

Functional Assessments in Osteoarthritis Care





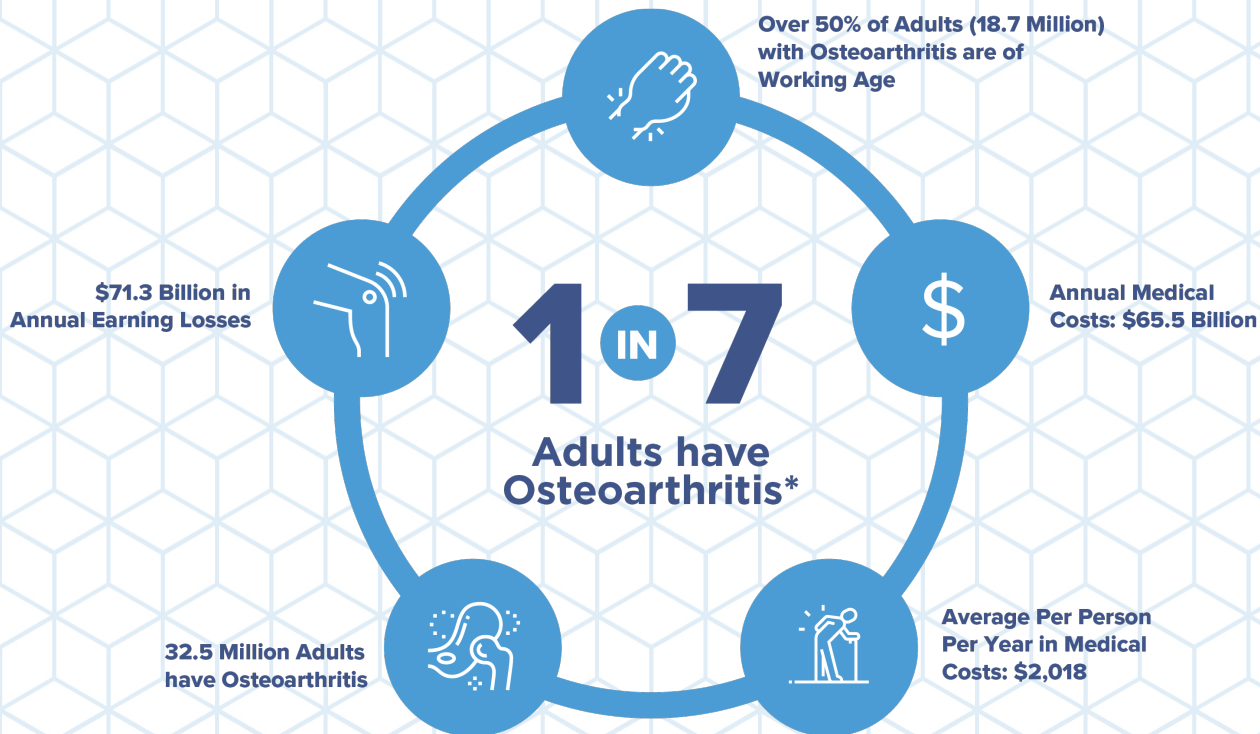
Overview

- Osteoarthritis (OA) is a serious disease^{1,2}
- Role of functional assessments in OA care
- Functional assessments commonly used in OA care
 - Performance-based tests
 - Patient-Reported Outcome Measures (PROMs)
 - Work/Occupational Assessments
- Summary & Discussion

**Osteoarthritis is a
serious disease**



OA is common and increasing in prevalence⁵



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*Reported from 2008 to 2014

OA Symptoms

- ✓ OA may cause pain, stiffness, and swelling.⁷
- ✓ OA symptoms may contribute to functional disability and reduced quality of life.⁸





Impact of OA

- Compared to adults of comparable age without OA, adults with OA may experience greater:
 - Pain²
 - Fatigue²
 - Activity limitations²
 - Levels of disability²
 - Risk of depression and anxiety⁹
 - Work limitations⁹
- Among adults with arthritis, 43.5% report arthritis-related activity limitations.⁹

Role of functional assessments in OA care



Role of functional assessments in OA care

In general, when assessing patients with OA, the recommended assessments include pain, (physical) function, and patient global assessment.¹⁰

These slides will focus on physical function assessments in OA care with the addition of the most commonly used health-related quality of life (HRQoL) measures used in OA care and research.

