

# Measurement Tools and Instructions

---

## Lower Extremity Functional Scale (LEFS)

The Lower Extremity Functional Scale will be used as a subjective outcome measure in this Program of Care. This scale was developed for a variety of lower extremity conditions. It was based on the World Health Organization's model of impairment, disability and handicap at the time of its development in 1999 (Binkley et al, 1999). The measure is comprised of 20 items asking about difficulty performing a variety of every-day activities. Each item is scored by the subject as 0 (unable to perform) to 4 (no difficulty). LEFS score vary from 0 (low) to 80 (normal function).

The scale has high test-retest reliability and appears to be moderately responsive to clinical change in patients with anterior knee pain (Watson, 2005). The reliability has also been established in acute ankle sprains (Alcock, Stratford, 2002). There has been no floor or ceiling effect reported and it appears to be applicable to all levels of function (Finch et al, 2002). Construct validity was supported by comparison with the SF-36 (Binkley et al, 1999).

Overall, the minimum clinically important difference (MCID) is nine points; "Clinicians can be reasonably confident that a change of greater than 9 points is... a clinically meaningful functional change" (Binkley et al, 1999).

The scale takes 3-5 minutes to complete by the worker and 30 seconds to score by the health practitioner (Finch et al, 2002).

## Numeric Pain Rating Scale (NPRS)

The Numeric Pain Rating Scale will be used as an outcome measure within this Program of Care. This is a subjective pain measure that is widely used in clinical practice and research. Workers indicate their present pain level on a scale with numeric indicators from 0 (no pain) to 10 (worst possible pain).

It has been established as valid, reliable and appropriate for clinical practice (Williamson, 2005). The NPRS proved more reliable than another pain scale for patients with pain of traumatic origin (Berthier, 1998). From a practical standpoint, this scale has good sensitivity and generates data that can be statistically analyzed for audit purposes (Williamson, 2005). However, there is little data on psychometric properties within the lower limb.

On average, a reduction of one point or a reduction of 15.0% in the NPRS represented a Minimally Clinically Important Difference for the patient. A NPRS change score of -2.0 and a percent change score of -33.0% were best associated with the concept of "much better" improvement. For this reason these values can be considered as appropriate cut-off points for this measure (Salaffi, 2004). These results support the use of a "much better" improvement on the pain relief as a clinically important outcome that exceeds the bounds of measurement error (Salaffi, 2004; Childs, 2005).

The NPRS should be recorded on the Initial Assessment report and Care & Outcomes Summary.

[www.wsib.on.ca](http://www.wsib.on.ca)

# Measurement Tools and Instructions

## Lower Extremity Functional Scale

We are interested in knowing whether you are having any difficulty at all with the activities listed below because of your lower limb problem for which you are currently seeking attention. **Please provide an answer for each activity.**

Today, do you or would you have any difficulty with:  
(Circle one number on each line)

Activities	Extreme difficulty or unable to perform activity	Quite a bit of difficulty	Moderate difficulty	A little bit of difficulty	No difficulty
A. Any of your usual work, housework, or school activities.	0	1	2	3	4
B. Your usual hobbies, recreational or sporting activities.	0	1	2	3	4
C. Getting into or out of the bath.	0	1	2	3	4
D. Walking between rooms.	0	1	2	3	4
E. Putting on your shoes or socks.	0	1	2	3	4
F. Squatting.	0	1	2	3	4
G. Lifting an object, like a bag of groceries from the floor.	0	1	2	3	4
H. Performing light activities around your home.	0	1	2	3	4
I. Performing heavy activities around your home.	0	1	2	3	4
J. Getting into or out of a car.	0	1	2	3	4
K. Walking 2 blocks.	0	1	2	3	4
L. Walking a mile.	0	1	2	3	4
M. Going up or down 10 stairs (about 1 flight of stairs).	0	1	2	3	4
N. Standing for 1 hour.	0	1	2	3	4
O. Sitting for 1 hour.	0	1	2	3	4
P. Running on even ground.	0	1	2	3	4
Q. Running on uneven ground.	0	1	2	3	4
R. Making sharp turns while running fast.	0	1	2	3	4
S. Hopping.	0	1	2	3	4
T. Rolling over in bed.	0	1	2	3	4
<b>Column Totals:</b>					

Minimum level of detectable change (90% Confidence): **9 points**

**SCORE** \_\_\_\_\_ / 80

Source: Binkley et al (1999): The Lower Extremity Functional Scale (LEFS): Scale development, measurement properties, and clinical application. Physical Therapy. 79: 371-383