

Optum Health Education™

Care of musculoskeletal injuries: *procedures your patients need, and others they don't*

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Physician Provider Network, United States Olympic &
Paralympic Committee



Learning Objectives

1

Identify specific injuries and conditions that benefit from early surgery or orthopaedic care and those that should wait

2

Understand the definitions, examples and interdependencies of low and high value MSK care.

3

Simplify the complexity of MSK pain and how the biopsychosocial model of MSK pain influences patient decisions and outcomes.

Understanding MSK pain

Moving from the biomedical view of MSK conditions to the biopsychosocial

“You are a pain doctor”

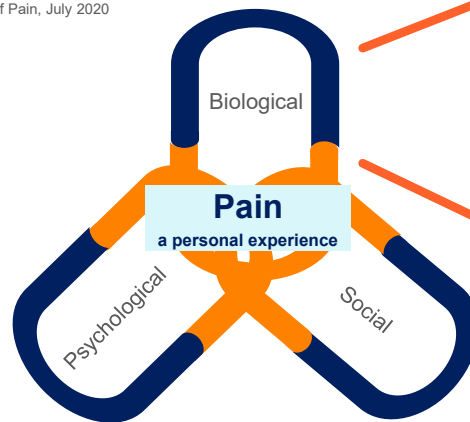
Pain “An unpleasant sensory and emotional experience associated with, or resembling that associated with, **actual or potential tissue damage.**”

International Association for the Study of Pain, July 2020

75%

of patients with hip and knee osteoarthritis (OA) have pain associated psychological distress

Lentz et al, CORR, 2020



Low value care

Overuse of Imaging

Overuse of surgery

Overuse of opioids

Failure to provide education and advice
(Lin, 2018)

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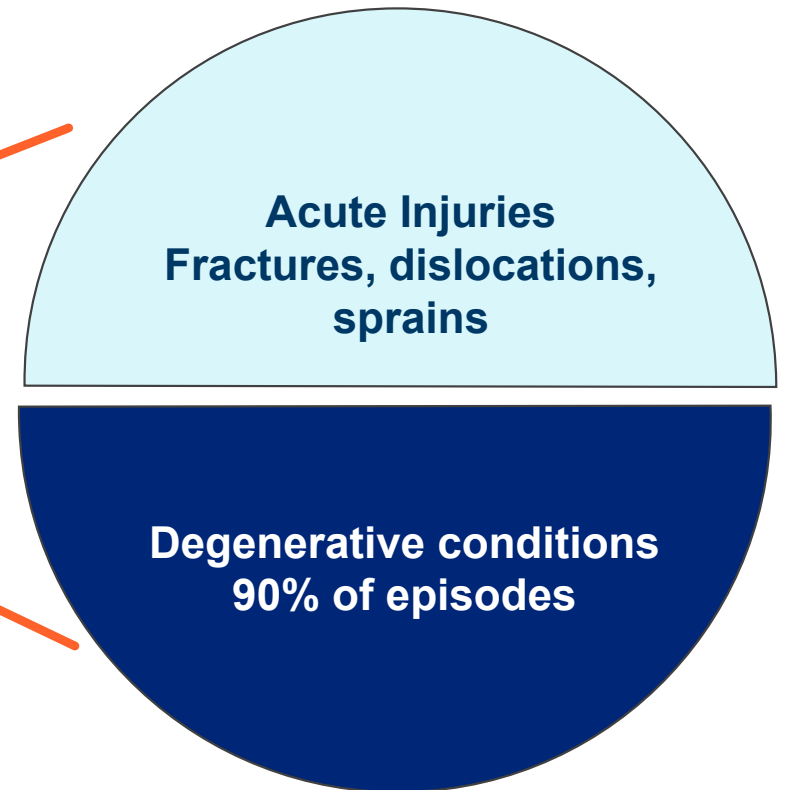
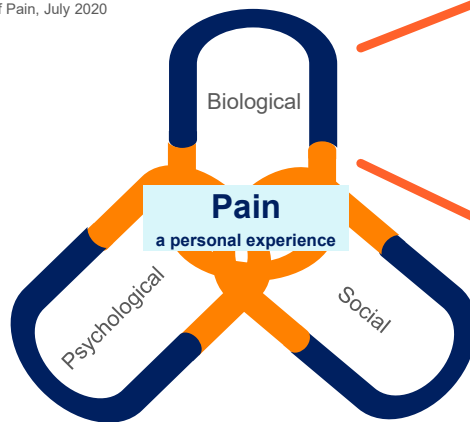
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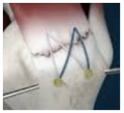


Acute MSK Injury Key Considerations

- Timing – Acute onset or acute injury
- Reg flag or red face?
- Imaging is not benign
- Misconceptions
- Treatment vs profession

