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Whiplash – hands on or hands off?

Presented by: Jenny McConnell – BAppSci(Phty), Grad Dip Man Ther, M Biomed Eng AM, FACP

Will commence LIVE from Sydney, AUS at 8pm AEST

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Andrew Ellis

BSc (Ex. Sci), M. Phty

- World Health Webinars CEO
- World Health Webinars Host
- Musculoskeletal Physiotherapist Sydney CBD

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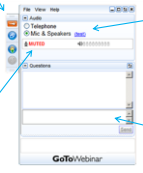

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Jenny McConnell

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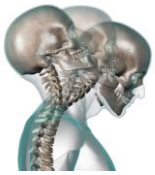
Specialist Musculoskeletal Physiotherapist

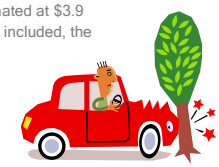
- Specialist musculoskeletal physiotherapist
- Involved in research into patellofemoral, lower limb, shoulder and lumbar spine problems
- Published widely in these areas, has been an invited speaker at over 100 conferences both nationally and internationally
- Editorial boards of Clinical Journal of Sports Medicine, British Journal of Sports Medicine, The Knee, Manual Therapy and Physical Medicine and Rehabilitation
- Awarded the prestigious F.E. Johnson Memorial Fellowship by the NSW Sporting Injuries Committee for outstanding achievement by an established researcher in the field of science and medicine in sport (2006)
- Awarded a member of the Order of Australia honour for service to physiotherapy as a practitioner and researcher (2009)



Whiplash – hands on or hands off?

Whiplash

- Whiplash is the most common injury associated with motor vehicle accidents, affecting up to 83% of patients involved in collisions, is a common cause of chronic disability
- economic burden of whiplash injury, including medical care, disability, and sick leave, is estimated at $3.9 billion annually in the US. If litigation is included, the costs are greater than $29 billion



Whiplash

- Persistent symptoms in 25-40% of patients after 1 year
- Poor prognosis
  - initial disability
  - older age
  - decreased cold pain thresholds
  - decreased neck rotation movement
  - post traumatic stress symptoms
  - decreased sympathetic vasoconstriction
  - post injury psychological factors -passive coping style, depression, fear of movement

Whiplash

- Ligamentous and bony injuries may go undetected at initial presentation leading to delayed diagnosis and inappropriate therapies.
- Recent studies suggest early mobilization may lead to improved outcomes.
- Collar and rest not necessarily useful
- High dose steroids 8 h of injury 30 mg/kg per hour given over 15 min followed by a 23 h maintenance dose of 5.4 mg/kg per hour fewer sick days at 6 months
- Botox into splenius capitis, semispinalis, and trapezius

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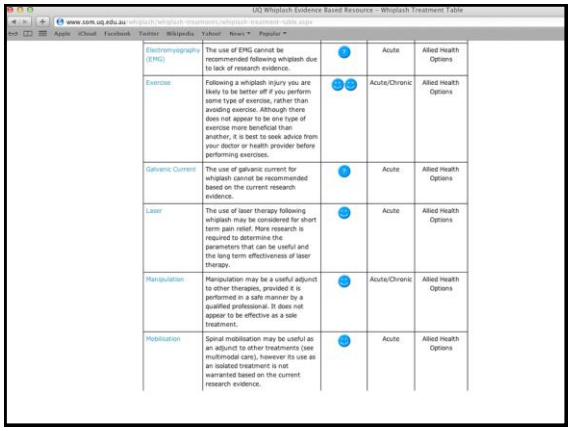

Physiotherapy rehabilitation for whiplash associated disorder II: a systematic review

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- 21 RCTs (2126 participants, 9 countries) 1395 participants in the meta-analyses on 12 trials
- Interventions
  - active physiotherapy or a specific physiotherapy intervention - kinesiotape, manipulation, magnetic therapy
- Some evidence that active physiotherapy intervention reduces pain and improves range of movement in acute and sub-acute phases

