

# PowerPoint Speaker Guide – Functional Assessments in Osteoarthritis (OA) Care

**Purpose:** The purpose of this slide deck is to educate healthcare providers in primary care and workplaces about the various functional assessments for OA and to facilitate group discussion and brainstorming about implementing functional assessments in OA care.

## Learning Objectives for HCPs and Employer Representatives:

- Recognize osteoarthritis as a serious disease and the burden of OA on an individual’s ability to function
- Understand the role of functional assessments in the context of OA
- Acquire knowledge about the various functional assessments used for individuals with OA
- Determine which functional assessments for OA might be used in their own clinical practice or workplace and identify barriers and facilitators to implementing these assessments

**How to use this speaker guide:** Each slide contains the core information to share with your audience. Additional, supplementary information for many of the slides is offered below. Plan to read the content on the slide, then refer to the corresponding slide number below to decide what additional information you will share or discuss.

Slide #	Slide Title	Speaker text/guidance
1	<b>Functional Assessments in Osteoarthritis (OA) Care</b>	
2	Overview	The role of functional assessments in OA care is to: 1. Quantify OA progression and severity <sup>3</sup> 2. Individualize treatment options for individuals with OA <sup>3</sup> 3. Measure and optimize employees’ health and safety <sup>4</sup>
3	<b>Osteoarthritis is a serious disease<sup>1,2</sup></b>	
4	OA is common and increasing in prevalence. <sup>5</sup>	<ul style="list-style-type: none"> <li>• Osteoarthritis is a serious and chronic disease.<sup>1,2</sup></li> <li>• OA is the most common form of arthritis, affecting 32.5 million, or 1 in 7.<sup>5*</sup> 1 in 14 employed adults has osteoarthritis.<sup>6</sup></li> <li>• The high prevalence of arthritis manifests in enormous societal and personal costs.<sup>2</sup></li> </ul> <small>*Reported from 2008 to 2014</small>
6	Impact of OA	Working age adults with arthritis have lower employment rates compared to adults without arthritis. Unemployed adults with arthritis have a much higher prevalence of arthritis-related activity limitations, which possibly suggests that arthritis-related activity limitations might contribute to their unemployment. <sup>9</sup>

Slide #	Slide Title	Speaker text/guidance
7	<b>Role of functional assessments in OA care</b>	
8	Role of functional assessments in OA care	HRQoL measures measure a combination of impairment, disability, and some social problems. <sup>11</sup>
13	<b>Functional assessments commonly used in OA care</b>	
14	Functional assessments used in OA care	Patient-reported and performance-based measures are complementary because they capture different components of physical functioning <sup>3</sup>
15	<b>Performance-based tests</b>	
16	Performance-based tests	<p>Performance-based tests</p> <ul style="list-style-type: none"> <li>• Allow a provider to observe a patient doing activities such as walking or getting up and down from a chair.<sup>3</sup></li> <li>• Are typically evaluated using timing, counting repetitions or measuring distance.<sup>3</sup></li> </ul>
17	Performance-based tests- Knee & Hip	<p>Not only do these tests represent typical activities that individuals with knee and hip OA might need to do regularly, but they are also practical to administer in a clinic setting.<sup>3</sup></p> <p>Slide 17 contains a URL to more information about the performance-based tests for knee and hip OA.</p>
20	Performance-based tests- Knee & Hip	<p><b>Stair climb<sup>3,16</sup></b></p> <ul style="list-style-type: none"> <li>• There is not a particular measure/test for this assessment<sup>3,16</sup></li> <li>• Can use a single 20-cm (7.9-inch) step if stairs are not available<sup>3,16</sup></li> </ul>
23	Performance-based tests- Hand	<p><b>Arthritis Hand Function Test (AHFT)<sup>17</sup></b></p> <ul style="list-style-type: none"> <li>• Requires training (manual available- \$25) and equipment, and is time consuming<sup>19</sup></li> </ul>
25	<b>Patient-Reported Outcome Measures (PROMs)</b>	
27	PROMs-Knee /Hip	<p><b>WOMAC<sup>®21</sup></b></p> <ul style="list-style-type: none"> <li>• Was originally developed for use in clinical trials and is now used by clinicians and researchers for hip/knee OA to evaluate the change in a patient's condition following a therapeutic intervention (such as arthroplasty or drug)<sup>21,22</sup></li> </ul> <p>WOMAC<sup>®</sup> is a registered trademark of Nicholas Bellamy.</p>
28	PROMs- Knee	<p><b>Knee Disability and Osteoarthritis Outcome Score (KOOS)<sup>23,24</sup></b></p> <ul style="list-style-type: none"> <li>• Based on WOMAC<sup>®23,24</sup></li> <li>• Can be used to monitor progression or effectiveness of selected treatment<sup>23,24</sup></li> <li>• Domains are scored separately with a total score of 0 to 100. The lower the score, the greater the functional disability.<sup>23,24</sup></li> <li>• Also available as KOOS-12 with only 12 questions<sup>23,24</sup></li> </ul>

