

# **Gym Pilates or Pilates Therapy an Overview**

**PJ Latey PhD.**

**Description, Background, Accreditation, Categories, Research**

## **Description of setting**

Pilates can be practiced at any time, with or without specialised equipment, and in any location where there is sufficient space. Most commonly Pilates is practiced in a designated Pilates studio using specialised equipment with an accredited Pilates professional providing supervised exercise and teaching mindful movement. It can be practised by anyone, regardless of age or level of fitness, and is usually taught and practiced in small groups or individual sessions. Pilates classes may also be taught to a well client in a group setting with follow along guidance, such as at a gym, fitness and health facility or dance studio. Pilates movement exercise sessions (Pilates therapy) are delivered individually or in very small groups, commonly using specific Pilates equipment. Pilates therapy provides highly supervised strength, flexibility, and stability training, tailored to provide individual problem or condition specific Pilates exercise variations, or it can provide a more challenging traditional Pilates workout. After being taught the Pilates principles and completing a series of supervised tailored exercise sessions individuals may also practice Pilates at home, following a prescribed homework exercise program.

## **Very Brief History**

Traditionally, Pilates was developed primarily for the fit population, mostly taught to gymnasts, dancers and boxers [1]. However, from the late 1930's Joseph Pilates taught both group Mat exercise classes to specific populations (dancers) and semi-private studio sessions using Mat and Pilates specific equipment as well as individually prescribed programs of Pilates Controlology for those who had a range of problems or conditions such as polio, post mastectomy as well as dance or sports injury recovery. After the late 1980s, Pilates expanded considerably outside the world of dance. Second and third generation Pilates teachers reinterpreted and modified the traditional Pilates method. Pilates is now used by the general population for general wellbeing as well as to provide benefit for a broad range of clinical and pre-clinical conditions, including managing various neuromuscular dysfunctions and problems associated with chronic pain and aging. The modifications have also led to the use of Pilates therapeutically to prevent or manage acute, sub-acute or chronic musculoskeletal dysfunction or injury management for post-acute rehabilitation [1].

## **Fundamentals of Pilates**

The traditional Pilates method developed by Joseph Hubertus Pilates during the 1920s is considered a comprehensive body-conditioning method directed toward development of both the body and the mind [2]. The Pilates system of body conditioning is founded on stabilising the core musculature (including the abdominal, gluteal and paraspinal muscles), while performing a controlled range of motions [3, 4]. Exercises are performed according to 6 key principles: centring (tightening and strengthening the body's core 'trunk' muscles); concentration (with sensory awareness); control (ensuring postural integrity and functional alignment); precision (the accurate application of the exercise technique); flow (ensuring a smooth transition between movements and exercises); and focussed coordinated breathing [2, 5].

Contemporary Pilates involves a range of more than 500 exercises, which may be performed on a mat and using auxiliary apparatus or specially designed Pilates equipment. Pilates professional teaching skills are specific to the method and include the use of cueing by demonstration, verbal direction for correct anatomical function as well as using imagery, metaphor and non-invasive hands on assistance (Pilates therapy) for the correct performance of each exercise to facilitate improved motor control. Pilates classes or treatment sessions range from 45 to 90 minutes in length and vary

by the expertise of the instructor, population (general group, tailored group or individual programs), size (groups or private sessions) and setting (gymnasium, private studio or in allied health practices such as osteopathic, exercise science or physiotherapy clinics).

### **Types of Pilates**

The intervention has been divided into categories: Gym fitness group Pilates classes using only a mat or a single Pilates apparatus to exercise [5], and Pilates therapy treatments using various combinations of Mat plus specialised Pilates equipment that provide adjustable spring resistance and assistance (e.g., Reformer, Trapeze Table or Cadillac, Wunda chair, and Barrels). Gym Pilates involves teaching either mat or large apparatus group classes for up to 20 well clients. Exercise demonstration and verbal cueing is provided to assist participants perform the same exercises correctly. There is minimal or no tailoring to any specific participant needs.

