

Functional Restoration

Howard Cohen MD

Associate Medical Director, P.R.I.D.E.

Adjunct Assistant Professor, UT-Arlington

Board Certified in Pain Medicine, Psychiatry, Addiction
Psychiatry, Geriatric Psychiatry & Psychosomatic Medicine

What is Functional Restoration?

Interdisciplinary tertiary rehabilitation utilizing principles of sports medicine combined with psychosocial treatments

90% Rule

- 90% of people injured recover within 90 days of conservative care
- The 10 % who fail to recover with single provider intervention absorb 90% of the costs... and receive increasingly aggressive and invasive interventions with poor outcomes.

Levels of care

Primary

modalities applied during acute injury to modify symptoms

Secondary

PT/OT with off-site consultants to prevent deconditioning associated with transition from functional impairment to disability

Tertiary

physician directed, interdisciplinary team care for chronic pain patients who are disabled from performing ADLs or work functions

P.R.I.D.E.

Productive Rehabilitation Institute of
Dallas for Ergonomics

1 year outcomes for program completers

- Return to work > 90%
- Work retention > 80%
- Post treatment surgeries < 4%
- Recurrent injury claims < 2%
- Injury related medical visits < 5 / year

Treatment Phases

- Initial Evaluation
- Second Visit
- Initial Phase
- Intensive Phase
- Outcome tracking phase

Initial Evaluation

- **Overlooked medical barriers** to ensure additional surgery or activity limitation would cause improvement?
- **Psychosocial barriers** such as psychological distress, conversion/factitious disorders?; patient insight
- **Patient's desired outcome**- shared goals empower patient to make choices
- **Quantitative Evaluations**- physical and psychological assessment, disability case management

Physical Evaluation

Identify “weak link” /dysfunctional motion segment

- Range of motion (inclinometer)
- Dynamic strength (dynamometer)
- Endurance (ergometric testing)

Assess internal validation, external evaluation using normative data base

Is the patient really trying?

- Dynamometer graphs torque vs. time curves that are standardized, abnormalities indicate submaximal effort
- Integrate findings with whole body performance assessment and cardiovascular measures to look for discrepancies
- OT awareness of psychological factors

Psychological Assessment

- Structured clinical interview
- Self report questionnaires
- Affective inventory
- Central Sensitization Inventory

Rates of psychiatric illness much higher in chronic pain population – affective and anxiety disorders, chemical dependency, personality disorders, childhood trauma

Disability Case Management

Realistic expectations for all stakeholders

Links with family, employers, state agencies, insurance company, adjuster, nurse case manager, referring physician, lawyers, retraining sites. Problem solves public healthcare, transportation and financial issues.

Second Visit

Discussion of realistic expectations based on data and testing

Focus on strength, endurance and coping skills needed to return to work or improve QOL as opposed to “fixing” patient and curing all pain

Emphasize concept of continued recovery after program

Functional Restoration Team

- MD- Pain Medicine, Orthopedics, PM&R, Psychiatry, Addiction
- Psychologist for assessment and psychotherapy
- Physical therapists
- Occupational therapists
- Biofeedback /Stress management therapist
- LPC for individual and family work, addiction & PTSD counseling
- Case managers/ Vocational rehabilitation

Initial Treatment Phase

- Opioid/Sedative tapering –high doses incompatible with progressive exercise
- Pharmacotherapy for psychiatric comorbidity
- Integration into treatment milieu
- Home cardio and stretching program
- Goal is to tolerate a full day of activity

Intensive treatment Phase

- 8 hour, 3-5 days/week, 2-8 weeks program
- Repeat assessment to adjust pace
- Quota based strengthening exercise, stretching, aerobics, work simulation
- Cognitive/Behavioral therapies- education, biofeedback, psychotherapy
- Vocational rehabilitation, work transition

Outcome tracking

- Long term care plan- initial quarterly visits
- PRN visits for focused interventions
- Telephone outcome tracking 3,6,& 12 months followed by 1 and 2 year intervals
- PRIDE database 5000 completers and 2000 non-completers
- Outcome research- length of prior disability, age, gender, cervical/upper extremity vs. lumbar injury, discectomy vs. fusion, psychological status, opioid use, final pain/disability rating, health utilization

