



# The PEAK Center

## Julie Hartman, PT, DPT



# Craig Hospital

Redefining Possible for People with  
Spinal Cord and Brain Injuries



# Disclaimer

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- Presenter: Julie Hartman
- The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months
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# Objectives

- Describe a community based health and wellness center for individuals with neurological disabilities at Craig Hospital
- Introduce individuals with genetic ataxia, and describe how they utilize PEAK services and technologies

# Introducing the PEAK Center at Craig Hospital



## The PEAK

Adapted health and wellness center for individuals with neurological injuries and disease

History of the PEAK

# Our Mission

The MISSION of the PEAK Center (Performance, Exercise, Attitude and Knowledge) is to provide advanced care for people with neurologic injuries and disease by facilitating neuromuscular recovery, creating lifelong fitness and wellness plans to maintain optimal health and by empowering individuals to maximize their quality of life through knowledge and activity.



# Tiers of Service

- 1. Gym Membership:** Fully adapted fitness center with knowledgeable staff onsite
  - **Amenities:** Accessible changing rooms and locker rooms, monthly weigh-ins, monthly sewing services
  - **Fitness Classes:** Krank cycling classes, strength and conditioning classes, and adaptive yoga
- 2. Functional Electrical Stimulation cycling**
- 3. Activity Based Training:**
  - 1:1 training utilizing cutting edge technology
- 4. Manual Therapy and Dry Needling**

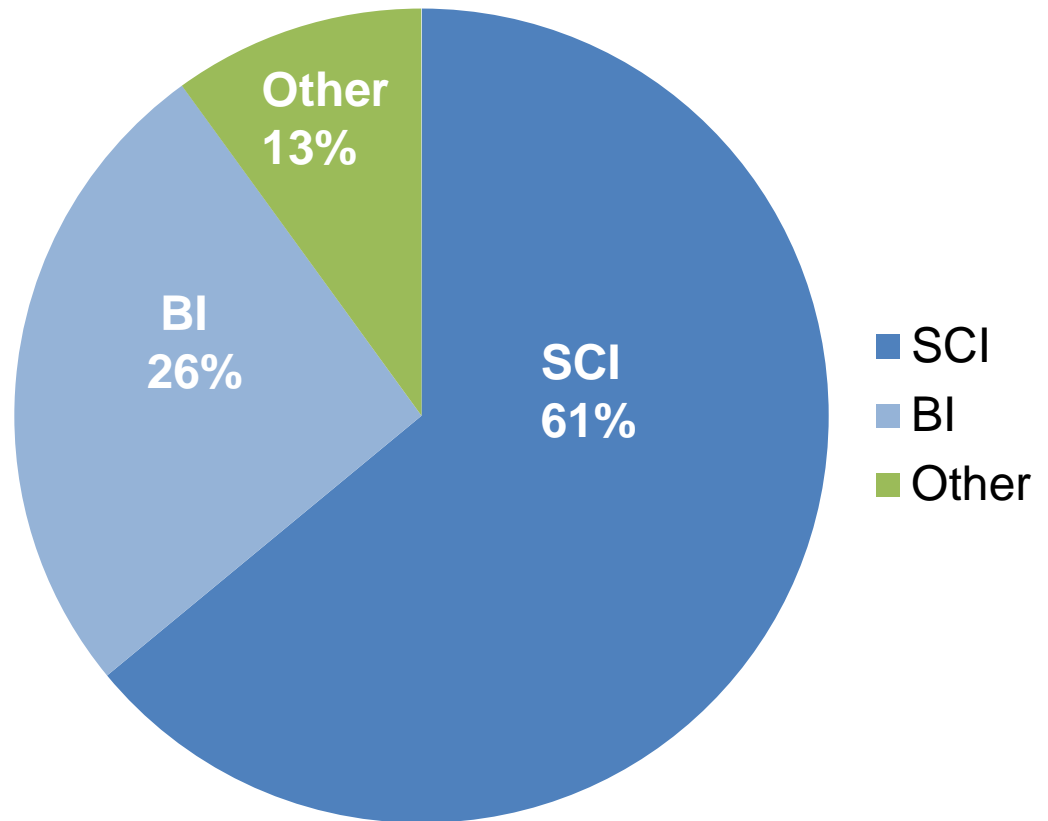


# PEAK Clients

## Who can participate?

- Any individual with a neurological disability or disease
- Family and/or caregivers

