

# Challenges of Return to Work after Hip or Knee Replacement

Moderator:

John W. Burress, MD, MPH, FACOEM; Medical Director, Dept OEM BMC

Panel:

Daniel Ward, MD; Orthopedic Surgeon, NEBH

Laura Sorafine, Esquire; Labor Attorney, Boston Medical Center

Jim Montana, PT; St. Francis Occupational Health; Hartford, CT

## Objectives

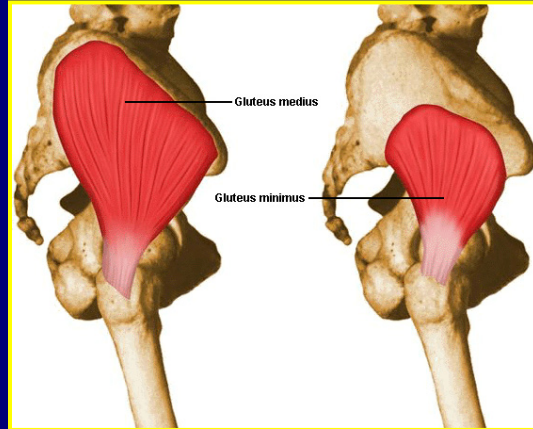
- Grasp key insights on current TKR & THR
- Review current expectations of recovery
- Identify determinants of delayed recovery
- Discuss HR issues when non-work related
- Understand ideal circumstances for successful RTW
- Appreciate common difficulties in achieving full function

# Anatomy

## ■ Anatomy HIP

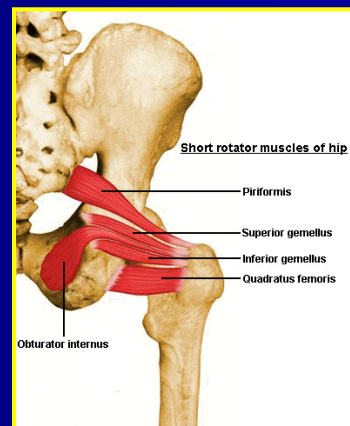
### – Gluteus

- Max
- Med
- Min



# Anatomy

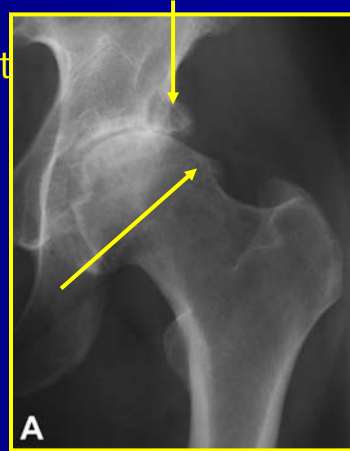
- Anatomy HIP
- Short Rotators
- Sciatic nerve



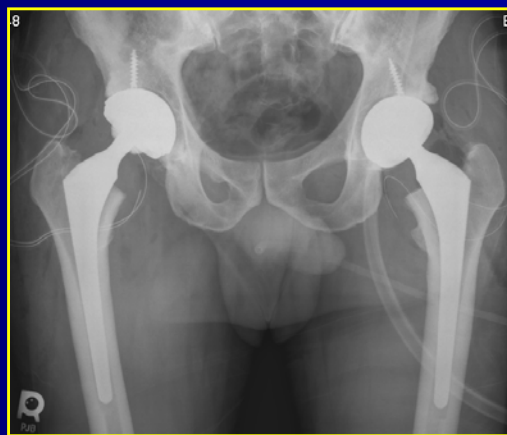
## Anatomy-Arthritis

### ■ Anatomy HIP

- Femoral head osteophytes
- Acetabular "phytes"
- Cysts
- Loss of joint space
- "Shortening"



## Total Hip Replacements



# Total Knee Replacement



## Materials

- Advances in Plastics/Metals/Ceramics
  - Each of these new materials has a positive and a negative
  - Must weigh for each patient
  - Informed Consent is IMPERATIVE
  - There is no perfect bearing that exists: all have potential complications inherent within their material and its reactions with the body

## Outcomes

- US total hip replacements
  - Most are non-cemented-almost 90%
  - Failure rates are less that 5% at 5 years
    - **Conservative predictions**
      - 5 years at less than 5% failure rate
      - 10 years 5-10% failure rate
      - 15 years 10- 15%
      - 20 years 10- 20%

## Outcomes

- US total Knee replacements
  - Most are cemented-almost 90%
  - Failure rates are less that 5% at 5 years
  - Workers Compensation outcomes are worse than general population
    - **Conservative predictions!**
      - 5 years at less than 5% failure rate
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      - 15 years 15%
      - 20 years 20%

## Outcomes

- US Metal on Metal (MOM) experience has received significant amount negative press lately
- Not all metal on metal is the same
- Need to evaluate MOM patients with physical exam, xrays, and potentially cobalt & chromium labs, ultrasound, MRI

## Outcomes

- As a general rule for all replacements
  - NO RUNNING or JUMPING on a consistent basis
  - No consistent lifting > 100lbs.
    - Remember going down a single step is 2.5x body weight across the knee.
  - I allow testing for job performance
  - Hips show greater patient satisfaction than knees

## Outcomes

- Return to work:
- Uncomplicated Total hip:
  - 6-8 weeks for non-lifting job requirements
- Uncomplicated total knee:
  - 8-10 weeks for non-lifting job requirements
- Heavy DUTY job requirements:
  - 10- 12weeks for both hip and knee

## Human Resources Challenges

### Each case/employee is different

- Jobs vary as to level of physical exertion required
- Employees vary as to motivation to RTW

### Balancing competing interests

- Business operation
- Interests of particular groups within employer
- Interests of employee/duty to employee
- Obligations under labor laws (e.g., FMLA, ADA with 2009 amendment)

