Rheumatologic Updates for the Pain Physician

Kemly Philip, MD PhD MBE
Assistant Professor
Chief, Musculoskeletal Medicine & Interventional Pain
Department of Physical Medicine & Rehabilitation
McGovern Medical School at UTHealth
Houston, Texas. USA

Texas Pain Society | Saturday, October 25, 2025. Houston, TX

Disclosures

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

- None

Learning Objectives

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

- Review epidemiology of rheumatologic disease and how it contributes to disability.
- Review pathogenesis of pain in rheumatologic diseases and how it contributes to chronic pain.
- Discuss how to obtain relevant clinical history and assessment tools.
- Highlight specific benefits and limitations of pharmacologic and interventional pain management therapies.
- Describe best practices for multimodal treatment based on evidenced-based ACR guidelines including:
  - Analgesics
  - Targeted interventions
  - Physical therapy
  - Psychology

Learning Objectives

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

- Review epidemiology of rheumatologic disease and how it contributes to disability.
- Review pathogenesis of pain in rheumatologic diseases and how it contributes to chronic pain.
- Discuss how to obtain relevant clinical history and assessment tools.
- Highlight specific benefits and limitations of pharmacologic and interventional pain management therapies.
- Describe best practices for multimodal treatment based on evidenced-based ACR guidelines including:
  - Analgesics
  - Targeted interventions
  - Physical therapy
  - Psychology

Epidemiology: Arthritis

Rheumatologic Disease	Prevalance
Osteoarthritis	302 million worldwide. 33 million US adults
Gout	55 million worldwide 9 million Americans (4%) of adults
Rheumatoid Arthritis	18 million worldwide 1.36 million adults in the US
Lupus	3.4 million worldwide 1.5 million Americans
Psoriatic arthritis	3% global population

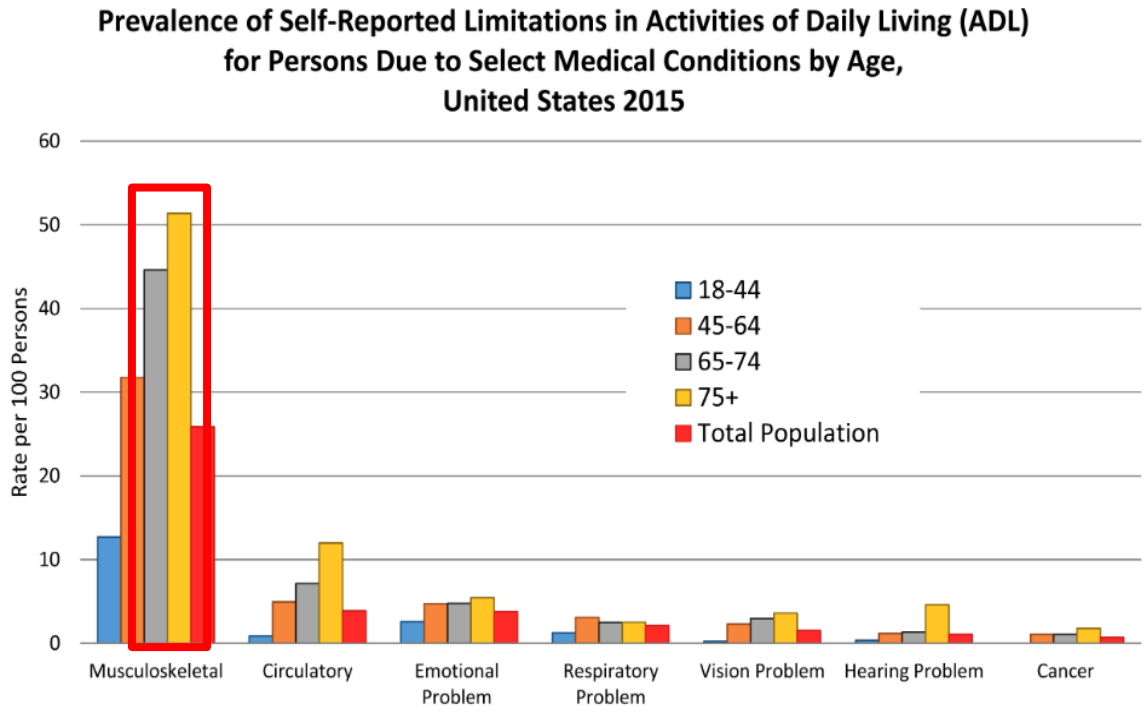
Despite biologic therapies, **pain is often uncontrolled.**

2/3 of patients **with rheumatologic disease** have **daily pain.**

Arthritis Statistics 2025. Single Care Team. 24 Feb 2025. https://www.singlecare.com/blog/news/arthritis-statistics/#arthritis-statistics-by-type
Cox et al. Pharmacological pain management in patients with rheumatoid arthritis: a narrative literature review. Cox et al. BMC Medicine (2025) 23:54 https://doi.org/10.1186/s12916-025-03870-0

Disability due to Arthritis

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School



Musculoskeletal Conditions account for **34.1% of Social Security Disability** (Dec 2023) contributing **$500-635 billion dollars spent annually**

United States Bone and Joint Initiative: The Burden of Musculoskeletal Diseases in the United States (BMUS), Fourth Edition, forthcoming. Rosemont, IL. Available at http://www.boneandjointburden.org.

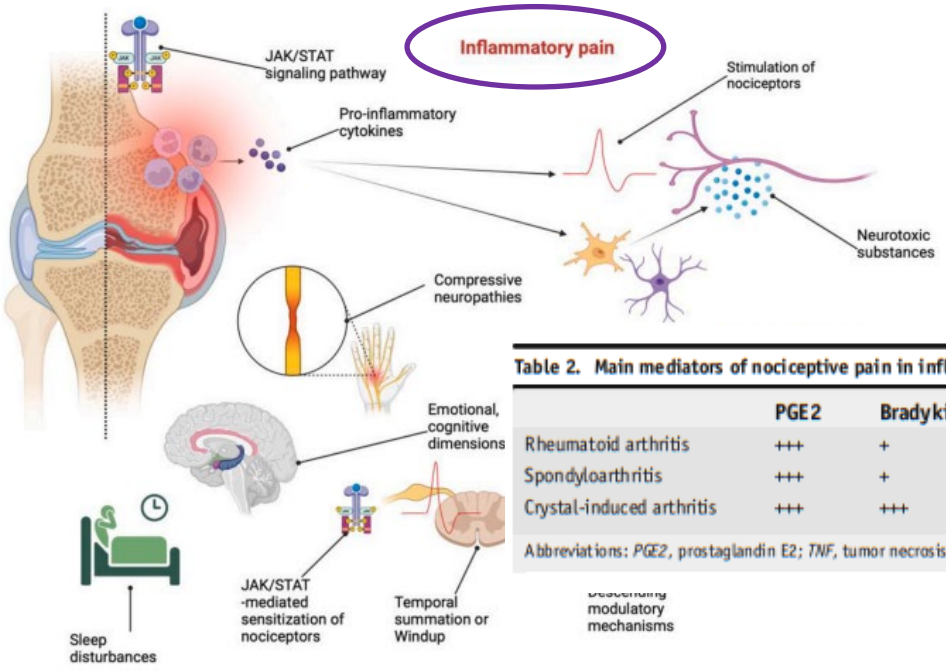
Learning Objectives

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

- Review epidemiology of rheumatologic disease and how it contributes to disability.
- Review pathogenesis of pain in rheumatologic diseases and how it contributes to chronic pain.
- Discuss how to obtain relevant clinical history and assessment tools.
- Highlight specific benefits and limitations of pharmacologic and interventional pain management therapies.
- Describe best practices for multimodal treatment based on evidenced-based ACR guidelines including:
  - Analgesics
  - Targeted interventions
  - Physical therapy
  - Psychology

Pain in Inflammatory Arthritis

"An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described as result of such damage" - *International Association for the Study of Pain*



Nociceptive
damage to non-neural tissue → (+) nociceptor

Table 2. Main mediators of nociceptive pain in inflammatory arthritis

	PGE2	Bradykinin	Substance P	TNFalfa	IL-1b	IL-6	IL-17	ACPA	NGF
Rheumatoid arthritis	+++	+	+	+++	+++	+++	+	++	+
Spondyloarthritis	+++	+	+	+++	-	-	+++	-	+
Crystal-induced arthritis	+++	+++	+	-	+++	-	-	-	-

Abbreviations: *PGE2*, prostaglandin E2; *TNF*, tumor necrosis factor; *ACPA*, anti-citrullinated protein antibodies; *IL*, interleukin; *NGF*, nerve growth factor

Rolf-Detlef et al. Chronic Pain as a symptom or a disease: the IASP Classification of Chronic Pain for the International Classification of Diseases (ICD-11).
Carlo et al. Mechanisms and Mediators of Pain in Chronic Inflammatory Arthritis. Curr Treat Options in Rheum (2021) 7: 194-207.
Puttini et al. Inflammatory or non-inflammatory pain in inflammatory arthritis – How to differentiate it? Best Practice & Research Clinical Rheumatollogy. 2024 May.

Neuropathic Pain in IA

Clin Rheumatol (2008) 27:841–844
DOI 10.1007/s10067-007-0804-x

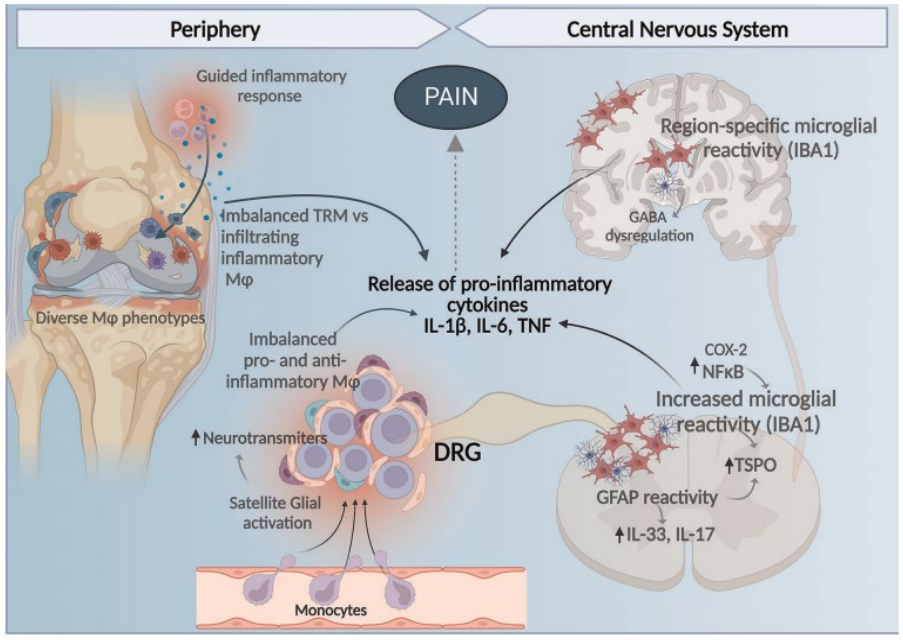
ORIGINAL ARTICLE

A clinical, electrophysiological, and pathological study of neuropathy in rheumatoid arthritis

Vikas Agarwal · Ram Singh · Wiclaf · Sandeep Chauhan · Anita Tahlan · Chirag Kamal Ahuja · Deepak Goel · Lily Pal

Sural n. histology in patients with RA shows **loss of myelinated fibers + perivascular lymphomononuclear infiltrate.**

65% of patients with RA have **subclinical neuropathy.**



Neuropathic
Lesion or disease of somatosensory nervous system

Pro-inflammatory cytokines activate glial cells producing free radicals, NO, chemo and cytokines causing **neuronal damage**.

