Chronic Pain, Disability and RTW

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Conflict of Interest Disclosure

Speakers’ Bureau / Advisory Boards:

- Purdue Pharma
- Sanofi-Aventis
- Pfizer
- Biovail
- Janssen
- AstraZeneca
- JnJ
Objectives I

- Definition and Concepts
- Epidemiology
- Economics
- Modelling Pain
- Symptom vs Function
- Treatments
Objectives II

- Pain and RTW Issues
- Patient/Worker Profiles
- Stakeholder Involvement
- Solutions
Definition and Concepts
What is Chronic Pain?

- Pain that has outlived its usefulness
- Lasts beyond usual course of acute illness/injury (including surgery and recovery)
- Usually beyond 3 months
- Pattern of recurrence over months to years
- Often chronic underlying pathological process
- Often accompanied by emotional burden (depression, anxiety)
What is Chronic Pain?

- Illness
- Injury
- Surgery
- Cancer
- Other
What is Chronic Pain?

- Illness
  - Infections (Herpes Zoster – Shingles, Lyme Disease)
  - Autoimmune (Lupus, Rheumatoid Arthritis)
  - Neurological (Multiple Sclerosis, Post-Stroke Pain)
  - Endocrine Disorders (Diabetes, Hypothyroidism)
  - Degenerative Disorders (Osteoarthritis, Rotator Cuff)
What is Chronic Pain?

- Injury
  - Strains, Sprains (acute/repetitive)
  - Fractures
  - Head Injuries
  - Catastrophic Trauma
What is Chronic Pain?

**Surgery**

- Breast surgery ~30%
- Gallbladder surgery ~25%
- Cardiac surgery ~40%
- Inguinal hernia surgery ~10%

Perkins, Kehlet. *Anesthesiology*, 2000
What is Chronic Pain?

Cancer

- In patients “cured” > 6 months prev. – 49% had pain
  - 41% - inadequate analgesia
  - Only 2% received step 3 opioids

- Currently being treated – 57% had pain
  - 48% - inadequate analgesia
  - Only 3% received step 3 opioids

Reid CM, Forbes K. Pain 2007; 132:229-30
What is Chronic Pain?

- Other
  - Fibromyalgia
  - Mechanical Low Back/Neck Pain
  - Chronic Headaches/Migraines

Reid CM, Forbes K. Pain 2007; 132:229-30
What is Chronic Pain?

- Perceptual
- Experiential
- Situational
Epidemiology
Epidemiology of chronic pain from three large, high quality surveys of adult general populations

- **Blyth et al PAIN (2001):** \( N = 17,543 \) Australia
  - Pain most days for 3 months: 19%

- **Eriksen et al PAIN (2003):** \( N = 20,000 \) Denmark
  - Pain lasting more than 6 months: 19%

- **Breivik et al EJP (2004):** \( N = 30,701 \) in 12 European countries
  - Pain >6 months > 5/0-10 pain scale = 18%
Nanos Canadian Pain Survey 2007-2008

- 19% of Canadians complain of moderate – severe pain daily or most days of the week
  - 1/6 have constant pain
  - 40% suffered from concurrent anxiety or depression

Schopflocher, 2011
www.cpm-centres.com
Canadian Chronic Pain Study II (2004)

- Arthritic conditions and back pain are the most common reason for chronic pain.

- The prevalence of pain increases with age (17\% \rightarrow 33\%).
Diagnoses of Disability

- Strain injuries (including Carpal Tunnel Syndrome)
- Back injuries
- Soft-tissue inflammation
- Musculoskeletal disorders (Arthritis, Back Pain)
Economics
Chronic Pain: Workplace Costs

Among those Canadians with moderate or severe pain:

- 33% - lost a job because
- 47% - reduced job responsibilities
- on average lost $12,558 dollars in income over a one-year period because of their pain.

