Washington State Department of
Labor & Industries

High Disability Risk

Identification and Early Intervention

Functional Recovery Questionnaire (FRQ) and Interventions (FRI)

The Disability Conundrum

At least 5% of work injuries end up badly

- Permanently disabled
- Loss of career, benefits, retirement
- Frequently with dissolution of families, marriages

The Biggest Tragedy…

- Almost all of these cases begin as simple, non-catastrophic musculoskeletal injuries
  - e.g., low back pain, carpal tunnel syndrome
- But early on, they look the same as the 95% that do just fine…

What if we could figure out who they were before they get there ?

What would you want your doctor to do?

You start to have

- Chest pain, shortness of breath, nausea, left arm pain
- And your dad and aunt had heart attacks before they turned 55 and your grandmother died of a stroke at 62…

- Wait a month to see if it goes a way?
- Two weeks of arm and shoulder work by a PT?
- Prescribe some morphine for the pain?
- Certify a few weeks off work?

Pain >> Chronicity >> Disability…

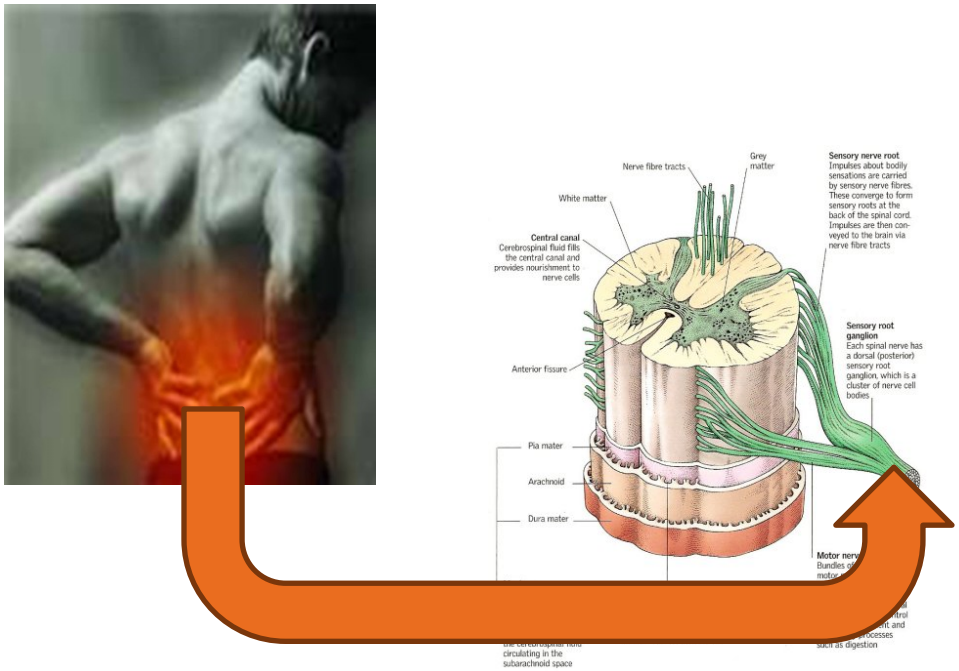
- Pain usually provides protection for healing
- Almost everyone has acute back pain in their lifetime
- Over 90% recover within days or weeks
- When good pain turns bad:
  - ~5% go on to chronic pain, notoriously refractory to treatment-why?

Why does acute pain become chronic?

- Pain persists, annoys, inhibits, prevents…

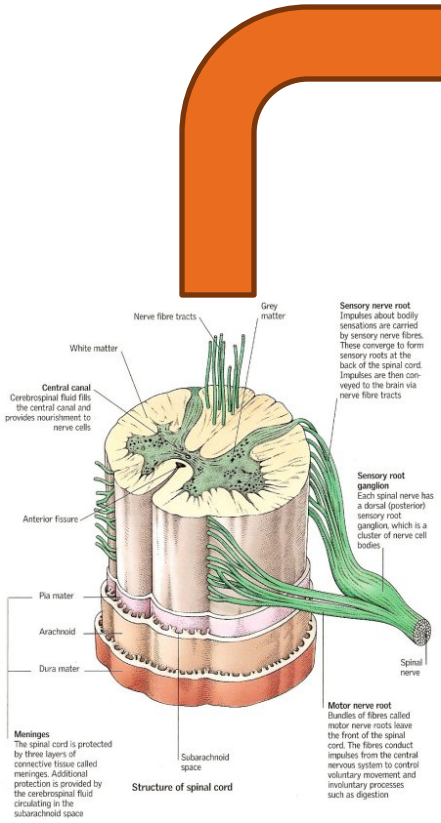
Why does acute pain become chronic?

