 KNOW
 CHRONIC
 JOINT
 PAIN
# Development Committee

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mario H. Cardiel, MD, MSc</td>
<td>Rheumatologist</td>
<td>Morelia, Mexico</td>
</tr>
<tr>
<td>Andrei Danilov, MD, DSc</td>
<td>Neurologist</td>
<td>Moscow, Russia</td>
</tr>
<tr>
<td>Smail Daoudi, MD</td>
<td>Neurologist</td>
<td>Tizi Ouzou, Algeria</td>
</tr>
<tr>
<td>João Batista S. Garcia, MD, PhD</td>
<td>Anesthesiologist</td>
<td>São Luis, Brazil</td>
</tr>
<tr>
<td>Yuzhou Guan, MD</td>
<td>Neurologist</td>
<td>Beijing, China</td>
</tr>
<tr>
<td>Jianhao Lin, MD</td>
<td>Orthopedist</td>
<td>Beijing, China</td>
</tr>
<tr>
<td>Supranee Niruthisard, MD</td>
<td>Anesthesiologist, Pain Specialist</td>
<td>Bangkok, Thailand</td>
</tr>
<tr>
<td>Jianhao Lin, MD</td>
<td>Orthopedist</td>
<td>Beijing, China</td>
</tr>
<tr>
<td>Ammar Salti, MD</td>
<td>Consultant Anesthetist</td>
<td>Abu Dhabi, United Arab Emirates</td>
</tr>
<tr>
<td>Jose Antonio San Juan, MD</td>
<td>Orthopedic Surgeon</td>
<td>Cebu City, Philippines</td>
</tr>
<tr>
<td>Xinping Tian, MD</td>
<td>Rheumatologist</td>
<td>Beijing, China</td>
</tr>
<tr>
<td>Milton Raff, MD, BSc</td>
<td>Consultant Anesthetist</td>
<td>Cape Town, South Africa</td>
</tr>
<tr>
<td>Raymond L. Rosales, MD, PhD</td>
<td>Neurologist</td>
<td>Manila, Philippines</td>
</tr>
<tr>
<td>Işin Ünal-Çevik, MD, PhD</td>
<td>Neurologist, Neuroscientist and Pain Specialist</td>
<td>Ankara, Turkey</td>
</tr>
</tbody>
</table>

This program was sponsored by Pfizer Inc.
Learning Objectives

After completing this module, participants will be able to:

- Discuss the prevalence of chronic joint pain, including osteoarthritis
- Understand the impact of chronic joint pain and its comorbidities on patient functioning and quality of life
- Explain the pathophysiology of chronic joint pain
- Assess and diagnose patients presenting with chronic joint pain
- Select appropriate pharmacological and non-pharmacological strategies to manage chronic joint pain
- Know when to refer patients to specialists
Table of Contents

• What is chronic joint pain?
• How common are the various types of chronic joint pain?
• How can different forms of chronic joint pain, such as osteoarthritis and rheumatoid arthritis, be differentiated from each other in clinical practice?
• How should osteoarthritis, the most common form of chronic joint pain, be treated based on its pathophysiology?
What is chronic joint pain?

- Joint pain that persists beyond the normal expected tissue healing time of 3 months
- A wide variety of conditions can cause chronic joint pain

Chronic joint pain

Mechanical
- e.g., osteoarthritis, soft tissue injury, etc.

Inflammatory
- e.g., rheumatoid arthritis, bursitis, etc.

Tumor-related

WHAT PROPORTION OF PATIENTS IN YOUR PRACTICE SUFFER FROM JOINT PAIN?
WHAT IS THE MOST COMMON CAUSE OF JOINT PAIN AMONG YOUR PATIENTS?
Prevalence of Specific Conditions Associated with Chronic Joint Pain

Psoriatic arthritis: 0.1–0.4%
Ankylosing spondylitis: 0.1–1%
Rheumatoid arthritis: 0.4–4%
Gout: 1–5%
Osteoarthritis: 2–17%

Discussion Questions

In what ways does joint pain impact your patients’ quality of life?
How does this influence how you manage these patients?
Impact of Chronic Conditions on Health-Related Quality of Life

Chronic joint pain conditions have an important impact on health-related quality of life.

Note: a larger negative score indicates a greater impact on health-related quality of life.

