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?
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
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
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 (accommodation) 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 WithThem
- 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

- “It’s Not Psych” Resources
  - Surgical Best Practices
  - Structured Integrated Multidisciplinary Programs
  - Best practice Behavioral Health tools… under construction