

WOMAC™ Questionnaire

Objectives : The WOMAC™ Index is a disease-specific, tri-dimensional self-administered questionnaire, for assessing health status and health outcomes in osteoarthritis of the knee and/or hip.

Target population : Patients with hip and/or knee osteoarthritis.

Method of use :

The questionnaire contains 24 questions, targeting areas of pain, stiffness and physical function, and can be completed in less than 5 minutes. Usually patient self-administered, the Index is amenable to electronic data capture (EDC) formats using mouse-driven cursor, touch screen, and to interview administration by telephone. Available in over 60 alternative language forms, there are several different forms of the WOMAC™ Index suitable for different clinical practical and clinical research applications. Available in 5-point adjectival, 100 mm visual analogue and 11-point numerical rating scale format.

Validated languages : Argentina, Australia, Austria, Belgium (French), Belgium (Flemish), Brazil (Portuguese), Brazil (Japanese), Bulgaria, Canada (English), Canada (French), Chile, China (Mandarin) Columbia, Costa Rica, Croatia, Czech Republic, Denmark, Ecuador, Egypt (Arabic), Estonia, Finland, France, Germany, Greece, Guatemala, Hong Kong (Cantonese), Hungary, Iceland, Israel, Italy, Japan, Korea, Latvia, Lebanon, Lithuania, Malaysia (Cantonese), Malaysia (English), Malaysia (Malay), Mexico, The Netherlands, New Zealand, Norway, Peru, Peru (Japanese), Philippines (English), Philippines (Tagalog), Poland, Portugal, Puerto Rico, Romania, Russia, Serbia, Singapore (Mandarin), Singapore (English), Slovakia, Slovenia, South Africa (English), South Africa (Afrikaans), Spain, Sweden, Switzerland (German), Switzerland (Italian), Switzerland (French), Taiwan (Mandarin), Thailand, Turkey, United Kingdom, Ukraine, USA (English), USA (Spanish), Venezuela.

References :

- Bellamy N. Osteoarthritis - An evaluative index for clinical trials. MSc Thesis. McMaster University, Hamilton, Canada. 1982.
- Bellamy N and Buchanan WW. Outcome measurement in osteoarthritis clinical trials: the case for standardisation. *Clinical Rheumatology*. 1984;3(3):293-303.
- Bellamy N and Buchanan WW. A preliminary evaluation of the dimensionality and clinical importance of pain and disability in osteoarthritis of the hip and knee. *Clinical Rheumatology*. 1986;5(2):231-241.
- Bellamy N, Buchanan WW, Goldsmith CH, Campbell J and Stitt L. Validation study of WOMAC: a health status instrument for measuring clinically-important patient-relevant outcomes following total hip or knee arthroplasty in osteoarthritis. *Journal of Orthopaedic Rheumatology*. 1988;1:95-108.
- Bellamy N, Buchanan WW, Goldsmith CH, Campbell J and Stitt LW. Validation study of WOMAC: A health status instrument for measuring clinically important patient relevant outcomes to antirheumatic drug therapy in patients with osteoarthritis of the hip or knee. *The Journal of Rheumatology*. 1988;15:1833-1840.
- Bellamy N. Pain assessment in osteoarthritis: experience with the WOMAC osteoarthritis index. *Seminars in Arthritis and Rheumatism*. 1989;18(4 Suppl 2):14-17.
- Bellamy N, Buchanan WW, Goldsmith CH, Campbell J and Duku E. Signal

measurement strategies: Are they feasible and do they offer any advantage in outcome measurement in osteoarthritis? *Arthritis and Rheumatism*.1990;33(5): 739-745.