CHD = coronary heart disease; COPD = chronic obstructive pulmonary disease; CPA = chronic polyarthritis

Treating Underlying Causes of Joint Pain

• Many different conditions present with joint pain
  – Understanding clinical, laboratory and radiological features of these diseases can lead to early diagnosis and appropriate therapy

• Prompt recognition of underlying disease and institution of proper therapy can lead to improved prognosis

Osteoarthritis: Most Common Form of Chronic Joint Pain

• Affects:
  – 13.9% of adults aged 25 years and older
  – 33.6% of those 65 years and older

• As the general population ages, the numbers of people affected are likely to increase dramatically

Incidence of Osteoarthritis of the Hand, Hip and Knee

## Distinguishing Osteoarthritis from Rheumatoid Arthritis

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Osteoarthritis</th>
<th>Rheumatoid arthritis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pathophysiologic process</td>
<td>Degenerative</td>
<td>Autoimmune</td>
</tr>
<tr>
<td>Commonly affected joints</td>
<td>Knees, spine, hips, hands</td>
<td>Fingers, feet</td>
</tr>
<tr>
<td>Typically symmetrical involvement</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Morning stiffness</td>
<td>&lt;30 minutes</td>
<td>&gt;30 minutes</td>
</tr>
<tr>
<td>Joint swelling</td>
<td>Hard tissue</td>
<td>Soft tissue</td>
</tr>
<tr>
<td>Hand involvement</td>
<td>Distal joints</td>
<td>Proximal joints</td>
</tr>
<tr>
<td>Extra-articular involvement</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Elevated autoimmune markers</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Joint Involvement Differentiates Osteoarthritis from Rheumatoid Arthritis

CMC = carpometacarpal; DIP = distal interphalangeal; MCP = metacarpophalangeal; MTP = metatarsophalangeal; PIP = proximal interphalangeal; TMT = tarsometatarsal

Commonly Affected Joints: Prevalence of Symptomatic Osteoarthritis

- Hip: 4% of those ≥55 years
- Knee: 12% of those ≥60 years
- Foot: 2% of those 15–74 years
- Hand: 8% of those ≥60 years

CMC = carpometacarpal; DIP = distal interphalangeal; MTP = metatarsophalangeal; PIP = proximal interphalangeal

Factors Contributing to Osteoarthritis Development

Abnormal stresses → Compromised cartilage → Cartilage breakdown

Abnormal cartilage

Biophysical changes
- Collagen network fracture
- Proteoglycan unraveling

Biochemical changes
- Inhibitors reduced
- Proteolytic enzymes increased

Factors:
- Obesity
- Anatomic abnormalities
- Microfractures and bony remodeling
- Loss of joint stability
- Trauma
- Aging
- Genetic and metabolic diseases
- Inflammation
- Immune system activity

WHAT PHYSICAL EXAMINATIONS AND/OR OTHER EXAMINATIONS DO YOU ROUTINELY USE TO EVALUATE OSTEOARTHRITIS?
Radiographic Findings Distinguish Different Types of Joint Pain

<table>
<thead>
<tr>
<th>Condition</th>
<th>Bone density</th>
<th>Erosions</th>
<th>Cysts</th>
<th>Joint space loss</th>
<th>Distribution</th>
<th>Bone production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Osteoarthritis</td>
<td>Normal overall</td>
<td>✗*</td>
<td>Subchondral</td>
<td>Non-uniform</td>
<td>Unilateral or bilateral asymmetric</td>
<td>Osteophytes Subchondral sclerosis</td>
</tr>
<tr>
<td>Rheumatoid arthritis</td>
<td>Decreased</td>
<td>✓</td>
<td>Synovial</td>
<td>Uniform</td>
<td>Bilateral Symmetric</td>
<td></td>
</tr>
<tr>
<td>Psoriatic arthritis</td>
<td>Normal</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>Unilateral Asymmetric</td>
<td></td>
</tr>
<tr>
<td>CPPD</td>
<td>Normal</td>
<td>✗</td>
<td>✓</td>
<td>Uniform</td>
<td>Unilateral Asymmetric</td>
<td>Osteophytes Chondrocalcinosis Subchondral</td>
</tr>
<tr>
<td>Ankylosing spondylitis</td>
<td>Early – normal</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>Unilateral Asymmetric</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Late – decreased</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>Unilateral Asymmetric</td>
<td></td>
</tr>
<tr>
<td>DISH</td>
<td>Normal</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>Sporadic</td>
<td>Flowing osteophytes Tendon or ligament ossification</td>
</tr>
</tbody>
</table>

*Unless erosive osteoarthritis

CPPD = calcium pyrophosphate deposition disease; DISH = diffuse idiopathc skeletal hyperostosis