Function defined

What does function mean?

- Ability to move around³
- Ability to perform daily activities³
- Participation in daily life- relationships to other people and involvement in social interactions¹⁰
- Ability to perform activities of daily living (ADLs) and instrumental activities of daily living (IADLs)¹²

Physical function examples

Examples:

Stooping, bending, kneeling, walking,
push/pull objects⁹

ADLS such as bathing and dressing and
IADLs such as grocery shopping¹²



Role of functional assessments in primary care

Reasons for using functional assessments

- Quantify OA severity³
- Quantify progression over time³
- Individualize treatment approach³

Role of functional assessments in the workplace

Reasons for using functional assessments

- Assess work loss and productivity¹³
- Tailor treatment to help employee safely and effectively perform job duties⁴
- Assess employee's readiness to return to work⁴
- Assess employee's need for work accommodations such as reduced hours, assistive devices, modified work duties⁴

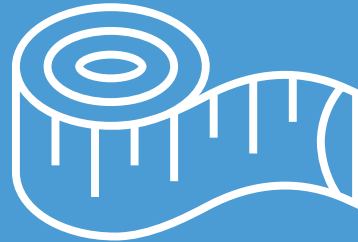
**Functional assessments
commonly used
in OA care**



Functional assessments used in OA care

- A variety of assessments exist to measure the impact of OA on physical function.¹⁴
- There is no gold standard measure to assess physical function in individuals with OA.³
- The main types of functional assessments are:
 - Performance-based tests
 - Patient-reported outcome measures
- Work/Occupational assessments help measure the impact of arthritis on work activities, performance, productivity, and missed days.¹⁵

Performance-based tests





Performance-based tests

- Performance-based tests
 - Measure what individuals *can* do as opposed to what they *think* they can do³
 - Allow a provider to observe a patient doing activities³
- The tests described on the following slides are commonly used with patients with OA and are categorized by joint with details about how they are administered.



Performance-based tests – Knee & Hip

Osteoarthritis Research Society International (OARSI) recommends 5 performance-based tests of physical function for knee and hip OA, with 3 of the tests identified as the minimum core set:^{3,16}

Minimum Core Set

- | | |
|-----------------------------|-------------------------|
| 1) 30-second chair stand | 4) Timed up-and-go test |
| 2) 40-meter fast-paced walk | 5) 6-minute walk test |
| 3) Stair Climb Test | |



Performance-based tests – Knee & Hip

30-second chair stand test^{3,16}



Measures lower body strength and balance



Equipment: stopwatch and chair



Description: maximum number of sit-to-stand repetitions in 30 seconds



Does not require fee or license



Performance-based tests – Knee & Hip

40-meter fast-paced walk^{3,16}



Measures walking speed and ability to change direction



Equipment: stopwatch, walking space (ex. hallway)



Description: Timed fast-paced walking over 40 m (132 ft); can be done in smaller space over 4 x 10 m (33 ft)



Does not require fee or license



Performance-based tests – Knee & Hip

Stair climb^{3,16}



Tests ability to go up and down stairs, lower body strength, and balance



Equipment: stopwatch, flight of stairs



Description: Timed ascent and descent of a single flight of stairs



Does not require fee or license



Performance-based tests – Knee & Hip

Timed up-and-go^{3,16}



Measures walking speed, ability to change direction, and ambulatory transitions



Equipment: stopwatch, walking space (ex. hallway), chair



Description: Time taken to get up from a seated position, walk 3 meters (9 ft 10 inches), turn back to chair, walk 3 meters and sit down



Does not require fee or license



Performance-based tests – Knee & Hip

6-minute walk^{3,16}



Measures ability to walk long distances, aerobic capacity



Equipment: stopwatch, walking space (ex. hallway)



