Providence HEALTH CARE	**RESPIRATORY SERVICES**	DATE CREATED: SEPTEMBER 1986 DATE REVIEWED/REVISED: **AUGUST 2017**
AREA PROTOCOL	TITLE: CRITICAL CARE – Respiratory Therapist Role & Responsibilities for CSICU & PACU/HAU NUMBER: B-00-16-12022	RELATED DOCUMENTS:

SITE APPLICABILITY:

ST. PAUL'S HOSPITAL

POLICY STATEMENT:

Respiratory Therapy services will be provided to the Cardiac Surgery Intensive Care Unit at St. Paul's Hospital 7 days a week, 24 hours a day. The CSICU therapist will also provide coverage to the Post Anesthetic Care Unit and the Surgical High Acuity Unit as needed.

The Respiratory Therapist will be responsible for all ventilator adjustments and adjuncts for patients requiring mechanical ventilation outside of the operating suites.

They will also be responsible for ventilator monitoring and respiratory assessments, while communicating their findings to the other members of the health care team in an accurate and concise manner.

The Therapist will prioritize workload based on the acuity of patients. The constant attendance of a Respiratory Therapist for the unstable critically ill patient requiring resuscitation and/or ventilation support is crucial to the safe and effective care of the patient.

The Respiratory Therapist will provide all modalities of respiratory therapy to patients under their care while adhering to existing protocols for patient assessment and treatment. The therapist will ensure all relevant physician orders are followed and all therapeutic interventions are correctly documented.

PHYSICIAN ORDERS AND PLAN OF THERAPY:

The Therapist is responsible for ensuring existing ventilation protocols and clinical pathways are followed and that physician-specific ventilation orders are appropriately documented.

Physician ventilator orders and ventilation care management in CSICU is provided under three separate categories:

1. Initial Orders
2. Ventilation and Oxygenation Goals
3. Weaning and Extubation

All patients in CSICU will be managed as per Protocol for Ventilator Orders and Management in CSICU, unless otherwise stipulated by the anesthetist.

NOTE: Anesthesia is responsible for the management of ventilated patients in CSICU, as well as PACU.

All patients in PACU and HAU will be managed under ICU protocols as per Protocol for Ventilator Orders and Management in ICU/CICU/ED, unless otherwise stipulated by the anesthetist. *Ventilated patients will not be permitted in HAU*.

Physician orders must be obtained for specific diagnostic and therapeutic interventions. The Respiratory Therapist must ensure that all verbal or telephone orders are transcribed on to the Prescriber's Order Sheet.

The patient chart should be checked routinely for any relevant physician orders, particularly with patients that are ventilated for an extended period of time. The Medication Administration Record should also be reviewed for accuracy of respiratory medications ordered.

EQUIPMENT AND SAFETY CHECKS:

The Respiratory Therapist will check daily the operational capabilities of the required respiratory equipment. The CSICU Respiratory checklist will be completed by the night RT to ensure the presence of adequate equipment and supplies. The night RT must initial the checklist log when complete.

The Respiratory Therapist will ensure CSICU bedsides are stocked with the following safety equipment:

- Manual resuscitation mask
- Oropharyngeal airways (8, 9)
- 10 mL syringe

This equipment will be found in the basket at the head of the bed and will be disposed of between patients. Each patient should also have a manual resuscitation bag attached to an oxygen flowmeter with an appropriately set PEEP valve and HMEF.

The following equipment must be readily available within the unit or storage room. The equipment must be fully set up, checked out, and ready for use:

- Ventilator with compressor and HMEF
  - 840 (3)
  - AVEA (5)
- Visions Bipap (1)
- INOvent with INOMax gas tanks (2)
- Intubation box
- Transport box
- Portable suction
- Cufflator
- $ETCO_2$ module, cable and adaptor (1)
- H-size emergency oxygen cylinder (2)

PATIENT ADMISSION AND ASSESSMENT:

Respiratory Therapists will perform initial and ongoing assessments of patients admitted to CSICU as follows:

1. Refer to the OR listing whiteboard for the cases and procedures to be completed that day, including the start time. Confirm with the CNL which beds the new patients will be admitted to.

2. The unit clerk or CNL will notify the therapist with an "off-pump" call and the approximate arrival time of the patient to the unit.

