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# Maintaining Respiratory Function in Children with Neuromuscular Diseases

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# Neuromuscular diseases

## 1. Muscles

- Duchene muscular dystrophy

## 2. Neuromuscular junction

- Myasthenia gravis

## 3. Peripheral nerves eg Guillain-Barre

## 4. Spinal cord

- Spinal muscular atrophy (SMA)
- Amyotrophic lateral sclerosis (ALS)
- Traumatic injury



# Muscles of respiration

**Inspiration**

**Expiration**

# Neuromuscular weakness

- Obstructive sleep apnea
- Scoliosis
- Restrictive lungs
- Diminished cough
- Increased risk of aspiration / reflux
- Atelectasis → pneumonia  
→ VQ mismatch
- Progressive hypoventilation  
→ CO<sub>2</sub> retention + hypoxia  
→ respiratory failure