Puttini et al. Inflammatory or non-inflammatory pain in inflammatory arthritis – How to differentiate it? Best Practice & Research Clinical Rheumatology. 2024 May
Malange KF, Navia-Pelaez JM, Dias EV, Lemes JBP, Choi S-H, Dos Santos GG, Yaksh TL and Corr M (2022) Macrophages and glial cells: Innate immune drivers of inflammatory arthritic pain perception from peripheral joints to the central nervous system. Front. Pain Res. 3:1018800. doi: 10.3389/fpain.2022.1018800.

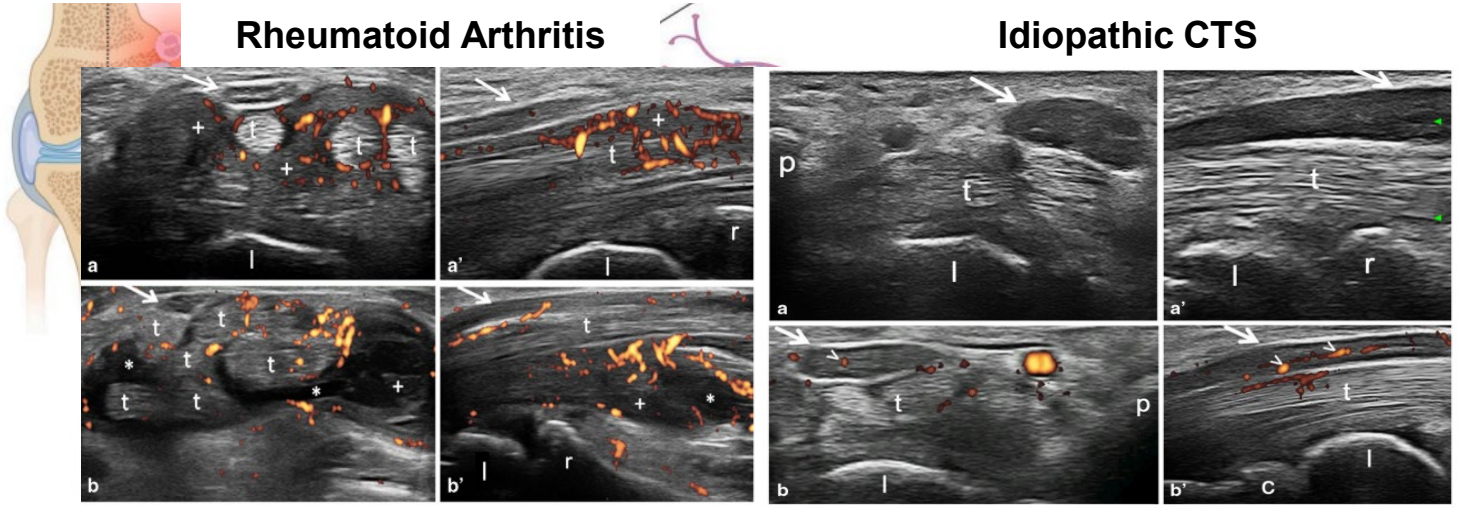
Neuropathic Pain in IA

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

Ultrasound assessment of carpal tunnel in rheumatoid arthritis and idiopathic carpal tunnel syndrome

Gianluca Smerilli[1] · Andrea Di Matteo[1,2] · Edoardo Cipolletta[1] · Sergio Carloni[3] · Antonella Incorvaia[1] · Marco Di Carlo[1] · Walter Grassi[1] · Emilio Filippucci[1]

Received: 5 June 2020 / Revised: 9 July 2020 / Accepted: 13 July 2020 / Published online: 21 July 2020



atosensory
n

Patients with RA have altered ultrasound findings including synovial hypertrophy, tenosynovitis in CTS compared to those with idiopathic CTS who demonstrate median nerve enlargement and abnormal intraneural blood flow.

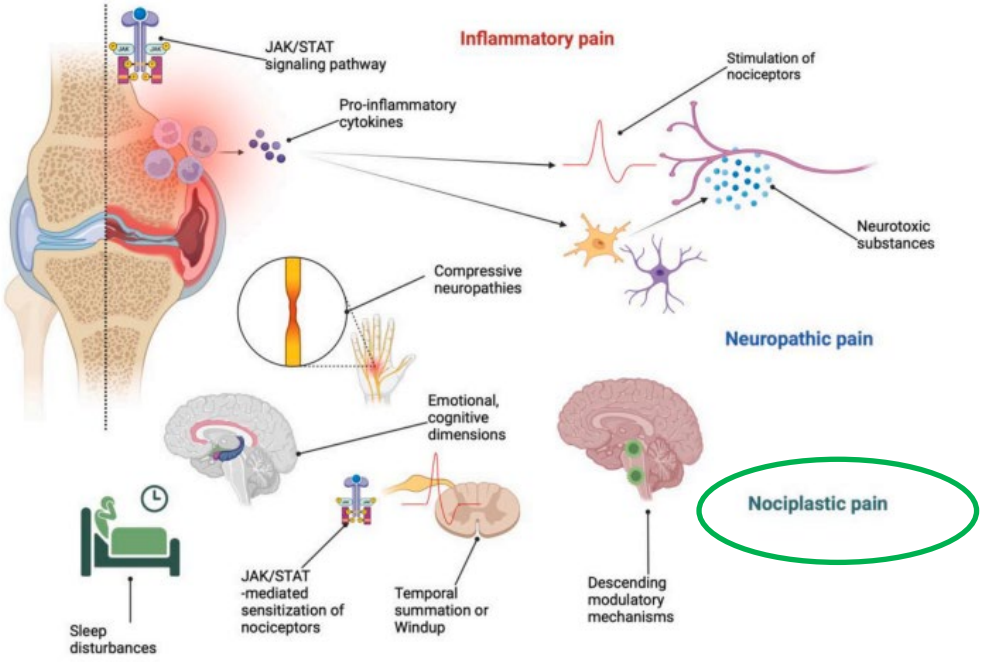
Pain in the absence of synovitis or disease in remission?

Puttini et al. Inflammatory or non-inflammatory pain in inflammatory arthritis – How to differentiate it? Best Practice & Research Clinical Rheumatollogy. 2024 May.
Smerilli et al. Ultrasound Assessment of carpal tunnel in rheumatoid arthritis and idiopathic carpal tunnel syndrome. 2020 July.

Nociplastic Pain

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

Pain in **inflammatory arthritis** is **complex** and **multifactorial.**



Nociplastic
Δ sensory pathways ie descending inhibitory → ↑ pain sensitivity & altered nociception in the absence of tissue injury

Neurogenic inflammation promotes **cycle** of **neurogenic sensitization** → **CHRONIC PAIN**

Puttini et al. Inflammatory or non-inflammatory pain in inflammatory arthritis – How to differentiate it? Best Practice & Research Clinical Rheumatollogy. 2024 May.

Learning Objectives

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

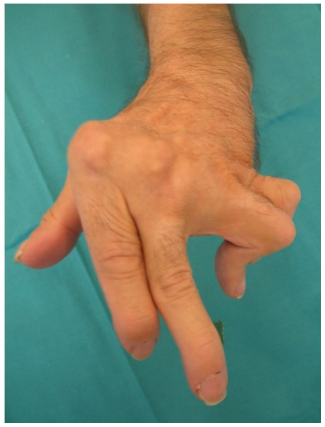
- Review epidemiology of rheumatologic disease and how it contributes to disability.
- Review pathogenesis of pain in rheumatologic diseases and how it contributes to chronic pain.
- Discuss how to obtain relevant clinical history and assessment tools.
- Highlight specific benefits and limitations of pharmacologic and interventional pain management therapies.
- Describe best practices for multimodal treatment based on evidenced-based ACR guidelines including:
  - Analgesics
  - Targeted interventions
  - Physical therapy
  - Psychology

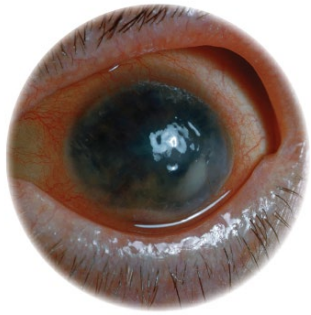
Rheumatic Pain: Evaluation

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

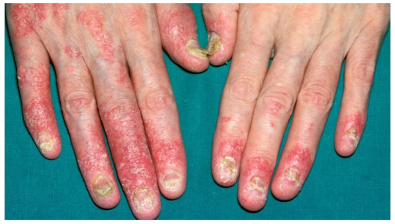
- History:
  - Inciting event or trauma
  - **Family history**
  - **ROS: skin, bowel, renal, CV, pulm**
  - Timing
  - Alleviating and aggravating factors - ie transitional movements, after prolonged immobility, worse at night? Weather?

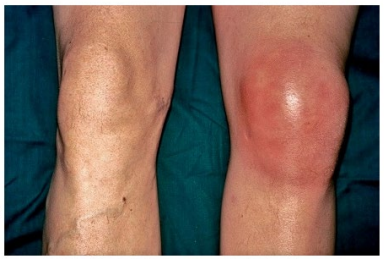
- Physical Exam:





Clinical Photography, Central Manchester University Hospitals NHS Foundation Trust, UK / Science Source





Pfanner and Poggetti. Swan-Neck and Boutonniere Deformity in Rheumatoid Hand. Hand Clin 41 (2025) 103–116 https://doi.org/10.1016/j.hcl.2024.08.004
https://www.the-rheumatologist.org/article/ankylosing-spondylitis-uveitis-an-ophthamologists-perspective/
https://www.knee-pain-explained.com/gout-knee.html

Rheumatic Pain: Evaluation

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

painDETECT PAIN QUESTIONNAIRE

Date: Patient: Last name: First name:

How would you assess your pain now, at this moment?
0 1 2 3 4 5 6 7 8 9 10
none max.

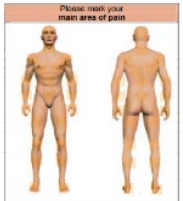
How strong was the strongest pain during the past 4 weeks?
0 1 2 3 4 5 6 7 8 9 10
none max.

How strong was the pain during the past 4 weeks on average?
0 1 2 3 4 5 6 7 8 9 10
none max.

Mark the picture that best describes the course of your pain:

- Persistent pain with slight fluctuations
- Persistent pain with pain attacks
- Pain attacks without pain between them
- Pain attacks with pain between them

Please mark your main area of pain



Does your pain radiate to other regions of your body? yes no

If yes, please draw the direction in which the pain radiates.

Do you suffer from a burning sensation (e.g., stinging nettles) in the marked areas?
never hardly noticed slightly moderately strongly very strongly

Do you have a tingling or prickling sensation in the area of your pain (like crawling ants or electrical tingling)?
never hardly noticed slightly moderately strongly very strongly

Is light touching (clothing, a blanket) in this area painful?
never hardly noticed slightly moderately strongly very strongly

Do you have sudden pain attacks in the area of your pain, like electric shocks?
never hardly noticed slightly moderately strongly very strongly

Is cold or heat (both water) in this area occasionally painful?
never hardly noticed slightly moderately strongly very strongly

Do you suffer from a sensation of numbness in the areas that you marked?
never hardly noticed slightly moderately strongly very strongly

Does slight pressure in this area, e.g., with a finger, trigger pain?
never hardly noticed slightly moderately strongly very strongly

(To be filled out by the physician)

never	hardly noticed	slightly	moderately	strongly	very strongly
x 0 = 0	x 1 =	x 2 =	x 3 =	x 4 =	x 5 =

Total score out of 38

Development/Reference: R. Freynhagen, R. Baron, U. Gockel, T.R. Tölle / Curr Med Rev Opin, Vol.22, No. 10 (2006)
painDETECT questionnaire, ©2005 Pfizer Pharma GmbH, used with permission. ©2005 Pfizer Pharma GmbH

painDETECT SCORING OF PAIN QUESTIONNAIRE

Date: Patient: Last name: First name:

Please transfer the total score from the pain questionnaire:

Total score

Please add up the following numbers, depending on the marked pain behavior pattern and the pain radiation. Then total up the final score:

Persistent pain with slight fluctuations	0	
Persistent pain with pain attacks	- 1	if marked, or
Pain attacks without pain between them	+ 1	if marked, or
Pain attacks with pain between them	+ 1	if marked
Radiating pains?	+ 2	if yes

Final score

Screening Result

Final score

nociceptive | unclear | neuropathic

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38

A neuropathic pain component is unlikely (< 15%)

Result is ambiguous, however a neuropathic pain component can be present

A neuropathic pain component is likely (> 90%)

This sheet does not replace medical diagnostics.
It is used for screening the presence of a neuropathic pain component.

