



Thriving with Arthritis

POSITIVE CHOICE
INTEGRATIVE
WELLNESS CENTER

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PRIMARY CARE SPORTS MEDICINE SAN DIEGO

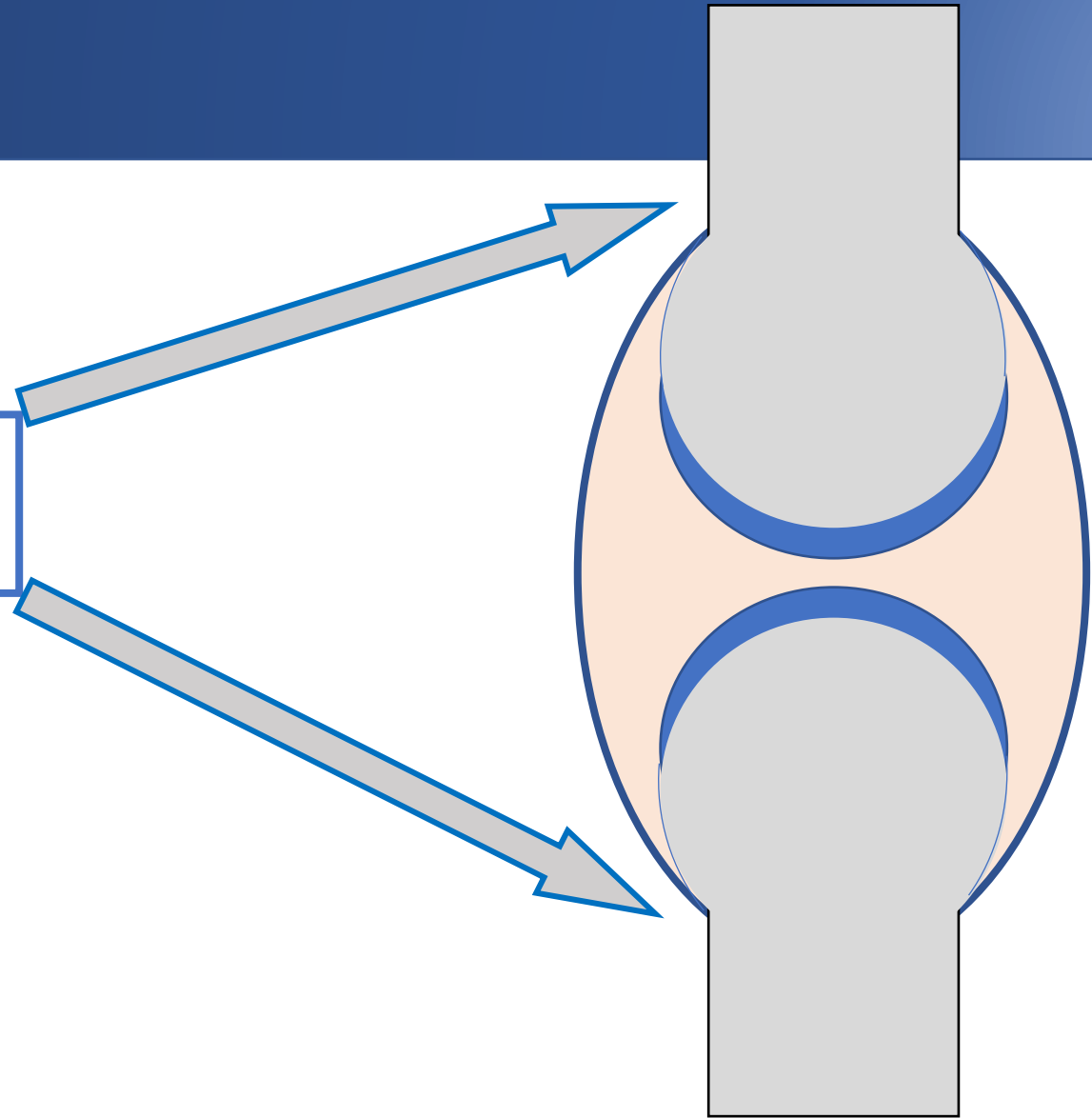


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What makes up a joint?

BONE

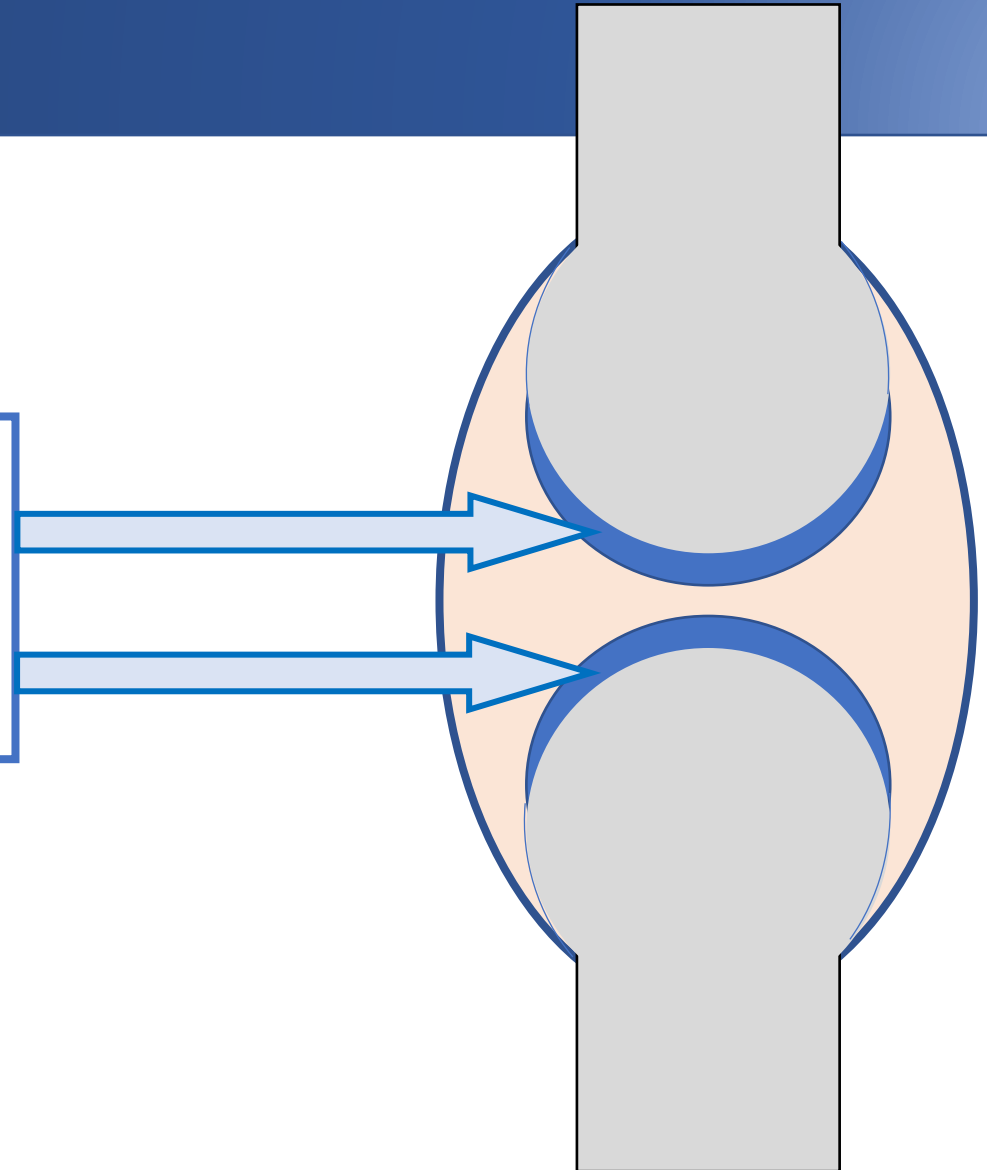
- Provides structural support



What makes up a joint?

