

OA monitoring in clinical practice



Dr Fahim Khan* says the basic goals are to reduce symptoms and maintain or improve function.

Osteoarthritis (OA) occurs in all mammalian species and is the earliest documented human disease. Human skeletons from two million years ago show evidence of the effect of OA.

When clinically evident, OA is characterised by joint pain, tenderness, limitation of movement, crepitus, occasional effusion, and variable degrees of local inflammation.

The basic goals in managing osteoarthritis are to reduce symptoms (pain, stiffness, instability) and maintain or improve function. Accordingly, it is important to be able to determine whether the patient is getting better or worse.

Monitoring of the patient with osteoarthritis over time should include periodic global rating by the physician and the patient, a simple pain assessment, a count of flares, an assessment of function, a focused examination and selective performance testing.

Pain scales

Pain may be evaluated during the office visit by a verbal transition scale (VTS), a verbal rating scale (VRS), a numerical rating scale (NRS) or a visual analog scale (VAS). The VTS asks the patient to estimate whether the pain has been stable or has changed over a period of time (for better or worse).

The VRS asks the patient to quantify his pain, for example from total absence of pain to extreme pain, with a number of intermediate levels (mild, moderate, severe).

The NRS asks the patient to assign a number from an ordinal scale, usually ranging from 0 (no pain) to 10 (extreme pain), or from 0 to 100, rather than asking him to choose an adjective.

The VAS typically employs a 10-cm line on which the patient marks a point representing his level of pain. The distance from this point to the origin of the line is then recorded.

All of these techniques show changes when a therapeutic intervention is effective.

Quantitative approaches applied to the practice setting

Table 1 summarises the components of a comprehensive and practical assessment of the OA patient which takes into account the practical limitations of routine office care.

The approach, which can be employed at the initial visit and at regular intervals thereafter (e.g. every six months), follows a step-wise progression, beginning with traditional open-ended screening questions which can rapidly establish the patient's priorities and assess whether the condition has changed.

If deterioration has occurred, the questions progress to a more detailed inquiry and systematic review.

Observation of the patient's gait, and ability to transfer from a chair to the examination table, will confirm reported problems and facilitate the physician's assessment of his patient's status relative to that of other patients with the same impairment.

Table 2: Screening for functional disability in the patient with osteoarthritis

Task	Musculoskeletal area tested	Function
<u>Touch fingers to palmar crease+</u>	<u>Finger small joints (F)</u>	<u>Grip</u>
Touch index finger pad to thumb Pad	Thumb joints, (AB, O) and thumb opponens muscle (S)	Grip & Pinch
<u>Place palm of hand to contralateral trochanter</u>	<u>Wrist (F) and shoulder (AD)</u>	<u>Hygiene (perineal and back care)</u>
Touch 1st MCP joint to top of head	Shoulder (AB, F, ER) and Elbow (F)	Hygiene (face neck, hair oral)
<u>Touch waist in back</u>	<u>Shoulder (IR)</u>	Feeding & dressing
Touch tip of shoe	Back, hip, and knee (F) and Elbow (E)	<u>Dressing and low back care</u>
<u>Arise from chair without using hands</u>	<u>Hip girdle and quadriceps rectus femoris (S)</u>	Dressing of lower extremities
Stand unassisted	Hip, knee and ankle (F,E) and Quadriceps femoris muscle (S)	<u>Transfer ability</u>
<u>Step over a 6-inch block</u>	<u>Hip, knee, ankle (F, E) and hip Girdle (S)</u>	Standing
Gait	Hip, knee, ankle and small joints Of feet (F, E), hip girdle and Quadriceps femoris muscle (S)	Stairs
		Walking

AB, abduction; ER, external rotation; F, flexion; E, extension; AD, adduction; IR, internal rotation; O, opposition; S, strength; + if abnormal, test grip strength ++ if abnormal, test ability to get up from bed.

When the patient reports a change in his problems, additional history, particularly details of medication use and changes in activity, provide insight into potential management strategies.

When severe discomfort is reported, knowing which critical functions are disturbed (e.g. sleep, weight bearing) will assist the physician in interpreting the impact of the patient's pain.

Physical examination can identify co-existing periarticular soft tissue rheumatism (trochanteric, iliopsoas or anserine bursitis; supraspina-

tus tendonitis; nerve entrapment syndrome) which may respond to local therapy. Biomechanical factors, such as flexion deformities, recurvatum and valgus or varus deformities, which may cause ligament strain, can be managed with orthoses or surgery.

Finally, determination of whether putting the joint through its full range of motion produces discomfort may provide insight into unreported functional limitations. For the unreliable historian, a simple performance test (Table 2) is a quick way to identify potential functional problems and the joints involved.

Evaluation of function

It is importance to recognise the natural trajectory of functional decline which is accelerated by chronic and acute illness in the patient with OA.

Many individuals decline slowly, accommodate to their decline in function, and accept their limitations. Because, by the time function has declined, effective intervention may be difficult, regular periodic functional evaluation is important.

Function is an important

endpoint and should be assessed in a standardised, quantitative manner.

Two approaches may be employed: a 1-second drill asks the patient what single function is the most difficult for him or her to perform during the day and how difficult it is on a scale of 1 to 5; a 10-second drill enables the patient to express how he is affected by the condition, to communicate which activity is the most difficult, to compare his condition to baseline, and to determine priority for treatment (Table 3).

In patients with polyarticular OA, or when the patient is a poor observer or cognitively impaired, an inventory may be taken of activities of daily living (ADL), such as ambulation, dressing, eating, personal hygiene, transfers and toileting.

Performance testing provides a useful method of evaluating function in elderly, sick, cognitively impaired or unreliable subjects. A rapid office test which is useful in screening for potential problems, has the patient imitate the examiner in the performance of manoeuvres that test musculoskeletal areas (Table 2).

If the patient is unable to perform these manoeuvres or they cause pain, or if asymmetry exists between sides, limitations in certain self care areas are likely.

References on request.

***Dr Fahim Khan,** MBBS,MD, MRCP (UK), Dip Occupational Health, Consultant Rheumatologist Aut Even Hospital, Freshford Road, Kilkenny.



Classic radiological features of osteoarthritis.

Table 1: Clinical assessment of the patient with osteoarthritis to be performed initially and at 6-month intervals.

Variables	Assessment
Global rating	Verbal transition scale: Are you better, same or worse?
Pain:	Numerical scale:
Over the last month, how much discomfort have you had on a scale of 1-5 (5 is the most)?	Have you had: Pain at rest? Pain with any weight bearing? Pain at night?
Function:	What is the most difficult thing for you to do on a regular day?
Flares:	Number of exacerbations or joint effusions?
Examination	Range of motion and effect of movement on pain. Functional testing, if necessary.
Therapy:	Analgesics NSAIDs Joint aspirations Intra-articular steroid injections.

Joint effusion, accumulation of joint fluid, documented by a physician: NSAIDs, non-steroidal anti-inflammatory drugs.

Table 3: A 10-second inventory of function for use with the patient with osteoarthritis.

How does your condition affect you?
What is the most:
(1) Difficult thing for you to do in an average day?
(2) Important thing for us to work on?
What can't you do:
(1) That you were able to do?
(2) That you need or would like to do?
Are you able to sleep through the night?