



# Pain – It gets our attention

## Overview of Pain

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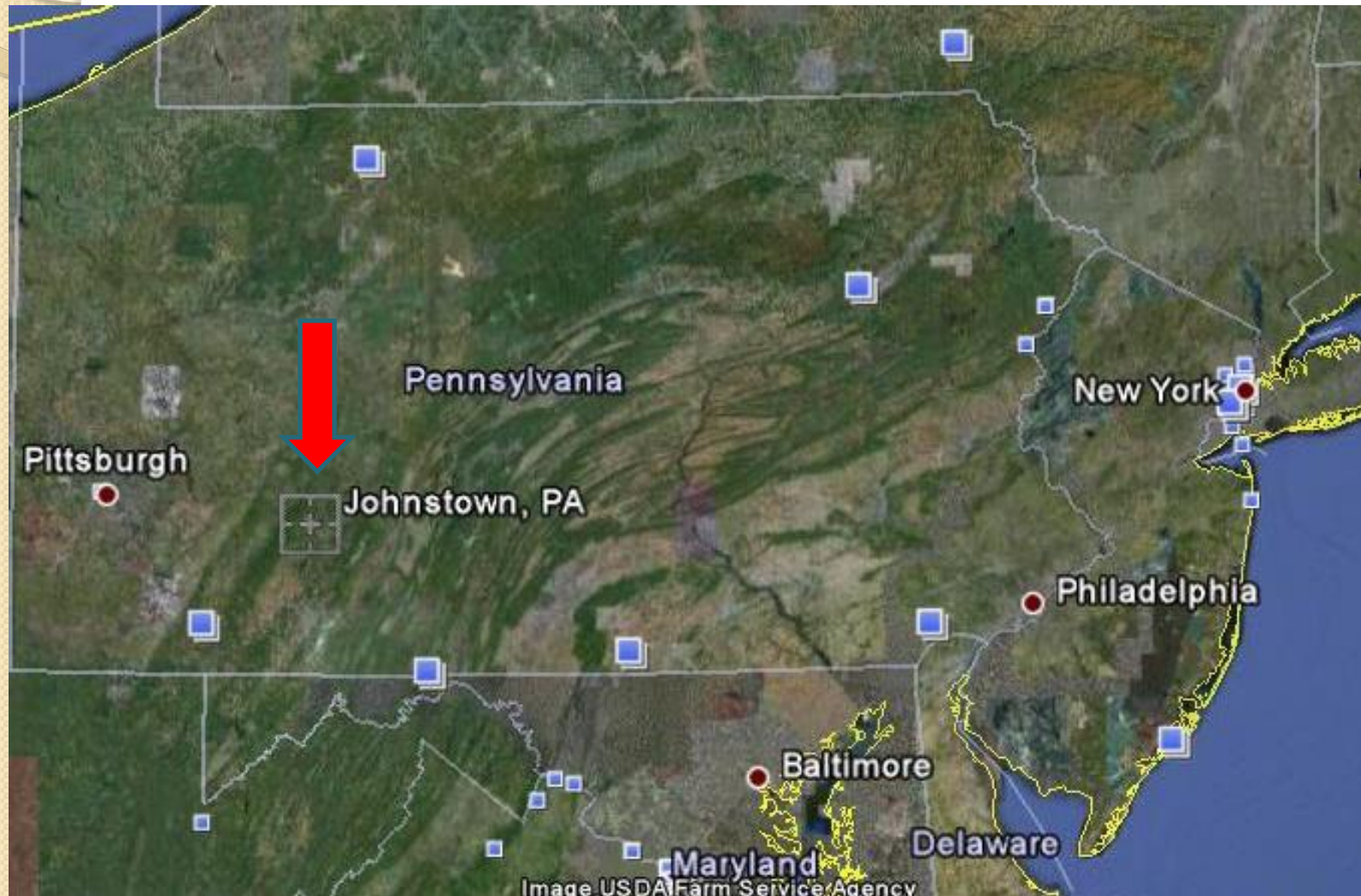


