMATIC LESIONS:

3.1.1 Cervical spine injuries

Percentage of PPI in relation to Spine

- | | |
|--|-----|
| i) 25% or more compression of one or two adjacent vertebral bodies with No involvement of posterior elements, No nerve root Involvement, moderate Neck rigidity and persistent Soreness. | 20% |
| ii) Posterior element damage with radiological Evidence of moderate parties dislocation/subluxation including whiplash Injury. | |
| A) With fusion healed, No permanent motor or sensory changes. | 10% |
| b) Persistent pain with radiologically demonstrable Instability. | 25% |
| iii) Severe Dislocation: | |
| a) Fair to good reduction with or without fusion with no residual motor or sensory involvement; | 10% |
| b) Inadequate reduction with fusion and persistent radicular pain | 15% |

3.1.2. Cervical Intervertebral Disc Lesions Spine

Percentage of PPI In relation to

- | | |
|---|-----|
| i) Treated case of disc lesion with persistent pain and no neurological deficit | 10% |
| ii) Treated case with pain and Instability | 15% |

3.1.3. Thoracic and Thoracolumbar Spine Injuries:

- | | |
|---|-----|
| i) Compression of less than 50% involving one vertebral body with no neurological manifestation | 10% |
| ii) Compression of more than 50% involving single vertebra | 20% |

or more with involvement of posterior elements, healed, no neurological manifestations persistent pain, fusion indicated

- iii) Same as (b) with fusion, pain only on heavy use of back 15%
- iv) Radiologically demonstrable instability with fracture or fracture dislocation with persistent pain. 30%

3.1.3. Thoracic and Thoracolumbar Spine Injuries:

- i) Compression of less than 50% involving one vertebral body with no neurological manifestation 10%
- ii) Compression of more than 50% involving single vertebra or more with involvement of posterior elements, healed, no neurological manifestations persistent pain, fusion indicated 20%
- iii) Same as (b) with fusion, pain only on heavy use of back 15%
- iv) Radiologically demonstrable instability with fracture or fracture dislocation with persistent pain. 30%

3.1.4 Lumbar and Lumbosacral Spine: Fracture

a)	Compression of 25% or less of one or two adjacent Vertebral bodies, No definite pattern or neurological Deficit	15%
b)	Compression of more than 25% with disruption of Posterior elements, persistent pain and stiffness, healed With or without fusion, inability to lift more than 10 kgs.	30%
c)	Radiologically demonstrable instability in low lumbar or Lumbosacral spine with pain	35%

3.1 5 Disc lesion:

a)	Treated case with persistent pain	15%
b)	Treated case with pain and instability	20%
c)	Treated case of disc disease with pain activities of lifting moderately modified	25%
d)	Treated case of disc disease with persistent pain and stiffness, aggravated by heavy lifting necessitating modification of all activities requiring heavy weight lifting	30%

3.2 NON TRAUMATIC LESIONS:

3.2.1 Scoliosis:

Basic guidelines - following modification is suggested.

- The largest structural curve should be accounted for while calculating the PPI and not the compensatory curve or both structural curves.

3.2.2 Measurement of Spine Deformity:

Cobb's method for measurement, of angle of curve in the radiograph taken in standing position should be used. The curves have been divided into following groups depending upon the angle of major structural scoliotic deformity.

Group	Cobb's Angle	PPI in relation to Spine
I	0-20	NIL
II	21-50	10%
III	51-100	20%
IV	101 & above	30%

3.2.3 Torso Imbalance:

In addition to the above PPI should also be evaluated in relation the torso imbalance. The torso imbalance should be measured by dropping a plumb line from C7 spine and measuring the distance of plumb line from gluteal crease.

Deviation of Plumb line	PPI
Upto 1.5 Cm	4%
1.6 - 30 Cm	8%
3.1 - 50 Cm	16%
5.1 and above	32%

3.2.4 Head Tilt over C7 spine PPI

Upto 15	4%
More than 15	10%

3.2.5 Cardiopulmonary Test

In cases with scoliosis of severe type cardiopulmonary function tests and percentage deviation from normal should be assessed by one of the following method whichever seems more reliable clinically at the time of assessment. The value thus obtained may be added by combining formula.

a. Chest Expansion	PPI
4 - 5 Cm.	Normal
Less than 4 cm	5% for each cm
reduction in Chest expansion	

No expansion 25%

b counting in one breathe:

Breathe Count	PPI
More than 40	Normal
0-40	5%
0-30	10%
0-20	15%
0-10	20%
Less than 5	25%

3.2.6 Associated Problems: To be added directly but the total value of PPI in relation to spine should not exceed 100%.

a) Pain

-mildly interfering with ADL	4%
-moderately restricting ADL	6%
-severely restricting ADL	10%

b) Cosmetic Appearance:

-No obvious disfiguration with clothes on	Nil
-mild disfigurement	2%
-severe disfigurement	4%

c) Leg Length Discrepancy.

