

Pulmonary Rehabilitation In Spinal Cord Injury

Pulmonary complications of spinal cord injury (SCI) are in general secondary to impairments of ventilation and cough. Although the overall mortality rate has been declining, the incidence of respiratory morbidity and mortality remains high. Patients with SCI are known to develop restrictive pulmonary disease pattern due to the weakness of respiratory muscles. The most important fact in respiratory pathophysiology of SCI is that there is nothing wrong with the gas exchange system. The problem is respiratory muscle weakness results in dysfunction of breathing in and coughing out. Weakness of respiratory muscles results in pulmonary complications, and brings about alveolar hypoventilation which eventually induces hypercapnia and ineffective coughing. For these reasons, it is necessary to provide proper inspiratory and expiratory muscle aids to decrease pulmonary complications. Non-invasive ventilatory assist through a mouth piece or an nasal mask to those patients is enough to resolve hypercapnea and associated symptoms, and mechanical insufflation-exsufflation is an especially useful method among various techniques for secretion management . By employing such noninvasive managements, complications associated with tracheostomy as well as the need for invasive airway suctioning and uncomfortable tube changes can be avoided. In conclusion, application of non-invasive respiratory muscle aids considering the disease character and overall management of respiratory system have made it possible to maintain better quality of life and prolong the life span of patients with spinal cord injury.