Description: Distance covered in 6 minutes



Does not require fee or license



Performance-based tests – Hand

Arthritis Hand Function Test (AHFT)¹⁷



11-item test that measures hand strength and dexterity¹⁷



Equipment: buttons, laces, and other common items as well as grip and pinch strength measurement devices¹⁷



Takes 20 minutes to complete¹⁸



The manual and supplies cost approximately \$500¹⁸



Performance-based tests – Hand

Grip & Pinch strength²⁰



Measurement of grip and pinch strength using manual devices-

- The Jamar dynamometer most accurately measures grip strength
- Finger pinch strength can be measured with a pinch meter



These devices can be purchased from a variety of medical device suppliers.

Patient-Reported Outcome Measures (PROMs)



Patient-reported outcome measures (PROMs)

- Definition: PROMs are questionnaires that patients complete to describe how arthritis impacts various aspects of their lives.¹⁴
- A variety of PROMs exist¹⁴ and measure a range of domains such as:
 - Pain, physical function, sleep, work, self-care, self-efficacy, quality of life¹⁴
- The tests described on the following slides are commonly used in patients with OA.
 - Slides are organized by joint and HRQoL



PROMs-Knee/Hip

Western Ontario McMaster Osteoarthritis Index (WOMAC®*)²¹



Evaluates 3 dimensions: pain (5 questions), stiffness (2 questions), and physical function (17 questions)^{21,22}



The Likert version uses responses (None, Mild, Moderate, Severe) and is scored on a scale of 0-4 with lower scores indicating lesser symptoms or disability. Also available in formats using 100 mm visual analog or 11-point numerical rating scales.^{21,22}



Self-administered and takes 5-10 minutes to complete²²



Requires a license and fee to use

**WOMAC® is a registered trademark of Nicholas Bellamy.*



PROMs- Knee

Knee Disability and Osteoarthritis Outcome Score (KOOS)^{23,24}



Evaluates symptoms and function in patients with knee injury or OA



42 items divided into 5 domains: pain, non-pain symptoms, activities of daily living, sports and recreation, knee-related quality of life



Self-administered and takes 10 minutes to complete



Does not require fee or license to use



PROMs- Hip

Hip Disability and Osteoarthritis Outcome Score (HOOS)^{25,26}



Evaluates symptoms and function in patients with hip injury or OA



40 items divided into 5 domains: pain, non-pain symptoms, activities of daily living, sports and recreation, knee-related quality of life



Self-administered and takes 10 minutes to complete



Does not require fee or license to use



PROMs- Shoulder, Elbow, Wrist, Hand



Disabilities of the Arm, Shoulder and Hand (DASH)²⁷



Assesses ability to perform certain upper extremity activities



30-item measure assessing disability/symptoms with an optional high-performance Sport/Music or Work section (4 items)



Self-administered and takes 4 minutes to complete²⁸



Does not require fee to use



PROMs- Shoulder

American Shoulder and Elbow Surgeons Standardized Shoulder Assessment Form (ASES)²⁸



Patient ASES (pASES) measures pain, instability, and activities of daily living



Includes 18 items; lower score indicates worse symptoms and greater disability



Self-administered and takes 3 minutes to complete



Does not require fee or license to use



PROMs- Hand

Australian/Canadian Hand OA Index (AUSCAN)²⁹



15-item measure evaluating pain (5 items), stiffness (1 item), and function (9 items)

- Physical function subscale can be used



Uses a scale of 1-5 (none → extreme), with higher scores indicating worse symptoms and greater disability³⁰



Requires a license and fee to use



PROMs- Hand

Functional Index for Hand Osteoarthritis (FIHOA)^{31,32}



Assesses impact of hand OA on functional ability to perform daily tasks³²



10-item measure, which rates a person's ability to do certain tasks with higher score equal to greater disability³³