-First $\frac{1}{2}$ " shortening	Nil
-Every $\frac{1}{2}$ " beyond first $\frac{1}{2}$ "	4%

d) Neurological deficit - Neurological deficit should be calculated as per established method of evaluation of PPI in such cases. Value thus obtained should be added telescopically using combining formula.

3.3 KYPHOSIS

Evaluation should be done on the similar guidelines as use for scoliosis with the following modifications:

3.3.1 Spinal Deformity

	PPI
Less than 20	Nil
21-40	10%
41-60	20%
Above 60	30%

332 Torso Imbalance - Plumb line dropped from external ear normally falls at ankle level. The deviation from normal should be measured from ankle anterior joint line to the plumb line.

Less than 5 cm in front of ankle	4%
5 to 10 cm in front of ankle	8%
10 to 15 cm in front of ankle	16%
More than 15 cm in front of ankle	32%
(Add directly)	

Miscellaneous conditions:

Those conditions of the spine which cause stiffness and pain etc. are rated as follows.

	Conditions	Percentage PPI
A	Subjective symptoms of pain, no involuntary muscle spasm,, not substantiated by demonstrable structural pathology	-0%
B	Pain, persistent muscles spasm and stiffness of spine, substantiated by mild radiological change.	-20%
C	Same as B with moderate radiological changes	-25%
D	Same as B with severe radiological changes involving any one of the regions of spine	-30%
E	Same as D involving whole spine	-40%

4. Guidelines for Evaluation of PPI in cases of Short Stature/Dwarfism:

1. Recumbent length or longitudinal height below 3rd percentile or less than 2 Standard Deviation from the mean is considered to have short stature.
2. The evaluation of a Short Statured person should be considered only when it is of disproportionate variety and is accompanied by an underlying pathological conditions, e.g., Achondroplasia, Chondrodysplasia Punctata, spondyloepiphyseal dysplasia, mucopolysaccharidosis, etc.
3. The ICMR norms as enclosed at Appendix III of Annexure. A should be used as a guideline for the height.
4. Every 1" vertical height reduction should be valued as 4% permanent physical impairment.
5. Associated skeletal deformities should be evaluated, separately and total percentage of both should be added by combining formula.

5. Guidelines for Evaluation of Permanent Physical Impairment in Amputees: Basic Guidelines:

1. In cases of multiple amputees if the total sum of permanent physical impairment is above 100%, it should be taken as 100% only.
2. If the stump is unfit for fitting the prosthesis additional weightage of 5% should be added to the value.
3. In case of amputation in more than one limb percentage of each limb is added by combining formula and another 10% will be added but when only toes or fingers are involved only 5% will be added
4. Any complication in form of stiffness of proximal joint, neuroma infection, etc., should be given upto a total of 10% additional weightage.

5. Dominant upper extremity should be given 4% additional weightage.

Upper Limb Amputations physical function of each limb		PPI & loss of
1.	Fore-quarter amputations	100%
2.	Shoulder Disarticulation	90%
3.	Above Elbow upto upper 1/3 of arm	85%
4.	Above Elbow upto lower 1/3 of forearm	80%
5.	Elbow disarticulation	75%
6.	Below Elbow upto upper 1/3 of forearm	70%
7.	Below Elbow upto lower 1/3 of forearm	65%
8.	Wrist disarticulation	60%
9.	Hand through carpal bones	55%
10.	Thumb through C.M. or through 1 st MC joint	30%
11.	Thumb disarticulation through metacarpophalangeal Joint or through proximal phalanx.	25%
12.	Thumb disarticulation through inter phalangeal joint or Through distal phalanx.	15%
	Index Finger	
(15%)	Middle	Finger
(5%)	Ring Finger	
(3%)	Little Finger	
(2%)		
13.	Amputation through Proximal phalanx or Disarticulation through M.P. Joint	
	15%	5% 3% 2%

