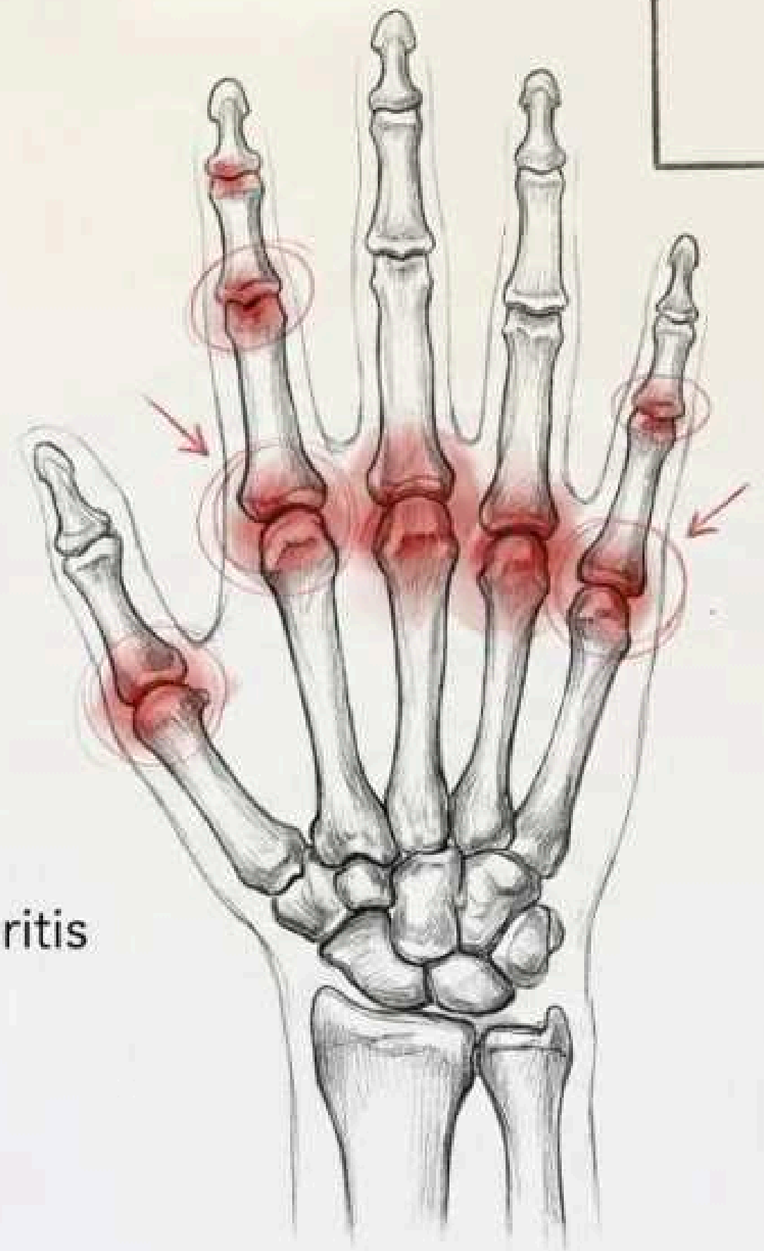
Lecture 3: Inflammatory Arthritis

Rheumatoid arthritis • The window of opportunity • DMARDs & Biologics • Spondyloarthritis • Septic arthritis