Radiography: Osteoarthritis vs. Rheumatoid Arthritis of the Hand

Osteoarthritis

Rheumatoid Arthritis

Radiographic Hallmarks of Osteoarthritis

**Grade 1**
Subchondral bone sclerosis

**Grade 2**
Decreased joint space

**Grade 3**
Osteophytes and geodes

**Grade 4**
Malformation

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 1</td>
<td>Doubtful narrowing of joint space and possible osteophytic lipping</td>
</tr>
<tr>
<td>Grade 2</td>
<td>Definite osteophytes and possible narrowing of joint space</td>
</tr>
<tr>
<td>Grade 3</td>
<td>Moderate multiple osteophytes, definite narrowing of joint space, and some sclerosis</td>
</tr>
<tr>
<td>Grade 4</td>
<td>Large osteophytes, marked narrowing of joint space, severe sclerosis, and definite deformity of bone ends</td>
</tr>
</tbody>
</table>

# Physical Examinations for Osteoarthritis

<table>
<thead>
<tr>
<th>Knee</th>
<th>Hip</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check alignment</td>
<td>Look for leg length discrepancy</td>
</tr>
<tr>
<td>Assess muscle strength</td>
<td>Assess muscle strength</td>
</tr>
<tr>
<td>(quadriceps atrophy)</td>
<td></td>
</tr>
<tr>
<td>Evaluate tenderness/pain</td>
<td>Evaluate tenderness/pain</td>
</tr>
<tr>
<td>Assess range of motion</td>
<td>Assess range of motion</td>
</tr>
<tr>
<td>Palpate for bony swelling</td>
<td></td>
</tr>
<tr>
<td>Check for crepitus</td>
<td></td>
</tr>
<tr>
<td>Inspect gait</td>
<td></td>
</tr>
<tr>
<td>Look for inflammation</td>
<td></td>
</tr>
</tbody>
</table>

Note that while instability should be assessed, there is no physical examination sign for instability.

**EULAR: Major Components in the Diagnosis of Hand Osteoarthritis**

<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>Symptoms</th>
<th>Clinical Hallmarks</th>
<th>Radiographic Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female sex</td>
<td>Pain on usage</td>
<td>Heberden’s nodes</td>
<td>Joint space narrowing</td>
</tr>
<tr>
<td>Age &gt;40 years</td>
<td>Mild morning or inactivity stiffness affecting one or a few joints at a time</td>
<td>Bouchard’s nodes</td>
<td>Osteophyte</td>
</tr>
<tr>
<td>Menopausal status</td>
<td>Symptoms often intermittent</td>
<td>Bony enlargement without deformity affecting characteristic joints (DIP, PIP, thumb base, index and MCP joints)</td>
<td>Subchondral bone sclerosis</td>
</tr>
<tr>
<td>Family history of hand osteoarthritis</td>
<td>Symptoms target DIP, PIP, thumb base, index and MCP joints</td>
<td></td>
<td>Subchondral cyst</td>
</tr>
<tr>
<td>Obesity</td>
<td></td>
<td></td>
<td>Subchondral erosion in erosive hand osteoarthritis</td>
</tr>
<tr>
<td>Higher bone density</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greater forearm muscle strength</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joint laxity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prior hand injury</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupation- or recreation-related usage</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DIP = distal interphalangeal; EULAR = European League Against Rheumatism; MCP = metacarpophalangeal; PIP = proximal interphalangeal

EULAR: Major Components in the Diagnosis of Knee Osteoarthritis

BMI = body mass index; EULAR = European League Against Rheumatism

Risk Factors
- Age
- Gender
- BMI
- Occupation
- Family history of osteoarthritis
- History of knee injury

Background risk

Symptoms
- Knee pain
- Brief morning stiffness
- Functional impairment

Signs
- Crepitus
- Restricted movement
- Bony enlargement

Radiographic Changes
- Osteophyte
- Narrowing
- Subchondral sclerosis
- Subchondral cysts

Osteoarthritis
Mild
Moderate
Severe

BMI = body mass index; EULAR = European League Against Rheumatism
Goals of Osteoarthritis Treatment

- Slow disease progression, where possible
- Reduce pain
- Maintain or improve function
Goals in Pain Management

• Involve the patient in the decision-making process
• Agree on realistic treatment goals **before** starting a treatment plan

Combining Pharmacological and Non-pharmacological Therapies Is Most Effective in Managing Osteoarthritis

