

These protocols are designed to implement standard guidelines, based on the best evidence, that provide a consistent clinical experience for AHC II Integrated Clinical Delivery Network patients and allow to quantitatively demonstrate to payers the high-value care provided. They are not intended to replace a clinician's judgment or to establish a protocol for all patients with a particular condition.

## SCREENING AND PREVENTION

**Diagnosis of osteoarthritis (OA) should be based on history and physical examination.**

Radiographs are notoriously insensitive to the early pathologic features of OA. Lab testing is not helpful to establish diagnosis of OA. In atypical cases, diagnostic joint aspiration should be done to confirm suspicion of OA and exclude other diagnoses.

**MRI is rarely indicated when diagnostic suspicion is high**, and should be reserved to differentiate between OA and other ailments or to evaluate for internal derangement.

**Management should always begin with nonpharmacological and nonsurgical strategies.**

Pharmacologic and surgical treatments should be used only after more conservative treatment options have failed.

**Management of OA may incorporate exercise and often requires a multidisciplinary approach.** This may include physical therapists, occupational therapists, nutritionists, nurses, and physicians.

OA is a top cause of disability in older people. The goal of treatment in OA is to reduce pain and improve function. There is no cure for the disease, but some treatments attempt to slow disease progression<sup>i</sup>

Risk factors for osteoarthritis include:

- Obesity
- Older age
- Having family members with OA or Joint injury or repetitive use (overuse) of joints
- Joint deformity such as unequal leg length, bowlegs or knocked knees

No single test can diagnose osteoarthritis. Most doctors use several methods, including medical history, a physical exam, X-rays.

Treatments include exercise, medicines, and sometimes surgery.

## DIAGNOSIS

1. In clinical practice, OA should be diagnosed on the basis of history and physical exam.<sup>ii</sup>
2. OA is often associated with joint pain that is activity-related or mechanical and exacerbated by use.
3. Nocturnal joint and rest pain usually signals the presence of advanced disease. Nocturnal OA pain needs to be distinguished from a microcrystalline arthropathy, occult cancer, or evolving infection.

4. When OA affects the knee joint, it characteristically produces crepitus, an audible and palpable grating quality when the knee is flexed and extended during physical examination.
5. Bony prominence is also a common finding, particularly at the finger joints. Crepitation in the shoulder can often be felt. As the hip joint cannot be seen or felt, the diagnosis is based on the history and pain on motion of the hip.
6. Radiographs are notoriously insensitive to the early pathologic features of OA. Positive radiographic findings do not definitively diagnose OA; the absence of supportive radiographic findings also does not rule out symptomatic disease.
7. MRI is rarely indicated strictly for the diagnosis of OA; however, it may be useful for the orthopedist or rheumatologist to evaluate the soft tissue structures around the shoulder for bursitis, tendonitis, etc., or to detect early evidence of osteonecrosis in the shoulder and hip.
8. Laboratory testing is not helpful to establish a diagnosis of OA. Because OA is relatively non-inflammatory, complete blood count and acute phase reactants should be normal.

#### **COLLABORATIVE MANAGEMENT PLAN/INTEGRATED REFERRALS**

1. While complete relief is the ideal goal, reduction in pain to a manageable level is a more realistic goal. There are no treatments which will restore an osteoarthritic joint to its premorbid state and treatment should take this into account.
2. Obesity is the single most important modifiable risk factor for knee OA. Overweight and obese patients with OA of the knee joint should be encouraged to lose weight through a combination of diet and exercise.
3. Physical therapy is an excellent option for improving joint biomechanics in the patient with knee or hip OA. Physical therapists can instruct the patient in active and passive range-of-motion exercise, muscle strengthening, and joint-protection principles.
4. Pharmacologic agents should be offered only when more conservative efforts have failed to improve function.
5. Osteoarthritis of the hand lends itself to the use of topical agents including OTC counter-irritants (e.g. BenGay), and agents with perhaps more direct actions (Aspercreme), as well as applications of heat or cold. A paraffin bath can be very helpful in providing symptomatic relief without drying out the skin which will happen if patients just run their hands under hot water.
6. Acetaminophen in doses of up to 650 mg up to 3 times a day is often the first choice for mild to moderate pain associated with OA. At these doses many patients may experience a reduction in pain associated with a safer gastrointestinal profile. Higher individual doses may increase blood pressure and higher total doses may have some GI side effects.
7. Other analgesic agents may be very effective also. Tramadol can be very helpful in many patients particularly when given with 325 mg of acetaminophen which potentiates the tramadol. The appropriate role of opioids throughout medicine is undergoing re-evaluation but may be appropriate when other therapies have failed. They should be used cautiously given the chronicity of hip OA. Cymbalta has been approved by the FDA for musculoskeletal pain. Glucosamine, chondroitin and other over the counter agents have been effective for

some patients and have an excellent safety profile although most of the data with these agents concerns OA of the knee.