ARTICULAR CARTILAGE

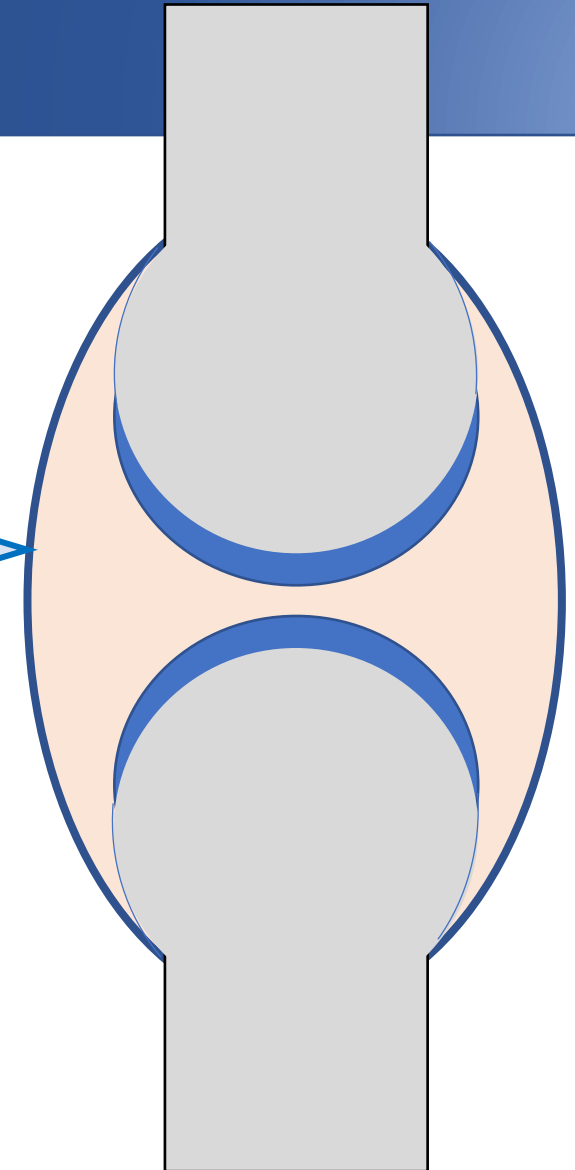
Smooth, low-friction surface at the end of a bone that allows for the normal gliding motion of the joint



What makes up a joint?

SYNOVIUM

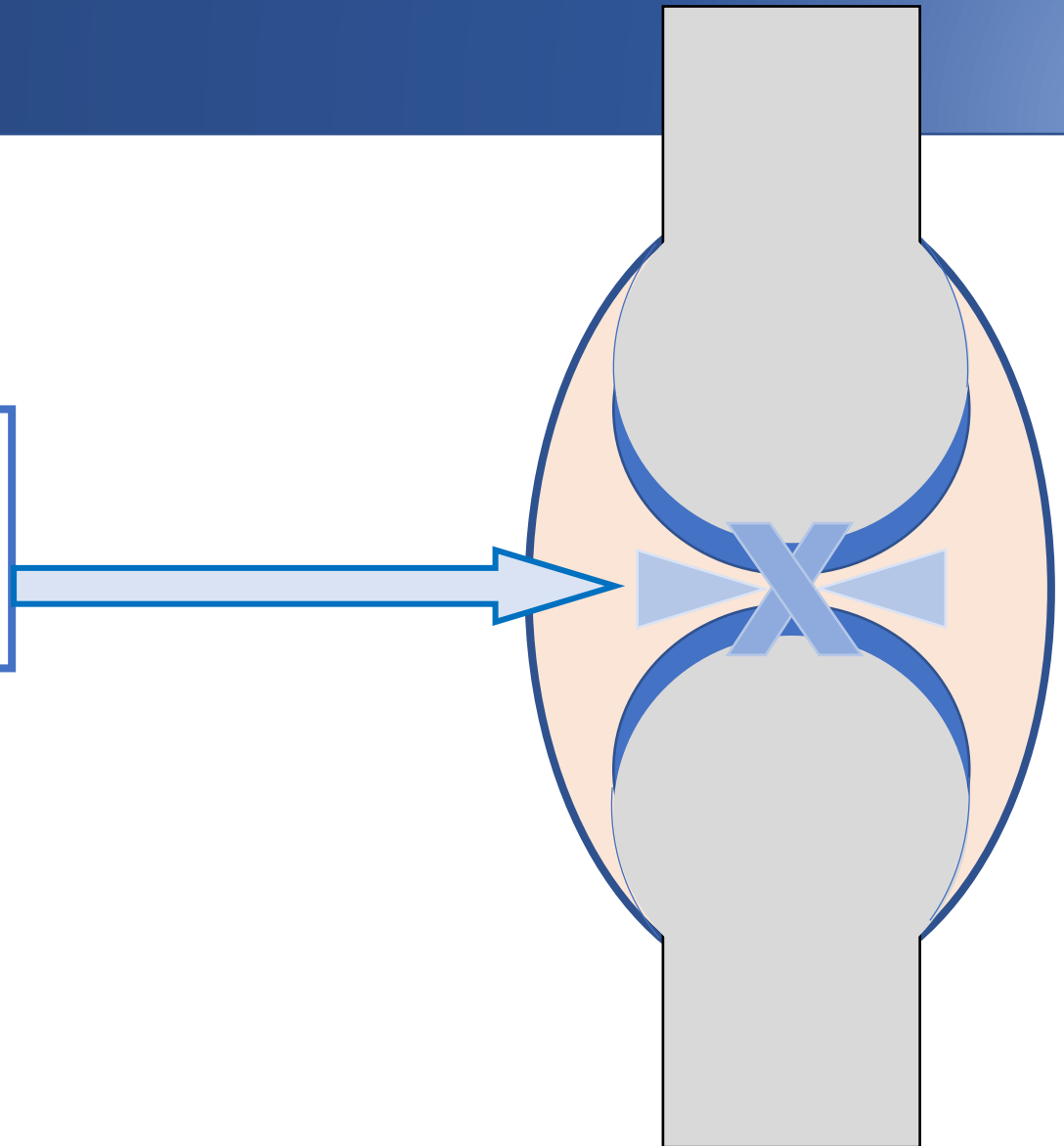
Lining of the joint that provides lubrication, fluid and nutrients



What makes up a joint?

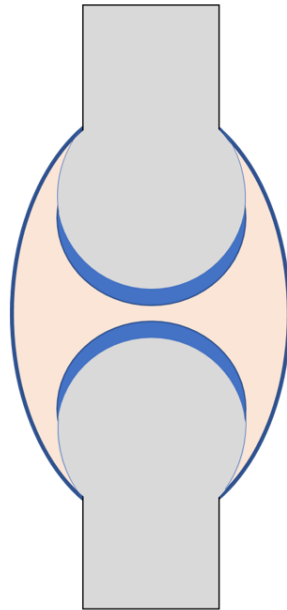
SOFT TISSUES

Cartilage structures, ligaments,
tendons

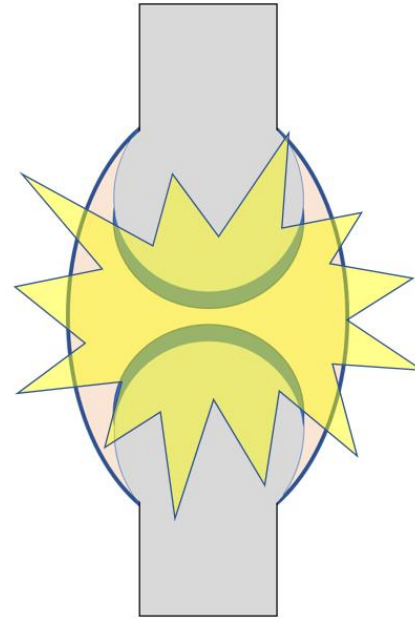


What does “arthritis” mean?

