Weaning from mechanical ventilation in people with neuromuscular disease: protocol for a systematic review.

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Abstract

INTRODUCTION: Neuromuscular diseases (NMD) are characterised by progressive muscular impairment. The muscle weakness is directly related to respiratory muscles weakness, causing reduction in vital capacity, especially when associated with mechanical ventilation (MV). Conventional MV weaning in NMD is generally difficult. Weaning process can be conducted in protocols such as: 'T' piece or Pressure Support Ventilaton. Weaning failure is frequent because of muscle weakness. Protocol aim is to assess the effects of different weaning protocols in NMD patients receiving invasive MV in weaning success rate, duration of weaning, intensive care unit (ICU) stay, hospital stay and ICU mortality.

METHODS AND ANALYSIS: A search will be carried in the Cochrane Neuromuscular Specialised Register, MEDLINE, EMBASE, Web of Science, Scopus, United States National Institutes of Health Clinical Trials Registry, ClinicalTrials.gov and WHO International Clinical Trial Registry Protal, of randomised controlled trials (RCTs) and quasi-RCTs. Inclusion criteria of individuals are adults (above 16 years old) and children (from 5 to 16 years old), with clinical diagnosis of NMD (muscular dystrophy, amyotrophic lateral sclerosis, congenital myasthenia, myasthenia gravis, congenital...
myopathy, spinal muscular atrophy, Guillain Barré Syndrome, severe inherited neuropathies, metabolic myopathies, inflammatory myopathies, mitochondrial diseases) of any gender. All patients ventilated for at least 48 hours due to respiratory failure and clinically considered ready for weaning. Other respiratory or cardiovascular diagnosis associated will not be included. Intervention assessed will be weaning from MV using a protocol with 30 min to 2 hours of spontaneous breathing trial at the end point. All comparisons of different protocols will be considered.

**ETHICS AND DISSEMINATION:** Formal ethical approval is not required as primary data will not be collected, since it will be a systematic review. All studies included should have ethical committee approval. The results will be disseminated through a peer-reviewed publication and in conferences and congresses or symposia.

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**KEYWORDS:** adult intensive & critical care; neuromuscular disease; respiratory medicine (see thoracic medicine)

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**Conflict of interest statement**

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