(wrist disarticulation)
Transverse deficiency Metacarpal complete
(Disarticulation through carpal bones)

55%

6.2 Longitudinal Deficiencies:

6.2.1 Basic Guidelines

1. In cases of longitudinal deficiencies of limbs due consideration should be given to functional impairment
2. In upper limb, loss of ROM loss muscular strength and hand functions like prehension, etc should be tested while assessing the case for PPI
3. In lower limb clinical method of stability component and shortening of lower limb should be given due weightage.
- 4 Apart from functional assessment the lost joint/part of body should also be valued as per distribution Given in chapter Guidelines for Evaluation of PPI in upper extremity and lower extremity The values so obtained should be added with the help of combining formula

Example:

Congenital Absence of humerus where forearm bones directly articulate with scapula.

There will be mild reduction in ROM and strength of muscles in the existing joints apart from loss of body part.

Loss of shoulder joint can be given - 30%
Loss of ROM of Elbow/Shoulder & Wrist

All the components should be added together by the combining formula of

$$a + \frac{b(90-a)}{90}$$

6.2.2 In cases of loss of single bone in forearm the evaluation should be based on the principles of evaluation of Arm component which include Evaluation of ROM, Muscle strength and coordinated activities. The values so obtained should be added together with the help of combining formula.

6.2.3 In cases of loss of single bone in leg the evaluation should be based on the principles of evaluation of mobility component and stability components of the lower extremity. The values obtained should be added together with the help of combining formula.

7. Guidelines for Evaluation of Physical Impairments in Neurological conditions.

1.1 Basic Guidelines:

1. Assessment in neurological conditions is not the assessment of disease but the assessment of its effects, i.e. clinical manifestations.
2. These guidelines should only be used for central and upper motor neurone lesions.

3. Proformas (form A & B) will be utilized for assessment of lower motor neurone lesions, muscular disorders and other locomotor conditions.

4. Normally any neurological assessment for the purpose of certification has to be done six months after the onset of disease however exact time period is to be decided by the Medical Doctor who is evaluating the case and has to recommend the review of certificate as given in the standard format of certificate.

5. Total percentage of physical impairment in any neurological condition should not exceed 100%

6. In mixed cases the highest score will be taken into consideration. The lower score will be added telescopically to it by the help of combining formula $a + b(90-a)$
90

7. Additional rating of 4% will be given for dominant upper extremity.

8. Additional weightage up to 10% can be given for loss of sensation in each extremity but the total physical impairment should not exceed 100%.

7.2 Table-I

Neurological Status	Physical Impairment
Altered sensorium	100%

7.3 Table-II

Intellectual Impairment (to be assessed by Clinical Psychologist)

Degree of Mental Retardation	IQ Range	Intellectual Impairment
Border line	70-79	25%
Mild	50-69	50%
Moderate	35-49	75%
Severe	20-34	90%
Profound	Less than 20	100%

7.4 Table - III

Speech defect	Physical Impairment
Mild dysarthria	Nil

Moderate dysarthria	25%
Severe dysarthria	50%

7.5 Table - IV

Type of Cranial Nerve Involvement	Physical Impairment
Motor cranial nerve	20% for each nerve
Sensory cranial nerve	10% for each nerve

Sensory cranial nerve 10% for each nerve

7.6 Table-V

Motor system Disability

Neurological Involvement

Physical Impairment

Hemiparesis:-

- Mild	25%
- Moderate .	50%
- Severe	75%

7.7 Table-VI

Sensory System Disability

Extent of Sensory Deficit	Physical Impairment
Anaesthesia	Upto 10% for each limb
Hypoaesthesia	Depending upon % of
Paraesthesia	Loss of sensation up to 30% depending
Hands/feet sensory loss	Upon % of loss sensation

7.8 Table - VIII

Bladder disability due to neurogenic Involvement

Bladder Involvement	Physical Impairment
Mild (Hesitancy/Frequency)	25%
Moderate (precipitancy)	50%

Severe(occasional but recurrent Incontinence)	75%
Very Severe (Retention/Total Incontinence)	100%

7.9 Table - VIII
Post Head Injury Fits and Epileptic Convulsions

Frequency/Severity of Convulsions	Physical Impairment
Mild – occurrence of one convulsion Only	Nil
Moderate 1-5 Convulsions/month on Adequate – Medication	25%
Severe 6-10 Convulsions/month on Adequate medication	50%
Very Severe more than 10 fits/months On adequate – Medication	75%