# John P. Murtha Neuroscience and Pain Institute

Affiliate Conemaugh Health System



# 1.5 Hrs East of Pittsburgh 7 Hrs West of New York City





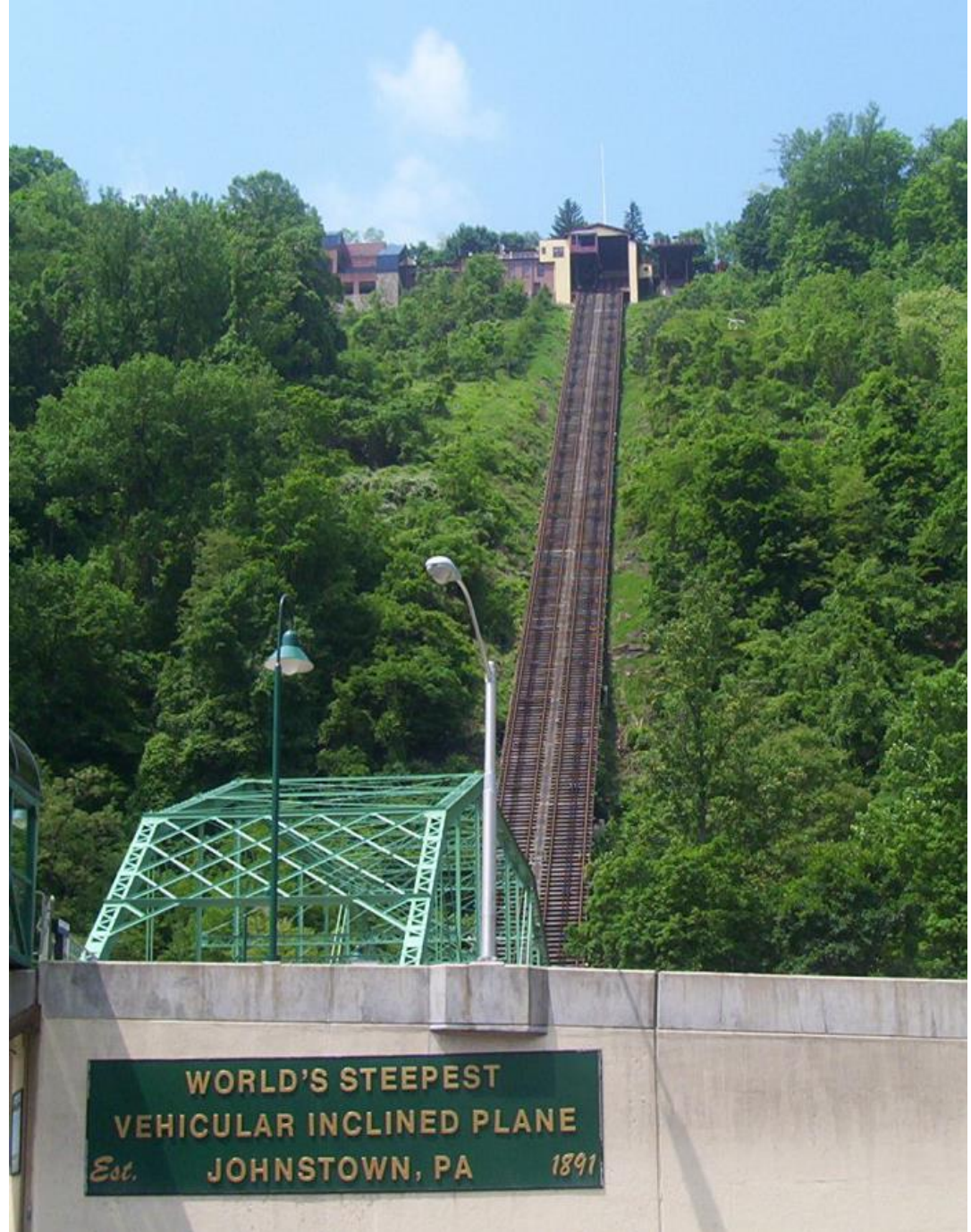
# Johnstown, PA (Pop 21,641)

1889 Flood  
waters





# Johnstown's "Claim to Fame" Flood of 1889



# Care Philosophy: Medical Care for the Polio Survivor

- **1) Individualized Goal Setting**
  - – Chronic Disease Self Management
- **2) Holistic Approach**
  - – Physical, Emotional, Spiritual
- **3) Self awareness & Self empowerment**

# Types of Pain

- Muscle / Tendon Pain
  - Dull / Aching, can be burning when chronic
  - Often inflammatory cause & assoc. w spasm
- Neuropathic Pain
  - Usually burning or electric
  - Often worst at night
  - May follow a nerve distribution
  - May be diffuse (Periph. Neurop.) or focal (entrapment)
  - Often respond to non conventional medications including seizure meds / antidepressants

# **Pain Example:**

## **Sacroiliac Dysfunction**

- Anatomy & Physiology important
- Posture and Biomechanics considerations
- Goals of Rehabilitation:
  - Avoid “micro re-injury”
  - Improve flexibility
  - Strengthen supporting muscles / Core
- Anti-inflammatory meds, muscle relaxants, Ice/heat, injections
- Sacroiliac belt, body pillow



# **Rehabilitation Approaches for Pain**

- **Therapeutic Exercise**
  - Flexibility
  - Strengthening
- **Improve Biomechanics**
  - Normalize gait or posture
  - Bracing
  - Energy Conservation / Preventing Overuse
- **Modalities**
  - Heat / Ice / Ultrasound / TENS