Schopflocher, 2011
Lost Job as a Result of Pain

CPS Nanos Survey 2007-2008

~$23 Billion / yr
(2003 employment and wage data)
Lost Work Days
Job not lost, Aged <=65

Mean lost work days/yr/worker
~28.5
~$14.7 Billion/yr

CPS Nanos Survey 2007-2008
Chronic Pain in Canada: Societal Costs

Work losses: $42 Billion / yr
Health Care: $11 Billion / yr
Total: $53 Billion / yr
Chronic Pain in Canada: Societal Costs

- Patient-Worker
- Employer
- Society
The Chronic Pain “Industry”

- MDs/Pain Clinics/Hospital Services
- Rehabilitation Clinics/CAM Services
- 3rd Party
- Legal
Modelling Pain
The Biopsychosocial Model
Chronic Pain

Sociocultural Factors
- Learning Mechanisms (Reinforcement, etc.)
- Social/Cultural Beliefs
- Relationships

Psychological Factors
- Beliefs about Pain
- Self-Efficacy
- Catastrophization
- Coping Skills

Emotion
- Frustration
- Anger
- Fear
- Depression

Biological Factors
- Nociceptive Sensitivity
- Degenerative Disease
- Disease Processes
The Chronic Pain Spiral

- INJURY
- ILLNESS
- SURGERY

- TISSUE DAMAGE
- STIGMA
- LOSS OF CONTROL
- DECREASED PHYSICAL & SOCIAL FUNCTIONING
- DECONDITIONING

- PERSISTING PAIN
- HURT VS. HARM
- DEPRESSION

- LIMITS ACTIVITIES
- WEAK, TIGHT MUSCLES
- LOSS OF CONTROL
- DECREASED PHYSICAL & SOCIAL FUNCTIONING
- DECONDITIONING

Pain Centred Life
Measurement of Pain

- Numeric Rating Scales
- Functional Scales
- Quality of Life Scales
- Depression/Anxiety Scales
Symptom vs Function
Symptom vs Function

- Pain ≠ Loss of Function/Disability
  - In the absence of contemporaneous, identifiable, confirmable and corroborative pathology

- Pain can affect Function
  - Physical
  - Mental

Schopflocher, 2011
Treatments
Multidisciplinary Pain Care

The biopsychosocial model focuses on both disease and illness, with illness being viewed as the complex interaction of biological, psychological, and social factors.
Multidisciplinary Pain Care

- Goal is to provide coordinated and more comprehensive care to patients for more complex chronic pain problems and enable specific outcomes

- Patient-centric model of care, “BioPsychoSocial”
Treatment Selection

- Psychological
- Physical / Rehabilitative
- Chronic pain self-management
- Complementary and Alternative Medicine
- Medical Pharmacological Interventional
- Spiritual

Goals
## Treatment

<table>
<thead>
<tr>
<th>PHYSICAL/CAM</th>
<th>PSYCHOLOGIC</th>
<th>PHARMACOLOGIC</th>
<th>INTERVENTIONAL</th>
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<tbody>
<tr>
<td>Normal activities</td>
<td>Hypnosis</td>
<td>OTC medication</td>
<td>I.A. steroids</td>
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<tr>
<td>Splinting / Taping</td>
<td>Stress Management</td>
<td>Alternative therapies</td>
<td>I.A. hyaluronan</td>
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<td>Aquafitness</td>
<td>Cognitive-Behavioural</td>
<td>Topical medications</td>
<td>Trigger pt. therapy</td>
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<td>Physio</td>
<td>Family therapy</td>
<td>NSAIDs / COXIBs</td>
<td>IntraMuscular stim.</td>
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<td>• Passive</td>
<td>Psychotherapy</td>
<td>DMARDs</td>
<td>Prolotherapy</td>
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<tr>
<td>• Active</td>
<td>Mindfulness- Based Stress</td>
<td>Immune modulators</td>
<td>Nerve blocks</td>
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<td>Stretching</td>
<td>Reduction</td>
<td>Tricyclics</td>
<td>BOTOX</td>
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<td>Conditioning</td>
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<td>Anti-epileptic drugs</td>
<td>Epidurals</td>
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<td>Weight training</td>
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<td>Opioids</td>
<td>Orthopedic surgery</td>
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<td>Massage</td>
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<td>Local anesthetic</td>
<td>Radio frequency facet</td>
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<td>TENS</td>
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<td>congeners</td>
<td>neurotomy</td>
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<td>Transcranial Magnetic</td>
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<td>Muscle relaxants</td>
<td>Neurectomy</td>
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<td>Stimulation</td>
<td></td>
<td>Sympathetic agents</td>
<td>Implantable neurostimulators</td>
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<td>Chiropractic</td>
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<td>NMDA blockers</td>
<td>Implantable pain pumps</td>
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<tr>
<td>Acupuncture</td>
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<td>CGRP blockers</td>
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<td><strong>Medical Marijuana</strong></td>
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www.cpm-centres.com
Treatment