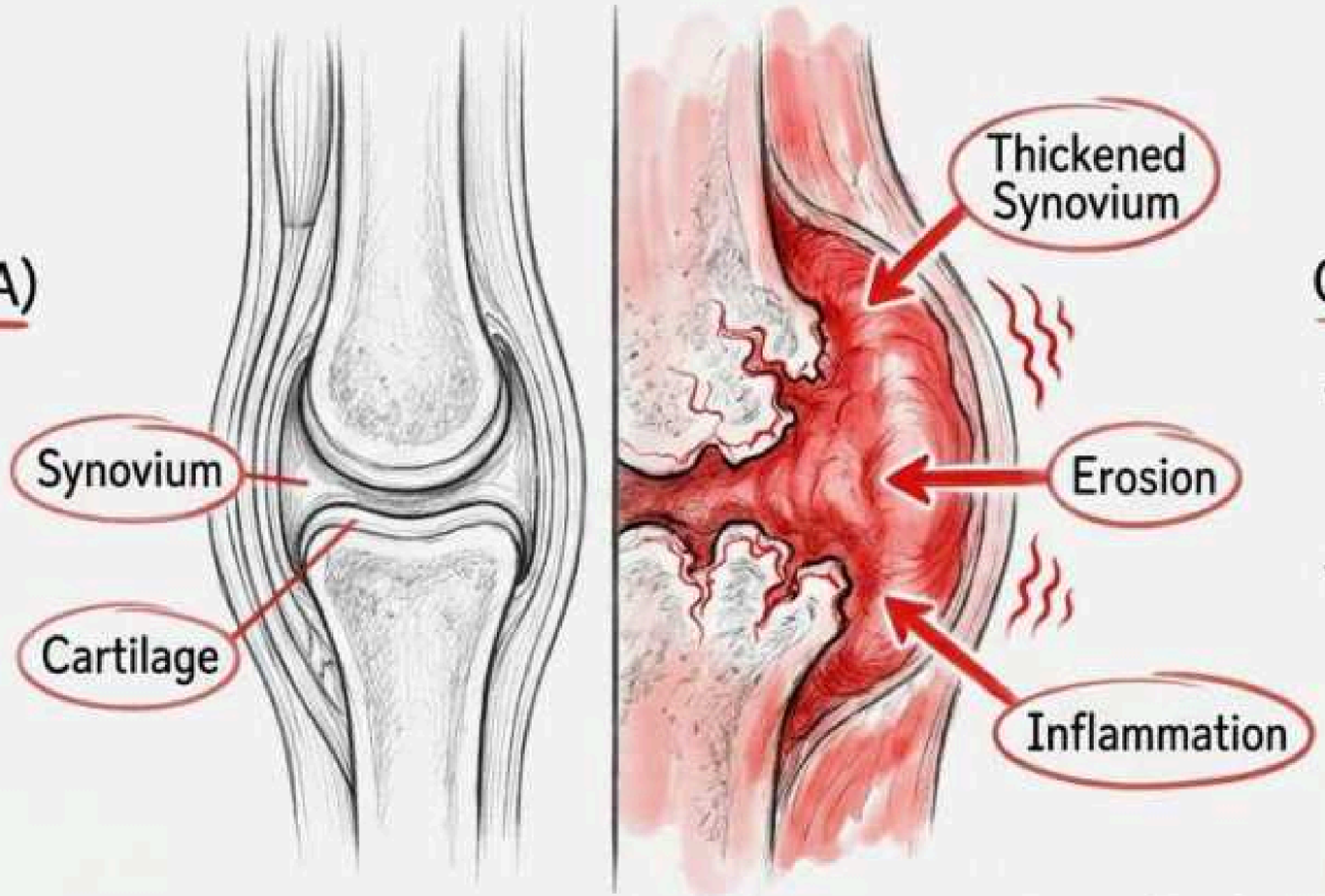
Symptoms = Joint Pain + Swelling + (Stiffness AM > 1hr)

Inflammatory Arthritis	Osteoarthritis
- Driven by immune system attack - Morning stiffness > 1 hour (eases with activity) - Systemic tiredness - Raised inflammatory blood markers - Onset at any age	- Mechanical wear and tear - Age-associated onset - Brief morning stiffness

¶ 3.2

Rheumatoid Arthritis (RA)

- Most common inflammatory arthritis
- Prevalence: 0.5% - 1% of adults
- Demographics: Female : Male = 3 : 1



Normal Finger Joint

Rheumatoid Arthritis (RA)

Clinical Presentation:

