COST EFFECTIVENESS OF REGENERATIVE MEDICINE

THOMAS K. BOND, MD, MS

2018 LDI Annual Health Care Conference
STEPS Goals

1) To review the current state of orthopedic / musculoskeletal injury patient flow

2) To outline current difficulties within the process

3) To introduce the concept of Interventional Regenerative Orthopedic Medicine (IROM) and how it can assist patients and companies
STEPS Objectives

1) By end of the session, to understand the current state of orthopedic / musculoskeletal injury patient flow

2) To describe how regenerative medicine or IROM can improve patient health, expedite their return to work, and improve the company’s bottom line
Case Study 1

Patient A: 35 year old female with lower back pain
Case Study 1

Patient A: FAILED THE TREATING PHYSICIAN’S CONSERVATIVE TREATMENT PLAN

STEPS FOR SIF AND WORKERS’ COMP

SURGERY?

IROM INTERVENTIONAL REGENERATIVE ORTHOPEDIC MEDICINE
FOR SELF-INSURED EMPLOYERS AND WORKERS’ COMPENSATION CASES

STATE WORKERS’ COMPENSATION COSTS

From fiscal year 2006 to 2013, workers’ compensation costs have increased by 49.4% from $44.3 million to $66.2 million.

For state employees, the average duration of temporary total disability benefits was 73.2 weeks.

Louisiana has higher indemnity costs than other southern states because it does not limit how long individuals can receive temporary total disability benefits.
Overall, we found that the high cost of workers’ compensation is due, in part, to unlimited temporary total disability benefits, an increase in the amount of time workers are off the job, the use of an outdated fee schedule to reimburse medical providers, the lack of a prescription drug formulary, and a costly dispute resolution process.
FOR SELF-INSURED EMPLOYERS AND WORKERS’ COMPENSATION CASES

PRESCRIPTION OPIOID USAGE

Nearly half of all U.S. opioid overdose deaths involve a prescription opioid.

Each day in the U.S., more than 1,000 people are treated in emergency departments for not using prescription opioids as directed.

In 2016, East Baton Rouge Parish overdose deaths exceeded motor vehicle deaths.

In 2013, Louisiana ranked FIRST in opioid prescribing according to the CDC Morbidity and Mortality Weekly Report.
FOR SELF-INSURED EMPLOYERS AND WORKERS’ COMPENSATION CASES

PRESCRIPTION OPIOID USAGE
IROM Utilization in Treating Musculoskeletal Pain

The use of these Regenerative Orthopedic Interventions have been previously shown to:

- Increase employee satisfaction with improved choice.
- Allow for the opportunity of natural healing of the condition without invasive / traumatic surgery.
- Improving patient’s pain.
- Improving patient’s function.
- Increasing patient’s ability to return to work.
- Improving cost savings to the company/employer.
What are some of these IROM techniques which can replace surgery?

1. **Ligament-Stabilization Procedures:**
   - a. Utilizes proliferative substances to tighten ligaments.

2. **Growth-Factor Injections:**
   - b. **Allogenic Growth Factors:** Amniotic Membrane Growth-Factor injections, aka “Amnio”: utilizes extracted placental growth factors from the amniotic membranes of human placentas.
What are some of these IROM techniques which can replace surgery?

3. **Stem Cell Therapy** = Bone Marrow Aspirate Concentrate, aka “BMAC”:
   utilizes the patient’s own stem cells harvested and isolated from their bone marrow cavity.

4. **Ultrasound-guided Neuroplasty/Hydrodissection of Impinged Nerves**, aka “Nerve Fracking”:
   utilizes the patient’s own blood products (called Platelet Lysate) to release and heal nerves damaged by impingement and/or scar tissue.

5. **Ultrasound-guided Percutaneous Tenotomy & washout, aka “PNT/Prolo”**: utilizes directed visualization under Ultrasound to stimulate healing and avoid more invasive surgery.
Regenexx AD stem cell procedures yielded these before and after photos of two different patient's knees.

Notice the difference in the meniscus between the two bones and the substantial reduction of bone-on-bone activity.
Case Study 2

Patient B: 50 year old male with right knee injury
Case Study 2

Patient A: FAILED THE TREATING PHYSICIAN’S CONSERVATIVE TREATMENT PLAN

STEPS FOR SIF AND WORKERS’ COMP

SURGERY?

IROM INTERVENTIONAL REGENERATIVE ORTHOPEDIC MEDICINE
The Iowa Study

A. Fortune 500 Company (MEREDITH) – Des Moines, Iowa

B. 3900 employees

C. Presented the study / concept - understood and decided to proceed.

D. Injured employees offered the choice of the recommended surgery or IROM procedure.

E. Year 1 (2015-2016): 125 employees elected IROM over surgery – results follow:

1) Spinal / Laminectomy / Fusion – 9 patients

2) Knee / Meniscus – 53 patients
Case Study 1

Patient A: 35 year old female with lower back pain
SUMMARY

The Iowa Study
Actual Savings by Adding STEPS / IROM to Self-Insured Fund:

1. 9 Employees avoided recommended surgery

2. Cost-savings to company: $406,938

Spinal / Laminectomy / Fusion
Orthopedic Surgery Costs vs. IROM Costs

- $453,168
- $46,230

Statistics: Iowa IROM Study
Case Study 2

Patient B: 50 year old male with right knee injury
SUMMARY

The Iowa Study
Actual Savings by Adding STEPS / IROM to Self-Insured Fund:

1. 53 Employees avoided recommended surgery
2. Cost-savings to company: $1,438,743

Statistics: Iowa IROM Study
STEPS - Frequently Asked Questions

What kind of outcome can I expect?
- Open communication to work the case
- Early rehabilitation
- Expedited return to work (RTW)

These reasons are because with the procedure, the patient is generally moving the injured joint within hours of the procedure, therefore maintaining range of motion. In addition, our post-procedure compliance is 80-100%, which increases the range of motion during the recovery phase and therefore expedites RTW. This is typically not possible with surgical alternatives. This is what we would consider a successful case.
SUMMARY AND GOALS

I. Use STEPS and IROM to help patients improve their musculoskeletal condition and return to work without major invasive surgery.

II. Save the employer approximately 80% of their costs attributed to orthopedic surgery and pre/post-operation care.

III. Create a “win-win” for the organization: happy, healthy employees who can improve and return to work without surgery AND double-digit savings for the organization in annual orthopedic expenditures.