

## **Respiratory function reconstruction in patients with high cervical spinal cord injury**

Respiratory complications are common complications of spinal cord injury, especially for patients with high cervical spinal cord injury, which are often life-threatening. Active and effective respiratory function reconstruction is the difficulty and emphasis in the treatment and rehabilitation of patients with high cervical spinal cord injury. At present, common clinical respiratory function reconstruction methods include mechanical ventilation, functional electrical stimulation, magnetic stimulation and respiratory muscle function exercise, which have certain curative effect.

How to get patients with high cervical spinal cord injury out of the ventilator as soon as possible and carry out comprehensive rehabilitation training is our research direction. We conducted a series of studies on ventral respiratory function of patients with high cervical spinal cord injury reconstructed by the accessory nerve, thoracic respiratory function of patients with high cervical spinal cord injury reconstructed by the trapezius muscle, and respiratory function of patients with high cervical spinal cord injury reconstructed by the phrenic nerve stimulation. These three methods respectively explored the reconstruction of respiratory function of patients with high cervical spinal cord injury from the aspects of autonomic nerve control, power source and external power, and all of them achieved good results in clinical application.

Our research is just to attract more experts to join the research field of high cervical spinal cord injury respiratory disorder, treat the life of patients with cervical spinal cord injury, delay the life span, prevent respiratory complications and improve the quality of survival.

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