Rushton et al BMJ Open 2011

Daily stressors in patients with acute whiplash associated disorders

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- Aims:
  - describe the most stressful daily situation or event reported by individuals with acute WAD within a month of a whiplash trauma.
  - describe the meaning and significance of daily stressors
- Results:
  - Most threatening stressors were related to work, driving and feelings/cognitions.
- Conclusions
  - Early identification of stressors may be helpful in understanding an individual's coping process

Bring et al 2012

Self-reported driving difficulty in chronic whiplash-associated disorders

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- Pain is a risk factor for car crashes, and dizziness may affect fitness to drive
- Chronic WAD patients c/o
  - pain
  - Dizziness
  - difficulty driving
- Dependent variables were the magnitude of self-reported driving difficulty assessed in the strategic, tactical, and operational levels of the Neck Pain Driving Index
- Results:
  - Symptom duration was relevant to driving difficulty in the strategic and tactical levels
  - Physical and cognitive impairments independently contributed to self-reported driving difficulty in chronic WAD beyond neck pain, dizziness, and symptom duration

Takasaki et al 2013

Compliance with clinical guidelines for whiplash

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- Method
  - 94 health professionals (Physiotherapists, Chiropractors and Osteopaths) who manage whiplash
    - classified as compliant with clinical guidelines for whiplash (n = 52)
    - non-compliant (n = 42),
  - 2- day interactive workshop with outcomes measured at baseline and 3 months following the workshop
- Results
  - health professionals' belief systems significantly changed to be more behavioural in orientation

Rebbeck et al 2013

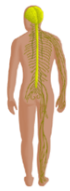
Management of acute whiplash: A randomized controlled trial of multidisciplinary stratified treatments

- 101 participants
- 49 patients randomized to pragmatic intervention
  - could receive pharmaceutical management (ranging from simple medications to opioid analgesia),
  - multimodal physiotherapy
  - psychology for post-traumatic stress according to their presentations.
  - treatment period was 10wks; follow-up at 11weeks and 6 and 12-months
- Results
  - the primary outcome was NDI
  - no significant differences in frequency of recovery (NDI ⩽8%) between pragmatic and usual care groups at 6 months or 12 months.
  - no advantage of the early multi professional intervention.
  - baseline levels of pain and disability had a significant bearing on recovery both at 6 and 12mo in both groups
- Conclusion
  - future research focus on finding early effective pain management, particularly for the subgroup of patients with initial high levels of pain and disability

Jull et al 2013

Where is the pain coming from?

- Increased sensitivity of structures in the vicinity of the problem
- Hypomobility - lack of flexibility of joint structures, neural, fascial and muscle tissues
- Hypermobility / instability - lack of passive and dynamic control
- Centrally generated / maintained sensitivity



Effects of pain

- Decrease muscle activity
- Decrease muscle timing
- Decrease endurance
- Alteration of movement patterns → increased stresses on other body parts

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Extrinsic factors influencing pain

- Fear of pain
- Anxiety
  - Aim: to investigate the effect of the performance of specific mental arithmetic and speech tasks with and without the effect of social evaluation
  - Results: salivary cortisol increased in participants who were socially evaluated (Gruenewald et al 2004).

Extrinsic factors influencing pain

- Fear of pain
- Anxiety
- Negative self talk affects a patient's belief system can affect outcome of treatment
- Work-related stress and lack of recognition & respect
  - affects sick leave attributed to back disorders (Wickstrom et al 1998)
  - nonspecific complaints of pain or discomfort (Kopec et al 2004)

Leeds Neuropathic Scale

Pain -

- pricking, tingling, or pins & needles on skin
- the skin in the painful area mottled or looking more red or pink
- unpleasant sensations when lightly stroking the skin, or getting pain when wearing tight clothes
- come on suddenly and in bursts for no apparent reason - electric shocks
- skin temperature in the painful area hot and burning

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Case studies – what do we do?

