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## EVALUATION OF THE EFFECT OF THE ELECTRICAL STIMULATION OF THE ABDOMINAL MUSCLES ON THE REDUCTION OF THE RESTRICTIVE SYNDROME IN SPINAL CORD INJURED PATIENTS (T6 TO T12).

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**Abstract :** Produce an electrical muscle contraction of the abdominal muscles, in spinal cord injured subjects, identical in strength and duration of contraction to that observed in the healthy subject during the respiratory cycle and respecting muscle reaction fatigue (ES). Induced abdominal muscle stimulation, applied daily for 3 weeks for a period of 30 minutes in 8 spinal cord injury patients from T6 to T12. The intensity of the electrostimulation is adjusted at the start of the session and the threshold chosen relates to the specific perception of the muscle contraction of the abdominals. However, the frequency of the current is 15Hz - 20Hz and the pulse time is chosen according to the level of the spinal cord injury and the extent of the paralysis of the abdominal muscles (total or partial). The average muscle strength of the abdominal muscles went from  $1.875 \pm 0.99$  to  $2.625 \pm 1.06$  after 3 weeks ( $p = 0.00253$ ). The FEV<sub>1</sub> went from  $1.41 \pm 0.33$  to  $2.05 \pm 0.3$  after 3 weeks with  $p = 0.002305$ . The FVC went from  $1.81 \pm 0.39$  to  $2.50 \pm 0.38$  after 3 weeks with a  $p = 0.007413$ . The average of Tiffeneau's ratio went from  $0.71 \pm 0.17$  to  $0.82 \pm 0.1$ .

**Conclusion:** Electrostimulation of the abdominal muscles leads to a significant increase in the abdominal muscle strength and an improvement in the respiratory signs of the restrictive syndrome such as FEV<sub>1</sub> and FVC with normalization of the values of the Tiffeneau ratio.

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**Publications :** Evaluation of the effect of the elastic abdominal strap, on the reduction of the respiratory restrictive syndrome in spinal cord, injured patients (C5 to T12) less than 6 months old

[International Conference on Physiotherapy, Kinesiology and Sports Medicine, Osaka, Japan, February 19-20, 2020](#)

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