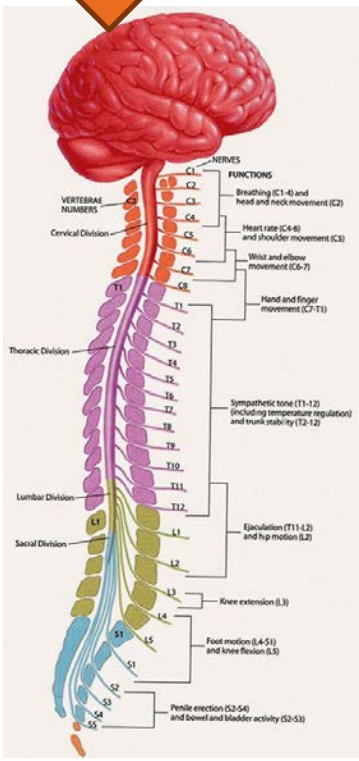
- Central nervous system (brain and spinal cord pathways) becomes “sensitized” to pain pathway stimulation

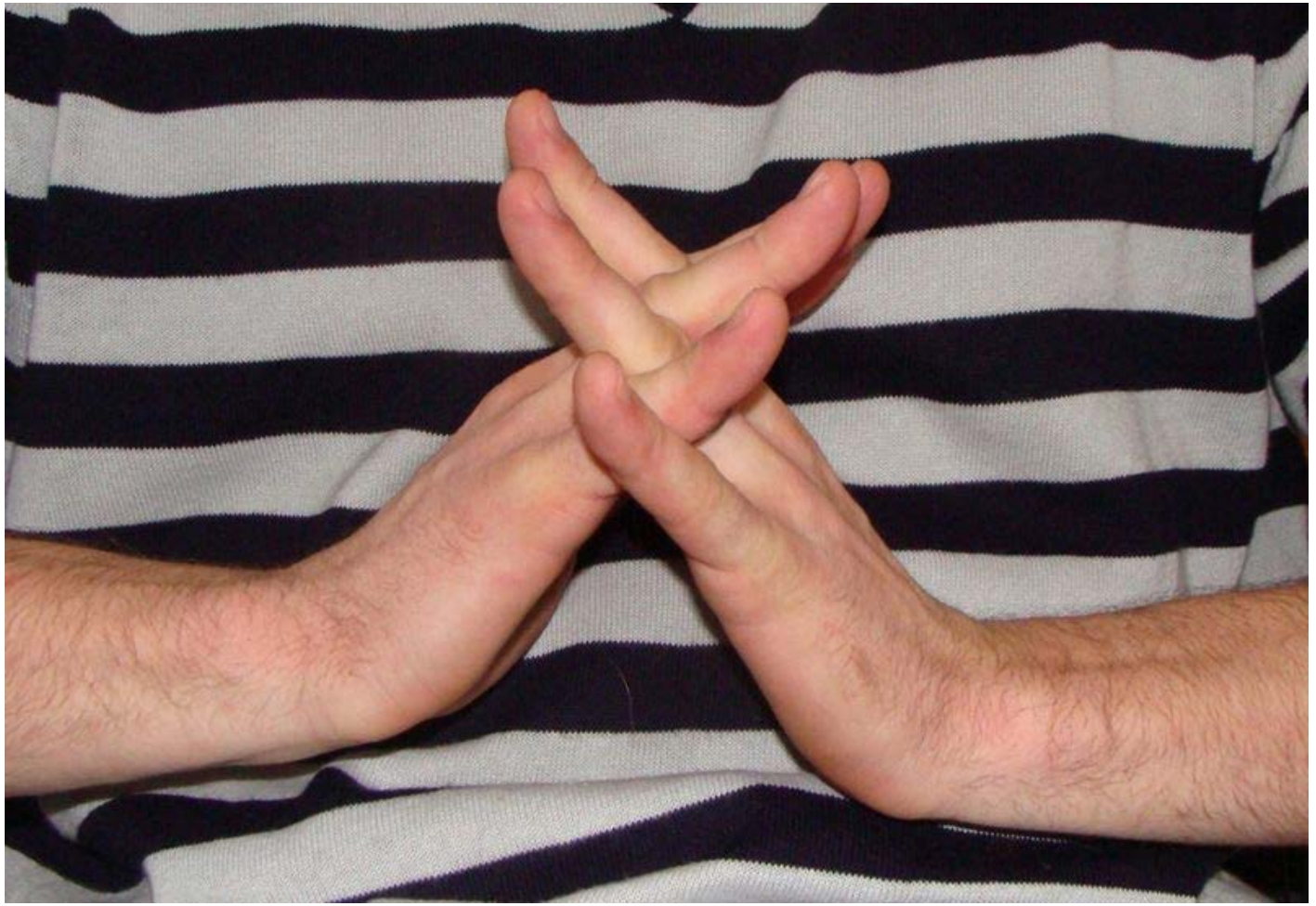


Why does acute pain become chronic?

- Pain experience may persist after injury itself heals







Sensitized pathways affected by…

- Brain's active role in processing pain
  - fMRI studies show effects of attention to pain, catastrophizing on brain areas involved in pain
- Social and environmental contingencies shape pain and disability behaviors
  - family and employer responses
  - workplace factors
  - financial consequences

Translating research into practice

- **Usual care based on conventional models:**
  - Pain control
  - Patho-anatomical treatment (disc, joints, muscles)

- **Occupational Health Best Practices:**
  - Preclude adversity (worker employer connection, timely adjudication-ROA, etc)
  - Incremental activity with functional goals/outcomes
  - Care coordination, timely decisions

Occupational Health Best Practices: 1st 90 days

- **Prevent adversity**
  - Early ROA for quick benefits adjudication
  - Recruit employer for RTW
- **Foster return to normal activity**
  - Identify & set recovery expectations
  - Active patient role in recovery
- **Secure effective care**
  - Dx, referral, graded increases in activity, coordination of concurrent care
- **Timely barrier identification & action**
  - Recovery, RTW, patient factors

Centers for Occupational Health & Education – COHE

Occupational Health Best Practices:

- Day 1 Employer Contact
- 48 hour ROA
- Activity Prescription
- Health Services Coordination
- RTW Impediments Assessment if not working within 1 month

Accounted for 20% reduction in disability

How might we get at that next 80% ?

Patho-anatomy is not enough…

- Treatment aimed solely at peripheral factors may not relieve pain maintained by CNS mechanisms
  - Pain behaviors maintained by social/environmental/work factors need to be addressed
- Cognitive (e.g., attention, appraisals) and emotional (e.g., depression, anxiety) factors affect cortical and other CNS processes
  - Influence pain