The term “arthritis” means joint inflammation



Arthr- = Joint



- itis = Inflammation

There are many types of Arthritis

>100 types of arthritis



Infectious Arthritis

Bacteria

Viruses

Fungi

Autoimmune Arthritis

Rheumatoid Arthritis

Psoriatic Arthritis

Reactive Arthritis

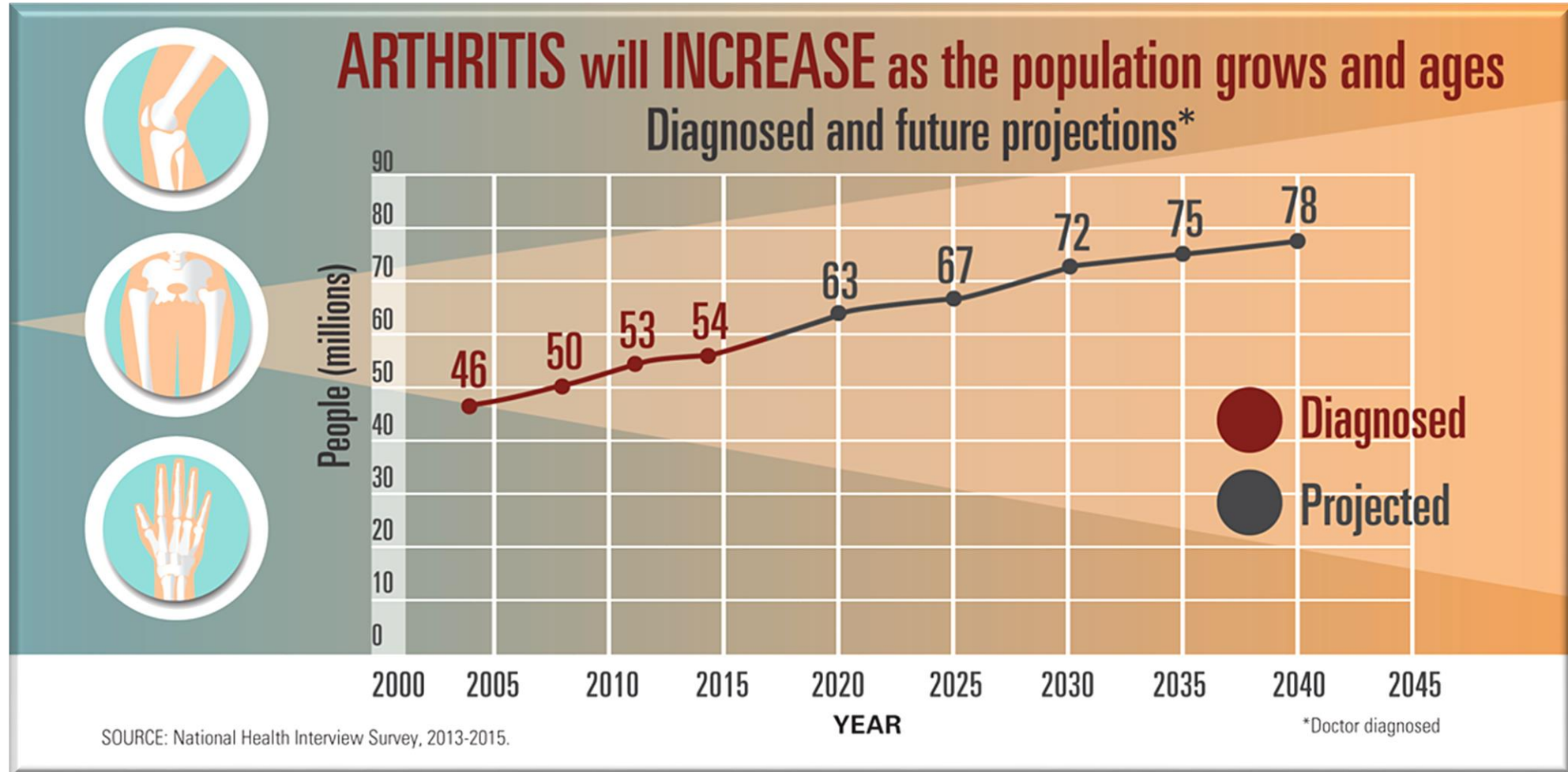
Osteoarthritis

Crystalline Arthritis

Gout

Pseudogout

Osteoarthritis is the most common type of arthritis



What is Osteoarthritis?

- A degenerative disease that affects all parts of the joint
- A molecular abnormality that results in unfavorable structural changes to a joint



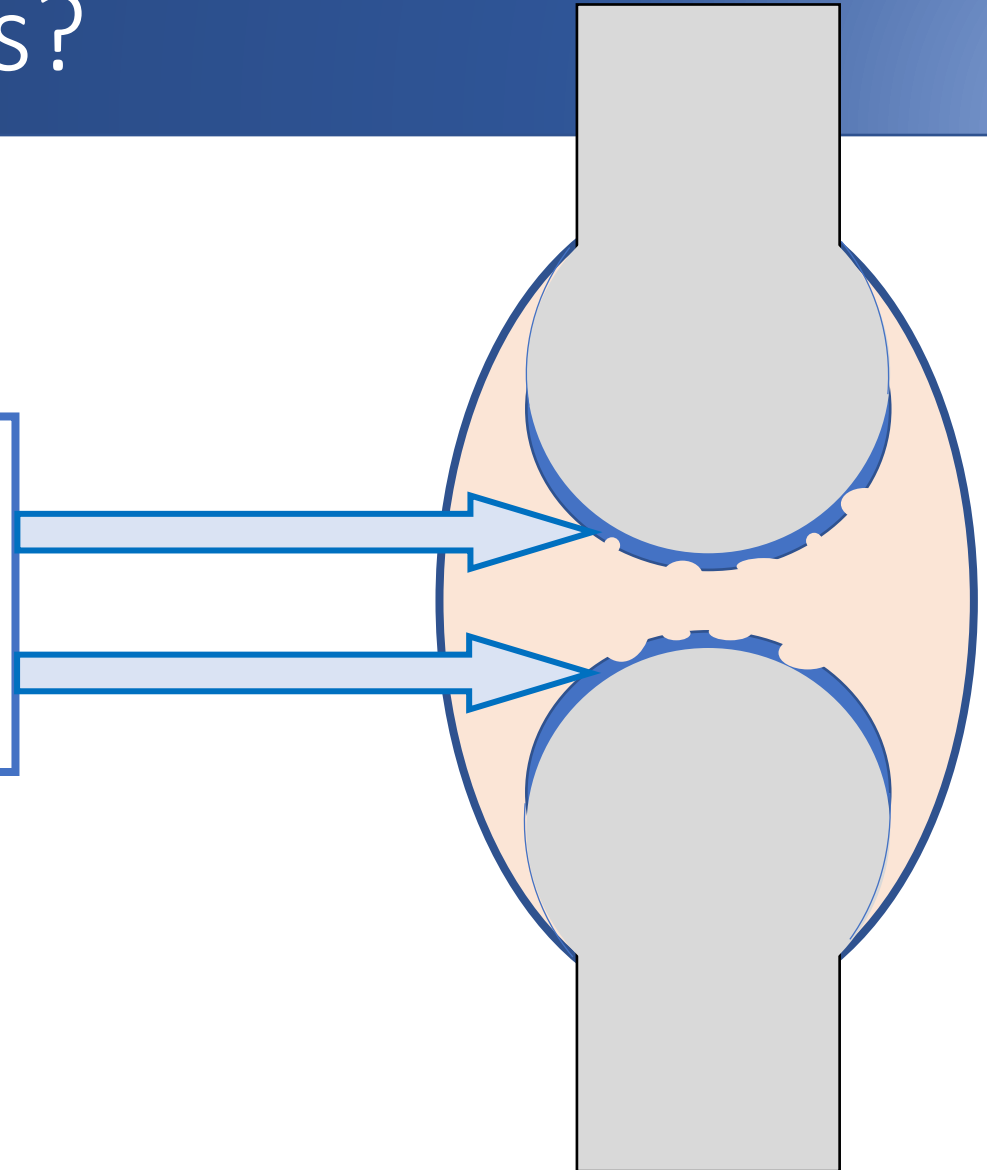
What causes arthritis?

