

Treatment of Osteoarthritis in the Family Medicine Setting

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Osteoarthritis is a common problem in the general population that seeks medical attention in a primary care setting. The main risk factors for osteoarthritis are a family history of the disease, the female gender, past trauma to the involved joint, aging and obesity. Because of the increasing number of obese people in the United States, family physicians are expected to see more osteoarthritis cases in the coming years.



Definition of Osteoarthritis

Osteoarthritis is the degenerative disorder of the articular cartilage, along with the subchondral bones and other joint structures. It is the most common type of joint disease and is the leading cause of disability in older adults.

Clinical Presentation of Osteoarthritis

Osteoarthritis affects weight-bearing joints like knees, hips, cervical spine, lumbosacral spine, and feet. Other joints like proximal interphalangeal joints (PIP), distal

interphalangeal joints (DIP), and carpometacarpal (CMC) joints may also be affected.

Patients with osteoarthritis most commonly complain of joint pain. In contrast to inflammatory joint pain which is worse in the morning and gets better through the day, osteoarthritis pain is usually more severe with activity and by the end of the day. While morning stiffness can be seen in patients with osteoarthritis, it usually lasts for less than 30 minutes. Because of joint pain, patients tend to lower their daily activities, gain more weight, and develop a worsening of their osteoarthritis.

The most commonly affected joints in osteoarthritis are the hands, knees, hips, and spine. Other joints can be affected as well. On physical examination, there is usually a limitation of the range of motion of the affected joint due to pain. The following table summarizes the clinical features of osteoarthritis of some common joints and sites:

Joint or Location	Clinical Features Suggestive of Osteoarthritis
Knee	<ul style="list-style-type: none"> • Limited range of motion on physical examination due to pain. <ul style="list-style-type: none"> • Crepitus on range of motion examination. <ul style="list-style-type: none"> • The presence of a Baker cyst. • Valgus or varus deformities of the knee. <ul style="list-style-type: none"> • Joint instability. • In some cases, joint effusion.
Hip	<ul style="list-style-type: none"> • Limited range of motion on physical examination. <ul style="list-style-type: none"> • Pain referred to the buttocks. • Limited passive internal rotation.
Hand	<ul style="list-style-type: none"> • Limited range of motion because of pain. <ul style="list-style-type: none"> • Heberden nodes and Bouchard nodes. • Point-tenderness over the carpometacarpal joint of the thumb.
Shoulder	<ul style="list-style-type: none"> • Limited range of motion because of pain. <ul style="list-style-type: none"> • Limited external rotation. • Crepitus.
Foot	<ul style="list-style-type: none"> • Pain during walking. <ul style="list-style-type: none"> • Hallux rigidus. • Hallux valgus deformity.
Spine	<ul style="list-style-type: none"> • Limited range of motion because of pain. • Symptoms and signs suggestive of nerve root impingement. <ul style="list-style-type: none"> • Pseudoclaudication.

The diagnosis of osteoarthritis is usually confirmed by a proper history and a physical examination. The radiographic examination can also provide more clues to increase the certainty of the diagnosis.

Computed tomography studies and magnetic resonance imaging studies are rarely needed in simple cases of osteoarthritis. Patients suspected to have an inflammatory

condition might benefit from a magnetic resonance imaging study to evaluate the status of the soft tissues surrounding the joint.

C-reactive protein and erythrocyte sedimentation rate, markers of inflammation, are usually normal in patients with osteoarthritis. If in doubt, one should order antinuclear antibodies and rheumatoid factor studies to exclude systemic lupus erythematosus or rheumatoid arthritis respectively.

Treatment of Osteoarthritis at the Family Physician Setting

The treatment of osteoarthritis can be non-pharmacologic, pharmacologic, complementary and alternative. Surgical interventions are also available for osteoarthritic joints, but should not be used as first-line therapy. Surgical intervention is reserved for patients who fail to respond to two different categories of non-surgical therapy, who have severe intractable pain, and who have significant loss of function of the affected joint.