- Small joints of hands and feet
- Bilateral symmetry

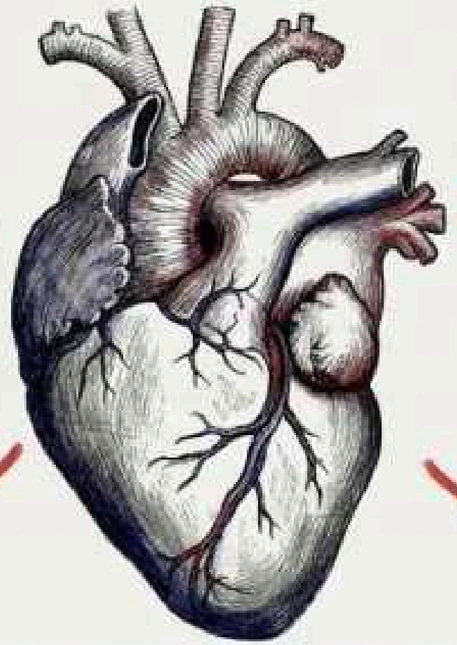
Thickened Synovium → Cartilage/Bone Invasion → Erosions → Untreated: Deformity & Disability

¶ 3.3

Risk Heart Disease = 2 x Baseline

Lungs

Eyes



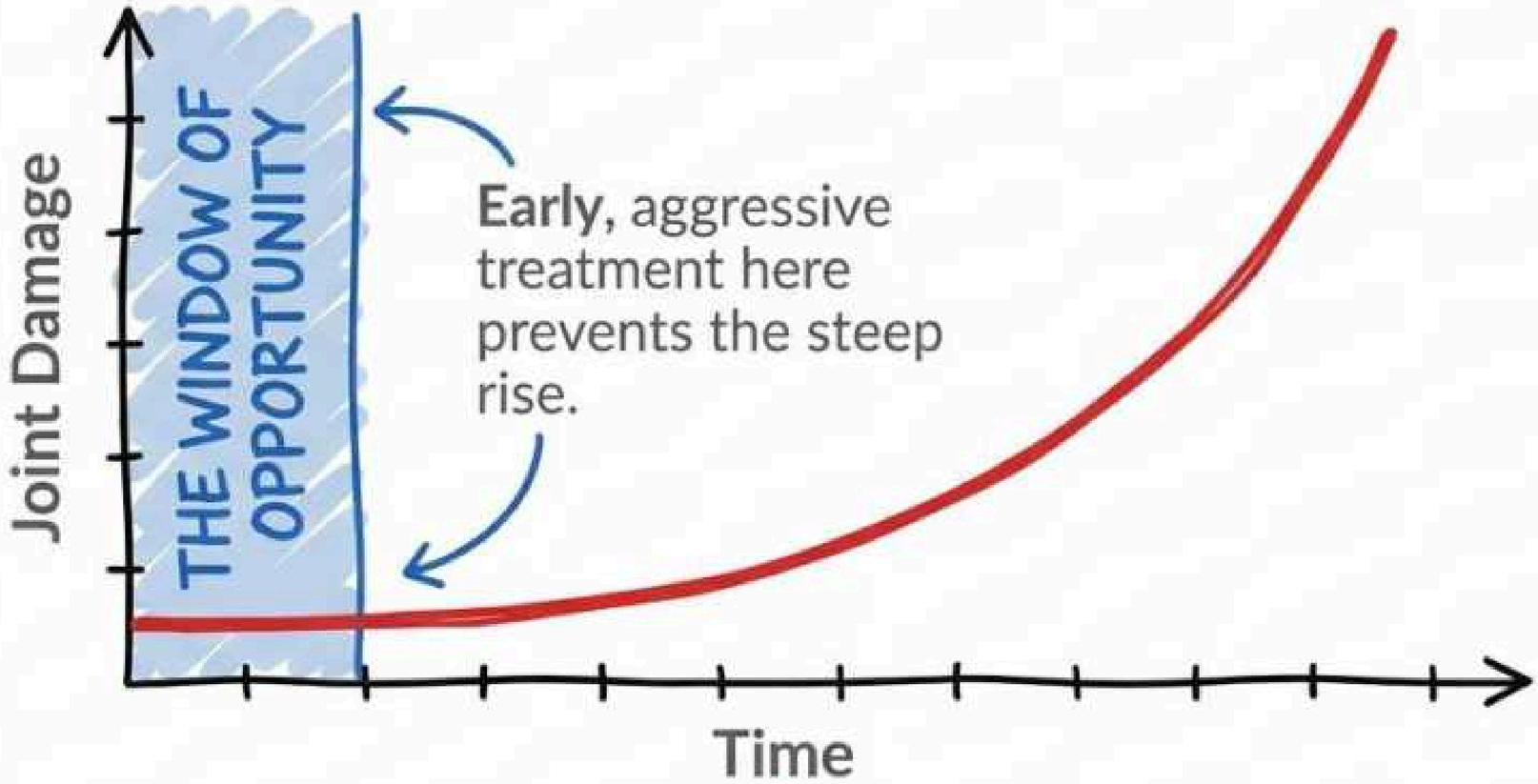
