

# Clinical Pilates MBCT education 2025

DMA pioneered the link between spinal stability research & the work of Joseph Pilates & his contemporaries. This link was first presented to the Pilates world in New York in the early 1990's by physiotherapist & former Australian Ballet dancer Craig Phillips. For over 35 years DMA has dedicated itself to providing the cutting edge of evidence based Clinical Pilates training for physiotherapists with research that supports its efficacy as a valid assessment, classification & treatment tool with a reliable outcome prediction model.

This is not an homogenous exercise protocol approach, it's a cutting edge pathology treatment.

Clinical Pilates is unique, being the only pilates approach built from the ground up as a clinical treatment tool. MBCT (Movement Based Classification & Treatment) draws heavily on the translational evidence model highlighting the broad knowledge base of physiotherapists, & linking to other treatment philosophies taught at the post graduate level. The post COVID environment is seeing greater application of Clinical Pilates to the massive elective surgery waiting lists and chronic pain population that have resulted in rationalizing of hospital services. This is the time for JOINTSMART [www.jointsmart.com.au](http://www.jointsmart.com.au)

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## A- FOUNDATIONAL CLINICAL PILATES

### MODULE 1

- lumbo pelvic stability
- patient subgrouping

We begin with the history behind the introduction of CLINICAL PILATES to physiotherapists over 35 years ago by Craig Phillips. An in depth review of the ever changing research clarifies the distinct "point of difference" from standard pilates – **MBCT**.

Matwork & equipment based reformer exercises are linked to treatment of stability control deficits with 30 "key" exercises & markers for their inclusion / exclusion from treatment.

#### Clinical applications & pathology management

- patient subgrouping
- functional stability tests
- defining heterogenous/patient specific programmes
- identifying treatment outcome predictors
- differentiating motor control from pathology
- using exercises as clinical function tests
- using exercises as treatment
- differentiation of radiological findings
- differential diagnosis tools – is it function or structure?
- gaining effective patient compliance
- case studies to identify patient subgroups & clinical pathway development

### MODULE 2

- cervico thoracic stability
- chronic pain/pelvic floor

This module introduces the Trapeze Table, adding to the reformer & matwork repertoire

- an increased repertoire of shoulder girdle, upper body and combined stability exercises
- a broadening of reformer exercises & matwork
- attention to manual handling & teaching cues
- introduction to small barrel & spring wobble board

#### Clinical applications and pathology management

- hypermobility & instability identification & management
- direction bias assessment techniques
- chronic pain & systemic autonomic management
- simplifying the "complex pain" patient
- integrating evidence on pelvic floor in males & females
- using outcome measures with Clinical Pilates
- recording within subject / within session changes
- programme development using case studies
- introduction to CPMATE software
- surgical selection & surgical avoidance criteria
- strategies to address Health Reform changes

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## B-APPLIED CLINICAL PRACTICE

### MODULE 3

- motor control & progression
- general /ageing/ neuro / sporting cohorts

As clients improve, clinicians require a broader repertoire to progress patients safely. This module teaches programme progression and indicators to determine if/when client pathologies are stable & suitable to progress.

#### Clinical applications & pathology management

- problem solving co-existing pathologies
- prioritising between primary & secondary problems
- identifying/ manage multi directional/ global instabilities
- linking neuro research to differentiate motor learning from a pathology management approach
- managing neuro patients with Clinical Pilates and identifying links with "normal" patients
- managing the ageing population like athletes
- improving sporting/athletic performance with a non-sport specific approach
- Advanced case studies to develop individualized programmes with a strong clinical pathway & reasoning.

### MODULE 4

- advanced programme based management
- healthcare reform

module 4 links the Clinical Pilates program to current health reform strategies being implemented by government. We consolidate all levels & update the knowledge base, while further extending the exercise repertoire.

#### Clinical applications & pathology management

- additional clinically relevant exercises
- developing suitability for surgery / prehab programmes
- solving problems not just treating symptoms
- complex case studies for advanced clinical reasoning
- developing clinical pathways
- using outcome measures to quantify efficacy
- costing programmes for better financial returns
- Clinical Pilates cost reduction role in health reform
- integrate tele-medicine into patient care
- updates on the Clinical Pilates research faculty projects
- preparation for Clinical Pilates certification process & JOINT SMART.