- Outcome based
- Education
- Behaviour modification
- Medical
- Psychological
- Physical Rehabilitation
- CAM/Spiritual
Pain and RTW Issues
Barriers to RTW

- Physician Factors
- Patient-Worker Factors
- Workplace Factors
- 3rd Party Factors
- Other
Barriers to RTW

- Physician Factors
  - Lack of Knowledge
  - Biases/Misperceptions
  - Medicalization
  - Regulatory/College Fears
  - Practice Management/Access Issues
Barriers to RTW

- Patient-Worker Factors
  - Pain AND Disability arising from an Impairment
  - Medication Side-Effects (Physical, Cognitive)
  - Comorbidities (Depression, etc.)
  - Multiple Scheduling
  - Secondary Gain
Barriers to RTW

- Workplace Factors
  - Unable to Accommodate (duties, hours)
  - Unwilling to Accommodate (perspective/perception)
  - Safety Concerns
  - No Transitional Work
  - Labour-Management Issues
Barriers to RTW

• 3rd Party
  - Working Within Set Guidelines/Criteria
  - Potential Adversarial Position
  - Case Manager/Adjudicator Conflicts
  - Paperwork/Bureaucracy
  - Legal Involvement
Barriers to RTW

● Other
  
  ▪ Perceived Injustice
    ▪ If only he could see what he has done to my life.
    ▪ Nothing will ever make up for what I’ve gone through.
    ▪ My life will never be the same.

Michael Sullivan, PhD
Departments of Psychology, Neurology and Neurosurgery
Canada Research Chair in Behavioural Health
Barriers to RTW

- Perceived Injustice
  - Severity of loss consequent to injury
  - Irreparability of loss
  - A sense of unfairness
  - Blame

Michael Sullivan, PhD
Departments of Psychology, Neurology and Neurosurgery
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Barriers to RTW

The Targets of Perceived Injustice

- Employer
- Boss/Manager/Coworker
- Insurer
- Family/Friends

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Barriers to RTW

- Perceived Injustice Impacts Recovery
  - Revenge Motives
  - Invalidation
  - Proving Injustice to Others
  - “Exercising” Loss of Control

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Barriers to RTW

Solutions to Perceived Injustice

- Validation of distress or suffering
- Provider identifies his/her role as helper
- Increase awareness of the negative consequences of perceived injustice.

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Profiles
Profiles

- 45 year old female with whiplash from car accident
- 55 year old with a wrist fracture
- 40 year old female with fibromyalgia
- 35 year old male with back pain
Profiles

**Whiplash**

- Consulting a lawyer was associated with less improvement after one year, but there was no significant association with rate of return to work.
- Degree of damage to the vehicle was not a predictor of outcome.
- Bodily pain score and role emotional scores of the SF-36 health questionnaire showed a consistent significant positive association with better outcomes.

RISK FACTORS PREDICTIVE OF PROLONGED DISABILITY FOLLOWING WHIPLASH. A PROSPECTIVE STUDY

O.L. Osti, R.T. Gun, Alison O’Rioran and F. Mpelasoka

*J Bone Joint Surg* Br 2004 vol. 86-B no. SUPP 1 87
Wrist Fracture

- Most influential predictor of pain and disability at 6 months was injury compensation

Patient versus injury factors as predictors of pain and disability six months after a distal radius fracture
Joy C MacDermid, A Donner, Robert S Richards, James H Roth
www.cpm-centres.com
Profiles

● Fibromyalgia

- patients undergoing a multidisciplinary treatment who were least likely to return to work at discharge were those with a pain locus of control characterized by more negative expectations about pain progression and a high perceived functional disability

Torres et al, General Hospital Psychiatry
Volume 31, Issue 2, March–April 2009, Pages 137–145
Profiles

● General

- Age, race, education, and baseline pain and disability were significant predictors of 6-month disability
- Adjusting for baseline demographics, pain, disability, and other psychosocial variables, high work fear-avoidance and very low work recovery expectations were significant independent predictors of long-term disability

Predictors of Long-Term Disability among Workers with Musculoskeletal Disorders
G Franklin, J Turner, D Fulton-Kehoe, T Wickizer, K Egan and R WU
Profiles

- Predictors of time off work following the accident beyond the impact of the objective severity of their injury and the type of accident involved.

- The patients’ subjective appraisals of:
  - Accident severity
  - Their ability to cope with the resulting injury and its job-related consequences

It appears that relevant prognostic information regarding return to work can be obtained by asking the patient two simple questions:

- How severe do you think your accident was?
- How well do you think you will be able to handle the consequences of the accident with regard to return to work?

