Philadelphia Panel evidence-based clinical practice guidelines on selected rehabilitation interventions: overview and methodology

Philadelphia Panel

Authors' objectives
To review the evidence and construct guidelines for rehabilitation interventions for musculoskeletal pain in four areas: shoulder, knee, lower-back and neck.

Searching
The Cochrane Database of Systematic Reviews, MEDLINE, EMBASE, CINAHL, the Cochrane Controlled Trials Register, HealthSTAR, the database of the Cochrane Field of Rehabilitation and Related Therapies, and PEDro were searched from their inception to 2000. The reference lists of the included studies and other systematic reviews were examined for additional relevant studies. The members of the Philadelphia Panel (responsible for the construction of these guidelines) were also contacted to see whether any additional studies had been missed. The search terms were not stated in the review. Systematic reviews were restricted to those published in English, French or Spanish.

Study selection
Study designs of evaluations included in the review
The review specified the inclusion of randomised controlled trials (RCTs), controlled clinical trials, cohort studies and case-control studies. Case series and uncontrolled cohort studies were excluded.

Specific interventions included in the review
The interventions included in the guidelines construction were: therapeutic exercise, massage, transcutaneous nerve stimulation, thermotherapy, ultrasound, electrical stimulation, and combinations of these therapies. The excluded interventions were: surgery, manipulation, manual therapy, swimming pool exercise, and behavioural, educational, functional restoration, and psychosocial interventions.

The comparison interventions included placebo, no treatment, or one of the interventions of interest. Concurrent therapy was allowed if it was given to both the intervention and comparison groups equally.

Participants included in the review
Out-patients with shoulder, neck, lower-back or neck pain were included in the review. Participants with scoliosis, cancer, or pulmonary, neurologic (except peripheral nerve injuries), paediatric, cardiac, dermatologic, psychiatric or multiple conditions were excluded, as were those with no known pathology or impairments.

Outcomes assessed in the review
The specified outcomes were based on their clinical relevance. They included pain, function, strength, range of motion, return to work, patient satisfaction, activities of daily living, or quality of life. Psychological (e.g. depression) and physiological (e.g. temperature and biochemical markers) outcomes were excluded, as were cardiopulmonary function and postural assessments.

How were decisions on the relevance of primary studies made?
Two reviewers independently assessed the results of the searches and applied the inclusion and exclusion criteria, as well as criteria for clinical relevance. Studies thought to be relevant by one reviewer were ordered and then the full papers were assessed for relevance by both reviewers.

Assessment of study quality
The reviewers assessed the methodological quality of the included studies in terms of randomisation, double-blinding, and description of withdrawals and drop-outs. The studies were scored using the Jadad validated scale. Two reviewers independently assessed the validity of the included studies.
**Data extraction**

Two reviewers independently extracted the data using pre-designed forms. Data were extracted on the benefits and harms of the interventions, as well as the population characteristics, trial design, allocation concealment and interventions.

**Methods of synthesis**

How were the studies combined?

The included studies were presented graphically in a 3-axis 'cityscape', where each condition was represented by a 'street' of rehabilitation interventions, the height of which represented the number of studies identified for that clinical condition and intervention. This schematic was used to prioritise the data analysis. The results (absolute benefit and the relative difference in the change from baseline) were then tabulated.

For continuous outcomes, the studies were pooled using the weighted mean difference, with studies being weighted by the inverse of the variance. For dichotomous outcomes, relative risks (RRs) with 95% confidence intervals were calculated. Fixed-effect models were used for all analyses unless heterogeneity was significant (p<0.05), in which case random-effects models were also used.

How were differences between studies investigated?

Heterogeneity was assessed using the Cochran Q statistic.

**Results of the review**

The authors do not state how many studies were included in the review, or the numbers of participants involved.

The methodologic quality of the included trials rarely reached four or greater out of a possible five on the Jadad scale.

Fifty-two clinical questions were addressed in a 3-hour period using the evidence from the included studies. Each positive recommendation was summarised as a one-page guideline. These short guidelines were not reported in the review.

Intervention results were reported in the review. First, there was some evidence in rheumatology that patients view a greater than 20% improvement as a clinically important difference between two interventions, and that this discriminates active from placebo/control in all the RCTs reviewed for the American College of Rheumatology. Second, a difference of two points on the Roland scale (range: 0 to 24) is widely used as a minimally important change for back pain. This amounts to an approximately 15% improvement relative to the control group (when considering the usual baseline Roland scale score of 11 or 12).

The review also reported several results relating to the effectiveness of the methodology used in creating the working group's guidelines. These are not reported in this abstract.

**Authors' conclusions**

The authors only reported conclusions about the effectiveness of their guideline methodology and not on the rehabilitation interventions.

**CRD commentary**

This review was somewhat unclear as to the objective of the review: the methodology of creating guidelines or the effectiveness of rehabilitation interventions. Information on the latter were extracted for this abstract. However, the data were minimal in certain areas, such as the results and conclusions for the rehabilitation interventions.

The authors clearly stated the inclusion and exclusion criteria, and the methods and reviewers involved in the study selection, quality assessment and data extraction processes of the review. It is possible that some bias was introduced by excluding interventions judged by the authors to already have guidance written, or where insufficient volume of
The authors searched several databases and made contact with experts in this field so it is unlikely that additional studies were missed. However, this review lacked details of the number of studies included (and the number of participants involved) for each type of rehabilitation intervention.

The studies were pooled using appropriate methods, but neither the results nor conclusions for the interventions of interest were stated in the review. It is therefore not possible to comment on the reliability of the authors’ conclusions in this paper.

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

**Practice:** The authors state that several one-page guidelines were created for use in clinical practice.

**Research:** The authors state that further well-designed RCTs are warranted for several interventions where the evidence was insufficient to make recommendations.

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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.