- High vs low mobility joint
- Intra-articular vs extra-articular
- Effect of angular or shortened bone
- Weight bearing vs non-weight bearing
- Patient goals and functional demands

Acute Injuries – When to consider early surgery



Loss of function

If the acute injury involves inability to actively move the joint, an acute tendon injury is more likely

Conditions

Rotator cuff tear

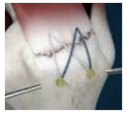
Patella/quad tendon

Achilles Tendon

Loss of function



Acute Injuries – When to consider early surgery



Loss of function

If the acute injury involves inability to actively move the joint, an acute tendon injury is more likely



Intra-articular fracture

Even small incongruity of a fracture if intra-articular can cause poor outcomes



Loss of mechanical advantage

Some bones function as struts to facilitate optimal function of a joint or limb

Conditions

Rotator cuff tear

Patella/quad tendon

Achilles Tendon

Distal radius fracture

Ankle fracture

Distal radius fracture

Clavicle

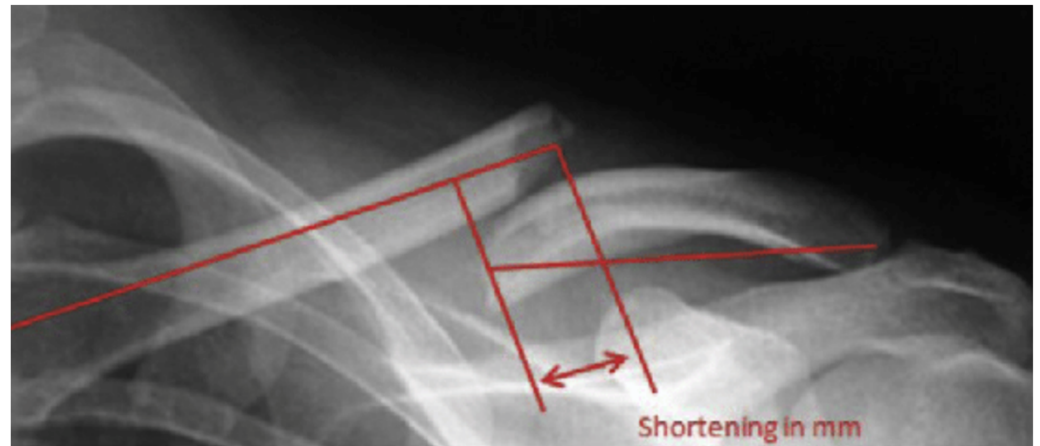
Radius and Ulna

Intra-articular and/or shortened fractures



Operative fixation

Under 65
High demand

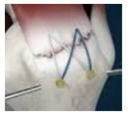


Closed reduction and casting

65-75

Over 75
Low demand

Acute Injuries – When to consider early surgery



Loss of function

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Intra-articular fracture

Even small incongruity of a fracture if intra-articular can cause poor outcomes



Loss of mechanical advantage

Some bones function as struts to facilitate optimal function of a joint or limb



Risk of recurrence or future injury

Dislocation or instability events can recur, leading to further joint injury

Conditions

Rotator cuff tear

Patella/quad tendon

Achilles Tendon

Distal radius fracture

Ankle fracture

Clavicle

Radius and Ulna

Shoulder dislocation

ACL tear

For suspected rotator cuff pathology:

- about 70% of primary care providers would immediately get plain films
- 82% would order ultrasound imaging
- despite evidence showing poor correlation between findings and symptoms (Buchbinder, 2013).

Imaging is where the t-word is used

Acute Injury or Acute Onset?

Acute rotator cuff tears are characterized by acute loss of function or pseudoparalysis

Benefit from early repair



MANAGEMENT OF SMALL TO MEDIUM TEARS

Strong evidence supports that both physical therapy and operative treatment result in significant improvement in patient-reported outcomes for patients with symptomatic small to medium full-thickness rotator cuff tears.

Strength of Recommendation: Strong ★★★★★

Biggest predictor of success with nonoperative treatment? **Believing PT would work**

LONG TERM NON-OPERATIVE MANAGEMENT

Strong evidence supports that patient reported outcomes (PRO) improve with physical therapy in symptomatic patients with full thickness rotator cuff tears. However, the rotator cuff tear size, muscle atrophy, and fatty infiltration may progress over 5 to 10 years with non operative management.

Strength of Recommendation: Strong ★★★★★

Rate of subacromial decompression and rotator cuff repair rose against evidence showing that surgical outcomes are comparable to rehabilitation (Ketola, 2017) or sham surgery (Beard, 2017).



Red flag or red face?

Perform history and physical examination addressing neurological findings and potential red flags that are directly associated with onset of back pain. Examples of red flags include:

History:

- Cancer
- Unexplained weight loss
- Immunosuppression
- Intravenous drug use
- Fever
- Bladder or bowel incontinence
- Urinary retention (with overflow incontinence)

Physical Examination:

- Saddle anesthesia
- Loss of anal sphincter tone
- Major motor weakness in lower extremities
- Fever
- Persistent or progressive abnormal neurologic signs

Are red flags present?



