

www.nature.com/sc

## LETTER TO THE EDITOR Question of Stamina for the Diaphragm

Spinal Cord (2012) 50, 480; doi:10.1038/sc.2011.164; published online 17 January 2012

Dr Julia et al. 1 report success in enhancing cough in tetraplegic subjects by the use of abdominal binders. Have the authors, at this point, determined how long the binders can be worn with the same effectiveness? Some training to improve the stamina of the diaphragm, deconditioned by the prolonged loss of its fulcrum, the abdominal musculature, can be anticipated.<sup>2</sup> The long-term effectiveness of the binder in enhancing cough is not yet tested; the authors seem, nevertheless, to have brought us closer to the day when abdominal binders, used properly, will become standard equipment for those with extensive paralysis of the abdominal support for the diaphragm.

JH Frisbie Harvard Medical School, St Paul, MN, USA E-mail: jfrisbie@comcast.net

<sup>1</sup> Julia PE, Sa'ari MY, Hasnan N. Benefit of triple-strap abdominal binder on voluntary cough in patients with spinal cord injury. Spinal Cord 2011; 49:

<sup>2</sup> Frisbie JH. Rehabilitation of the diaphragm - an opportunity. J Spinal Cord Med 2011;