- Bellamy N, Goldsmith CH, Buchanan WW, Campbell J and Duku E. Prior score availability: Observations using the WOMAC Osteoarthritis Index. *British Journal of Rheumatology*. 1991;30:150-151.
- Bellamy N, Wells G and Campbell J. Relationship between severity and clinical importance of symptoms in osteoarthritis. *Clinical Rheumatology*. 1991;10(2): 138-143.
- Bellamy N, Kean WF, Buchanan WW, Gerez-Simon E and Campbell J. Double blind randomized controlled trial of sodium meclofenamate (Meclomen) and diclofenac sodium (Voltaren): Post validation reapplication of the WOMAC Osteoarthritis Index. *The Journal of Rheumatology*. 1992;19:153-159.
- Bellamy N, Buchanan WW, Chalmers A, Ford PM, Kean WF, Kraag GR, Gerez-Simon E and Campbell J. A multicenter study of tenoxicam and diclofenac in patients with osteoarthritis of the knee. *The Journal of Rheumatology*. 1993;20: 999-1004.
- Griffiths G, Bellamy N, Kean WF, Campbell J and Gerez-Simon E. A study of the time frame dependency of responses to the WOMAC Osteoarthritis Index. *Inflammopharmacology*. 1993;2:85-87.
- Barr S, Bellamy N, Buchanan WW, Chalmers A, Ford PM, Kean WF, Kraag GR, Gerez-Simon E and Campbell J. A comparative study of signal versus aggregate methods of outcome measurement based on the WOMAC Osteoarthritis Index. *The Journal of Rheumatology*. 1994;21:2106-2112.
- Griffiths G, Bellamy N, Bailey WH, Bailey SI, McLaren AC and Campbell J. A comparative study of the relative efficiency of the WOMAC, AIMS and HAQ instruments in evaluating the outcome of total knee arthroplasty. *Inflammopharmacology*. 1995;3:1-6.
- Bellamy N, Campbell J, Stevens J, Pilch L, Stewart C and Mahmood Z. Validation study of a computerized version of the Western Ontario and McMaster Universities VA 3.0 Osteoarthritis Index. *The Journal of Rheumatology*. 1997;24:2413-2415.
- Bischoff-Ferrari HA, Vondechend M, Bellamy N and Theiler R. Validation and patient acceptance of a computer touch screen version of the WOMAC 3.1 osteoarthritis index. *Annals of the Rheumatic Diseases*. 2005;64(1):80-84.
- Theiler R, Spielberger J, Bischoff HA, Bellamy N, Huber J, Kroesen S. Clinical evaluation of the WOMAC 3.0 OA Index in numeric rating scale format using a computerized touch screen version. *Osteoarthritis and Cartilage*. 2002;10:479-481.
- Theiler R, Kroesen S, Spielberger J and Bellamy N. Validation of the WOMAC 3.0 TS, an audiovisual computerized version of the WOMAC 3.0. *Osteoarthritis and Cartilage*. 2000;8(2):152-153.
- Theiler R, Bischoff-Ferrari HA, Good M and Bellamy N. Responsiveness of the electronic touch screen WOMAC 3.1 OA Index in a short term clinical trial with rofecoxib. *Osteoarthritis and Cartilage*. 2004;12(11):912-916.
- Ehrich EW, Davies GM, Watson DJ, Bolognese JA, Seidenberg BC and Bellamy N. Minimal perceptible clinical improvement with the Western Ontario and McMaster Universities Osteoarthritis Index questionnaire and global assessments in patients with osteoarthritis. *The Journal of Rheumatology*. 2000;27(11):2635-2641.
- Bellamy N, Campbell J, Hill J and Band P. A comparative study of telephone versus onsite completion of the WOMAC 3.0 Osteoarthritis Index. *The Journal of Rheumatology*. 2002;29(4):783-786.
- Bellamy N. WOMAC: A 20-year experiential review of a patient-centered self-reported

health status questionnaire. *The Journal of Rheumatology*. 2002;29 (12):2473-2476.

- Tubach F, Ravaud P, Baron G, Falissard B, Logeart I, Bellamy N, Bombardier C, Felson D, Hochberg M, van der Heijde D and Dougados M. Evaluation of clinically relevant changes in patient reported outcomes in knee and hip osteoarthritis: the minimal clinically important improvement. *Annals of the Rheumatic Diseases*. 2005;64(1):29-33. [Also see leader by Bijlsma JWW. Patient centred outcomes in osteoarthritis. *Annals of the Rheumatic Diseases*. 2005;64(1):1-2.]
- Tubach F, Ravaud P, Baron G, Falissard B, Logeart I, Bellamy N, Bombardier C, Felson D, Hochberg M, van der Heijde D and Dougados M. Evaluation of clinically relevant states in patient reported outcomes in knee and hip osteoarthritis: the patient acceptable symptom state. *Annals of the Rheumatic Diseases*. 2005;64(1):34-37. [Also see leader by Bijlsma JWW. Patient centred outcomes in osteoarthritis. *Annals of the Rheumatic Diseases*. 2005;64(1):1-2.]
- Bellamy N, Bell MJ, Goldsmith CH, Pericak D, Walker V, Raynauld JP, Torrance GW, Tugwell P and Polisson R. Evaluation of WOMAC 20, 50, 70 response criteria in patients treated with hylan G-F 20 for knee osteoarthritis. *Annals of the Rheumatic Diseases* 2005;64:881-885 (doi:10.1136/ard.2004.026443).
- Bellamy N, Bell MJ, Goldsmith CH, Pericak D, Walker V, Raynauld J-P, Torrance GW, Tugwell P and Polisson R. The effectiveness of hylan G-F 20 in patients with knee osteoarthritis: an application of two sets of response criteria developed by the OARSI and one set developed by OMERACT-OARSI. *Osteoarthritis and Cartilage*. 2005;13(2):104-110.
- Bellamy N, Bell MJ, Pericak D, Goldsmith CH, Torrance GW, Raynauld J-P, Walker P, Tugwell P and Polisson R. BLISS index for analyzing knee osteoarthritis trials data. *Journal of Clinical Epidemiology*. 2007;60:124-132.

Links : www.womac.org

WOMAC™ Questionnaire Content

Pain Subscale:

1. Walking on flat surface
2. Going up/down stairs
3. At night
4. Sitting/lying
5. Standing upright

Physical Function Subscale:

8. Descending stairs
9. Ascending stairs
10. Getting out of chair
11. Remaining in standing position
12. Bending
13. Walking on flat surface
14. In/out of car
15. Shopping

16. Socks/stockings on
17. Getting out of bed
18. Socks/stockings off
19. Lying in bed
20. In/out bath
21. Sitting
22. Toileting
23. Heavy domestic duties
24. Light domestic duties