Imaging for low back pain...almost no indication

25-42% of patients with low-back pain are sent for imaging studies (Mallows, 2002 and Ivanova, 2011)

North American Spine Society conflicts with traditional low back pain imaging guidelines

Plain radiographs when interpreted with the patient to decrease concern may have value

Diagnosis & Treatment of Low Back Pain | Recommendations | Imaging



Imaging Question 5. In the absence of red flags, what are the imaging (x-ray, CT or MRI) recommendations for patients with acute or chronic low back pain?

There is insufficient evidence to make a recommendation for or against obtaining imaging in the absence of red flags.

Grade of Recommendation: I

One Level II study shows that in the absence of red flags, x-ray does not provide additional benefit at initial consultation. Kerry et al performed a randomized controlled trial (RCT) with an observational arm across 94 general practices in South London and the South Thames region in order to compare outcomes of patients with LBP who were immediately referred for lumbar spine x-ray with those who were not. Over the course of 26 months, patients with LBP, aged 16-64 years, were allocated into a RCT (n=153) or an observational arm (n=506) at the time they consulted their general practitioners. Allocation into these groups was determined by sealed envelope or per the discretion of the individual practitioner. The patients in the RCT group were then randomized into an immediate x-ray referral group (n=73) or no immediate x-ray referral (control) group (n=80). Subjects were included in the final analysis if they completed a questionnaire which included the back-pain specific Roland Morris Disability Questionnaire (RMDQ), the Hospital Anxiety and Depression Scale (HADS) and the short form health survey SF-36 at the time of enrollment,

6 weeks and one year later (response rate at one year was 67%). In the RCT, those who had been immediately referred for radiography had no differences in physical functioning, pain, or disability compared to the control group. However, the subjects in the immediate radiography group scored higher on psychological wellbeing at 6 weeks and one year compared to the control group. Similar findings were observed in the observational study in which, after adjusting for length of back pain episode at presentation, there were no differences in physical outcomes between groups. Those referred for x-ray had lower depression scores at six weeks and one year. The authors concluded that, unless patient anxiety is a major factor, it is not recommended to routinely refer for early x-ray for LBP as it is not associated with improvement of physical functioning, pain or disability. The work group downgraded this potential Level I study due to poor follow-up, significant crossover and potential bias. This study provides Level II evidence that, in the absence of red flags, x-ray does not provide additional benefit at initial consultation.



Future directions for Research

The work group recommends studies to evaluate the value of imaging (x-ray, CT or MRI) for patients with acute or chronic LBP in the absence of red flags.

Reference

1. Kerry S, Hilton S, Dundas D, Rink E, Oakeshott P. Radiography for low back pain: a randomised controlled trial and observational study in primary care. *Br J Gen Pract.* 2002;52(479):469-474.

Non-operative care can be low value too...

Physical therapy is a profession, not a treatment



Indicated, High value

- Supervised Exercise
★★★★★ Strong Recommendation
- Neuromuscular Training
★★★★★ Moderate Recommendation
- Self-Management
★★★★★ Strong Recommendation
- Patient Education
★★★★★ Strong Recommendation
- Weight Loss Intervention
★★★★★ Moderate Recommendation

Rarely indicated, low value

- Manual Therapy
★★★★★ Limited Recommendation
- Massage
★★★★★ Limited Recommendation
- Laser Treatment
★★★★★ Limited Recommendation
- Acupuncture
★★★★★ Limited Recommendation
- Transcutaneous Electrical Nerve Stimulation
★★★★★ Limited Recommendation
- Percutaneous Electrical Nerve Stimulation
★★★★★ Limited Recommendation
- Extracorporeal Shockwave Therapy
★★★★★ Limited Recommendation

