Subject: TEMPERATURE MEASUREMENT OF INSPIRED MEDICAL GAS

Purpose: To provide information concerning the reasons and steps concerning the measurement of the temperature of inspired gases delivered to patients at a temperature greater than room temperature. To identify those situations where heated gas might be used, identify the equipment used and to set forth guidelines for the measurement of the temperature of these gases.

TREATMENT THAT COMMONLY REQUIRES HEATED AEROSOL OR GASES
1. Intubated patients
2. Patients receiving mechanical ventilation.
3. Trach patients
4. Patients in tents, hoods, or incubators.
5. CPAP or BiPAP patient
6. Patients receiving supplemental oxygen and have mucosol drying.

METHODS USED TO DELIVER HEATED GASES/AEROSOLS TO THE PATIENT
1. An immersion heater.
2. A reservoir sleeve heater.
3. Fisher-Paykel heater and reservoir.
4. Hudson RCI heater with Concha and column.

METHODS TO MEASURE THE TEMPERATURE OF THESE GASES
1. Electric in-line sensor. (Temperature probe.)
2. Conventional chemical thermometer placed in-line.

NOTE: The temperature range for inspired gases that are heated should be between 27\(^\circ\) and 34\(^\circ\) Centigrade unless specifically ordered otherwise by the physician.

RECORDING TEMPERATURE MEASUREMENTS
1. Record the temperature readings in the Respiratory Care flow sheet or in the CPSI record for the patient.
2. The temperature should be recorded each time oxygen rounds are made which is once every shift.
3. Patients who are on mechanical ventilation should have the temperature of their inspired gas recorded every three hours when vent checks are made.

EXCESSIVE TEMPERATURE READINGS
1. Check the temperature setting on the heater. If it is set too high, reduce the setting to the desired temperature.
2. If the temperature is excessive, turn the heater off for 15 minutes or more to allow the water in the reservoir to cool down. Turn the heater back on and observe after 30 minutes. If the temperature is not above the new set temperature, check at least one more time in the next 15 minutes. If the temperature remains at the new set
temperature, continue to monitor once per shift or every three hours as indicated by policy.

3. If the temperature is above the set temperature on the two consecutive checks, remove the heater from service and replace with a new heater.

4. The reservoir heater taken out of service should be labeled and tagged for check and repair by the BioMed Department. An incident report should be filed with the defective heater describing the events and actions taken by the therapist in order to correct the problem.

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