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## UNIT C

**CERTIFICATION** – certified Clinical Pilates physiotherapists are posted on [www.clinicalpilates.com](http://www.clinicalpilates.com)

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# UNIT A - MODULE 1

The Clinical Pilates approach continues to develop as the literature constantly evolves. Research is rapidly moving away from anatomical structure management towards impairment based management heralding the introduction of **MBCT** (movement based classification & treatment). Traditional "structure based classification" **SBCT** models are gaining dwindling support in the literature, necessitating the need for better models of care to translate literature into practice. Health reform has also highlighted that chronic problems need a more cost effective treatment framework based on strong outcome prediction. The unique **MBCT** patient subgrouping tool (Kwok 2024) is introduced **MBCT** allows heterogenous, patient specific exercise treatment programmes to drive more predictable management.

Over the last 20 years there has been a growing body of literature rebutting training of isolated muscle activity i.e. transversus/multifidus (Macdonald, 2006, Alison 2008, Morris 2013) with the focus now on function, not isolated muscle. This change in focus is further borne out by current motor control literature which does not support conscious (explicit) muscle training, finding it is not particularly robust, with more support for non conscious, task orientated (implicit) muscle control training (Benjaminse 2011).

The Clinical Pilates programme has long embraced the shift towards function, with clinical outcome prediction rules validated by Otago University (Tulloch E 2012) and further supported in recent literature (Kwok 2021) The simple clinical tests used highlight a new process for identifying a patient's subgroup & managing functional/proprioceptive changes based on that subgroup. These proprioceptive deficits are often identified as the underlying cause for many structural injuries as seen with recurrent & chronic injuries, NSCLBP, ACLs, falls etc. (Tan 2024)

The **MBCT** predictor algorithm, taught in this first module has near perfect inter rater reliability, (.87 Kappa) showing robust agreement in a broad cross section of DMA trained clinicians (Tulloch E 2012, Yu K 2015).

The key to this predictor algorithm lies in using a process of heuristics & "patterns of recognition" as described by Wainner (2007). With discussions of novel funding models to address the heavy skew towards surgery & hospitalization, the scene is set for implementation of primary sector programs that can reduce surgery and hospital admissions, particularly in the ageing population. Cardiology literature has used pattern recognition and led the way in simplification of the diagnostic process, proving that clinicians can effectively predict patient treatment outcome based on 4 key points. Heuristic information is more effective than the traditional barrage of tests, which ultimately contradict each other, confusing rather than clarifying the diagnosis (Reilly, Goldman, Chin 2006).

Directional exercise treatment application, already proven with the McKenzie approach, completes the components that are taught at this stage of the programme, that make up the subgrouping process. (Tan 2024)

A Melbourne University, RCT showed a measurable (46% vs 29%, p=0.07) finding that a Clinical Pilates programme was better than a general exercise approach, in a chronic, low back pain population over a relatively short 6 week period.

The current approach to patient management now being proposed with Clinical Pilates training now follows 2 pathways :-

- **acute injury phase**, a structural micro management approach for 6 - 12 weeks, during which tissue based, manual therapy and homogenous exercise is the focus of treatment
  - **chronic phase**, moves to a macro-management, impairment based approach, addressing function with heterogeneous exercise programmes that are patient specific and can be measured for efficacy.
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  - **Morris S, Lay B and Allison GT** (2011) Corset hypothesis rebutted — Transversus abdominis does not co-contract in unison prior to rapid arm movements <http://dx.doi.org/10.1016/j.clinbiomech.2011.09.007>
  - **Benjaminse A, Otten E** (2011) ACL injury prevention, more effective with a different way of motor learning? *Knee Surg Sports Traumatol Arthrosc* (2011) 19:622–627
  - **Wainner R et al** (2007) Regional Interdependence: A Musculoskeletal Examination Model Whose Time Has Come. *J Orthop Sports Phys Ther* ;37(11):658-660.
  - **MacDonald D, Moseley L Hodges P** (2006) The lumbar multifidus: Does the evidence support clinical beliefs? *Manual Therapy* 11
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  - **Tulloch E, Phillips C, Soles G, Abbott H** (2012) DMA Clinical Pilates Directional Bias Assessment: Reliability and Predictive Validity *J Orthop Sports Phys Ther* :42(8): 676-687
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## MODULE 2

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module 2 further develops the treatment prediction algorithm taught in module 1 to cover 3 main topics:

- the use of the directional model in assessment
- identifying & managing "complex" chronic pain/central sensitisation / dysautonomia
- implicit motor control training of pelvic floor in females & males – beyond the "bowel & bladder"

Many musculo skeletal assessments aimed at a structural diagnosis are found to be not structurally specific. (Cook 2010) Added to this, many tests are carried out in a position or direction that may lead to a false finding, e.g. a positive hamstring sign with patient in supine that is absent in prone, despite the same muscle being tested, or a positive hip quadrant that eases when the patient is tested in supine elbow prop, a position of potentially greater impingement. Directional assessment tools may be a better process of testing "structure" as a differential diagnosis (Hughes 2008).