Blood Vessels

Nerves

Smoking = Strongest Risk Factor + Increased Treatment Difficulty

Dx RA ≈ Symptoms + (RF U Anti-CCP specific)

More specific marker



Anchor Drug:

Methotrexate (DMARD)

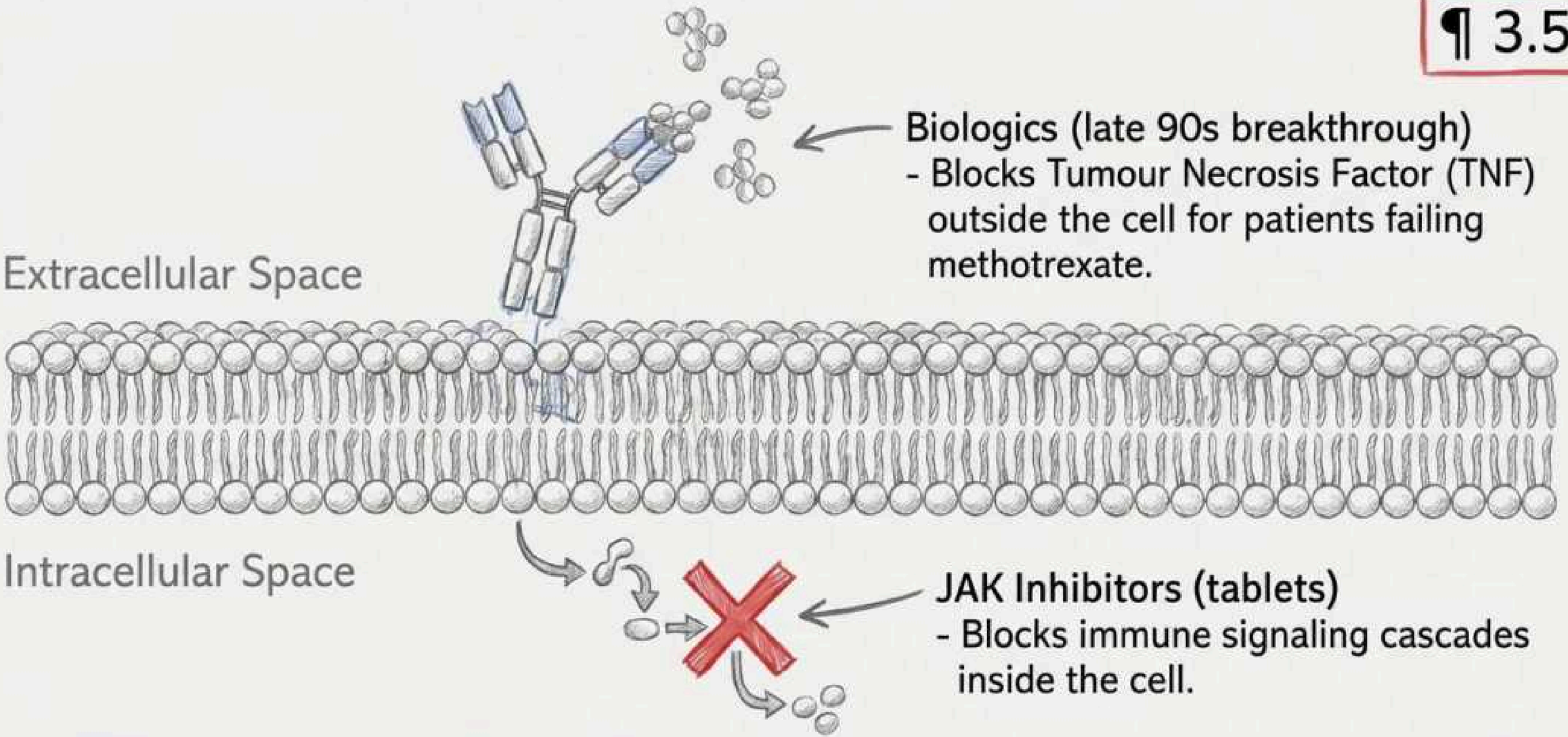
- Often combined with others to modify disease progression.