Functional Restoration vs. Interdisciplinary Pain Program

- Quantification of physical capacity
- Quantification of psychosocial function
- Reactivation for restoration of fitness
- Reconditioning of injured functional unit
- Retraining in multiunit functional task performance
- Work simulation
- Multimodal disability management program
- Medication management with opioid taper goal
- Vocational/societal reintegration a major focus
- Formalized outcome tracking

Philosophy

- Treat deconditioning syndrome using sports medicine concepts while recognizing that fear/inhibition cycle leads to progressive decline and chronic pain
- Individualized exercises to restore task specific functions
- Improvement in quantifiable function may lead to improvement of pain perception
- Combination of stretching ,strengthening ,agility, cardiovascular fitness will improve outcomes and reduce risk of re-injury
- Goals for opioid elimination in patients with purely musculoskeletal conditions
- Recognition and aggressive therapy of treatment resistant psychiatric disorders can lead to improved outcomes

Psychopharmacotherapy Considerations in Functional Restoration

Recognize high incidence of Central Sensitization/Somatization disorders in chronic pain population (fibromyalgia, TMJ, migraine/tension headache, IBS

RLS ,chronic fatigue, multiple chemical sensitivity, IC, chronic pelvic pain, PTSD)

Fibromyalgia may be pre-existing or triggered by injury in a susceptible patient and should be treated with standard agents

Myofascial Pain Syndromes

Myofascial pain syndromes as a result of emotional tension from repressed anger are very common and may superficially resemble radiculopathies or contribute to entrapment syndromes. Will respond to education, insight-oriented psychotherapy, and anxiety management . Consider SNRI/TCAs.

Trigger point injection, manual therapy, and electrostimulation can be adjuvant treatments

Depression and Anxiety

- Treatment resistant MDD, GAD/panic, sedative dependence common
- Surprisingly high incidence of Bipolar II and Bipolar disorders explain treatment resistance in some depression patients
- OCD very common in somatic population
- PTSD from childhood trauma and injury
- Alcohol dependence, Marijuana use to self-treat pain and anxiety
- Chemical copers

Traumatic Brain Injury

- Often unrecognized or untreated
- Exacerbation of underlying ADHD in impulsive patients involved in accidents
- Usually require baseline neuropsychological testing for treatment planning
- Some patients respond to stimulants, cognitive enhancers
- Emotional lability can be treated with NMDA antagonists
- Beta blockers and anticonvulsants may control irritability
- Depression and seizure disorders common

Neuropathic Pain Syndromes

- Radiculopathy and neuralgias sometimes comorbid with “non-compensible” peripheral neuropathies
- Psychiatric stability/childhood trauma sometimes not addressed and accounts for SCS failure
- TCAs, SNRIs, gabapentin, pregabalin, oxycarbamezapine, mexiletine, tramadol, tapendatol, methadone
- CRPS – alpha blockers, NMDA antagonists

Opioid dependence in functional restoration

- Addiction vs. physical dependence
- Comorbid stimulant/ ETOH addiction
- Hyperalgesia
- Low dose, moderate dose, mega-dose tapering strategies
- Clinical use of buprenorphine- lack of hyperalgesia, induction, detox vs. maintenance, delivery systems
- >120 mg morphine equivalents lead to worse return to work rate (76% vs. 94%), lower work retention (55% in very high opioid group vs. 85% non-opioid group) despite weaning

Psychodynamic psychopharmacology of pain

- Placebo response is powerful
- Tailor medication management to patients personality style for better compliance
- Resistance from medications- symptoms may improve, but not quality of life as there is little motivation; or they don't feel responsible for their behavior because of being on meds; or illness is seen not as a personal responsibility but a deficit of medication
- Resistance to medications- patient conflicted about getting well and may have increased side effects and poorer outcome
- Patient attaches feelings about others to doctor that affects compliance, communication, and improvement
- Doctor prescribes excessive doses or multiple types of medication to deal with their own anxiety and frustration when trying to help a treatment resistant patient or to one they have attached unconscious feelings

Summary

- A small percentage of patients with disability from chronic pain account for the vast majority of costs to society
- This population has a disproportionate rate of psychopathology, childhood abuse, somatization, and fear of pain and injury that impedes rehabilitation efforts
- Quantifying physical and psychological variables allows for objective treatment that improves outcome
- Functional restoration has proven outcomes for over 25 years with 90% return to work rates for patients who are sufficiently motivated to enter and complete a program
- Interdisciplinary care is personnel intensive and requires physician team leadership as well as diagnostic and integrative skills

Reference

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