8. Joint injections with corticosteroids represent a safer and more targeted treatment approach than systemic therapies. Hip injections are typically done under radiologic guidance by orthopedists or radiologists. Injections of finger joints can be helpful but are obviously more difficult than knee injections.
9. Oral NSAIDs should not be considered as first-line agents given the risks of these drugs at the ages most patients present with OA. However, topical nonsteroidal (primarily diclofenac as a single agent in various forms or as an ingredient in compounded preparations) may also be effective in the hands but the amount of tissue around the hip limits their effectiveness.
10. Surgery for hip should be reserved for patients in whom symptoms are refractory to medical therapy. Typical indications for surgery are debilitating pain and major limitations in such functions as walking, working, or sleeping. Surgery for OA in the hands is usually limited to the thumb joints for intractable pain or instability limiting use of the thumb, particularly in the pinch function.

### ***Referral Considerations***

1. Management of OA should be tailored to the individual patient.
2. Exercise is a critical component of OA management, especially for the hip. Patients with OA should be encouraged to participate in low-impact aerobic exercise programs, such as walking, biking, or swimming. Strategies to improve adherence, the main predictor of long-term outcome, should be adopted (e.g., focus on exercise the patient enjoys).<sup>2</sup> Management should always begin with nonpharmacological and nonsurgical strategies (e.g., splinting of the thumb). This often involves a multidisciplinary approach, including physical therapists, occupational therapists, nutritionists, nurses, and physicians.
3. Referral for diagnostic consultation is advisable when the pattern of joint involvement is atypical, if the patient has symptoms that suggest inflammatory arthropathy, or if the patient fails to respond to the therapies outlined above.

### ***Patient Education***

Patient education interventions, even by themselves, have shown therapeutic benefit in OA management.<sup>iii</sup> Patients with OA should be encouraged to participate in self-management programs, such as those available through the Arthritis Foundation (<http://www.arthritis.org/living-with-arthritis/>). Such media offer information about the natural history of disease; diet, exercise and pain management tips; tools and instructions; and resources for social support.

## **MEASURES OF PERFORMANCE**

Aligned with CMS PQRS/NQF measures

**Osteoarthritis (OA): function and pain assessment (NQF #50; PQRS #109)**

Percentage of patient visits for patients aged 21 years and older with a diagnosis of osteoarthritis (OA) with assessment for function and pain.

**Domain:** Person and Caregiver-Centered Experience and Outcomes

**Numerator:** Patient visits with assessment for level of function and pain documented.

**Denominator:** All patient visits for patients aged 21 years and older with a diagnosis of OA.

## Tools and Resources

Arthritis Foundation self-management tools and resources: <http://www.arthritis.org/living-with-arthritis/>

Hochberg, Marc C., et al. "American College of Rheumatology 2012 recommendations for the use of nonpharmacological and pharmacologic therapies in osteoarthritis of the hand, hip, and knee." *Arthritis care & research* 64.4 (2012): 465-474.

[https://www.rheumatology.org/practice/clinical/guidelines/PDFs/ACR\\_OA\\_Guidelines\\_FINAL.pdf](https://www.rheumatology.org/practice/clinical/guidelines/PDFs/ACR_OA_Guidelines_FINAL.pdf)

Clinical guidelines on the treatment of osteoarthritis of the knee from the American Academy of Orthopedic Surgeons in 2013.

[www.aaos.org/research/guidelines/TreatmentofOsteoarthritisoftheKneeGuideline.pdf](http://www.aaos.org/research/guidelines/TreatmentofOsteoarthritisoftheKneeGuideline.pdf)

## References

Gelber, Allan C. In the Clinic: Osteoarthritis. *Ann Intern Med.* 2014;161(1):ITC1-1. American College of Physicians. <http://annals.org/article.aspx?articleid=1885020>

Hochberg, Marc C., et al. "American College of Rheumatology 2012 recommendations for the use of nonpharmacologic and pharmacologic therapies in osteoarthritis of the hand, hip, and knee." *Arthritis care & research* 64.4 (2012): 465-474.

[https://www.rheumatology.org/practice/clinical/guidelines/PDFs/ACR\\_OA\\_Guidelines\\_FINAL.pdf](https://www.rheumatology.org/practice/clinical/guidelines/PDFs/ACR_OA_Guidelines_FINAL.pdf)

Clinical guidelines on the treatment of osteoarthritis of the knee from the American Academy of Orthopedic Surgeons in 2013.

[www.aaos.org/research/guidelines/TreatmentofOsteoarthritisoftheKneeGuideline.pdf](http://www.aaos.org/research/guidelines/TreatmentofOsteoarthritisoftheKneeGuideline.pdf)

i

American College of Rheumatology.

[https://www.rheumatology.org/Practice/Clinical/Patients/Diseases\\_And\\_Conditions/Osteoarthritis/](https://www.rheumatology.org/Practice/Clinical/Patients/Diseases_And_Conditions/Osteoarthritis/) Accessed May 11, 2015.

ii

Gelber, Allan C. In the Clinic: Osteoarthritis. *Ann Intern Med.* 2014;161(1):ITC1-1. American College of Physicians. <http://annals.org/article.aspx?articleid=1885020> iii

Superio-Cabuslay E, Ward MM, Lorig KR. Patient education interventions in osteoarthritis and rheumatoid arthritis: a meta-analytic comparison with nonsteroidal anti-inflammatory drug treatment. *Arthritis Care Res.* 1996; 9:292-301.