Bridge Therapy:

Short courses of steroids

- Controls acute flares while slower drugs take effect.

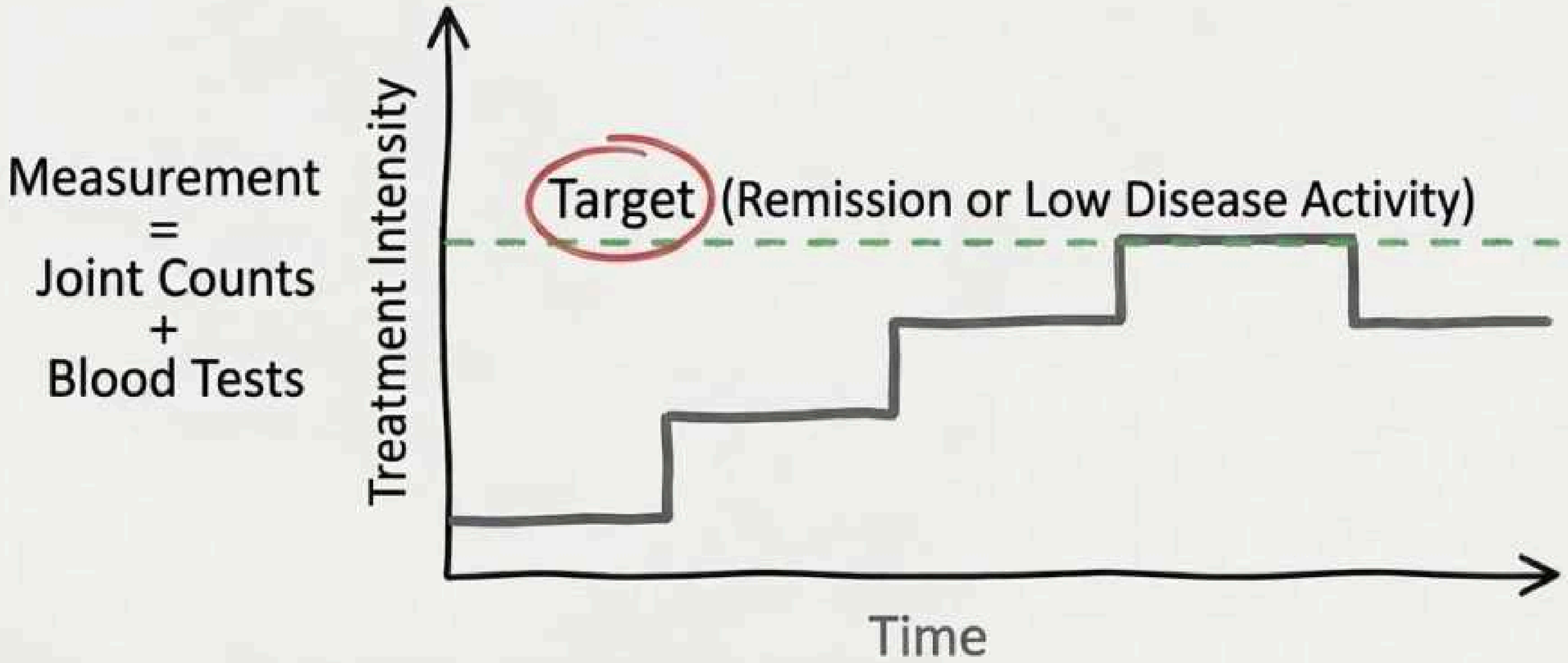
¶ 3.5



Biologics (late 90s breakthrough)
- Blocks Tumour Necrosis Factor (TNF) outside the cell for patients failing methotrexate.

