MULTIDISCIPLINARY PAIN MANAGEMENT
DEFYING DISABILITY

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Rehabilitation Institute of Washington

-a multidisciplinary clinic providing rehabilitation services for injured workers with chronic pain and traumatic brain injury.
OBJECTIVES

• Understand the role of different exercise approaches in the management of chronic pain to allow more effective patient counseling in the use of exercise to manage chronic pain syndromes.

• Understand the difference between a comprehensive multidisciplinary pain management program and stand alone services and be able to identify when it is appropriate to refer patients for comprehensive services.
OUTLINE

• Introduction
• Role of exercise in the management of chronic pain
• Overview of Structured Intensive Multidisciplinary Programs.
• Outcomes
• Who to refer and when
INTRODUCTION

• Chronic pain is a widespread and expensive problem
  • 2011 IOM report (produced at the behest of the 2010 PPACA) found that chronic pain affects 116 million Americans each year at a cost of $560 to $635 billion each year in medical bills, lost productivity and missed work.

• Disability due to musculoskeletal problems has been growing progressively over the last 50 years. (from 8% to 34% 1960-2011)

• After leaving work due to an injury about 50% of workers have returned after 10 weeks, 75% by one year and after one year, significant further increase in return to work rates is unlikely.
CAUSES OF DISABILITY HAVE CHANGED OVER TIME

• Over several generations, from 1960-2011, circulatory system diagnoses have been reduced from 27 percent to 11 percent of SSDI claims awards. Similarly, respiratory system diagnoses fell from 8 percent to 4 percent of the total.

• During the same period, musculoskeletal awards more than quadrupled from 8 percent to 34 percent of all new SSDI awards. Mental disorder–related new SSDI awards more than doubled from 8 percent to 19 percent of the total.
WHO – INTERNATIONAL CLASSIFICATION OF FUNCTION

Box 1: Definitions: Functioning, disability and the components of the ICF

| Body functions | The physiological functions of body systems (including psychological functions). |
| Body structures | Anatomical parts of the body such as organs, limbs and their components. |
| Impairments     | Problems in body function and structure such as significant deviation or loss. |
| Activity        | The execution of a task or action by an individual. |
| Participation   | Involvement in a life situation. |
| Activity limitations | Difficulties an individual may have in executing activities. |
| Participation restrictions | Problems an individual may experience in involvement in life situations. |
| Environmental factors | The physical, social and attitudinal environment in which people live and conduct their lives. These are either barriers to or facilitators of the person’s functioning. |

**Functioning** is an umbrella term for body function, body structures, activities and participation. It denotes the positive or neutral aspects of the interaction between a person’s health condition(s) and that individual’s contextual factors (environmental and personal factors).

**Disability** is an umbrella term for impairments, activity limitations and participation restrictions. It denotes the negative aspects of the interaction between a person’s health condition(s) and that individual’s contextual factors (environmental and personal factors).

Source: WHO 2001:8,10
CASE EXAMPLES
• Injury was a sprained ankle with development of CRPS.
  • Preexisting history of chronic pain due to fibromyalgia, endometriosis and carpal tunnel syndrome.
  • On methadone and oxycodone (MED 1470) for 18 years. Also taking lorazepam 1.5 – 2 mg/dy.
  • Already left one career, hairdressing, due to the CTS, and was working at a large department store at the cosmetics counter.
  • At time of evaluation, out of work for 7 months; 13 months at start of treatment.
  • Cannot work because cannot tolerate standing or walking.
• Oswestry 42% (high level of pain related disability); Tampa 27/44 (moderate fear avoidance)
AJ – 61 YEAR OLD WOMAN

- Activities director YMCA. Sustained a cervical strain and concussion when hit on the top of the head with a basketball.
  - Post-concussive symptoms resolved, but failed to recover from the cervical strain despite physical therapy.
  - DDD of cervical spine on MRI.
  - Very fearful and guarded. Does not move her neck at all. Significant psychosocial stressors at home due to caring for grown son with developmental disability.
  - Out of work for 22 months at the time of the evaluation.
  - Attempted a RTW in sedentary position, part time. Unable to sustain return to work due to inability to tolerate sustained seated positioning and computer work.
- Oswestry 30% (mild pain related disability); Tampa 35/44 (high levels of fear avoidance).
CG – 65-YEAR OLD WOMAN

• Was working as a flight attendant. Sustained two injuries in close succession: trip and fall on stairs and controlling heavy cart during turbulence.
  • Left low back and gluteal pain, radiating down the left leg, 2-4/10.
  • Age appropriate DDD and DJD of the lumbar spine.
  • Treatment had included PT, chiropractic, massage and craniosacral work.
  • At time of evaluation, had been out of work for 11 months.
  • Unable to return to work due to inability to sustain the physical demands and light duty was not available.