- Classically considered due to “wear and tear,” similar to a tread on a tire that wears down over time
- However, we now know that there is much inflammation within the joint
- Our immune response causes a chronic wound type of environment
- Certain proteins (called “cytokines”) cause inflammation, destruction and remodeling of the joint

What happens to a joint in Osteoarthritis?

ARTICULAR CARTILAGE

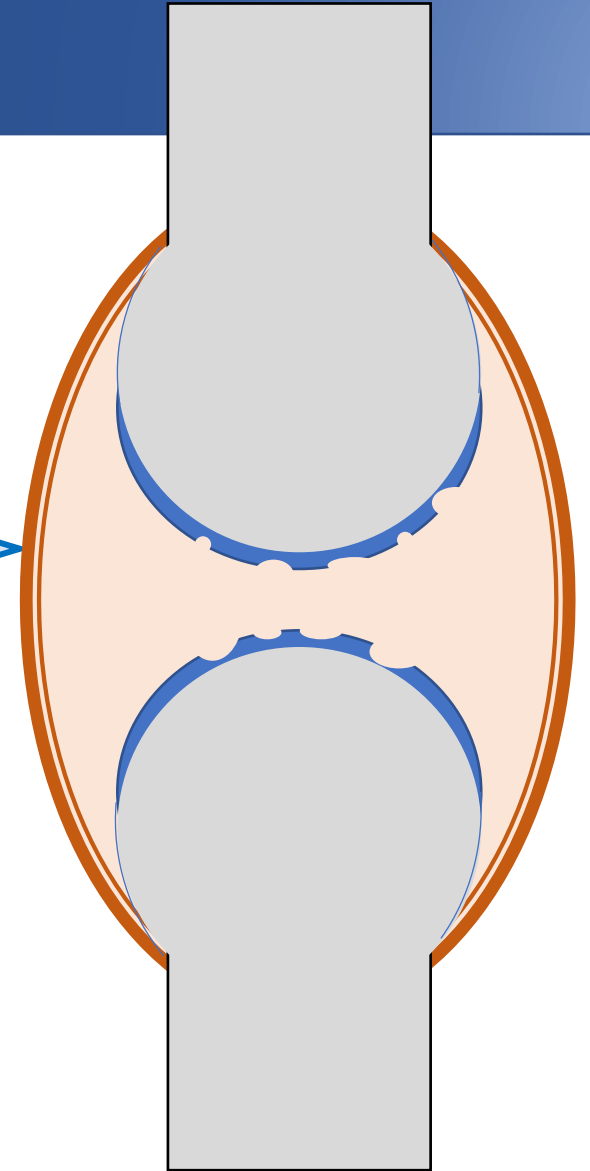
- Thinning, breakdown



What happens to a joint in Osteoarthritis?

SYNOVIUM

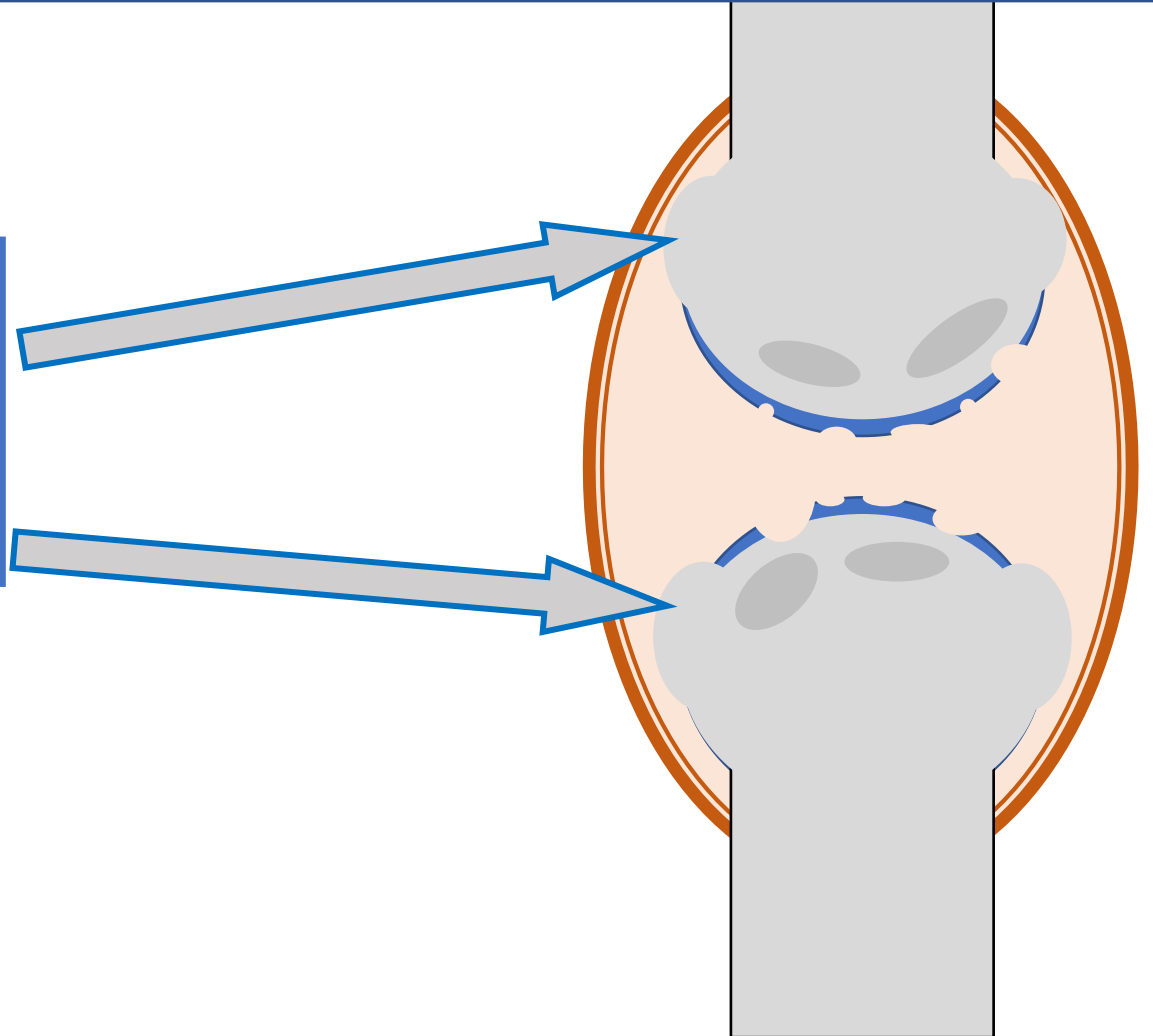
- Thickened (“hypertrophy”)
 - Inflammation
- Produces extra fluid/swelling



What happens to a joint in Osteoarthritis?