Development/Reference: R. Freynhagen, R. Baron, U. Gockel, T.R. Tölle / Curr Med Rev Opin, Vol.22, No. 10 (2006)

©2005 Pfizer Pharma GmbH

Today's date: ___/___/___ ID No: _ _ _ _ _ _ _

First name: _____ Surname: _____

SF-36 Questionnaire

This questionnaire asks for your views about your health. For ALL questions, please tick, cross or colour the circle that most closely matches your response. There are no right or wrong answers. Please answer ALL questions.

1. In general, would you say your health is:	Poor	Fair	Good	Very good	Excellent
2. Compared to one year ago, how would you rate your health general in now?	Much worse now than one year ago	Somewhat worse than one year ago	About the same as one year ago	Somewhat better than one year ago	Much better than one year ago

3. The following questions are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

	No, not limited at all	Yes, limited a little	Yes, limited a lot
a. Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports	○	○	○
b. Moderate activities, such as moving a table pushing a vacuum cleaner, bowling, or playing	○	○	○
c. Lifting or carrying groceries	○	○	○
d. Climbing several flights of stairs	○	○	○
e. Climbing one flight of stairs	○	○	○
f. Bending, kneeling or stooping	○	○	○
g. Walking more than a mile	○	○	○
h. Walking several blocks	○	○	○
i. Walking one block	○	○	○
j. Bathing or dressing yourself	○	○	○

Learning Objectives

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

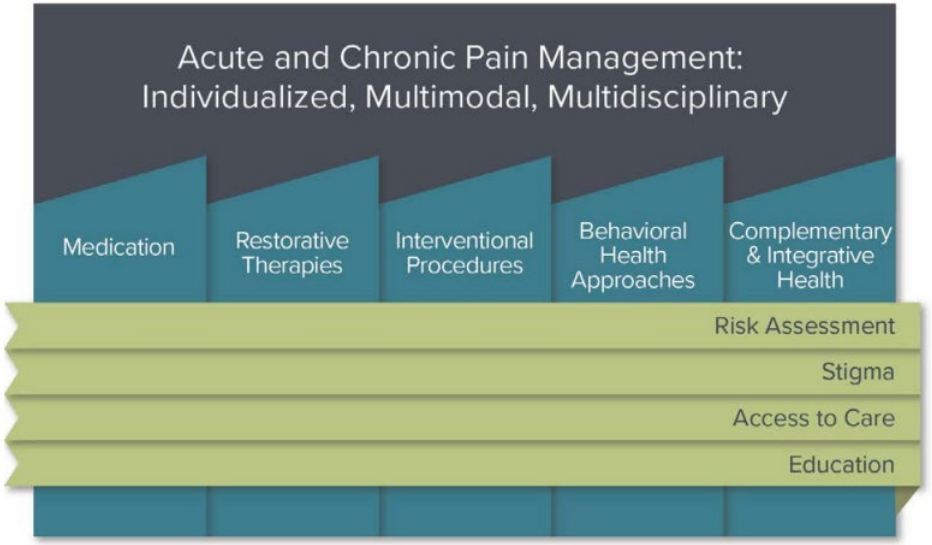
- Review epidemiology of rheumatologic disease and how it contributes to disability.
- Review pathogenesis of pain in rheumatologic diseases and how it contributes to chronic pain.
- Discuss how to obtain relevant clinical history and assessment tools.
- Highlight specific benefits and limitations of pharmacologic and interventional pain management therapies.
- Describe best practices for multimodal treatment based on evidenced-based ACR guidelines including:
  - Analgesics
  - Targeted interventions
  - Physical therapy
  - Psychology

Treatment

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

PAIN MANAGEMENT BEST PRACTICES INTER-AGENCY TASK FORCE REPORT

Updates, Gaps, Inconsistencies, and Recommendations



Adapted from (2019) Pain Management Best Practices Inter-Agency Task Force.

Individualized

Multimodal

Multidisciplinary

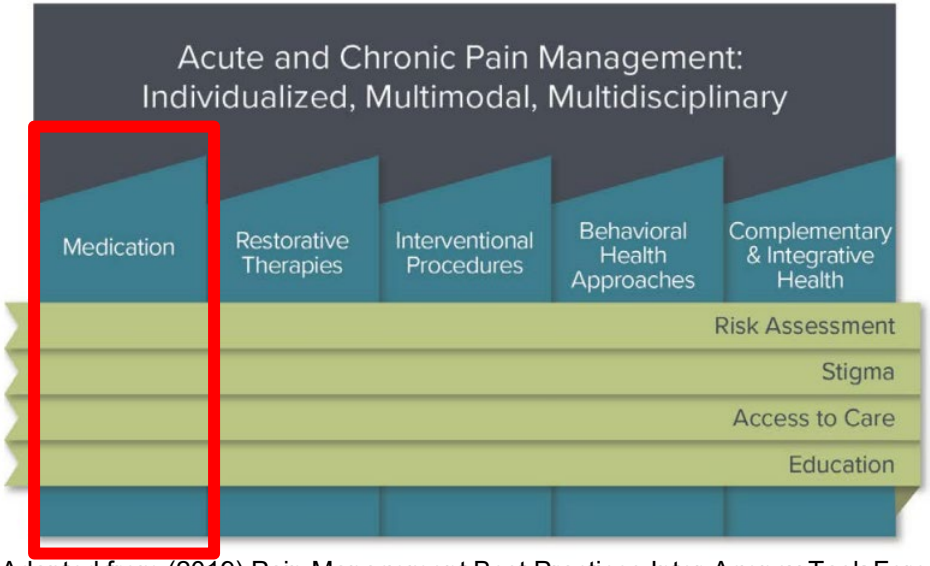
https://www.hhs.gov/sites/default/files/pain-mgmt-best-practices-draft-final-report-05062019.pdf

Treatment

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

PAIN MANAGEMENT BEST PRACTICES INTER-AGENCY TASK FORCE REPORT

Updates, Gaps, Inconsistencies, and Recommendations



Adapted from (2019) Pain Management Best Practices Inter-Agency Task Force.

Individualized

Multimodal

Multidisciplinary

CDC recommends n**on-pharmacologic** and **non-opioids** as **first-line therapies**, when clinically appropriate.

https://www.hhs.gov/sites/default/files/pain-mgmt-best-practices-draft-final-report-05062019.pdf

Analgesics

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

	Table D. Pharmacologic Treatments			
	Class of Medication	Indications[a]	Magnitude of Benefit[b]	
			PAIN	FUNCTION
1	NSAIDs (topical or oral)	Low back pain, asteoarthritis, inflammatory arthritis, acute musculoskeletal (MSK) pain	Small to noderate	None to small
2	Acetaminophen	Acute MSK pain	Small	None
	Antidepessants	Diabetic peripheral neuropathy, fibromyalgia	Small	None
	Anticonvulsants	Diabetic peripheral neuropathy, fibromyalgia	Small to moderate	None (neuropathic pain) Small (fibromyalgia)
	Opioids	Acute MSK pain, chronic pain, neuropathy	Small to no benefit[c]	Small to no benefit[c]

Adapted from (2021) *AAFP Chronic Pain Management Toolkit*. Pain Management Section .

Cox3 + 5HT inhibition

SNRI: duloxetine + milnacipran

Pregabalin > gabapentin (FM)

Utilize the **lowest effective** dosage for **pain relief** and **functional improvement.**

Fitzcharles and Shir. Management of chronic pain in the rheumatologic diseases with insight for the clinician. Ther Adv Musculoskel Dis (2011) 3(4) 179190 DOI: 10.1177/ 1759720X11408999
https://www.hhs.gov/sites/default/files/pain-mgmt-best-practices-draft-final-report-05062019.pdf

Review of publications evaluating opioid use in patients with inflammatory rheumatic disease

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

Christine Anastasiou and Jinoos Yazdany

Table 1. Selected studies reporting opioid use among patients with rheumatic diseases

Reference	Data source	Study design	Patients	Summary of opioid use
Rheumatoid arthritis (RA)				
Baker *et al.* [8▪]	FORWARD databank	Cohort study, 1/1999–2/2019	37,868 patients with RA	27% Any opioid use
Chen *et al.* [29]	Truven Health MarketScan claims data	Retrospective observational study of US claims data, 2003–2014	181,710 patients with RA	19% Chronic opioid use
Curtis *et al.* [11]	US Medicare data	Retrospective observational study of US Medicare data, 2006–2014	240,750 patients with RA	41% Chronic opioid use, 19% Intermittent opioid use in 2014
Huang *et al.* [6▪]	National Ambulatory Medical Care Survey, 2011-2016	Cross-sectional survey, 2011–2016	Estimated 4.5 million encounters with primary diagnosis of RA	Proportion of visits with opioid prescription: 24.3%
Lee YC *et al.* [14]	Corrona RA registry	Cohort study, 2002–2016	33,739 patients with RA	16.9% Chronic[+] opioid use in 2015
Navarro-Millán *et al.* [7▪]	Medicare and Medicaid services claims data	Retrospective observational study of US claims data, 2007, 2011, 2014	43,563 patients with RA <65 years old receiving SSDI Medicare and Medicaid	63.7% Chronic opioid use in 2014
Park *et al.* [10]	IQVIA™ Health Plan Claims Data	Retrospective observational study of US claims data, 2007–2015	2,330 patients with RA	51.0% Any opioid use
Systemic lupus erythematosus (SLE)				
Birt *et al.* [30▪]	IBM MarketScan Databases	Retrospective observational study of US claims data, 1/2012–5/2018	49,413 patients with SLE	52.6% Any opioid use 34.6% Chronic opioid use
Chen *et al.* [29]	Truven Health MarketScan claims data	Retrospective observational study of US claims data, 2003–2014	45,834 patients with SLE	16% Chronic opioid use
Lee J *et al.* [32▪]	Single institution chart review	Retrospective observational chart review, 2013–2016	77 SLE patients who had persistent frequent ED visits	37.7% Chronic opioid use
Somers *et al.* [28]	MILES Cohort	Prospective cohort, 2/2014–9/2015	462 SLE patients	31.0% Any opioid use 21% Chronic[++] opioid use
Psoriasis and psoriatic arthritis (PsA)				
Chen *et al.* [29]	Truven Health MarketScan claims data	Retrospective observational study of US claims data, 2003–2014	30,307 patients with PsA	15% Chronic opioid use
Hunter *et al.* [9▪▪]	HealthCore Integrated Research Database	Retrospective observational study of US claims data, 1/2013–7/2019	921 patients with psoriatic arthritis	33.8% Any opioid use 12 months after initiation of biologic
Loft *et al.* [34▪]	Danish Skin Cohort	Prospective cohort study	4016 patients with psoriasis, 847 with concomitant PsA	13–25.6% Any opioid use within the past year
Noe *et al.* [38]	Optum Electronic Health Records Database	Retrospective study of US claims data, 1/2007–6/2017	99,830 patients with psoriasis	1.9% of opioid-naïve patients with psoriasis received an incident opioid prescription over one year.
Taylor *et al.* [35]	National Ambulatory Medical Care Survey (2006-2016) & National Hospital Ambulatory Medical Care Survey (2006–2011)	Cross-sectional survey, 2006–2016	1148 encounters for psoriasis and PsA evaluated, weighted to a US national estimate of 27 million visits	Proportion of visits with opioid prescription: 10%
Walsh *et al.* [36]	Optum Research Database	Retrospective study of US claims data, 1/2012–4/2016	1,235 patients with PsA	48.6% Any opioid use

KEY POINTS

- Chronic opioids are commonly prescribed for patients with RA, SLE, psoriasis or psoriatic arthritis, and ankylosing spondylitis, with evidence of associated adverse effects.
- Opioid use minimally decreased but remained high after biologic DMARD medications were initiated.
- There is no data reporting improved function, quality of life, or pain control with long-term use of opioids for patients with inflammatory rheumatic diseases, making this an important area for future research.