  - Affect behaviors that lead to disability (e.g., activity avoidance)
- Altering cognitive and emotional factors may improve pain via neurobiological mechanisms
  - endogenous pain inhibition processes, reversing central pain sensitization processes) and effects on activity/role function

Is There Any Evidence?

Psychological Factors Predict Outcomes

- Sciatica patients who are depressed and anxious have worse pain and function after surgical or non-surgical care
  - Edwards et al., Pain, 2007, 130, 47-55
- Non-work comp patients with better mental health prior to lumbar fusion showed greater 2 year improvement (Oswestry, SF-36)
  - Carreon et al., Spine 2009, 34: 725-730
- Low recovery expectation, low SF-36 MH, fear avoidance, catastrophizing predicted ≥180 work disability days over next year in workers with recent CTS claims
  - Turner et al., Am J Industr Med 50, 2007

Systematic review of chronic disabling back pain risk factors and risk prediction instruments

- 20 prospective studies of patients with <8 wks back pain from which likelihood ratios could be calculated
  - Chou and Shekelle: Will this patient develop persistent disabling low back pain? (JAMA 2010; 303:1295-1302)

Findings

- **Maladaptive pain coping at baseline predicted chronic back pain**
  - high fear-avoidance, catastrophizing, somatization/generalized pain, high functional disability, psychiatric comorbidities, and low general health status.
- **Similar for:**
  - workers' comp & non-workers' comp
  - work versus other functional outcomes
  - patients with acute & subacute pain

Chou and Shekelle, JAMA 2010; 303:1295-1302

Pragmatics of Disability Prevention

MORE MODIFIABLE

LESS MODIFIABLE

- Clinical
- Work
- Administrative
- Psychological
- Legal
- Demographic

Psychological Characteristics in Work Disability Due to Back Pain

- Baseline (18 days after claim filing) telephone interviews of 1068 workers with back injuries
- Adjusting for baseline demographics, pain intensity, and physical disability, baseline
  - ***high work fear-avoidance*** (OR = 4.6)
  - ***very low recovery expectations*** (OR = 3.1)

  predicted work disability at 6 months.

