



A. PEDro update (4 March 2019)

PEDro contains 42,815 records. In the 4 March 2019 update you will find:

- 33,501 reports of randomised controlled trials (32,676 of these trials have confirmed ratings of methodological quality using the PEDro scale)
- 8,642 reports of systematic reviews, and
- 672 reports of evidence-based clinical practice guidelines.

PEDro was updated on 4 March 2019. For latest guidelines, reviews and trials in physiotherapy visit [Evidence in your inbox](#).

B. Support for PEDro comes from industry, physiotherapy organisations and individuals

[Support for PEDro](#) comes from industry partners around the globe. The [Australian Physiotherapy Association](#) is our Foundation Partner. The [Motor Accident Insurance Commission](#), [Transport Accident Commission](#), [Chartered Society of Physiotherapy](#), and [Cerebral Palsy Alliance](#) are Partners. Our Association Partners for 2018 were [World Confederation for Physical Therapy](#) Member Organisations from 39 countries.

We also thank the individual physiotherapists who have made a donation to PEDro during 2018.

But PEDro is facing significant financial challenges. We need more partners to help us continue the work we do and keep PEDro free and accessible around the world. From private practices to hospitals, government departments and universities, we can tailor a sponsorship package to suit any organisation. If your organisation would like to invest in the future of physiotherapy, please [contact us](#).

Another way we can pay for PEDro and keep it free is through [donations](#) from users. You can choose an amount that suits your budget. We truly appreciate your help.



C. #MyPTArticleOfTheMonth resource – how to ask a clinical question

As a clinician, you perform diagnostic tests, provide information on prognosis, and implement interventions on a daily basis. You may want to find out if the diagnostic test (or combination of tests) you are using is the best available considering your facilities and resources. You may want to discover the course of recovery for a condition you don't see very often. You may also like to know if you are offering intervention that is supported by the results of high-quality research. To do these you need to pose a clinical question.

In order to answer your clinical question, it is helpful to break it down into 4 essential components, using the 'PICO' framework. In this memory aid, **P** stands for **p**atient, **p**roblem or **p**opulation, **I** stands for **i**ntervention, **C** stands for **c**omparison or **c**ontrol intervention, and **O** stands for **o**utcome. Taking the time to clearly define the question will help you work out the best search terms to use, which in turn will make finding the best research to answer your question less daunting or time-consuming.

For questions about the effects of interventions, your PICO question should include all 4 elements:

P (**p**atient, **p**roblem or **p**opulation): what is the condition or population group of interest, are you interested in a particular subgroup (eg, acute stroke) or sociodemographic group (eg, workers)? Are you working with older people, children, athletes, people that have had a traumatic brain injury or stroke?

I (the **i**ntervention): what treatment are you interested in.

C (the **c**omparison or **c**ontrol intervention): are you interested in comparing your intervention to placebo, usual care, or another intervention (eg, aquatic versus land-based exercise).

O (the **o**utcome): what measurable outcome(s) are you interested in improving? Is the outcome important to patients? Outcomes could be events (eg, falls), symptoms (eg, pain), functional measures (eg, walking speed) and quality of life. Harmful effects and the cost of treatment are also important outcomes to consider.

An example of a PICO question about the effects of intervention is: 'In older people with knee osteoarthritis, is hydrotherapy more effective than land-based exercise in relieving pain?'

PICO can also be used to frame diagnostic questions, but here "I" takes on a new meaning:

P (**p**atient, **p**roblem or **p**opulation)

I (the "**i**ssue"): this could be a diagnostic test, a combination of physical tests, or a clinical prediction rule.

C (the **c**omparison): what do you want to compare your diagnostic test to? This could be a reference test

or the gold standard test.

O (for **outcome**): this is usually a measure of the test utility like specificity or sensitivity. This gives you an idea of both the rate of false positives (diagnosing the condition in those that do not have it) and false negatives (missing the diagnosis in those that do).

An example of PICO question about a diagnostic test is: 'In female soccer players with knee injuries, what is the accuracy of the anterior draw test compared to medical resonance imaging for detecting an anterior cruciate ligament injury?'

