

## EDITOR'S PAGE

# Optimal parameters of exercise programs need to look at the interaction with oxidative stress



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Dear *Spinal Cord* reader,

When this issue becomes available in its printed form, the Annual Meeting of ISCOS in Istanbul, Turkey will be only weeks away. We hope to see many of you there to discuss matters related to the Journal and the way it is presented today.

*Review:* This issue's review by Lam *et al.* looks at publications related to training and conclude that there is still much to be understood about the appropriate dosage of training parameters (eg frequency, duration). Exercise increases free radical production, leading to oxidative stress which may interact with training parameters on functional outcomes in chronic SCI. Moreover muscle atrophy, change in muscle fiber type, general deconditioning, and nutritional status, can themselves influence free radical production and anti-oxidant capacity. Better understanding will improve the ability to determine the optimal 'dose' of rehabilitation training to maximize functional recovery following SCI.

*Animal experiments:* There are several important animal research manuscripts clearly showing that a lot of testing is being done to increase knowledge and detect ways to improve management in SC lesion. Hou Hongping *et al.* investigated the activation of autophagy in dorsal root ganglia in a rat model of acute SCI at different time points. De-Gang Yang *et al.* found that myelotomy up to 48 h after SCI improves recovery in rats. The potential time window of myelotomy may be between 8 h and 24 h. Pengguo Li *et al.* describe how early low-frequency pudendal nerve stimulation can inhibit detrusor overactivity, increase bladder capacity, and delay the progression of bladder fibrosis in SCI dogs. Toksöz *et al.* demonstrated that long term tadalafil administration preserves relaxation responses probably by affecting through the nitric oxide/ cyclic guanosine monophosphate pathway, in SCI rats. This treatment strategy might preserve the erectile process and prevent the permanent damage in the cavernosal tissue.

*Clinical research:* There are several interesting clinical research papers: Hiremath *et al.* showed that a multi-sensor based SenseWear activity monitor can be used by researchers and clinicians to classify and estimate energy expenditure for resting, wheelchair propulsion, arm-ergometry, and deskwork activities among manual wheelchair users with SCI. Houlihan *et al.* studied a novel telehealth intervention, 'CareCall', for reducing pressure ulcers and depression, and enhancing use of appropriate health care after SCI. Rasmussen *et al.* found that a supraconal SCI results in significantly reduced emptying of stools at defecation, independent of changes in transit time. Lombardi *et al.* evaluated retrospectively female urological surgeries during 10 years post SCI. Smith *et al.* explore the underlying factor structure of a measure of coping among adolescents with SCI, and assess relationships between coping and psychosocial outcomes. Smit *et al.* studied gluteal blood flow and oxygenation during electrical stimulation induced muscle activation versus pressure relief movements in wheelchair users with a SCI.

*Data sets:* Goetz *et al.* made the international spinal cord injury urinary tract infection basic data set.

*Other contributions:* An interesting small series report on rupture after minimal trauma of a spastic muscle, letters discussing the onabotulinum toxin injection for neurogenic detrusor overactivity (*Spinal Cord* 2012; 50: 904–907) and two letters from prof Ohry, one on premature aging and the other commenting on a few articles can also be found.

Enjoy reading and looking forward to see you soon.

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