Return To Play Issues/The Aging Athlete

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Return to play

- Medical clearance of an athlete for full participation in sport without restriction
- All activities have risk
- Our role is to help determine what is an acceptable level of risk
- “Nothing can make you indestructible”

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What's the process? Important questions to consider

- Risk evaluation
  - Evaluation of health status
  - Evaluation of participation risk – consider the sport
    - Ex: RC in pitcher vs first baseman
  - Decision modifiers – what else can come up
- Can be controversial and source of conflict
- What is my level of expertise?

Guidelines - Musculoskeletal

- Pain free
- Near full ROM
- Strength normal
- Swelling absent
- Joint stability
- Progressive return
  - Conditioning/cross-training
- Functional training passed
- Confidence

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I. Medical Factors - What is the diagnosis?

- Demographics – age, sex
  - Ex: healing time in aging athletes
- Symptoms – pain - means incomplete healing, giving way
- Previous history – recurrence indicates risk

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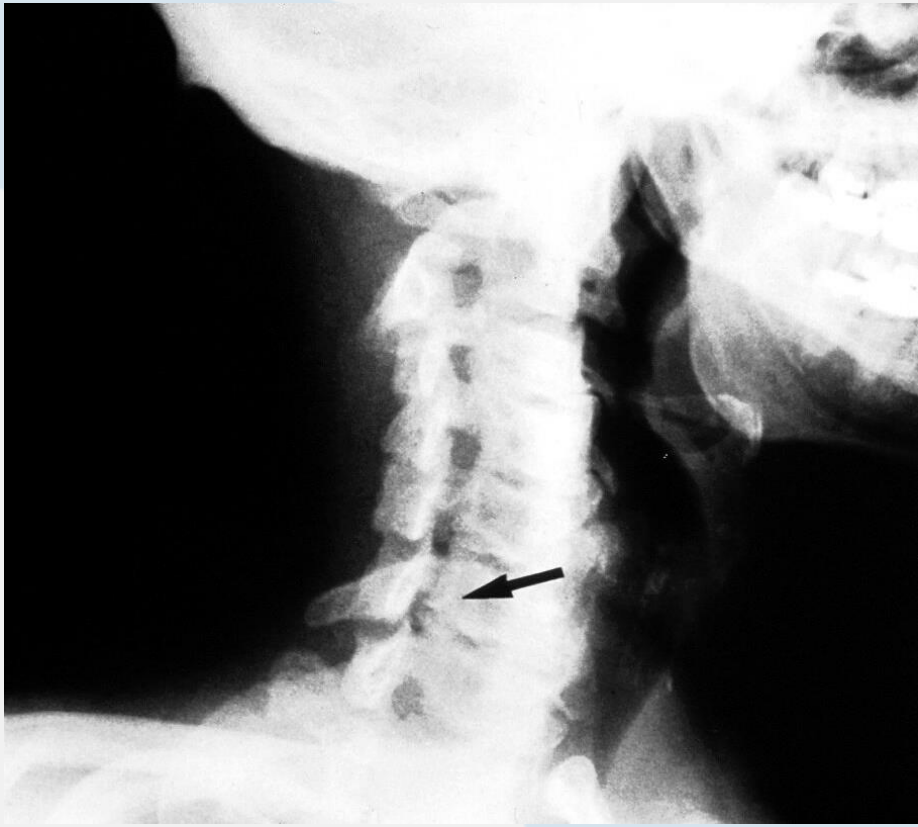
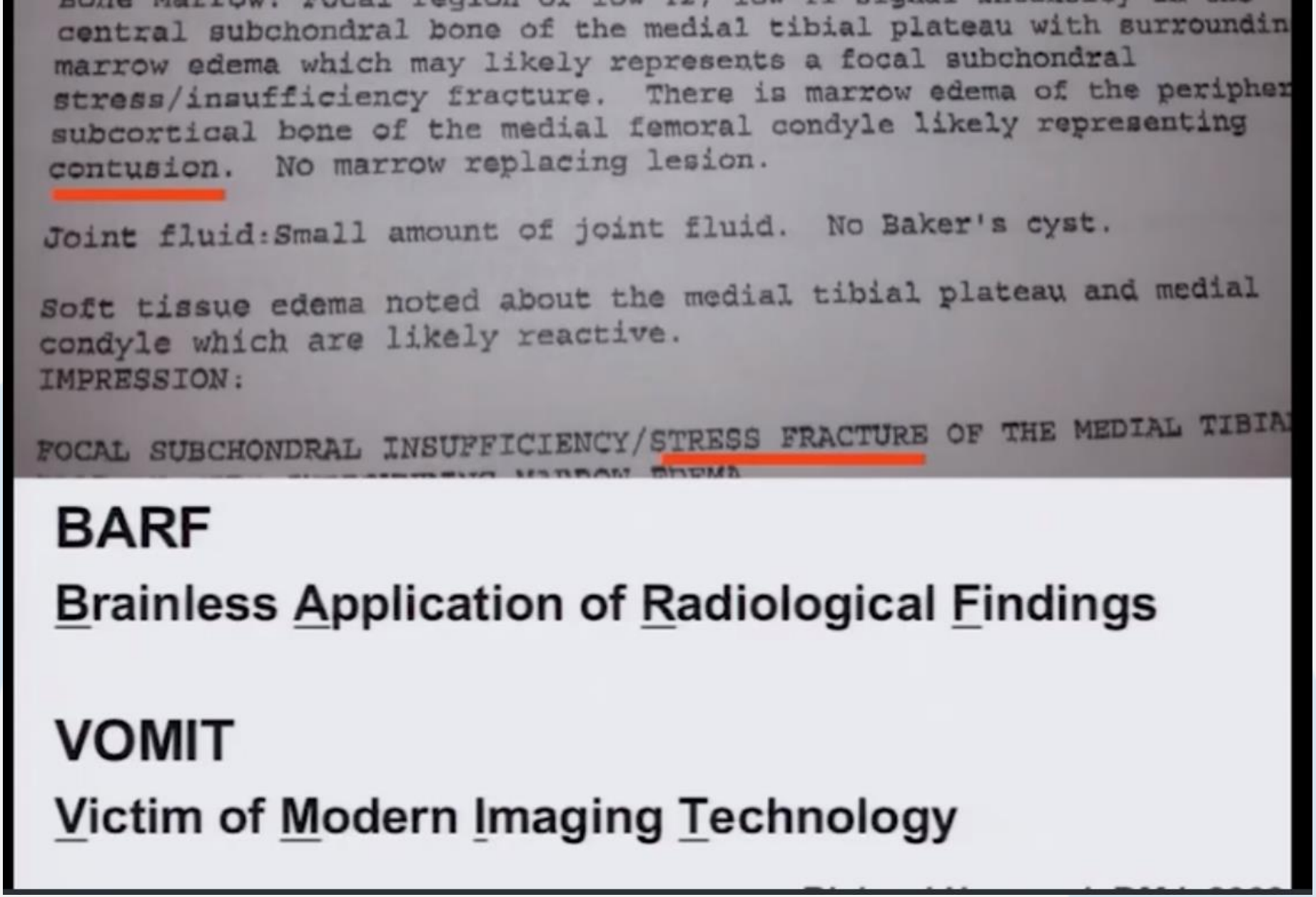
Physical exam