JAK Inhibitors (tablets)
- Blocks immune signaling cascades inside the cell.

Decreased Immunity (Treatment) = Increased Risk of Infections



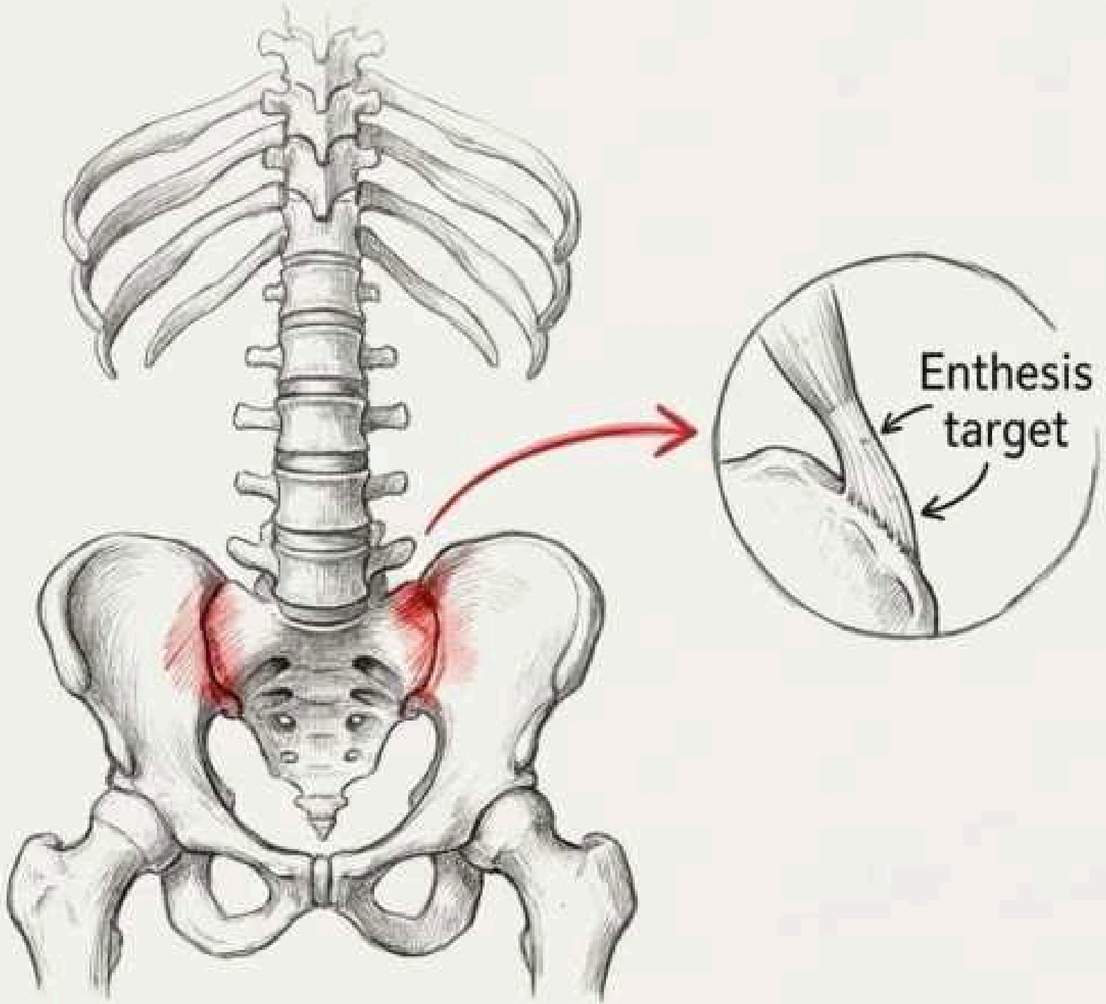
Treat to Target Strategy

Modern era result: Many RA patients now live with little visible joint damage—a remarkable change from a generation ago.

