

Letter to the Editor

doi:10.1038/sj.sc.3101339

Muscle stretching for treatment and prevention of contracture in people with spinal cord injury

We thank Drs Patrick, Farmer and Bromwich for their interest in our paper. In their letter they raised four main issues:

- contracture is not solely due to the loss of sarcomeres in muscles but also due to changes in connective tissue within and about muscles,
- therapists need to be clear as to which element of the target tissue they are treating,
- stretch can be provided by orthoses, and
- interventions such as botulinum toxin and functional electrical stimulation can be used to treat contracture

Our article dealt with one specific issue: the use of stretch for the treatment and prevention of contractures. It was not the intention of this article to review modalities used for the treatment and prevention of contractures, nor to discuss types of orthoses used to administer prolonged stretch. Consequently we did not discuss issues such as drug therapy or electrical stimulation, and we did not provide details of orthoses that can be used to provide a sustained stretch. These have been discussed at length in other publications. However, we did emphasise the need for therapists to move away from the tradition of manually providing 1 or 2 min of stretch and we did provide suggestions of simple and easy

ways that therapists can administer prolonged stretches (including the use of orthoses and splints).

In the introduction to our paper we indicate that available evidence suggests that stretch is primarily effective for the treatment and prevention of non-neurally mediated contractures (that is, contractures due to structural adaptations of soft tissues), and that contractures solely due to spasticity are commonly managed with pharmacological agents. As different therapies are used to treat neural and non-neurally mediated contracture, we agree that therapists need to distinguish between the two presentations. Of course this is not always a simple task.

We disagree with the claim that, once it is ascertained that a contracture is caused by changes in tissue morphology, it is important to clarify which element of contracture is to be treated. There is no way of reliably distinguishing between morphological changes that cause non-neurally mediated contracture and even if there was, we do not yet know how to target particular therapies to specific structures. We are fully aware of the morphological changes that have been put forward as the causes of non-neurally mediated contractures and have referred readers to comprehensive reviews of this topic, including reviews we conducted ourselves.

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