



## Build a Work Injury Consulting Practice Part III: Evaluation & Interventions

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Note to Participants: There are interactive pop-up questions throughout this lecture. If you choose to pause the lecture and return at a later time, a natural break time would be after answering the interactive questions. (You are able to pause at any time and the presentation will "remember" where you were. It's just a more natural time to pause after the interactive questions.) For your convenience, this outline reflects where/when within the lecture the interactive questions occur.

This lecture has 169 slides and is 203 minutes in duration.

- I. Identifying the problems of workplace MSD
  - A. The problems of workplace MSD
    1. MSD injuries – disability
    2. Workers' compensation claims
    3. Workers' compensation costs
    4. Production... competitiveness... jobs
    5. Return-to-work hassles
    6. Conflict
    7. Fear
  - B. Evaluation
    1. Identify problems
    2. Quantify problems
    3. Establish goals
    4. Propose interventions
  - C. PIPs and NPIPs
    1. PIPs: patient identified problems; what the workplace sees as their problems.
    2. NPIPs: non-patient identified problems: what the PT sees as the workplace's problems
  - D. Evaluation formats
    1. Ergonomics screen-survey (e.g. OSHA Ergo Final Rule Table W-1)
    2. Ergonomics evaluations (REBA, RULA, NIOSH)
    3. Injury records – OSHA 300 Log
    4. Employee discomfort survey
    5. MSD Work Risk Assessment
  - E. OSHA Ergo Final Rule quick screen (simplified ergonomics risk checklist... W-1)
  - F. Ergonomists' common tools for evaluation
    1. REBA: Rapid Entire Body Assessment
    2. RULA: Rapid Upper Limb Assessment
    3. Number scores for upper arm, lower arm, wrist, trunk, leg motion-posture-load = final score
  - G. Materials handling (lifting) risk analysis
    1. Washington State Lifting Analysis

Notes

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## 2. NIOSH Lifting Equation

Notes

- II. Physical therapist approach to workplace evaluation... not unlike patient care approach
  - A. Interview to determine PIP's
  - B. Take a history
  - C. Perform physical evaluation
  - D. Hypothesis & assessment of problems
  - E. Set goals
  - F. Establish interventions... treatment plan
  - G. Measure outcomes

### Interactive Questions — slide 29 @ 25 minutes

- III. Workplace process
  - A. Interview key contacts to identify PIP's
  - B. Examine OSHA-300 log, first aid logs, worker comp cost data (basis for outcomes later)
  - C. Examine jobs... watch workers working
  - D. Biomechanical description of worker doing the work
  - E. Observed risks identified for each job
  - F. Corrective recommendations to reduce risks... prevention interventions
  - G. Things to look for in OSHA 300 logs (current year plus 2-3 years prior)
    - 1. Injury claims for MSD
    - 2. Lost time claims
    - 3. Lost work days... LWD/claims
    - 4. Restricted duty claims
    - 5. Restricted duty days...RDD/claims
    - 6. DART Rate (Days Away, Restricted, Transferred) is n/a: This metric mixes good parameters with bad parameters.
  - H. Remember: The company hired you to reduce COSTS (likely a higher priority than 'injuries' per se).
  - I. Company A averages \$5,000 per claim... Company B averages \$500 per claim.. WHY?
  - J. Next step... examine the job (Work Risk Assessment)... watch worker doing the work
    - 1. Observation sequence: LE, LB, neck, UE from proximal to distal.
    - 2. Observe: posture, movements, loading (required-ergonomics or selected-behavior).
    - 3. See our MSD Risks Checklist for specific parameters...
    - 4. Demographics risks
    - 5. Employer-employee relations (mutual loyalty)
  - K. Produce a written report with three chapters:
    - 1. Background information: OSHA 300 data and implications, other.
    - 2. Individual jobs risks analysis... for each job
    - 3. Corrective recommendations (proposed interventions).

### Interactive Questions — slide 60 @ 68 minutes

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#### IV. Interventions

#### Notes

- A. How do you propose we-they address the identified MSD-injuries-costs risks?
1. Manager-supervisor MSD Education
  2. Employee Back School
  3. Employee Neck-Arm MSD School
  4. Personal ergonomics skills
  5. Ergonomic improvements
  6. Sit-stand options
  7. Job task rotations
  8. Microstretching
  9. Self-care motivation
- B. Evidence-based?
- C. Ergonomics... reduce the required demands-stresses of job design.
1. Essential first step; but only part of the picture.
  2. Inconsistent success; narrow scope of attention to only part of the problem.
  3. Fixes stressful workplace design, not worker habits, postures, body mechanics, fitness.
  4. You need not fix or eliminate all the risks.
  5. You need only to DILUTE to SEVERITY of the risks, to make the work LESS TOXIC.
  6. Most ergonomic suggestions will come from the workers doing the job (the real experts).
- D. Go to the list of MSD risks from the evaluation, then seek to reduce the severity of each
1. Lifting
  2. Seating
  3. Computers
  4. Health care settings

