The APPI Pilates Method

Rehab Summit 2012

Pilates for Physical rehabilitation
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Who are we?

- Founded in 2000 in Melbourne, Australia by Glenn and Elisa Withers
- Our founders trained in traditional/fitness based Pilates
- They analysed each of the traditional 34 exercises
- Linked to Pain, Pathology and Function
- Create a program based on sound clinical reasoning
- The largest supplier of Pilates training to allied health therapists in the UK and one of the biggest in Europe.
- Program delivered in 12 countries worldwide
- Train over 3000 allied health therapists per year

The APPI Curriculum

- A foundation Matwork series of 3 modules
- An equipment program of 4 modules
- A CPD program of over 14 different courses
- APPI's best selling book “Back to Life with APPI Pilates”
- A series of DVD’s aimed at Rehabilitation professionals and patients.
- Annual conference that aims to bring the Pilates community together.

Joseph H Pilates

- One of the first to explain imbalance theories within the body
- In his own way describing what we now praise as groundbreaking research over 60 years ago.
- Began as a dance/gymnast based program
- Largely influenced the New York city ballet
The Evidence

- Current medline search reveals a total of 67 Pilates based studies, compared to yoga (1568), muscle imbalance (2234), LBP (19422).
- A search for cochrane reviews reveals 1 studies – its conclusion shows a lack of direct evidence.

Pilates-based exercises are superior to minimal intervention for pain relief. Existing evidence does not establish superiority of Pilates-based exercise to other forms of exercise to reduce pain and disability for patients with persistent nonspecific low back pain. However, the relatively low quality of existing studies and the heterogeneity of pooled studies in this systematic review combine to suggest that these results should be interpreted with caution.
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The APPI Reasoning Pathway

Diagnosis

Instability/Movement Dysfunction

No

Yes

Stage 1 and 2

Stage 3 and 4

Stage 5 = Function

Treat with other modalities

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The APPI Mantra

1) Correct
2) Stabilise
3) Move

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Non Movement dysfunction Rx

Articular system
- Mobilise
- Manipulate
- MET

Neural System
- Nerve Glide/slide

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Movement dysfunction Rx and video

- Re-train the Local Muscle System (LMS) in non-weight bearing.
- Strengthen the global muscles system (GMS) through slings analysis
- Incorporate the synergy between the LMS and the GMS into function.
  - Richardson et al 2004

The APPI 5 Stage Rehabilitation Model

Stage 1: Local/dysfunctional Muscle Activation
Stage 2: Closed chain progression
Stage 3: Open Chain progression
Stage 4: Spine/joint articulation
Stage 5: Functional Movements in WB
Stage 1
Isolation of the dysfunctional Muscle

1. Local segmental control - Centre
   • Assess level of impairment with abdominal drawing-in
   • Retrain independent control of local muscle system
   • Train NWB bearing first
   • Progress into kneeling, sitting and standing postures
   • Provide feedback +++

1) Concentration
   • Separate CNS control centre for Tr.A
   • Re-organisation of the motor cortex
     » Tsao & Hodges, 2008

2) Breathing
   • Breathing out on the effort that most challenges the motion segment
     » Hodges et. al, 2002, 2006
   • Reciprocal breathing Pattern in function
3) Centering

- Natural lordosis of the lumbar spine
- Allow for individual differences in available ROM, pain and contra-indications
- Most isolated activity in neutral

4) Co-activation of the inner core: TrA, multifidus & pelvic floor

- 4.5 times more likely to get Mf contraction if you have a good Tr.A contraction
  - Hides et al, 2011
- Slow, gentle, continuous activation
- Avoid unwanted outer core muscle activity
- Tr.A/PF co-contraction at submaximal response
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Real Time Ultrasound video

Stage 2 – Closed Chain Movements

Stage 3 – Open Chain Movements
Traditional Pilates Exercises

- Designed for fit and healthy people
- Originally used largely within dance world
- Little focus on deep inner muscle core
- Large focus on outer muscle unit
- Requires very good muscle flexibility
- Requires end of range joint movements
- Reliant on good proprioception and body awareness

The APPI Pilates Method

- Designed by Physiotherapists specifically for use in the rehabilitation setting
- Traditional Pilates exercises broken down and modified to be suitable for clinical population
- Based on segmental spinal stabilisation research and lumbo-pelvic stabilisation theory
- Suitable for use in orthopaedic, sports, neurological, and paediatric settings
- Women’s health, sports, neurological, and paediatric settings