

## Rehabilitation of Neck Pain in the Work Place: Evidence and Practice

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## Objectives

- Recognize high-quality evidence based reviews
- Understand supportive rehab evidence
- Identify problematic / unsupported rehab treatments
- Disclosures

## Evidence Based Medicine

- Large segment of medical practice has not been evaluated by EBM
- Methodologic issues
  - Interventions, populations, outcomes
- EBM outcomes may not evaluate WC, function, RTW, cost
- Who developed and why?

## EBM Sources

- Cochrane Collaboration
  - <http://www.cochrane.org/index0.htm>
- New South Wales WAD
  - <http://www.maa.nsw.gov.au/default.aspx?MenuID=115>
- National Guidelines Clearinghouse
  - [www.guideline.gov](http://www.guideline.gov)
- Peer review journal systematic reviews
- Potential for variability in conclusions

## EBM Sources



- Work Loss Data Institute, Official Disability Guidelines, Treatment in Workers Compensation Guidelines 2008  
<http://www.odg-twc.com/>
- ACOEM OMPG 2004 [www.acoem.org](http://www.acoem.org)
- Others
- Bibliography [merdil@harthosp.org](mailto:merdil@harthosp.org)

## Review Challenges

- Methodologic difficulties
- Axial neck pain vs. radicular or myelopathic syndromes
- Different components of PT care, active vs passive interventions
- Potential dependency
- Cost & outcomes (definition, duration)
- Psychosocial factors impact recovery but are less well studied vs. LBP

## Early Intervention?

- Conflicting evidence in WAD
- Rosenfeld Spine 2003 RCT WAD; referral day 4 vs. 14, active vs. standard; ↓pain, sick leave, ↑ROM @ 6mo, 3 yr.
- Cote Arth Rheum 2007 RCT WAD; early aggressive, chiro and specialists vs. GP; ↑ claim duration for ↑ utilization

## Early Intervention?

- Kongsted Spine 2007 RCT WAD 10 days; collar 2 wk-active vs. normal activities vs. active rx; no difference pain, disability, RTW
- Fear avoiders?
- Recommendation: PT referral for fear avoiders, delayed response to initial reassurance and activity advise

## Education?

- Conflicting evidence alone or in combination
  - Lack of evidence for education on anatomy, biomechanics, ergonomics,
- Gross Cochrane 2002, Aker BMJ 1996 Reviews
  - No clear evidence

## Education?

- Oliveira Spine 2006, Brisson Spine 2005 RCT; educ video reassure, remain active, exercise, behavioral; ↓pain, med use, utilization @ 1-6 mo
- Recommendation: Advise on nature of condition, treatment, goals, reassurance, coping, remain active

## Modalities?

- Modalities (Thermal, US, ES)
  - ACOEM 2004, ODG 2008 Ineffective as stand alone
  - Lack of evidence Philadelphia 2001, Kroeling Cochrane 2005 (e-stim vs. sham?)
- Recommendation: Passive care ineffective as stand alone and potential dependence, ok short term adjunct to rehab

## Acupuncture?

- Trinh Spine 2007 Review methodologic issues, chronic neck pain benefit vs. sham or inactive care @ immed post-rx / short term
- ACOEM 2004 no evidence acute
- ODG 2008 not rec for neck but under study for upper back, 3-4 visits / 2 weeks if used
- Recommendation: Not for acute, option in delayed response with exercise, patient preference issues

## Collars?

- Lack of evidence for patients in absence of surgery, fracture
- Potential for delayed recovery
- Verhagen Cochrane 2004, Rosenfeld Spine 2000, ACOEM 2004, ODG 2008

## Traction?

- Graham Cochrane 2008 cannot support or refute efficacy
- Olivero Neurosurg Focus 2002 retro review; 6 wk radiculopathy- 75% respond to tx
- ACOEM 2004 no evidence of efficacy
- ODG 2008 recommend self controlled for radicular symptoms
- Recommendation: Option for cervical radiculopathy

## Exercise?

- Issues: timing, direction, stretching, strengthening, endurance, degree of aerobic
- Rosenfeld Spine 2003 RCT; WAD; active / McKenzie vs. standard; ↓pain, sick leave, ↑ROM @ 6mo, 3 yr.

