

# Determining Causation Before Treatment

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# Causation Before Treatment

What will we review today?

- Review a Reproducible Evidence-Based Method of Causation Analysis (AMA Guides to the Evaluation of Disease and Injury Causation, 2<sup>nd</sup> Ed, pp 598-600) - HOW
- Review WHEN and WHO

# Musculoskeletal Occupational Medicine - Primary Goals

- \*ACCURATE DIAGNOSIS
- \*CAUSATION ANALYSIS (to determine who is responsible for costs of treatment)
  
- TREATMENT
- RETURN TO WORK
- IMPAIRMENT or DISABILITY

# Musculoskeletal Occupational Medicine

- Accurate Diagnosis...supported by
  - History
  - Physical Exam
  - Objective Test Results (Xrays, Lab, MRI)
  - ICD Coding - helps to promote accurate Dx
    - REMEMBER
  - Pain (symptom) is NOT a Diagnosis

# CAUSATION ASSESSMENT METHOD

## HOW

- See AMA Guides to the Evaluation of Disease and Injury Causation, 2 Ed, Ch 22.
- BRADFORD HILL Criteria
  - Temporality (onset of Symptoms)
  - Strength of Association (Mechanism of Injury)
  - Biologic Gradient (Objective 'severity')
  - Consonance with Literature
  - Biologic Credibility (concordance)

# Diagnosis/Causation (Hill Criteria)

AMA Guides to the Evaluation of Disease & Injury Causation, 2<sup>nd</sup> Ed

<b>Diagnosis</b>	<u>Timing, Onset of Sx, Temporality</u>	<u>Strength of Association, Mechanism, Exposure</u>	<u>Biologic Gradient (Severity of Obj Finding)</u>	<u>Consonance with Literature</u>	<u>Biological Credibility, Concordance w Obj Tests (Anatomic Correlation, Sx Concordancy)</u>	<b>Total Avg</b>
Exposure or Injury/Event						
Degenerative						
Pre-existing						
Other						

0 = Impossible, 1 = Much Less Likely, 2 = Less Likely, 3 = More Likely, 4 = Much More Likely, 5 = Absolutely True

TOTAL Avg Score = Probability

# Diagnosis/Causation (Hill Criteria)

AMA Guides to the Evaluation of Disease & Injury Causation, 2<sup>nd</sup> Ed

Diagnosis	Timing, Onset of Sx, <u>Temporalit</u> y	<u>Strength of Association</u> , Mechanism, Exposure	<u>Biologic Gradient</u> (Severity of Obj Findng)	<u>Consonance with Literature</u>	<u>Biological Credibility</u> , Concordance w Obj Tests (Anatomic Correlation, Sx Concordancy)	Total Avg
Exposure or Injury/Event	4	N/A	4	N/A	N/A	4.0
Degenerative						
Pre-existing						
Other						

0 = Impossible, 1 = Much Less Likely, 2 = Less Likely, 3 = More Likely, 4 = Much More Likely, 5 = Absolutely True

TOTAL Avg Score = Probability

# Diagnosis/Causation (Hill Criteria)

AMA Guides to the Evaluation of Disease & Injury Causation, 2<sup>nd</sup> Ed

<b>Diagnosis</b>	<u>Timing, Onset of Sx, Temporality</u>	<u>Strength of Association Mechanism Exposure</u>	<u>Biologic Gradient (Severity of Obj Findng)</u>	<u>Consonance with Literature</u>	<u>Biological Credibility, Concordance w Obj Tests (Anatomic Correlation, Sx Concordancy)</u>	<b>Total Avg</b>
Exposure or Injury/Event	4	1	4	1	1	2.2
Degenerative	4	1	4	4	4	3.4
Pre-existing	4	4	4	4	4	4.0
Other						

0 = Impossible, 1 = Much Less Likely, 2 = Less Likely, 3 = More Likely, 4 = Much More Likely, 5 = Absolutely True

TOTAL Avg Score = Probability



# Causation Assessment - Investigational Phase

- “The greatest need is to establish an investigational phase in which evidence-based treatment can proceed and workup of causation can be appropriately undertaken” p 602 of AMA Guides...

# CAUSATION ASSESSMENT EXAMPLE

- 56 yo male, delivers beer kegs (weigh ~162#), has one roll off of hand cart and lands on his Right foot, traps him for about 15 minutes before some one helps him.
  - Has obvious swelling of right foot, Xrays confirm no broken bones. Top of foot is numb.
  - FOUR months later states his Right hip pain is worse, and claims the accident aggravated his hip. Xrays demonstrate advanced arthritis.
- Doctor says the accident is the primary cause for his need for THA.