• Roland-Morris disability index 8/23 (mild disability); Tampa 30/68 (low level of fear avoidance); CES-D 10/60 (no depression)
MM – 44 YEAR OLD MAN

- Firefighter. Onset of LBP and left LE radicular pain after a day of heavy work in the setting of prior low back pain from which he had recovered without incident.
  - Treatment had included PT, steroid injection and low dose of medications.
  - Imaging: Moderate DDD at L45 and L5S1 with moderate bilateral foraminal stenosis.
  - Surgery not indicated.
  - At the time of evaluation has been out of work for 7 months.
  - Unable to return to work because could not sustain the physical demands. Failed light duty due to intolerance of office work even with a sit/stand station.
- Roland-Morris disability index 2/23 (minimal disability); Tampa 31/68 (low levels of fear avoidance); CES-D 3/60 (no depression)
WHAT DO YOU RECOMMEND FOR EACH OF THESE WORKERS?

• More physical therapy?
• Work Conditioning?
• Work Hardening?
• Multidisciplinary care?
EXERCISE IS CENTRAL TO ALL OF THESE INTERVENTIONS AND COMES IN A WIDE VARIETY OF POSSIBILITIES
BUT, WHEN YOU SUGGEST EXERCISE TO SOMEONE WITH CHRONIC PAIN

This may be what they imagine
WHY EXERCISE?

• Multiple benefits including:
  • Strength
  • Flexibility
  • Endurance
  • Decreased cardiovascular risk
  • Better bone health
  • Decreased metabolic syndrome
  • Improved cognition
  • Improved mood
  • Improved pain control

Photo credit: www.globalhealingcenter.com
HOW DOES EXERCISE WORK?
WHEN IT COMES TO PAIN, IT IS NOT ALWAYS CLEAR

We think of the obvious: strength, endurance, motor control, body mechanics, flexibility.

However, the effect on the brain, on sensory processing, cognitive and emotional function, is likely equally or more important.
PAIN PERCEPTION

• Complex interaction between peripheral nociceptive input and modulatory processes at the spinal and supraspinal level.

• Endogenous pain modulatory system with inhibitory and facilitatory functions.

• Pain modulation occurs in cortical, hypothalamic, midbrain, and brainstem structures and in the spinal cord.

Photo credit: http://hubpages.com/health/Physiology-of-pain
WHAT DO WE KNOW ABOUT HOW EXERCISE AFFECTS THE BRAIN AND PAIN PERCEPTION?

• Animal studies
  • Aerobic exercise decreases neuropathic and mechanical hypersensitivity
  • Exercise alters biochemical markers of pain such as substance P in the dorsal root ganglion
  • Evidence that endogenous opioid and serotonergic systems are involved in mediating the diminished pain perception.

Photo credit: www.humaneresearch.org.au
WHAT DO WE KNOW ABOUT HOW EXERCISE AFFECTS THE BRAIN AND PAIN PERCEPTION?

• Human studies
  • Improved pain control is associated with exercise for a variety of painful conditions. (including chronic low back pain, fibromyalgia, osteoarthritis, neuropathic pain and CRPS)
  • Healthy individuals who are more physically active and participate in aerobic activity have lower pain unpleasantness and pain intensity ratings to experimental pain.
  • Motor cortex stimulation in patients with neuropathic and chronic myofascial pain have shown improved pain control and evidence of activation of pain modulatory systems in the brain.

Photo credit: gffi-fitness.org
WHAT DO WE KNOW ABOUT HOW EXERCISE AFFECTS THE BRAIN AND PAIN PERCEPTION?

- Some chronic pain patients may have dysfunctional endogenous pain modulatory systems.

- Healthy populations and chronic low back pain patients show decreased pain perception in response to aerobic, isometric and dynamic resistance exercise.

- In patient's with regional chronic pain, exercise of muscles outside the painful region decreased sensitivity of the painful area, but exercise of painful muscles increased pain sensitivity in those muscles.

- In fibromyalgia, low-moderate intensity active elicits hypoalgesia, but moderate to vigorous activity may lead to hyperalgesia.