Turner et al., Spine, 31, 2006

Early Psychosocial Disability Predictors

- Physical disability may be intertwined with psychological variables soon after injury
  - *Assess psychological variables in acute pain patients when disability is high.*

- Recovery expectations, fear-avoidance, and SF-36 Mental Health each predicted 1-yr disability

Early Psychosocial Disability Predictors

- Roland substantially correlated with each of these
  - strongest predictor of all variables assessed
  - more important than pain intensity

- "Chronic disabling pain" may be present early after injury
  - *mistake to distinguish between chronic and acute pain based on duration alone?*

- May be useful to define "chronic pain" in terms of prognosis/likelihood of recovery

Von Korff, Pain, 2005, 117: 304-313

Environmental factors shape chronicity

- ***Job accommodation*** consistently protective against chronic work disability
  - workers not offered accommodation by 3 wks had twice the odds (adjusted) of 1-yr disability
- ***Job demands*** consistently found to predict chronic work disability

- ***Biopsychosocial models***
  - emphasize patient psychological factors;
  - need to also focus on health care provider, employer, family responses, & work/economic factors that affect disability

Already addressed by COHEs

- Connection with employer
- Reduction of delays
- Early health services coordination

- Earlier Identification of who's at risk
- Effective interventions to address individual risk factors
- Better empowerment/coping skills for patient
- Better coordination of system variables
  - Care, RTW, Incentives, etc

Turner's Disability Research at UW

Identified three questions for injured workers unable to work the previous week that strongly correlate with disability status one year later

- *Earliest way to identify who is at risk of long term disability and why, alerting docs to needed additional interventions at a time when they may be most helpful*
- *Questions also correlate with psychosocial concerns linked to chronicity (fear of re-injury, low recovery expectations)*

Functional Recovery Questionnaire

"Positive" FRQ Questions

- Not worked for pay in past week
- Pain interference greater than 5 on VAS
- Back and leg pain **OR** pain in multiple body sites

"Figure Out Why" Questions

- No modified duty (accomodation) by employer
- Fear of worsening, catastrophizing
- Low recovery expectation

Positive FRQ = High Disability Risk

aka *Work Comp Heart Attack*

- More Attending Provider Attention Required
- Business As Usual: Not Good Enough
- It Needs To Be Taken Seriously
- More Time Should Be Spent With Them
- Assure These Workers **DO NOT** Fall Through The Cracks

An Urgent Situation

- Nearly 40% of Washington workers with a Positive FRQ are still off work one year later.
- Even those back to work at 1 year had more time lost from work during that year.
- It's a rare event - less than 10% of injured workers on time loss are at risk.
- It may be even rarer in COHE practices: 3.5% of COHE patients become disabled (instead of 5% average for workers compensation)

Yeah, So What?

Functional Recovery Interventions

1. **Active Participation**
   - Self-participation in recovery, keeping appointments
2. **Normal Recovery & Recovery Expectations**
   - Explain normal, good recovery process and timeline
3. **Work Accommodation & Job Concerns**
   - Ensure employer contact and RTW goal is done and communicated with worker
   - Obtain HSC assistance if RTW barriers identified
4. **Incremental Increasing Activity**
   - Activity diary, regular movement of any kind
   - Active PT referral and follow-up if appropriate
5. **PT/OT Referral Oversight**
   - Assure active care
6. **Track Functional Progress**
   - Assure active care

Extra Attention To Patient Care

- Potentially More Frequent Office Visits
- More Time for Patient Counseling
- More Attention to Physical Activity
- More Oversight if PT is Included
- More Attention to Workplace Issues
- More Attention to Documenting Functional Improvement
- More Communication with HSC/other providers

(Most everything that is extra is billable for this 3-7% of COHE patients)

Plan B Strategies

- Physician Advisors/Specialists
  - Coach/mentor
  - Take over
- Activity Coaching
  - Progressive Goal Attainment Program
- “Its Not Psych” Resources
  - Surgical Best Practices
  - Structured Integrated Multidisciplinary Programs
  - Best practice Behavioral Health tools… under construction