- Pharmacotherapy
- Stress management
- Occupational therapy
- Biofeedback
- Physical therapy
- Pharmacotherapy
- Education
- Complementary therapies
- Lifestyle management
- Sleep hygiene
Discussion Question

What non-pharmacological therapies have you found to be helpful in managing chronic pain in your patients? Which ones have you found to be ineffective/unhelpful?
Non-pharmacological Treatment of Osteoarthritis

Core treatment:

- Weight reduction
- Exercise
- Education

Other modalities to potentially consider:

- Acupuncture
- Assisted devices (e.g., splints, insoles)
- Heat and cold therapy
- Transcutaneous electrical nerve stimulation

### AAOS: Pharmacological Management of Knee Osteoarthritis

#### Recommended
- Coxibs
- Oral nsNSAIDs
- Topical nsNSAIDs
- Tramadol

#### Not recommended
- Chondroitin
- Glucosamine
- Growth factor injections
- Hyaluronic acid

#### Insufficient evidence
- Acetaminophen
- Intra-articular corticosteroids
- Opioids
- Pain patches

---

AAOS = American Academy of Orthopaedic Surgeons; coxib = COX-2-selective inhibitor; nsNSAID = non-selective non-steroidal anti-inflammatory drug

Mechanism-Based Treatment of Inflammatory Pain

Pain Treatment Options
- Acetaminophen
- nsNSAIDs/coxibs
- Opioids
- Local anesthetics/channel blockers
- Intra-articular corticosteroid/hyaluronate injections

CNS = central nervous system; coxib = COX-2 inhibitor; nsNSAID = non-specific non-steroidal anti-inflammatory drug
Mechanism-Based Treatment of Chronic Pain in Osteoarthritis

- Sensitization of joint nociceptors
- Development of neuropathy
- Activation of thalamocortical nociceptive system and amygdala
- Reduction of gray matter
- Changes in descending inhibition and facilitation
- Sensitization of nociceptive spinal cord neurons with joint input
- Activation of microglia

Brain

Medications affecting central sensitization
- α₂δ ligands
- SNRIs
- TCA
- Tramadol, opioids

Damaged joint tissue

Inflammatory chemical mediators

CNS = central nervous system; coxib = COX-2 inhibitor; nsNSAID = non-specific non-steroidal anti-inflammatory drug
What are NSAIDs (nsNSAIDs/coxibs)?

- Analgesic effect via inhibition of prostaglandin production
- Broad class incorporating many different medications:

**Examples of nsNSAIDs:**
- Diclofenac
- Ibuprofen
- Naproxen

**Examples of Coxibs:**
- Celecoxib
- Etoricoxib
- Parecoxib

NSAID = Non-Steroidal Anti-Inflammatory Drug
How do nsNSAIDs/coxibs work?

**Coxib** = COX-2-specific inhibitor; **NSAID** = non-steroidal anti-inflammatory drug
**nsNSAID** = non-specific non-steroidal anti-inflammatory drug

Adverse Effects of nsNSAIDs/Coxibs

All NSAIDs:
• Gastroenteropathy
  – Gastritis, bleeding, ulceration, perforation
• Cardiovascular thrombotic events
• Renovascular effects
  – Decreased renal blood flow
  – Fluid retention/edema
  – Hypertension
• Hypersensitivity

Cox-1-mediated NSAIDs (nsNSAIDs):
• Decreased platelet aggregation

Coxib = COX-2-specific inhibitor; NSAID = non-steroidal anti-inflammatory drug;
nsNSAID = non-specific non-steroidal anti-inflammatory drug
Composite includes non-fatal myocardial infarction, non-fatal stroke, or cardiovascular death compared with placebo; chart based on network meta-analysis involving 30 trials and over 100,000 patients.

Coxib = COX-2 inhibitor; nsNSAID = non-specific non-steroidal anti-inflammatory drug

Risk Factors for Gastrointestinal Complications Associated with nsNSAIDs/Coxibs


ASA = acetylsalicylic acid; coxib = COX-2-specific inhibitor; GI = gastrointestinal; NSAID = non-steroidal anti-inflammatory drug; nsNSAID = non-specific non-steroidal anti-inflammatory drug; SSRI = selective serotonin reuptake inhibitor

