Knee Surgery vs Holistic Conservative Care

TUCK VS LEARY
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LECOM Health
Orthopedic Sports Medicine Surgeon

- Orthopedic Surgeon – treating wide variety of operative / non-op MSK.
- Dual fellowship: Umass Sports medicine / arthroscopy
- Prior medical staff / Boston Red Sox organization
- NASA Shuttle Medical Response Team
- Former U.S. Navy LCDR / Flight Surgeon
- LECOM / MCH orthopedic surgery residency core faculty / trainer
- LECOM Adjunct Clinical Assistant Professor – Surgery / Orthopedic
- Board Certified in Orthopedic Surgery
- M.S. in Medical Education
- Author of several articles / text book chapters.
- Overall awesome guy
Patrick F. Leary DO
LECOM HEALTH
Sports Medicine Program Director

- Ultrasound Guided Injections of Steroid, Visco, Prolotherapy, PRP, Stem Cells
- MSK Ultrasound Instructor
- Fellow of ACOFP, AOASM, ACSM, AAFP
- Primary Care Sports Medicine Program Director
- Trained 17 Fellows LECOM, 16 Fellows Notre Dame
- Author/Editor 5th PPE Monograph
- 35 years experience
- Board Certified Family Medicine
- CAQ Sports Medicine & Geriatrics
- Masters of Science Education
- Immediate Past President AOASM
- PIAA Sports Advisory Committee
- ACSM Team Physician Consensus Panel
- NCAA Cardiac Task Force

Are steroid injections worthwhile?
New England Journal of Medicine
September 11, 2008
Kirkley, Pope, Feagan
• 2 Year review of 178 moderate arthritics

Medicine and rehab vs arthroscopic surgery and rehab.
Same result, same pain
When and why do we scope?

Non Pharmacological Treatments

- MICE not RICE
- Relative Rest
- Weight Loss
- Physical Therapy
  (ART)TENS(McKenzie)
- Manual Medicine
- Bracing (unloader)OA Lite
- Shoes and Orthotics, Lift
- Three Dimensional Exercise Prescription

25 OARSI Study 20/25 Non Surgical Feb 2008

- AquaTherapy
- Education
- Support
- Neutraceuticals
- Diet & Nutrition & Botanicals
- Corticosteroid
- Acupuncture
- Sleep Hygiene
- Prolotherapy
- Viscosupplementation
- PRP, STEM Cells

- General Anesthesia & Surgery-
  TKR, Scope, Meniscal removal, repair
  or transplant
“Wellness 5”

- Exercise
- Sleep
- Nutrition
- Mental Health
- Substance Abuse

Steroid, Visco, Prolotherapy, PRP
A-Z

**Integrative**
- Education
- Bracing/DME
- Weight Loss
- Injections: Steroid, Visco, Prolo, PRP, Stem Cells
- Precise Placement with Ultrasound
- Posture, Gait, Stance
- Shoe wear
- Emollient Creams
- Physical Therapy
- OMT
- Home Exercise Program (Wand, Foam Roller)
- Sleep
- Nutrition

**Surgical**
- Physical therapy
- Injections
- NSAIDS/Narcotics
- Surgery

or 35,000$

700,000/year 93% Increase/10 years
Summary

- Take the Stairs
- Limit Screen Time, Read a book
- Stay Hungry
- Drink more water, Floss your gums
- Swim, walk and or run in water
- Walk, run, jog or bike for thirty-sixty minutes daily
- More pushups, sit-ups, pull-ups
- Walk as fast as you can as often as you can
- Eliminate fast foods and tobacco products Limit alcohol
- Eat orange and vivid colored fruits and vegetables found on the perimeter of the grocery
- More fruits and vegetables less carbs More fresh fish> poultry>pork>beef,
- Garlic, Ginger, Green Tea, 70% Cocoa, Almonds, Raisins, Red Wine

Live better longer

- Vitamin D level at 50
- Multi Vitamin
- Practice Good Posture
- Proper Footwear
- Restful Sleep/Naps/Meditation/Laughter/Sex
- Sunshine Exposure
- Keep it less than 200lbs
- Seat Belts/Vaccinations
Risks

- Infection
- Anesthesia
- DVT
- Blood Loss
- Death
- Nerve Damage
- Poor Outcome
- Post Op Pain
- Loss of Mobility
- Aggravation of Comorbid conditions
- Allergy
- Fearful State of Mind

Expense

- Loss of productive time
- Hospital
- Surgical Suite
- Anesthesia
- Medications
- Titanium Appliances
- Rehabilitation
- Post op DME
- Insurability
- Subsequent Surgery
- Lost wages
- State of Mind
- Job security
- Travel & Parking
- Household responsibilities
- Deductibles
Return to Play

- Minimal Blood Loss
- Good as New
Pain Therapies  Injectable

**SYSTEMIC**
- Ketorolac
- MS
- Demerol
- Steroid
- Nubain

Intra/Extra-Articular
- Dextrose 15%/25%
- Normal Saline
- P2G
- Pumice
- Sodium Morrhuate
- Steroid (DepoM, Celestone
- Platelet Rich Plasma,
- Hyaluronic Acid
- Novicaine, Xylocaine,
  Bupivcaine
50 of Vicodin with 5 refills

Pain Therapy

**ORAL**
- NSAIDS
- Acetaminophen
- Prednisone
- COX-2
- Lyrica, Neurontin
- Methadone, Vicodin, Oxycontin
- Ambien, Lunesta, Cymbalta, Elavil, Flexeril, Tramadol,

**TOPICAL**
- Capsaicin
- Ketoprofen gel
- Lidoderm, EMLA
- Diclofenac (flector)
Older adults aren’t afraid of dying, they’re afraid of losing independence.
“Wellness 5”

