

Knee Injury and Osteoarthritis Outcome Score (KOOS)

Source: Roos EM, Roos HP, Lohmander LS, Ekdhahl C, Beynnon BD. Knee Injury and Osteoarthritis Outcome Score (KOOS)--development of a self-administered outcome measure. *J Orthop Sports Phys Ther.* 1998 Aug;28(2):88-96.

The Knee Injury and Osteoarthritis Outcome Score (KOOS) is a questionnaire designed to assess short and long-term patient-relevant outcomes following knee injury. The KOOS is self-administered and assesses five outcomes: pain, symptoms, activities of daily living, sport and recreation function, and knee-related quality of life. The KOOS meets basic criteria of outcome measures and can be used to evaluate the course of knee injury and treatment outcome. KOOS is patient-administered, the format is user-friendly and it takes about 10 minutes to fill out.

Scoring instructions

The KOOS's five patient-relevant dimensions are scored separately: Pain (nine items); Symptoms (seven items); ADL Function (17 items); Sport and Recreation Function (five items); Quality of Life (four items). A Likert scale is used and all items have five possible answer options scored from 0 (No problems) to 4 (Extreme problems) and each of the five scores is calculated as the sum of the items included.

Interpretation of scores

Scores are transformed to a 0–100 scale, with zero representing extreme knee problems and 100 representing no knee problems as common in orthopaedic scales and generic measures. Scores between 0 and 100 represent the percentage of total possible score achieved.

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Pain

P1 How often is your knee painful?	<input type="checkbox"/> Never	<input type="checkbox"/> Monthly	<input type="checkbox"/> Weekly	<input type="checkbox"/> Daily	<input type="checkbox"/> Always
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What degree of pain have you experienced the last week when...?

P2 Twisting/pivoting on your knee	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
P3 Straightening knee fully	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
P4 Bending knee fully	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
P5 Walking on flat surface	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
P6 Going up or down stairs	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
P7 At night while in bed	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
P8 Sitting or lying	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
P9 Standing upright	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme

Symptoms

Sy1 How severe is your knee stiffness after first wakening in the morning?	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
Sy2 How severe is your knee stiffness after sitting, lying, or resting later in the day?	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
Sy3 Do you have swelling in your knee?	<input type="checkbox"/> Never	<input type="checkbox"/> Rarely	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Often	<input type="checkbox"/> Always
Sy4 Do you feel grinding, hear clicking or any other type of noise when your knee moves?	<input type="checkbox"/> Never	<input type="checkbox"/> Rarely	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Often	<input type="checkbox"/> Always
Sy5 Does your knee catch or hang up when moving?	<input type="checkbox"/> Never	<input type="checkbox"/> Rarely	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Often	<input type="checkbox"/> Always
Sy6 Can you straighten your knee fully?	<input type="checkbox"/> Always	<input type="checkbox"/> Often	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Rarely	<input type="checkbox"/> Never
Sy7 Can you bend your knee fully?	<input type="checkbox"/> Always	<input type="checkbox"/> Often	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Rarely	<input type="checkbox"/> Never

Activities of daily living

What difficulty have you experienced the last week...?

A1 Descending	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
A2 Ascending stairs	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
A3 Rising from sitting	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
A4 Standing	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
A5 Bending to floor/picking up an object	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
A6 Walking on flat surface	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
A7 Getting in/out of car	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
A8 Going shopping	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
A9 Putting on socks/stockings	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
A10 Rising from bed	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
A11 Taking off socks/stockings	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
A12 Lying in bed (turning over, maintaining knee position)	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
A13 Getting in/out of bath	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
A14 Sitting	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
A15 Getting on/off toilet	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
A16 Heavy domestic duties (shovelling, scrubbing floors, etc)	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
A17 Light domestic duties (cooking, dusting, etc)	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme

Sport and recreation function

What difficulty have you experienced the last week...?

Sp1 Squatting	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
Sp2 Running	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
Sp3 Jumping	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
Sp4 Turning/twisting on your injured knee	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme
Sp5 Kneeling	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme

Knee-related quality of life

Q1	How often are you aware of your knee problems?	<input type="checkbox"/> Never	<input type="checkbox"/> Monthly	<input type="checkbox"/> Weekly	<input type="checkbox"/> Daily	<input type="checkbox"/> Always
Q2	Have you modified your lifestyle to avoid potentially damaging activities to your knee?	<input type="checkbox"/> Not at all	<input type="checkbox"/> Mildly	<input type="checkbox"/> Moderately	<input type="checkbox"/> Severely	<input type="checkbox"/> Totally
Q3	How troubled are you with lack of confidence in your knee?	<input type="checkbox"/> Not at all	<input type="checkbox"/> Mildly	<input type="checkbox"/> Moderately	<input type="checkbox"/> Severely	<input type="checkbox"/> Totally
Q4	In general, how much difficulty do you have with your knee?	<input type="checkbox"/> None	<input type="checkbox"/> Mild	<input type="checkbox"/> Moderate	<input type="checkbox"/> Severe	<input type="checkbox"/> Extreme