Pilates therapy may incorporate the use of both Mat as well as small and large apparatus exercise within a single session, depending on the client's specific needs. A Pilates therapist completes an initial assessment of the client's health including: a case history, a postural assessment, a range of movement tests and functional observations. Any movement dysfunction is then diagnosed, and exercise readiness determined. If there is a compromise to exercise readiness the client is referred to the relevant primary health care provider such as General Practitioner, specialist doctor or Physiotherapist. After the initial assessment, a treatment plan and tailored initial programme is devised. Ongoing assessment, program modification and guidance to ensure enhanced performance skill continues over the course of treatment. Pilates therapy sessions may be individual or include up to four participants, each completing their own customised program. An integral aspect of Pilates therapy is the supervised and tailored use of small apparatus or the various large Pilates equipment, which provide both assistance or resistance during the completion of various movements or exercises. Small group, population specific sessions can also be provided by a Pilates therapist. This entails an individual assessment as previously mentioned then tailored classes of up to eight participants with the same condition or problem may exercise together.

### **Accreditation**

Pilates professionals hold a Government accredited Diploma, or industry equivalent, and must be full members of an (Australian) industry body. They display a diverse range of knowledge and skills; however, levels of education and expertise are recognised within the professional industry bodies and Pilates professionals' practice within their education, competency development and professional experience and adhere to their ethical scope of practice. While the current professional bodies internally distinguish levels of training, more specifically between mat or gym Pilates group class providers and comprehensively trained Pilates therapists, since the treatment provided is considerably different the public, consumer and other allied or natural therapists may have a compromised perception of what is Pilates and the different categories of Pilates providers.

### **Research on how the intervention might work**

Pilates exercises applied therapeutically have been shown to reduce pain and disability, and improve posture and enhance quality of life, by improving core stability, strength, flexibility, posture, muscle control, proprioception and body awareness [6]. The professional Pilates therapy teachers attention to anatomically accurate supervision and informed cueing may be effective in strengthening small underactive muscles and improve neuromuscular control [7].

Numerous physical benefits of Pilates have been reported and are likely related in part to the regular practice of exercise, which can enhance cardiopulmonary fitness. Pilates is also reported to improve muscular endurance and flexibility[8]. By focussing on core muscle activity, the local, single-joint muscles and multi-joint muscles provide stability and produce motion [9] This integrated core

muscle activity results in proximal stability for distal mobility which assists functional motor control. The use of Pilates specific equipment may not only improve strength, but also provide eccentric training at end range of movement and provide variable resistance training which may produce the greatest comprehensive strength adaptations[10].The increase in coordinated muscle activity taught in Pilates may contribute to the improved static and dynamic balance [7] particularly in older adults[11].

Pilates encourages movement, improved motor control and facilitates a return to functional activities which why it has been increasingly incorporated into physical therapy rehabilitation programmes. In patients with low back pain, the practice of Pilates therapy is intended to improve deep muscle stability and control of the spine whilst reducing the activity of superficial muscles, as well as to improve posture and body awareness, so as to reduce pain and disability [12]. The integration of mind and body balanced with breath control using modified Pilates may improve quality of life for some conditions[13, 14]and may be more effective than other physical therapies on upper extremity pain and function[15].

Complementary therapies, including Pilates, are often used in conjunction with conventional medicine and other strategies for maintaining good health and wellness. There is increasing evidence that Pilates exercise programs provided by a Pilates therapist can reduce pain, disability and improve strength, joint function, and quality of life. Pilates is reported as an effective intervention for Chronic Low Back Pain with significant pain reduction and functional improvement in the short term [16, 17], reducing disability in some chronic diseases[18] , effective in rehabilitation post total hip and knee arthroplasty[19], improving balance in older adults[20] and quality of life in the elderly [21].

### **Significance**

For these reasons, it is important to synthesise the evidence for the effectiveness of Pilates, and to distinguish between Gym or large group non population specific classes and Pilates therapy. This will enable consumers, healthcare providers and policy makers to make informed decisions about care. Establishing the difference between gym Pilates and the effectiveness of Pilates therapy for individuals with a described injury, disease, medical condition, pre-clinical condition, or for chronic disease or pain management and the consequences of ageing will assist to align the reasons why patients use the therapy and/or practitioners prescribe the therapy, and support Pilates therapy as a stand-alone allied health profession.