Naugle, 2012
WHAT DO WE KNOW ABOUT HOW EXERCISE AFFECTS THE BRAIN AND PAIN PERCEPTION?

• Specifically targeted exercise programs improve chronic pain and function.

• HOWEVER, changes in pain do not correlate well with improvement in physical measures, suggesting that a mechanism other than change in musculoskeletal function is mediating pain relief.

• This mechanism is likely activation of the endogenous pain modulatory systems.

Bennel 2010; Mannion 2012
FOR EXAMPLE, FOR LOW BACK PAIN

Benefits are seen for pain and function with:

• Specific exercise protocols targeting specific impairments (spine stabilization, direction specific treatments – McKenzie).

• General exercise protocols (general flexibility, strength and endurance training).

• Mind/Body techniques of motor control such as Yoga, the Alexander Technique, and Tai Chi.

So, one can choose what is appropriate for the particular patient circumstances and change the activities as needed.

Photo credit: solomonsseal.wordpress.com
SO HOW DO YOU DECIDE WHAT TO PRESCRIBE?

“The handle on your recliner does not qualify as an exercise machine.”
HOW DO YOU DECIDE WHAT TO PRESCRIBE?

• Start with assessing the biopsychosocial circumstances of the patient. A physical exam is not enough. You need to understand the Patient’s psychological state and beliefs about pain, health and wellness.

• Consider what the goals of exercise are:
  • specific correction of impairments (eg better ROM),
  • reduction of activity restrictions (eg walking without a cane),
  • improvement in participation (eg returning to work).

• Remember that acute pain and chronic pain are different.
ACUTE INJURY

• Exercise is one of the mainstays of rehabilitation care for acute injuries.
• Assessment will include analysis of functional **biomechanical deficits** including:
  • Muscular weakness
  • Inflexibility
  • Scar tissue
  • Muscle strength imbalance
  • Poor coordination
  • Decreased endurance
• Treatment addresses these biomechanical deficits, primarily through a **specifically tailored exercise program**.
• Targeting **IMPAIRMENT**. Once corrected, **ACTIVITY** and **PARTICIPATION** will normalize.
May have all of the functional biomechanical deficits.

In addition, may be dealing with:

- Excessive deconditioning
- Fear-avoidance
- Depression
- Centrally mediated pain
- Loss of role in family and society
- Entrenched disability

Progressive loss of function and diminishing quality of life.

This is the group for whom multidisciplinary care may be appropriate, as well as necessary, to effect improvement in function and quality of life.
THE BEST DESCRIPTION OF THESE PROGRAMS IS: INTERDISCIPLINARY PAIN REHABILITATION

• However, they go by many other names:
  • Pain management program
  • Multidisciplinary pain management
  • Functional restoration
  • Structured intensive multidisciplinary program
WHATEVER THE NAME, THIS TYPE OF TREATMENT

•.....is coordinated care, provided by professionals from multiple disciplines, directed at treating the secondary consequences of chronic pain with a goal of improving the patient’s ability to function, not necessarily to cure the disease that initiated the pain problem.
SECONDARY CONSEQUENCES

- Depression
- Fear/Avoidance
- Physical Deconditioning
- Inappropriate Medications
- Inaccurate Beliefs
- Vocational Dysfunction
- Social Isolation

Which all add up to DISABILITY
INTERDISCIPLINARY PAIN REHABILITATION

• Intensive – daily treatment that lasts several hours (6-8) over a period of several weeks (4)

• Includes exercise targeted to functional impairments, general conditioning, body mechanics training.

• Cognitive behavioral therapy, quota-based reactivation and education.

• Team approach which draws on the expertise of practitioners in many disciplines

• Addresses multiple facets of the patient’s problem – including the psychosocial consequences of chronic pain
THE PROGRAM STRIVES TO:

• Address the physical and psychological aspects of fear-avoidance and deconditioning
• Provide education in neurophysiology, functional anatomy and body mechanics as well as cognitive behavioral strategies
• Provide repetition and ample practice for both physical activities and behavioral strategies
• Provide counseling and support regarding return to work options, and assistance with practical return to work activities (job search, resumes, interviewing skills)
TREATMENT GOALS

• Improve the patient’s ability to function
• Address factors that contribute to disability
• Focus on those things that can be changed and controlled
• Help the patient become an active participant in their recovery
• Educate the patient so that they better understand how their mind and body work and can utilize that understanding to decrease their symptoms and improve their function
TREATMENT TECHNIQUES