Understanding MSK pain

Moving from the biomedical view of MSK conditions to the biopsychosocial

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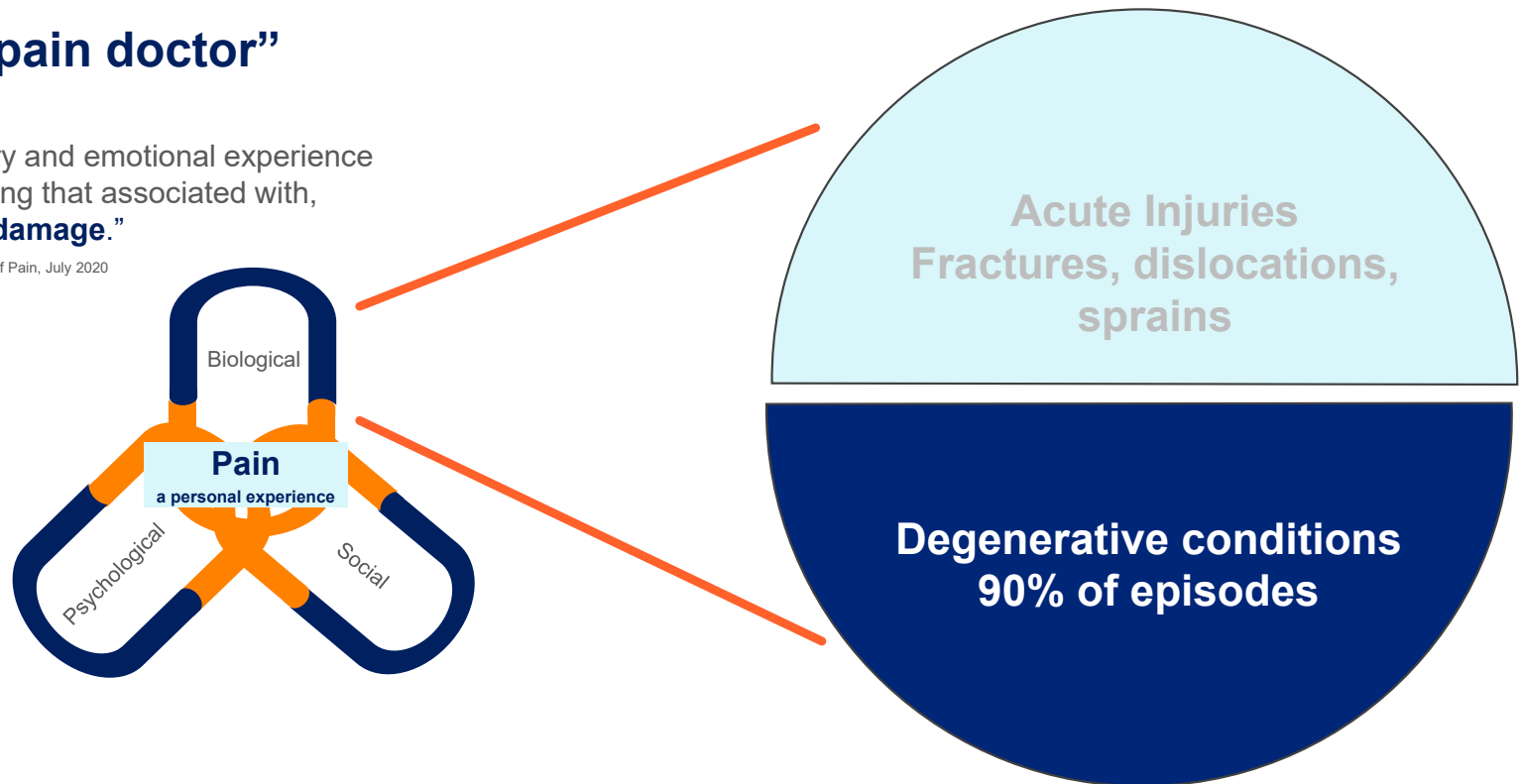
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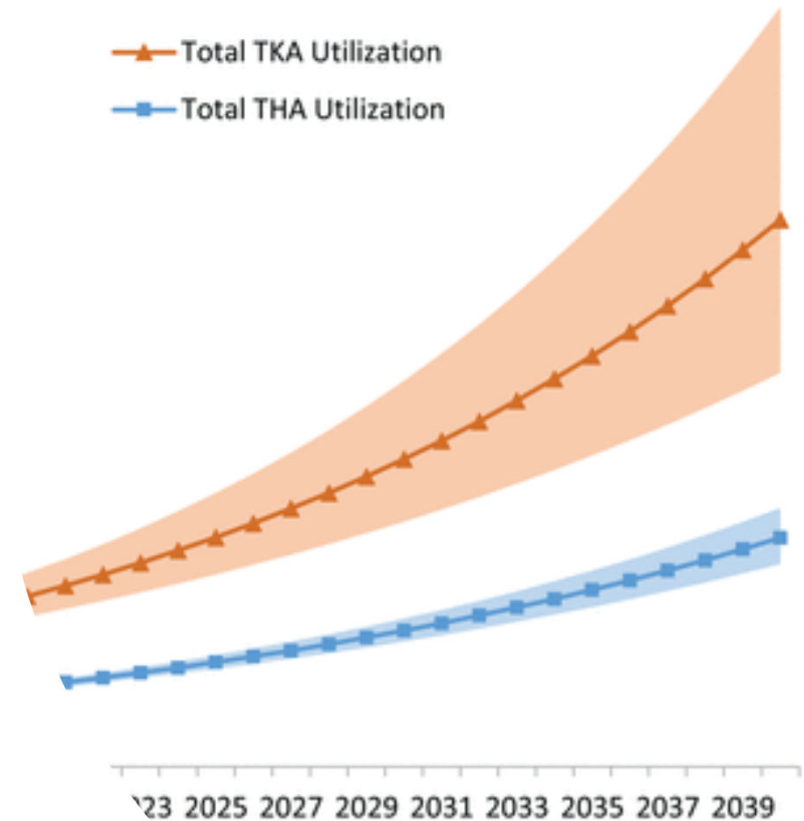
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Lentz et al, CORR, 2020



Why is the utilization of TJA rising?

