

Guidelines for Evaluation of Permanent Physical Impairment in Lower Limbs

The lower extremity is divided into two components: Mobility component and Stability component.

MOBILITY COMPONENT

Total value of mobility component is 90%. It includes range of movement and muscle strength.

Principles of Evaluation of Range of Movement

1. The value of maximum range of movement in the mobility component is 90%.
2. Each of the three joints i.e. hip, knee, foot-ankle component, is weighted equally – 0.30.

Example

A Fracture of the right hip joint may affect range of motion so that active abduction is 270. The left hip exhibits a range of active abduction of 540. Hence, there is loss of 50% of abduction movement of the right hip. The percentage loss of mobility component in the hip is 50×0.30 or 15% loss of motion for the mobility component.

If more than one joint is involved, same method is applied and the losses in each of the affected joints are added.

For Example :

Loss of abduction of the hip = 60%

Loss of extension of the knee = 40%

Loss of range of motion for the

Mobility component = $(60 \times 0.30) + (40 \times 0.30) = 30\%$

Principles of Evaluation of Muscle Strength

1. The value for maximum muscle strength in the leg is 90%.
2. Strength of muscles can be tested by manual testing like 0-5 grading.
3. Manual muscle gradings can be given percentages like

Grade 0 = 100%

Grade 1 = 80%

Grade 2 = 60%

Grade 3 = 40%

Grade 4 = 20%

Grade 5 = 0%

4. Mean percentage of muscle strength loss is multiplied by 0.30.

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

Combining Values for the Mobility Component

Let us assume that the individual with a fracture of the right hip joint has in addition to 16% loss of motion 8% loss of strength of muscles.

Combining Values

Motion 16% $16 + 8(90-16)/90 = 22.6\%$

Strength 8%

Where a = higher value b = lower value

STABILITY COMPONENT

1. Total value of stability component is 90%

2. It is tested by 2 methods

3. Based on scale method.

4. Based on clinical method

Three different readings (in kilograms) are taken measuring the total body weight (W), scale 'A' reading and scale 'B' reading. The final value is obtained by the formula :

Difference in body weight-----x 90 Total body weight

In the clinical method of evaluation nine different activities are to be tested as given in the proforma. Each activity has a value of ten percent (10%).

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 Severe (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 ½" Nil

Every ½" 4%

(v) Complications Superficial complications 3%

Deep complications 6%