- Cognitive-behavioral therapy
- Operant conditioning – focus on well behaviors vs pain behaviors
- Quota-based reactivation
- Medication management with goal of diminishing opiate use and optimizing use of other medications
- Education

All team members support the activities of one another so that the principles that are being taught are reinforced by everyone throughout the treatment day.
TYPICAL DAILY SCHEDULE

• 9:00 - 10:00 - PT or OT
• 10:00 - 11:00 - OT or PT
• 11:00 - 12:00 - Educational group
• 12:00 - 1:00 - Lunch
• 1:00 - 2:00 - PT or OT
• 2:00 - 3:00 - OT or PT
• 3:00 - 4:00 - Educational group

• Patients pulled out of OT or PT for visits, at least weekly, with:
  • Psychologist
  • Physician
  • Vocational counselor
TREATMENT SETTING INCLUDES BOTH GROUP AND INDIVIDUAL SESSIONS AND IS ACTIVE, NOT PASSIVE.

**Physical Therapy**

**Goals:**
- Increase flexibility.
- Increase strength and endurance.
- Normalize movement patterns.
- Decrease fear of movement.

**Occupational Therapy**

**Goals:**
- Improve Body Mechanics.
- Teach proper techniques for general work and life related tasks: Lift, carry, push-pull.
- Teach proper techniques for specific activities: Stairs, ladders, vacuuming, working at the computer, gardening, etc.
- Build endurance and tolerance and decrease fear.
QUOTA-BASED RE-ACTIVATION

• Identify a BASELINE level of function at which the patient can be SUCCESSFUL.
• Determine a rate of progression that will be SAFE AND ACHIEVABLE.
• Do ONLY what is on the schedule for the day; not more if feeling good, or less if feeling bad.
• Activity levels are NOT pain-contingent, but based on the predetermined quota for the day.
• If patient falls off the progression, go back to an achievable level and resume the process.
• GOAL: Remove pain as the guiding control of activity and replace control with a rational process that determines a reasonable activity level.
EDUCATIONAL GROUPS - EXAMPLES

- PhD: Coping strategies, Managing depression, Sleep, Hurt not = harm.
- Voc: L&I, how it works, job search strategies, interviewing techniques.
• Pain is an unpleasant sensory and emotional **EXPERIENCE** associated with actual or potential tissue damage, or described in terms of such damage. *(It really is all in your head)*

• Pain is an experience that exists in the brain and is modulated not only by sensory input from the body but by our beliefs and past experiences. *(It really is all in your head)*

• The degree to which the person’s whole situation is perceived as dangerous by the brain will alter the intensity and characteristics of the experience. *(It really is all in your head)*
People often have very inaccurate ideas about how their bodies are put together and function.

People listen to what their doctors tell them. Words matter.

For example, something can be described as a disease (degenerative disc disease) versus a normal process of aging (discs change with time just as our skin gets wrinkles).

If described as a disease, the person will more likely view it as dangerous and be more likely to experience pain.
EDUCATION IS THE MOST IMPORTANT PART OF A MULTIDISCIPLINARY PROGRAM

It is provided by all providers in both individual and group settings.

Education is what gives the person the knowledge to change their EXPERIENCE and therefore their pain.

Education provides the understanding that leads to diminished fear avoidance.

Education teaches people how to move to build the strength, flexibility and body mechanics to minimize risk of reinjury and to feel in control of their bodies and safe in their daily activities.
BENEFITS OF INTENSIVE INTERDISCIPLINARY REHAB

• Multiple studies over a period of decades have evaluated this approach.

• Outcomes include:
  • Decreased pain
  • Decreased medication use and health care utilization
  • Improved function
  • Decreased fear-avoidance beliefs
  • Higher rates of return to work.
  • Persistence of benefits up to a year

Fordyce 1973; Flor 1992; Guzman 2001; Monticone 2013
BENEFITS – RETURN TO WORK

• Multiple studies have also addressed the return to work issue.
• Proctor 2005 – 90% of workers who completed a program had returned to work at 1 year.
• Kool 2005 – Compared function-centered versus pain-centered treatment and showed significantly fewer work days missed after function-centered treatment.
• van Geen, 2007 - Systematic review of 10 RCT. Three of four high quality studies showed positive improvement in RTW. One showed no impact.
BENEFITS – RETURN TO WORK

• Norlund, 2009 – Meta-analysis of 7 RCT with RTW as outcome measure. Heterogeneous group. When limited to the 5 Scandinavian studies, analysis showed significant impact on RTW in the treated vs. control groups.

