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*Cochrane Database of Systematic Reviews* 2015, Issue 8. Art. No.: CD009509.  
DOI: [10.1002/14651858.CD009509.pub3](https://doi.org/10.1002/14651858.CD009509.pub3).

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[Intervention Review]

# Multidisciplinary rehabilitation after primary brain tumour treatment

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## ABSTRACT

### Background

Brain tumours can cause significant disability, which may be amenable to multidisciplinary rehabilitation. However, the evidence base for this is unclear. This review is an update of a previously published review in the Cochrane Database of Systematic Reviews [2013, Issue 1, Art. No. CD009509] on 'Multidisciplinary rehabilitation after primary brain tumour treatment'.

### Objectives

To assess the effectiveness of multidisciplinary rehabilitation in people after primary brain tumour treatment, especially the types of approaches that are effective (settings, intensity).

### Search methods

For this update, we searched the Cochrane Central Register of Controlled Trials (CENTRAL, the Cochrane Library up to Issue 12 of 12, 2014), MEDLINE (1950 to January week 2, 2015), EMBASE (1980 to January week 2, 2015), PEDro (1985 to January week 2 2015), and LILACS (1982 to January week 2, 2015). We checked the bibliographies of papers we identified and contacted the authors and known experts in the field to seek published and unpublished trials.

### Selection criteria

Controlled clinical trials (randomised and non-randomised clinical trials) that compared multidisciplinary rehabilitation in primary brain tumour with either routinely available local services or lower levels of intervention, or studies that compared multidisciplinary rehabilitation in different settings or at different levels of intensity.

### Data collection and analysis

Three review authors independently assessed study quality, extracted data, and performed a 'best evidence' synthesis based on methodological quality.

### Main results

We did not identify any studies for inclusion in the previous version of this review. For this update, the literature search identified one low-quality controlled clinical trial involving 106 participants. The findings from this study suggest 'low-level' evidence to support high-intensity ambulatory (outpatient) multidisciplinary rehabilitation in reducing short- and long-term motor disability (continence, mobility and locomotion, cognition), when compared with standard outpatient care. We found improvement in some domains of disability (continence, communication) and psychosocial gains were maintained at six months follow-up. We found no evidence for improvement in overall

participation (quality of life and societal relationship). No adverse events were reported as a result of multidisciplinary rehabilitation. We found no evidence for improvement in quality of life or cost-effectiveness of rehabilitation. It was also not possible to suggest best 'dose' of therapy.

### **Authors' conclusions**

Since the last version of this review, one new study has been identified for inclusion. The best evidence to date comes from this CCT, which provides low quality evidence that higher intensity ambulatory (outpatient) multidisciplinary rehabilitation reduces short- and long-term disability in people with brain tumour compared with standard outpatient care. Our conclusions are tentative at best, given gaps in current research in this area. Although the strength of evidence has increased with the identification of a new controlled clinical trial in this updated review, further research is needed into appropriate and robust study designs; outcome measurement; caregiver needs; evaluation of optimal settings; type, intensity, duration of therapy; and cost-effectiveness of multidisciplinary rehabilitation in the brain tumour population.

## **PLAIN LANGUAGE SUMMARY**

### **Multidisciplinary rehabilitation after brain tumour treatment**

People with brain tumours can experience a range of symptoms and disabilities, such as psychological problems, difficulties with mobility or self care, and relationship and work issues, which can substantially impact their quality of life. These symptoms and disabilities may be addressed through 'multidisciplinary rehabilitation' delivered by a team of different healthcare professionals (for example doctors, nurses, therapists) working in an organised manner.

We found one controlled clinical trial (poor quality) that compared multidisciplinary rehabilitation to standard outpatient care. The 106 people in this trial received treatment in the hospital outpatient clinic. Participants were in the multidisciplinary rehabilitation programme for up to eight weeks, and the results were measured at three and six months after completion of the programme.

There was some evidence to support the benefit of multidisciplinary rehabilitation in reducing disability in people with primary brain tumour. People in the multidisciplinary rehabilitation group showed improvement in their functional abilities (e.g. continence, mobility) and cognitive function compared to the group with standard care only. Multidisciplinary rehabilitation was not harmful. Current research gaps highlight the need for high-quality research to explore the effectiveness of various aspects of multidisciplinary rehabilitation and caregiver needs in this patient population.

The evidence in this review is up to date to January 2015.