# Examples of Rehabilitation Approach:



## Body Pillow

- **Hip/Knee/Ankle in line**
- **Minimizes Spinal Rotation**
- **Minimizes Torque on SI joint**
  - **Stabilization in deep sleep when muscles all relaxed**



## Articulating AFO

- **Eliminates Foot-drop**
  - **Stepage Gait causes SI stress**
- **Ankle Stabilization**
  - **Improved Balance**
  - **Less need for proximal Stab.**

# **Medications for Pain (examples)**

- Narcotics \*(Oral or Topical)
- Non narcotic Analgesics
- Anti inflammatory medication
  - Steroids
    - Oral or Injected
  - Non steroidal Anti inflammatory (NSAIDs)
    - Oral or Topical
- Muscle Relaxants
- Complimentary VS Alternative Medicine

\* Caution with Chronic Use



# **Procedures for Pain**

- **Surgery**
  - Joint Replacements
    - Major advances (eg: anterior hip replacement)
  - Rotator Cuff Repair / Acromioplasty
  - Arthroscopic Surgery
- **Injections**
  - Sacro-Iliac, Biceps Tendon, Epidural Injections
- **Spinal Cord Stimulators / Morphine Pump**

# What is our body telling us ?

- Hurt vs Harm
- Where is pain coming from ?
  - Determining cause and physiology of pain is first step in treating OR preventing pain ?
- As a general rule, the body heals itself
  - Often goal is to listen to our body intelligently and prevent repeated reinjury to allow healing
- Improvement or worsening with treatment or activity changes can be important observations
- Some people “listen”, some do not

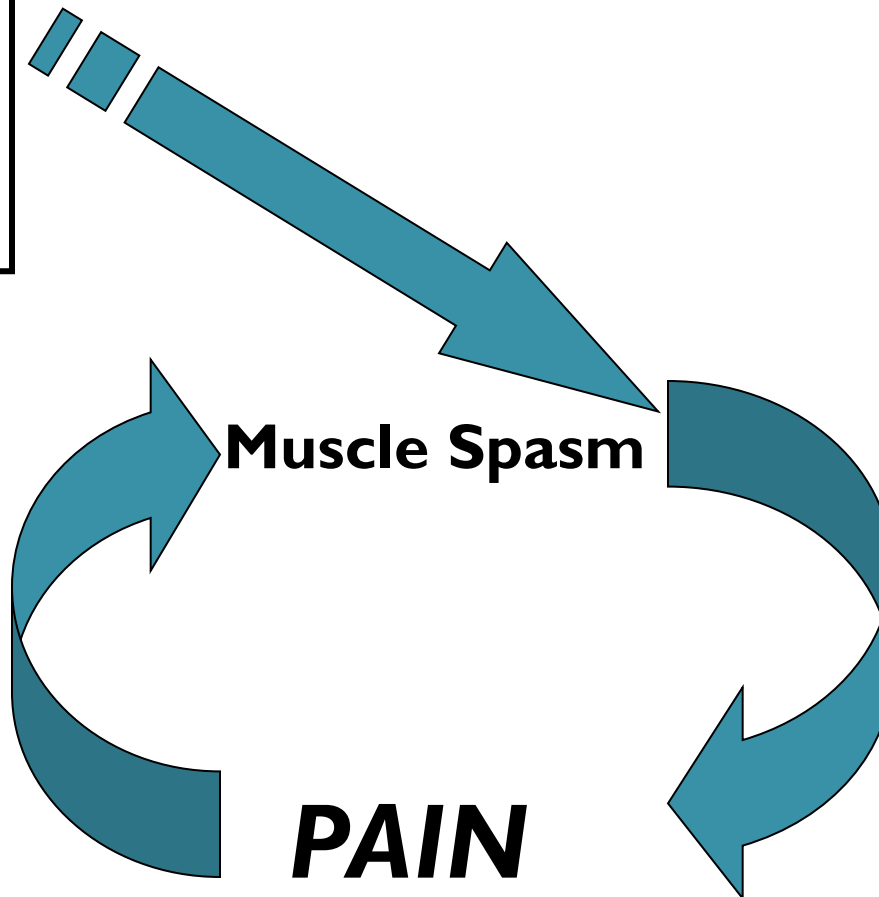
# How does our personality\* change our pain experience and treatment?