7.10 Table - IX
Ataxia (Sensory or Cerebellar)

Severity of Ataxia	Physical Impairment
Mild (Detected on examination)	25%
Moderate	50%
Severe	75%
Very Severe	100%

8 Guidelines for Evaluation of Physical Impairment due to Cardiopulmonary Diseases.

8.1 Basic Guidelines:-

1. Modified New York Heart Association subjective classification should be utilised to assess the functional disability.
2. The assessing physician should be alert to the fact that patients who come for disability claims are likely to exaggerate their symptoms. In case of any doubt patients should be referred for detailed physiological

evaluation.

3. Disability evaluation of cardiopulmonary patients should be done after full medical, surgical and rehabilitative treatment available, because most of these diseases are potentially treatable.

4. Assessment of cardiopulmonary impairment should also be done in diseases which might have associated cardiopulmonary problems, e.g., amputees, myopathies, etc.

5. For respiratory assessment, routine respiratory functions test should be done, however, in cases of interstitial lung diseases, diffusion studies may be done.

6. In cases of Angina pectoris (chest pain) base line studies in resting ECG should be done. When there is persistence of symptoms, exercise or stress test should be done.

8.2 The proposed classification with loss of function is as follows:-

Group 0: A patient with cardiopulmonary disease who is asymptomatic (i.e. has no symptoms of breathlessness, palpitation, fatigue or chest pain).

Group 1: A patient with cardiopulmonary disease who becomes symptomatic during his ordinary physical activity but has mild restriction (25%) of his physical activities.

Group 2: A patient with cardiopulmonary disease who becomes symptomatic during his ordinary physical activity and has 25-50% restriction of his ordinary physical activities.

Group 3: A patient with cardiopulmonary disease who becomes symptomatic during less than ordinary physical activity so that his ordinary physical activities are 50-75% restricted.

Group 4: A patient with cardiopulmonary disease who is symptomatic even at rest or on mildest exertion so that his ordinary physical activities are severely or completely restricted (75-100%).

Group 5: A patient with cardiopulmonary disease who gets intermittent symptoms at rest (i.e. patients with bronchial asthma, paroxysmal nocturnal dyspnoea, etc.)

1. Definition of Multiple Disabilities:

Multiple disabilities means a combination of two or more disabilities as defined in clause (i) of Section (2) of the Persons with Disabilities. (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995, namely -

- I. Locomotor disability including leprosy cured
- II. Blindness/low vision
- III. Speech and hearing impairment
- IV. Mental retardation
- V. Mental illness.

2. Guidelines for Evaluation: -

In order to evaluate the multiple disability, the same guidelines shall be used as have been developed by the respective sub-committees of various single disability, viz. Mental retardation, locomotor disability, visual disability, and speech and hearing disability and recommended in the meeting held on 29.2.2000 under the Chairmanship of Dr. S.P. Agarwal, Director General of Health Services, Government of India, with reference to Order No.16-18/96-NI.I, dated 28th August, 1998 and communicated to Ministry of Social Justice & Empowerment, Government of India, vide letter No.S-13020/4/98-MH, dated 16th March, 2000.

However, in order to arrive at the total percentage of multiple disability, the combining formula

$a + \frac{b(90-a)}{90}$ as given in the "Manual for Doctors to Evaluate

Permanent Physical Impairment, Developed by Expert Group meeting on Disability Evaluation", shall be used, where "a" will be the higher score and "b" will be the lower score. However, the maximum total percentage of multiple disabilities shall not exceed 100%.

For example, if the percentage of hearing disability is 30% and visual disability is 20%, then by applying the combining formula given above, the total percentage of multiple disability will be calculated as follows:-

$$30 + \frac{20(90-30)}{90} = 43\%$$

3. Procedure for Certification of Multiple Disability:-

The procedure will remain the same as has been developed by the respective sub-committees on various single disabilities and finalized in a meeting under the Chairpersonship of Dr. S.P. Agarwal held on 29.2.2000. The final disability certificate for multiple disability will be issued by Disability Board which has given higher score of disability by combining the score of different disabilities using the combining formula, i.e., $a + \frac{b(90-a)}{90}$. In case, where two scores of disability are

90

equal, the final certificate of multiple disability will be issued by any one of them as decided by Local authority.