Treatment Approaches for Back and Knee Patients

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OBJECTIVES – *By the end of this seminar, participants will be able to:*

- Review decision making process in regards to referral of patients
- Effectively discuss patient education strategies to address low back and knee pain namely:
  - RICE
  - Benefits of weight loss
  - Exercise
  - Discussing Pain

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Basic Categories for Treatment of Orthopedic Complaints

Referral to Specialist	Patient Education	Pharmaceuticals
Physical Therapy	RICE	Defer to Physicians and APP's on this
Physical Medicine	Weight Loss	
Orthopedics	Activity Modification	
Nutritionist	Exercises	
	Pain education	

Physical Therapy Referral Optimization Guideline

- **Overview:**
  - This is a general guideline for referring to PT in the Ambulatory setting.
  - This guideline assumes that no **PT in Primary Care** or **Conservative Spine Center** is available. If your service area has these services, please consider utilizing them before referring to PT.

Physical Therapy Referral Optimization Guideline

PT Referral Guideline	Symptom Onset < 2 Weeks	Symptom Onset 2-4 Weeks	Symptom Onset > 1 Month
Extremity (non-surgical, non-trauma) **UE:** rule out cervical radiculopathy **LE:** rule out lumbar radiculopathy	**PT NOT RECOMMENDED** Try conservative treatment (e.g., patient education (including Medbridge), RICE, medication).	**PT RECOMMENDED** after 2 weeks of no improvement.	**PT RECOMMENDED** if patient has not already had PT. New referral may be required if prior referral has expired.

Physical Therapy Referral Optimization Guideline

PT Referral Guideline	Symptom Onset < 2 Weeks	Symptom Onset 2-4 Weeks	Symptom Onset > 1 Month
Low Back & Neck (non-surgical, non-trauma)	**PT NOT RECOMMENDED for centralized neck or back pain.** Try conservative treatment (e.g., patient education (including Medbridge), trial of medication, rest for 1-2 days, stay active, begin walking program, ice). **PT RECOMMENDED for radicular pain or centralized pain with comorbidities** (e.g., anxiety, depression). Refer during this phase unless high severity of disability and pain, in which case consider Physical Medicine. Medication management for pain needed prior to referral.	**PT RECOMMENDED** after 2 weeks of no improvement.	**PT RECOMMENDED** if patient has not already had PT. New referral may be required if prior referral has expired.

	Traumatic knee with large effusion
Evaluation	X-rays: 3 View (AP, Lateral and Oblique)
Treatment	RICE (Rest, Ice, Compression, Elevation) Crutches
Referral/MD Advice	Call on-call MD to review for obvious surgical cases or cases where patient is unable to weight bear and has large effusion with normal films.
Tips/Pearls	Acute anterior cruciate ligament tears can induce a full knee effusion and have negative x-rays. These are surgical injuries and should be seen in orthopedics within 1-2 weeks

	Known or suspected osteoarthritis of knee
Evaluation	X-rays: 3 View (Bilateral Weight bearing AP, lateral and merchant views)
Treatment	RICE (Rest, Ice, Compression, Elevation) in acute phase or flares of symptoms, NSAIDS if able, Knee brace if desired, Physical therapy, Weight loss to BMI at or below 35 if not already to goal, Steroid injections
Referral/MD Advice	Refer if patient has bone on bone or near bone on bone OA, has a BMI at or below 35 and is not responding to treatment above including steroid injections.
Tips/Pearls	Do not refer patients that do not want surgery or have not had a trial of conservative therapy

	Non-traumatic knee pain in adolescents/children
Evaluation	X-rays in persistent cases. 3 view (Weight bearing AP, lateral and merchant)
Treatment	NSAIDS, bracing, Physical therapy, topical products (ben gay etc.), activity modification
Referral/MD Advice	MD advice for persistent cases. Can refer to non-surgical Sports Medicine if not responding to several months of conservative measures that includes PT
Tips/Pearls	Rarely due to pathology, more related to strength and flexibility deficits, overuse syndromes.

Patient Education for Home Management of Back or Knee Pain

- R - Rest
- I - Ice
- C - Compression
- E - Elevation

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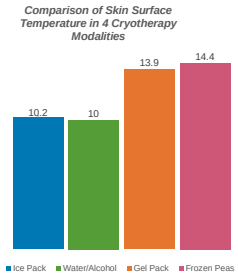
"Ice" as a Treatment

In 2005 researchers determined that ice and water/alcohol solution packs were more effective in cooling the skin after 20 minutes of application as compared to frozen peas and commercial gel packs.

The water to alcohol solution was a 4:1 ratio with 70% rubbing alcohol.