- Do we “ignore” pain, cause repeated injury ?
- Does stress and anxiety feed into pain? Does sleep effect pain?
  - Muscular pain/tightness, Neurogenic pain
- Were we raised a child to “suck it up”?
- Do we get frustrated at reduced activity and then “overdo”?
- Do we have a tendency to “sacrifice our body” for others ?
- Do we use words like “Have to...”, “Need to...”, or “Should ..”?
- Do we tend to “minimize” or “amplify” pain as we report it to health care providers (thereby impairing appropriate treatment)?
  - Athletes and Post-Polio patients tend to minimize
  - Workers Comp. patients tend to amplify
- ***\*Personality type is not “good” or “bad”***



- Insomnia
- Stress
- Lack of Peace
  - “Why me?”
- Anxiety

# Myofascial Pain Cycle



# Sleep & Pain

- Reduced ability to cope with pain
- Exacerbation of Neuropathic Pain
- Feeding into Muscular Spasm

**Note : Stress** will also lead to the above

- Directly
- Indirectly (by reducing quality of sleep)



# **Self Awareness** **&** **Empowerment**

- What can I do to reduce my pain and increase my function?
- “Victim” role NOT commonly seen in PPS
- Awareness of behavior and changes in lifestyle can be major factors in recovery or minimizing progression



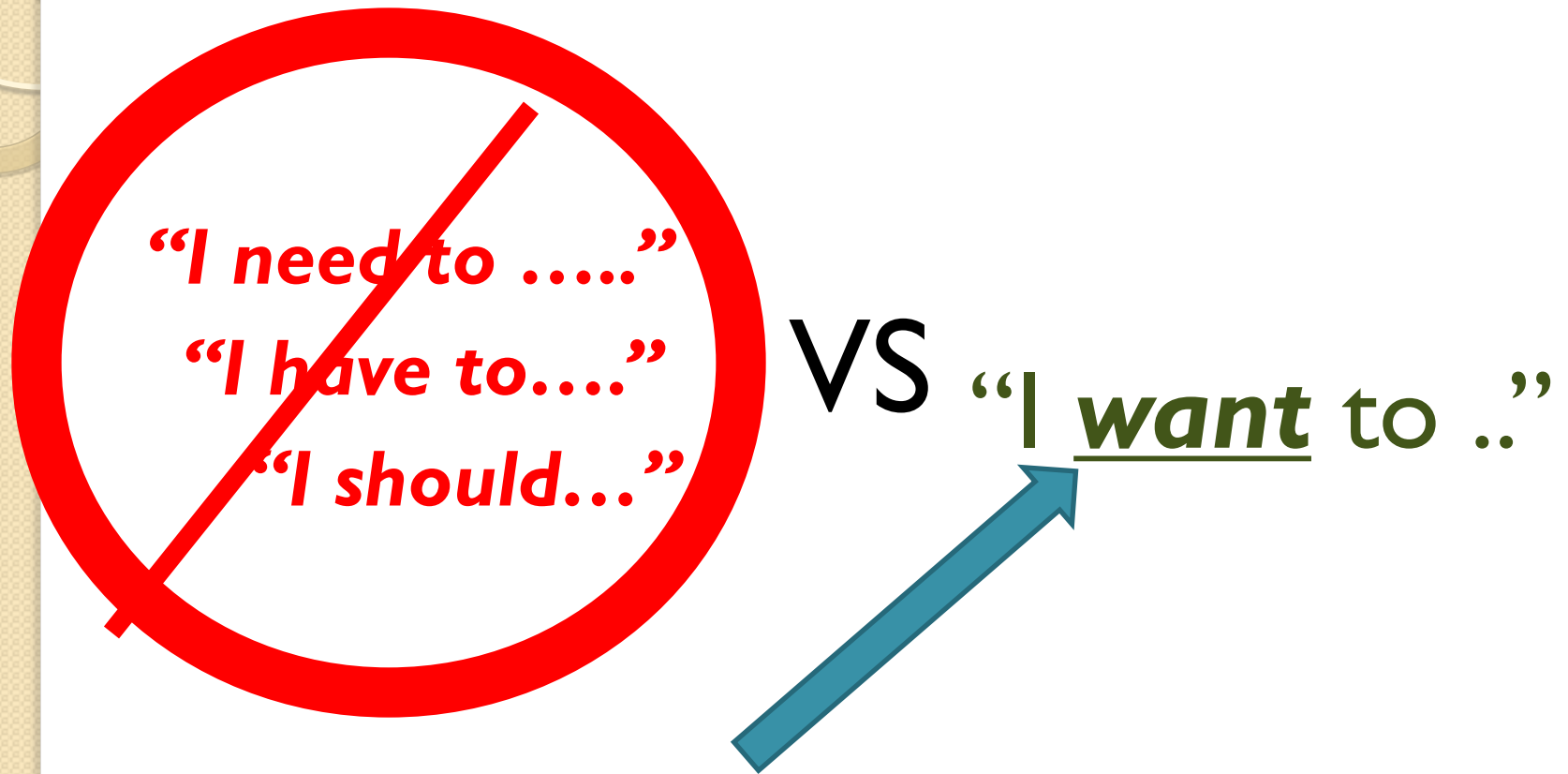
**SelfTalk has a major role in many health care goals – Especially in pain**



**VS. “I don’t know how to...”**

**“It’s difficult for me to...”**

# The “problem” in Post-Polio



....It is essential to take responsibility for choices in order to establish a plan for pacing activity and minimizing effects of overuse.