- Tenderness
- Swelling/effusion
- Weakness
- Range of motion
- Instability
- Balance

Imaging

- X-rays – fracture & bone/joint abnormalities
- MRI – ligaments, meniscus, tendons, labrum, articular cartilage





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Functional tests – PT, ATC

- Progressive return –
  - Physical therapy/rehab
  - Conditioning/cross-training
  - Sports specific skills – mimic the forces and stresses of the competitive situation

Psychological state

Does the athlete want to play?

- Athlete comfort and confidence
- Absence of fear – anxiety, timidity, apprehension
- Motivated to return – “ask the questions”
- Coping mechanisms

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Potential long-term consequences –

What is the risk of worsening or reinjury?

- Type of injury
  - –Concussion
  - –Tennis elbow

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II. Sport risk - How does the condition affect performance?

- Type of sport – collision, non-contact
- Position – goalie, kicker
- Limb dominance – pitcher, quarterback
- Level – recreational, pro
  - Higher level, higher risk
- What modifications can be used to make safer?
  - Ability to protect – padding, bracing, taping
    - Ex: cast for lineman, bracing for wrestling??

Decision modifiers

- Timing and season – off-season, playoffs, “last chance”
- Pressures – athlete, coach, parents

Sources of potential conflict

- Changing sports culture
  - Increased exposure – year-round participation
  - Social circle changes
  - Family time changes
  - Cost

Desire for quick recovery

- Unrealistic expectations
- Clouded judgment - ROI
- Everyone talks about early return
- Nobody wants to hear about the failures
- Don’t listen to you – “What about tonight?”

