

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

رَبَّنَا لَا تُزِغْ قُلُوبَنَا بَعْدَ إِذْ هَدَيْتَنَا
وَهَبْ لَنَا مِنْ لَدُنْكَ رَحْمَةً
إِنَّكَ أَنْتَ الْوَهَّابُ ﴿٨﴾

Our Lord! Let not our hearts deviate after You
have guided us, and grant us mercy from You.
Truly, You are the Bestower.

[Al-Quran 3:8]

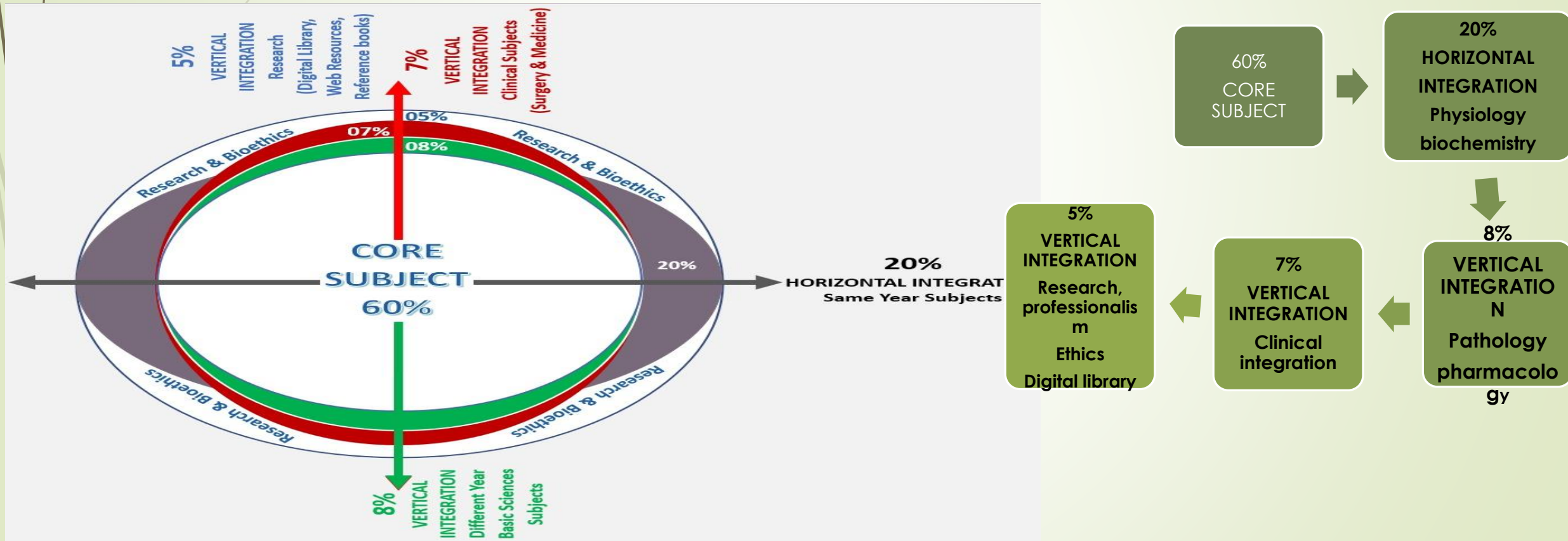
Motto



Vision

- To impart evidence based research oriented medical education
- To provide best possible patient care
- To inculcate the values of mutual respect and ethical practice of medicine

Professor Umar Model of Integrated Lecture





RHEUMATOLOGY

LECTURE:1



“Osteoarthritis”

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Learning Objectives

At the end of this session students will be able to learn:

- How to diagnose “osteoarthritis” on the basis of history and examination
- Relevant Investigations
- Guidelines and recent advances



Rheumatological Diseases

- Joint Diseases (Arthritis)
- Soft tissue Rheumatism
- Systemic Diseases (Auto-immune/Vasculitis)
- Bone Disorders