# INITIAL ASSESSMENT - Claimant

## Diagnosis/Causation (Hill Criteria)

AMA Guides to the Evaluation of Disease & Injury Causation, 2<sup>nd</sup> Ed

<b>Diagnosis</b>	<u>Timing, Onset of Sx, Temporality</u>	<u>Strength of Association, Mechanism, Exposure</u>	<u>Biologic Gradient (Severity of Obj Finding)</u>	<u>Consonance with Literature</u>	<u>Biological Credibility, Concordance w Obj Tests (Anatomic Correlation, Sx Concordancy)</u>	<b>Total Avg</b>
Exposure or Injury/Event	4	N/A	4	N/A	4	4.0
Degenerative						
Pre-existing						
Other						

0 = Impossible, 1 = Much Less Likely, 2 = Less Likely, 3 = More Likely, 4 = Much More Likely, 5 = Absolutely True

TOTAL Avg Score = Probability

# CAUSATION ASSESSMENT EXAMPLE

- Investigation confirms prior LEFT THA on 5 yrs ago for FAI (dysplasia) and Xrays (5 yrs ago) confirm moderate OA and dysplasia on Right side - prior to the accident.
- Also had prior claim for Back injury with numbness in the right foot as a residual after non-operative treatment of sciatica, with resolution of pain, but residual numbness, with Impairment Rating provided.

# Diagnosis/Causation (Hill Criteria)

AMA Guides to the Evaluation of Disease & Injury Causation, 2<sup>nd</sup> Ed

Diagnosis	<u>Timing, Onset of Sx, Temporality</u>	<u>Strength of Association, Mechanism, Exposure</u>	<u>Biologic Gradient (Severity of Obj Finding)</u>	<u>Consonance with Literature</u>	<u>Biological Credibility, Concordance w Obj Tests (Anatomic Correlation, Sx Concordancy)</u>	Total Avg
Exposure or Injury/Event	2	1	4	1	1	1.8
Degenerative Rt HIP	4	4	4	4	4	4.0
Pre-existing Rt foot	4	4	4	4	4	4.0
Other						

0 = Impossible, 1 = Much Less Likely, 2 = Less Likely, 3 = More Likely, 4 = Much More Likely, 5 = Absolutely True

TOTAL Avg Score = Probability

# CAUSATION ASSESSMENT - HOW

- Encourage Providers to use an evidence-based method when providing an opinion on Causation - ASK "What is the basis of your opinion?"
- AMA Guides - Excellent Resource
- Bradford Hill Criteria
- QUESTIONS???

# CAUSATION ASSESSMENT – WHO or WHEN

- DELAY in ONSET OF SYMPTOMS, or
- MECHANISM of Injury or EXPOSURE unclear
- MULTIPLE INJURIES
- OCCUPATIONAL EXPOSURE

# CAUSATION ASSESSMENT

## WHO or WHEN

- Degenerative Biologic Conditions
  - Rotator Cuff Disease
  - Degenerative Knee Meniscus Tears
- Pre-existing Biologic Conditions
  - Congenital Spinal Stenosis
  - Hip Dysplasia
- Waddell's Nonorganic Signs
  - Can co-exist (Pain Behavior) with 'real disease'



# CAUSATION ASSESSMENT or IME

- Assessment or IME should be considered when there is:
  - A Failure to Respond to Treatment, or
  - A Failure to Return to Work

# REASONS FOR FAILURE TO Rtn to Work (Failure of Treatment)

- Wrong Diagnosis
- Correct Diagnosis, Wrong Treatment
- Correct Diagnosis, Treatment Complication
- Correct Diagnosis and Treatment, Incurable Problem
- Correct Diagnosis and Treatment, NEW Problem
  
- REMEMBER - MT Treatment Guidelines

# CAUSATION ASSESSMENT

## WHO or WHEN - Review

- Onset of Symptoms delayed
- Mechanism of Injury Unclear
- Lack of Objective acute Findings  
(Normal Xrays or MRI - degenerative)
- Occupational Disease (Employment is Major contributing Cause, p 626 of AMA Guides...)

# CAUSATION ASSESSMENT

## WHO or WHEN - Review

- DIAGNOSIS is Degenerative or Pre-existing (Spinal congenital stenosis or Hip dysplasia, Patellar Malalignment, etc)
- Failure of Treatment
- Waddell's Nonorganic Findings
- QUESTIONS??

# CAUSATION BEFORE TREATMENT SUMMARY

- ACCURATE DIAGNOSIS established during Investigational Phase of Care (ICD 10 Coding)
  - Don't hold up Objective Tests if needed (Xrays, MRI, etc)
- CAUSATION ANALYSIS using AMA Guides to the Evaluation of Disease and Injury Causation, 2<sup>nd</sup> Ed, is encouraged
- TREATMENT Should be consistent with approved State or Federal Guidelines

# CAUSATION BEFORE TREATMENT Saves \$\$



# CAUSATION ANALYSIS - HOW, WHO, WHEN - QUESTIONS?

