



وزارة الصحة  
سياسات وإجراءات

MOH	POL	HOS	RT	05	رمز السياسة:	اسم السياسة:
						Invasive Mechanical Ventilation
					الطبعة: الثانية	عدد الصفحات: 5 صفحات

الوحدة التنظيمية: مديرية التطوير المؤسسي وضبط الجودة		
الجهة المعنية بتنفيذ السياسة: شعبة المعالجة التنفسية		
تاريخ الاعداد: ٢٠٢٠ / ٣ / ٢٠	<p>التوقيع: </p> <p>التوقيع: </p> <p>التوقيع: </p> <p>التوقيع: </p> <p>التوقيع: </p> <p>التوقيع: </p>	<p>الاعداد:</p> <p>-رئيس اختصاص التخدير والعناية الحثيثة</p> <p>-رئيس قسم سلامة المرضى</p> <p>-رئيس مركز التخدير والعناية الحثيثة</p> <p>-رئيس وحدة العناية الحثيثة للكبار</p> <p>-رئيس شعبة التنفسية/إدارة مستشفيات</p> <p>البشير</p> <p>-فني معالجة تنفسية/إدارة مستشفيات</p> <p>البشير</p>
تاريخ تدقيق ضبط الجودة: ٢٠٢٠ / ١١ / ٣	التوقيع:	التدقيق من ناحية ضبط الجودة: مدير مديرية التطوير المؤسسي وضبط الجودة
تاريخ الاعتماد: ٢٠٢٠ / ١١ / ٥	التوقيع:	الاعتماد: عطوفة الأمين العام للشؤون الإدارية والفنية

ختم الاعتماد

وزارة الصحة  
مديرية التطوير المؤسسي وضبط الجودة  
السياسات والإجراءات  
Policies & Procedures  
٢٠٢٥ ٠٩  
معتد  
Approved

تتم مراجعة السياسة كل سنتين على الأقل من تاريخ اعتماد آخر طبعة:		
مهرات مراجعة السياسة	تاريخ الاعتماد	رقم الطبعة
التحديث		الثانية

ختم النسخة الاصلية

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**1- Purpose:**

To provide adequate oxygenation and ventilation for critically ill patients.

**2. Policy:**

- 2.1 Mechanical ventilator should be ordered by the ICU physician.
- 2.2 The initial or any change on mechanical ventilator settings are applied by respiratory therapist should be discussed, approved and documented by the ICU physician.
- 2.3 Changes done by the ICU physician should be communicated to the respiratory therapist.
- 2.4 ICU nurse can only adjust FiO2 according to physician order, and respiratory therapist should be informed.
- 2.5 Ventilator check should be done every 4 hours and when needed.
- 2.6 Ventilator alarms must be on at all times, never be ignored or silenced without first checking the problem. Should be documented at least one time per shift.
- 2.7 Mechanical ventilator should not be prepared for stand by purpose.
- 2.8 Any mechanically ventilated patient should be attended with respiratory therapist during transfer in or out facility.
- 2.9 Closed suction system should be applied to all mechanically ventilated patient.
- 2.10 Aerosol medication should be applied as metered dose inhaler or with aerogen nebulizer through humidified circuit.
- 2.11 Weaning protocol should be initiated by ICU physician.
- 2.12 Weaning protocol should be used for all adult patients need to be extubated from mechanical ventilation

**3- Scope:**

This policy is applicable for Respiratory Therapy Unit, ICUs Physician, and ICUs Nurse.

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#### 4- Responsibilities:

It's the responsibility of the ICUs Physicians, Respiratory Therapists and ICU Nurses to implement the invasive mechanical ventilation policy.

#### 5- Definitions:

**Mechanical ventilator:** is the machine used to support or replace the function of the lungs, by forcing the air into the lungs attached to endotracheal tube or tracheostomy.

#### 6- Procedure:

##### 6.1 Indications:

- Respiratory Failure
- Cardiopulmonary arrest
- Trauma (especially head, neck, and chest)
- Cardiovascular impairment (strokes, tumors, infection, emboli, trauma)
- Neurological impairment (drugs, poisons, myasthenia gravis)
- Pulmonary impairment (infections, tumors, pneumothorax, COPD, trauma, pneumonia, poisons).

##### 6.2 Complications:

- Ventilator-associated lung injury (volutrauma, barotrauma, biotrauma, atelectrauma, ergotrauma, Oxygen Toxicity).
- Cardiovascular and Renal Complications (reduced venous return, cardiac output and hypotension, decrease urine output).
- Gastrointestinal and Nutritional Complications (Gastritis and ulcer formation, malnutrition).
- Ventilator associated pneumonia.
- Central nervous system complications, elevated intracranial pressure (ICP).

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f. Immune system complication induce inflammation.

g. Auto PEEP.

h. Ventilation/perfusion mismatch.

i. Systemic muscular weakness.

### 6.3 Procedure:

#### 6.3.1 Ventilator starting:

a. Provide and set up the mechanical ventilator, accessories and tubing specific to patient's needs.

b. Perform the preoperational check, tests and calibrations

c. Set up in-line suction for ventilated patients that it's fitting to ETT/Tracheostomy size.

d. Set the ventilation parameters based on the patient's medical condition.

e. Initiate ventilation, set the alarms (it is vital that the alarms be set appropriately), adjust the loudness control to maximum and provide adjunctive ventilator equipment.

f. Observe patient for adequate oxygenation and ventilation by monitoring and auscultation.

g. Do chest radiograph to insure proper placement of ETT and reflects lung abnormality.

h. Draw arterial / venous blood gas after 30 minutes.

i. Adjust settings according to patient condition, ABGs and chest X-ray results in conjunction with the physician orders.

j. Perform airway cuff pressure every 4 hours to maintain the pressure between 20-30 cmH<sub>2</sub>O or continuously via Intellicuff.

k. Change HME filter, bacterial filter and closed suction system every 48 hours and ventilator circuit when needed.

#### 6.3.2 Ventilator weaning:

Follow weaning protocol for adult patients.

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**7- Forms and Document:**

None

**8- References:**

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