#### Interactive Questions — slide 95 @ 114 minutes

5. Hand-tools
- E. Exposure Reduction
1. Job rotation... task rotation... task variety... sit-stand options.
  2. Simply reduce the time spent in a particular posture or movement pattern.
  3. Disperse the workday over more muscles-joints-postures.
  4. The more repetitive and static the work, the more often to switch (every 1-2-4 hours).
- F. Exercise... Microstretching
1. Not a pre-work stretching plan; rather brief stretches frequently throughout the day.
  2. We seek to relax tense tissues starved due to ongoing muscle contraction, tendon tension and joint compression that all inhibit perfusion.
  3. Purpose is to restore perfusion to enhance nutrient pathway to support aerobic work and irrigation of metabolic wastes from working tissues.
  4. Total microstretching program is 2.5 minutes, done

- every 2 hours.
5. Does NOT reduce production... Production goes UP due to reduced FATIGUE.
  6. Politically challenging.. upsets workplace.
  7. Ergonomists & OSHA discourage this.
  8. Inconsistent evidence basis.. (but same for all other interventions!)
  9. Especially useful where ergo corrections are not available-practical-affordable
  10. MUST be taught by valid experts in the eyes of the workers (PT).
  11. MUST be designed by valid experts (PT)
  12. MUST teach not what to do, but WHY to do it, or they won't do it.
  13. MUST have management commitment and participation and enforcement
  14. MUST keep set of stretches small for time efficiency, cooperation, accuracy.
  15. Structured exercise process (set times when everyone does them) (accountability)
  16. Mandatory?? Ask management how much \$\$ they wish to save.
  17. Sample microstretches.

#### Interactive Questions — slide 126 @ 152 minutes

- V. Education!!... Educate the workplace! Everyone needs to be an expert.
- A. Builds expertise, priorities, attitudes, commitment, motivation.
  - B. Nothing else will succeed without this.
  - C. Structured: MSD School, Management version prerequisite to employee school.
  - D. Back School; Neck-Arm School; MSD School
    1. Comprehensive risk factor education... what to do... WHY to do it.
    2. MSD injuries & costs come from...
    3. Anatomy, biomechanics, pathomechanics, risks, interventions, 5 "E's"
    4. Employee training
    5. Manager-supervisor training
    6. Do not do employee training without manager-supervisor education first.
  - E. Neck-Arm MSD School
    1. Scope of problem; epidemiology; costs
    2. Anatomy, ergo tactics, exercises
    3. Tools design & selection
    4. Sit-stand... rotations
    5. Microstretching program
    6. Ergo examples & problem solving
    7. Self-care tactics
  - F. Back School
    1. Scope of problem; epidemiology; costs
    2. Anatomy, pathomechanics, ergo tactics, exercises
    3. Forward bending vs. backward bending (McKenzie)

- model)
- 4. Sitting... standing... work posture risks
- 5. Tight hamstrings
- 6. Lifting ergonomics... lifting body mechanics
- 7. Correct seating
- 8. Anti-fatigue mats-inserts and job task rotations
- 9. How to modify lifting ergonomics and lifting behaviors
- 10. Self-care of the working, aging spine
- 11. Microstretching... after work stretches
- G. Proper Lifting
  - 1. Technique
  - 2. Body mechanics
  - 3. Stoop lifting
  - 4. Squat lifting
  - 5. Posterior pelvic tilt lifting
  - 6. Maintain lordosis lifting
  - 7. Low lifting technique... High lifting technique
  - 8. Health care settings... epidemics of LBI !!
- H. Comprehensive MSD Prevention program... summarize
  - 1. MSD Work Risk Analysis
  - 2. Manager-supervisor MSD School
  - 3. Employee Back School, Neck-Arm School, MSD School
  - 4. Implement action plan
  - 5. Follow-up and adjust action plan
  - 6. Outcomes assessment
  - 7. Annual review
- VI. Beyond injury prevention... COST prevention
  - A. Effective primary prevention
  - B. Management education-commitment
  - C. Employee education-motivation
  - D. Early reporting of pain
  - E. Positive and timely response to report
  - F. Treatment... timely; effective; progressive
  - G. Restricted duty... managed; progressive
  - H. Working with effective HCP's
  - I. Managing attitudes-policies-politics-\$\$\$\$
  - J. Ongoing Occupational Health PT Practice services
    - 1. Negotiate a Preferred PT Provider deal
    - 2. Part-time on-site PT clinic hours
    - 3. Restricted duty consulting]
    - 4. New employee orientation classes
    - 5. Annual MSD School review classes
    - 6. MAKE PREVENTION THE CORE BUSINESS, not a spin-off service.

Interactive Questions — slide 166 @ 200 minutes

VII. For more information...

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