- 3 female patients 2 in 40s, 1 in 50s
- All working
- All presented 1st week October 2012
- Whiplash injury - 2-5 years ago
- Current symptoms
  - LBP, neck pain, headaches,
  - 1 knee pain and R forearm pain,
  - 1 bilateral hand and foot numbness,
  - 1 dizziness
- All had previous physiotherapy
- All tried anti convulsive meds - side effects

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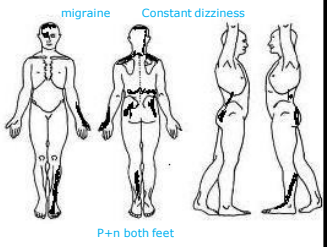
History

- Aggravating factors for back pain
  - Driving
  - Sitting
  - Standing
  - Walking
- Relieving factors for back
  - lying
- Aggravating factors for neck pain
  - Lying
  - Turning
  - Sitting
- Medications
  - endepp, sandomigran, panadeine, celebrex, maxolt
- Previous health good , no ops
  - Now eczema type rash

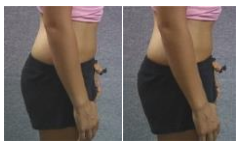


Initial assessment

- 3/10/12 - initial assessment for low back pain
  - IFR
  - walking inc tilt & rotation
  - LS flexion 1/4 tibia ➔pain, no LS mvt splinted in ext
  - LS ext ➔pain, ROM limited
- Patient apprehensive about lying supine due to neck pain and dizziness - wouldn't lie flat

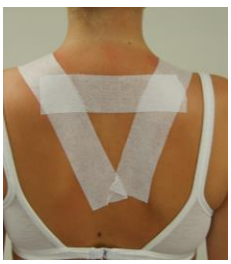
Initial treatment – 3/10/12

- Adductor pressure
- Standing flexion
- Tape gluteals, back and L leg
- Home programme - Body Management Strategies
  - Mini "Elvis"
  - Isometric gluteals in weight bearing
  - Stand like a ballet dancer
  - No crossing legs when sitting
  - Wedge cushion for car



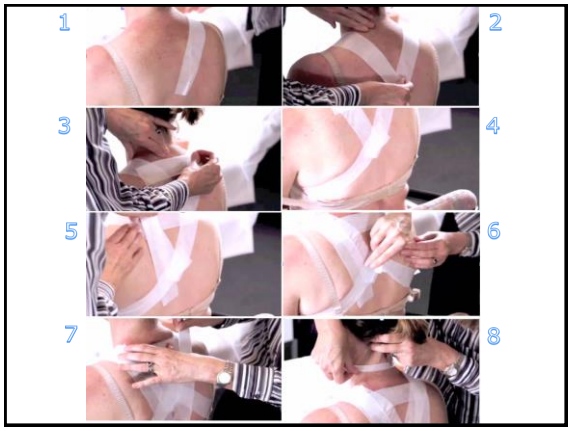
Further treatments

- 9/11/12
  - LBP improved, no p&n
  - TS band like pain when driving
  - CS stiff (CS RR ¾, RL ¾ +)
  - Dizziness and headaches unchanged
  - Ventured into TS area - mobilised in sitting - very stiff at T4,5,6
  - Gently did active passive to CS ➔inc ROM
  - Tape trap
  - Home management
    - tuck, turn and nod 3 times
    - Lower trap yellow band



Treatment 23/11/12

- Feeling 60% better
  - Feels is able to manage LBP with strategies
  - CS Rot ROM almost full
  - Headache slightly worse
- Treatment
  - Continue TS and CS mob
  - STM SCM and UT
  - Mob jaw
  - Tape neck, scapula ➔dec headache



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Outcome for case uncertain but promising

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- Food for thought
  - Underlying baseline less able to withstand additional insult to body
  - Acute - are we doing the right thing - consider the sprained ankle- RICE yet recommendation for whiplash - act as normal and no collar

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Live Q & A

With Jenny McConnell

Coming up next

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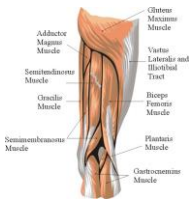
David Wood

"Surgical Hamstrings Repair: why, wherefores and outcomes"



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