

## **THE EFFECTIVENESS OF PHYSIOTHERAPY FOR CERVICAL DYSTONIA: A SYSTEMATIC LITERATURE REVIEW**

**W. De Hertogh**<sup>1</sup>, K. Van der Velden<sup>1</sup>, B. Daalderop<sup>1</sup>, J. Meirte<sup>1</sup>, U. Van Daele<sup>1</sup>, P. Cras<sup>2,3</sup>, R. Merckelis<sup>3</sup>

<sup>1</sup>University of Antwerp, Faculty of Medicine and Health Sciences, Department of Rehabilitation Sciences and Physiotherapy; <sup>2</sup>University of Antwerp, Faculty of Medicine and Health Sciences, Born Bunge Institute; <sup>3</sup>University Hospital Antwerp, Department of Neurology, Antwerp, Belgium

Cervical dystonia (CD) is a form of adult-onset, focal dystonia characterized by involuntary contractions of the neck muscles, leading to a disabling, abnormal head posture. CD has a great impact on the activities of daily living (ADL) and quality of life (QOL).

Currently, the most widely used and generally accepted therapy is Botulinum Toxin (BTX) injections. Physiotherapy is a potentially useful adjuvant, but little is known about its effectiveness.

Consequently, our objective was to investigate the effectiveness of physiotherapy as an adjuvant therapy to BTX injections in CD, by means of a systematic literature review.

Two online databases, PubMed and Web of Science, were searched for articles describing the effectiveness of physiotherapeutic interventions for CD. After screening, based on predefined in- and exclusion criteria, 12 studies were retained. Their methodological quality was assessed according to international guidelines.

The methodological quality of most studies was poor. Examples of shortcomings are small sample sizes, lack of randomization or blinding and diverse therapeutic techniques and outcome measures. Only three studies were RCT's, the remaining were either case reports or case series.

The reported physiotherapy interventions included EMG biofeedback training, muscular elongation, postural exercises and electrotherapy. Improvements in head position, pain, cervical range of motion, QOL and ADL have been reported. However, due to methodological limitations, these results need to be interpreted cautiously. No firm conclusions on the effectiveness of physiotherapy can be drawn yet. Additional research of sufficient methodological quality is required before physiotherapy can be considered a useful adjunct to BTX injections.