Spondyloarthritis (SpA) Family

¶ 3.7

SpA ⟺ HLA-B27 variant



Inflammatory Back Pain (Axial SpA / Ankylosing Spondylitis)	Mechanical Back Pain
- Young adult onset - Worse in morning and after rest - Improves with exercise	- Common, non-systemic wear and tear

Warning: Untreated Ankylosing Spondylitis → Fused Spine

¶ 3.8



Diagnosis is often delayed many years because general back pain is so common.

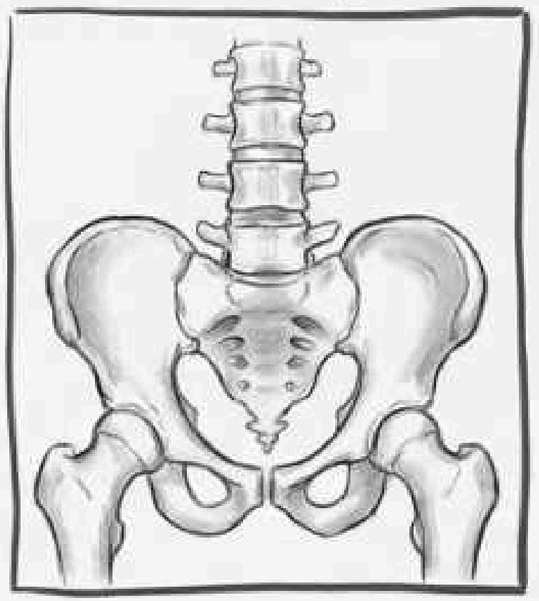
Diagnostic Clues for Axial SpA

- Onset before age 45
- Inflammatory features present
- Good response to anti-inflammatory drugs
- Associated with: Eye inflammation, Psoriasis, or Inflammatory Bowel Disease

MRI



X-Ray



Shows nothing early on.