The chronic patient population is causing significant concern in the current health models and "central sensitisation" appears to be a major contributor to this problem (Janig 1996). The relationship between hypermobility & dysautonomia (disturbance in autonomic function) is a common finding in the "chronic/sensitized group" and a strong body of evidence exists that highlights the link to hypermobility, mechanical spinal cord pressure and cervico thoracic trauma. These patients are often classified under a wide range of diagnoses such as Chronic Fatigue Syndrome/Fibromyalgia/ME/IBS and the like. Ironically the symptoms are all very similar (Gazit 2003).

While exercise is strongly promoted with the chronic pain population, a directional subgrouping model, is paramount to minimize symptoms directly related to spinal cord / brain stem compression (Karlsson 2006). A checklist of symptoms including nausea, dizziness, postural tachycardia (POTS), postural orthostatic intolerance (POI), low blood pressure and gut disturbance can highlight this potential co-morbidity, which often seems to underlie many chronic conditions.

Pelvic floor literature is also addressed in this stage of the course, looking at the effect of inappropriate "core stability" strength training on pelvic floor muscle (PFM) function in both males & females. Excessive cueing of pelvic floor can be detrimental in the absence of any dysfunction and equally ineffective when there is frank dysfunction (Thompson 2006). Implicit motor training processes, incorporating inspiratory breathing control, provide a more efficient method of PFM training, which is highlighted using real time ultrasound.

This level builds on the module1 knowledge to incorporate the systematic use of outcome predictors with outcome questionnaires to measure the efficacy of the clinicians decision making process and treatment selection.

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- **Gazit, Y., Nahir, A. M., Grahame, R., & Jacob, G.** (2003). Dysautonomia in the joint hypermobility syndrome. *The American Journal of Medicine*, 115(1), 33-40.
- **Karlsson A** (2006) Autonomic dysfunction in spinal cord injury: clinical presentation of symptoms and signs. *Progress in Brain Research*, Vol. 152
- **Janig W, Levine JD and Michaelis M** (1996): Interaction of sympathetic and primary afferent neurones following nerve injury and tissue trauma. *Progress in Brain Research* 113: 161-84
- **Thompson, J. A., O'Sullivan, P. B., Briffa, N. K., & Neumann, P.** (2006). Altered muscle activation patterns in symptomatic women during pelvic floor muscle contraction and Valsalva manoeuvre. *Neurourology & Urodynamics*, 25(3), 268-276.
- **Devasahayam AJ, Ho D, Leung E, Goh M, Koh P** (2016) *The effects of a novel pilates exercise prescription method on people with non-specific unilateral musculoskeletal pain: a randomised pilot trial*

## UNIT B - MODULE 3

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Progressing patients requires a broader repertoire of tools & techniques. As patients improve they will find exercises and movement strategies easier. Using "load" to progress can lead to a strengthening/muscle hypertrophy process that can compromise rather than enhance motor control. Instead, Clinical Pilates exercises are progressed on a co-ordination/proprioception model that increases motor challenge and feed forward planning (Hurd 2008). While "muscle strength" is still heavily promoted, the demise of isokinetic strength testing tools in the 1990's due to lack of efficacy in injury management (Cybex, Biodex, Medex, KinCom etc) moved away from "peak torque" decades ago.

The "stability" of a patient's pathology can be tested by progressing from their specific unidirectional subgroup into a multi-directional programme. If there is no degradation of their functional tests or outcome measures then the clinician can be confident of further improvement and a change in threshold of provocation. Proprioceptive deficits are more indicative predictors of injury than strength (Hurd 2008).

Patients will all differ on their ability to tolerate programme changes, as progression is not suitable for everyone. A heterogenous/patient specific approach is still key and the decision whether to progress or not being based on the response to outcome measures & validated tests of function (Tulloch 2012). Outcome measurements will also be extended to incorporate a greater repertoire of measures of function. Progression to self-management can also be determined by the effect of measured treatment breaks

The potential of co-morbidities requiring a more complex approach is also covered in this stage of the programme. A patient may have co-existing pathologies, such as a disc protrusion and a spondylolisthesis, which will require a multi directional approach, (maybe) biased 80%–20% between primary & secondary problems (e.g. in this case disc as primary, spondylolisthesis the secondary problem).

