



QUALITY TOOL BOX

Overview

QTBs are a resource for Academy members that include existing tools which may be useful in physiatric practice. Tools included in the Osteoporosis and Exercise QTB were identified by subject matter experts who treat patients with this condition, and the Academy's Performance Metrics Committee has evaluated the tools for their methodological quality.

ACKNOWLEDGMENTS

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GMRC Council Subject Matter Experts

Sara Cuccurullo
Gopi Kasturi
K. R. Poduri

Performance Metrics Committee

David Berbrayer, MD
Michael Hatzakis, MD
Kurtis M. Hoppe, MD
Amy Houtrow, MD
Elizabeth Sandel, MD (PMC Chair)
Deepthi Saxena, MD (PMC Lead for QTB project)
Michael Schaefer, MD
Felicia Skelton, MD

aaPM&R

American Academy of
Physical Medicine and Rehabilitation

General and Medical Rehabilitation Council (GMRC)

Osteoporosis and Exercise

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Core Constructs

Core Constructs were identified to help guide the selection of Assessment Instruments and Performance Measures. Core Constructs are based on the International Classification of Functioning, Disability and Health (ICF) framework. More information on the ICF Framework can be found [here](#).

The Core Constructs for this QTB related to Osteoporosis are:

- *Risk*
- *Symptom Quality*
- *Activity Limitations/ Participation Restrictions*
- *Quality of Life*

Assessment Instruments

Risk

- **FRAX Score**—A prediction tool for assessing a person's risk of fracture in order to provide general clinical guidance for treatment decisions.

Symptom Quality

- **Numeric Pain Rating Scale**—Measures intensity of pain.
- **Pain Visual Analog Scale (VAS)**—The pain VAS is a unidimensional measure of pain intensity.

Activity Limitations / Participation Restrictions

- **Falls Efficacy Scale International (FES-I)**—Assesses fall-related self-efficacy.
- **Activities-specific Balance Confidence Scale (ABC)**—A subjective measure of confidence in performing various ambulatory activities without falling or experiencing a sense of unsteadiness.
- **Oswestry Disability Index (ODI)**—A patient-reported measure that has become one of the principal condition-specific outcome measures used in the management of spinal disorders.
- **Roland-Morris Disability Questionnaire**—Made up of 24 yes/no questions designed to assess back pain as experienced by the patient in the last 24 hours.
- **London Handicap Scale [LHS]**—The London Handicap Scale is used to determine the effect of chronic disorders on a person's functional ability using a self-completion questionnaire.
- **Patient Specific Functional Scale [PSFS]**—Patients rate their ability to complete an activity on a 11-point scale at a level experienced prior to injury or change in functional status.
- **10 Meter Walk Test**—Assesses walking speed in meters per second over a short duration (6 meters, 10 meters, etc.).
- **Dynamic Gait Index [DGI]**—Assesses an individual's ability to modify balance while walking in the presence of external demands.
- **Functional Gait Assessment [FGA]**—Assesses postural stability during various walking tasks.
- **Four Step Square Test [FFST]**—Test of dynamic balance that clinically assesses the person's ability to step over objects forward, sideways, and backwards.
- **Tinetti Falls Efficacy Scale**—Assesses perception of balance and stability during activities of daily living; Assesses fear of falling in the elderly population.
- **FRT Functional Reach Test**—Assesses a patient's stability by measuring the maximum distance an individual can reach forward while standing in a fixed position. The modified version of the FRT, requires the individual to sit in a fixed position.

Assessment Instruments

Quality of Life

- **WHO Quality of Life BREF [WHO QOL BREF]**—A self-report quality of life questionnaire which contains 26 items and addresses 4 QOL domains: physical health (7 items), psychological health (6 items), social relationships (3 items) and environment (8 items). Two other items measure overall QOL and general health.
- **Reintegration to normal Living Index [RNLI]**—A questionnaire that assesses how the patient manages activities, roles and relationships on a daily basis. This information helps the patient keep track of how well they are doing and feeling since their initial injury or illness.

Clinical Practice Guidelines

- **American Academy of Orthopaedic Surgeons (AAOS) Management of Hip Fractures in the Elderly**
- **American Academy of Orthopaedic Surgeons (AAOS) Treatment of Symptomatic Osteoporotic Spinal Compression Fractures**

Performance Measures

- **PQRS #40** – Osteoporosis: Management Following Fracture of Hip, Spine or Distal Radius for Men and Women Aged 50 Years and Older.
- **PQRS #41** – Osteoporosis: Pharmacologic Therapy for Men and Women Aged 50 Years and Older.

Review Articles / References

- **Quality of life measurements in patients with osteoporosis and fractures.** Clinics. 2012;67(11):1315-1320. Doi: 10.6061/clinics/2012(11)16.
- **A review of the effect of anticonvulsant medications on bone mineral density and fracture risk.** Am J Geriatr Pharmacother. 2010 Feb;8(1):34-46. Doi: 10.1016/j.amjopharm. 2010.02.003.
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- **Review of new guidelines for the management of glucocorticoid induced osteoporosis.** Venuturupalli SR, Sacks W. Curr Osteoporos Rep. 2013 Dec; 11(4):357-64. Doi: 10.1007/s11914-013-0170-3.
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- **Exercise interventions to reduce fall-related fractures and their risk factors in individuals with low bone density: a systematic review of randomized controlled trials.**
- **ICF Core Sets for Osteoporosis.**
- **Screening for osteoporosis in the adult U.S. population: ACPM position statement on preventive practice.**
- **Osteoporosis; Get Facts on Diet, treatment and Guidelines.**
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- **Cost-effectiveness of the treatment and prevention of osteoporosis—a review of the literature and a reference model.** Osteoporosis International January 2007, Volume 18, Issue 1, pp 9-23.

Patient Education Resources

- **American Orthopaedic Association: Own the Bone**
- **National Osteoporosis Foundation**
- **International Osteoporosis Foundation**
- **National Institutes of Health, Osteoporosis and Related Bone Diseases National Resource Center**

AAPM&R Resources

- [Evidence-Based Resources](#)
- [Vetted PQRS Measures](#)
- [Performance Measure Resources](#)
- [Endorsed Clinical Practice Guidelines](#)
- [Quality Glossary](#)

External Resources

Evidence/Literature:

- [Cochrane Library](#)

An online collection of databases that brings together in one place rigorous and up-to-date research on the effectiveness of healthcare treatments and interventions, as well as methodology and diagnostic tests.

- [Oxford Centre for Evidence-Based Medicine 2011 Levels of Evidence](#)

Defines a process of finding appropriate evidence feasible and its results explicit.

Clinical Practice Guidelines:

- [National Guidelines Clearinghouse](#)

A public resource for evidence-based clinical practice guidelines.

Assessment Instruments/Performance Measures:

- [National Quality Measure Clearinghouse](#)

A public resource for evidence-based quality measures and measure sets.

- [National Quality Forum \(NQF\) Quality Positioning System](#)

NQF's measure search tool that helps you find the endorsed measures you need quickly and easily.

- [Rehabilitation Measures Database](#)

The Rehabilitation Clinician's Place to Find the Best Instruments to Screen Patients and Monitor Their Progress.