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Manage Expectations

"The art of medicine consists of amusing the patient while nature cures the disease"

- Voltaire

A little reassurance goes a LONG way!

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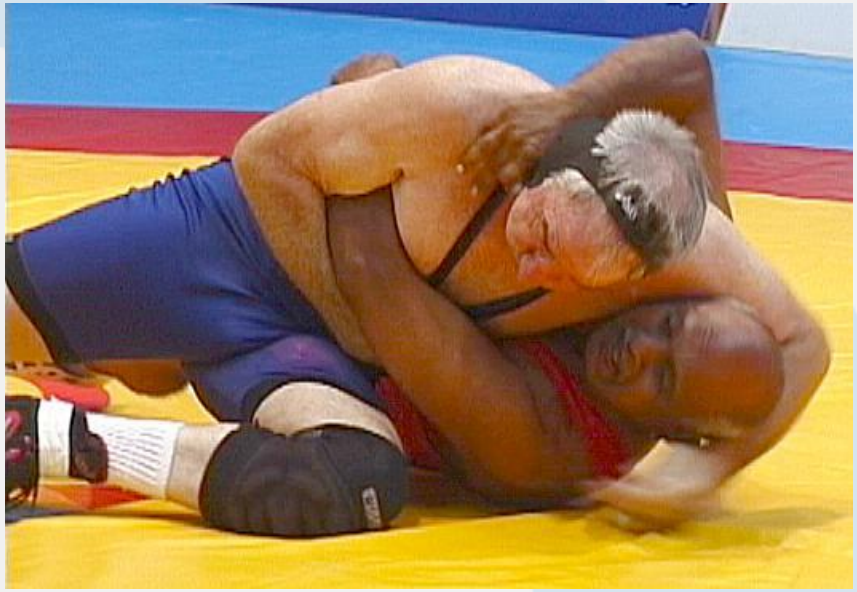
The Aging Athlete

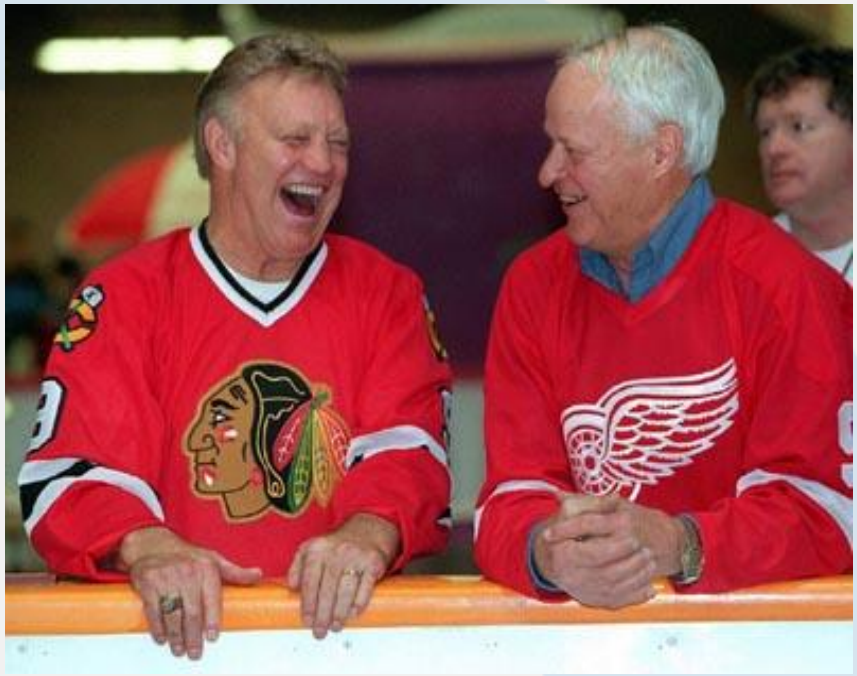
The Aging Athlete

- How the body changes
- Exercise and OA
- Epidemiology of Injuries
- Treatment considerations
- Exercise prescription



What Changes Occur With Aging?

