



Evidence-Based Pilates for Physiotherapists: A Comprehensive Summary

This webinar, led by Dr Brent Anderson from Polestar Pilates, provides New Zealand physiotherapists with evidence-based insights into integrating Pilates into clinical practice.

Background and Credentials

Dr Anderson brings over 35 years of physiotherapy experience, with a PhD from University of Miami (2005) focused on Pilates as a therapeutic modality. He co-founded Polestar Pilates in 1992, now operating in 80+ countries with education delivered in 15+ languages. Approximately 50% of graduates are physiotherapists.

Historical Context

Joseph Pilates (1880-1967) developed "Contrology" - emphasising complete coordination of body, mind, and spirit. Originally called contrology, the method evolved through first-generation "elders" including Romana Kryzanowska, Ron Fletcher, and Eve Gentry, each contributing unique approaches to the original work.

Current Research Landscape

Recent evidence strongly supports Pilates effectiveness:

- **PubMed Analysis:** Over 135 peer-reviewed articles published in the last six months
- **British Journal of Sports Medicine (2019):** Meta-analysis ranked Pilates among top three interventions for mechanical low back pain
- **Falls Prevention Study:** 93 high-risk participants showed complete elimination of fall risk after 12 weeks of group classes, with 90% maintaining improvement at six months

Core Principles and Philosophy

Joseph Pilates established three fundamental principles:



1. **Whole Body Health:** Development of body, mind, and spirit through proper exercise, diet, hygiene, sleep, fresh air, and life balance
2. **Whole Body Commitment:** Mental and physical discipline requiring internal locus of control
3. **Breath:** Foundation for cleansing the body and facilitating movement

Modern Polestar principles expand these to include breathing, balance, muscle development, concentration, control, centering, precision, and rhythm.

Scientific Framework

Movement Principles

Breath: Functions as both facilitator of movement and tool for improved thoracic cage and pelvic floor function. Research demonstrates 95% correlation between normal diaphragmatic displacement and normal pelvic floor function in stress incontinence patients.

Mobility: Studies show Pilates redistributes spinal movement, reducing forces at L4-L5 and L5-S1 levels by 50% after single sessions whilst increasing thoracic and upper lumbar mobility.

Dynamic Alignment: Focus on functional movement patterns specific to patient activities rather than static positioning.

Control: Appropriate stability for anticipated load - emphasising efficiency over over-recruitment.

Movement Integration: Motor learning approach transitioning from declarative to procedural learning through practice.

Evidence-Based Applications

Spine Pathologies

- Mechanical low back pain shows 80% likelihood of positive response when pain doesn't extend below knee, BMI under 30%, and duration 3-6 months

Falls Prevention



- Group classes demonstrate superior outcomes compared to traditional vestibular training

Cancer Care

- Effective during treatment and for survivors

Neurological Conditions

- Parkinson's disease: 90% reduction in synthetic dopamine dosage requirements
- Multiple sclerosis: Full workouts possible without overheating
- Stroke rehabilitation and various paralysis conditions

Sports Performance

- All major US sports teams incorporate Pilates training
- Sport-specific programmes enhance efficiency and reduce injury risk

Geriatrics

- Reduces kyphosis
- Increases weight-bearing capacity
- Particularly beneficial for post-menopausal women

Psychosocial Impact

Research identifies self-efficacy as the strongest predictor of functional outcome (82% correlation). Pilates creates positive movement experiences that shift psychological measures including:

- Self-confidence and self-esteem
- Quality of life scores
- Reduced fear of movement
- Internal locus of control development

The method's "stickiness" factor shows superior long-term adherence compared to other exercise programmes.

Clinical Integration



Both Mel Loveless (Rotorua-based physiotherapist) and Audrey Ng (Perth-based physiotherapist) shared decades of experience integrating Pilates concepts into clinical practice. Key points include:

- **Seamless Progression:** From acute rehabilitation through to dynamic functional activities
- **Versatile Application:** Principles apply across all patient populations and settings
- **Equipment Advantages:** Multiple gravity orientations and spring resistance allow precise load modification
- **Contextual Factors:** Modern pain science emphasises positive movement experiences over rigid biomechanical correction

Modern Pain Science Integration

Recent understanding emphasises the brain as a predictive machine requiring positive inputs to update "generative models" of self-perception. Pilates provides meaningful positive movement experiences that facilitate:

- Self-evidencing through successful task completion
- Reduced catastrophising and fear-avoidance
- Improved pain neuroscience education outcomes
- Enhanced internal locus of control

Business and Practice Development

Successful integration creates sustainable models:

- 40% of discharged patients continue with wellness programmes
- 80% maintain participation at five years
- Reduced reliance on insurance-based acute care
- Enhanced revenue through cash-pay services

Future Directions

Emerging research supports the "optimal health trilogy":

1. **Heavy resistance training**
2. **Endurance training**
3. **Mindfulness training** (including Pilates)



This combination proves particularly beneficial for perimenopausal and post-menopausal women.

Conclusion

Evidence-based Pilates offers physiotherapists a comprehensive tool for addressing the full spectrum of movement impairments. The method's integration of physical, psychological, and social factors aligns perfectly with contemporary physiotherapy practice, supporting the transition from pathokinesiology to performance kinesiology whilst maintaining focus on meaningful functional outcomes.

The webinar concluded with information about upcoming educational opportunities in New Zealand, emphasising the growing recognition of Pilates as an evidence-based therapeutic modality within mainstream physiotherapy practice.

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