Neurological patients are also showing strong preference to a directional exercise approach, further strengthening the indication there is a strong sub cortical process in proprioceptive training & function. Pilot studies on Traumatic Brain Injury & Hemiplegia are showing positive results. This has implications in both the neuro population and the ageing population, where there is a growing need for developing further approaches managing this growingly complex & expensive group (Benjaminse 2011).

Similarly, the sporting population often lacks the higher levels co-ordination/proprioception to improve performance & prevent injury. Strength & conditioning training has a threshold of effect and proprioceptive deficits are often more to blame for injury than lack of strength (ACL injuries etc.). Conservative management is proving to be a preferential approach to surgery for ACL's (Filbay 2017)

Case studies looked at in this stage will further expand participants ability to develop individualized programmes for challenging presentations, using a simple clinical reasoning basis.

- **Hurd,WJ ,Axe,M, Snyder-Mackler,L** (2008) A 10-Year Prospective Trial of a Patient Management Algorithm and Screening Examination for Highly Active Individuals With Anterior Cruciate Ligament Injury Pt 1 Am J Sports Med 2008 36: 40
- **Long, A; Donelson, R; Fung,T** (2004) Does it Matter Which Exercise?: A Randomized Control Trial of Exercise for Low Back Pain. Spine. 29(23):2593-2602, December
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- **Filbay SR, Roos EM , Frobell RB, Roemer F ,Ranstam J, Lohmander LS (2017)** Delaying ACL reconstruction and treating with exercise therapy alone may alter prognostic factors for 5-year outcome: an exploratory analysis of the KANON trial *Br J Sports Med* 2017;51:1622–1629. doi:10.1136/bjsports-2016-097124

## MODULE 4

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This final stage in the Clinical Pilates programme updates the knowledge base of previous levels with the most recent relevant literature. The treatment exercise repertoire is also further extended.

With the current focus on global health reform and cost vs outcome, the aim is to be able to provide a cost effective service that can be measured for both cost efficacy and positive outcomes.

Advanced clinical reasoning is heightened, with the focus moving to using the Clinical Pilates approach within the current health reform models being established globally. As focus moves to hospital substitution and simplification of processes to minimize and prevent surgery, there is significant scope for cost effective programme based management.

The UK's NHS reform model has highlighted the need for "get it right first time" management and a move toward primary care and hospital substitution. The focus on outcome measurement has sharpened to ensure better treatment models. In Australia the mood is similar, with the shift towards hospital substitution further opening the door for physiotherapy, which is comparatively cost effective and relatively cheap. Introduction of physiotherapists in extended scope programmes has shown significant savings and this can be carried into the private system where costs of surgical interventions are rising at unsustainable rates ([www.aihw.gov.au](http://www.aihw.gov.au)).

The current private health insurance "death spiral" ([Grattan Report 2019](#)) is increasing the load on our already overstretched public system. COVID has further highlighted the weaknesses in our healthcare system with elective surgery waiting lists now at historical highs, and Australia identified as the highest elective surgery country of the 193 United Nations. (Covid Surg Collaborative)

The scene is set for **JOINTSMART** ([www.jointsmart.com.au](http://www.jointsmart.com.au)) a Pre-surgery programme screening for patients that will respond to conservative management rather than surgery. Development of partnerships with private & public funding bodies is underway providing licensed, certified clinicians delivering Clinical Pilates JOINTSMART treatment programmes, fulfilling the needs of government policy.

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**Goldblatt EM, Lee WH.** (2010) From bench to bedside: the growing use of translational research in cancer medicine. *Am J Transl Res*;2(1):1-18

**NHS** (2011) [www.dh.gov.uk/health/tag/white-paper/](http://www.dh.gov.uk/health/tag/white-paper/)

**Grattan Report** (2015) <http://grattan.edu.au/report/questionable-care-avoiding-ineffective-treatment/>

**Nicholson C** (2012) The Evolution of a Primary Health Care System in Australia S25 *JABFM* March–April 2012 Vol. 25 Supplement

**Grattan Report** (2019) <https://grattan.edu.au/report/the-history-of-private-health-insurance/>

**Grattan Report (2019)** <https://grattan.edu.au/a-blueprint-to-rein-in-doctors-bills-reduce-hospital-costs-and-cut-private-health-insurance->

**COVIDSurg Collaborative (2020)** *British Journal of Surgery*, Volume 107, Issue 11, October 2020, <https://doi.org/10.1002/bjs.11746>

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**On Completion of UNIT B you will be eligible to enter the Clinical Pilates certification process & progression to JOINTSMART. Read more [www.clinicalpilates.com](http://www.clinicalpilates.com)**