1. Risk-benefit equation increasingly favoring surgery
 - Safer
 - Streamlined recovery
 - Longer survival of implant
2. **Lack of viable and accessible alternatives**
3. Addressing health equity



Defining appropriate surgery

Degenerative

Chronic, non-inflammatory
Measured by radiographs (K/L)

Joint

Distinguish from other diseases that impact the
extremity

Disease

Objective function?
Subjective patient or clinician report?
Action of seeking care?
Patient reported outcome

Inappropriate Surgery Takes Two Primary Forms

Degenerative



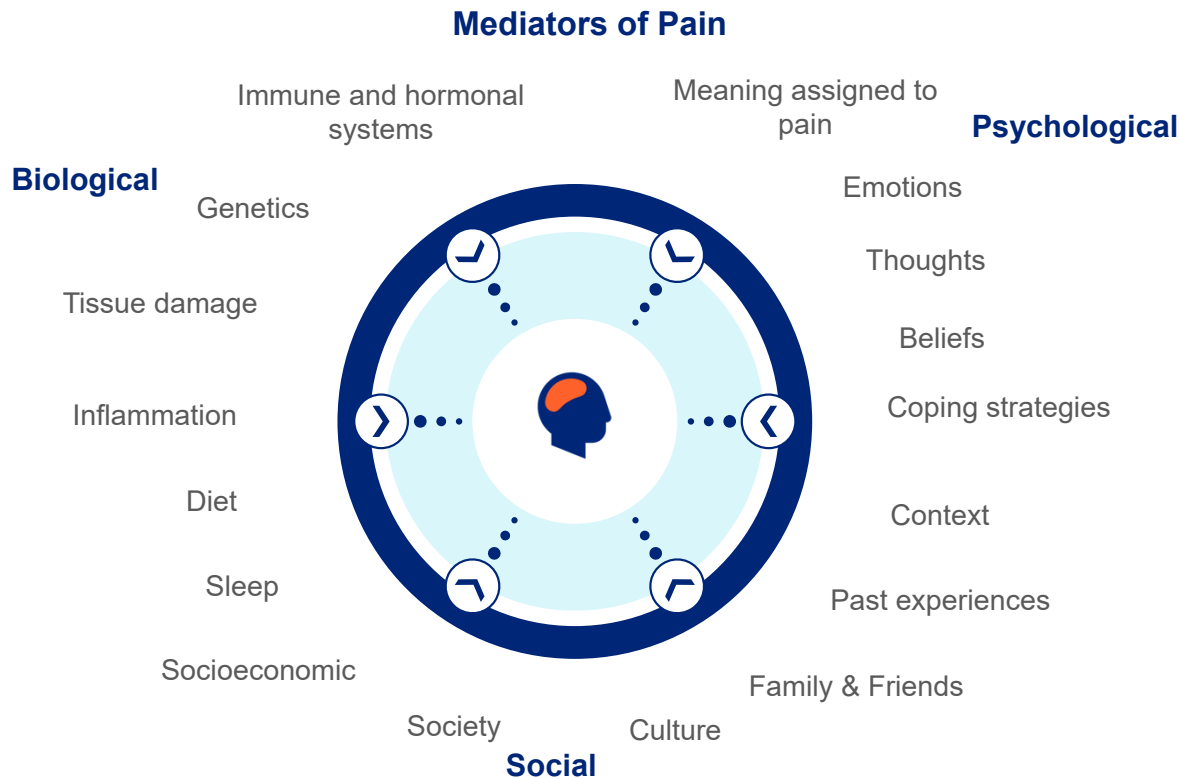
Joint



Disease



Pain is an output from the brain



Pain is biopsychosocial phenomenon

- Biological
- Psychology
- Social

These three domains interact to produce an individual's pain experience

- **Acute pain** is more likely an accurate indicator of damage
- **Chronic pain** is less reliable and more likely to result in false alarms

Moseley GL, Butler DS, Stanton TR, 2022; Zoffness R., 2020

What are the domains of psychological distress?