BONE

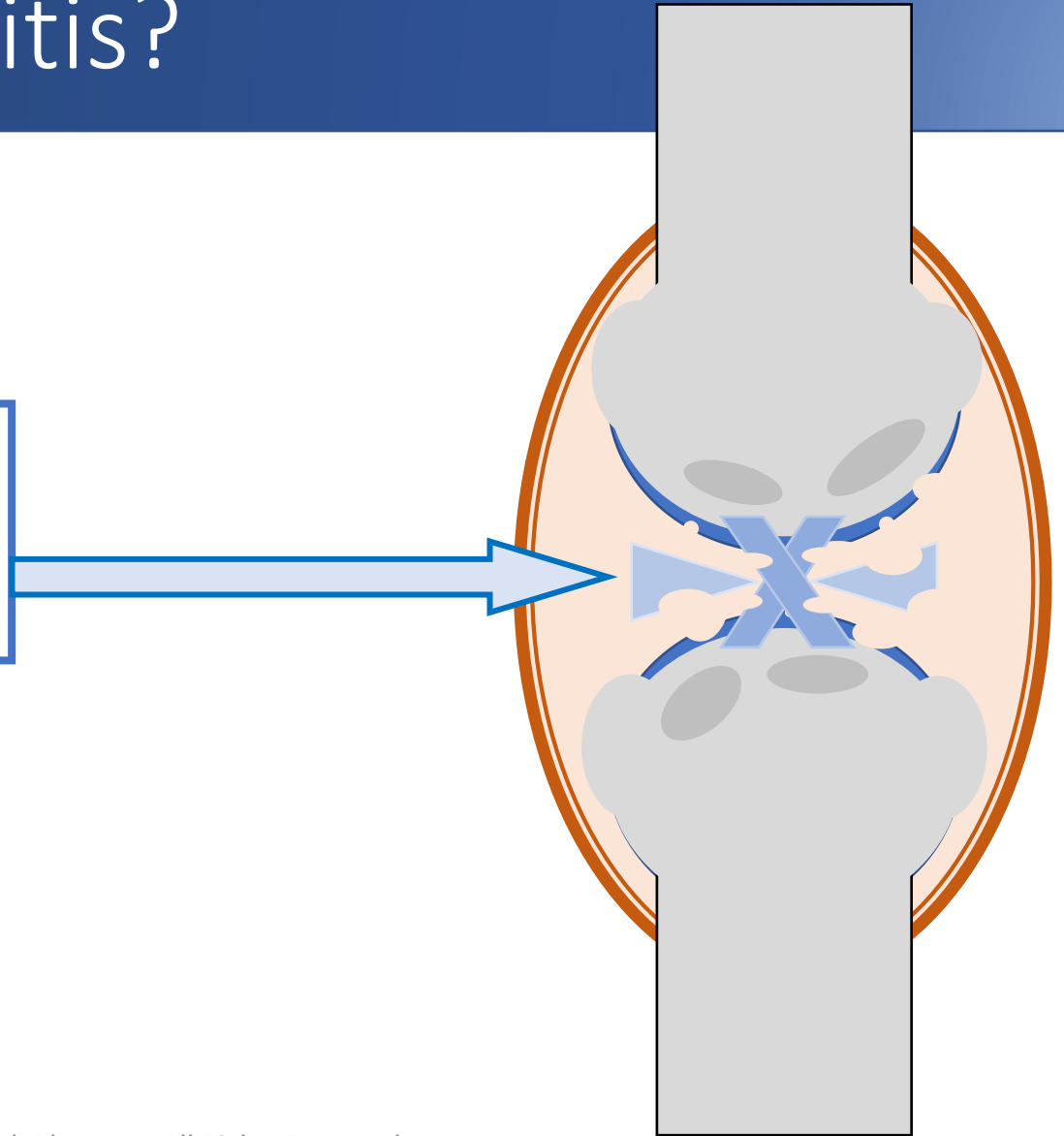
- Thickening of the bone (“sclerosis”)
- Extra bony growth (“osteophytes”)
- Bone cysts



What happens to a joint in Osteoarthritis?

SOFT TISSUES

- Breakdown of cartilage structures, ligaments, etc.



What are the risk factors for osteoarthritis?

- Age
- Genetics
- Anatomy
 - Hip dysplasia
 - Bowlegged or knock knees
- Sex
- Obesity (BMI 30 or greater)
- Lack of exercise (sedentary)
- Injury



Not modifiable

The diagram uses blue curly braces to group the risk factors. The top brace groups 'Age', 'Genetics', and 'Anatomy' (including its sub-points). The bottom brace groups 'Sex', 'Obesity (BMI 30 or greater)', 'Lack of exercise (sedentary)', and 'Injury'.

Modifiable

What are the Signs and Symptoms of Arthritis?

Pain

Tenderness

Swelling

Irregular
shape

Joint
Stiffness

Catching or
locking

Instability

Limited range
of motion

Pain Improves
with
Movement

How is Osteoarthritis Diagnosed?



History



Physical Exam



X-rays



How is Osteoarthritis diagnosed?

History

- Slow onset of joint pain
- Age of onset >40 years*
- Signs and symptoms reviewed previously (pain, swelling, stiffness, etc.)

Physical Exam

- Swelling
- Joint line tenderness
- Reduced range of motion
- Crepitus (grating sound when moving a joint)
- Irregular shape

Are lab tests needed to diagnose OA?

- ✓ There is not a laboratory test to diagnose osteoarthritis
- ✓ Blood tests are used to diagnose other types of arthritis
 - *Such as Rheumatoid Arthritis*
- ✓ Fluid collected from the joint by a needle also helps to identify certain types of arthritis
 - *Crystalline arthritis (gout)*
 - *Infectious arthritis*

