

## I. Introduction

We live in a world with many shades of gray. Pre-existing pathology does not preclude new pathology, but it sure clouds the issue! How do we decide when something is new or old? Does greater than 51% make something “newish”? When would you call something kinda oldish? Is that even possible to quantitatively parse out new and old and determine which pathology is causing the current complaints??

A number of decisions go into wading through these gray areas. Additionally, a number of decisions need to be made on how to best render care. What’s the best treatment? Is this treatment addressing a newish problem, an oldish problem or both??

I would contend that with a rational and systemic approach to decision making, it is possible to deliver good care, keeping the patient, insurance company and employer happy, while being fair to all parties (most of the time....).

## II. Diagnosis

- Must use and correlate History + Exam + Radiographic Data
  - Do best to determine if history, exam and diagnostic studies all agree
  - When they do, diagnosis (and usually causation) is easy
  - When they don’t (this is a common source of gray), need to use all your tools and experience to weigh all the evidence and determine what information is most relevant
- History
  - Always assume patient is telling the truth until proven otherwise
    - But, be smart enough to know that some patients are not honest
      - Case Example #1
  - Get best information you can
    - Does MOI make sense? Is it plausible?
      - Rotator cuff pathology is good example
    - Long term occupational exposure
      - Job description
    - Prior h/o injuries, claims, sports, military
    - Is there anything else that could have caused the pathology?
- Exam
  - Just look at the patient
    - It’s not rocket science!
      - Can avoid the need to do an MRI based on exam (and x-rays)
      - Case Example #2
        - Can have old and new pathology in same patient (shade of gray)
  - In orthopedics physical exam can seem pretty basic
  - But, sensible and consistent approach pays off
    - Understand power (and limitations) of exam
      - Exam is just like any other “test” with precision, accuracy, sensitivity, etc.
        - Statistics

- Meniscus tear exam
        - Take home point: find a few exam findings you like and use more than one
        - Same true in SLAP/labral pathology
      - ACL tear exam
- Radiographic
  - “The diagnostic gold standard is still the history and physical. The MRI helps convince the player not the surgeon that there is a significant injury” (Frank Jobe)
    - BUT, MRI can be helpful in WC
  - MRI can be dangerous, however!
  - Always start with x-rays
  - Know when to order an MRI and when *not* to order
    - Case Example #3
      - Tree to forest
  - Know how to review your own MRI and correlate it
    - Case Example #4
      - Read own MRI
      - Correlate history, exam and radiographic data
      - Again, can have old and new pathology in same patient (shade of gray)

### III. Causation

- Causation
  - Start with a consistent and rational approach
    - Is there an appropriate mechanism?
    - Is there actual objective pathology
    - Could that mechanism cause the new pathology?
    - Are the complaints consistent with complaints that the potentially new pathology would cause?
    - Is there a meaningful change in the patient’s pain level or function, and if so, would the potentially new pathology be responsible for that change?
      - Mini Case Example
  - Not magic, but use same formula as making a diagnosis
    - Hx + Exam + Radiographic (and a dash of clinical acumen)
  - Use all available information – don’t rely on one piece
    - Case Example #5
      - Understand context of MRI findings and correlate hx and exam to MRI
      - Order the correct MRI
      - Read your own MRI
  - Patients always tell the truth..., but know how to recognize red flags when they exist
    - Case Example #6
      - Red Flags
      - Also illustrates “2-10” rule

#### IV. Treatment

- Starts with communication
  - Patient:
    - Educate patient about condition
      - They appreciate it and understanding helps understand the bumps along the road
    - Educate patient about causation
      - When it's not related
        - Why It's important to spend time explaining this
          - Some have an agenda and some don't. For those that don't, this investment in time pays off with the occasional cooperative patient
            - At a minimum, they understand you are not "company doctor" trying to hose them
      - When it's related but, there are co-existing factors (shades of gray), it is critical to manage expectations
        - I know you wanna be "fixed" but you are a shade of grey (you're getting old), so perfection is not realistic. You may need care for the pre-existing pathology care at end of the work injury treatment
          - This way, they get treatment they deserve and don't feel hosed on the back end when they seek treatment for other stuff
        - Can't make everything perfect
    - Employer/Insurance
      - Important to be clear that there are pre-existing factors, but that new pathology occurred and how, up front
  - Develop a treatment algorithm early in the course of care
    - Tennis elbow is a good example
  - "Surgery is the easy part" – Patient and therapist have the hard job
    - Treatment of meniscus tears
      - most avascular, but if fixed, very important to be compliant
    - Treatment of rotator cuff tears
      - Knots untie themselves
      - Biomechanics are important
      - PT rationale
    - Treatment of ACL tears
      - science drives technique, which drives PT and recovery time

Putting it all together.

Diagnosis, Causation, Treatment and MMI (oh my)!