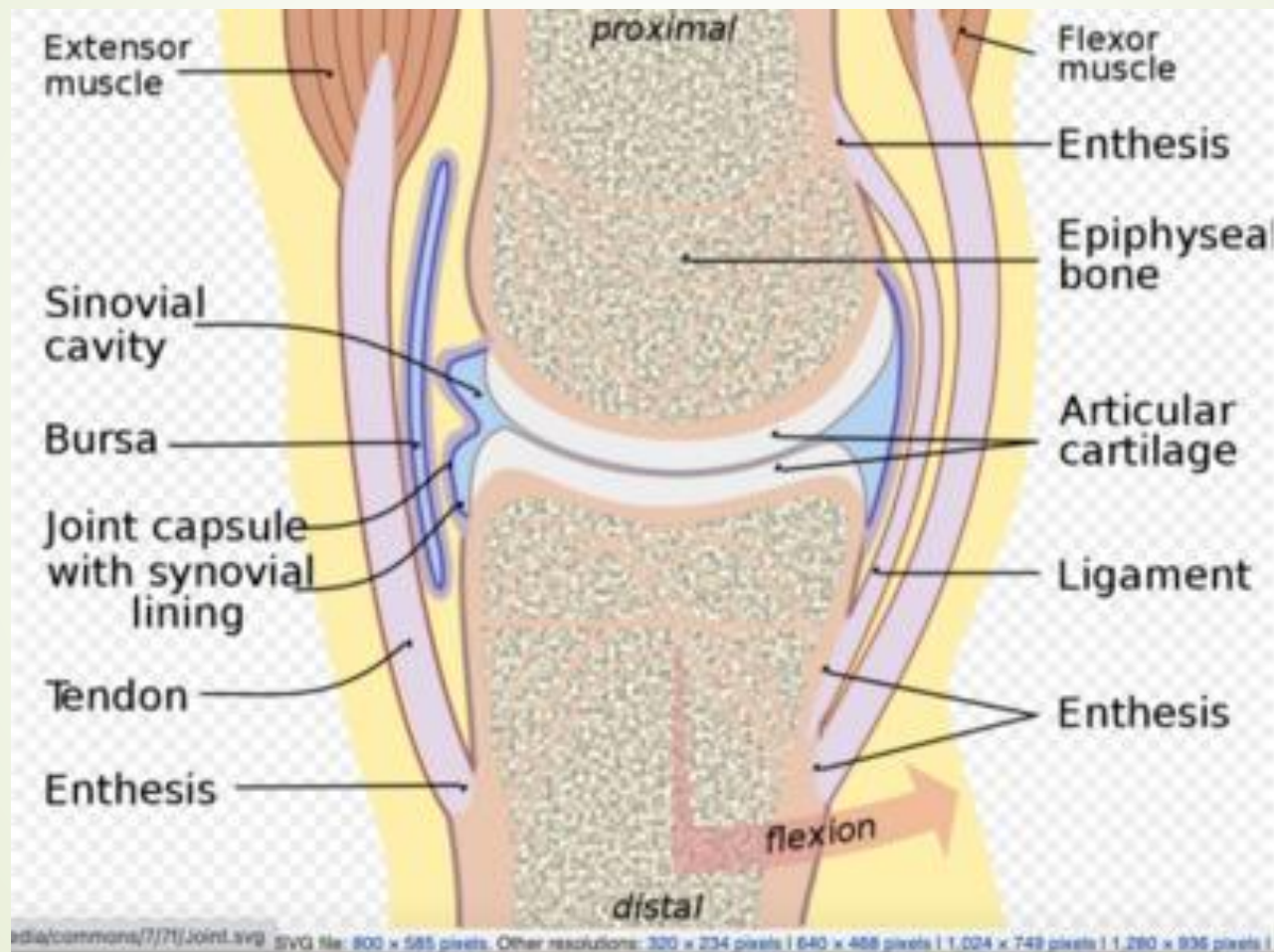
Core Concept

Arthritis



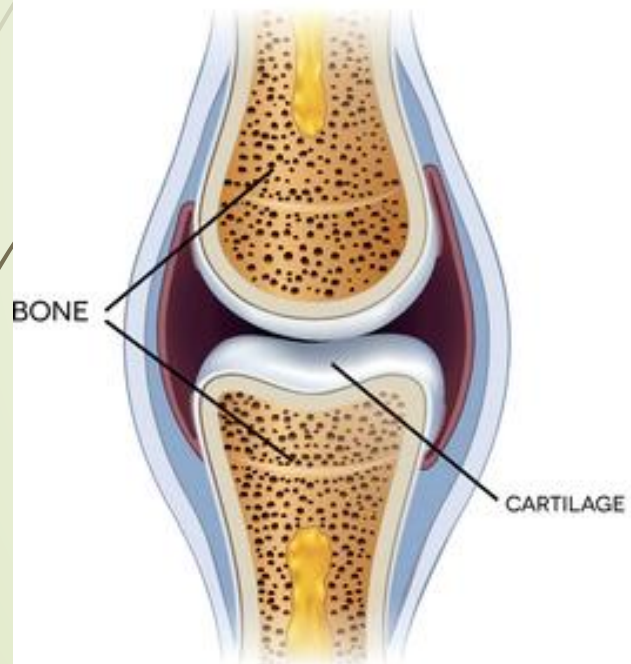
- Mechanical (Osteoarthritis)
- Inflammatory (RA, SPA)
- Infective (Septic, Tuberculous)
- Crystal arthropathy (Gout)