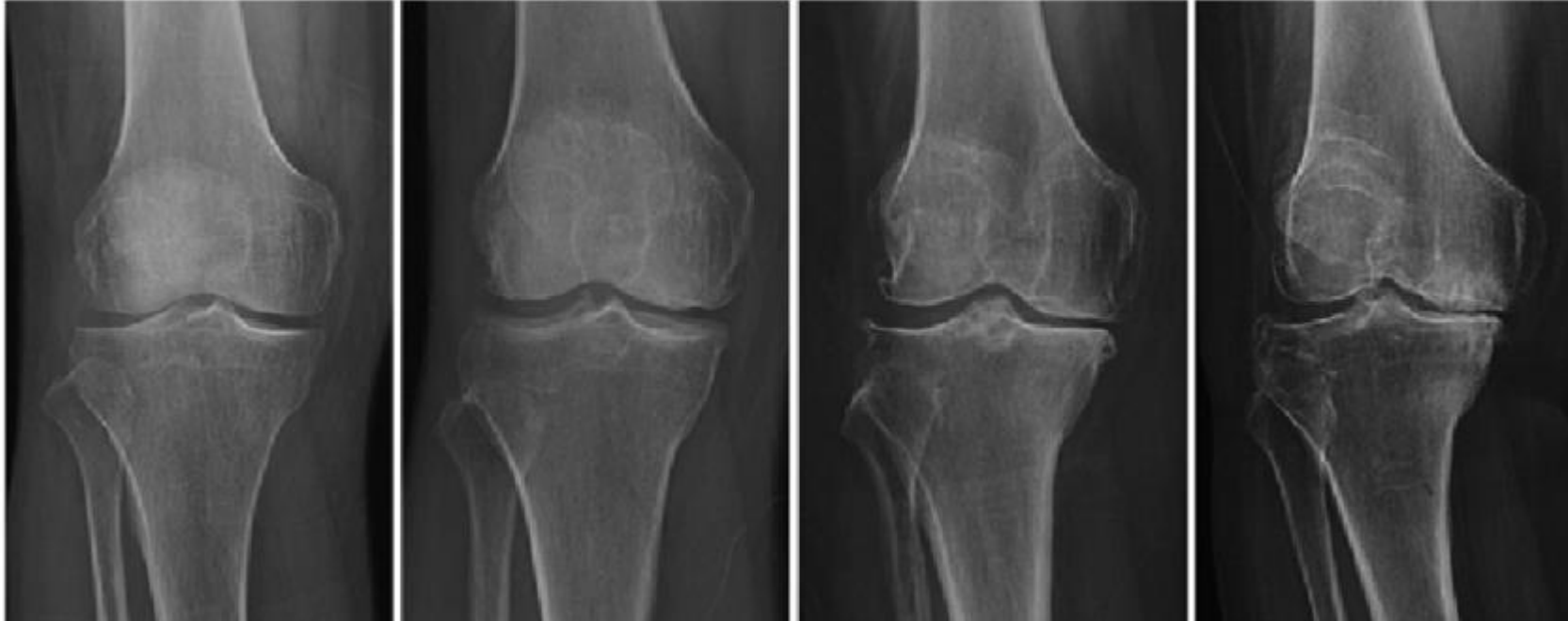


What imaging is used to diagnose Osteoarthritis?

X-RAYS (PLAIN RADIOGRAPHY)

- ✓ Most widely used
- ✓ Allows to detect characteristic features of osteoarthritis
- ✓ Kellgren and Lawrence grading system used to determine severity
- ✓ Severity on x-rays does **NOT** correlate with symptoms

Osteoarthritis X-rays



GRADE 1

- Doubtful joint space narrowing
- Possible osteophytes

GRADE 2

- Possible joint space narrowing
- Definite osteophytes

GRADE 3

- Definite joint space narrowing
- Moderate osteophytes
- Some sclerosis
- Possible bone-end deformity

GRADE 4

- Marked joint space narrowing
- Large osteophytes
- Severe sclerosis
- Definite bone-end deformity

Osteoarthritis X-rays



GRADE 1

- Doubtful joint space narrowing
- Possible osteophytes



GRADE 2

- Possible joint space narrowing
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GRADE 3

- Definite joint space narrowing
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GRADE 4

- Marked joint space narrowing
- Large osteophytes
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Osteoarthritis Imaging

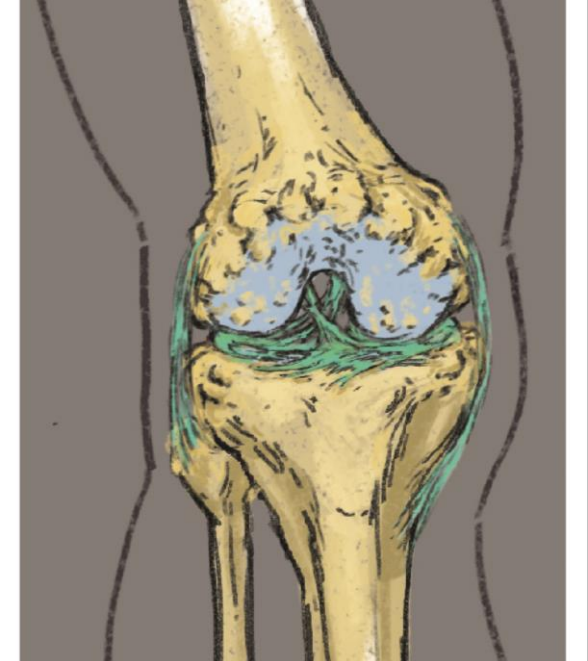
- MRI
 - Not needed if presentation and x-rays are consistent with osteoarthritis
 - Does not change management for most cases



X-ray



MRI



Will my Osteoarthritis worsen over time?

- In general, osteoarthritis is a slow progressive condition
- Prognosis varies according to joint involved
- Risk factors can increase risk of progression (age, obesity, etc)
- Worsening on x-rays does not necessarily predict worsening symptoms



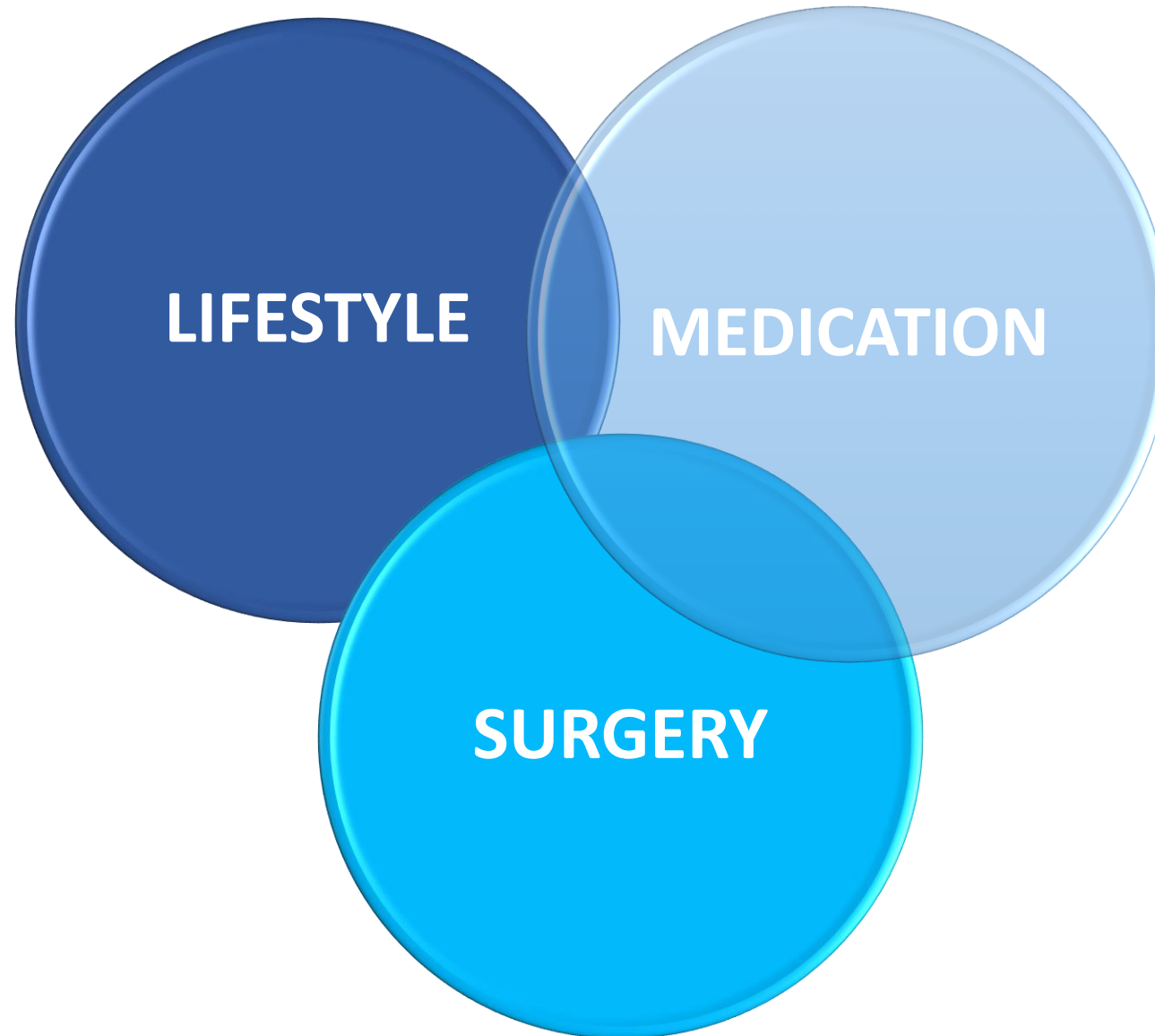
What are the treatments for Osteoarthritis?