Elements of PICO can help you ask questions about the prognosis of a condition. With prognostic questions "I" takes on a new meaning and the "C" is dropped:

P (**patient, problem or population**): when specifying this element it is useful to include the duration or severity

I (for "time"): over what time span are you interested in, the short- or long-term?

O (for **outcome**): these should be both quantifiable and important to patient's goals and priorities.

Examples include the rate of disease progression or a positive outcome (eg, return to work or sport).

An example of a PIO question about prognosis is: 'For people with an episode of back pain resulting in 4 weeks off work, what is the likelihood that they return to work in their previous role at 6 months?'

PEDro has a great video tutorial on posing clinical questions about interventions. This 'How to ask a clinical question in PICO format' video is available in [English](#), [French](#), [Portuguese](#), [Spanish](#), [Italian](#), [German](#), [Japanese](#), [Tamil](#), and [Chinese simplified characters](#).

D. #MyPTArticleOfTheMonth – what is France Mourey reading?



France Mourey is a professor in Université de Bourgogne, France who has expertise in geriatric rehabilitation, particularly the assessment of balance and gait, frailty, and training of motor function in Alzheimer's disease. She coordinates a research program called "Implicit motor learning in Alzheimer's disease" that is supported by the Agence Nationale de la Recherche (the peak research funding agency in France) and aims to develop virtual reality solutions for people with Alzheimer's. France is also Vice-Chair of the [Espace de Reflexion Éthique Bourgogne - Franche - Comté](#) and chairs the Geriatrics Group of the [Société Française de Physiothérapie](#).

[Weber M, et al. Feasibility and effectiveness of intervention programmes integrating functional exercise into daily life of older adults: a systematic review. *Gerontology* 2018;64:172-187.](#)

France chose this article because it evaluates whether exercise that is incorporated into daily routines can improve function and reduce falls in older adults. France says “While structured exercise programs without direct links with daily activities can be very effective in young people, integrating exercises into daily life tasks may be a better approach in older people. This approach addresses the issue of program specificity.”

The systematic review identified six randomised controlled trials comparing integrated training with structured exercise, usual care or inactive control treatment for people aged over 60 years. The trials were conducted in community dwellers with a history of falling, those receiving home-based care, and in institutional care. Meta-analysis could not be performed because of the diversity of the trials. The results of individual trials suggests that integrated training is feasible and may increase adherence and improve some outcomes.

France says “Integrated functional training may be useful for getting older people to exercise. For example, incorporating ankle exercises into daily activities could maintain flexibility, balance and mobility. This review could be used to guide future trials.”

E. Systematic review found that exercise prevents falls in older people living in the community

A recently published Cochrane review evaluates the benefits and harms of exercise interventions for preventing falls in older people living in the community. This review included randomised controlled trials evaluating any form of exercise as a single intervention in people over 60 years old. The primary outcome was rate of falls (falls per person-year) measured at the time point closest to 18 months post-randomisation. Methodological quality of the included trials was evaluated with the Cochrane risk of bias tool, and the quality of the evidence was assessed using the Grading of Recommendations, Assessment, Development and Evaluation (GRADE) approach.

This review included 108 trials with 23,407 participants conducted mostly in high income countries. 77% of included participants were women. The average participant age in the included trials was 76 years. Exercise was compared to a control intervention not thought to reduce the rate of falls in people not recently discharged from hospital in 81 trials (n = 19,684 participants) and in people who were recently discharged from hospital in four trials (n = 816 participants). 53% of the interventions included balance and functional exercises as the primary intervention, followed by three-dimensional training (constant repetitive movement through all three spatial planes; 15% of the interventions).

This review found high-quality evidence from 59 trials (n = 12,981 participants) that exercise interventions reduced the rate of falls by 23% (95% CI 17% to 29%) compared to control intervention not thought to reduce falls. There was low-quality evidence from 10 trials (n = 4,047 participants) that exercise

interventions reduced the number of people experiencing a fracture following a fall by 27% (95% CI 5% to 44%) compared to control intervention.

Strong evidence shows that exercise interventions reduce the rate of falls in older people living in the community. Further work is needed to understand the impact of resistance training, dance or walking programs. Larger studies are needed to evaluate the impact of exercise on fall-related fractures and falls requiring medical attention.

Listen to Norman Swan interview Cathie Sherrington (Professor from the Institute for Musculoskeletal Health, University of Sydney who is the lead author of the review) for [ABC Radio National's Health Report](#).

