



HEALTH HOLDING

HAFER ALBATIN HEALTH  
CLUSTER  
MATERNITY AND  
CHILDREN HOSPITAL

<b>Department:</b>	Respiratory Care Services		
<b>Document:</b>	Departmental Policy and Procedure		
<b>Title:</b>	Mechanical Ventilator Support		
<b>Applies To:</b>	Respiratory Theparist		
<b>Preparation Date:</b>	January 08, 2025	<b>Index No:</b>	RT-DPP-005
<b>Approval Date:</b>	January 22, 2025	<b>Version :</b>	2
<b>Effective Date:</b>	February 22, 2025	<b>Replacement No.:</b>	RT-MPP-005 (1)
<b>Review Date:</b>	February 22, 2028	<b>No. of Pages:</b>	03

## 1. PURPOSE:

- 1.1 To perform physical examination on all neonates examined in the Maternity and Children Hospital departments.
- 1.2 To detect any physical abnormalities to be able to provide earlier management.
- 1.3 To use international standardization terms to describe human morphology to facilitate reliable comparisons of findings among patients.

## 2. DEFINITONS:

- 2.1 **Mechanical Ventilator** - is a special computerized machine used with an artificial airway to enable a flow of gases in and out of the lungs in patients who are unable to ventilate their lungs adequately.

## 3. POLICY:

- 3.1 Licensed Respiratory Care Practitioner manage the ventilator to deliver volumes of pressure of gas into patient lungs over an extended period of time to remove metabolically produced carbon dioxide and to provide the pulmonary system with the mechanical power to maintain physiologic ventilation, ventilatory pattern and airway pressures for purposes of improving the efficiency of ventilation/oxygenation, and to decrease myocardial work by decreasing the work of breathing.
- 3.2 Indications:
  - 3.2.1 Acute alveolar hypoventilation due to any cause.
  - 3.2.2 Acute respiratory failure due to any cause.
  - 3.2.3 Prophylactic post - op in certain patients.
- 3.3 If a patient's spontaneous ventilation is clinically adequate, mechanical ventilation may not be indicated.
- 3.4 Assess newborn for any potential problems related to maternal pregnancy history or familial disorders

## 4. PROCEDURE:

- 4.1 Verify physicians order to start initial settings including:
  - 4.2.1 Mode
  - 4.2.2 Pressure Support
  - 4.2.3 FiO2
  - 4.2.4 Inspiratory Flow
  - 4.2.5 Respiratory Rate
  - 4.2.6 I:E ratio
  - 4.2.7 Trigger
  - 4.2.8 VT = Tidal Volume
  - 4.2.9 PC = Pressure Control
  - 4.2.10 PEEP



- 4.2 Set up ventilator with an appropriate circuit based on patient requirements.
- 4.3 Check ventilator for proper operation of all systems:
  - 4.3.1 No leaks in circuit.
  - 4.3.2 Alarms functional and audible.
  - 4.3.3 HME/ Heated Humidifier.
- 4.4 Make sure proper size of resuscitator bag and mask are at the bedside attached to O2 source.
- 4.5 Explain procedure to patient or family if possible.
- 4.6 Connect circuit to patient airway and monitor patient and ventilator to assure adequate ventilation and oxygenation and patient tolerance.
- 4.7 Complete a ventilator check and patient assessment and document results in medical record.
- 4.8 Once patient is stable, assess patient ventilator settings based on blood gas results and after each parameter change.
- 4.9 Circuits will be changed every 5 days, HME should be changed every 24 hours, heated Humidifier should be refilled every shift.

## **5. MATERIALS AND EQUIPMENT:**

- 5.1 Mechanical Ventilator
- 5.2 Mechanical Ventilator Circuit
- 5.3 Bacterial Filters/Heat and Moisture Exchange (HME)
- 5.4 Heated Humidifier

## **6. RESPONSIBILITIES:**

- 6.1 Respiratory Therapist

## **7. APPENDICES:**

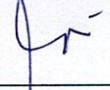



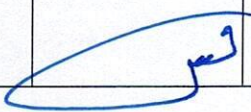
- 7.1 N/A

## **8. REFERENCES:**

- 8.1 AARC Clinical Practice Guidelines; Patient-Ventilator System Checks, Respiratory Care; 1992; 37:882- 886.
- 8.2 AARC Clinical Practice Guidelines; Humidification During Mechanical Ventilation, Respiratory Care 1992; 37:887-890.
- 8.3 Donald F. Egan, Craig L. Scanlan, Robert L. Wilkins, James K. Stoller, Egan's Fundamentals of Respiratory Care, Eight Edition, Mosby; June 2, 2003.



## 9. APPROVALS:

	Name	Title	Signature	Date
<b>Prepared by:</b>	Ms. Mary Joice Pena	Respiratory Therapist		January 08, 2025
<b>Reviewed by:</b>	Mr. Hassan Aldahkil	Head of Respiratory Therapy Department		January 12, 2025
<b>Reviewed by:</b>	Mr. Abdulelah Ayed Al Mutairi	QM&PS Director		January 14, 2025
<b>Reviewed by:</b>	Dr. Tamer Mohamed Naguib	Medical Director		January 15, 2025
<b>Approved by:</b>	Mr. Fahad Hezam AlShammari	Hospital Director		January 22, 2025