

1 **Getting In Front of The Problem: Early Identification and Improved Management of High Risk Work Injuries**

Terms and Concepts within Physical Therapy Management of the Workers' Compensation Case

2 **Objectives**

- Identify and use flags to classify cases and establish expectations sooner of not only the patient, but the employer as well.
- Understand pain mechanisms and pain physiology as it relates to the workers' compensation case.
- Review best treatment practices for managing high risk cases.
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3 **Chronic Pain and Fear**

- Most acute low back pain resolves, but about 10-20% results in a persistent problem
- Chronic Pain Patients are responsible for 75-90% of costs
- Fear of pain and (re)injury may be more disabling than pain itself

4 **What About PAIN!!**

"An unpleasant sensory and *emotional* experience with actual or *potential* tissue damage or described in terms of such damage"

~ IASP 2004

5 **What About PAIN!!**

- Pain is certainly important, needing to be measured, but within context of other measures, and not neglecting psychosocial factors.
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- We are trying to prevent chronicity!!
 - 80/20 rule

6 **Numeric Pain Rating Scale (0-10)**

- Taken too often without context
 - Duration
 - Intensity
 - Type
 - Variation
- Can be predictive of high risk claims, >5/10 in wrist fractures is predictive of future development of CRPS.
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7 **High Risk Claim Flag Classifications**

- Red Flags: Failure of treatment, serious disease
- Yellow Flags: Psychological Distress, Unhelpful Coping Strategies

- Blue Flags: Perceived Features of Work Environment
 - Unsupportive Management Style
 - Lack of Job Satisfaction
- Black Flags: Not matters of work perception, equal opportunity threat
 - Threats to Financial Security
 - Lack of Contact with Workplace
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8 **Red FLAGS**

- Serious disease
 - History of Cancer
 - Night Sweats
 - Unexplained Weight Loss
 - Pins/Needles, Numbness, Weakness
- Comorbidities
- Failure of treatment
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9 **Blue FLAGS= Perceived Work Features**

- Dissatisfaction with job
- High demand/low control work environment
- Perceived Injustice
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10 **Blue FLAGS= Perceived Work Features**

- Perception
 - That management is unhelpful
 - Of working under a perceived time pressure
 - Of lack of social support from colleagues
 - Of a stringent inflexible environment

11 **Black FLAGS= Not Matters of Perception**

- Organizational Issues
- Hours/Shift Patterns
- Qualification Criteria for Compensation (i.e. inactivity)
- Rehab Policy deters gradual reintegration to work
- Physically Demanding Work
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12 **Black FLAGS= Not Matters of Perception**

- Financial Incentives
- Lack of Contact with the Workplace
- Duration of sickness absence (>6 months, almost guaranteed not to return to same job)

- Iatrogenic Harm (unnecessary imaging, etc.)
- Authorization Delay causing Care delay
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13 **How About The Flag That Really Matters In Recovery Process??!**

14 **Yellow FLAGS**

- Psychological distress (e.g. depression, anger, bereavement, frustration)
 - 52% pts w/ CLBP are depressed
 - Can be screened reliably by 3 item questionnaire (BMJ 2005)
 - During the past month have you often been bothered by feeling down, depressed, or hopeless?
 - During the past month have you often been bothered by little interest or pleasure in doing things?
 - Would you like to discuss further or would you like assistance.
- Most depression after injury is transient, when it doesn't resolve with healing is when it can cause delays in case resolution.
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15 **Yellow FLAGS**

- 2 ▪ Failure to answer patients' and families' worries about the nature of the injury and its implications
 - This also can be facilitated by communication between the Case Manager, Physician, and Physical Therapist
 - Patient centered approach to care and education
 - Kaiser Permanente 4 Habits Model ©2003 by The Permanente Medical Group, Inc., Physician Education and Development
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16 **Yellow FLAGS**

- Perceived inconsistencies and ambiguities in information about the injury and its implications
- Unhelpful coping strategies (e.g. fear of pain and aggravation, catastrophizing, illness behavior, overreaction to medical problems)
- Use of the Pain Catastrophizing Scale to quantify
- Also can use Impact of Events Scale to measure post traumatic stress
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17 **Yellow FLAGS**

- Pain Catastrophizing- exaggerated negative orientation towards pain, imagining worst possible outcomes.

