

## IAP - IJPP CME 2023

**TROUBLE SHOOTS IN MECHANICAL VENTILATION****\*Poovazhagi Varadarajan**

**Abstract:** *Trouble shooting is a systematic approach to problem-solving that is often used to find and correct issues during mechanically ventilating a patient as much for handling any mechanical device. Trouble shooting in mechanical ventilation is a necessity which comes often during the course of ventilating a child. A thorough knowledge as regards to the type of ventilators used and the familiarity with the initial ventilator settings help reduce the need for such trouble shoots. Humidifiers need to be verified for temperature and heat and moisture exchange filters when used, have to be of appropriate size with appropriate calibration done. Recognition of alarms to be followed by attending to the child first before muting the alarm. Common issues include desaturation, tube leaks, secretions, disconnections, auto positive end-expiratory pressure, improper trigger, poor lung compliance and airway resistance. Displacement, obstruction, pneumothorax and equipment failure should be ruled out in any child with dropping saturation. Basic knowledge of reading ventilator graphs will help in prompts troubleshooting.*

**Keywords:** *Ventilator alarms, Trigger, Auto PEEP, HME filter, Humidifiers, Trouble shoot.*

**Points to Remember**

- *DOPE should be ruled out in any child desaturating on a ventilator.*
- *Trigger should be appropriately set and adjusted according to the respiratory effort.*
- *High-pressure alarms need to be attended to and pressure time curve interpreted for airway and compliance issues.*
- *Low pressure, low volume and apnoea alarms should alert for tube leaks and disconnection.*
- *Airway secretions causing high frequency alarms have to be identified.*
- *Auto PEEP generated should be identified in children with high PEEP alarms.*
- *Clinical examination complemented by graphics helps in troubleshooting.*

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