Slide #	Slide Title	Speaker text/guidance
29	PROMs- Hip	<p><b>Hip Disability and Osteoarthritis Outcome Score (HOOS)<sup>25,26</sup></b></p> <ul style="list-style-type: none"> <li>• Based on the WOMAC<sup>®25,26</sup></li> <li>• Can be used to monitor progression or effectiveness of selected treatment<sup>25,26</sup></li> <li>• Domains are scored separately with a total score of 0 to 100. The lower the score, the greater the functional disability.<sup>25,26</sup></li> <li>• Also available as HOOS-12 with only 12 questions<sup>25,26</sup></li> </ul>
30	PROMs- Shoulder, Elbow, Wrist, Hand	<p><b>Disabilities of the Arm, Shoulder and Hand (DASH)<sup>27</sup></b></p> <ul style="list-style-type: none"> <li>• Uses a Likert scale for responses, rating ability to do certain tasks (no difficulty → unable to do) with higher score equal to greater disability<sup>28</sup></li> <li>• Available in the <i>QuickDASH</i>, which has 11 questions<sup>28</sup></li> </ul>
31	PROMs- Shoulder	<p><b>American Shoulder and Elbow Surgeons Standardized Shoulder Assessment Form (ASES)<sup>28</sup></b></p> <ul style="list-style-type: none"> <li>• Widely used; short, and easy to complete<sup>28</sup></li> </ul>
33	PROMs- Hand	<p><b>Functional Index for Hand Osteoarthritis (FIHOA)<sup>31,32</sup></b></p> <ul style="list-style-type: none"> <li>• Example tasks assessed: turning a key, using a knife, writing, and fastening buttons<sup>32</sup></li> <li>• Uses a Likert scale for responses (possible without difficulty → impossible)<sup>32</sup></li> </ul>
34	PROMs- HRQoL	<p><b>Rand Short Form-36 Health Survey (SF-36)<sup>®34</sup></b></p> <ul style="list-style-type: none"> <li>• 8 physical and mental health domains are:<sup>36</sup> <ul style="list-style-type: none"> <li>› health perception, physical functioning, physical/emotional limitations, fatigue, pain, social functioning, and mental health</li> </ul> </li> </ul> <p>The SF-36<sup>®</sup> is a registered trademark of the Medical Outcomes Trust.</p>
35	PROMs- HRQoL	<p><b>Patient-Reported Outcomes Measurement Information System (PROMIS)<sup>®38</sup></b></p> <ul style="list-style-type: none"> <li>• Questions ask about activities relating to dexterity, walking/mobility, and instrumental activities of daily living such as running errands<sup>38</sup></li> <li>• Available on paper, computer and mobile apps<sup>38</sup></li> </ul> <p>PROMIS<sup>®</sup> is a registered trademark of the U.S. Department of Health and Human Services.</p>
36	PROMs- HRQoL	<p><b>EuroQoL-5D (EQ-5D)<sup>40</sup></b></p> <ul style="list-style-type: none"> <li>• Respondents rate their health “today” in the 5 dimensions using 3-5 levels of severity and indicate their overall health status on a visual analog scale.<sup>40</sup></li> </ul>