- Associated with increased risk of developing persistent pain and disability.
- For the normative database described above, in the subsample of patients who scored above 30 (75th percentile) on the PCS;
 - 70% remained unemployed one year post injury
 - 70% described themselves as totally disabled for occupationally related activities

18 **Fear Avoidance Beliefs**

- Numerical/Statistical Importance
 - > 13 PA subscale indicates higher fear avoidance
 - > 30 Work subscale indicates increased likelihood of poor outcome
 - > 34 doubles the chance of long term work restrictions
 - Directs the need to Cognitive Behavioral Techniques and a Graded Exercise Approach
 - Passive treatments should be avoided and discouraged
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19 **Why Measure Psychosocial Variables**

- In 2015 there were nearly 1M injuries resulting in lost work time.¹
- Nearly half of those were due to sprains and strains and injuries to the back.¹
- Direct and Indirect Costs of MSD and CTS are over \$1.5B and \$1B annually.²
- It is estimated that 15-20% of workers with chronic work disability account for 70% of the total costs.³
- It is theorized that a major difference in recovery paths of similar biomedical injuries is due to psychosocial factors.⁴
- It is further theorized that identifying and influencing these psychosocial factors can enhance recovery.⁴

20 **Evolution of Psychosocial Assessment at Select Medical**

- Fear Avoidance Belief Questionnaire
 - Added in December 2007
 - Currently 113,000 times
- Pain Catastrophizing Scale
 - Added in November 2014
 - Currently 123,000 times
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21 **Evolution of Psychosocial Assessment at Select Medical**

- Select averages approximately 100,000 WC referrals per year.
 - We are making strides on using these tools.
 - On 1M cases since 2007 we have collected psychosocial data through questionnaires 236,000 times.
- Issues
 - Incomplete picture of patient even with both tools.
 - Using both tools and a regional PRO is burdensome for the patient.

- Clinicians voice frustration picking one tool or the other.
- Current tools don't account for depressed mode/emotional state which in isolation therapy clinicians seem less comfortable with.
- Difficulty incorporating inconsistent tool use into an overall risk satisfaction model.

22 **Orebro Musculoskeletal Screening Questionnaire (OMSQ)**

- Developed in 1998 by Linton to identify those at risk for delayed recover or chronic symptoms.
- Several versions are available including
 - 21 items- mostly for research
 - 12 items- for clinical use
 - We are using the 12 item OMSQ

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23 **OMSQ-12**

24 **OMSQ-12**

- 1 Twelve Questions
 - Scored 0 to 10 by patient
 - All points are totaled except
 - Questions 8, 11, 12
 - Scored 10-score
 - Example Patient Scores 6 on question 8
 - $10 - 6 = 4$
 - 4 is added to the total score

- 2 Includes
 - Acuity/Chronicity
 - Pain Response/Severity
 - Ability/Disability
 - Mood/Emotional State
 - Fear of Movement/Kinesiophobia
 - Catastrophizing Thinking

25 **Risk Stratification
Using OMSQ -12**

26 **Musculoskeletal Pain and Workers' Compensation**

- Claims leaders ranked psychosocial issues as the No. 1 barrier to successful claim outcomes, according to Chicago-based managed care solutions provider Rising Medical Solutions' 2016 Workers Compensation Benchmarking Study.

27 Raw Data Sample (3 week period)

Risk	#Cases	%DC	Ave Visits
High	225 (34.2%)	82%	14.19
Medium	172 (26.2%)	88%	12.50
Low	260 (39.8%)	95%	8.57
Total	657		

28 Sample Employer Data

- Data Range: 9/22/2017 - 2/26/2018
- Total Unique Employees with Orebro at IE: 461
- Break down by Initial Orebro Score
 - High 122 (26%) DC cases average 9.4 VPR
 - Med 141 (31%) DC cases average 9.2 VPR
 - Low 198 (43%) DC cases average 7.8 VPR

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29 Definitions

- "PAIN: An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or defined in such terms". (IASP) <http://www.iasp-pain.org/>

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30 Mature Organism Model of Pain

31 Acute vs. Chronic Pain

1 Acute

- 2 ▪ Direct results of tissue damage or potential damage

Symptom

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3 Chronic

4 ▪ Outlasts normal tissue healing

- Impairment is greater than would be expected from the physical finding/injury
- Pain occurs in the absence of identifiable tissue damage

Disease

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33 **PAIN IS IN THE BRAIN!!
(but not in the mind)**

- P.S. The parentheses portion is key!!
- It is output, not input (shark attack victim)
- It is threat driven (farmer combine accident)
- In ACUTE/GOOD pain, tissues signal the brain and then stop (ankle sprain)
- In CHRONIC/NOT SO GOOD pain, tissues signal the brain occasionally (lumbar fusion)

CHRONIC PAIN IS NOT IMAGINED PAIN!!

