Osteoarthritis

More Information

Medical References

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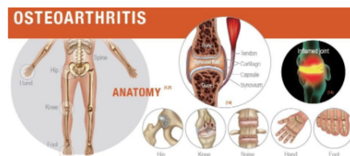
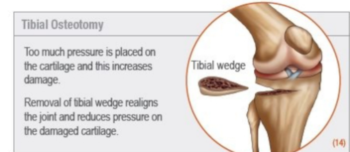


Did you know? (11)

Osteoarthritis is the most prevalent form of arthritis and a major cause of disability in people aged 65 years and older.



WHAT CAN YOU EXPECT? (7,11,12)

- OA is not a single disease, it is a group of overlapping yet distinct diseases with different etiologies.
- OA should not be considered simple wear and tear of the joints. It is a slowly progressing disorder of unknown cause.
- The overall goal of treatment is early elimination of risk factors, early diagnosis and surveillance of the disease and appropriate treatment of pain.

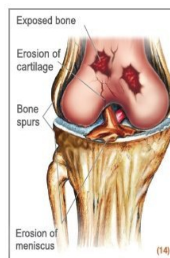
WHAT IS OSTEOARTHRITIS? (1,2,3)

Osteoarthritis (OA) is the most common form of arthritis (inflammation of the joints) and is a leading cause of disability among the elderly. OA is a slowly progressive and irreversible joint disease that causes breakdown of the articular cartilage (which lines the surface of the joints). The breakdown of cartilage can eventually result in changes in the bone and cause deformity. Most often OA affects people older than 40 years of age. It affects people of all races and gender.

RISK FACTORS (11)

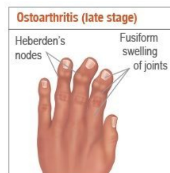
1. Systemic
- Ethnicity
- Older age
- Gender and hormonal status
- Genetics
- Bone density
- Nutritional factors

2. Local Biomechanical Risk factors
- Joint injury
- Obesity
- Occupation
- Sport and physical activity
- Joint biomechanics
- Muscle weakness



SYMPTOMS (1,3,4,5,7,13)

Joint pain, often after weight bearing activity;
Bony swelling (tell your doctor if a joint suddenly swells up or becomes red or hot, as this is a symptom that occurs more commonly with other types of arthritis, such as rheumatoid arthritis);
Joint stiffness (particularly after periods of inactivity (e.g. morning);
In smaller joints, such as the distal interphalangeal joints of the fingers, bony growths called Heberden's nodes (this represents the classic image of OA, one of stiff-looking hands and bent fingers. Bouchard's nodes are similar but are found on the middle joints of the fingers.
A crunching feeling or the sound of bone rubbing on bone;
Absence of inflammation (morning stiffness <30 minutes, minimal heat, minimal swelling, no redness);
Joint tenderness upon palpation;
Decrease in joint mobility and/or function;
No symptoms may occur! (In this case, it is possible to have changes detectable on X-ray indicating some degree of OA).



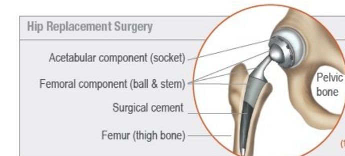
DIAGNOSIS (1,3,6,7,9,12)

1. Patient history;
2. Physical examination (height and weight, gait, muscle wasting, range of motion, pain on movement or at end of range);
3. Assessment to exclude other diagnoses: infection, fracture, malignancy, rheumatoid arthritis, inflammatory arthropathies, crystal arthropathies (gout or pseudogout), bursitis, soft tissue pain syndromes, referred pain, medical conditions presenting (e.g., neurologic, metabolic, etc.) with arthropathy;
4. Investigations:
X-rays (in two planes) may show:
- Reduction in the space between bones. This indicates the loss of cartilage.
- Subchondral bone thickening.
- Presence of osteophytes or cyst formation.
- X-rays may not show early osteoarthritis damage before much cartilage loss has taken place.

MRI is capable of visualizing all structures within the joint:
- Doctors often use MRI tests if there is pain;
- If x-ray findings are minimal and;
- If the findings suggest damage to the other joint tissues such as a ligament, or the pad of connective tissue in the knee known as the meniscus, which may warrant surgery;

CT scan may be used for imaging of a joint. CT scanning provides information on the bony structures of the joint in greater detail than do X-rays.
Joint fluid analysis may be carried out on synovial fluid drawn from the knee with a needle knee, in patients in whom the diagnosis is uncertain or if an infection is suspected. Synovial fluid is drawn if an effusion is present; the white blood cell count usually is less than 500/mm³, and crystals should be absent. A finding of CPPD crystals may indicate a patient who would benefit from colchicine or NSAIDs.

Blood tests do not diagnose OA, but may rule out other conditions and
monitor medications.



TREATMENT (7,8,9,10)

1. Patient education –Self-care at home
- Lifestyle changes;
- Weight loss;
- Exercise;
- Pacing of activities;
- Initial focus should be on self-help and patient-driven treatment rather than on passive therapies delivered by health professionals.

2. Rehabilitation
- Therapeutic exercise (range of motion, strengthening and aerobic activity);
- Supportive footwear with shock absorption and orthotics if needed;
- Walking aids and knee braces can reduce pain, improve stability and diminish the risk of falling;
- Thermal modalities such as Heat and Cryotherapy;
- Exercise: Regular moderate exercise reduces pain and disability. Vigorous sports and activity leading to trauma should be avoided
- Transcutaneous electrical nerve stimulation can assist with short term pain control;
- Acupuncture

3. Medications
- Paracetamol
- NSAIDs
- Topical NSAIDs
- Intra-articular injections with corticosteroids
- Glucosamine and or Chondroitin (controversial)
- Weak opioids and narcotic analgesics

4. Surgical treatment
- Arthroscopic debridement, a procedure that variably includes joint lavage, the removal of loose bodies, debris, mobile fragments of articular cartilage, unstable torn menisci and impinging osteophytes, has been used for more than 70 years. Some studies demonstrate short term relief whilst others show no significant benefit. Osteotomy and joint preserving surgical procedures should be considered in young physically active adults and may delay the need for joint replacement by 10 years.
- Arthrodesis is a surgical procedure that fuses the bones forming a joint, essentially eliminating the joint. The procedure is commonly referred to as joint fusion and is indicated in cases of extreme pain and instability
- Arthroplasty surgery is the surgical reconstruction or replacement of a malformed or degenerated joint and is considered a last treatment option to relieve arthritis pain and restore function to the affected joint. Joint replacement surgery is recommended when pain is no longer well-controlled with medication and joint damage significantly affects quality of life.
- Spinal fusion is a surgical procedure that is performed to correct problems with the vertebrae. Two or more vertebrae can be fused using bone grafting and metal devices.

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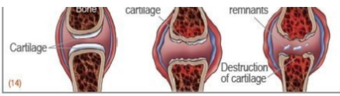

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