

The Aging Workforce and Orthopaedic Surgery: It's Not Easy Getting Old

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Introduction

❖ Peter Mangone, MD

➤ Orthopaedic Foot and Ankle

❖ Bradd Burkhardt, MD

➤ Shoulder and Knee

❖ John Hicks, MD

➤ Spine

Blue Ridge Bone & Joint Clinic

❖ *“FULL MOTION LIVING”*

❖ *20 MDs*

❖ *All major subspecialties*

❖ *www.brbj.com*

BRBJ

- ❖ Foot and Ankle Center

- ❖ Orthopaedic training

 - Pam Allen, MD

 - Mark Hedrick, MD

 - Peter Mangone, MD

Aging Workforce

❖ Aging population

➤ Baby boomers in the workforce

- Born 1946 to 1964 (in year 2010 = 64 yo to 46yo)

❖ Approximately 70 million

❖ 17% of workforce older than 55

Aging workforce

- ❖ Advances in medicine = greater number people living longer
- ❖ More fit
- ❖ More active

Aging workforce

❖ More workers

❖ Older workers

❖ Delaying retirement

❖ **EQUALS MORE WORKPLACE INJURIES**

Orthopaedic Overview

❖ Axial Skeleton

➤ Spine and Pelvis

❖ Appendicular Skeleton

➤ Arms and Legs

Orthopaedic Overview

- ❖ Bones
- ❖ Joints
- ❖ Muscles
- ❖ Tendons
- ❖ Ligaments
- ❖ Nerves

Bones and Joints

- ❖ 206 bones in the body
- ❖ Joint = articulation between two bones
 - Some very mobile (shoulder)
 - Some very constrained (midfoot or carpus)

Bones and Joints -- Aging

❖ Arthritis

- Injury can exacerbate underlying arthritis

❖ Osteoporosis

- Easier to fracture
- Stress fractures

Muscles/Tendons/Ligaments

- ❖ Muscles = Move and/or stabilize the joints
 - e.g – Biceps
- ❖ Tendons = Connect muscle to the bone
 - e.g - Achilles
- ❖ Ligaments = Connect bone to bone (stabilize joints)
 - e.g - ACL

Muscles/Tendons/Ligaments - Aging

- ❖ Tendons and ligaments lose elasticity as we get older
 - Injuries occur with less force and to a greater degree

- ❖ Muscles become weaker overall
 - Less able to prevent injury
 - Same workload with less muscle strength

Nerves

- ❖ Central – spinal cord or brain
- ❖ Peripheral – Lumbar spine and appendages
- ❖ Compression or traumatic injury

Nerves -- Aging

❖ Compression issues

- Tarsal tunnel
- Spine

❖ Neuropathy

- Aging
- Medications
- Diabetes

Systemic Conditions – Aging Workforce Considerations

- ❖ Diabetes – affects healing and infection
- ❖ Hypothyroidism
- ❖ Statin drugs -- hypercholesterolemia
- ❖ HTN -- exacerbate pain
- ❖ Rheumatologic conditions
 - Fibromyalgia
- ❖ Balance issues

Lifestyle Issues That Affect the Aging Worker

- ❖ Tobacco use
- ❖ Alcohol use
- ❖ Noncompliance
 - Intentional
 - Non-intentional
- ❖ Nutrition

Lifestyle Issues

❖ Home and transportation

- Large home?
- Steps?
- Mountains?
- Able to drive to appointments?
- Is the house wheelchair accessible? (esp. for lower extremity injuries)

❖ Marital status/friends/family

- Who is there to help?