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34 **How The Central Nervous Alarm System gets “sensitized”**

- 5-11% less neocortical gray matter
- Pattern distinct for chronic pain
- Equal to gray matter lost in 10-20 years
- 1.3 cm³/yr of CLBP

– Apkarian et al. 2004

35 **Biological Pain Model**

- Assumes all pain has a distinct physiological cause
 - Involves a search for a cause
 - “Find it and fix it” approach
 - Works well for the treatment of acute pain
 - Pain is considered a symptom of the initial injury
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- Pain = Nociception = Injury

36 **Biopsychological Model (Loser, 1982)**

- Particularly useful in treating chronic pain, but also important in acute pain to predict improved and poor outcome
- Interaction between biological, psychological and sociocultural variables
- Nociception (core), recognition and perception of pain (brain) – psychosocial elements influence perception of pain and behaviors

37 **Summary of Pain Neurobiology**

- Models of pain/theories have shaped our treatment approaches
- Acute pain is normal and protective
- Chronic pain is a nervous system disease a product of maladaptive plasticity
- Central and peripheral nervous system are highly modifiable/plastic (peripheral and central), and present with discrete characteristics
- Immune, neurochemicals, genetics, psychological, social and lifestyle all play a role in pain
- Pain is best approached from a biopsychosocial model taking into account the complex nature of pain

38 **Pain Understanding**

"In patients with chronic pain, the relationship between their body and their experience is extremely complex, far more complex than any tissue pathology"

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~ David Butler

39 **Pain in the Workers' Compensation Case**

- It should be respected in the patient
- It can be improved with appropriate medications
- With very high levels of pain and disability, a multidisciplinary approach is likely to be needed, and the rehab process is likely to be protracted
- It can be managed and even improved with Evidence Based Physical Therapy including Graded Exercise, Cognitive Behavioral Techniques, and Education
- It takes a team and an advocate (you maybe??)

40 **Identify the Dominant Pain Issue**41 **Treatment Options for High Risk Cases**42 **Pain Assessment- Determine the Dominant Pain Mechanism**

- Nociceptive Pain- Treat injured area, protect against aggravation, educate with biomechanics and anatomy to explain pain.
- Peripheral Neuropathic Pain- follows peripheral nerve pattern, protect nerve, nerve glides, decrease pressure on nerve, educate via nerve anatomy to explain pain
- Central Sensitization- Heightened Central Pain mechanism, need to decrease sensitivity of nervous system and education on pain neuroscience and benefits of safe movement.

43 **Use Evidence Based Treatments**44 **Aerobic Exercise**

- Just as effective as medications for Depression (Cochrane 2013)
- Pain Relief with activity in 50% VO2 max or HR around 100-105bpm for >10min. (Hoffman, Shepinski 2004)
- Doesn't have to be body part specific
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45 **Ergonomic and Activity Modification Strategies**

- Tools or AD's to assist with performing ADL's
- Different techniques that take less energy or put less stress on injured area than current techniques
- Keeping people functional with what they have can decrease impact of depression and disuse.

46 **Pacing**47 **Graded Exposure**

- The activities a patient avoids determine the focus of treatment
- Pt's asked to identify activities that they are highly fearful of performing.
- Once identified the activities are incorporated into the therapy program
- Start at low level in comfortable position to begin the activity or perform steps or prep work at low level of fear
- The activity is increased to mildly increase fear and performed until fear subsides...
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48 **Summary**

To best manage the complex workers' compensation case

- Know outcome measures and looking for evidence of high disability (>60% max) and/or high pain levels
- Understand the flags that will affect the course of recovery, and use your position to try and influence the environments that the worker cannot control
- Understand and appreciate pain processes and psychosocial influences that occur and influence a claimant's behavior
- Adjust care to match pain mechanism and keep injured workers functioning to the best of their ability while they heal.
- For high risk patients, keep communication open with the entire care team
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49 **Questions?**