# What do I “want” vs “Want” ??





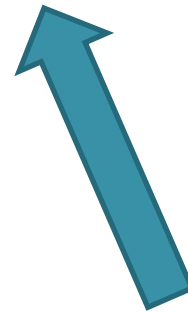


# Conceptual approach to preventing “Overuse” Injury

**Common Theme**  
**Sports Training or Disability**  
**Rehabilitation**

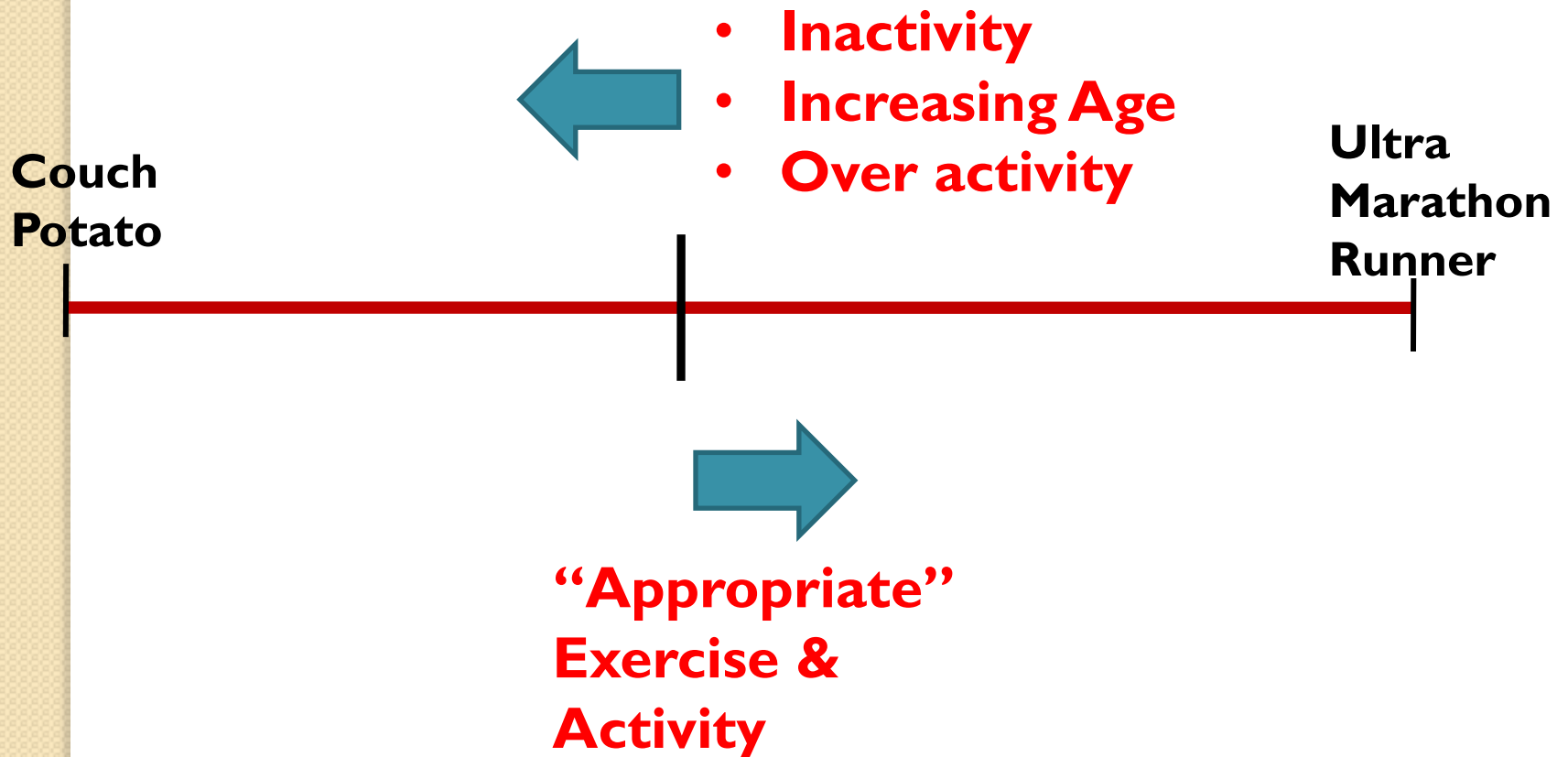
**Couch  
Potato**

**Ultra  
Marathon  
Runner**

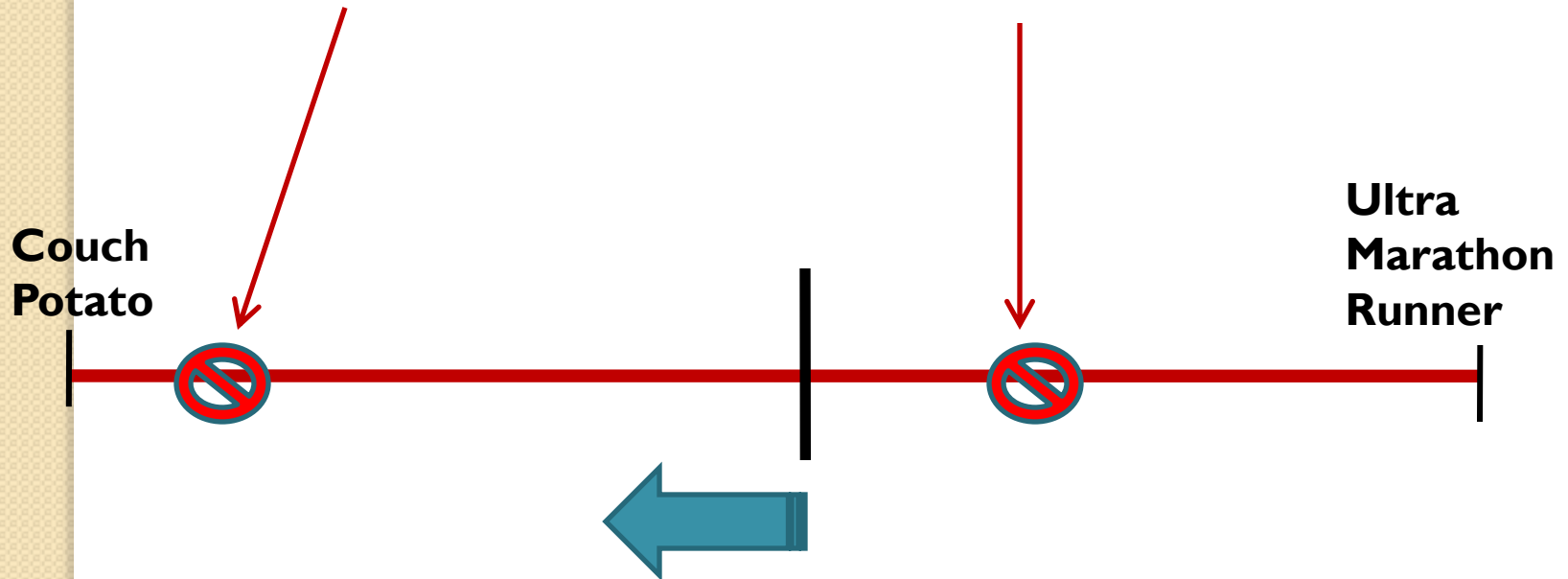


*All of us have a “capacity” on a  
given day or for a given activity –  
