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## A. PEDro update (9 April 2018)

PEDro contains 39,633 records. In the 9 April 2018 update you will find:

- 31,231 reports of randomised controlled trials (30,401 of these trials have confirmed ratings of methodological quality using the PEDro scale)
- 7,755 reports of systematic reviews, and
- 647 reports of evidence-based clinical practice guidelines

For latest guidelines, reviews and trials in physiotherapy visit [Evidence in your inbox](#).

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## B. Lancet series on low back pain

An excellent [series](#) of three papers on the global impact of non-specific low back pain was published in The Lancet on 20 March 2018. The first paper presents the current understanding of what low back pain is, its burden and global impact, and an overview of causes and course. The evidence for the effectiveness of current treatments (including physiotherapy interventions) for managing low back pain is presented in paper two. The final paper outlines a worldwide call to action to change policy, public health campaigns, health care, social services and workplaces to address the challenges posed by back pain.



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## C. PEDro systematic review update in the BJSM

A new PEDro systematic review update has been published in the *British Journal of Sports Medicine*:

- [Prevention programmes including Nordic exercises to prevent hamstring injuries in football players](#)

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## D. What is a network meta-analysis?

Many PEDro users will be familiar with meta-analyses of randomised controlled trials. These involve the statistical combination of the results of trials that compare two interventions (one of these interventions could be a no treatment control or sham treatment). For example, [Hannan et al \(2018\)](#) identified all trials comparing high-intensity interval training to moderate intensity continuous training in the cardiac population, concluding that high-intensity training was superior to moderate-intensity training in improving cardiorespiratory fitness.

Over the past decade methods have been developed to examine the comparative effectiveness of many (or all) available interventions for a condition. Called network meta-analysis, these methods make both direct comparisons of interventions within randomised controlled trials and indirect comparisons across trials based on a common comparator. For example, [Gao et al \(2018\)](#) evaluated all minimally invasive interventions for obstructive sleep apnea. This network meta-analysis is summarised in the next item of the newsletter.

For those interested in finding out more about network meta-analysis, the Cochrane Collaboration have produced a great [video](#) and [Tonin et al \(2017\)](#) provide an excellent overview.

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## **E. Systematic review found that positive airway pressure, mandibular advancement device and positional therapy are effective for adult obstructive sleep apnea**

A systematic review and network meta-analysis was conducted to evaluate the effectiveness of minimally invasive treatments for adult obstructive sleep apnea. The authors included 89 randomised controlled trials (n=6,346) comparing 18 different interventions. The main outcomes were the changes in Apnea-Hypopnea Index and Epworth Sleepiness Scale over 6 months evaluated using weighted mean differences (meta-analysis) and the area under cumulative ranking curves. When compared to no treatment, positive airway pressure was the most effective intervention for reducing the Apnea-Hypopnea Index (weighted mean difference (WMD) 23.3, 95% confidence interval (CI) 19.2 to 27.4), with mandibular advancement devices (WMD 13.29, 95% CI 8.9 to 17.7) and oral negative pressure therapy (WMD 14.10, 95% CI 3.1 to 25.1) ranked second and third (the order was different for the two analysis methods). For reducing the Epworth Sleepiness Scale, the two top-ranking interventions were exercise (WMD 4.25, 95% CI 1.82 to 6.68) and cervico-mandibular support collars (WMD 4.70, 95% CI 0.03 to 9.4), with the ranking being different for the two analysis methods. For both outcomes (Apnea-Hypopnea Index and Epworth Sleepiness Scale), this network meta-analysis concluded that positive airway pressure was the most effective intervention, followed by mandibular advancement devices and positional therapy. While not formally evaluated in this review, complications and side effects associated with the interventions will impact on adherence and long-term treatment success.

Gao Y-N, et al. Short-term efficacy of minimally invasive treatments for adult obstructive sleep apnea: a systematic review and network meta-analysis of randomized controlled trials. *Journal of the Formosan Medical Association* 2018 Mar 6:Epub ahead of print

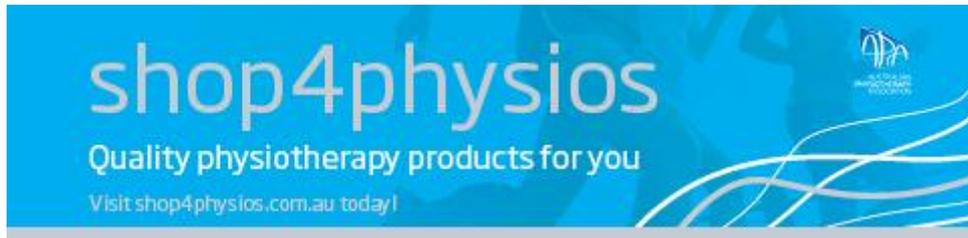
[Read more on PEDro](#) [Read more on PEDro](#).

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## **F. Next PEDro update (May 2018)**

The next PEDro update is on Monday 7 May 2018.

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