Protective mechanism of synovial joints

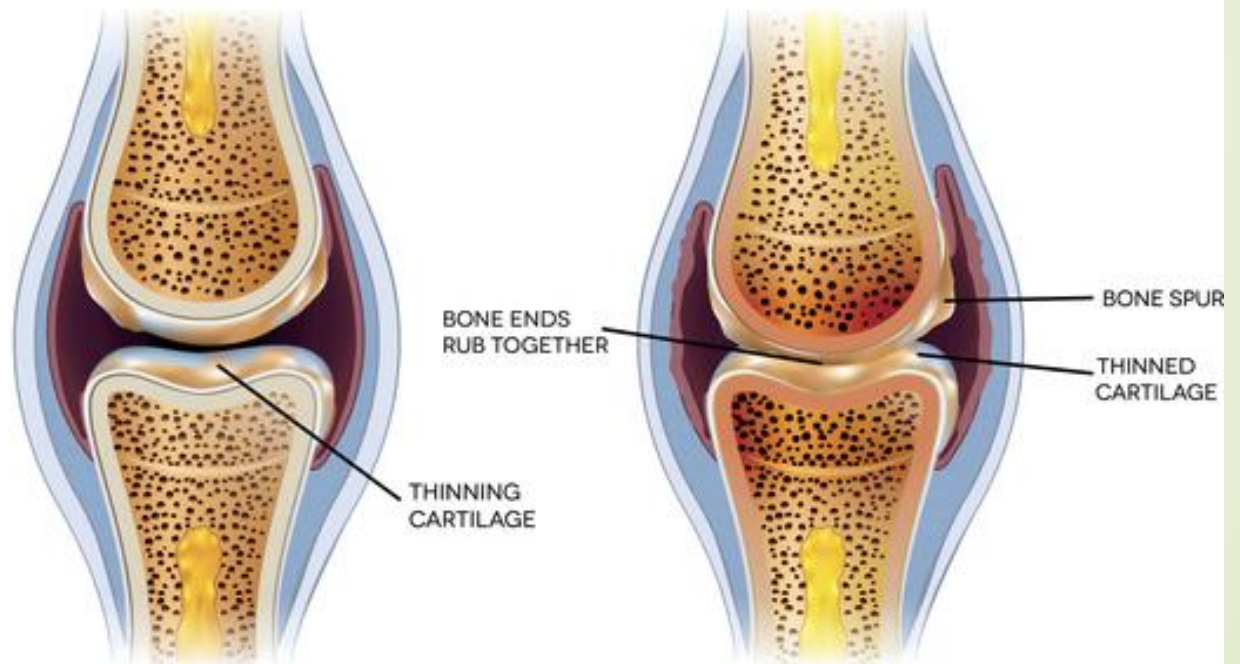


OSTEOARTHRITIS

NORMAL JOINT



DESTRUCTION OF CARTILAGE

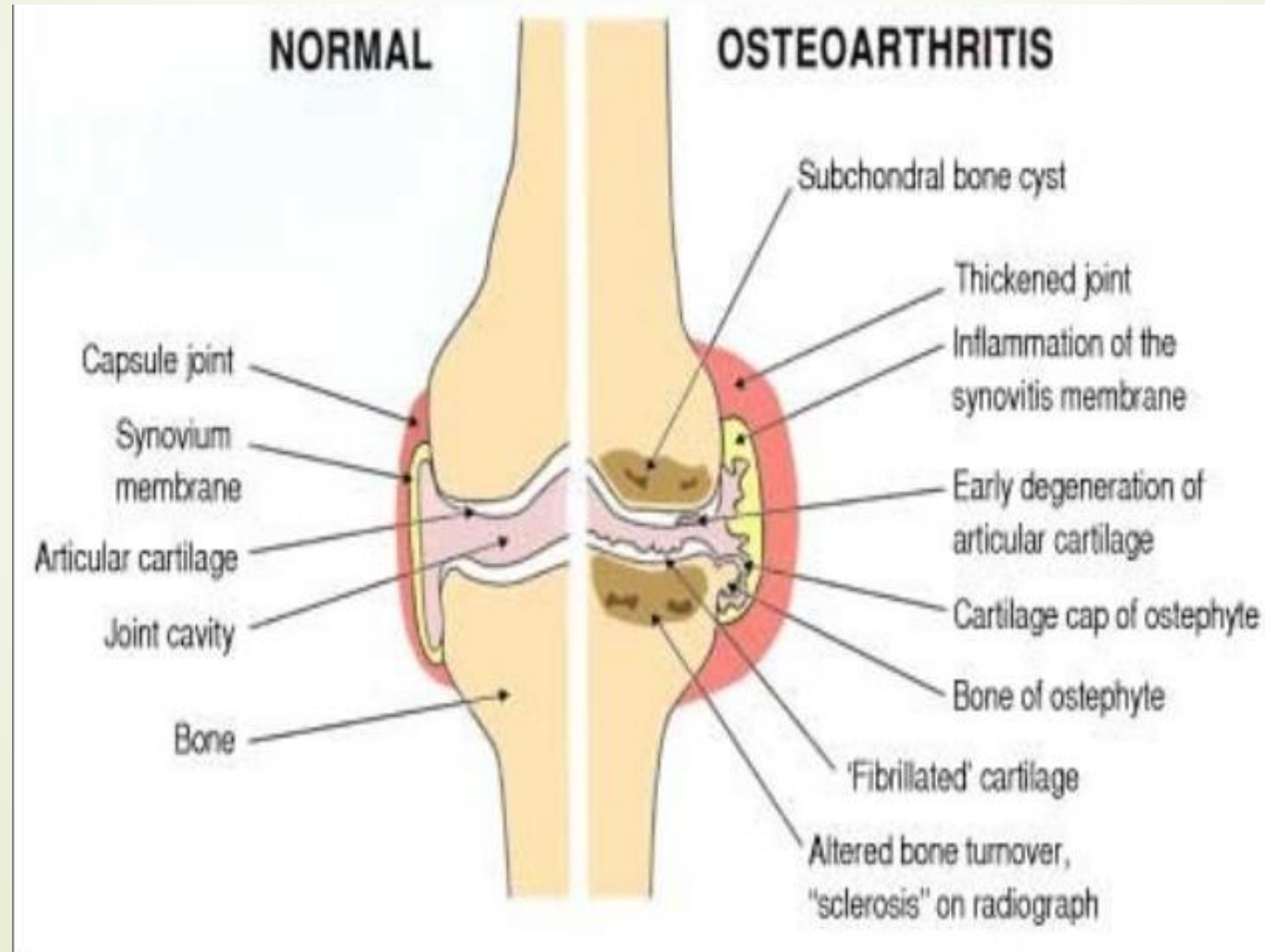




Osteoarthritis-definition

“**Deterioration of articular cartilage** resulting in bones rubbing together and creating pain, stiffness and impaired movement”