Anastasiou C and Yazdany J. Review of publications reducing opioid use in patients with inflammatory rheumatic disease. Curr Opin Rheumatol 2022, 34:95–102
Fitzcharles and Shir. Management of chronic pain in the rheumatologic diseases with insight for the clinician. Ther Adv Musculoskel Dis (2011) 3(4) 179190 DOI: 10.1177/ 1759720X11408999
https://www.hhs.gov/sites/default/files/pain-mgmt-best-practices-draft-final-report-05062019.pdf

Analgesic Harms

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

Nonopioid Pharmacologic Treatments for Chronic Pain

Prepared for:
Agency for Healthcare Research and Quality
U.S. Department of Health and Human Services
5600 Fishers Lane
Rockville, MD 20857
www.ahrq.gov

Table B-2. Harms

Drug(s)/Drug Class	Harms by Drug Class
All drugs	Withdrawal due to adverse events, serious adverse events, overdose, misuse, and dependence
Serotonin-norepinephrine reuptake inhibitor antidepressants	Cognitive effects, nausea, sedation
Tricyclic antidepressants	Cardiac rhythm abnormalities, cognitive effects, dry mouth, urinary retention, weight gain
Pregabalin/gabapentin anticonvulsants	Blurred vision, cognitive effects, dizziness, peripheral edema, sedation, weight gain
Oxcarbazepine/carbamazepine anticonvulsants	Cognitive effects, hyponatremia, neutropenia, sedation
NSAIDs	CV events, GI, liver dysfunction, renal dysfunction
Skeletal muscle relaxants	Dry mouth, sedation, urinary retention
Acetaminophen	Liver toxicity
Memantine	Cardiac rhythm abnormalities, cognitive effects, dizziness, sedation
Topical (any)	Application site reactions
Topical lidocaine	Cardiotoxicity, cognitive effects
Topical diclofenac	CV events, GI, liver dysfunction, renal dysfunction
Cannabis	Addiction/dependence, cognitive effects, hyperemesis, nausea, sedation

Pharmacologic Management can be **ineffective** and **limited.**

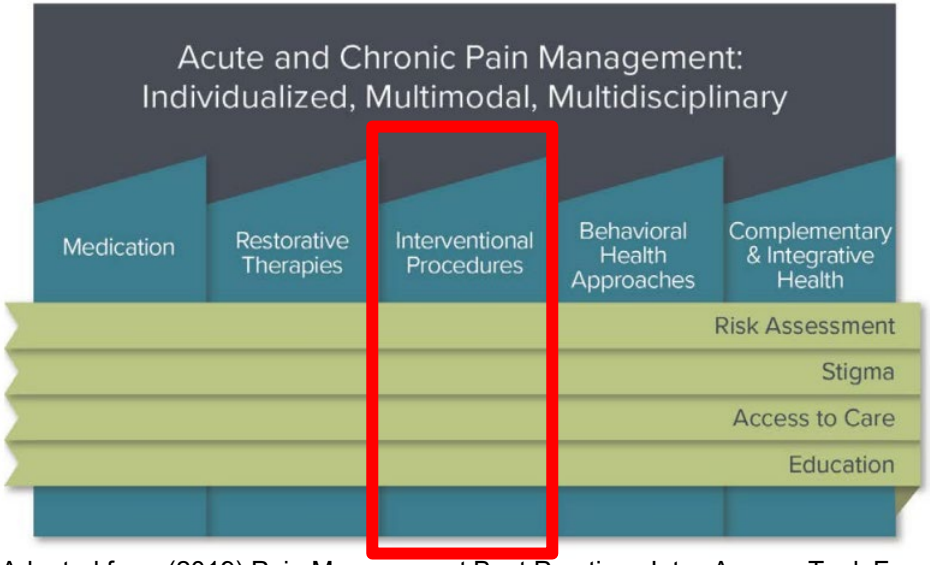
McDonagh MS, Selph SS, Buckley DI, Holmes RS, Mauer K, Ramirez S, Hsu FC, Dana T, Fu R, Chou R. Nonopioid Pharmacologic Treatments for Chronic Pain. Comparative Effectiveness Review No. 228. (Prepared by the Pacific Northwest Evidence-based Practice Center under Contract No. 290-2015-00009-I.) AHRQ Publication No. 20-EHC010. Rockville, MD: Agency for Healthcare Research and Quality; April 2020. DOI: https://doi.org/10.23970/AHRQEPCCER228.
https://effectivehealthcare.ahrq.gov/sites/default/files/pdf/nonopioid-chronic-pain.pdf

Interventional Treatments

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

PAIN MANAGEMENT BEST PRACTICES INTER-AGENCY TASK FORCE REPORT

Updates, Gaps, Inconsistencies, and Recommendations



Adapted from (2019) Pain Management Best Practices Inter-Agency Task Force.

Individualized

Multimodal

Multidisciplinary

https://www.hhs.gov/sites/default/files/pain-mgmt-best-practices-draft-final-report-05062019.pdf

Interventional Treatments

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

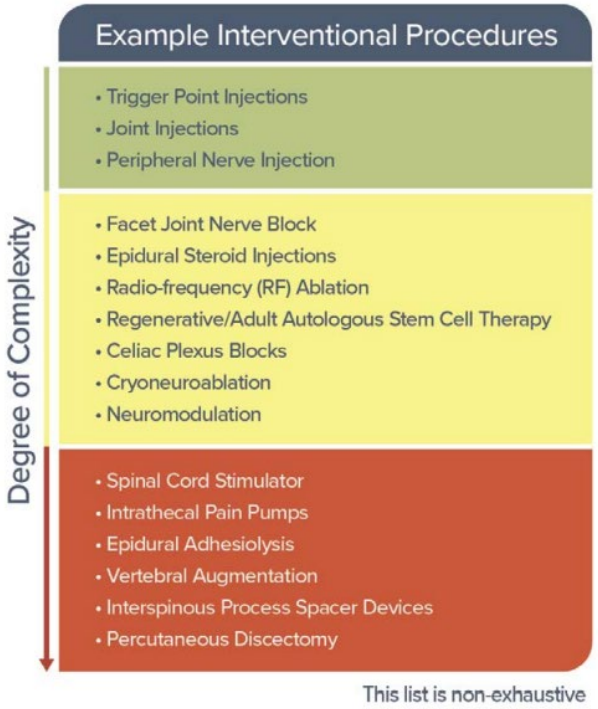
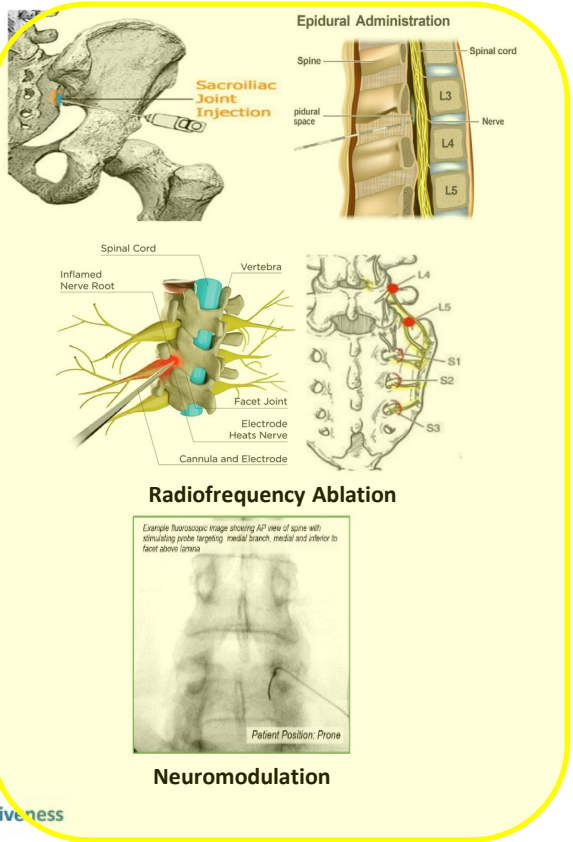
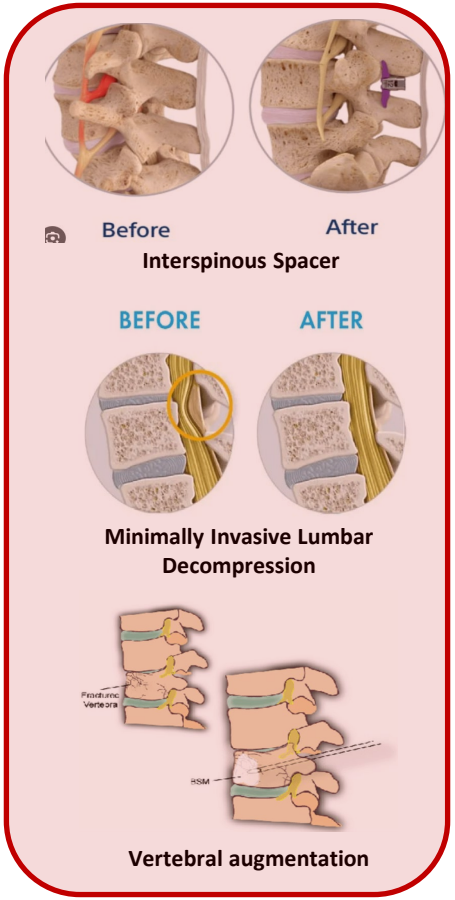


Figure 12: Interventional Procedures Vary by Degree of Complexity and Invasiveness





Manchikanti et al. An Updated Assessment of Utilization of Interventional Pain Management Techniques in the Medicare Population: 2000 – 2013. Pain Physician 2015; 18:E115-E127 • ISSN 2150-1149. https://www.painphysicianjournal.com/current/pdf?article=MjI2Mw%3D%3D&journal=87

https://www.hhs.gov/sites/default/files/pain-mgmt-best-practices-draft-final-report-05062019.pdf

Interventional Treatments

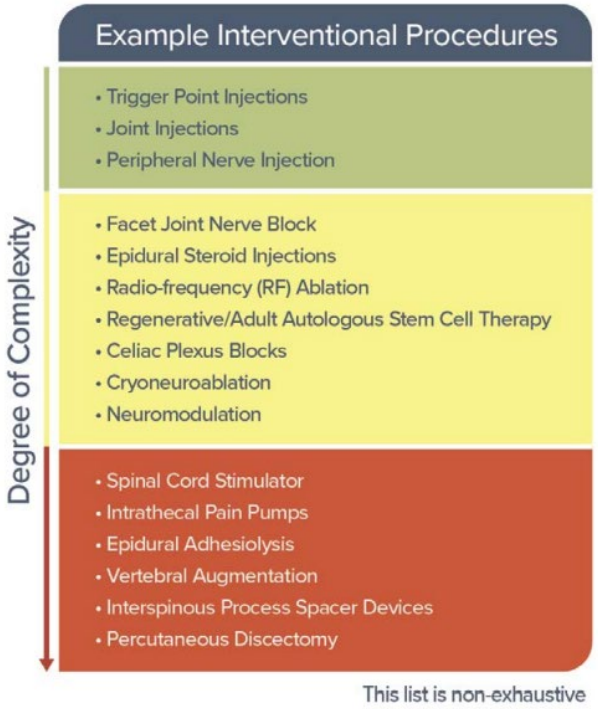


Figure 12: Interventional Procedures Vary by Degree of Complexity and Invasiveness

- **Fewer side effects** in comparison to pharmacologic interventions
- **Combine** interventions with **therapy** for **synergistic** benefit
- Interventions **limit** the **need** for **pharmacologic** interventions or **surgery**

Interventions offer a **direct, targeted** approach to both **diagnosing** and **treating** a **pain generator** however requires **complex** decision making.