Self-administered and takes an average of 3 minutes to complete³³



Does not require a fee, license, or permission to use³²



PROMs- HRQoL

Rand Short Form-36 Health Survey (SF-36)[®]*³⁴



A generic HRQoL survey³⁴ that has been validated in patients with OA³⁵



Includes 36 items related to 8 physical and mental health domains³⁶



Takes about 10 minutes to complete³⁷



Does not require fee or license

**The SF-36[®] is a registered trademark of the Medical Outcomes Trust.*



PROMs- HRQoL

Patient-Reported Outcomes Measurement Information System (PROMIS)[®]*³⁸



A set of measures to assess a patient's physical, mental, and social health³⁸



The physical function domain (PROMIS-PF) includes a large bank of items but is also available in a variety of short forms (ex. v.10a)³⁹



Does not require a fee or license³⁸

**PROMIS[®] is a registered trademark of the U.S. Department of Health and Human Services.*



PROMs- HRQoL

EuroQoL-5D (EQ-5D)⁴⁰



Assesses 5 domains: mobility, self-care, daily activities, anxiety/depression, pain⁴¹



5-item measure where respondents rate their health “today” in the 5 domains⁴⁰



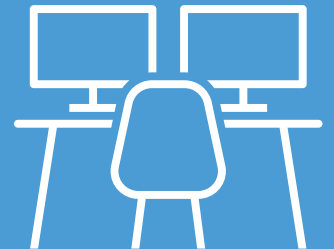
Easy to complete, taking just a couple of minutes^{40,41}



Must register through website for access (non-commercial use is free)⁴⁰

- Scoring and User manuals are also available⁴⁰

Work/Occupational Assessments



Work/Occupational Assessments

Work Productivity and Activity Impairment Questionnaire (WPAI)^{13,42}



Assesses an employee's absenteeism (missed work), presenteeism (reduced job performance), work productivity loss (absenteeism plus presenteeism), and activity impairment⁴²



6-item measure, which is available for General Health and for Osteoarthritis of Knee or Hip but is easily adapted for other health conditions⁴²



Does not require fee or license

Scoring and user instructions are also available



Work/Occupational Assessments

Workplace Activity Limitations Scale (WALS)⁴⁴



Assesses limitations while performing workplace activities¹⁵



11- or 12- item measure with a higher score indicating greater workplace limitations¹⁵



Does not require a fee

Work/Occupational Assessments

Work Instability Scale for Rheumatoid Arthritis (RA-WIS)⁴⁵



Measures work instability, which is defined as ‘a mismatch between an individual’s functional abilities and job demands’⁴⁶



23-item measure assessing symptom control, task performance at work, stamina at work, time management, psychological distress⁴⁶



Requires a license but is free for non-commercial use¹⁵

Summary & Discussion



Summary

- There are many different types of functional assessments that can be used with individuals with OA.
- Regardless of which instrument is used, functional assessments can help:
 - Quantify OA progression and severity³
 - Individualize treatment options for individuals with OA³
 - Measure change in patient status after a specific intervention²² (ex. drug, surgery,²² workplace accommodation¹⁵)
 - Measure and optimize employees' health and safety⁴
 - Predict future work disability and provide for timely intervention⁴⁶
- In your work, what are the benefits of using functional assessments?

Discussion ideas for clinical care

- What functional assessments do you/your practice currently use for patients with OA?
- What functional assessments seem practical for your clinical setting?
- What are some barriers to using functional assessments that you/your clinic need to address?
- What are some facilitators to implementing functional assessments in your clinic?
- How might you begin implementing functional assessments into your regular clinical practice?

Discussion ideas for the workplace

- How does your workplace assess employee productivity, job fit, and need for job accommodations or job switching?¹⁵
- What functional assessments seem practical for your workplace?
- What are some barriers to using functional assessments that your workplace needs to address?
- What are some facilitators to implementing functional assessments in your workplace?
- How might you begin implementing functional assessments into your workplace?

Visit www.oacaretools.org for more tools and resources, including a video interview with a healthcare provider about how he uses performance measures and PROMs in his care of patients with OA.



OAAA collaborated with Pfizer in the development of this resource.

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