Slide #	Slide Title	Speaker text/guidance
37	<b>Work/Occupational Assessments</b>	
38	Work/Occupational Assessments	<p><b>Work Productivity and Activity Impairment Questionnaire (WPAI)<sup>13,42</sup></b></p> <ul style="list-style-type: none"> <li>• Absenteeism=missed work, Presenteeism=reduced job performance, Work productivity loss=absenteeism plus presenteeism<sup>42</sup></li> <li>• Questions ask about hours of work missed and degree to which the health condition affects work productivity and regular activities<sup>42</sup></li> <li>• Higher values indicate higher levels of OA-related work impairment<sup>43</sup></li> </ul>
39	Work/Occupational Assessments	<p><b>Workplace Activity Limitations Scale (WALS)<sup>44</sup></b></p> <ul style="list-style-type: none"> <li>• Questions assess difficulties with mobility, prolonged sitting/standing, lifting, kneeling, work hours, work pace, concentration, and meeting job demands.<sup>15</sup></li> <li>• Uses a 4-point Likert scale from no difficulty→ unable to do with a higher score indicating greater workplace limitations<sup>15</sup></li> </ul>
40	Work/Occupational Assessments	<p><b>Work Instability Scale for Rheumatoid Arthritis (RA-WIS)<sup>45</sup></b></p> <ul style="list-style-type: none"> <li>• Respondents answer “yes”=1 or “no”=0 to each item, with higher scores indicating greater work instability.<sup>46</sup></li> <li>• Although created for RA, this measure has been validated in people with OA<sup>46</sup></li> </ul>
41	<b>Summary &amp; Discussion</b>	
43	Discussion ideas for clinical care	<p><i>NOTE: Feel free to use some other questions, particularly if this is a group from the same clinic or practice where they can brainstorm work flow and other practical components of functional assessments. Examples of discussion questions include:</i></p> <ul style="list-style-type: none"> <li>• What functional assessments do you/your practice currently use for patients with OA?</li> <li>• What functional assessments seem practical for your clinical setting?</li> <li>• What are some barriers to using functional assessments that you/your clinic need to address?</li> <li>• What are some facilitators to implementing functional assessments in your clinic?</li> <li>• How might you begin implementing functional assessments into your regular clinical practice?</li> </ul>

Slide #	Slide Title	Speaker text/guidance
44	Discussion ideas for the workplace	<p><i>NOTE: Feel free to use some other questions, particularly if this is a group from the same department or organization where they can brainstorm work flow and other practical components of functional assessments. Examples of discussion questions include:</i></p> <ul style="list-style-type: none"> <li>• How does your workplace assess productivity, job fit, and need for job accommodations or job switching?<sup>28</sup></li> <li>• What functional assessments seem practical for your workplace?</li> <li>• What are some barriers to using functional assessments that your workplace needs to address?</li> <li>• What are some facilitators to implementing functional assessments in your workplace?</li> <li>• How might you begin implementing functional assessments into your workplace?</li> </ul>

Trademarks are the property of their respective owners.



Visit [www.oacaretools.org](http://www.oacaretools.org) for more tools and resources on performance measures and PROMs used in OA care.

OAAA collaborated with Pfizer in the development of this resource.