PRP in systemic inflammation?

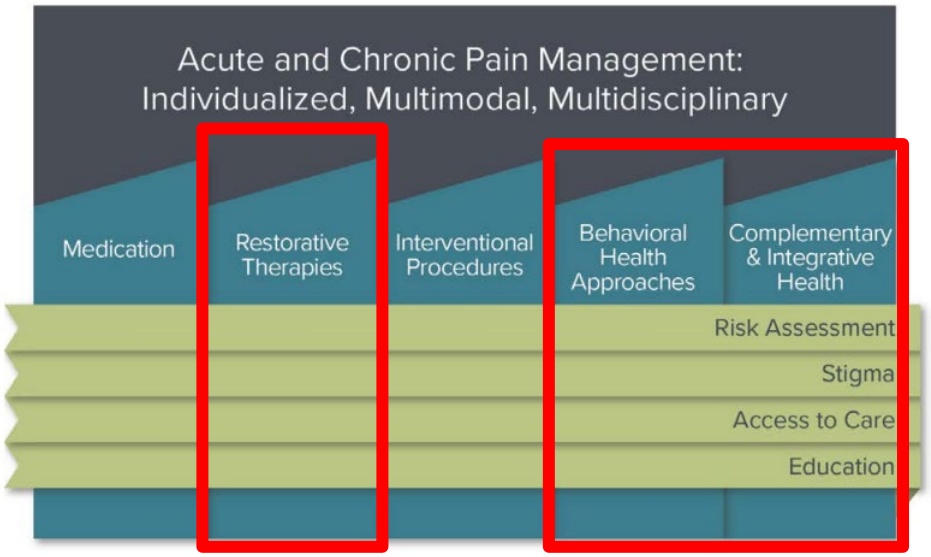
U.S. Department of Health and Human Services (2019, May). Pain Management Best Practices Inter-Agency Task Force Report: Updates, Gaps, Inconsistencies, and Recommendations. Retrieved from U. S. Department of Health and Human Services website: https://www.hhs.gov/ash/advisory-committees/pain/reports/index.html
https://www.hhs.gov/sites/default/files/pain-mgmt-best-practices-draft-final-report-05062019.pdf
Fitzcharles and Shir. Management of chronic pain in the rheumatologic diseases with insight for the clinician. Ther Adv Musculoskel Dis (2011) 3(4) 179190 DOI: 10.1177/ 1759720X11408999
https://www.hhs.gov/sites/default/files/pain-mgmt-best-practices-draft-final-report-05062019.pdf

Multimodal Treatment

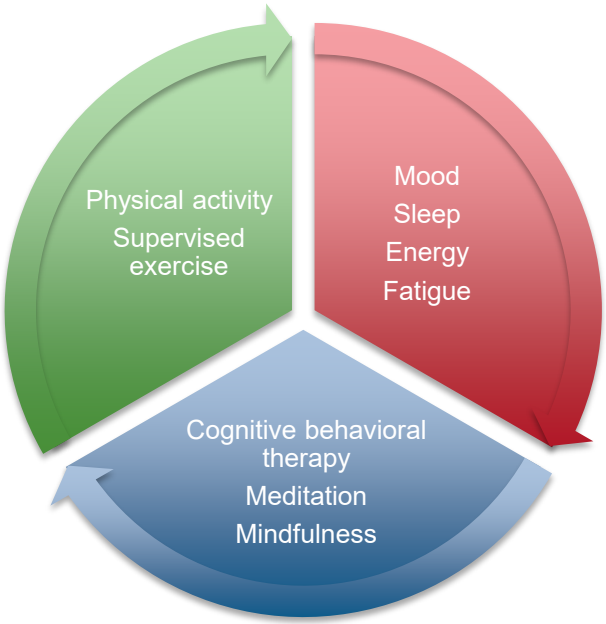
UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

PAIN MANAGEMENT BEST PRACTICES INTER-AGENCY TASK FORCE REPORT

Updates, Gaps, Inconsistencies, and Recommendations



Adapted from (2019) Pain Management Best Practices Inter-Agency Task Force.



Goal of **multimodal** treatment is to improve **function.**

https://www.hhs.gov/sites/default/files/pain-mgmt-best-practices-draft-final-report-05062019.pdf

Learning Objectives

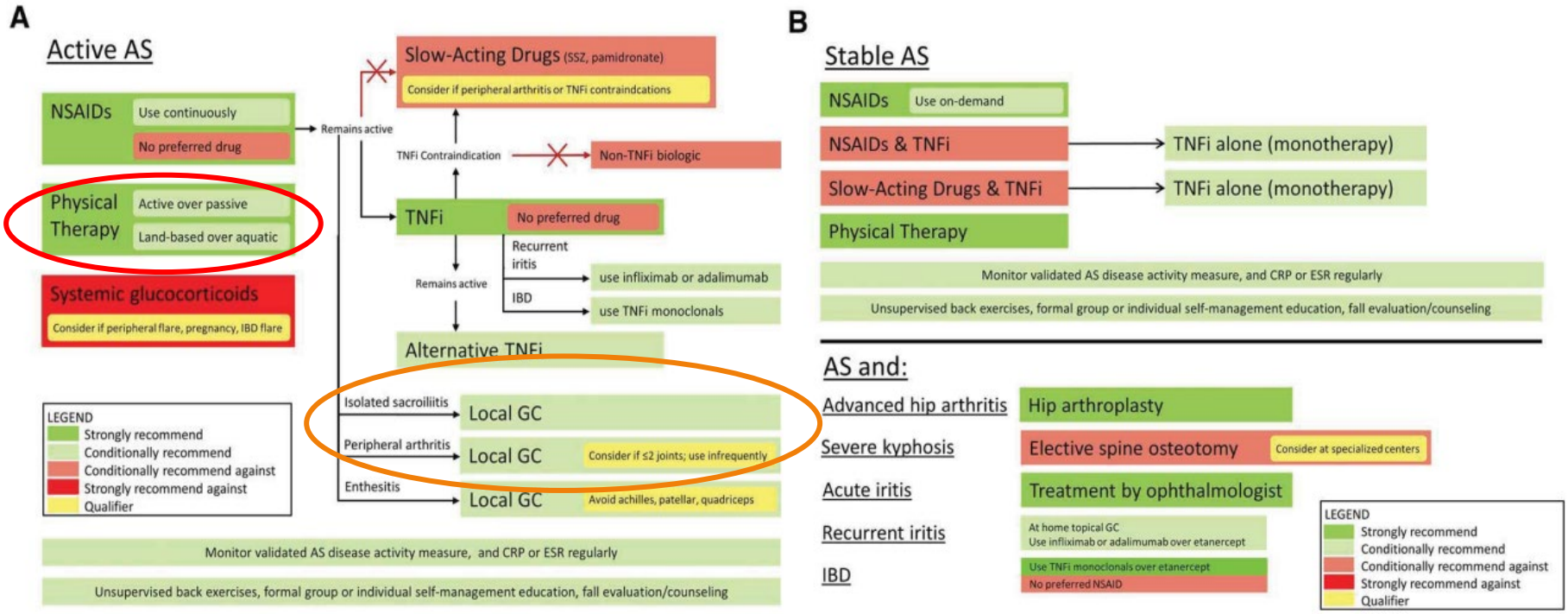
UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

- Review epidemiology of rheumatologic disease and how it contributes to disability.
- Review pathogenesis of pain in rheumatologic diseases and how it contributes to chronic pain.
- Discuss how to obtain relevant clinical history and assessment tools.
- Highlight specific benefits and limitations of pharmacologic and interventional pain management therapies.
- Describe best practices for multimodal treatment based on evidenced-based ACR guidelines including:
  - Analgesics
  - Targeted interventions
  - Physical therapy
  - Psychology

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

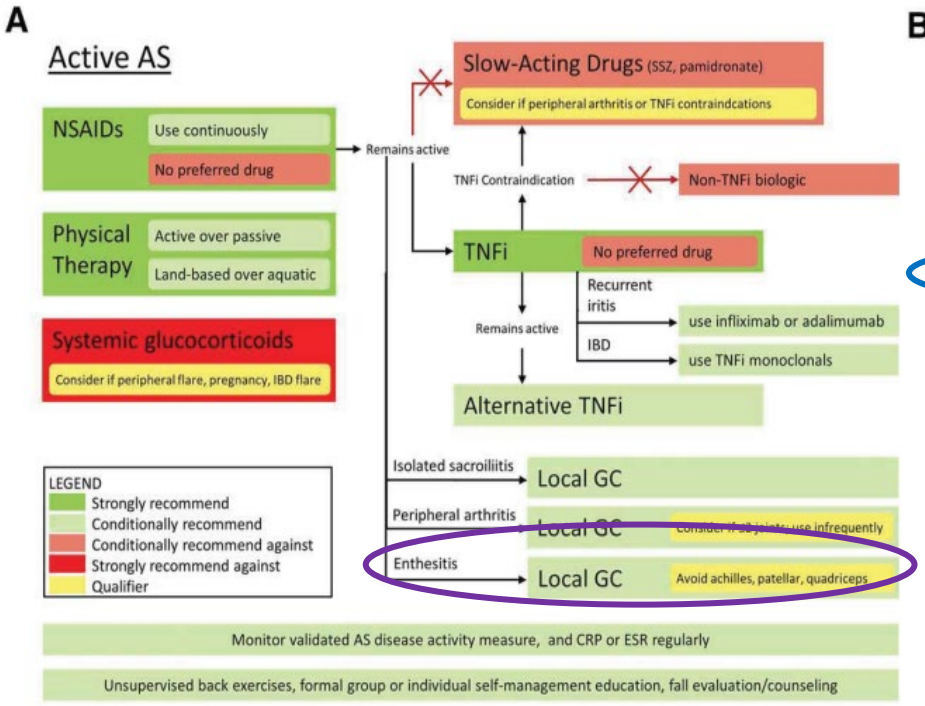
American College of Rheumatology Guidelines by Rheumatologic Disease

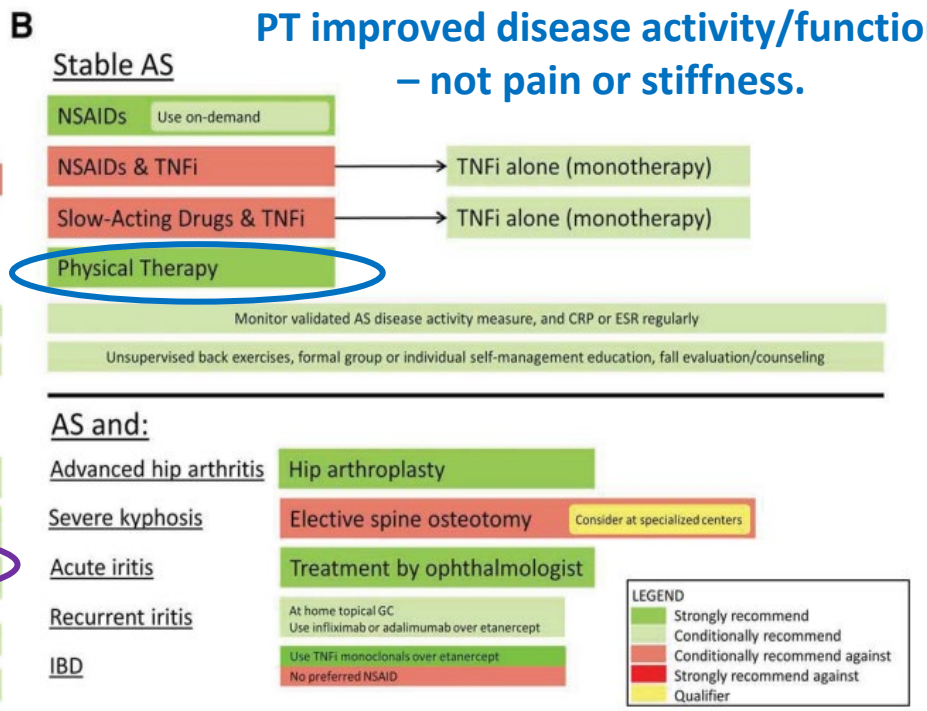
Ankylosing Spondylitis



Ward et al. American College of Rheumatology/Spondylitis Association of America/Spondyloarthritis Research and treatment Network 2015 Recommendations for the Treatment of Ankylosing Spondyliits and Nonradiographic Axial Spondyloarthritis. Arthritis & Rheumatollgy. DOI 10.1002/ART 39298.