beyond which we have....  
...“over done it” ...  
and we cause **HARM** to our body*

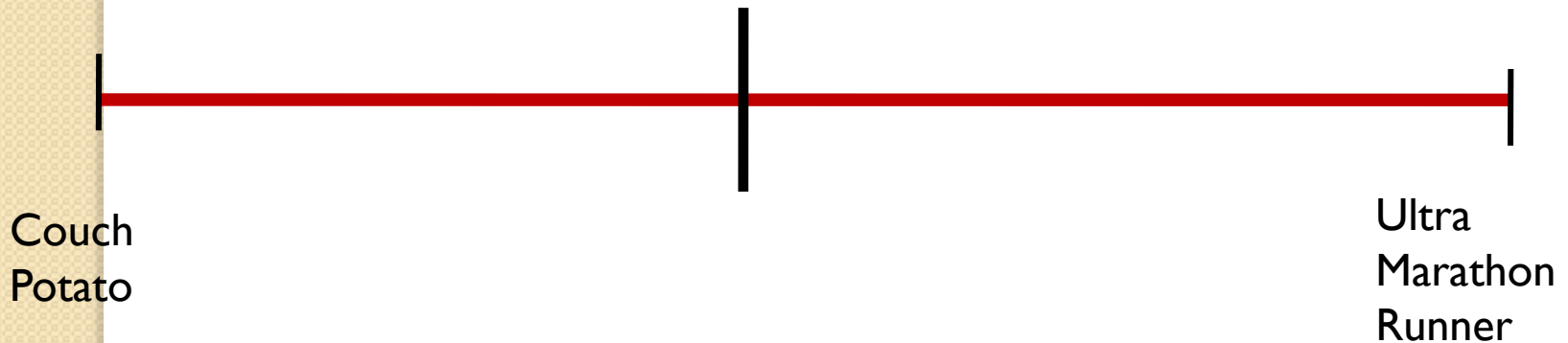
# Factors that Modify Capacity to Function



# Gradual Decline in Capacity to Function Caused by “Under activity” OR “Over activity”



# Where is Optimal Level of Activity to Improve Capacity over time ??





# Gradual Increase in Capacity to Function

Only with...