Treatment principles

- ✓ Multimodal treatment plan is most helpful
 - Physical, medications, mind-body
- ✓ Combination of self-management and supervised treatments
- ✓ Treatments vary according to the type of arthritis
- ✓ Recommendations may differ among medical professionals and organizations
- ✓ What works well for one person may not work well for another
- ✓ Health conditions affect recommendations

How is Osteoarthritis treated?





Lifestyle

- Mind-body
- Diet and Exercise
- Weight loss
- Assistive devices
- Allied Health treatments

Mind-Body Treatments

- Osteoarthritis is very commonly associated with depression, sleep disturbances, fatigue
- Mind-body treatments can improve strength, fitness and emotional well-being while improving coping mechanisms and reducing stress
- Examples include yoga, Tai Chi, meditation



Exercise

Benefits

- Decreases pain
- Improves function

One type of exercise is not “best”

- Preference and access
- Land or Aquatic-based
- Aerobic and resistance

Low impact exercise is a good start

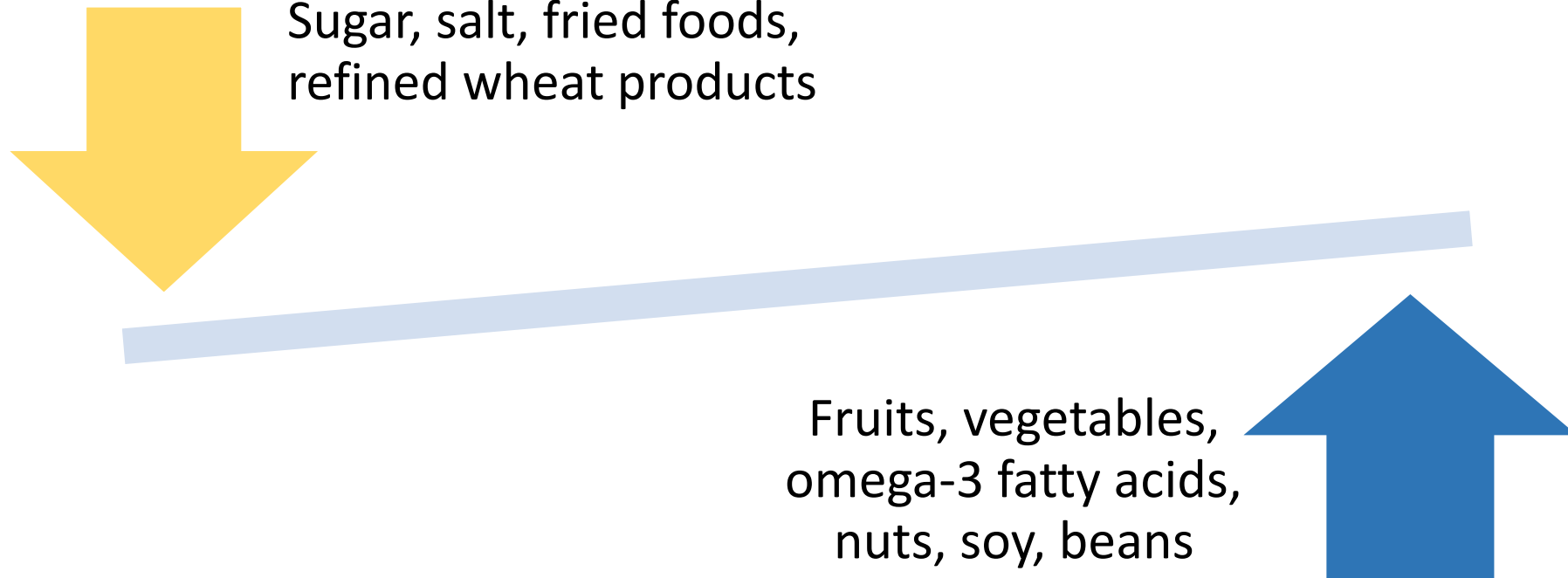
- Recumbent bike, swimming





Diet

Eat nutrient-dense, minimally processed whole foods that reduce inflammation



Weight Loss



- Even a few pounds of weight loss can result in clinically significant pain relief
- Dose-response effect – The more you lose, the more pain relief and greater improvement in function
- Reduction of body fat reduces mechanical and inflammatory stressors



Assistive Devices

- Canes and walker
- Braces, orthotics
- Kinesiotaping
- Footwear

Cold and Heat Therapy



Cold Therapy

- Decreases blood flow
- Reduces inflammation
- Block nerve impulses
- Best to use at the end of exercise to help cool down a joint

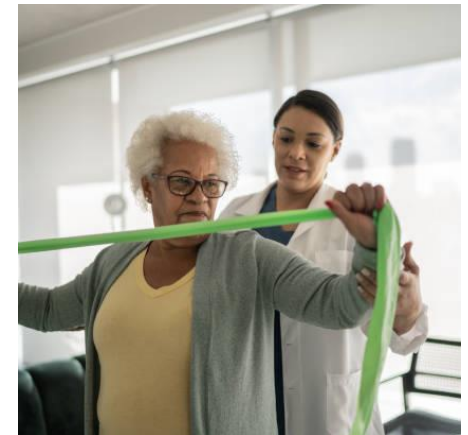


Heat Therapy

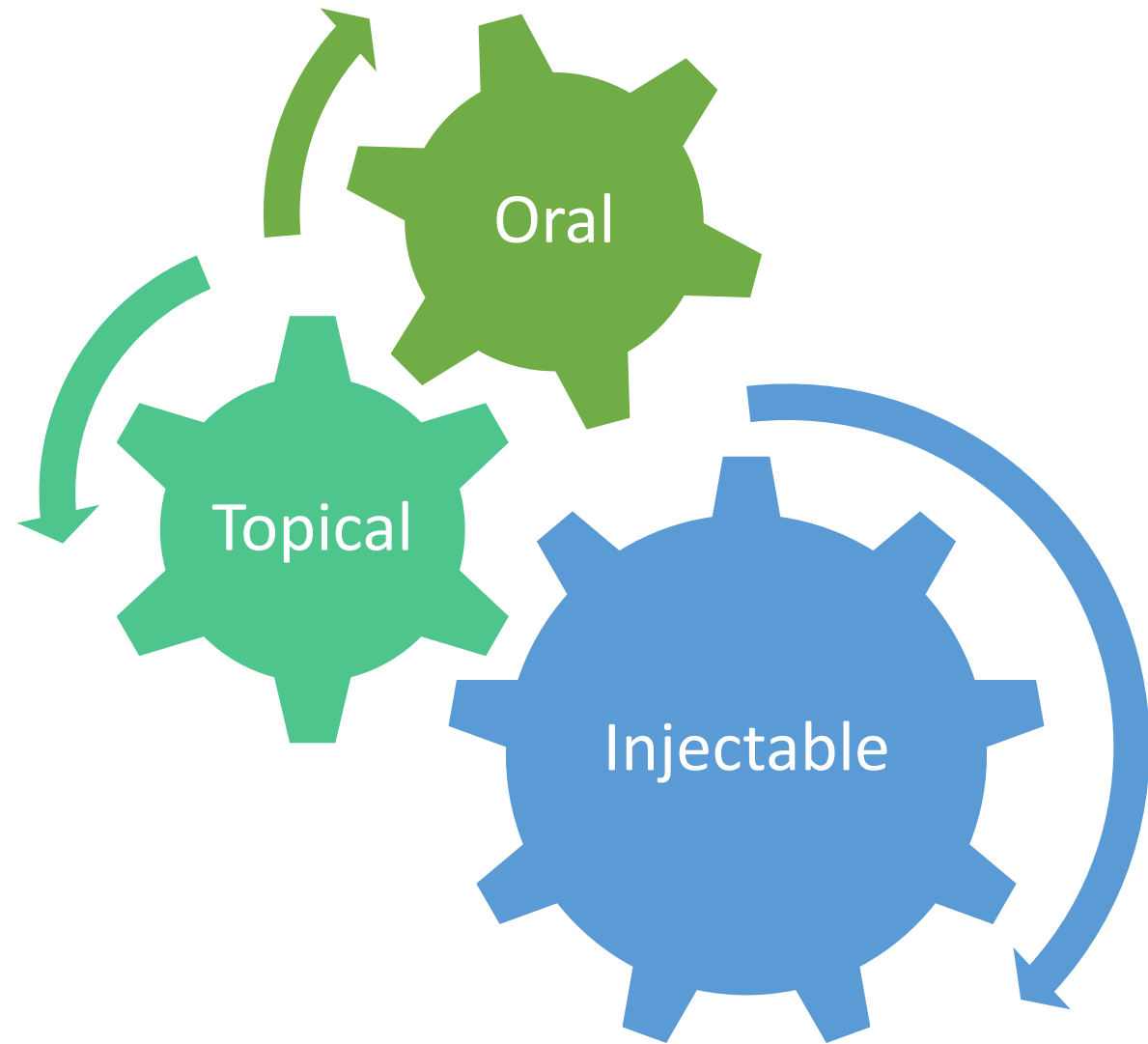
- Increases blood flow
- Relaxes muscles
- Best to use early to help warm up a joint before exercise