Anatomy & Physiology (Horizontal Integration)



Epidemiology



- Symptomatic Osteoarthritis
(9% men, 18% women – above 60 years of age)
- Aging Population

Risk Factors

- Age & Gender
- Obesity
- Traumatic injury
- Genetic predisposition (cartilage morphogenesis)
- Occupation (competitive sports)

Clinical Presentation

- ➡ Pain
- ➡ Crepitus
- ➡ Restricted motion
- ➡ Deformities

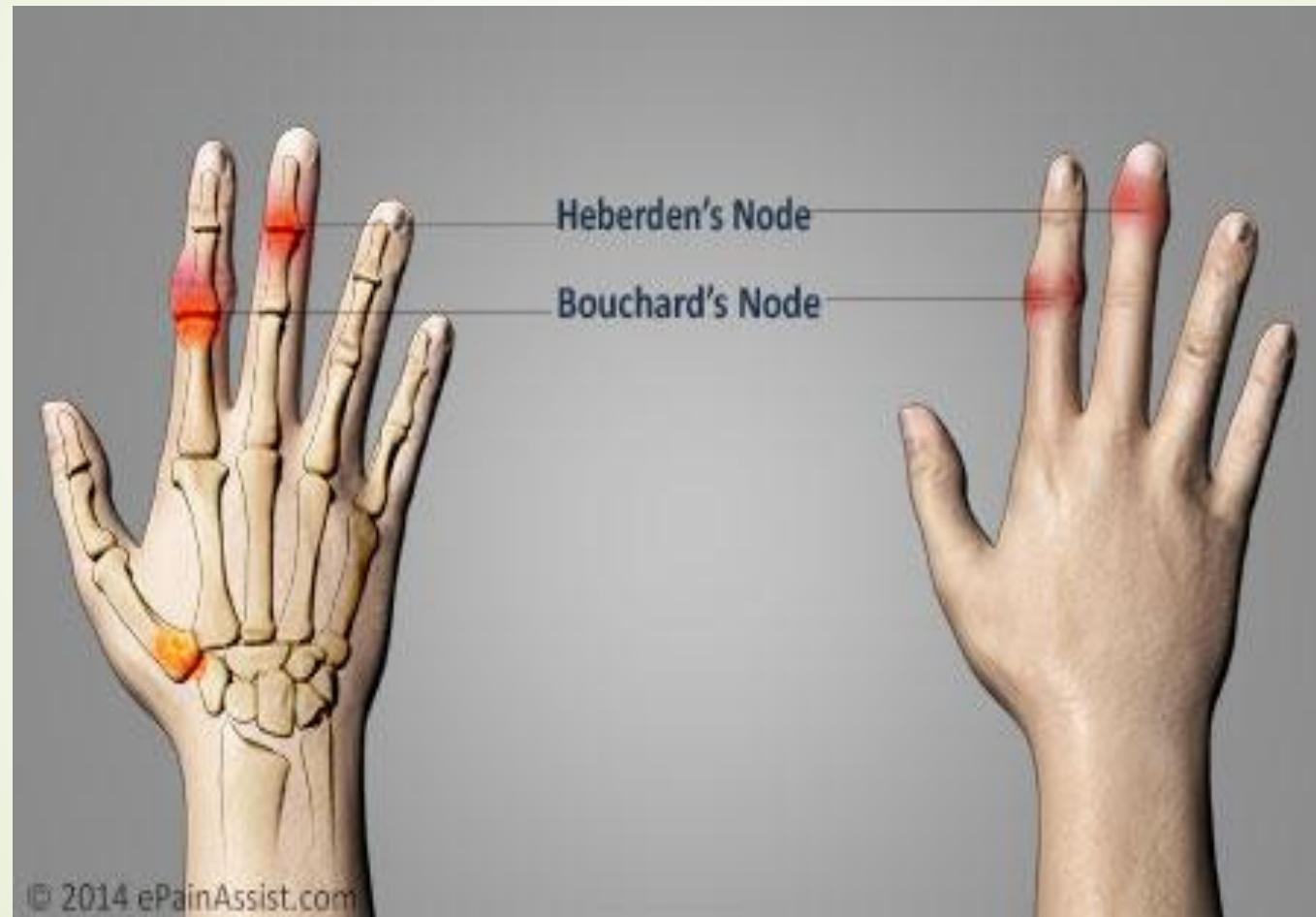
Types of Osteoarthritis

- Primary
(idiopathic)
- Secondary
(congenital factors, trauma, other types of arthritis, endocrine and metabolic disorders)

Joint Involvement

- Primary OA
(Knee, Hip, Hands (CMC, Nodal OA))
- Secondary OA
(Atypical – shoulder, wrist)

Osteoarthritis

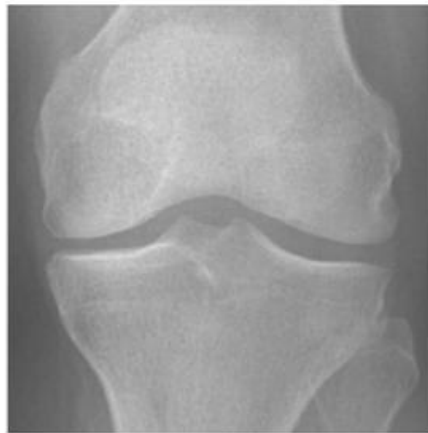


Grades of Osteoarthritis

Kellgren – Lawrence (KL) Grading System



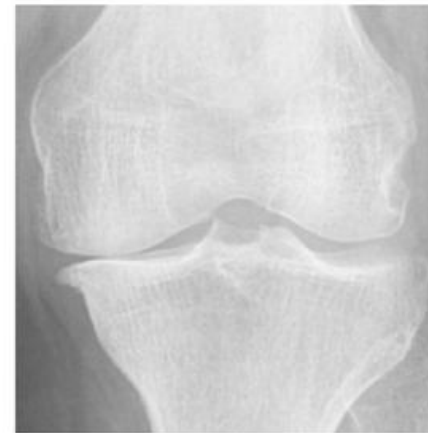
Grade 0



Grade 1



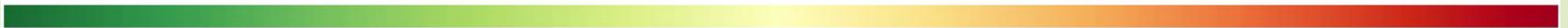
Grade 2



Grade 3



Grade 4



Low

Knee Osteoarthritis (OA) Severity

High

Complications of Osteoarthritis

- Chondrolysis
- Stress fractures
- Pinched nerve

Diagnosis



Management



- Non-pharmacological
- Pharmacological

Non-pharmacological

- Life style modifications
- Weight reduction
- Assistive devices
- Knee braces, shoe insoles
- Physiotherapy

Pharmacological

Pain relief

- Acetaminophen
- NSAIDs (topical, oral)
- Opioids (weaker)

Intra-Articular Injections



Joint Replacement Surgery



Take home message

- Osteoarthritis is the most common reason for joint pain
- OA commonly affects aging population. Always look for secondary causes in a young patient with OA.

Recent Advances

- Mesenchymal stem cells (long term efficacy and safety ?)
- Biological agents targeting cytokines such as TNF- α and IL-1 (require extensive clinical validation)
- Non-pharmacological measures like TENS (tailored to individual patient responses)



References

- Davidson's textbook of Internal Medicine
- American College of Rheumatology guidelines for management of Osteoarthritis

جَزَاكَ اللهُ خَيْرًا