• Mayer, 2014 – prospective cohort study, 564 pt with work related LBP. 3 groups: fusion surgery, non-fusion surgery, unoperated. Post rehab RTW: F 81%, NF 84%, U 85% as compared to reported RTW post Fusion (no rehab) of 26-36%.
REFERRALS

• Who?
• When?
BACK TO THE CASES
ED – 45 YEAR OLD WOMAN

• Injury was a sprained ankle with development of CRPS.
  • Preexisting history of chronic pain due to fibromyalgia, endometriosis and carpal tunnel syndrome.
  • On methadone and oxycodone (MED 1470) for 18 years. Also taking lorazepam 1.5 – 2 mg/dy.
  • Already left one career, hairdressing, due to the CTS, and was working at a large department store at the cosmetics counter.
  • At time of evaluation, out of work for 7 months; 13 months at start of treatment.
  • Cannot work because cannot tolerate standing or walking.

• Oswestry 42% (high level of pain related disability); Tampa 27/44 (moderate fear avoidance)
TREATMENT SETTING – SIMP

• Prior to treatment, tapered the methadone then inpatient detox admission. Discharged on Suboxone and off benzodiazepines.

• Daily OT and PT program focusing on specific treatment for CRPS.

• Full pain program and 3 months of follow up. Outcome:
  • Functional capacity: Initial: less than sedentary Final: light
  • Average Pain level: Initial: 8/10 Final: 6/10
  • Pain Interference: Initial: 5/10 Final: 4/10
  • Worry about pain: Initial: 8/10 Final: 3/10
  • Tampa Scale for Kinesiophobia-11: Initial: 27/44 Final: 16/44 (Assessment: Improved)
  • Oswestry: Initial: 42% Final: 22% (Assessment: Improved)
  • WAHODAS 2.0: Initial: 21/60 Final: 23/60 (Assessment: Worsened)
  • PHQ-9: Initial: 16/27 Final: 9/27 (Assessment: Improved)
  • GAD-7: Initial: 6/21 Final: 0/21 (Assessment: Improved)

• At 8 months post discharge, pain is 2/10. Running 5 miles per day. Finishing up retraining as a patient care coordinator and ready to return to work. Still on Suboxone 8 mg daily.
AJ – 61 YEAR OLD WOMAN

• Activities director YMCA. Sustained a cervical strain and concussion when hit on the top of the head with a basketball.
  • Post-concussive symptoms resolved, but failed to recover from the cervical strain despite physical therapy.
  • DDD of cervical spine on MRI.
  • Very fearful and guarded. Does not move her neck at all. Significant psychosocial stressors at home due to caring for grown son with developmental disability.
  • Out of work for 22 months at the time of the evaluation.
  • Attempted a RTW in sedentary position, part time. Unable to sustain return to work due to inability to tolerate sustained seated positioning and computer work.

• Oswestry 30% (mild pain related disability); Tampa 35/44 (high levels of fear avoidance).
TREATMENT SETTING - SIMP

- Participated in the full pain program and 1 full week of follow up
- Outcomes:
  - **Functional capacity**: Initial: less than sedentary  Final: sedentary
  - **Average Pain level**: Initial: 7/10  Final: 3/10
  - **Pain Interference**: Initial: 10/10  Final: 3/10
  - **Worry about pain**: Initial: 6/10  Final: 3/10
  - **Tampa Scale for Kinesiophobia-11**: Initial: 35/44  Final: 15/44  (Assessment: Improved)
  - **Oswestry**: Initial: 30%  Final: 28%  (Assessment: Worsened)
  - **WHODAS 2.0**: Initial: 26/60  Final: 20/60  (Assessment: Improved)
  - **PHQ-9**: Initial: 4/27  Final: 0/27  (Assessment: Improved)
  - **GAD-7**: Initial: 4/21  Final: 4/21  (Assessment: Unchanged)

- Released to return to work in a sedentary position, without restrictions. Patient planning to look for part time work as she had been planning to do prior to the injury.
CG – 65-YEAR OLD WOMAN

• Was working as a flight attendant. Sustained two injuries in close succession: trip and fall on stairs and controlling heavy cart during turbulence.
  • Left low back and gluteal pain, radiating down the left leg, 2-4/10.
  • Age appropriate DDD and DJD of the lumbar spine.
  • Treatment had included PT, chiropractic, massage and craniosacral work.
  • At time of evaluation, had been out of work for 11 months.
  • Unable to return to work due to inability to sustain the physical demands and light duty was not available.

