# Parkinson's disease reviews

Parkinson's disease is one of the main areas of research interest at BCTU. Please find current systematic reviews/meta-analyses that are being undertaken in this disease area.

Please find below a list of the reviews we are currently undertaking.

Open all sections

## Medical therapy reviews

**Systematic Reviews of Medical Therapy in Parkinson's Disease**

There are currently no reviews of this kind being undertaken.

Please see our published research page for reviews recently completed.

## Physiotherapy reviews

A Cochrane review of physiotherapy in PD, and a second Cochrane review comparing physiotherapy techniques were first published in 2001[1,2]. These original reviews included only eleven and seven randomised controlled trials with a total of 280 and 142 participants respectively[1,2]. When comparing physiotherapy with a placebo or no intervention, most of the trials reported positive effects, but few outcome measures were statistically significant. This combined with the presence of methodological flaws, small sample sizes, and the possibility of publication bias, led Deane et al[1] to conclude that there was insufficient evidence to support or refute the efficacy of physiotherapy for PD. Similarly, the authors were unable to draw conclusions on the effectiveness of one given form of physiotherapy over another[2].

Since the original Cochrane reviews were published there have been an increasing number of new trials assessing the use of physiotherapy in the treatment of PD. Therefore, it is essential that the evidence base is synthesised frequently. There is also a need to provide quantitative data on the overall effectiveness of the different types of physiotherapy interventions used in the treatment of PD.

*1) Deane K, Jones DE, Playford ED, Ben-Shlomo Y, Clarke CE. Physiotherapy versus placebo or no intervention in Parkinson's disease. Cochrane Database of Systematic Reviews 2001;(3):CD002817.*

*2) Deane K, Jones DE, Ellis-Hill C, Clarke CE, Playford ED, Ben-Shlomo Y. Physiotherapy for Parkinson's disease: a comparison of techniques. Cochrane Database of Systematic Reviews 2001;(1):CD002815.*

**Physiotherapy versus placebo or no intervention in Parkinson's disease**

This review updated the 2001 Cochrane review[1], assessing the effectiveness of physiotherapy intervention versus no intervention in patients with PD. The review now includes 39 randomised trials with 1827 participants. It also reports the comparison of the different types of physiotherapy interventions used in the treatment of PD, and thus provides a comprehensive assessment of physiotherapy. The review includes a more comprehensive range of outcome measures compared with previous reviews, and thus provides the most reliable summary available of the current published evidence.

The review showed that physiotherapy has short term benefits in Parkinson's disease. There was significant benefit from physiotherapy for nine of 18 outcomes assessed. Outcomes which may be clinically significant were speed, Berg balance scale and scores on the unified Parkinson's disease rating scale. A wide range of physiotherapy techniques are currently used to treat Parkinson's disease, with little difference in treatment effects.

Large, well designed, randomised controlled trials with improved methodology and reporting are needed to assess the efficacy and cost effectiveness of physiotherapy for treating Parkinson's disease in the longer term.

This review was published in the Cochrane Database of Systematic Reviews in August 2012[2] and as a short paper in the BMJ in September 2012[3].

*1) Deane K, Jones DE, Playford ED, Ben-Shlomo Y, Clarke CE. Physiotherapy versus placebo or no intervention in Parkinson's disease. Cochrane Database of Systematic Reviews 2001;(3):CD002817.* ***http://www.ncbi.nlm.nih.gov/pubmed/11687029 (http://www.ncbi.nlm.nih.gov/pubmed/11687029)***

*2) Tomlinson CL, Patel S, Meek C, Herd CP, Clarke CE, Stowe R, Shah L, Sackley C, Deane KHO, Wheatley K, Ives N. Physiotherapy intervention in Parkinson's disease: systematic review and meta-analysis. British Medical Journal 2012;345(7872).* ***http://www.ncbi.nlm.nih.gov/pubmed/22867913 (http://www.ncbi.nlm.nih.gov/pubmed/22867913)***

*3) Tomlinson CL, Patel S, Meek C, Herd CP, Clarke CE, Stowe R, Shah L, Sackley C, Deane KHO, Herd CP, Wheatley K, Ives N. Physiotherapy versus placebo or no intervention in Parkinson's disease. Cochrane Database of Systematic Reviews 2012;(8):CD002817. – Cochrane update with additional trials as published in the BMJ in press.* ***http://www.ncbi.nlm.nih.gov/pubmed/22895932 (http://www.ncbi.nlm.nih.gov/pubmed/22895932)***

**Physiotherapy in Parkinson's disease: a comparison of techniques**

This review updates the 2001 Cochrane review[1], assessing the effectiveness of different types of physiotherapy intervention in patients with PD. It will appraise and synthesise relevant randomised controlled trials, and a meta-analysis of outcomes will be conducted where possible.

We are currently at the stage of write up and aim to submit the updated review to Cochrane in the near future.