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Odds Ratio/Relative Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>History of GI bleeding/perforation</td>
<td>13.5</td>
</tr>
<tr>
<td>Concomitant use of anticoagulants</td>
<td>6.4</td>
</tr>
<tr>
<td>History of peptic ulcer</td>
<td>6.1</td>
</tr>
<tr>
<td>Age ≥60 years</td>
<td>5.5</td>
</tr>
<tr>
<td>Single or multiple use of NSAID</td>
<td>4.7</td>
</tr>
<tr>
<td>Helicobacter pylori infection</td>
<td>4.3</td>
</tr>
<tr>
<td>Use of low-dose ASA within 30 days</td>
<td>4.1</td>
</tr>
<tr>
<td>Alcohol abuse</td>
<td>2.4</td>
</tr>
<tr>
<td>Concomitant use of glucocorticoids</td>
<td>2.2</td>
</tr>
<tr>
<td>Smoking</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Odds ratio/relative risk for ulcer complications
Gastrointestinal Effects of nsNSAIDs/Coxibs Beyond the Upper Gastrointestinal Tract

• There is strong evidence to suggest that potentially clinically relevant adverse gastrointestinal events are not limited to the upper gastrointestinal tract

• Studies suggest NSAIDs also increase the risk for lower* gastrointestinal clinical events

---

*Lower gastrointestinal means distal to the ligament of Treitz or fourth segment of the duodenum

Coxib = COX-2-specific inhibitor; NSAID = non-steroidal anti-inflammatory drug;
nsNSAID = non-specific non-steroidal anti-inflammatory drug

# Guidelines for nsNSAIDs/Coxibs Use Based on Gastrointestinal Risk and ASA Use

<table>
<thead>
<tr>
<th>Gastrointestinal risk</th>
<th>Not elevated</th>
<th>Elevated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not on ASA</td>
<td>nsNSAID alone</td>
<td>Coxib nsNSAID + PPI</td>
</tr>
<tr>
<td>On ASA</td>
<td>Coxib + PPI nsNSAID + PPI</td>
<td>Coxib + PPI nsNSAID + PPI</td>
</tr>
</tbody>
</table>

ASA = acetylsalicylic acid; coxib = COX-2-specific inhibitor; nsNSAID = non-selective non-steroidal anti-inflammatory drug; PPI = proton pump inhibitor

How Opioids Affect Pain

Modify perception, modulate transmission and affect transduction by:

- Altering limbic system activity; modify sensory and affective pain aspects
- Activating descending pathways that modulate transmission in spinal cord
- Affecting transduction of pain stimuli to nerve impulses

## Adverse Effects of Opioids

<table>
<thead>
<tr>
<th>System</th>
<th>Adverse effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gastrointestinal</td>
<td>Nausea, vomiting, constipation</td>
</tr>
<tr>
<td>CNS</td>
<td>Cognitive impairment, sedation, lightheadedness, dizziness</td>
</tr>
<tr>
<td>Respiratory</td>
<td>Respiratory depression</td>
</tr>
<tr>
<td>Cardiovascular</td>
<td>Orthostatic hypotension, fainting</td>
</tr>
<tr>
<td>Other</td>
<td>Urticaria, miosis, sweating, urinary retention</td>
</tr>
</tbody>
</table>

*CNS = central nervous system*

Management of Osteoarthritis Flowchart

**CONSIDER**
- Acetaminophen ± topical NSAID gel
- Assisted devices (splints, insoles)
- Heat and cold therapy
- TENS/acupuncture
- Intra-articular steroid injection

**CORE TREATMENT**
- Exercise
- Weight reduction
- Education

**ASSESS GASTROINTESTINAL AND CARDIOVASCULAR RISK**
- Suggested cardiovascular threshold <20% 10-year risk without absolute contraindications
- Hepatic and renal profile
- No ASA use

** NSAID CONTRAINDICATION**
- Opioids (weak opioids, such as tramadol, preferred to strong opioids)

**OPIOIDS**
- Oral NSAIDs
  - nsNSAID + PPI
  - Coxib (coxib + PPI for those with higher gastrointestinal risk)
  - Consider impact of ASA co-prescribed with nsNSAIDs/coxibs
- Opioids (weak opioids, such as tramadol, preferred to strong opioids)
- Surgery

ASA = acetylsalicylic acid; coxib = COX-2-specific inhibitor; NSAID = non-steroidal anti-inflammatory drug; nsNSAID = non-specific non-steroidal anti-inflammatory drug; PPI = proton pump inhibitor; TENS = transcutaneous electrical nerve stimulation

