

# Circuit class therapy for improving mobility after stroke (Review)

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[Intervention Review]

# Circuit class therapy for improving mobility after stroke

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## ABSTRACT

### Background

Circuit class therapy (CCT) offers a supervised group forum for people after stroke to practise tasks, enabling increased practise time without increasing staffing.

### Objectives

To examine the effectiveness and safety of CCT on mobility in adults with stroke.

### Search strategy

We searched the Cochrane Stroke Group Trials Register (last searched October 2009), the Cochrane Central Register of Controlled Trials (CENTRAL) (*The Cochrane Library*, Issue 2, 2009), MEDLINE (1950 to November 2008), EMBASE (1980 to November 2008), CINAHL (1982 to November 2008) and 14 other electronic databases (to November 2008). We also searched proceedings from relevant conferences, reference lists and unpublished theses; contacted authors of published trials and other experts in the field; and searched relevant clinical trials and research registers.

### Selection criteria

Randomised or quasi-randomised controlled trials including people over 18 years old diagnosed with stroke of any severity, at any stage, or in any setting, receiving CCT.

### Data collection and analysis

Two review authors independently selected trials for inclusion, assessed methodological quality and extracted data.

### Main results

We included six trials involving 292 participants. Participants were long-term stroke survivors living in the community or receiving inpatient rehabilitation. All could walk 10 metres with or without assistance. Four studies measured walking capacity and three measured gait speed, demonstrating that CCT was superior to the comparison intervention (Six Minute Walk Test: mean difference (MD), fixed 76.57 metres, 95% confidence interval (CI) 38.44 to 114.70,  $P < 0.0001$ ; gait speed: MD, fixed 0.12 m/s, 95% CI 0.00 to 0.24,  $P = 0.04$ ). Two studies measured balance, showing a superior effect in favour of CCT (Step Test: MD, fixed 3.00 steps, 95% CI 0.08 to 5.91,  $P = 0.04$ ; activities-specific balance and confidence: MD, fixed 7.76, 95% CI 0.66 to 14.87,  $P = 0.03$ ). Studies also measured other balance items showing no difference in effect. Length of stay (two studies) showed a significant effect in favour of CCT (MD, fixed -19.73 days, 95% CI -35.43 to -4.04,  $P = 0.01$ ). Only two studies measured adverse events (falls during therapy): all were minor.

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### **Authors' conclusions**

CCT is safe and effective in improving mobility for people after moderate stroke and may reduce inpatient length of stay. Further research is required, investigating quality of life, participation and cost-benefits, that compares CCT to standard care and that also investigates the differential effects of stroke severity, latency and age.

## **PLAIN LANGUAGE SUMMARY**

### **Circuit class therapy for improving mobility after stroke**

Stroke is a major cause of increased dependence for survivors in many activities of daily life, including the ability to walk and negotiate our usual environments. Intensive rehabilitation, with time spent practising specific tasks or functions under supervision, is very beneficial but achieving the sufficient amount of therapy time can be difficult if there is always a one staff to one client ratio. Circuit class therapy offers people with stroke the chance to practise meaningful functions in a group setting with the supervision of staff to give feedback and to progress the training. We found six studies involving 292 participants that compared this kind of rehabilitation to usual care or sham rehabilitation. All the trials reported benefits of circuit classes for improving the person's mobility. More specifically, we combined the results from the studies and found that the classes were more effective in improving the person's ability to walk further, longer or faster and to balance more easily and confidently when compared to other types of exercise. Also, people receiving the classes went home from inpatient rehabilitation earlier than the comparison groups. There were no increased risks of falling related to participating in the circuit classes. We are recommending people can attend circuit class therapy after stroke to achieve benefits in their ability to walk and balance. However, more research is needed to see if it works for all people at any stage or severity after stroke and if some tasks are better to practise than others.