Name of Policy:	**Humidification of Inspired Medical Gasses**
Policy Number:	3364-136-04-06
Department:	Respiratory Care
Approving Officer:	AVP Patient Care Services/Chief Nursing Officer
Responsible Agent:	Director, Respiratory Care
Scope:	The University of Toledo Medical Center Respiratory Care Department

THE UNIVERSITY OF TOLEDO MEDICAL CENTER

Effective Date: December 1, 2019

Initial Effective Date: July 1, 1979

_____ New policy proposal
_____ Major revision of existing policy
__X__ Minor/technical revision of existing policy
_____ Reaffirmation of existing policy

(A) Policy Statement

The Respiratory Care Department will humidify prescribed medical gases for therapeutic use in accordance with the procedure written herein.

(B) Purpose of Policy

To provide guidelines for the selection and operation of various types of humidification devices for the humidification of medical gas. For humidification during mechanical ventilation, a practitioner may choose either a heated humidifier or a heat and moisture exchanger (HME), using the following guidelines:

Indications: include patients whose natural mechanism for heating and humidifying inspired gas has been bypassed or is insufficient.

Goals: to prevent mucosal drying, prevent insensible water loss and to increase patient comfort.

Contraindications: there are no contraindications, to our knowledge, for humidification of inspired medical gases. A HME is contraindicated under some circumstances:

1. Do not use HME for patients with thick, copious or bloody secretions.
2. Do not use HME for patients with an expired tidal volume less than 70% of the delivered tidal volume (e.g. BP Fistula or an incompetent or absent endotracheal tube cuff).
3. Do not use HME for patients with body temperatures less than 32C.
4. Use of HME may be contraindicated for patients with high spontaneous minute volumes (>10 l/m).
5. The HME must be removed from the ventilator circuit during aerosol treatments, or use alternative HME that is specially made for use during an aerosol treatment. The collar is rotated to bypass the heat-moisture exchanger. After aerosol is completed and nebulizer removed, rotate collar back so the exchanger is not bypassed.

Hazards: include hyper/hypothermia, over/under hydration, and nosocomial infection due to contaminated humidification source.

(C) Procedure

1. Sterile water will be used for humidification of medical gases in conjunction with nasal cannulas if the flow is greater than 4 lpm. Add humidity at any flow if the patient requests it or a physician orders it. Use appropriate humidification in conjunction with cool and heated aerosols for face masks, face tents, t-pieces and trach collars, and mechanical ventilators if the practitioner is not using an HME.

2. The practitioner will check and document the set up and operation of all therapeutic gases (both humidified and non-humidified) every shift on the floors, and three times each shift in the ICUs. Mechanical ventilators in all areas will be checked and documented three times each shift.

3. Effectiveness of humidification therapy should be periodically evaluated by assessing the patient's ability to clear secretions (i.e. cough effort, sputum production, breath sounds).

4. If an HME is used, it should be changed every 24 hours, though evidence supports them being used for 48 hours.

5. Humidification cannot be added with the BiPap equipment.

References:
AARC Clinical Practice Guideline: Humidification during Mechanical Ventilation. 1992.
AARC Clinical Practice Guideline: Care of the Ventilator circuit and Its Relation to Ventilator-Associated Pneumonia 2003.

Approved by:		**Review/Revision Date:**	
		03/18/1989	11/12/2004
		06/01/1990	05/12/2005
/s/		02/13/1992	01/23/2009
Michael J. Taylor Director, Respiratory Care	Date	05/13/1993	12/29/2009
		03/04/1996	04/27/2010
		02/25/1998	08/08/2012
		10/04/1999	12/01/2015
/s/		09/12/2001	12/01/2019
Monecca Smith AVP Patient Care Services/Chief Nursing Officer	Date		
Review/Revision Completed By: *Director, Respiratory Care*		**Next Review Date:** December 1, 2022	
Policies Superseded by This Policy:			