#### References

- Hawker GA. Osteoarthritis is a serious disease. *Clin Exp Rheumatol*. 2019;37 Suppl 120(5):3-6.
- Osteoarthritis Research Society International. Osteoarthritis: A Serious Disease, submitted to the U.S. Food and Drug Administration. 2016. [https://www.oarsi.org/sites/default/files/docs/2016/oarsi\\_white\\_paper\\_oa\\_serious\\_disease\\_121416\\_1.pdf](https://www.oarsi.org/sites/default/files/docs/2016/oarsi_white_paper_oa_serious_disease_121416_1.pdf)
- Dobson F, Hinman RS, Roos EM, et al. OARSI recommended performance-based tests to assess physical function in people diagnosed with hip or knee osteoarthritis. *Osteoarthritis Cartilage*. 2013;21(8):1042-1052.
- McFadden S, MacDonald A, Fogarty A, Le S, Merritt BK. Vocational assessment: a review of the literature from an occupation-based perspective. *Scand J Occup Ther*. 2010;17(1):43-48.
- Osteoarthritis Action Alliance, Arthritis Foundation, Centers for Disease Control and Prevention. National Public Health Agenda for Osteoarthritis: 2020 Update. 2020. [https://oaction.unc.edu/wp-content/uploads/sites/623/2020/05/OA-Agenda-Final\\_04302020.pdf](https://oaction.unc.edu/wp-content/uploads/sites/623/2020/05/OA-Agenda-Final_04302020.pdf)
- Integrated Benefits Institute. Health and productivity impact of chronic conditions: Osteoarthritis. 2019. [https://oaction.unc.edu/wp-content/uploads/sites/623/2020/05/IBI-Report\\_06\\_OA.pdf](https://oaction.unc.edu/wp-content/uploads/sites/623/2020/05/IBI-Report_06_OA.pdf)
- Centers for Disease Control and Prevention. Osteoarthritis. 2019. <http://www.cdc.gov/arthritis/basics/osteoarthritis.htm>
- American Academy of Orthopaedic Surgeons (AAOS). 2017 Osteoarthritis: Function & Pain Assessment Measure Methodology Report. <https://aaos.org/globalassets/quality-and-practice-resources/surgical-management-knee/osteoarthritis-function-and-pain-assessment-final-report-approved-by-b...pdf>
- Barbour KE, Helmick CG, Boring M, Brady TJ. Vital Signs: Prevalence of Doctor-Diagnosed Arthritis and Arthritis-Attributable Activity Limitation - United States, 2013-2015. *MMWR Morb Mortal Wkly Rep*. 2017;66(9):246-253.
- Kloppenborg M, Stamm T, Watt I, et al. Research in hand osteoarthritis: time for reappraisal and demand for new strategies. An opinion paper. *Ann Rheum Dis*. 2007;66(9):1157-1161.
- Carr AJ. Beyond disability: measuring the social and personal consequences of osteoarthritis. *Osteoarthritis Cartilage*. 1999;7(2):230-238.
- Khanha D, Krishnan E, Dewitt EM, et al. The future of measuring patient-reported outcomes in rheumatology: Patient-Reported Outcomes Measurement Information System (PROMIS). *Arthritis Care Res (Hoboken)*. 2011;63 Suppl 11:S486-490.
- Reilly MC, Zbrozek AS, Dukes EM. The validity and reproducibility of a work productivity and activity impairment instrument. *Pharmacoeconomics*. 1993;4(5):353-365.
- Lundgren-Nilsson A, Dencker A, Palstam A, et al. Patient-reported outcome measures in osteoarthritis: a systematic search and review of their use and psychometric properties. *RMD Open*. 2018;4(2):e000715.
- Tang K, Beaton DE, Boonen A, Gignac MA, Bombardier C. Measures of work disability and productivity: Rheumatoid Arthritis Specific Work Productivity Survey (WPS-RA), Workplace Activity Limitations Scale (WALS), Work Instability Scale for Rheumatoid Arthritis (RA-WIS), Work Limitations Questionnaire (WLQ), and Work Productivity and Activity Impairment Questionnaire (WPAI). *Arthritis Care Res (Hoboken)*. 2011;63 Suppl 11:S337-349.
- Dobson F, Bennell K, Hinman RS, Abbott JH, Roos EM. OARSI's Recommended performance-based tests to assess physical function in people diagnosed with hip or knee osteoarthritis. 2013. <https://oarsi.org/sites/default/files/docs/2013/manual.pdf>
- Backman C, Mackie H. Arthritis hand function test: inter-rater reliability among self-trained raters. *Arthritis Care Res*. 1995;8(1):10-15.
- Poole JL. Measures of Adult Hand Function. *Arthritis Care & Research*. 2003;49(5S):S59-S66.
- Hochberg MC, Vignon E, Maheu E. Session 2: clinical aspects. Clinical assessment of hand OA. *Osteoarthritis Cartilage*. 2000;8 Suppl A338-40.
- Bagis S, Sahin G, Yapici Y, Cimen OB, Erdogan C. The effect of hand osteoarthritis on grip and pinch strength and hand function in postmenopausal women. *Clin Rheumatol*. 2003;22(6):420-424.
- Bellamy N, Buchanan WW, Goldsmith CH, Campbell J, 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. *J Rheumatol*. 1988;15(12):1833-1840.
- Osteoarthritis Research Society International (OARSI). Outcome Measures: Pain Indexes. 2013. <https://oarsi.org/research/outcome-measures>.