## Exercise?

- Nikander Med Sci Sports 2006 RCT; chronic pain; strength training vs. endurance vs control; ↓pain, disability @ 1 yr
- Chiu Spine 2004, Ylinen JAMA 2003, Anderson Arth Rheum 2008
- Kjellman J Rehab Med 2002 RCT; general exercise vs. McKenzie vs. control; McKenzie tendency ↓pain disability @ w wks, 6 mo

## Exercise?

- Kay Cochrane 2005 Review
  - Some evidence in acute & chronic mechanical pain, WAD
  - Active, strengthening more effective than stretching
    - Stretching unclear in chronic
  - Strong evidence exercise + manipulation / mobilization in subacute / chronic

## Exercise?

- Linton Spine 2001 Review; some evidence of ↓pain & sick leave
- Recommendation: Early active HEP, supervised PT with strengthening for delayed recovery

## Massage?

- Haraldsson Cochrane 2006 Review
  - Unclear efficacy, methodologic problems
  - Unclear benefit vs. control, comparison, multimodality
- ACOEM 2004 lack evidence
- ODG 2008 option, not over 2-3 wks without benefit

## Mobilization / Manipulation?

- Conflicting but some evidence
- Chiropractic vs. osteopathic
- Manipulation vs. mobilization
  - Conlin Pain Res 2005 Review; WAD; mobilization effective; pain and ROM
  - Gross Cochrane 2004 Review; mechanical pain; mobilization or manipulation alone equivalent; no advantage vs. other rx

## Mobilization / Manipulation?

- Mob / manip + exercise
  - Gross 2004; acute and chronic including radicular symptoms; improved pain, function short and long term f/u
- Hurwitz J Manip PT 2004 Review side effects; ↑ risk manipulation vs. mobilization, 30% ↑ pain / headache

## Mobilization / Manipulation?

- Stevenson AmJMed 2002 Review complications; stroke risk 1/400,000-2m
- Cote Arth Rheum 2007 RCT WAD; ↑ claim duration for ↑ utilization
- Recommendation: Option for mechanical neck pain if no contraindications, especially in combination with exercise, cease if no benefit 6 sessions

## Surgery and PT?

- Persson Spine 1997 RCT; spondylosis and radiculopathy; collar vs. PT vs. surgery; short term benefit surgery and PT; equal long term 12 mo
- Lack of clear literature for post-op of PT, manipulation (risks?)
- Recommendation: PT trial for radiculopathy; PT not needed for all post-op, role when recovery delayed at 4 weeks

## Chronic LBP Multidisciplinary Rehabilitation?

- Issues: wide variation in components
- Definition of quality programs
- Karjalainen Cochrane 2002 Review; chronic neck and shoulder; little evidence vs. other rehab interventions
- Unclear who will benefit, what components are effective, if more effective vs. exercise, and how long care should continue

## Guidelines

- ACOEM OMPG 2004
  - 1-2 visits, HEP
- ODG TWC 2008
  - Up to 9-10 PT visits, 6-18 chiro
  - 16 PT post-op decompression
  - 24 PT post-op ACDF

## Indicators of Problematic / Unsupported Rehab

- Passive or dependent care sole or primary intervention, pain limited care
- Unsupported out of work, failure to advance work capacity
- Failure to provide re-evaluation documentation of quantified functional gains (exam, RTW, Neck Disability, etc.)

## Indicators of Problematic / Unsupported Rehab

- No documented HEP or monitoring
- Exceeding norms of care w/o explanation
- Chiro “subluxation” as objective evidence of pathology
- Failure to address psychosocial issues
- Failure to address fear / lack of effort
- Unrealistic goals

## Future EBM Needs

- ID who is likely to respond to which interventions
- Determine synergistic combinations
- Clarify when to implement, intensity, frequency, duration
- Assess role of fear avoidance, cognitive treatment
- Ways to implement EBM into practice