Treatment: Exercise + Anti-inflammatory drugs + Biological drugs

¶ 3.9

Psoriatic Arthritis

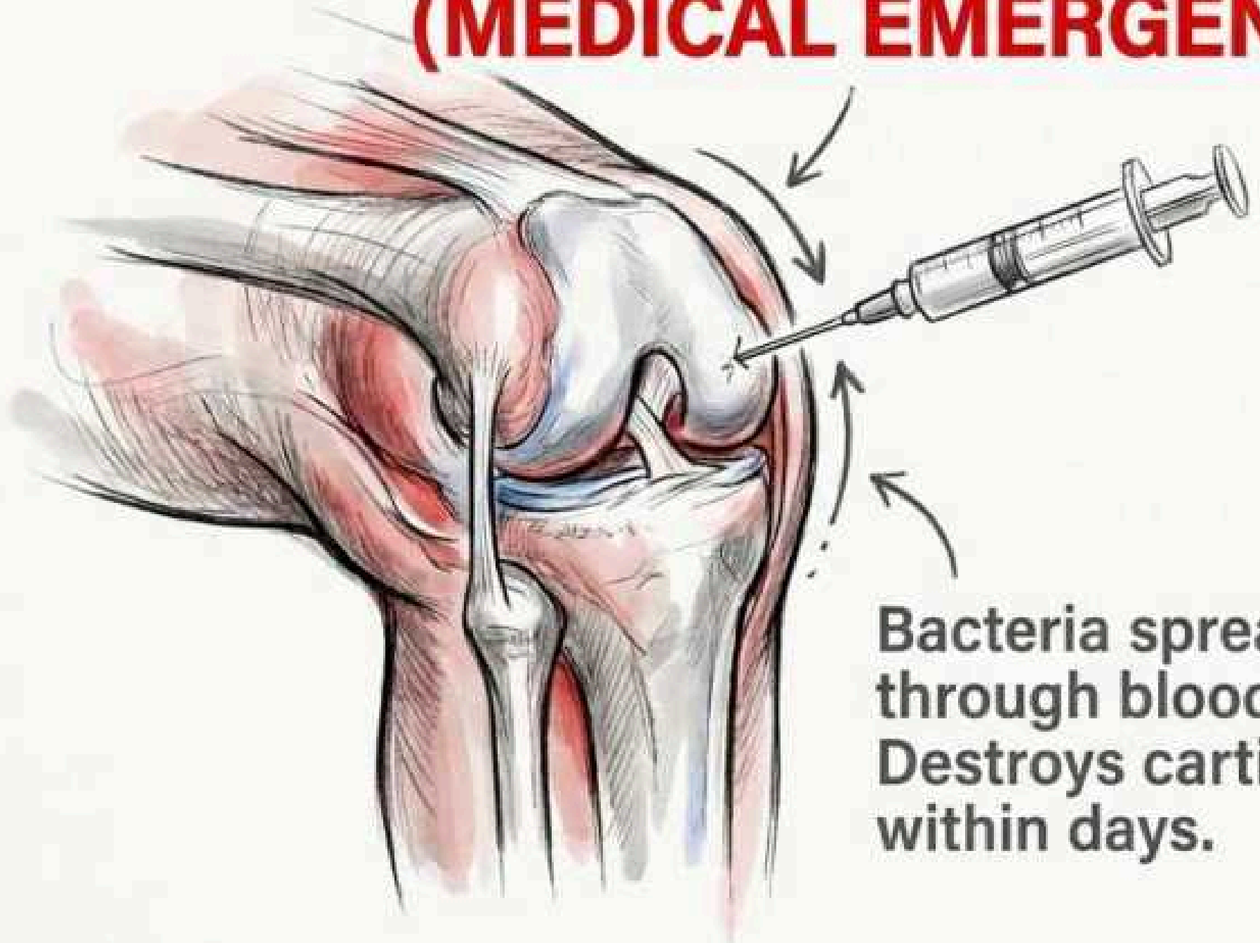
- Affects up to 33% of people with skin psoriasis.
- Targets: Finger ends, whole fingers (sausage swelling/ swellinge swelling/dactylitis), spine, and nails.



Reactive Arthritis & IBD

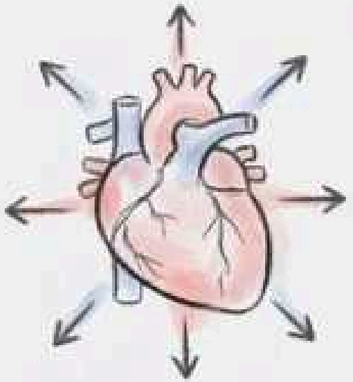
- Reactive: Triggered post-infection (gut or genital).
- Arthritis frequently accompanies Inflammatory Bowel Bowel Disease.

Single hot, swollen, very painful joint + Fever = Septic Arthritis (MEDICAL EMERGENCY)

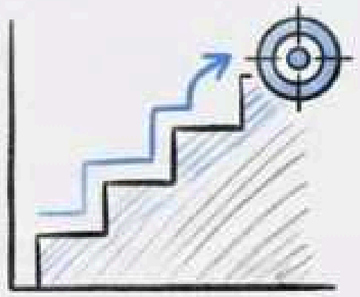


Bacteria spreads through blood. Destroys cartilage within days.

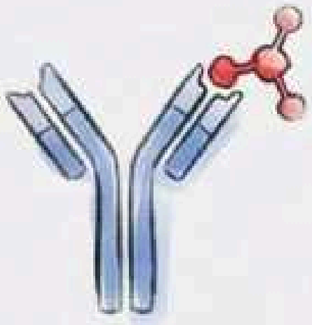
1. **SUSPECT** case based on presentation.
2. **DRAW FLUID** from the joint for testing.
3. **START** antibiotics (**ONLY AFTER** drawing fluid)
4. **URGENT** treatment (sometimes surgical washout)



Inflammatory arthritis is driven by the immune system.



Early treatment to a target prevents joint damage.



Biological drugs have completely transformed patient outcomes.



A single hot joint is infection until proven otherwise.

Next Lecture: Arthritis caused by crystals.