3. Ensure a ventilator is set up for the pending admissions. Set the initial ventilator parameters and prepare the circuit with an HMEF and inline suction catheter attached. Ensure there is a mask, two oral airways

(8, 9) and a 10 mL syringe in the bedside safety equipment basket. The ventilator may be placed into STANDBY mode until the patient arrives.

NOTE: Ventilator circuits in CSICU will routinely be set up with a heat-moisture exchanger/filter (HMEF). A heated humidified system should be used for patients in the following situations:

a) Core body temperature less than 34 ºC
b) Inhaled prostacyclin therapy (flolan)
c) Mechanically ventilated for longer than 48 hours

NOTE: Change HMEF minimum Q 24 hours and PRN.

4. Place the patient on AC ventilation as per Protocol for Ventilator Orders and Management in CSICU. Anesthesia may occasionally suggest different ventilation parameters and will inform the therapist of any ventilation difficulties encountered intra-operatively. Ensure the alternate order is documented. Ensure the patient is ventilating safely and appropriately.

5. Perform auscultation. Suction if required.

   NOTE: Ensure the patient's chest incision site is supported with a "chest pillow" or folded blanket when suctioning. This may require the assistance of the RN.

6. Make note of the endotracheal tube position and size. Measure cuff pressure and adjust as appropriate as per Cuff Inflation Pressure Monitoring for Artificial Airways.

7. Place SpO_2 sensor on the patient and evaluate oxygen saturation.

8. Attach manual resuscitator to wall oxygen source with HMEF and PEEP valve set to match the current ventilator PEEP setting.

9. Document an initial respiratory assessment and ventilator settings on the Critical Care Respiratory Therapy Flowsheet.

10. Draw and send initial blood work, including ABG, hematology, electrolytes, and glucose as per Blood Sampling From Arterial Lines Using a VAMP System. Confirm with the RN which blood work is required.

11. Review CXR for endotracheal tube position and reposition if necessary. Change endotracheal tube tapes if ETT is not secure as per Securing Endotracheal Tubes.

12. Perform and document a full respiratory assessment and patient history as per Ventilatory Monitoring Protocol.

13. Maintain ventilation and initiate weaning as per Protocol for Ventilator Orders and Management in CSICU.

14. When the patient meets extubation criteria, they will be extubated by the RT and placed on the appropriate oxygen therapy. The resuscitation mask will be placed on the bagger following extubation. After verification and assesmment of a post-extubation ABG the ventilator will be removed from the bedside.

15. The ventilator circuit must be stripped, the ventilator cleaned (including the clipboard), and re-circuited for use as per Ventilator Cleaning and Circuit Changes. A performance and leak test should be completed, and a clean label placed on the ventilator. The Respiratory Therapist will initial and date the label to indicating the ventilator has been cleaned and checked out.

16. Upon discharge, all emergency equipment will be discarded by the bedside nurse including any unused equipment in the emergency bedside basket.

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PROVISION OF THERAPY AND CLINICAL RESPONSIBILITIES:

Respiratory Therapists will provide the following clinical services:

1. Artificial Airway Management:

a. Assist with intubation
b. Perform extubation
c. Insertion and maintenance of oral or nasal pharyngeal airways (shared with nursing)
d. Management of endotracheal tubes, tracheostomy tubes, and tracheal stomas
e. Assist with obtaining a patent airway using difficult airway adjuncts
f. Assist with internal or external transports of patients with artificial airways
g. Perform bronchial hygiene
    i. Suctioning
    ii. Instillation

2. Initiation and Maintenance of Oxygen Therapy:

a. Oxygen therapy as per Providence Health Care Nursing Care Standard
b. Low-flow oxygen therapy (shared with nursing)
c. High-flow oxygen therapy (all starts)
    i. Ongoing assessment of patients requiring more than 6 L/min oxygen
    ii. Initiation and maintenance of OPTIFLOW system
    iii. Assist with internal or external transports of high-flow FiO_2 greater than 0.50 patients