Allied Health Treatments

- Physical and Occupational Therapy
- Chiropractic
- Acupuncture
- Massage



Medications



Oral Medications

- NSAIDs
Ibuprofen, naproxen, meloxicam
- Acetaminophen
Tylenol
- Opiates
Hydrocodone, codeine
- SNRIs
Nortriptyline
- Supplements
Glucosamine sulfate, CBD

- *Reduce pain and/or inflammation*
- *All have potential side effects*
- *Coexisting medical conditions influence medication choice*

Topical Medications

- NSAIDs
Diclofenac gel
- Capsaicin
- Anesthetics
Lidocaine, menthol
- CBD

- *Generally safer than oral medications*
- *Reduce pain and/or inflammation*
- *Better for superficial joints*
- *Have potential for local side effects on the skin*

Injectable Medications

- Corticosteroids
- Viscosupplementation
Hyaluronic Acid
- Platelet Rich Plasma (PRP)
- Prolotherapy
- Stem cells

- *Reduce pain and inflammation*
- *Risk associated with injections*
- *Mixed data for non-steroid injections*
- *Non-steroid injections can be very expensive*

Surgical Treatments



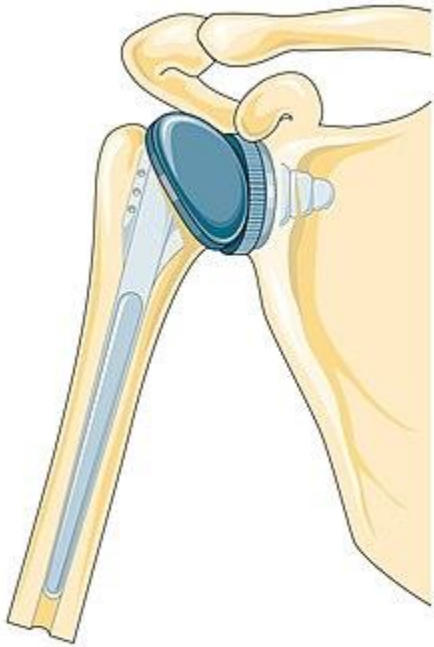


When should I consider surgery?

- ✓ When you have tried non-surgical treatments and they have minimal or no improvement in symptoms
- ✓ Unable to perform activities of daily living due to pain
- ✓ Mechanical symptoms (such as locking of a joint)

Surgical Treatments

Joint Replacements



Shoulder replacement

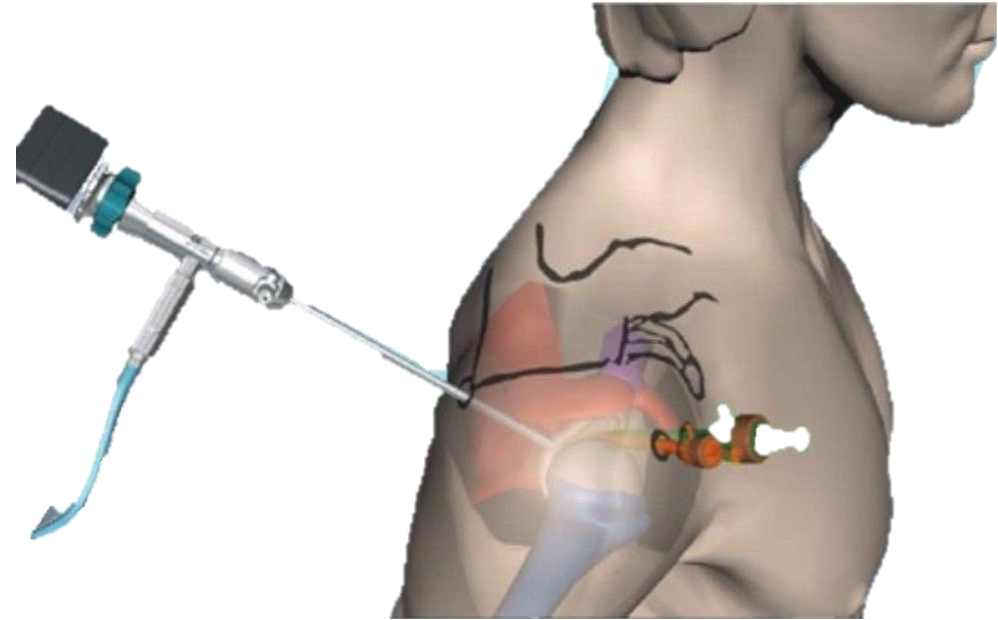


Total hip replacement



Total knee replacement

Arthroscopy



Surgical Treatments

Joint Replacement/Fusion

Joint replacement is standard surgical treatment of end stage arthritis of shoulder, hip and knee

Joint fusion is an option for certain joints that may not do well with a total joint replacement

Arthroscopy

Arthroscopic debridement has consistently failed to show an advantage over non-surgical treatments

Not effective for “cleaning up the cartilage”

Surgical Treatments

- **Important points to remember about surgery:**
- Surgery is a last resort
- Highly effective (85% success rate), however some can still have pain despite surgery
- Complications can happen with any surgery, so it is considered among the most “risky” treatments
- Walking, hiking and biking are OK after knee replacement, but not made for higher level activities (running, jogging, cutting sports)
- Partial joint replacements have a shorter rehab and less restrictions than a total joint replacement, but your surgeon will need to determine if you are a candidate

Take Home Points

- ✓ Osteoarthritis is the most common type of arthritis
- ✓ OA is chronic inflammation of a joint caused by multiple factors, including age, injury, obesity, genetics, sex, etc.
- ✓ OA causes breakdown and remodeling of multiple parts of the joint, including the cartilage, bone, synovial lining and soft tissues
- ✓ The goals of treatment are to reduce pain, improve function, and modify risk factors to prevent worsening of the OA
- ✓ There are many lifestyle, pharmacologic and surgical treatments available. Speak with your physician about which treatments would be best for you