Sherrington C et al. Exercise for preventing falls in older people living in the community. *Cochrane Database Syst Rev* 2019 Jan 31;1:CD012424

[Read more on PEDro.](#)

F. QUADAS, QUADAS-2 and DAQS provide unreliable estimates of quality of studies of diagnostic accuracy in physiotherapy

PEDro is currently working on a new database that will index studies and reviews that evaluate the accuracy of diagnostic tests used by physiotherapists. Called DiTA, this new database project is being led by Mark Kaizik, Rob Herbert and Mark Hancock.

An investigation of the measurement properties of quality assessment tools for diagnostic test accuracy studies was conducted to inform the development of DiTA. The main aims of the investigation were to determine the reliability, measurement error, internal consistency, convergent validity, and floor and ceiling effects of three tools commonly used to evaluate the quality of diagnostic test accuracy studies.

50 diagnostic test accuracy studies in the field of musculoskeletal, orthopaedic or sports physiotherapy that were published in English were randomly selected from DiTA. Three tools were evaluated: Quality Assessment of Diagnostic Accuracy Studies (QUADAS), Quality Assessment of Diagnostic Accuracy Studies 2 (QUADAS-2) and Diagnostic Accuracy Quality Scale (DAQS). Two physiotherapists independently rated each study using each tool (the order of both the study and tool were randomised). Summary scores were calculated to facilitate the analyses. 13/14 QUADAS items, 5/7 QUADAS-2 domains, and 14/21 DAQS items had less than moderate inter-rater reliability ($Kappa \leq 0.40$). Inter-rater reliability for summary scores ranged from poor (Intraclass Correlation Coefficient 0.27, QUADAS) to moderate (0.45, DAQS). Standard error of measurement was 2.7 points was for the 0-28 point QUADAS tool, 1.8 for the 0-14 point QUADAS-2, and 3.6 for the 0-42 point DAQS. Internal consistency was acceptable (Cronbach's $\alpha > 0.70$) for the QUADAS-2 tool only. Convergent validity was acceptable (Pearson's correlation > 0.70) for half of the analyses: QUADAS vs DAQS (both rater 1 and rater 2), and

QUADAS-2 vs DAQS (rater 1). Floor or ceiling effects were not present in any tool. The study concludes that all three tools provide unreliable estimates of quality for studies evaluating the accuracy of diagnostic tests used by physiotherapists.

[Kaizik MA et al. Measurement properties of quality assessment tools for studies of diagnostic accuracy. *Braz J Phys Ther* 2019 Jan 30;Epub ahead of print](#)

G. PEDro scale online training is available in English and Portuguese

You may be interested to know that PEDro provides [online training](#) for the PEDro scale. In this online training we provide a definition, detailed description, and answers to frequently asked questions in both text and video formats for each item of the PEDro scale. Each item also has worked examples and practice articles. The examples are drawn from actual articles to illustrate instances that meet (and do not meet) the PEDro scale items. Practice articles can be used to confirm mastery of each item. The entire training program is available in both English and Portuguese.

The training program also includes an accuracy test. A certificate is provided to those who complete the training program and pass the accuracy test.

The program costs AUD 50 for individual subscribers. Institutional subscriptions are also available. All proceeds from the online training are used to produce and develop the PEDro resource.

H. PEDro's how to videos have 100,000+ views

We are pleased to announce that the PEDro YouTube Channel has reached a new milestone! There have been over 100,000 views of PEDro instructional and promotional videos so far!

The PEDro YouTube channel currently contains 68 videos. These include 9 videos that are each available in up to 12 languages. The videos are available in playlists for each language.

A helpful video tutorial describes how to access full-text using PEDro. We estimate that free full-text can be accessed for 50% of the articles indexed in PEDro. This video tutorial is available in [English](#), [Chinese simplified characters](#), [Chinese traditional characters](#), [Portuguese](#), [German](#), [French](#), [Spanish](#), [Italian](#), [Japanese](#), [Tamil](#), [Dutch](#), and [Korean](#).

I. Next PEDro update (April 2019)

The next PEDro update is on Monday 4 April 2019.

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Physiotherapy Evidence Database (PEDro)
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