I. Define the need
   A. Work-related musculoskeletal disorders (MSD)
      1. Client Terminology
      2. MSD costs
      3. Injured workers… loss of roles & income
      4. MSD epidemiology
   B. We will here re-define the roles of Physical Therapy for addressing Musculoskeletal Disorders (MSD) in the workplace
   C. Why are you here for this course? The health care revolution is here!
      1. Collapse of reimbursement
      2. Mismanaged health care, nationalized health care
      3. Competition
      4. The re-making of Physical Therapy: APTA Vision Sentence for Physical Therapy 2020
   D. Traditional roles of PT will change; must change
      1. Position your self accordingly; anticipate trends and respond
      2. Redefine your career goals; redefine your profession
      3. Traditional PT patient care: treating injured workers at the end-stage of their disease, using minimally-effective interventions?
      4. Re-define PT roles!
   E. Why workplace MSD consulting?
      1. Consider the scope of needs and opportunities
      2. Define PT as the practitioner-of choice for MSD Prevention (Vision 2020)
   F. Become the provider of choice for prevention
      1. Yes, prevention DOES pay (and pays very well)…
      2. Totally different PT business model…
   G. OSHA and ergonomics
      1. OSHA rules, regs, requirements don’t exist
      2. Ergonomics “injury”
      3. Ergonomics has limited effectiveness
4. Ergonomics: terminology – semantics issue

5. Ergonomists in the USA are primarily design engineers, not PTs or OTs as in Europe

H. Who is more qualified?
I. A huge client base is waiting...
J. Shape client workplace perceptions of their needs (PIP’s)
   (ref. HOAC II)
   1. Our perceptions of their needs (NPIP's)
   2. Bottom line...problems are the result of ignorance
   3. A huge emerging need-opportunity: The AGING worker

Interactive Questions — slide 38 @ 23 minutes

II. PT Prevention Practice
   A. Prerequisite skills
   B. The process
      1. Evaluation
      2. Risks Assessment
      3. MSD Work Risk Assessment
   C. OSHA 300 logs
   D. MSD Work Risk Assessment:
      1. The quick risks list
      2. Interventions
         a. Manager-supervisor MSD Education
         b. Employee Back School
         c. Employee Neck-Arm MSD School
   E. Back School and Neck Arm School... MSD School.
      1. Comprehensive risk factor education
      2. Applying the 5 E's
   F. A Model MSD Prevention Consulting Practice
      1. MSD Work Risk Analysis:
         a. MSD Schools
            i. Back School
            ii. Neck-Arm School
            iii. Management Education (MSD control plan)
            iv. Employee Training (self-care skills)
         b. Interventions
      2. Our NO-LOST-TIME program
      3. MSD beyond a repetitive motion injury
         a. Static posture disorder
         b. Nutrient pathway disorder
         c. LBD is an MSD, a cumulative trauma process

Interactive Questions — slide 61 @ 40 minutes

III. Pathomechanics & pathophysiology
   A. Static posture loading
   B. Proximal posture stress
   C. Repetitive motion is still a risk... but not due to friction.
   D. Specific upper quarter risks...

IV. Interventions to prevent MSD
   A. Ergonomics improvements and posture alignment
B. Microstretching
   1. Our microstretching program

Interactive Questions — slide 75 @ 51 minutes

V. Low Back MSD
   A. Low back injury as a CTD – MSD
   B. Structure-function risks
   C. Specific risks:
      D. Lifting (demands; ergonomics, NIOSH)
      E. LBI prevention interventions
      F. Micro-stretching

VI. Summary of Back School, Neck-Arm School, MSD School, Management versions
   A. Epidemiology; costs; impact on life & work
   B. Anatomy; biomechanics
   C. Pathomechanics of the injuries
   D. Posture versus repetitive motion versus loading
   E. Individual MSD diseases, causes, prevention
   F. Ergonomics, sit-stand rotations, job task rotations
   G. Microstretching program
   H. After-work recovery stretches
   I. MSD injury response, treatment, recovery, return to work
   J. The politics of MSD work injury

Interactive Questions — slide 111 @ 73 minutes

VII. Conclusion
Bibliography

Costs & epidemiology


Exercises & rest breaks


**Sit-Stand**


**Back schools**


**Lifting & Lordosis**


**Posture**


UE support


Ergonomics interventions


Pathogenesis


On-site PT


Back belts


**Important journal special issue: JOSPT October 2004**

49. MacDermid J, Doherty T. Clinical and electrodiagnostic testing of carpal tunnel syndrome.

50. Michlovitz S. Conservative interventions for CTS.

51. Lee M, LaStayo P. Pronator syndrome and other nerve compressions that mimic CTS.


**Important texts**