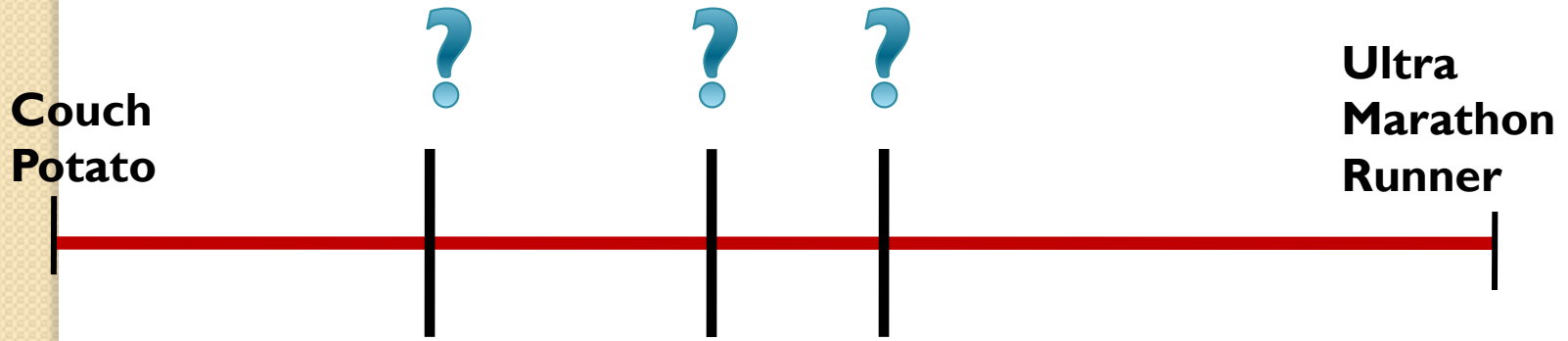
Appropriate daily activity just below

Couch  
Potato

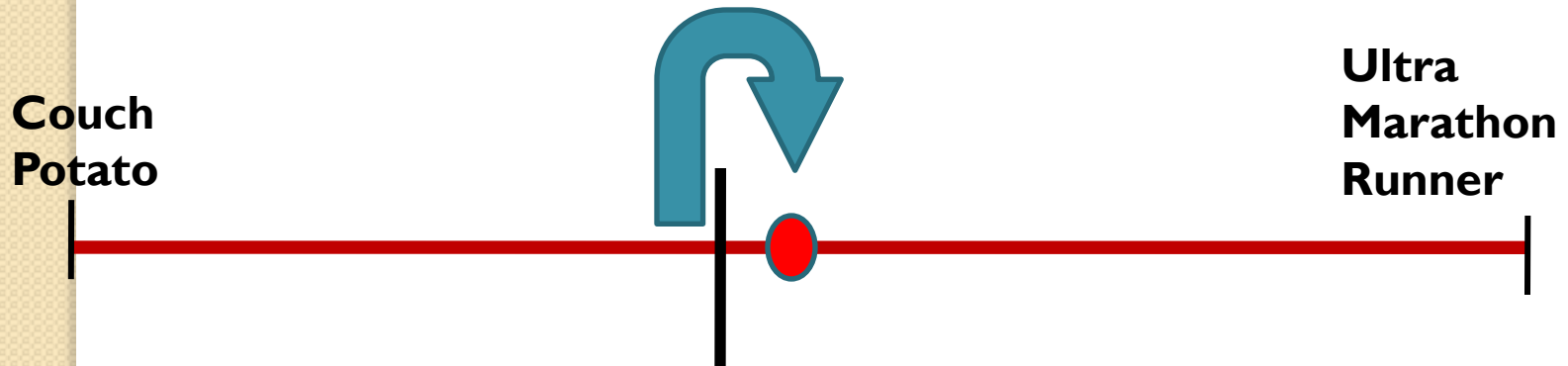
Ultra  
Marathon  
Runner




# BUT ...How do we know where “Our Capacity Limit Is??”



# We need to Occasionally “Step over the line”



- Planned / Anticipated increase in activity
- Not reactive - Never “Have to..” or “Need to ..”