Ankylosing Spondylitis





PT improved disease activity/function – not pain or stiffness.

greater trochanter, pelvic rim, and plantar fascia?

Ward et al. American College of Rheumatology/Spondylitis Association of America/Spondyloarthritis Research and treatment Network 2015 Recommendations for the Treatment of Ankylosing Spondyliits and Nonradiographic Axial Spondyloarthritis. Arthritis & Rheumatollgy. DOI 10.1002/ART 39298.

Rheumatoid Arthritis

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

American College of Rheumatology
Empowering Rheumatology Professionals

Arthritis Care & Research
Vol. 73, No. 7, July 2021, pp 924–939
DOI 10.1002/acr.24596

2021
Trea

Liana Fr
Kristine
Mary C.
Shilpa Ve
Jennifer
Lara Kah
Namrata

Table 4. Treatment modification*

Recommendations	Certainty of evidence	Based on the evidence report(s) of the following PICO(s)	Evidence table(s), in Supp. App. 2
A TTT approach is **strongly** recommended over usual care for patients who have not been previously treated with bDMARDs or tsDMARDs.	Low	PICO 12.a	p. 191
A TTT approach is **conditionally** recommended over usual care for patients who have had an inadequate response to bDMARDs or tsDMARDs.	Very low	PICO 12.b	p. 199
A minimal initial treatment goal of low disease activity is **conditionally** recommended over a goal of remission.	Low	PICO 13	p. 201
Addition of a bDMARD or tsDMARD is **conditionally** recommended over triple therapy for patients taking maximally tolerated doses of methotrexate who are not at target.	Very low	PICO 19.C2–C6†	p. 240–1
Switching to a bDMARD or tsDMARD of a different class is **conditionally** recommended over switching to a bDMARD or tsDMARD belonging to the same class for patients taking a bDMARD or tsDMARD who are not at target.	Very low	PICO 24–27†	p. 293–338
Addition of/switching to DMARDs is **conditionally** recommended over continuation of glucocorticoids for patients taking glucocorticoids to remain at target.	Very low	PICO 23	p. 292
Addition of/switching to DMARDs (with or without IA glucocorticoids) is **conditionally** recommended over the use of IA glucocorticoids alone for patients taking DMARDs who are not at target.	Very low	PICO 28.C1–C2	p. 339–40

* PICO = population, intervention, comparator, and outcomes; Supp. App. 2 = Supplementary Appendix 2, available on the *Arthritis Care & Research* website at http://onlinelibrary.wiley.com/doi/10.1002/acr.24596/abstract; TTT = treat-to-target; bDMARDs = biologic disease-modifying antirheumatic drugs; tsDMARDs = targeted synthetic DMARDs; IA = intraarticular.

DMARDs should be adjusted to reduce disease activity,
irrespective of **treatment with IA glucocorticoids.**

Fraenkel et al. 2021 American College of Rheumatology Guideline for the Treatment of Rheumatoid Arthritis. Arthritis Care & Research Vol. 73, No. 7, July 2021, pp 924-939. DOI 10.1002/acr.24596.

Integrative Medicine: RA

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

Arthritis Care & Research
Vol. 75, No. 8, August 2023, pp 1603–1615
DOI 10.1002/acr.25117

2022 American College of Rheumatology Guid
Exercise, Rehabilitation, Diet, and Additional I
Interventions for Rheumatoid Arthritis

Bryant R. England,[1*] Benjamin J. Smith,[2*] Nancy A. Baker,[3] Jennifer L. Barton,[4]
Gordon Guyatt,[6] Allen Anandarajah,[7] Kristine Carandang,[8] Karmela Kim Chan,[9]
Eileen Davidson,[11] Carole V. Dodge,[12] Anita Bemis-Dougherty,[13] Sotiria Everett,[14] N
Liana Fraenkel,[16] Susan M. Goodman,[9] Janet Lewis,[17] Victoria Menzies,[18] Larr
Iris Navarro-Millan,[20] Sarah Patterson,[21] Lawrence "Rick" Phillips,[22] Neha Shah,[2
Daniel White,[25] Rawan AlHeresh,[26] Kamil E. Barbour,[27] Thomas Bye,[25] Dana Gu
Rebecca Haberman,[29] Tate Johnson,[1] Anatole Kleiner,[7] Chris Y. Lane,[30] Linda C
Daniel Pinto,[33] Janet L. Poole,[34] Kimberly Steinbarger,[35] Daniel Sztubinski,[36] Louise
Vlad Tsaltskan,[37] Marat Turgunbaev,[38] Courtney Wells,[39] Amy S. Turner,[38] and

Regular, tailored exercise results in **improved pain + function** – whether *aerobic, resistance, aquatic, mind-body*.

Table 1. Recommendations on integrative interventions for the management of rheumatoid arthritis (RA)

Exercise	Rehabilitation	Diet	Additional
Consistent engagement in exercise (++)	Comprehensive occupational therapy (+)	Mediterranean-style diet (+)	Standardized self-management program (+)
Aerobic exercise (+)	Comprehensive physical therapy (+)	Against formally defined diet other than Mediterranean-style (-)	Cognitive behavioral therapy and/or mind-body approaches (+)
Aquatic exercise (+)	Hand therapy exercises (+)	Against dietary supplements (-)	Acupuncture (+)
Resistance exercise (+)	Splinting, orthoses, compression, bracing, and/or taping (+)		Massage therapy (+)
Mind-body exercise (+)	Joint protection techniques (+)		Thermal modalities (+)
	Activity pacing, activity modification, energy conservation, and/or fatigue management (+)		Against electrotherapy (-)
	Assistive devices, adaptive equipment, and/or environmental adaptations (+)		Against chiropractic therapy (-)
	Vocational rehabilitation, work site evaluations and/or modifications (+)		

Strong recommendation FOR
Conditional recommendation FOR
Conditional recommendation AGAINST

England, B.R., Smith, B.J., Baker, N.A., Barton, J.L., Oatis, C.A., Guyatt, G., Anandarajah, A., Carandang, K., Chan, K.K., Constien, D., Davidson, E., Dodge, C.V., Bemis-Dougherty, A., Everett, S., Fisher, N., Fraenkel, L., Goodman, S.M., Lewis, J., Menzies, V., Moreland, L.W., Navarro-Millan, I., Patterson, S., Phillips, L.", Shah, N., Singh, N., White, D., AlHeresh, R., Barbour, K.E., Bye, T., Guglielmo, D., Haberman, R., Johnson, T., Kleiner, A., Lane, C.Y., Li, L.C., Master, H., Pinto, D., Poole, J.L., Steinbarger, K., Sztubinski, D., Thoma, L., Tsaltskan, V., Turgunbaev, M., Wells, C., Turner, A.S. and Treadwell, J.R. (2023), 2022 American College of Rheumatology Guideline for Exercise, Rehabilitation, Diet, and Additional Integrative Interventions for Rheumatoid Arthritis. Arthritis Rheumatol, 75: 1299- 1311. https://doi.org/10.1002/art.42507

Exercise in RA

Journal of Pain Research

Dovepress
Taylor & Francis Group

Open Access Full Text Article

REVIEW

Effect of Exercise Interventions for Rheumatoid Arthritis: A Systematic Review and Network Meta-Analysis of Randomised Controlled Trials

Yan Zhang[1], Zelin He[1], Zikang Yin[1], Ji Wang[2], Wanyi Gao[1], Ligang Jie[1]

[1]Department of Rheumatology and Clinical Immunology, Zhujiang Hospital, Southern Medical University, Guangzhou, People's Republic of China; [2]Department of Traditional Chinese Medicine, Zhujiang Hospital, Southern Medical University, Guangzhou, People's Republic of China

Correspondence: Ligang Jie, Department of Rheumatology and Clinical Immunology, Zhujiang Hospital, Southern Medical University, Guangzhou, People's Republic of China, Email jieligang1976@smu.edu.cn

Journal of Pain Research 2025:18 5109–5126

"**Exercise** interventions are **effective supplements for RA** treatment, with specific exercises offering distinct benefits: **Pilates for pain**, **aerobic exercise + resistance exercise** for **morning stiffness, traditional Chinese exercise** for **disease activity**."

Rheumatoid Arthritis

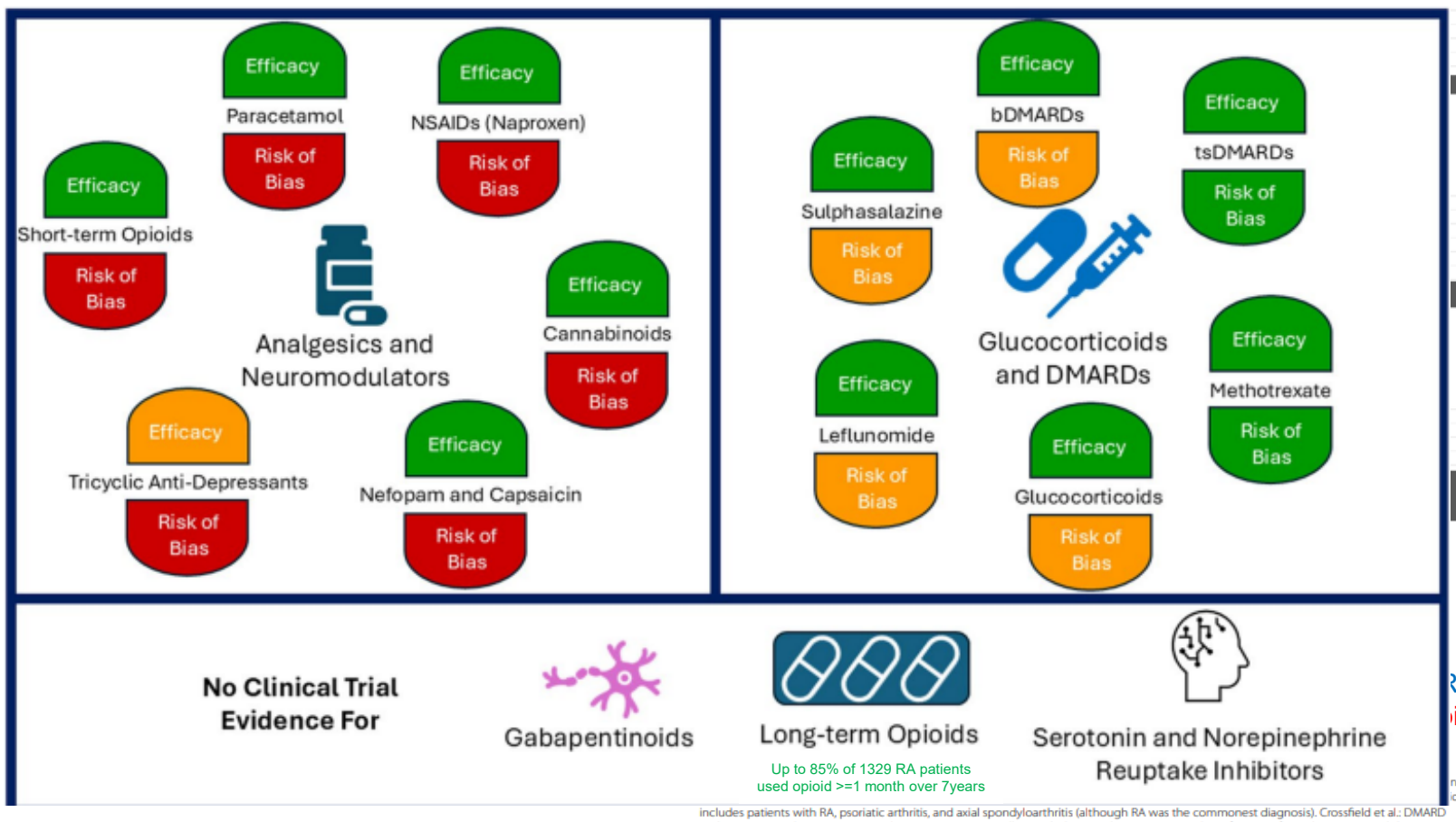
UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