*1) Deane K, Jones DE, Ellis-Hill C, Clarke CE, Playford ED, Ben-Shlomo Y. Physiotherapy for Parkinson's disease: a comparison of techniques. Cochrane Database of Systematic Reviews 2001;(1):CD002815.* ***http://www.ncbi.nlm.nih.gov/pubmed/11279765 (http://www.ncbi.nlm.nih.gov/pubmed/11279765)***

## Speech & language therapy reviews

The efficacy of speech and language therapy and a comparison of techniques were evaluated in two Cochrane systematic reviews first published in 2001[1,2]. These original reviews included only three and two randomised controlled trials respectively[1,2]. No statistical analysis could be carried out and Deane et al[1] conclude that there was insufficient evidence to support or refute the efficacy of speech and language for PD. Similarly, the authors were unable to draw conclusions on the effectiveness of one given form of speech and language over another[2].

In order to review any new evidence these publications were updated.

*1) Deane KH, Whurr R, Playford ED, Ben-Shlomo Y, Clarke CE. Speech and language therapy for dysarthria in Parkinson's disease. Cochrane Database of Systematic Reviews 2001;(2):CD002812* ***http://www.ncbi.nlm.nih.gov/pubmed/11406044 (http://www.ncbi.nlm.nih.gov/pubmed/11406044)***

*2) Deane KH, Whurr R, Playford ED, Ben-Shlomo Y, Clarke CE. A comparison of speech and language therapy techniques for dysarthria in Parkinson's disease. Cochrane Database of Systematic Reviews 2001;(2):CD002814* ***http://www.ncbi.nlm.nih.gov/pubmed/11406045 (http://www.ncbi.nlm.nih.gov/pubmed/11406045)***

**Speech and language therapy versus placebo or no intervention for speech problems in Parkinson's disease.**

Comparison of the efficacy of speech and language therapy versus placebo or no intervention for speech and voice problems in patients with Parkinson's disease was carried out in an update of a Cochrane review published in 2001 on this topic[1]. Three randomised controlled trials, with a total of 63 participants, were found comparing SLT with placebo for speech disorders in Parkinson's disease. Improvements in speech impairments were noted in these studies, but there was insufficient evidence to conclusively support or refute the efficacy of SLT for speech problems in Parkinson's disease. This review was published in the Cochrane Database of Systematic Reviews in August 2012[2].

*1) Deane KH, Whurr R, Playford ED, Ben-Shlomo Y, Clarke CE. Speech and language therapy for dysarthria in Parkinson's disease. Cochrane Database of Systematic Reviews 2001;(2):CD002812* ***http://www.ncbi.nlm.nih.gov/pubmed/11406044 (http://www.ncbi.nlm.nih.gov/pubmed/11406044)***

*2) Herd CP, Tomlinson CL, Deane KHO, Brady MC, Smith CH, Sackley CM, Clarke CE. Speech and language therapy versus placebo or no intervention for speech problems in Parkinson's disease. Cochrane Database of Systematic Reviews 2012;(8):CD002812* ***http://www.ncbi.nlm.nih.gov/pubmed/22895930 (http://www.ncbi.nlm.nih.gov/pubmed/22895930)***

**Comparison of speech and language therapy techniques for speech problems in Parkinson's disease**

An update of a Cochrane review published in 2001 comparing the efficacy and effectiveness of novel SLT techniques versus an alternative SLT to treat Parkinsonian speech problems[1] was carried out alongside the speech and language therapy versus placebo review. Six trials including 159 patients satisfied the inclusion criteria. Four new trials were found during the update search but the results from these did not change the review conclusions. There was insufficient evidence to support or refute the efficacy of any form of SLT over another to treat speech problems in Parkinson's disease. This review was published in the Cochrane Database of Systematic Reviews in August 2012[2].

*1) Deane KH, Whurr R, Playford ED, Ben-Shlomo Y, Clarke CE. A comparison of speech and language therapy techniques for dysarthria in Parkinson's disease. Cochrane Database of Systematic Reviews 2001;(2):CD002814* ***http://www.ncbi.nlm.nih.gov/pubmed/11406045 (http://www.ncbi.nlm.nih.gov/pubmed/11406045)***

*2) Herd CP, Tomlinson CL, Deane KHO, Brady MC, Smith CH, Sackley CM, Clarke CE. Comparison of speech and language therapy techniques for speech problems in Parkinson's disease. Cochrane Database of Systematic Reviews 2012;(8):CD002814* ***http://www.ncbi.nlm.nih.gov/pubmed/22895931 (http://www.ncbi.nlm.nih.gov/pubmed/22895931)***

## Surgery reviews

**Neurosurgery in patients with Parkinson's disease: A meta-analysis of randomised trials:**

The aim of this review was to assess the efficacy of neurosurgery in patients with advanced Parkinson's disease. Outcome data from published randomised trials comparing surgery with best medical therapy were meta-analysed.

This paper is ready for submission.

**Meta-analysis of individual patient data from randomised trials of neurosurgery in Parkinson's disease:**

The aim of this individual patient data (IPD) meta-analysis is to assess more reliably the effectiveness of surgery in different types of Parkinson disease patients. Individual patient data will be sought from all randomised trials of surgery versus best medical therapy in advanced Parkinson's disease that were included in the published data meta-analysis (above) plus from any additional trials that are identified.

The protocol is being prepared.