Chances of returning an injured employee to work are directly related to the length of time he or she has been out of the workplace.

- Workers absent for more than 6 months have approximately a 50% probability of returning to work.
- Those absent for more than 1 year have a 25% probability of return.
- Those absent for more than 2 years have virtually no chance of returning to work.

The US Bureau of Labor Statistics
Profiles

- Patients who miss no days from work have the best chance of a full recovery from an on-the-job injury

The US Bureau of Labor Statistics
Profiles

- 40% of chronic pain patients who attended a 6-week (total 50 hours of intervention) **multidisciplinary treatment program** successfully returned to work

- On average, participants had been work-disabled for more than 3 years at admission

Stakeholder Involvement
Stakeholders

- Patient-Worker
- Labour
- Employer
- Insurer
- Healthcare Providers
- Legal
Stakeholders

● Risk factors:
  ▪ Pain
  ▪ Disability
  ▪ Fear of pain and reinjury
  ▪ Physical job demands
  ▪ People-oriented workplace culture
  ▪ Workplace disability management practices
  ▪ Depressive symptoms

Renée-Louise Franche  Journal of Occupational and Environmental Medicine (vol. 51, no.8, pp. 969-983)
Stakeholders

- Class 1 — workplace issues
- Class 2 — positive workplace, but more back pain.
- Class 3 — multiple issues.

Renée-Louise Franche  Journal of Occupational and Environmental Medicine (vol. 51, no.8, pp. 969-983)
Stakeholders

• Class 1 — workplace issues.

  These workers had similar pain and disability scores as those who had returned to work. However, they had much worse scores with respect to workplace disability management practices and the worst scores on people-oriented workplace culture.

Renée-Louise Franche  Journal of Occupational and Environmental Medicine (vol. 51, no.8, pp. 969-983
Class 2 — positive workplace, but more pain

- These workers scored higher than any group, even those who had already returned to work, on people-oriented workplace culture and workplace disability management practices. However, they also scored relatively high with respect to pain and disability levels.

Renée-Louise Franche  Journal of Occupational and Environmental Medicine (vol. 51, no. 8, pp. 969-983
Stakeholders

Class 3 — multiple issues.

- These workers fared the poorest in all areas except workplace disability management practices and workplace culture, and even here their scores were relatively worse. Their levels of depressive symptoms were much higher.

Renée-Louise Franche  Journal of Occupational and Environmental Medicine (vol. 51, no. 8, pp. 969-983
Solutions
Solutions

- Current disconnect between Stakeholders:
  - Patient/worker
  - Employer
  - 3rd Party
  - Primary Care Giver
  - Legal

- Consensus with Outcomes/Expectations
Mechanisms-Facilitation

- Supportive workplace policies and climate;
- Communication and cooperation among the worker, his/her health care professional, union or worker representative and the workplace;
- Joint labour-management cooperation;
- Offers of modified work (preferably of the original job);
- On-going evaluation of the program

Ann-Sylvia Brooker, Sandra J. Sinclair, Judy Clarke, Victoria Pennick, Sheilah Hogg-Johnson
Mechanisms-Facilitation

- Contacting workers shortly after injury or illness to express concern and offer help;
- Working with physicians to develop return-to-work plans;
- Following up after injured workers return to adjust the work situation as needed;
- Providing retraining when injured workers can’t return; and
- Having labour and management work together as partners in returning injured workers

Mechanisms-Treatment

● Program-based approach

    ▪ Diagnostic Entities

        • Fibromyalgia
        • Low Back Pain
        • Neck Pain/Headaches
        • Neuropathic Pain entities (CRPS, TOS, DPNP, etc.)
        • Chronic Pain Disorder – Function and Pain focus
Mechanisms-Treatment

- Chronic Pain Self-Management
- Medical therapy
- Complementary and Alternative Medicine (CAM)
  - Chiropractic
  - Acupuncture
  - Naturopathy
  - Massage therapy
Mechanisms-Treatment

- Physical Therapy (active and passive)
- Psychotherapy/Psychology/Counselling
- Occupational Therapy
- Vocational Therapy
Mechanisms-Treatment

- Program-based approach
  - Outcomes based
    - Expectant, Time-Limited and Measureable
    - Objective Findings (ROM, etc.)
    - Functional Improvement (Return to work)
    - Quality of Life
QUESTIONS?