Cox et al. BMC Medicine (2025) 23:54
https://doi.org/10.1186/s12916-025-03870-0
BMC Medicine

REVIEW Open Access

Pharmac
in patien
literature

Natasha Cox[1,2], Chris



includes patients with RA, psoriatic arthritis, and axial spondyloarthritis (although RA was the commonest diagnosis). Crossfield et al.: DMARD and corticosteroid prescriptions are long-term. Navarro-Millan et al.: the population comprises beneficiaries of Social Security Disability Insurance (no longer working because they are considered disabled) and <65 years old. Studies included in the figure are those reporting the prevalence of chronic NSAID, chronic opioid, DMARD, and corticosteroid prescriptions/use in > one calendar year that contain extractable data

RD
ioids

Fraenkel et al. 2021 American College of Rheumatology Guideline for the Treatment of Rheumatoid Arthritis. Arthritis Care & Research Vol. 73, No. 7, July 2021, pp 924-939. DOI 10.1002/acr.24596.

Rheumatoid Arthritis: Injections

Ann Rheum Dis 84 (2025) 937–948

Contents lists available at ScienceDirect

Annals of the Rheumatic Diseases

journal homepage: https://www.sciencedirect.com/journal/annals-of-the-rheumatic-diseases

Rheumatoid arthritis

Treatment with methotrexate plus oral prednisolone versus triple therapy (methotrexate/sulfasalazine/hydroxychloroquine) plus intra-articular glucocorticoids in early rheumatoid arthritis: a prespecified nonrandomised subgroup analysis of clinical and radiographic data at 48 weeks from the NORD-STAR trial's conventional treatment arm

Merete Lund Hetland[1,2,*], Marte S. Heiberg[3], Tuulikki Sokka-Isler[4], Anna Rudin[5,6], Mikkel Østergaard[1,2], Espen Haavardsholm[3,7], Jarno Rutanen[8,9], Ronald van Vollenhoven[10,11], Gerdur Grondal[12,13], Lykke Midtbøll Ørnbjerg[1], Pernille Bøyesen[22], Jon Lampa[14], Michael Nurmohamed[15,16], Bjorn Gudbjornsson[12,13], Till Uhlig[3,7], Aulikki Kononoff[17], Kristina Lend[10,11], Simon Krabbe[1], Inge C. Olsen[18,19], Joe Sexton[3], Kim Hørslev-Petersen[20,21]

[1] DANBIO and Copenhagen Center for Arthritis Research (COPECARE), Center for Rheumatology and Spine Diseases, Centre for Head and Orthopedics, Rigshospitalet, Glostrup, Denmark
[2] Department of Clinical Medicine, University of Copenhagen, Copenhagen, Denmark
[3] Center for Treatment of Rheumatic and Musculoskeletal Diseases (REMEDY), Diakonhjemmet Hospital, Oslo, Norway
[4] University of Eastern Finland, Kuopio, and Hospital Nova, Wellbeing services county of Central Finland, Jyväskylä, Finland
[5] Department of Rheumatology and Inflammation Research, Institute of Medicine, The Sahlgrenska Academy at University of Gothenburg, Gothenburg, Sweden
[6] Rheumatology Clinic, Sahlgrenska University Hospital, Gothenburg, Sweden
[7] Institute of Clinical Medicine, University of Oslo, Oslo, Norway
[8] Centre for Rheumatology, Tampere University Hospital, Tampere, Finland
[9] Tampere University, Faculty of Social Sciences, Tampere, Finland
[10] Department of Rheumatology and Clinical Immunology, Amsterdam University Medical Centers, Amsterdam, The Netherlands
[11] Division of Rheumatology, Department of Medicine Karolinska Institute, Stockholm, Sweden
[12] Centre for Rheumatology Research, Landspitali University Hospital, Reykjavík, Iceland
[13] Faculty of Medicine, University of Iceland, Reykjavik, Iceland
[14] Department of Medicine, Rheumatology Unit, Center for Molecular Medicine (CMM), Karolinska Institute, Karolinska University Hospital, Stockholm, Sweden
[15] Amsterdam Rheumatology and Immunology Center, Reade, The Netherlands
[16] Amsterdam Rheumatology and Immunology Center, Amsterdam University Medical Center, Amsterdam, The Netherlands
[17] Kuopio University Hospital, Kuopio, Finland

Early RA: **triple therapy + mandatory IA GCI** had numerically **better clinical outcomes, fewer withdrawals, fewer adverse events,** and **lower cumulative dose of glucocorticoids**, **but slightly worse radiographic outcomes** than treatment with methotrexate and oral prednisolone.

Gout

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

American College of Rheumatology
Empowering Rheumatology Professionals

Arthritis Care & Research
Vol. 72, No. 6, June 2020, pp 744–760
DOI 10.1002/acr.24180

ACR GUIDELINE FOR MANAGEMENT OF GOUT

Table 6. Gout flare management*

Recommendation	PICO question	Certainty of evidence
For patients experiencing a gout flare, we strongly recommend using oral colchicine, NSAIDs, or glucocorticoids (oral, intraarticular, or intramuscular) as appropriate first-line therapy for gout flares over IL-1 inhibitors or ACTH (the choice of colchicine, NSAIDs, or glucocorticoids should be made based on patient factors and preferences). When colchicine is the chosen agent, we strongly recommend low-dose colchicine over high-dose colchicine given its similar efficacy and fewer adverse effects.	32	High†
For patients experiencing a gout flare for whom other antiinflammatory therapies are poorly tolerated or contraindicated, we conditionally recommend using IL-1 inhibition over no therapy (beyond supportive/analgesic treatment).	33	Moderate
For patients who may receive NPO, we strongly recommend glucocorticoids (intramuscular, intravenous, or intraarticular) over IL-1 inhibitors or ACTH.	32	High†
For patients experiencing a gout flare, we conditionally recommend using topical ice as an adjuvant treatment over no adjuvant treatment.	31	Low

Strongly recommend | Conditionally recommend | Strongly recommend against | Conditionally recommend against

IA steroid OR **oral NSAID treatment** are **strongly recommended** in managing **acute gout flares**.

Fitzgerald et al. 2020 American College of Rheumatology Guideline for Management of Gout. Arthritis Care & Research Vol. 72, No. 6, June 2020, pp 744–760 DOI 10.1002/acr.24180

Systemic Lupus

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

2025 American College of Rheumatology (ACR) Guideline for the Treatment of Systemic Lupus Erythematosus (SLE)

Guideline Summary

Recommendations and Good Practice Statements	Strength	Level of Evidence
Organ-specific manifestations		
Musculoskeletal		
GPS: *Initial therapy for acute or recurrent episodes of inflammatory arthritis in people with SLE may include a course of NSAID or a limited course of oral glucocorticoid while waiting for recommended long-term therapies to take effect.*		
Arthritis: For persistent or recurrent active SLE arthritis on HCQ, regardless of prior/current NSAIDs or short-term glucocorticoid therapy: …We conditionally recommend initial therapy with MTX, MPAA, or AZA, with a low threshold to add or substitute with belimumab or anifrolumab for inadequate response over initial biologic therapy.	Conditional	Very Low to Low

Recommend **limited use** of **oral NSAID** or **steroid** for **acute SLE arthritis** – goal is to start OR escalate long-term therapy.

Fitzgerald et al. 2020 American College of Rheumatology Guideline for Management of Gout. Arthritis Care & Research Vol. 72, No. 6, June 2020, pp 744–760 DOI 10.1002/acr.24180

Psoriatic Arthritis

Arthritis & Rheumatology
Vol. 71, No. 1, January 2019, pp 5–32
DOI 10.1002/art.40726

SPECIAL ART

2018 Am
Foundat

Jasvinder A. Sin
Maureen Dubre
Paula Marchett
Bernadette Siat
Nancy Sullivan,
Nowell,[24] Ana-M
Jessica A. Walsh

Non-pharmacologic therapies	• physical therapy, occupational therapy, smoking cessation, weight loss, massage therapy, exercise
Symptomatic treatments	• nonsteroidal anti-inflammatory drugs, glucocorticoids, local glucocorticoid injections
OSM	• methotrexate, sulfasalazine, cyclosporine, leflunomide, apremilast
TNFi	• etanercept, infliximab, adalimumab, golimumab, certolizumab pegol
IL12/23i	• ustekinumab
IL17i	• secukinumab, ixekizumab, brodalumab
CTLA4-Ig	• abatacept
JAK inhibitor	• tofacitinib

Figure 1. Pharmacologic, nonpharmacologic, and symptomatic therapies for psoriatic arthritis. Pharmacologic therapies are displayed in the blue boxes and include oral small molecules (OSMs), tumor necrosis factor inhibitor (TNFi) biologics, interleukin-17 inhibitor (IL-17i) biologics, an IL-12/23i biologic, CTLA4-immunoglobulin, and a JAK inhibitor. While there are numerous nonpharmacologic therapies available, 6 of these are addressed in this guideline. Symptomatic therapies include nonsteroidal antiinflammatory drugs, systemic glucocorticoids, and local glucocorticoid injections. Systemic glucocorticoids or local injections are not addressed in this guideline.

Sing et al. (2019). 2018 American College of Rheumatology/National Psoriasis Foundation Guideline for the Treatment of Psoriatic ArthritisArthritis & Rheumatology Vol. 71, No. 1, January 2019, pp 5–32 DOI 10.1002/art.40726

Psoriatic Arthritis

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

Table 8. Recommendations for treatment of patients with active psoriatic arthritis with nonpharmacologic interventions (PICOs 1–8)*

CAN COLLEGE EUMATOLOGY • TREATMENT • RESEARCH

	Level of evidence (evidence [refs.] reviewed)†
In adult patients with active PsA,	
1. **Recommend exercise over no exercise** (PICO 1) **Conditional recommendation** based on low-quality evidence; may consider no exercise in patients with existing muscle/tendon injury or multiple inflamed symptomatic joints with worsening pain with exercise.	Low (128)
2. **Recommend low-impact exercise (e.g., tai chi, yoga, swimming) over high-impact exercise (e.g., running)** (PICO 2) **Conditional recommendation** based on very-low-quality evidence; may consider high-impact exercise due to patient preference.	Very low
3. **Recommend physical therapy over no physical therapy** (PICO 3) **Conditional recommendation** based on very-low-quality evidence; may consider no physical therapy due to patient preference, out-of-pocket cost, distance to physical therapy site, or lack of transportation.	Very low
4. **Recommend occupational therapy over no occupational therapy** (PICO 4) **Conditional recommendation** based on low-quality evidence; may consider no occupational therapy due to patient preference, out-of-pocket cost, distance to occupational therapy site, or lack of transportation.	Low (129, 130)
5. **Recommend weight loss over no weight loss for patients who are overweight/obese** (PICO 5) **Conditional recommendation** based on low-quality evidence; may consider no weight loss due to additional patient burden involved with weight-loss program.	Low (131–133)
6. **Recommend massage therapy over no massage therapy** (PICO 7) **Conditional recommendation** based on very-low-quality evidence; may consider no massage therapy due to associated costs.	Very low (134)
7. **Recommend acupuncture over no acupuncture** (PICO 8) **Conditional recommendation** based on very-low-quality evidence; may consider no acupuncture due to associated costs.	Very low (135)
8. **Recommend smoking cessation over no smoking cessation** (PICO 6) **Strong recommendation** supported by moderate-quality evidence, rated down for indirectness.	Moderate (136, 137)

*Active psoriatic arthritis (PsA) is defined as disease causing symptoms at an unacceptably bothersome level as reported by the patient, and judged by the examining clinician to be *due to PsA* based on ≥1 of the following: swollen joints, tender joints, dactylitis, enthesitis, axial disease, active skin and/or nail involvement, and extraarticular inflammatory manifestations such as uveitis or inflammatory bowel disease.