- Roos EM. The 2012 User's Guide to: Knee injury and Osteoarthritis Outcome Score KOOS. 2012. <http://www.koos.nu/>
- Roos EM, Lohmander LS. The Knee injury and Osteoarthritis Outcome Score (KOOS): from joint injury to osteoarthritis. *Health Qual Life Outcomes*. 2003;1:64.
- A User's Guide to: Hip injury and Osteoarthritis Outcome Score HOOS. 2008. <http://www.koos.nu/>
- Nilsson AK, Lohmander LS, Klassbo M, Roos EM. Hip disability and osteoarthritis outcome score (HOOS)-validity and responsiveness in total hip replacement. *BMC Musculoskelet Disord*. 2003;4:10.
- Institute for Work & Health. The DASH Outcome Measure. 2020. <https://dash.iwh.on.ca/>
- Angst F, Schwyzer HK, Aeschlimann A, Simmen BR, Goldhahn J. Measures of adult shoulder function: Disabilities of the Arm, Shoulder, and Hand Questionnaire (DASH) and its short version (QuickDASH), Shoulder Pain and Disability Index (SPADI), American Shoulder and Elbow Surgeons (ASES) Society standardized shoulder assessment form, Constant (Murley) Score (CS), Simple Shoulder Test (SST), Oxford Shoulder Score (OSS), Shoulder Disability Questionnaire (SDQ), and Western Ontario Shoulder Instability Index (WOSI). *Arthritis Care Res (Hoboken)*. 2011;63 Suppl 11:S174-188.
- Bellamy N, Campbell J, Haroui B, et al. Dimensionality and clinical importance of pain and disability in hand osteoarthritis: Development of the Australian/Canadian (AUSCAN) Osteoarthritis Hand Index. *Osteoarthritis Cartilage*. 2002;10(11):855-862.
- Allen KD, Jordan JM, Renner JB, Kraus VB. Relationship of global assessment of change to AUSCAN and pinch and grip strength among individuals with hand osteoarthritis. *Osteoarthritis Cartilage*. 2006;14(12):1281-1287.
- Dreiser RL, Maheu E, Guillou GB, Caspard H, Grouin JM. Validation of an algofunctional index for osteoarthritis of the hand. *Rev Rhum Engl Ed*. 1995;62(6 Suppl 1):43S-53S.
- Dreiser RL, et al. FII/OA. 2016. <https://fiihoa.net/>
- Visser AW, Beyessen P, Haugen IK, et al. Instruments Measuring Pain, Physical Function, or Patient's Global Assessment in Hand Osteoarthritis: A Systematic Literature Search. *J Rheumatol*. 2015;42(11):2118-2134.
- Rand Corporation. 36-Item Short Form Survey Instrument (SF-36). [https://www.rand.org/health-care/surveys\\_tools/mos/36-item-short-form.html](https://www.rand.org/health-care/surveys_tools/mos/36-item-short-form.html)
- Rolfson O, Wissig S, van Maasekkers L, et al. Defining an International Standard Set of Outcome Measures for Patients With Hip or Knee Osteoarthritis: Consensus of the International Consortium for Health Outcomes Measurement Hip and Knee Osteoarthritis Working Group. *Arthritis Care Res (Hoboken)*. 2016;68(11):1631-1639.
- Rand Corporation. 36-Item Short Form Survey Instrument (SF-36) Scoring Instructions. [https://www.rand.org/health-care/surveys\\_tools/mos/36-item-short-form/scoring.html](https://www.rand.org/health-care/surveys_tools/mos/36-item-short-form/scoring.html)
- Hayes V, Morris J, Wolfe C, Morgan M. The SF-36 health survey questionnaire: is it suitable for use with older adults? *Age Ageing*. 1995;24(2):120-125.
- HealthMeasures. PROMIS. 2021. [https://www.healthmeasures.net/index.php?option=com\\_content&view=category&layout=blog&id=147&Itemid=806](https://www.healthmeasures.net/index.php?option=com_content&view=category&layout=blog&id=147&Itemid=806)
- Lee AC, Driban JB, Price LL, et al. Responsiveness and Minimally Important Differences for 4 Patient-Reported Outcomes Measurement Information System Short Forms: Physical Function, Pain Interference, Depression, and Anxiety in Knee Osteoarthritis. *J Pain*. 2017;18(9):1096-1110.
- EUROQOL. EQ-5D. 2021. <https://euroqol.org/>
- Beaton DE, Schemisch E. Measures of health-related quality of life and physical function. *Clin Orthop Relat Res*. 2003;413:90-105.
- Reilly Associates Health Outcomes Research. <http://www.reillyassociates.net/>
- Dibonaventura M, Gupta S, McDonald M, Sadosky A. Evaluating the health and economic impact of osteoarthritis pain in the workforce: results from the National Health and Wellness Survey. *BMC Musculoskelet Disord*. 2011;12:83.
- Gignac MA, Badley EM, Lacaille D, et al. Managing arthritis and employment: making arthritis-related work changes as a means of adaptation. *Arthritis Rheum*. 2004;51(6):909-916.
- Gilworth G, Chamberlain MA, Harvey A, et al. Development of a work instability scale for rheumatoid arthritis. *Arthritis Rheum*. 2003;49(3):349-354.
- Tang K, Beaton DE, Lacaille D, et al. The Work Instability Scale for Rheumatoid Arthritis (RA-WIS): Does it work in osteoarthritis? *Qual Life Res*. 2010;19(7):1057-1068.