

EDITOR'S PAGE

Respiratory muscle training increases respiratory strength, function and endurance during the period of training in tetraplegic individuals



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Dear *Spinal Cord* reader,

The activities to set up the 4 times per year SC Series & Cases is progressing well. Will keep you informed! But already at this stage submissions are welcomed through the SC website which is gradually adapted.

In this issue again many interesting contributions:

Review: Tamplin and Berlowitz found in literature evidence that respiratory muscle training is very valuable in tetraplegic individuals. But the optimum dosages and duration of effect needs to be determined.

Ambulation: Saenook *et al.* explored types of ambulatory assistive device (AAD) and describe walking performance in independent ambulatory patients with SCI who walked without and with various AADs in 6 min walks. Amatachaya *et al.* confirm the benefits of using a visuotemporal cue to improve walking ability in subjects with intact integrative capability of the brain but with different levels of sensorimotor deterioration. Interesting e.g. in sport and exercise sciences and rehabilitation treatments. Tsai *et al.* found a mobility device to be positively associated with social participation. Papaioordanidou *et al.* showed that neuromuscular fatigue development induced by intermittent neuromuscular electrical stimulation in complete SCI, can be significant and attributed to impaired cross-bridge force-generating capacity, without modification of spinal excitability nor muscle excitability. Crosbie *et al.* explain that different FES training paradigms appear to produce different responses, however the ability to stand up seems more responsive to training with 35 Hz FES stimulation.

Sports: Gemppe *et al.* found vertebral degenerative changes resulting in spinal canal stenosis to bear higher risk for the development of spinal cord decompression sickness in scuba divers.

Work: Portmann-Bergamaschi *et al.* describe content validity in patients with SCI within the context of vocational rehabilitation of the WORQ-SELF.

Animal research: Shouping *et al.* found endothelin-receptor antagonist Bosentan apoptosis to decrease apoptosis rate after ischemic reperfusion (IR) injury in the spinal cord, possibly through the endothelin-1-ETRB signaling pathway. Kjell *et al.* determined if daily Erlotinib or Rapamycin treatment started directly after spinal contusion injury in rats improved locomotion function or recovery of bladder function: no improvement of the long-term functional outcome occurred.

Neurologic diagnosis: Koskinen *et al.* describe diffusion tensor imaging (DTI) changes in the cerebral white matter tracts after SCI, associated with the clinical state of the patients. Funaba *et al.* elucidated the accuracy of level diagnosis of compressive cervical myelopathy by using compound muscle action potentials amplitudes.

Urology: Lombardi *et al.* state that research is needed to increase the success rate of first stage sacral nerve modulation (SNM) on incomplete SCL patients affected by chronic urinary retention due to detrusor underactivity. Permanent SNM is highly efficacious in the medium follow-up.

Quality of life: Tramonti *et al.* showed only a few associations among different measures of QoL and suggest that patient-centered evaluations are not necessarily or strictly related to functional status or health-related QoL. Monden *et al.* identified that positive thinking (e.g., optimism, hope, and positive attitude), perseverance and determination, and social support from friends and family are important contributors to the ability to adapt after traumatic events that resulted in SCI.

Comment on previous publication: Berlowitz and O'Donoghue comment on 'Respiratory CO₂ response in acute cervical spinal cord injury' *Spinal Cord* 2014 Jan;52:39-43.

Letters to the editor related to breastfeeding after tetraplegia *Spinal Cord* 2013;51:794-796.