Patients with **active PsA** should use some form or combination of **exercise, physical therapy, occupational therapy, massage therapy, and acupuncture**.

Low-impact exercise is recommended over high-impact exercise.

Sing et al. (2019). 2018 American College of Rheumatology/National Psoriasis Foundation Guideline for the Treatment of Psoriatic ArthritisArthritis & Rheumatology Vol. 71, No. 1, January 2019, pp 5–32 DOI 10.1002/art.40726

Psoriatic Arthritis: Injections

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

Clinical Rheumatology (2020
https://doi.org/10.1007/s1006

ORIGINAL ARTICLE

Effectiveness o
from a multice

Nicolò Girolimetto[1,2] ·
Federica Martinis[3] · A
Carlo Salvarani[2,5] · Ra

Loca
swellin
from d
3 mo

Intra-articular Treatment Options in the Management of Joint Disorders

Special Collection

Therapeutic Advances in Musculoskeletal Disease

Review

Corticosteroid injection treatment for dactylitis in psoriatic arthritis

Antonio Carriero, Ennio Lubrano, Valentina Picerno, Angela Anna Padula and Salvatore D'Angelo

Ther Adv Musculoskel Dis
2021, Vol. 13: 1–12
DOI: 10.1177/1759720X211041864

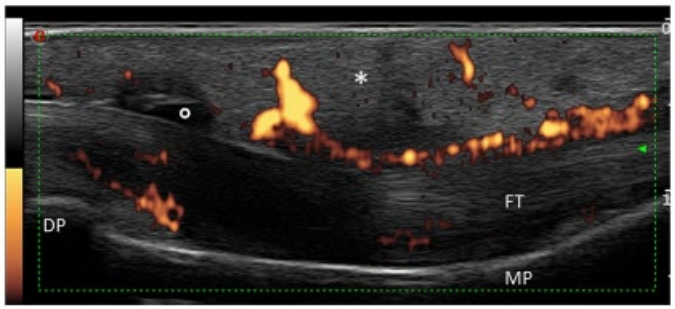


Figure 2. Tenosynovitis of the III right flexor tendon characterized by marked synovial proliferation, a moderate increase of the tendon thickness and a thickened and hypoecoic peritendineal tissue. Synovial sheath widening (circle) associated with soft-tissue edema (asterisk). Power Doppler function revealed diffuse and severe vascular signal inside and around the tendon sheath (Grade 3).
DP, distal phalanx; FT, flexor tendon; MP, medial phalanx.

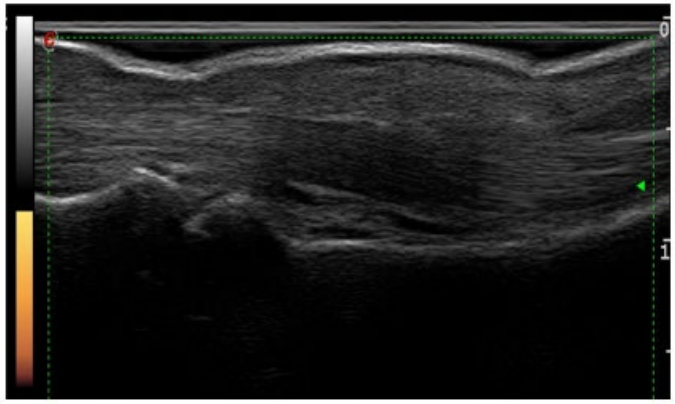
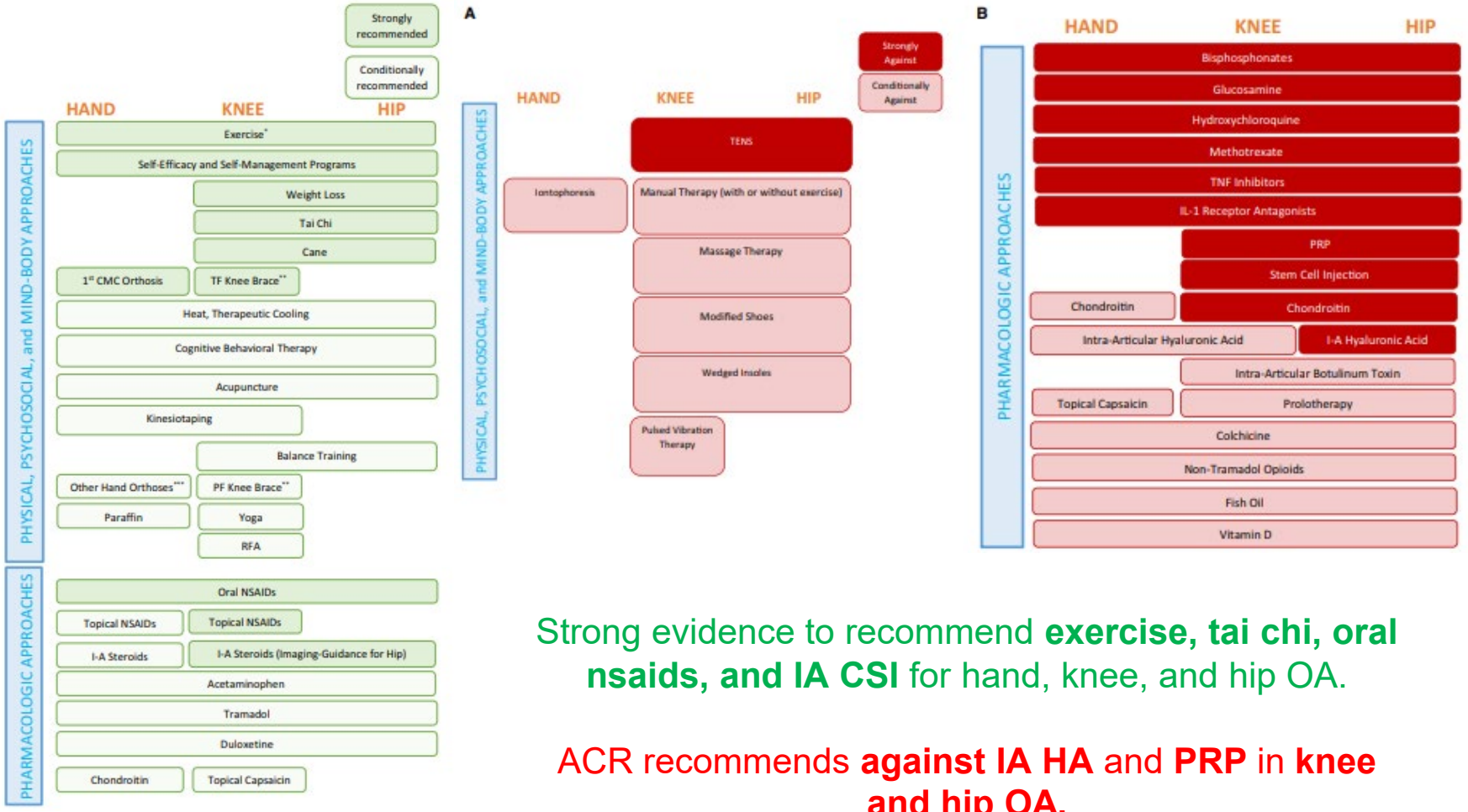


Figure 3. US follow-up after 4 weeks of the same tendon. Note the dramatic reduction of the power Doppler signal (Grade 0) and gray scale score (Grade 0) with the resolution of the flexor tenosynovitis and the soft-tissue edema.

Fig. 2 Changes in clinical parameters within time in both groups. *$p < 0.001$; **$p = 0.008$. T1, 1 month; T3, 3 months; LDI-b, Leeds Dactylitis Index basic; VAS, visual analogue scale

Girolimetto et al. Effectiveness of steroid injection for hand psoriatic dactylitis: results from a multicenter prospective observational study. Clinical Rheumatology (2020) 39:3383-3392.

Osteoarthritis



Strong evidence to recommend **exercise, tai chi, oral nsaids, and IA CSI** for hand, knee, and hip OA.

ACR recommends **against IA HA** and **PRP** in **knee and hip OA.**

Kolasinski et al. 2019 American College of Rheumatology/Arthritis Foundation Guideline for the Management of Osteoarthritis of the Hand, Hip, and KneeArthritis & Rheumatology Vol. 72, No. 2, February

Limitations

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

- *Rheumatology Advances in Practice*, 2024, **8(4)**, rkae128
https://doi.org/10.1093/rap/rkae128
Guideline

British Society for Rheumatology | RHEUMATOLOGY ADVANCES IN PRACTICE | OXFORD

Guideline

- **Pain management in people with inflammatory arthritis: British Society for Rheumatology guideline scope**

- **Ian C. Scott[1,2,*], Opeyemi Babatunde[1], Christopher Barker[3], Rebecca Beesley[4], Richard Beesley[4], Hollie Birkinshaw[5], Mel Brooke[6], Hema Chaplin[7,8], Lara Chapman[9], Coziana Ciurtin[10], James Dale[11], Dervil Dockrell[12], Emma Dures[13], Kathyrn Harrison[14], Meghna Jani[15,16], Charlotte Lee[17], Maura McCarron[18,19], Christian D. Mallen[1], Assie O'Connor[2], Claire Pidgeon[20], Tamar Pincus[17], Dee Pratt[21], Yeliz Prior[22], Karim Raza[23,24], Zoe Rutter-Locher[25], Seema Sharma[26], Katie Shaw[27], Samantha Small[28], Tilli Smith[1], Lesley Tiffin[29], Jordan Tsigarides[30,31], Mikalena Xenophontos[32,33], Nicholas G Shenker[34,35]**

Coming 2026! Reconvene TPS 2026?

Summary

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

- Inflammatory arthritis affects 300+ million individuals worldwide and contributes to functional disability
- Pain in rheumatologic diseases is multi-factorial and neurogenic inflammation contributes to chronic pain
- Multimodal treatment is mainstay of treatment
- Interventions are recommended by ACR in:
  - Acute gout
  - PsA dactylitis
  - Isolated sacroiliitis or 1-2 peripheral joints affected in AS
  - RA: combine with triple therapy?
- Need for high-quality randomized placebo-controlled trials

Thank you for your attention!

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

Physical Medicine and Rehabilitation — RESTORATION, RECOVERY, RE-INTEGRATION

med.uth.edu/pmr

TIRR MEMORIAL HERMANN Rehabilitation & Research

Kemly Philip MD PhD MBE, FAAPMR

Assistant Professor

Chief, Musculoskeletal Medicine & Interventional Pain

Dept. of Physical Medicine & Rehabilitation

Kemly.Philip@uth.tmc.edu