More heterogeneous, and more specific than mood disorders

Negative Mood

Constructs measured:

- Depression
- Anxiety
- Anger

Fear Avoidance

Constructs measured

- Fear avoidance
- Pain Catastrophizing
- Fear of movement
- Pain Anxiety

Negative Pain Coping

Constructs measured:

- Self-Efficacy for managing pain
- Self Efficacy for participating in Rehab
- Chronic Pain Acceptance



Considerations for decision making and management

Negative Mood

- Rarely exists in isolation
- Cyclical relationship with pain

Fear Avoidance

- Avoid harmful language
- Careful use of imaging and responsive interpretation
- Aquatic therapy

Negative Pain Coping

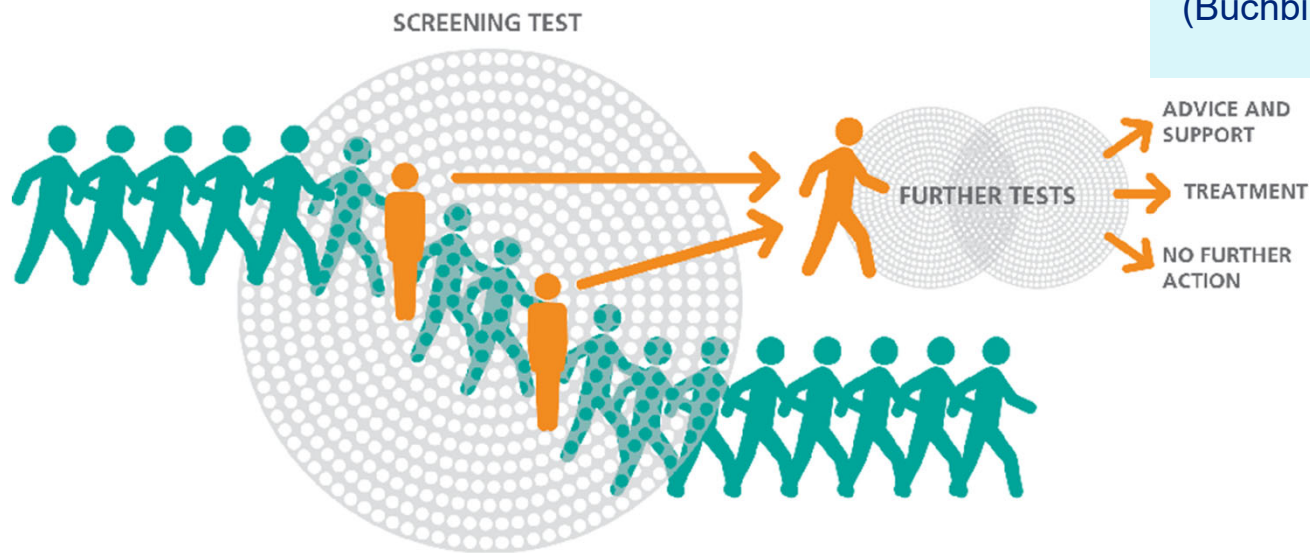
- Focus on establishing appropriate expectations
- CBT
- Sleep as the outer layer of the biopsychosocial onion



Failure to Provide Information and Advice is low value care

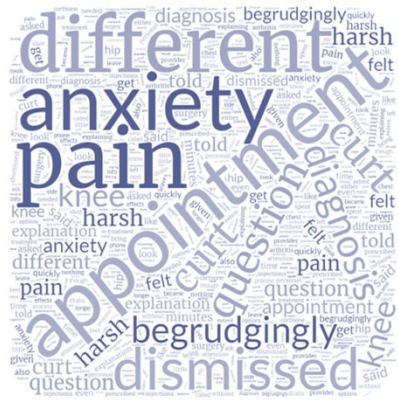
Communication of information and advice is the bedrock of effective management of MSK related pain (Lin, 2018).

Yet only 20% of patients with LBP were given advice and education in primary care setting (Buchbinder, 2013).



What is high value MSK care?

Patient perspective from Optum MSK patients



Negative



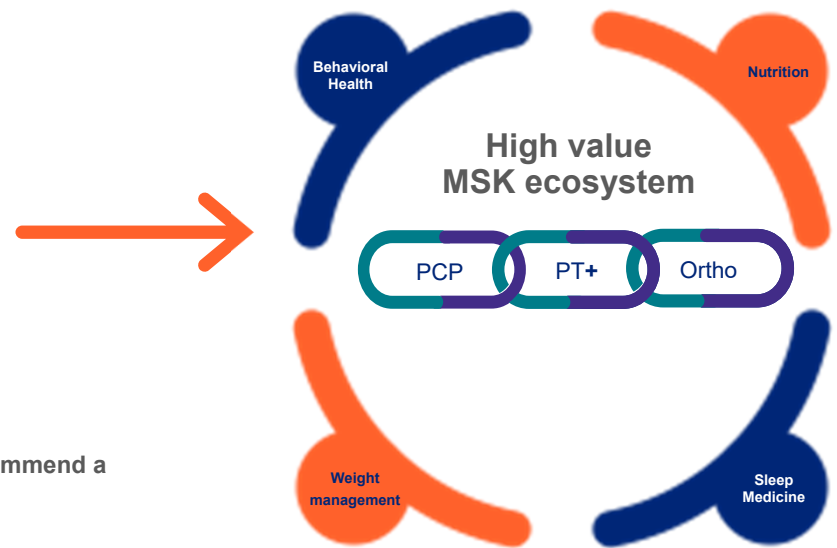
Positive

Patient experience indicators most highly correlated with a patient’s willingness to recommend a provider:

- Concern the care provider showed for your questions or worries (0.827)
- Care Provider’s discussion of proposed treatments (0.826)
- Care Provider’s efforts to include you in decisions about your care (0.824)
- Explanations the care provider gave you about your problem/condition (0.823)
- **The next highest correlation was related to how well the staff worked together (0.659)**

Based on a review of almost 12 million Press Ganey medical practice patient surveys from Jan – Dec 2021

Linking our strengths together



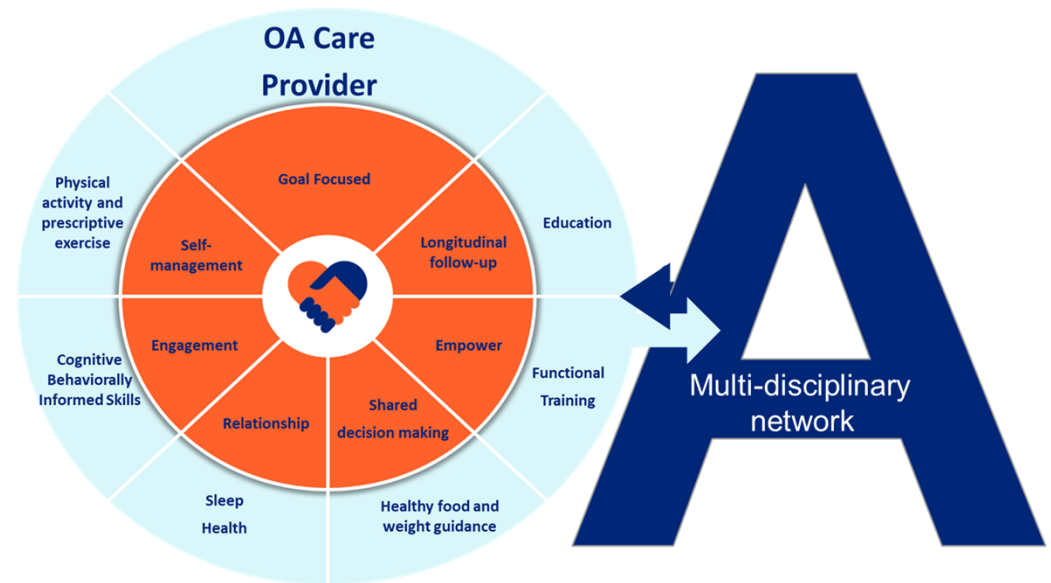
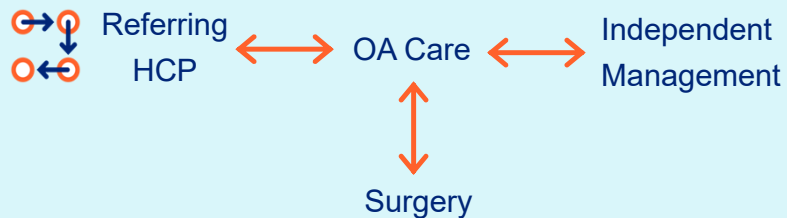
**Collaboration Coordination Education
Measurement**

Optimal Care's high value MSK solution: Osteoarthritis (OA) Care

Extension of the clinical algorithms, closing the loop.

OA Care: Comprehensive, evidence-based approach to managing patients with hip and knee OA

- Physical, emotional, nutrition/weight management, and social components
- **PT with CBIT Skills + Collaborative Network**
- Personalized, measurement driven approach