- **Age-related changes affect the performance of virtually every organ system in predictable well documented ways**
  - ***Great variation between individuals***



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Muscle

- **Greatest impact on functional capacity**
  - ***Body loses ability to use muscle as a shock absorber***
    - **Force transmitted to joints increases**
- **Reduced muscle mass**
  - ***20% of muscle lost by age 65***
- **Strength declines 1.5%/yr after age 60**

Effect Of Exercise

- Weakness may be reversible with exercise
- Older athletes show similar gains in strength training as younger individuals
- Regular intensive muscle training can minimize or reverse age-related declines in muscle mass into the 70’s

Bone

- **During first 3 decades of life, bone mass increases**
- **During 4th decade, plateaus**
- **From then on, declines**
  - ***Rate of decline is determined by gender, hormonal status, disease, and activity level***
  - ***Women – 1.5-2%/yr after age 40 before menopause and 3%/yr after menopause***
    - 15-25% decrease in 1st 5 years alone
  - ***Men lose two thirds of females - .5-.75%/yr after age 40***

Effect Of Weight-bearing Exercise

- Maximizes bone mass during younger years
- Maintains mass during 30's and 40's
- Helps decrease rate of loss with aging

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Cartilage, Ligaments, And Tendons

- **Articular cartilage – softening, fissuring, fibrillation**
- **Collagen framework – increased rigidity**
- **Tissues become less pliable, stiff, brittle**
- **Tensile strength declines**
  - ***Strains and sprains more likely to occur***

Does Exercise Cause Arthritis?

- **Moderate habitual exercise does not increase risk of OA**
  - ***Framingham study, Am J Med, '99 - No increase in OA in moderate habitual exercisers***
  - ***Stationary biking, skiing rowing, swimming, golf and even moderate running or tennis do not appear to increase risk in people with normal joints***

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Risk Factors

- **Joint injury increases risk & sports with high impact or torsion increase injuries**
  - ***Unrecognized injury may be one of the primary risk factors***
    - **Bone bruises on MRI**
- **Numerous reports linking damaged or unstable knees to premature OA**
  - ***Incongruous surfaces, absent menisci or instability, abnormal alignment***
    - **Prevents normal distribution of contact stresses**
    - **Even normal use may cause further damage**
- **Additional factors**
  - ***Previous surgery***
  - ***Inadequate strength***
  - ***Obesity***
  - ***Genetic predisposition***

What Injuries Occur In The Aging Athlete's Knee?

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Acute Traumatic

- **Lower incidence than in younger athletes**
  - ***Participation in less vigorous sports, lower intensity***
- **Strains of MT junction predominate**
  - ***Weakened or fatigued muscle less able to absorb energy or stretch***
  - ***Reflects decreased flexibility***
- **Can easily be misdiagnosed as osteoarthritis**

Chronic Overuse

- **Kannus, Age Ageing, ‘89, 70% of injuries over age 60 (vs 41% of 21-25 y/o’s)**
- **Most commonly tendinitis – repetitive loading and cumulative microtrauma**
- **Stress fractures**
  - ***With decline in muscle strength, bones are subjected to greater forces***

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What Are The Important Treatment Considerations?

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Treatment Considerations

- **Providers should adopt a positive attitude to sports in this age group**
- **Sports injuries of aging athlete should be diagnosed & treated as expeditiously as those in young athletes**
  - *Sx often attributed to OA instead of meniscal tears/ACL tears*
    - leads to delays in diagnosis & treatment
  - *Don't assume that X-ray evidence of OA means that OA is cause of symptoms*
    - *False positive MRI results notwithstanding!*

Treatment Considerations

- **Tailor treatment to meet patient's functional requirements**
- **Treatment goal: cessation of pain with activity and return to sports, not merely cessation of pain at rest**
- **Be aware of increased healing/rehab time**

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Treatment Considerations

- **Must do more than tell them to stop**
  - ***Seldom have good reason for immobilization or complete rest***
- **Use an active, progressive program**
- **Slight training modifications often help reduce symptoms**
  - ***Prescribe lower speed & easier activities***
- **"Cross-training" important to prevent deconditioning – swimming, strength work, etc.**

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Summary

- Changes with age contribute to declining musculoskeletal function, increase vulnerability to injury, and lead to slower healing
- Moderate habitual exercise does not increase risk of OA
- Sports injuries of aging athlete should be diagnosed and treated as soon as those in young athletes
- Participation in regular exercise is an effective intervention to reduce functional decline with aging

Thanks

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