## Key Laws Governing Employee Leaves of Absence

- Family Medical Leave Act
  - Provides up to 12 weeks of leave for a serious medical condition or to care for an immediate family member with a serious health condition
  - Leave can be taken on intermittent basis

## Key Laws Cont.

- Americans With Disabilities Act
  - Prohibits discrimination against qualified persons with disabilities, including both job applicants and current employees
  - Requires employers to provide reasonable accommodation to persons with disabilities
  - Leave of Absence can be a reasonable accommodation
  - Interactive process

## Key Laws Cont.

- Workers' Compensation
  - Wage loss benefit if removed from work
  - Employers can run FMLA leave concurrently
  - Rehiring preference rules exist for employees injured on the job

## Clarify Role of OEM provider versus Legal/HR

- Physician
  - Medical evaluation tied to specific job duties
  - Identify restrictions
  - Approximate return to work date (if leave necessary)
- Legal/HR
  - Identify policies and laws governing particular employee/condition
  - Judgment call regarding reasonable accommodation

## Post Operative Protocols

- Orthopedist- Chief Clinician
- Occupational Physician
- Occupational Nurse
- Rehabilitation Specialist, Physical and Occupational Therapist

## Functional Job Descriptions

- Essential Job Functions
- Reasonable Accommodation 3-12 months
- Developing Functional Rehabilitation to Match the Essential Job Functions

## Literature Review

- There are a small number of studies that guide clinicians in returning patients to work capacity after TKR, (Styron et. al., 2011).
- Sparse knowledge base regarding beneficial or limiting factors affecting return to work after TKR or THR, (Kuijjer et.al., 2009).
- There are a number of studies that address long term survivorship of knee arthroplasty, however there are few studies that look at the ability of workers to resume active employment, (Foote, et. Al., 2010).
- Limited data on studies that specifically examine the impact that THR have on the patients' ability to productively fulfill their occupational duties after surgery, (Bohm et. al., 2008).

## Current Rehabilitation Concepts for Evidence Based Practice Patterns

- There exists a wide variation in rehabilitation practices after total joint arthroplasty, medical-surgical management, (Gorman and Curry, 2010).
- Further research is indicated to develop evidence-based practice methodology, (Gorman and Curry, 2010).

## Rehabilitation for Total Joint Replacements

- Protocols to follow principals of joint protection.
- Reduction of mechanical stress that compromise joint integrity.
- Protocols that follow surgeons recommendations.

## Design a Rehabilitation Program that Meets the Expectations' of Patient and Physician

- Determine the Essential Job Functions.
- Maintain integrity of rehabilitation principles and time dependent restoration of function.
- Increase ROM, strength, and restore safe return to work.

## Progression for Return to Work

- Reduce inflammation
- Educate patient in joint protection
- Improve ROM & strength
- Normalize gait
- Instruct in safe independent home exercise program
- Restore normal joint mechanics and kinematics
- Progress to advanced closed chain activities that restore proprioception and joint dynamics.

## Time Duration

- Joint protection and early intervention 0-4 weeks
- Restoration of AROM and joint strength 0-12 weeks.
- Advanced closed chain and dynamic activities 8-12 weeks
- Restoration of function that meets essential job requirements 2-6 months

## THR and TKR for Optimum Functional Restoration

- THR 3-6 months
- TKR 6-12 months

## Return to Work

- Maximal restoration of function, ROM, strength, balance and dynamic activities
- Rehabilitation programs that are designed for essential job functions.
- Protection of joint replacement
- Accurate data, tests and measurements for both the surgeon and occupational physician which may help determine safe return to work activities.

## RTW after THR - Light PDL

- 8 weeks return to work, able to ascend stairs with reciprocal gait, sit and stand up to eight hours, walking without assistive devices
  - Lift 0-20lbs from waist - shoulder and overhead. Limit bending below waist.
  - Functional strength and AROM
  - Orthopedist will allow progression based upon functional outcomes

## RTW after THR – Medium to Heavy PDL

- Progression of weighted activities based upon surgeons protocol along with, quantified tests and measurements and safe work postures
- Joint protection 3-6 months such as squatting, extreme end range of adduction, rotations and flexion
- Low impact aerobics and core strengthening
- Dynamic balance closed chain skills

## RTW after TKR - Light PDL

- 0-100 degrees 0-4 weeks, prevent extensor lag and increase quad control
- 0-120 degrees 4-8 weeks working on flexion and full extension
- Progress to FWBAT without assistive devices, normalize gait
- Reciprocal gait ascending and descending stairs
- Sit and stand up to 8 hours
- Progressive functional activities during the next 2-3 months, core strengthening, dynamic balance, low impact aerobics, swimming, bike, elliptical

## RTW after TKR – Medium to Heavy PDL

- 3-6 months 0-120-130 degrees
- Functional activities, squatting and kneeling if indicated
- Dynamic balance skills
- Core strength
- Low impact aerobics, bike, elliptical, swimming
- Progressive lifting with weights cleared by surgeon

## Goals

- Preserve employment
- Timely and safe RTW to modified (if available) then full work related duties
  - Implies restoration of ROM, strength, joint function and dynamics
- PT and modified duty to provide functional activities in a safe environment
  - Optimize outcomes...tissue healing, biomechanics, and stable pain-free joint

## References

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- 2. Bohm ER, BEng MD. The Effect of Total Hip Arthroplasty on Employment. *The Journal of Arthroplasty* Vol. 25 No. 1 2010; 15-18. [PubMed]
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- 6. Styron JF, Barsoum WK, Smyth KA, Singer ME. Preoperative Predictors of Returning to Work Following Primary Total Knee Arthroplasty. *Journal of Bone and Joint Surgery*, 2011; 93:2-10. [PubMed]