

# PEARLS

## Practical Evidence About Real Life Situations



### Exercise improves balance in older people

PEARLS No. 40, January 2008, written by Brian R McAvoy

**Clinical question:** Are exercise interventions effective in improving balance in older people?

**Bottom line:** Exercise has statistically significant positive effects on balance compared to usual activity for older people. The interventions that appeared to have the greatest impact involved gait, balance, coordination and functional exercises, muscle strengthening and multiple exercises. Improvements were seen in the ability to stand on one leg, reach forward without overbalancing and walking.

**Caveat:** Many of these mainly small studies (the largest had 620 participants) demonstrated a range of methodological weaknesses. In particular, there was a lack of standardised measures to determine balance ability across the studies. Moreover, a lack of follow-up of participants makes it hard to determine any long term effects of the interventions. Although the longest trials lasted 12 months, most were for only a few weeks or months.

**Context:** A decrease in ability to maintain balance may be associated with an increased risk of falling. In older adults, falls often lead to injury, loss of independence, associated illness and early death.

**Cochrane Systematic Review:** Howe TE et al. Exercise for improving balance in older people. Cochrane Reviews 2007, Issue 4. Article No. CD004963. DOI: 10.1002/14651858.CD004963.

*Note: This review contains 34 studies involving 2883 participants.*



### Aerobic physical activity improves cognitive function in older people

PEARLS No. 85, August 2008, written by Brian R McAvoy

**Clinical question:** How effective is physical activity, aimed at improving cardiorespiratory fitness, on cognitive function in older people (>55 years) without known cognitive impairment?

**Bottom line:** Aerobic physical activities which improve cardiorespiratory fitness (an increase in VO<sub>2</sub> max of approximately 14 per cent) are beneficial for cognitive function in healthy older adults, with effects observed for motor function, cognitive speed, delayed memory functions and auditory and visual attention.

**Caveat:** The cognitive functions which improved were not the same in each study, and the majority of comparisons yielded no significant results. Aerobic activity improves cardiovascular fitness, but it is not known whether this sort of fitness is necessary for improved cognitive function.

**Context:** Physical activity is beneficial for healthy ageing. A regular exercise programme can slow down or prevent functional decline associated with ageing and improve health in this age group. It is thought it may also help maintain good cognitive function in older age.

**Cochrane Systematic Review:** Angevaren G et al. Physical activity and enhanced fitness to improve cognitive function in older people without known cognitive impairment. Cochrane Reviews 2008, Issue 1. Article No. CD005381. DOI: 10.1002/14651858.CD005381.pub2.

*This review contains 11 studies involving 619 participants.*

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### PEARLS

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PEARLS provide guidance on whether a treatment is effective or ineffective. PEARLS are prepared as an educational resource and do not replace clinician judgement in the management of individual cases.

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