Education Suggestions for LBP with Directional Preference

FLEXION SYNDROMES (more pain with trunk flexion with/without rotation)
-tend to be taller, younger and acute patients

Patient Education Suggestions:

- Teach them how to bend forward and to return from flexion
- Teach them to avoid prolonged positions, especially sitting/driving
- May suggest a lumbar pillow/cushion in sitting
- May suggest raising the seat up taller than usual to induce anterior pelvic tilt
- May suggest repeated extension exercises especially in presence of radiculopathy

Exercise Suggestions for Flexion Based Pain/Dysfunction

Education Suggestions for LBP with Directional Preference

EXTENSION SYNDROMES (more pain with trunk extension with/without rotation)

-tend to be shorter, older and chronic patients

-often associated with OA, stenosis, facet syndromes, etc.

Patient Education Suggestions:

- Teach them to avoid prolonged standing and to use a foot rest when able
- May DISCOURAGE excessive lumbar support in sitting
- May suggest using a pillow under the knees when sleeping supine or to sleep in sidelying
- May suggest lowering the seat more than usual to induce posterior pelvic tilt
- May suggest flexion based stretches in standing, supine or quadruped

Exercise Suggestions for Extension Based Pain/Dysfunction

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Education Suggestions for Knee Patients with Degenerative Changes

Osteoarthritis of the Tibiofemoral Joint

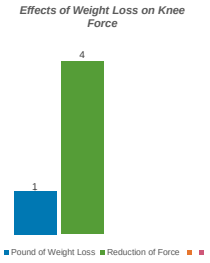
-tend to be older
-may have valgus knee deformity, crepitus

Patient Education Suggestions:

- "Motion is Lotion" – keep moving
  - Aerobic exercise assists with re-lubricating the joint as well as with weight loss
  - Strengthening the hip and thigh muscles have a direct impact on function
- Proper footwear is imperative- Orthotics for overpronators
- Prolonged positioning will often result in stiffness – Keep moving
- Weight loss has a direct link to the forces going through the knee

Weight Loss as Treatment

In 2005 researchers determined that 1 pound of weight loss results in 4 pound reduction in forces through the knees.



Messier SP, Guteknunst DJ, Davis C, DeVita P. Weight loss reduces knee-joint loads in overweight and obese older adults with knee osteoarthritis. Arthritis Rheum. 2005 Jul;52(7):2026-32.

Exercise Suggestions for Knee Patients with Degenerative Changes

Education Suggestions for Knee Patients with Poor Proximal Femoral Control

Higher Risk for ACL/Meniscus Injury

-tend to be younger, with long limbs

-poor proximal control of the femur resulting in adduction/medial rotation during squats, stairs, jumping, etc.

Patient Education Suggestions:

- Proper footwear is imperative- Orthotics for overpronators
- Strengthening the glutueal muscles will support proper mechanics in the knee and reduce the risk of ACL injury and Patellofemoral Pain.

Exercise Suggestions for Knee Patients with Poor Femoral Control

Proper Form:

Improper Form:

PAIN

- Teach how pain works and unteach misinformation/misbeliefs
- Teach strategies to lessen pain, paced activities that are safe

PAIN

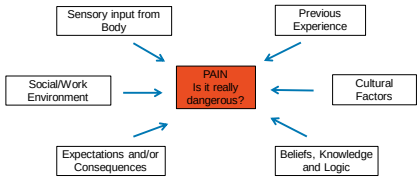
- Common notions of pain

PAIN

- Pain is an unpleasant feeling that is felt somewhere in the body and urges us to protect that body part
- Perception of noxious stimulation affected by various factors: somatic (health), psychological (emotions/mood), social domains
- Brain's output based on experience, context and environment, not solely on nociceptive input

PAIN

- What Influences Pain?



PAIN

- Misbeliefs and Misinformation
  - "I have bad knees", "Full of arthritis", "Worse knee/Xray my Doc has ever seen",
  - "Weak knees run in my family", "Degeneration, bone on bone, my cartilage won't grow back"
  - "After surgery I will be like the bionic man", "I'll have a new joint like a teenager"
  - Realistic expectations "I want to run a marathon"
  - Pain = Harm
  - Flare ups = Harm
  - Swelling = post surgical complications such as DVTs

PAIN

- Strategies to lessen pain
  - Tissues heal
  - "Pain doesn't equal damage"
  - "You're sore but safe"
  - "Don't freak out over flare ups"
  - "Motion is lotion"
  - Stay calm (thought viruses)
    - E.g., scary medical language- Consider using terms that avoid increasing patient's anxiety (e.g., instead of emphasizing "severe degenerative joint disease," consider using "wear and tear on the joint")
  - Body's ability to produce chemicals stronger than the most strongest narcotics (endorphins)

Movement is Medicine

- *"Patients with established osteoarthritis are shown to derive uniform benefit to physical functioning, with reduction of pain and disability, using aerobic, muscle strengthening, aquatic, or physiotherapy-based exercise modalities."*
- *"The large evidence of high-quality trials supports the effectiveness of home exercise programs with and without supervised clinic-based exercises in the rehabilitation of knee OA."*
- *"Exercise intervention programmes involving either muscular strength, flexibility or aerobic fitness is beneficial for NSCLBP but not acute low back pain."*

Questions?