## PEAK Personal Training Clients



# What we know about PT interventions and ataxia...

**Limited research available: small sample sizes, heterogeneity of diseases in study groups, and variations in the duration of therapies offered**

Barbieri, G, Marquer, A., Pérennou, D. The assessment and treatment of postural disorders in cerebellar ataxia: a systematic review. *Annals of physical and rehabilitation medicine*. 2014;57(2), 67-78.

**“There is now moderate level evidence that rehabilitation is efficient to improve postural capacities of patients with cerebellar ataxia - particularly in patients with degenerative ataxia or multiple sclerosis. Intensive rehabilitation programs with balance and coordination exercises are necessary. Although techniques such as virtual reality, biofeedback, treadmill exercises with supported bodyweight and torso weighting appear to be of value, their specific efficacy has to be further investigated.”**



Martins, Polonini, Rodrigues, et al. Physical therapy approach to spinocerebellar ataxia: a systematic review. *Fisioterapia e Pesquisa*. 2013;20(3), 293-298.

- “Of the studies evaluated, one of them investigated only patients with SCA. Even so, the studies report the positive impact of physical therapy for patients with SCA. This suggests that the interventions used for ataxias of other etiologies can also be useful for the SCA treatment...”
- “Fryer et al.<sup>26</sup> noticed a beneficial effect of non-specific exercises for the progression of cerebellar degeneration in rats with SCA1. These findings may corroborate the idea that immobility leads to motor loss, which goes beyond those promoted by the characteristic degeneration of SCA itself. Therefore, it seems that keeping patients active alone can already being some sort of benefit.”

# Comprehensive Approach

## Functional Training



## Stability, Balance Coordination



## Strength and Conditioning



# Meet Anne!



Redefining Possible for People with Spinal Cord and Brain Injuries

- **Functional Training**  
(Alter-G, vector for ambulation training, sit to stands, stair training)
- **Balance and Coordination Training**  
BITS, standing balance (static and dynamic), balance in developmental sequencing positions
- **Strength and Conditioning**  
Cardio: Nu-step, Krank cycles, specialized treadmills, swimming  
Strengthening: weight machines, closed-chain strengthening (squats, planks, push-ups)

# Anne's Program

- VIDEO of Anne's program

# Meet Nate!

- **Functional Training**

Lokomat, EKSO bionic legs, Vector, Hydroworx: locomotor training devices

- **Strength and Conditioning**

Aquatic therapy, krank cycle, developmental sequencing

- **Coordination**

Target practice (BITS, boxing), multilimb coordinated strengthening (squats, quadruped)

# Nate's Program

## VIDEOS of Nate's program

# Weighted torso ambulation training

- VIDEO

# Thank You



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## **Wellness Membership:**

- \$50/month or \$180/6 months + \$85 consultation fee
- Scholarships available for those who demonstrate financial need
  - *>95% of our general gym members are on scholarship!!!*

## **FES Cycle Sessions:**

- \$100 monthly unlimited or \$20/session + \$85 evaluation fee

## **Activity Based 1:1 Training/ Manual Therapy:**

- \$85/hr (10%-15% discount when contracts are signed for 3 or 6 months)

## **Dry Needling:**

- \$60/session or 5 for \$250

# Current Membership



- **Active Members:**
  - 100 ACTIVE general gym memberships
  - 18 FES cyclists
  - Avg 185 hrs/ 1:1 training per week
    - ~100 active personal training clients
  - Waiting list
- **BECOME A MEMBER:**
  - <http://www.craighospital.org/programs/the-peak-center>

Barbieri, G, Marquer, A., Pérennou, D. The assessment and treatment of postural disorders in cerebellar ataxia: a systematic review. *Annals of physical and rehabilitation medicine*. 2014;57(2), 67-78.

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