- Exercise
- Sleep
- Nutrition
- Mental Health
- Substance Abuse

Mind Body Spirit

1:00

THE BIG FINISH

GO! Stop Pause

1:00 2:00 3:00

30sec 1 min 1:00 2:00 3:00

GO!
Evidence Based

- Locking
- Swelling
- Giving way

- Mechanical= NPO

Bracing
TREATMENT OF OSTEOARTHRITIS OF THE KNEE
EVIDENCE-BASED GUIDELINE 2ND EDITION

Adopted by the American Academy of Orthopaedic Surgeons
Board of Directors May 18, 2013

AAOS Guidelines for Treatment of Knee OA

<table>
<thead>
<tr>
<th>AAOS Guidelines</th>
<th>Strength of Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Self management / educational program / act. Modification</td>
<td>• Strong</td>
</tr>
<tr>
<td>• Weight loss</td>
<td>• Moderate</td>
</tr>
<tr>
<td>• Against acupuncture/TENS/ manual therapy</td>
<td>• Strong</td>
</tr>
<tr>
<td>• Bracing</td>
<td>• Inconclusive</td>
</tr>
<tr>
<td>• Against lat. heel wedge</td>
<td>• Moderate</td>
</tr>
<tr>
<td>• Against glucosamine /CS</td>
<td>• Strong</td>
</tr>
<tr>
<td>• NSAID’s or Tramadol</td>
<td>• Strong</td>
</tr>
<tr>
<td>• Tylenol, opioids, pain patches</td>
<td>• Inconclusive</td>
</tr>
</tbody>
</table>
## AAOS Guidelines for Treatment of Knee OA

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<th>Strength of Recommendation</th>
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<tr>
<td>• Intra-articular steroids</td>
<td>• Inconclusive</td>
</tr>
<tr>
<td>• Against HA injections</td>
<td>• Strong</td>
</tr>
<tr>
<td>• PRP or growth factor inj.</td>
<td>• Inconclusive</td>
</tr>
<tr>
<td>• No needle lavage</td>
<td>• Moderate</td>
</tr>
<tr>
<td>• No arthroscopy for debridement</td>
<td>• Strong</td>
</tr>
<tr>
<td>• Arthroscopic meniscectomy</td>
<td>• Inconclusive</td>
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## RUNDOWN

What is your position on using PRP and stem cell injections?

1:00
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- Relative Rest
- Weight Loss
- Physical Therapy
  (ART)TENS(McKenzie)
- Manual Medicine
- Bracing (unloader)OA Lite
- Shoes and Orthotics
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AquaTherapy
Education
Support
Neutraceuticals
Diet & Nutrition & Botanicals
Corticosteroid
Acupuncture
Sleep Hygiene
Prolotherapy, PRP, Stem Cells
Viscosupplementation

General Anesthesia & Surgery-
TKR, Scope, Meniscal removal, repair or transplant

25 OARSI Study 20/25 Non Surgical
Feb 2008/Jun 2014
RUNDOWN

Weight Loss?

Alternatives
Visco?

Ultrasound Guidance
When you operate on a patient, you marry them.
Outcomes

- Grading Our Own Paper
- Incision clean and dry
- Well healed
- Coming along nicely
- Looks good from the door
- Minimal blood loss
- “Good as New”

Vicodin 7.5  #50 refills 5
Revision

Kinesiotaping: Fact or Fiction?
Physical therapy

Supplements?
• **Arthritis Rheum.** 2005 Jul;52(7):2026-32.

• Weight loss reduces knee-joint loads in overweight and obese older adults with knee osteoarthritis.

• **Messier SP**¹, **Gutekunst DJ, Davis C, DeVita P**

Each pound of weight lost will result in a 4 – fold reduction in load per step (Arthritis & Rheumatism 2005)
New England Journal of Medicine  
September 11, 2008  
Kirkley, Pope, Feagan

- 2 Year review of 178 moderate arthritics

Medicine and rehab vs arthroscopic surgery and rehab.  
Same result, same pain
Consensus statement on visco supplementation with hyaluronic acid for the management of osteoarthritis.

Henrotin Y₁, Raman R², Richette P³, Bard H⁴, Jerusch J⁵, Conrozie T⁶, Chevalier X⁷, Migliore A⁸.
- The expert panel achieved unanimous agreement in favor of the following statements:
  1. VS is an effective treatment for mild to moderate knee OA;
  2. VS is not a substitute to surgery in advanced hip OA;
  3. VS is a well-tolerated treatment of knee and other joints OA;
  4. VS should not be used only in patients who have failed to respond adequately to analgesics and NSAIDs;
  5. VS is a “positive” indication but not a “lack of anything better” indication;
  6. Cross-linking is a proven means for prolonging IA residence time of H

Platelet-Rich Plasma Intra-articular Knee Injections Show No Superiority Versus Visco supplementation: A Randomized Controlled Trial.

Ferraro G1, Di Matteo R2, Di Martino A3, Merli MU4, Cencetti S5, Formarini F5, Marzetti M, Kon B1.
- Randomized controlled trial, Level of evidence, 1.
- 192 patients. Criteria: Unilateral, > 4 mos symptom duration.
- 3 weekly injections.
- Evaluation at time zero, 2, 6, and 12 months International Knee Documentation Committee (IKDC) subjective score (main outcome). Knee injury and Osteoarthritis Outcome Score, EuroQol visual analog scale, and Tegner score. Range of motion, transpatellar circumference, patient satisfaction, and adverse events were also recorded.
- Also noted increased post injection pain and swelling with PRP.
Thank You Drs. Tuck and Leary!