

---

# Selection, Protocol and Evaluation of HME/HCH Devices

**ADULT ICU PATIENTS**

**ARC Medical, Inc.**  
4296 Cowan Road  
Tucker, GA 30084  
800-950-ARC1

# 1. Selection of the Proper HME/HCH Device Class

Determine device output according to 3rd party independent testing using ISO 9360 Standard.

## Class I Device Highest Humidity Return

(Humidity output > 30mg H<sub>2</sub>O/L air @ 20L V<sub>E</sub>.)

Use this Class according to the following protocol (see #2).  
Use these devices in Acute Care Hospitals, SubAcute Care, Home Vents and Class I, II and III patients.

## Class II Device Moderate Humidity Return

(Humidity output > 30mg H<sub>2</sub>O/L air at a 10L V<sub>E</sub>.)

Limit to patients with < 10 L<sub>V<sub>E</sub></sub>. (SubAcute Care, Home Vents, and Class III patients)

## Class III Device Lowest Humidity Return

(Humidity output < 30mg H<sub>2</sub>O/L air at any V<sub>E</sub>.)

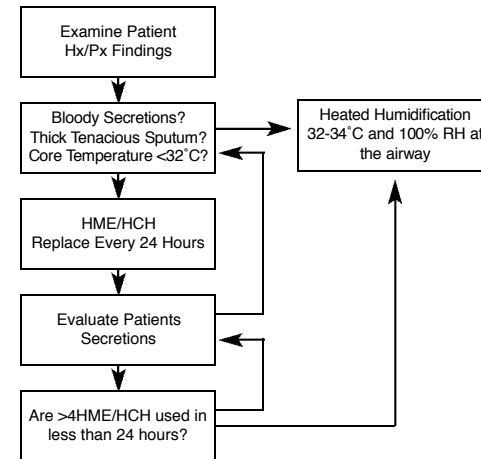
Limit to short term use - less than 24 hours  
(anesthesia, recovery, transport)

### Reference:

AARC CPG. HMV 2.0 The chosen device should provide a minimum of 30 mg H<sub>2</sub>O/L of delivered gas at 30° C.

# 2. Protocol

The following chart explains the process in using and evaluating the HME/HCH Devices (University of Cincinnati - Chart, Evaluation of Humidification Device.)



# 3. Evaluation

## A. Evaluation of Secretions (Suzukawa, et al., Respiratory Care, Nov. 1989)

### Watery

Sputum that can be suctioned like water. After suction is terminated, no secretions remain attached to the inner surface of the suction catheter.

### Moderate

Sputum of moderate viscosity. After suction is terminated, some secretions remain attached to the inner surface of the suction catheter, but they can be easily washed out by suctioning water through the catheter.

### Tenacious

Thick sputum. After suction is terminated, most secretions are still attached to the inner surface of the suction catheter, and they cannot be easily removed by suctioning water through the catheter.

## B. Evaluation of Condensate (Beydon, et. al. Chest, Sept.1997)

The apparent water condensed in the flex tubing seems to be the best indicator of humidifying efficiency (after 24h of use).

0 = dry

1 = mist without drops

2 = drops without condensation

3 = water condensation