Mental Issues after Orthopaedic Injuries the in the Aging Workforce

- ❖ Injury and depression/adjustment disorder
 - Family dynamics/social role
 - Orthopaedic injuries significantly alter lifestyle and potential for recovery
 - Too many people in the workman's comp system have unrealistic expectations for recovery
 - May have to change job
 - No experience in another field
 - Very stressful
 - Inhibits healing physically and mentally

Additional Mental Issues

❖ Organic Brain syndrome

- Age

- Alcoholism (active or previous)

❖ Case example (patient RL)

Aging and Workplace Injuries

❖ Final consideration in older population:

**CONTRALATERAL
MUSCULOSKELETAL
DISEASE/CONDITIONS**

(especially in lower extremity injuries)

Foot and Ankle Basics

❖ 28 bones

❖ 40 joints

❖ 9 major tendons

❖ 5 major nerves

Foot and Ankle Basics

❖ Purpose

- Stable
- Painless
- Plantigrade
- Base of support for:
 - Standing
 - Walking
 - Carrying
 - Pushing

Foot and Ankle Basics

- ❖ Average person takes 5000 to 10,000 steps in an average day
- ❖ Many people (especially adjusters) underestimate the importance of the foot and ankle in return to work even for simple jobs

Foot and Ankle – “I get no respect”

- ❖ NC Industrial Commission foot and ankle rating limited/vague
 - Especially soft tissue injury
- ❖ Foot and ankle injuries consistently underrated (in my opinion)
 - e.g – Studies show a calcaneus fracture patient has same functional limitation SF-36 scores as lumbar spine fracture

Aging & the Foot and Ankle

❖ Special issues for the “more mature”

➤ Stress fractures

- Osteoporosis
- Overuse – quick return to work

➤ Posterior tibial tendon injury

- Adult acquired flat foot

Aging & the Foot and Ankle

- ❖ Special issues for the “more mature”
 - Achilles tendonitis
 - Insertional
 - Non-insertional
 - Systemic conditions – Gout/Reiter’s disease
 - Longstanding flatfoot
 - Cavovarus foot and ankle instability

Aging & the Foot and Ankle

❖ Arthritis

➤ Exacerbation of underlying condition

❖ Acute injuries in the face of chronic malalignment issues

- Must be addressed as part of treatment
- e.g – 5th MT fracture in a cavovarus foot

Aging & the Foot and Ankle

❖ Special considerations – systemic

➤ Diabetes (case study later)

- Slower healing
- HBA1C < 8 important for healing
- Charcot fractures
 - Takes 2-3 times longer for a fracture to heal in this population than normal
 - AFFECTS RETURN TO WORK

Aging & the Foot and Ankle

❖ Systemic conditions

➤ Fibromyalgia

- Makes minor injuries more painful
- If uncontrolled – more difficult
- May be precursor to RA, lupus, etc

Case Studies

- ❖ RL – tibiotalar fusion after failed ORIF ankle
 - Home, lifestyle, tobacco, poor upper body strength
- ❖ GS – Fusion midfoot DJD and neuroma excision after previous podiatric OR
 - Continued pain with footwear
 - Employer has unrealistic expectations for return and angering worker

Case Studies

- ❖ DH -- ankle DJD and stiffness after calcaneus fracture requiring eventual fusion
 - Job modifications necessary
 - Patient has trouble understanding why he is “stiff”
 - Persistent pain

Case Studies

- ❖ JW – Crush injury to Achilles and tarsal tunnel combined with previous injury to posterior tibial tendon
 - Fight between insurance companies with patient in the middle
 - Need soft tissue treatments long term – not covered
 - Poor employer/employee relationship

Summary

- ❖ Aging plays significant role in:
 - Severity of injury
 - Recovery time from injury
 - Exacerbation of underlying conditions due to injury
 - Systemic conditions and mental issues affect recovery from injury
 - Home/Lifestyle must be understood to be successful in outcomes

How to succeed

❖ Prevention

➤ Stretching

➤ Conditioning

➤ Education (workplace and home lifestyle)

- Both employees and employers
- Also educate employees about workman;s comp system – the more transparent the less anger – it will save money in the long run (like medical malpractice)

How to succeed

- ❖ After injury/during recovery
 - Realistic expectations
 - Home/lifestyle environment
 - Non-hostile approach with patient
 - Education of system
 - Multi-disciplinary approach with recognition of non-physical factors affecting recovery
 - Re-training may be necessary after foot and ankle injury for WBing job

❖ Thank you from:

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