Patients with mild osteoarthritis should be started on a regular exercise program, encouraged to lose weight if they are obese or overweight, and be considered for bracing or splinting of the affected joint. Acetaminophen might be used for pain management. Acetaminophen is typically used in the dosage of 650 to 1000 mg four times per day.

Those with moderate osteoarthritis should receive the previous non-pharmacological treatments in addition to a non-steroidal anti-inflammatory drug. Ibuprofen or Naproxen are two good initial options in this step. The typical dosage of ibuprofen is 600 mg three times per day, whereas Naproxen dosage is 250 to 500 mg two times per day. If the patient does not respond to one non-steroidal anti-inflammatory drug, it might be reasonable to switch to another non-steroidal anti-inflammatory drug before stepping up.

Patients with moderate osteoarthritis of the knee, who do not respond to the previous treatments, should be given a three-month trial of glucosamine and chondroitin therapy.

If all of the above treatment options fail to control pain and restore function, it might be reasonable to start opioid therapy. If an opioid is going to be used, the patient should be monitored closely for signs of dependence or abuse.

Patients who partially respond to the previous measures, but develop recurrent attacks or exacerbations of their disease, are candidates for corticosteroid injection therapy.

Those with severe osteoarthritis of the knee joint who do not respond to any of the previous treatments might be considered for hyaluronic acid injection therapy. If all of these measures fail to control pain and restore function, surgical interventions should be discussed with the patient. Surgical measures include arthroscopy to repair the joint. If joint repair is impossible, then joint replacement should be thought of. A total joint replacement is available for the hip, knee, and shoulder.

Current Recommendations by the American Family Physician Journal for the Management of Osteoarthritis

The following table summarizes the current recommendations for the treatment of osteoarthritis in a family care setting. Level of evidence (A) means that the

recommendation was based on good-quality large-scale randomized controlled trials. Level of evidence (B) indicates that the recommendation is based on good quality meta-analyses' results with some inconsistent results.

Recommendation	Evidence Level
Patients with osteoarthritis should undergo physical therapy with land-based or water-based exercises to improve function and reduce pain.	B
Patients with mild osteoarthritis should receive acetaminophen as first-line therapy.	A
Patients with moderate to severe osteoarthritis should receive non-steroidal anti-inflammatory drugs.	A
Patients with severe pain because of knee osteoarthritis might benefit from intra-articular corticosteroid injection therapy. The effects are short-term and typically last for about four to eight weeks.	A
Intra-articular hyaluronic acid injections are less effective for the short-term management of knee osteoarthritis and are more effective for long-term management when compared to corticosteroids.	B
Combination therapy of glucosamine and chondroitin decreases the pain associated with moderate to severe knee osteoarthritis.	B
Patients who fail to respond to medical treatment of the knee, hip, or shoulder pain, and who have severe pain and disability, should undergo a total joint replacement if possible.	B

Alternative Medicine and Osteoarthritis

Acupuncture benefits for osteoarthritis are deemed as clinically irrelevant and are usually short-term. Acupuncture short-term benefits were most pronounced in patients with chronic low back pain due to spine osteoarthritis.

Glucosamine/chondroitin combination therapy can be considered as a form of alternative medicine for osteoarthritis. This combination therapy was proven to be effective in the management of pain in patients with severe knee osteoarthritis. Patients who receive chondroitin alone or glucosamine alone usually do not do well.

The supplement S-adenosylmethionine (SAM-e) was shown to be as effective as non-steroidal anti-inflammatory drugs in function improvement in patients with osteoarthritis. Capsaicin cream which is derived from chili peppers is another alternative treatment that is effective in the management of pain in patients with osteoarthritis. Mineral baths and aquatic exercises might be effective in osteoarthritis pain, but randomized controlled trials are yet to be performed to prove their efficacy. Walking aids can be used to distribute body weight and minimize pain.

References

[Osteoarthritis: Diagnosis and Treatment](#) via aafp.org/

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