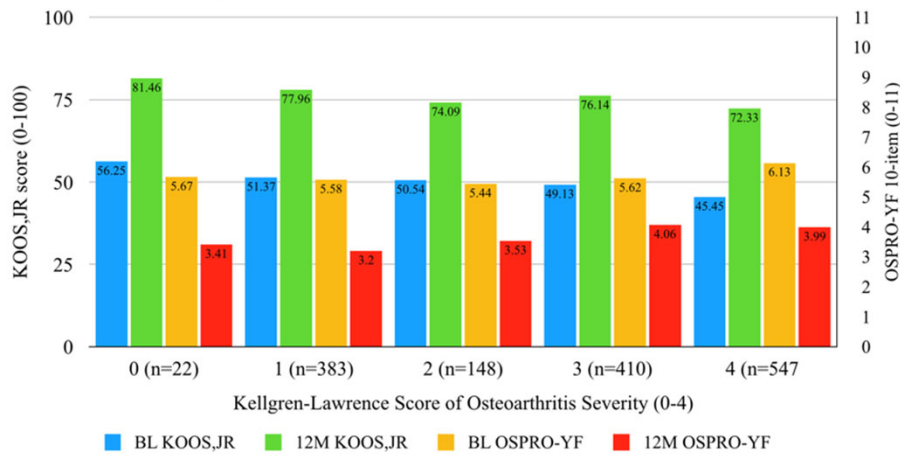


Imaging is often non-concordant with response to treatment

Myth: Non-operative treatment is only effective for low severity DJD



PROs for patients with different knee OA severities in the JHP



Whole person approach plus knee replacement produced clinically significant benefit in 90% of patients

Truth: Whole-person, evidenced based approach to DJD care produces equivalent outcomes for all grades of radiographic OA
Imaging can create a narrow (biomedical) view of the condition

MRI of the knee and shoulder are problematic given the high rate of asymptomatic pathology

Arthroscopy for compensated rotator cuff tears or meniscus tears is not indicated

JAMA Network | **Open**

Original Investigation | Orthopedics

Effect of Physical Therapy vs Arthroscopic Partial Meniscectomy in People With Degenerative Meniscal Tears
Five-Year Follow-up of the ESCAPE Randomized Clinical Trial

Julia C. A. Noorduyn, MSc; Victor A. van de Graaf, MD, PhD; Nienke W. Willigenburg, PhD; Gwendolyn G. M. Scholten-Peeters, PhD; Esther J. Kret, MSc; Rogier A. van Dijk, MD, PhD; Rachelle Buchbinder, MD, PhD; Gillian A. Hawker, MD, PhD; Michel W. Coppieters, PhD; Rudolf W. Poolman, MD, PhD; for the ESCAPE Research Group

16 sessions of exercise-based PT non-inferior to arthroscopy
Comparable rates of radiographic OA progression

Arthritis & Rheumatology
Vol. 72, No. 2, February 2020, pp 273-281
DOI 10.1002/art.41082
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AMERICAN COLLEGE
of RHEUMATOLOGY
Empowering Rheumatology Professionals

Five-Year Outcome of Operative and Nonoperative Management of Meniscal Tear in Persons Older Than Forty-Five Years

Jeffrey N. Katz,¹ Swastina Shrestha,¹ Elena Losina,¹ Morgan H. Jones,² Robert G. Marx,³ Lisa A. Mandl,³ Bruce A. Levy,⁴ Lindsey A. MacFarlane,¹ Kurt P. Spindler,² Genevieve S. Silva,¹ METEOR Investigators, and Jamie E. Collins¹

12 wks of strengthening-based PT
HR for TKA 2.0 in the intention to treat analysis
HR for 4.9 in the as-treated analysis

Summary

Lin et al identified consistent recommendations across high quality CPGs that address MSK conditions.

Patient centered care – care that involves effective communication and discussing the risks and benefits of each option, while also considering the person's values, preferences, and circumstances.

Identify patients with high likelihood of red flag conditions.

Discourage reflexive use of imaging studies, except in situations where:

- High likelihood of serious pathology (red flags).
- Refractory to conservative management, or progression of signs & symptoms.
- Imaging is likely to alter management of condition.

Take the time to examine the patient.

Summary

Outline markers of progress that you and the patient can use to monitor during course of treatment.

Educate the patient about their condition and what treatment options are available.

Address/give patients options to stay active and engaged (in work and exercise) during their treatment/recovery.

Manual therapy can/should be used as an adjunct to other evidence-based treatments. Unless indicated, deploy evidence-based non-surgical options initially.

Pay attention to psychosocial factors - includes consideration of the person, their experiences and social context.

Optimal Care Grand Rounds

Topics and Timing

2025

- Jan 29: High-value interventions for COPD for the Primary Care Provider
- Mar 19: Dementia – Screening, diagnosis and initial management for the Primary Care Provider
- May 21: Shared decision-making in primary care
- Jul 23: De-prescribing in Primary Care - When, Why, How
- Sep 19: Heart failure – Diagnosis and initial management for the Primary Care Provider
- Nov: Atrial fibrillation - Diagnosis and initial management for the Primary Care Provider

Time: 1pm Eastern

Registration links for live and on-demand:

<https://www.optumhealtheducation.com/optimal-care-grand-rounds>

Mailing list sign-up: <https://www.optumhealtheducation.com/optimal-care-grand-rounds-mailing-list>

Idea for future topic? Email us at OptimalCare@optum.com

QUESTION AND ANSWER SESSION

- Please submit your question in the “Type your question here” box located to the right of the webcast player.
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 - Optum Health Education: moreinfo@optumhealtheducation.com

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