23.2 RESPIRATORY SUPPORT

DESCRIPTION

The purpose of mechanical ventilation is to support the work of breathing, ensure adequate oxygenation, facilitate clearance of carbon dioxide, and minimise the trauma caused by ventilatory support.

Indications for mechanical ventilation include:

» Hypoxaemic respiratory failure
» Excessive work of breathing:
  – Inability to meet normal respiratory demands due to respiratory muscle weakness, e.g. Guillain-Barre Syndrome, opioid toxicity, or suxamethonium apnoea. Indicated by elevated PCO_2, or reduced minute ventilation via respiratory rate or tidal volume.
  – Inability to meet increased respiratory demand, e.g. asthma, chronic obstructive pulmonary disease (COPD), metabolic acidosis. Indicated by a PCO_2 that can be low, normal, or high but is often inappropriately high for clinical scenario; tachypnoea; respiratory distress; impending fatigue.
» Neuroprotection: patient with brain injury that requires mechanical ventilation for PCO_2 and PO_2 control.

GENERAL MEASURES

Concomitant respiratory support using strategies such as high flow nasal oxygenation, non-invasive mechanical ventilation, and invasive mechanical ventilation.

A detailed ventilation management strategy including initiation, titration and weaning of ventilation is presented in APPENDIX 23.I.