# **Behavioral Issues**

## **Factors that make us “Step over the Line”**

### **To Far or To Often**

- Pressure to “Overdue”
  - From within
  - From others
- The “Overachiever”
- “Should have”, “Would have”, “Could have”

# Final thoughts & Conclusion

- If current model has not helped - consider a new paradigm
- Understand anatomy and physiology of pain generator
- Eliminating “Exacerbating Factors” often key to improvement
- Take responsibility and “own” over activity / under activity
- Appropriate Self Management of an Exercise program and Complimentary Approaches can play a significant role
- Attention to Spiritual aspects of pain and disability can provide significant perspective and reduce suffering
- Complimentary approaches **add** to current medical model – do not throw the baby out with the bath water
  - Communicate with Primary Care Physician
  - Manage Health Care and engage all available resources





**Thank you**



**Additional Slides follow**

# ***Sleep Issues***

- **Underlying Sleep Disorders**
  - Obstructive Sleep Apnea
  - Periodic Leg Movement Disorder
  - Hypoventilation
- **\*\*\*Sleep Positioning\*\*\***
  - Body Pillow
- **\*\*\*Sleep Hygiene & Stress Management\*\*\***
  - Disciplined schedule
  - Avoiding stimulation/distraction
  - Active Peaceful Relaxation

# Stress Management

- Medical Management can be counter productive
- Complimentary Medicine ( Yoga, Tai-Chi, Aromatherapy, Acupuncture, Massage, Aquatics –Wasu)
- Cognitive Behavioral Therapy : an example
  - **Frustration**
    - “Stress is caused by not meeting your expectations” .... Only 3 Choices possible...
      1. Continue to be Frustrated
      2. Work Harder/Smarter to meet Expectations
      3. Or **Change** your Expectations

# **Role of Exercise**

- Occupational & Physical Therapy
  - Separate discussion – Functional Goals
- Self Management –Reduces Stress / Increased sense of wellness
  - Stretching / Strengthening
  - Gentle Cardio exercise
  - Self Massage
    - Theracane
    - Ball Massage



# Most of us focus on “Body” and ignore “Mind” & “Spirit”

- Body –

- Pain, Ortho/Neuro impairments
  - Loss of physical function.
- 

- Mind – (Will discuss with Self Awareness )

- What motivates me to do what I do?
- How can I change what I do or adapt?
- “Self talk”

- \*\*Spirit\*\* –

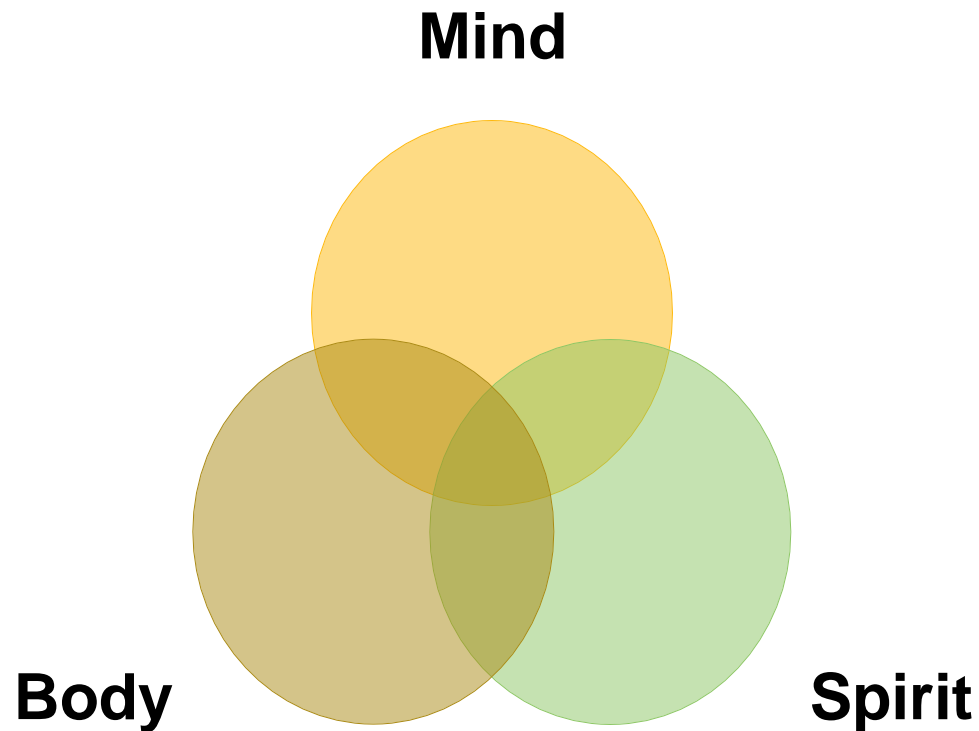
- Why am I here ?
- Why is this happening to me ?

# **Spirituality and Health Care**

- Spiritual questions
  - Is there a God ?
  - Does He care about me ?
  - Does prayer matter / Does He listen ?
- Simply asking these questions can put our Wellness in perspective, reduce stress, and facilitate healing.....

# Holistic Model of Wellness

## Applies to ALL of us



# Practical Example of Interaction between Mind. Body, Spirit

## Myofascial Pain Cycle

(A Component of most chronic Pain)