### **References**

1. Latey, P., *Updating the principles of the Pilates method - Part 2*. Journal of Bodywork and Movement Therapies, 2002. **6**(2): p. 94-101.
2. Latey, P., *The Pilates method: history and philosophy*. Journal of Bodywork and Movement Therapies, 2001. **5**(4): p. 275-282.
3. Kloubec, J., *Pilates: how does it work and who needs it?* Muscles Ligaments Tendons J, 2011. **1**(2): p. 61-6.
4. Yamato, T.P., et al., *Pilates for Low Back Pain: Complete Republication of a Cochrane Review*. Spine, 2016. **41**(12): p. 1013-1021.
5. Muscolino, J.E. and S. Cipriani, *Pilates and the "powerhouse"-I*. Journal of Bodywork and Movement Therapies, 2004. **8**(1): p. 15-24.

6. Centre for Health Services Research, *Review of the Australian Government Rebate on Private Health Insurance for Natural Therapies in Part A. Overview report for Pilates 2014*: University of Tasmania School of Medicine, .
7. Cancela, J.M., I.M. de Oliveira, and G. Rodríguez-Fuentes, *Effects of Pilates method in physical fitness on older adults. A systematic review*. *European Review of Aging and Physical Activity*, 2014. **11**(2): p. 81-94.
8. Kloubec, J., *Pilates for Improvement of Muscle Endurance, Flexibility, Balance and Posture*. *Journal of Strength and Conditioning Research*, 2010. **24**(3): p. 661-667.
9. Ben Kibler, W., J. Press, and A. Sciascia, *The role of core stability in athletic function*. *Sports Medicine*, 2006. **36**(3): p. 189-198.
10. Suchomel, T., et al., *The Importance of Muscular Strength: Training Considerations*. *Sports Medicine*, 2018. **48**(4): p. 765-785.
11. Casonatto, J. and C.M. Yamacita, *Pilates exercise and postural balance in older adults: A systematic review and meta-analysis of randomized controlled trials*. *Complementary Therapies in Medicine*, 2020. **48**.
12. Yamato, T.P., et al., *Pilates for low back pain*. *Cochrane Database of Systematic Reviews*, 2015(7).
13. Rahimimoghadam, Z., et al., *Pilates exercises and quality of life of patients with chronic kidney disease*. *Complementary Therapies in Clinical Practice*, 2019. **34**: p. 35-40.
14. de Oliveira, B.F.A., et al., *Pilates method in the treatment of patients with Chikungunya fever: a randomized controlled trial*. *Clinical Rehabilitation*, 2019. **33**(10): p. 1614-1624.
15. Pinto-Carral, A., et al., *Pilates for women with breast cancer: A systematic review and meta-analysis*. *Complementary Therapies in Medicine*, 2018. **41**: p. 130-140.
16. Owen, P.J., et al., *Which specific modes of exercise training are most effective for treating low back pain? Network meta-analysis*. *British Journal of Sports Medicine*, 2019.
17. Kamioka, H., et al., *Effectiveness of Pilates exercise: A quality evaluation and summary of systematic reviews based on randomized controlled trials*. *Complementary Therapies in Medicine*, 2015. **25**: p. 1-19.
18. Byrnes, K.M., P.-J.M. Wu, and S.P. Whillier, *Is Pilates an effective rehabilitation tool? A systematic review*. *Journal of Bodywork & Movement Therapies*, 2017. **22**(1): p. 192-202.
19. Levine, B., B. Kaplanek, and W.L. Jaffe, *Pilates Training for Use in Rehabilitation after Total Hip and Knee Arthroplasty: A Preliminary Report*. *Clinical Orthopaedics and Related Research*, 2009. **467**(6): p. 1468-1475.
20. Barker, A., J. Talevski, and M.L. Bird, *Effect of pilates exercise for improving balance and decreasing falls risk in older adults: a systematic review with meta-analysis*. *Physiotherapy*, 2015. **101**: p. e111-e112.
21. Bullo, V., et al., *The effects of Pilates exercise training on physical fitness and wellbeing in the elderly: A systematic review for future exercise prescription*. *Preventive medicine*, 2015. **75**: p. 1-11.