# Selected Osteoarthritis Management Guidelines

<table>
<thead>
<tr>
<th>Organization</th>
<th>Year</th>
<th>Joints</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESCEO(^1)</td>
<td>2014</td>
<td>X</td>
</tr>
<tr>
<td>OARSI(^2)</td>
<td>2014</td>
<td>X</td>
</tr>
<tr>
<td>NICE(^3)</td>
<td>2014</td>
<td>X</td>
</tr>
<tr>
<td>AAOS(^4)</td>
<td>2013</td>
<td>X</td>
</tr>
<tr>
<td>South Africa(^5)</td>
<td>2013</td>
<td>X</td>
</tr>
<tr>
<td>ACR(^6)</td>
<td>2012</td>
<td>X</td>
</tr>
<tr>
<td>Chinese Orthopaedic Association(^7)</td>
<td>2010</td>
<td>X</td>
</tr>
<tr>
<td>Croatian Society for Rheumatology(^8)</td>
<td>2010</td>
<td>X</td>
</tr>
<tr>
<td>EULAR(^9)</td>
<td>2010</td>
<td>X</td>
</tr>
<tr>
<td>Mexico(^10)</td>
<td>2008</td>
<td>X</td>
</tr>
<tr>
<td>EULAR(^11)</td>
<td>2007</td>
<td>X</td>
</tr>
<tr>
<td>EULAR(^12)</td>
<td>2005</td>
<td>X</td>
</tr>
</tbody>
</table>

ACR = American College of Rheumatology; AAOS = American Academy of Orthopaedic Surgeons; NICE = National Institute of Clinical Excellence; ESCEO = European Society for Clinical and Economic Aspects of Osteoporosis and Osteoarthritis; EULAR = European League Against Rheumatism; OARSI = Osteoarthritis Research Society International

But... Patients with Chronic Pain of Just One Type of Pain Pathophysiology May be Rare

Therapies that work better for a particular patient are likely to depend on the mechanisms contributing to the patient’s pain. Patients with mixed pain may benefit from combination therapy.

Discussion Question

WHAT TREATMENT APPROACH WOULD YOU TAKE WITH A PATIENT SUFFERING FROM MIXED PAIN?
Neuropathic Pain in Osteoarthritis

• Some osteoarthritis patients may use terms such as “burning” or “numbness” to describe their pain
  – These verbal descriptors are suggestive of a neuropathic component

• Based on mechanism of action and preliminary studies, non-traditional analgesics such as $\alpha_2\delta$ ligands, TCAs and SNRIs, may be useful for treating this component
  – However, further studies are needed to clarify the role of these drugs in osteoarthritis

SNRI = serotonin-norepinephrine reuptake inhibitor; TCA = tricyclic antidepressant
# When to Refer Patients with Osteoarthritis

<table>
<thead>
<tr>
<th>Urgency</th>
<th>Hip osteoarthritis</th>
<th>Knee osteoarthritis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediate</td>
<td>Evidence of infection in the joint</td>
<td>Evidence of infection in the joint</td>
</tr>
<tr>
<td>Urgent</td>
<td>Symptoms rapidly deteriorate and are causing severe disability</td>
<td>Evidence of acute inflammation (e.g., hemarthrosis, gout, pseudo-gout)</td>
</tr>
<tr>
<td>Soon</td>
<td>N/A</td>
<td>Joint continues to “give way” (i.e., fails to provide proper support) despite therapy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Symptoms rapidly deteriorate and are causing severe disability</td>
</tr>
<tr>
<td>Routine appointment</td>
<td>Symptoms impair the quality of life*</td>
<td>Symptoms impair the quality of life*</td>
</tr>
</tbody>
</table>

*Referral criteria should take into account the extent to which the condition is causing pain, disability, sleeplessness, loss of independence, inability to undertake normal activities, reduced functional capacity or psychiatric illness
N/A = not applicable
Key Messages

• A wide variety of conditions can cause joint pain, but osteoarthritis is the most common cause, affecting >10% of the population

• It is important to assess and treat underlying causes of joint pain to help guide choice of therapy and improve prognosis

• Signs, symptoms and radiographic findings can help distinguish osteoarthritis from other causes of joint pain
Key Messages (cont’d)

• Signs of infection or autoimmune/inflammatory disease should prompt referral to a specialist
• Core management of osteoarthritis should include education, exercise and weight reduction
• Pharmacological management may include paracetamol, nsNSAIDs/coxibs and/or opioids

Coxib = COX-2-specific inhibitor; nsNSAID = non-specific non-steroidal anti-inflammatory drug