• Roland-Morris disability index 8/23 (mild disability); Tampa 30/68 (low level of fear avoidance); CES-D 10/60 (no depression)
Physical and Occupational Therapy, 1.5 hours daily, 4-8 weeks.

Focus on body mechanics, strength, flexibility, endurance and progress tolerance for functional tasks.

In this case, 7 weeks of treatment.

Progressed from sedentary-light levels to light-medium levels. Lifting 35# from the floor, knee and shoulder and 25# overhead.

Returned to work as a flight attendant.
MM – 44 YEAR OLD MAN

• Fire fighter. Onset of LBP and left LE radicular pain after a day of heavy work in the setting of prior low back pain from which he had recovered without incident.
  • Treatment had included PT, steroid injection and low dose of medications.
  • Imaging: Moderate DDD at L45 and L5S1 with moderate bilateral foraminal stenosis.
  • Surgery not indicated.
  • At the time of evaluation has been out of work for 7 months.
  • Unable to return to work because could not sustain the physical demands. Failed light duty due to intolerance of office work even with a sit/stand station.

• Roland-Morris disability index 2/23 (minimal disability); Tampa 31/68 (low levels of fear avoidance); CES-D 3/60 (no depression)
TREATMENT SETTING – WORK HARDENING

- Physical and Occupational Therapy, 1.5 hours per day for a few weeks to reach light-medium to medium levels.
- 4 hours per day week 1, 5 hours week 2, 6 hours week 3, 7 hours week 4.
- Final discharge capacities: lifting 100 # from floor and knee height, 60 # at shoulder height and 40 # overhead.
- Returned to full duty as a firefighter.
IF THE WORKER HAS NOT RETURNED TO WORK AT 3 MONTHS, WHY IS THAT?

- Not medically stable
- Would like to return, but is not strong enough
- Is ambivalent about returning to work
- Is fearful about returning to work
- Is worried about reinjury
- Believes they cannot return to work
- Depressed
- Opiate dependent
- Job not available
IDEAL PROGRAM CANDIDATES (THOSE PEOPLE UNLIKELY TO PROGRESS WITH LESS INTENSE TREATMENT)

• Present with some combination of:
  • Excessive disability conviction
  • High levels of fear avoidance
  • Significant psychological issues including depression and anxiety
  • Deconditioned
  • Stiffness and poor movement mechanics
  • Challenging vocational situation
BACK IN YOUR OFFICE, WHAT TO DO?

• With an injured worker, consider early and often why they are not yet back at work.

• Be cognizant of the information implied in your explanation of the patient’s problem.

• When referring to physical therapy, expect the therapist to provide an exercise program and a home program.

• Ask your patient to demonstrate one or more of the exercises.

• Expect a rational approach to how exercise is presented.
DECISIONS THE THERAPIST MAY BE MAKING WHEN PRESCRIBING EXERCISE

- Does the program need to address specific biomechanical deficits?
- What types of exercise will be helpful and accepted by the patient?
- What dose of exercise is recommended including intensity, frequency and duration?
- What quality of movement should be emphasized: Speed, accuracy, power, range of motion?
- Are there a range of exercises that can be useful to give choice?
- What education does the patient need and who will provide it?
FOR THE PERSON WHO JUST DOES NOT WANT TO GET OUT OF THEIR RECLINER (BUT NEEDS MORE COMPREHENSIVE CARE):

- Present the program as an opportunity and a privilege.
- Emphasize the presence of a whole team to provide support to work with them and teach them skills that will improve their quality of life.
- Note that the program will be individualized and paced to their specific needs.

Photo credit: fieldsofgarlic.livejournal.com
RESOURCES FOR NEUROPHYSIOLOGIC EDUCATION – FOR YOU AND YOUR PATIENTS

• Website: Neuro-orthopedic Institute – noigroup.com
• Book: Explain Pain by David Butler and Lorimer Moseley
• Video: “Body in Mind – The role of the brain in chronic pain”
  • https://www.bing.com/videos/search?q=explain+pain+video+lorimer+moseley&view=detail&mid=9EAC02FF7C4