

## Letter to the Editor

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# Physiotherapy for pusher behaviour

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### To the Editors:

Sirs,

We read with interest the article by Broetz and Karnath recently published in *NeuroRehabilitation* [1]. The main contribution addressed in the article is that visual feedback is the most important factor to restore the ability to re-align the body in patients having pusher syndrome. In fact, according to the authors, the visual vertical is not impaired in these patients, and they can be trained to use this strategy to reduce their typical behaviour. We consider this contribution useful for treating the pusher behaviour.

However, some points are not clear in the article.

1. Since the visual vertical is not impaired, patients should be able to use this strategy spontaneously to correct their tilted body posture; they may take advantage of many cues in the daily environment to do this. It is not clear why the patients should be not able to do this without training.
2. We know that pusher behaviour is frequently associated with neglect [3]. Since the presence of this problem, overall in severe form, implies difficulties in space exploration, it may hinder the use of the treatment based on visual cues. This aspect has not been considered in the article.
3. When the Authors describe the positioning in the wheelchair, they suggest manoeuvres aimed

to restore a correct posture, using passive positioning, and not active strategies based on visual cues. Moreover, in Fig. 1 the Authors show a typical activity of “elongation” of the non-paretic side with a weight shift on the buttock of the same side. These techniques are similar to those suggested by Davies [2]. In general, the article by Broetz and Karnath seems to suggest an integrated approach, which includes tactile-somatosensory, auditive and visual information, based on the same theoretical assumptions proposed in a recent paper [4].

We appreciate having authors' opinion or explanation about these issues, and, in particular, we wish to know what kind of strategies they use in treating patients having pusher syndrome combined with severe neglect.

### References

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- [4] M. Paci and L. Nannetti, Physiotherapy for pusher behaviour in a patient with post-stroke hemiplegia, *Journal of Rehabilitation Medicine* **36** (2004), 183–185.