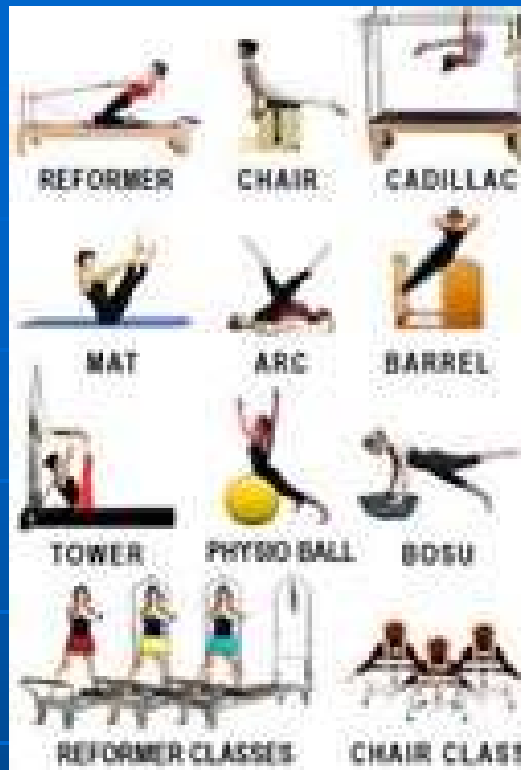


# The Pilates Approach to Spine Care



# Joseph Pilates (1883-1967)

- Born in Germany
- Rickets, Asthma, Rheumatic Fever
- WWI – intern in UK, developed “Contrology”
- Transferred to hospital – adapted beds with springs
- Moved to NYC in 1926, opened studio – largely attended by dancers



# “Contrology”

## 6 Principles

Concentration

Control

Centering

Breathing

Flow

Precision

“Don’t do 100 lbs of work for a 5 lb job.”

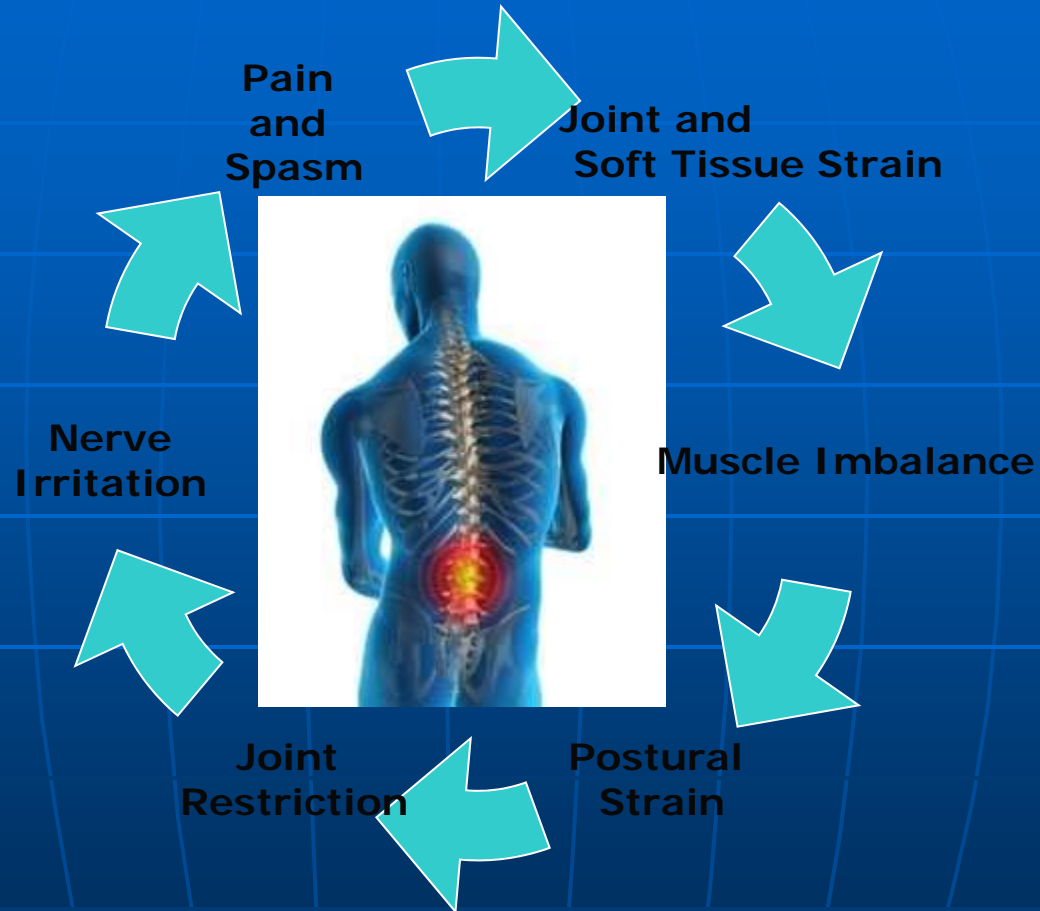
# Janda's Principle

In the presence of metabolic inflammatory process or pain, muscle contractile properties will change

Resting tone of postural muscles increases  
(e.g. spinal muscles, hip flexors, calves)

Ability to contract and relax dynamic phasic muscles is diminished (e.g. glutes, deltoids, triceps, abdominals)

# Back Pain



# Muscle Recruitment

- Dysfunctional muscle firing patterns
- Proper firing requires preliminary activation of TrA and PF (Sapsford & Hodges 1999)
- Diaphragm as postural stabiliser – optimized with forced exhalation (with TrA, IO, EO) (Jull et al, 1999/2003)

# Core Muscle Activation/Lumbo-Pelvic Stabilization

- Transverse Abdominis
- Pelvic Floor Muscles
- Gluteus Maximus
- Multifidi
- Diaphragm

\*Stability of Neutral Spine Alignment  
for Optimal Functional Endurance



# Why not just sit-ups?

- Strengthens superficial rectus abdominis and hip flexor muscles, not deeper stabilizers of the spine.
- "Doing 500 sit-ups will help you do 500 sit-ups."

# Mark

- 68 year old male
- h/o progressive LE weakness, severe congenital multi-joint hypermobility
- **Pre-op:** retrolisthesis L4-5, multilevel degenerative spondyloses , severe central HNP T9-10, T10-11, severe central canal stenosis, multilevel foraminal stenosis L2-L5
- **10/18/2011:** posterior fusion T9-11, ant thoracic corpectomy T10, decompression T9-11, post discectomy L4-S1
- **Post-op complication:** T9 cord ischemia

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YUV420 codec decompressor  
are needed to see this picture.



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Thank You!  
Alyssa R. Padial, PT, MS,  
OCS  
[arutchik@nyp.org](mailto:arutchik@nyp.org)

