The efficacy of acquired brain injury rehabilitation
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CRD summary
This review concluded that better studies of rehabilitation in acquired brain injury are needed. Despite a number of methodological problems, this conclusion appears appropriate given the limited quality of the studies found.

Authors' objectives
To investigate the efficacy of rehabilitation interventions for patients with acquired brain injury.

Searching
The authors searched the following databases from 1980 to 2005: CINAHL, EMBASE, MEDLINE and PsycINFO. They also searched the bibliographies of selected articles for additional references.

Study selection
Any published literature that evaluated the effectiveness of any treatment or intervention for the rehabilitation of patients with acquired brain injury was eligible for inclusion.

A range of study designs were included and patient inclusion criteria of individual studies varied. Interventions were diverse and outcomes varied, but mainly focused on the short-term.

The authors did not state how many reviewers performed the selection of studies for the review.

Assessment of study quality
The authors used the published PEDro scoring system for randomised controlled trials (RCTs) and the published Downs and Black assessment tool for non-randomised trials. The authors summarised the evidence as strong, moderate, limited, consensus or conflicting (all defined in the article).

The authors did not state how many reviewers were involved in validity assessment.

Data extraction
The authors did not state how data were extracted for the review, or how many reviewers performed the data extraction.

Methods of synthesis
The authors conducted a narrative synthesis, considering the effectiveness of in-patient rehabilitation in general, timing of rehabilitation and intensity. They also synthesised studies in relation to community rehabilitation, vocational rehabilitation, supported employment and support groups.

Results of the review
Twenty-nine studies were included in the review (total number of patients not stated). The majority of interventions were only supported by limited evidence.

The authors found moderate evidence that in-patient rehabilitation programmes were beneficial to acquired brain injury patients. There was limited evidence that early rehabilitation was associated with better outcomes. Higher intensity patient rehabilitation resulted in better short-term outcomes but differences were gradually reduced over time.

The majority of community rehabilitation studies were small with limited, long-term data.

Evidence for vocational rehabilitation was limited but suggested benefits to the individual and to society. There was evidence from one study that supported employment improves employment outcomes.
Three non-experimental studies suggested that support groups generate positive results such as improving feelings of hopelessness, coping with depression and improving psychosocial functioning.

**Authors’ conclusions**
There is a need for studies of improved methodological quality into acquired brain injury rehabilitation.

**CRD commentary**
This review had broad inclusion criteria, but inclusion criteria relating to patients and interventions were not precisely defined and explored. Four databases were searched and references were checked, but this was limited to published studies. It is known that studies with null or negative results are less likely to be published than those with positive outcomes, so the review may be open to publication bias. A narrative synthesis was appropriate given differences between studies. However, review processes such as study selection, data extraction and validity assessment were not detailed in full, and it was unclear if more than one reviewer was involved in these processes in order to minimise errors and bias. Given these methodological limitations, the review should be treated with some caution. However, the conclusion that better studies of rehabilitation in acquired brain injury are needed appears appropriate given the limited quality of the studies found.

**Implications of the review for practice and research**

**Practice:** Not stated

**Research:** The authors stated that research into the optimisation of the rehabilitation process in a cost effective manner was important. Research should include the timing of rehabilitation in relation to an individual's recovery. The mix of therapy and home versus in-patient delivery is worth investigating. Larger studies, with a controlled design, standardisation of measures, adequate statistical analysis and health outcomes, should be conducted. Outcome measurements should be standardised at comparable time intervals, to allow for direct comparison between studies.

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.