3. Ventilatory Support:

a. Initiation, maintenance and discontinuation of invasive mechanical ventilation
b. Humidification of gases during ventilatory support, passive (HMEF) or active (heated humidifier) – including routine and PRN changes of HMEF when in situ
c. Regular monitoring and ongoing adjustment of ventilatory support
d. Assessment of weaning parameters and initiation of weaning protocol
e. Manual resuscitation
    i. Ensure PEEP valve is set appropriately
    ii. Ensure clean filter is attached
f. Initiation, maintenance and discontinuation of non-invasive mechanical ventilation
g. Provision of advanced ventilation modalities (i.e. EBM, NAVA)
h. Assist with internal or external transports of ventilated patients
i. Maintenance of ventilation protocols while on ECMO
j. Ventilator circuit changes PRN (i.e. when grossly contaminated or when circuit malfunctions)

4. Bronchodilator and Nebulized Drug Therapy:

a. Initiation and assessment of Metered Dose Inhaler medications within the ventilator circuit (shared with nursing)
b. Initiation and assessment of nebulized medications within the ventilator circuit
    i. Antibiotics
    ii. Flolan
    iii. Mucolytic

5. Specialty Gas Administration:

a. Heliox Therapy
b. Nitric Oxide delivery

6. Cardiac Arrest Management:

a. Respond to all cardiac or respiratory arrests within CSICU, PACU, HAU and SDC
b. Assist with cardiac arrest management within the OR if requested

7. Diagnostic and Special Procedures:

a. Arterial Blood Gas Punctures
b. Arterial Line Insertion
c. Capnography for patients without an arterial line (ventilated patients)
d. Oximetry (shared with nursing)
e. Overnight oximetry studies
f. Sputum collection and induction
g. Assist with bronchoscopy
    i. Anesthesia must use the OR bronchoscopy cart and scope in these areas; AA will assist
    ii. If Respirology performing the procedure then ICU cart to be used; RT will assist
h. Assist with percutaneous tracheotomy

DOCUMENTATION:

The Respiratory Therapist will ensure all relevant information is documented for both communication and legal purposes.

Documentation of Respiratory Therapy interventions and subsequent patient response will be done on a Critical Care Respiratory Therapy Flowsheet. All patients on a ventilator (invasive or non-invasive), with an artificial airway in-situ, receiving specialty gas therapy or high-flow oxygen delivery will have a Critical Care Respiratory Therapy Flowsheet. A new Flowsheet will be stamped, dated, and changed every 24 hours, including completion of the ventilator tear-off tabs for statistical purposes.

All medications administered by the Respiratory Therapist will be appropriately signed off on the Medication Administration Record.

A Patient History Report – Critical Care will be initiated for all patients and completed on a shift-to-shift basis.

COMMUNICATION:

The Respiratory Therapist responsible for CSICU will carry a designated pager and be available to the unit on a 24-hour basis, and provide service to PACU or HAU upon request.

The expectation is that the therapist will spend the majority of their time within CSICU. If leaving for extended periods (such as a transport or to assist in other areas) or for a break, the therapist should communicate this to their bedside nurses, the CNL, as well as the UC. When appropriate, the CSICU therapist should arrange to hand over their pager to another therapist to allow for continued coverage while they are unavailable.

NOTE: Given the scheduled routine for morning and afternoon cases, and the relative predictability of CSICU workload, the Respiratory Therapist must try to plan their rest and meal breaks accordingly. This may result in taking an early (or late) lunch period, as the morning cases often will arrive between 1100 and 1200.

End of shift report must be provided to the oncoming therapist accepting care during a change of shift, and should include a full patient history and relevant information about current or expected patients, as well as pertinent equipment or supply concerns.

A full patient history report will also be provided to the therapist accepting care during a patient transfer to another area (i.e. ICU or Wards).

The wards therapist will be notified of all CPAP, airway or high-flow oxygen patients that are transferred out of CSICU, PACU or HAU, as well as any patients that may require follow-up.

Daily rounds occur between 0800 and 0900. The Respiratory Therapist will be an active participant on rounds and present a respiratory assessment on all patients they are following.

DEVELOPED BY:

PHC Respiratory Services

REVIEWED BY:

1. Respiratory Therapist, Providence Health Care
2. Clinical Coordinator, Respiratory Services, Providence Health Care
3. Professional Practice Leader, Respiratory Service, Providence Health Care