

UHMS Position Statement

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Title: UHMS Position Statement: Minimum-staffing guidelines of multiplace hyperbaric facilities

Intro:

The purpose of this position statement is to provide patient:staff ratio guidelines to multiplace hyperbaric facilities with the goal of optimal operational safety. Appropriate patient:staff ratios coupled with properly trained staff, enables a safe and effective operational environment both within and outside the chamber. The medical director and safety director may adjust patient:staff ratios based upon patient medical acuity and staff training and experience.

Abstract:

1. For multiplace (type A) hyperbaric facilities, the minimum patient to inside attendant (Inside attendant refers to medical personnel who provide direct patient care and observation in a chamber during a hyperbaric treatment) ratios should typically be:
 - a. For uncomplicated ambulatory patients, minimum staffing ratio of 6:1 (patient:attendant).
 - b. For complicated patients requiring increased level of personal care, minimal staffing ration of 4:1^{1,2}
 - c. For critical care patient, minimum staffing ratio of 1:1 (ventilated patients may require 2-staff per patient).
 - i. When critical care patients are treated along with either uncomplicated or complicated patients, staffing ratios for non-critical patients remain as above, regardless of the number of staff necessary to safely and effectively treat critical patients.
2. Minimum staff education/credentials are outlined in HBOHR 3.0 and described by the NBDHMT (see links).
3. The hyperbaric unit safety director and medical director have discretion to alter these ratios based on patient acuity, staff skill level, and clinical scenario.

Rationale:

The purpose of this position statement is to provide patient:staff ratio guidelines to multiplace (type A) hyperbaric facilities with the goal of optimal operational safety. Appropriate staff ratios with staff that are appropriately trained, enables a safe and effective operational environment both within and outside the chamber.

The Undersea and Hyperbaric Medical Society (UHMS) has an accreditation program for monoplace and multiplace facilities as outlined in the *Clinical Hyperbaric Facility Accreditation Manual* 4th ed. 2018. Within this document there are guidelines for hyperbaric personnel including section:

HBOHR 3.0

1. Hyperbaric staff mix determinations provide for safe hyperbaric treatment by allowing for the following factors:
2. Type and number of hyperbaric chambers used at the hyperbaric facility
3. Anticipated patient treatment load
4. Types of patient treatments anticipated (routine or emergency)
5. Number of patient treatments to be conducted daily
6. Location of hyperbaric facility (hospital based, clinic, or non-affiliated)
7. Experience level of available nursing and technical staff
8. Degree of ancillary technical support (hospital maintenance staff, etc.)
9. Refer to guidance in NFPA 99, 14.3.1.4.2
10. Refer to guidance in HFG Section 3

Conclusions and Recommendations:

- i. The UHMS recommends a minimum of three personnel to appropriately staff multiplace hyperbaric facilities. At least one should be a hyperbaric nurse (CHRN), the others should be CHT, DMT, EMT, Paramedic, RT or other health care professional determined by the facility Medical Director and Safety Director or one with appropriate credentials based on the healthcare facilities bylaws. From this personnel mix, one should be assigned as the chamber operator, one as an inside attendant, and at least one as an outside attendant available to provide either technical or patient support as needed. The UHMS recommends that the outside attendant remain in the room at all times when the chamber is pressurized so that the chamber operator has no additional responsibilities other than operating the chamber.
- ii. It is recommended that a maximum inside patient:attendant ratio be 6:1. This number can vary and may go up to 8:1 when a significant number of patients are clinically stable with guidance from the facility Safety Director and Medical Director. When patients with a higher acuity are present, those that require closer attention or greater care needs for the inside attendant, the UHMS recommends a

patient:attendant ratio of 4:1. For intubated and/or severely ill acute care patients, the patient:attendant ratio should be 1:1 and may require a 1:2 ratio¹. Certain clinical situations arise where more than one critically ill patient may need to be treated simultaneously and under these situations continuous medical monitoring by the covering hyperbaric physician would be required. When patients with higher acuity are present, those that require closer attention and/or greater care needs for the inside attendant, the UHMS recommends a patient:attendant ration of 4:1. For critically ill patients or intubated patients it is recommended that a RN experienced with hyperbaric medicine be present inside the chamber with the patient at all times. The patient:attendant ratio should be 1:1 or 1:2 if possible. RT experienced with hyperbaric medicine should also be present to monitor patient airway and ventilator function, if available at the individual institution. Certain clinical situations arise where more than one critically ill and/or intubated patient may be treated simultaneously. Direct access to a hyperbaric medicine trained physician is mandatory during any treatment of a critically ill and/or intubated patient.

- iii. UHMS understands that each institution has significant variation in staff experience, staff numbers, chamber size, nursing staff, and physician comfort while treating patients. Clinical scenarios may arise that lead to alterations in the ratios that the UHMS recommends for clinical staff ratios. Alterations in the staffing ratios are permissible as long as patient and inside attendant safety is not compromised in any manner. Any decisions to alter the ratios should be based upon the experience of clinical staff, nursing, and hyperbaric physicians present during the treatment(s).

References:

1) *Clinical Hyperbaric Facility Accreditation Manual, 4th ed.* Undersea and Hyperbaric Medical Society, Inc., 2018

2) <http://www.nbdhmt.org/cht.asp>

3) <http://www.nbdhmt.org/chrn.asp>

Associated Documents:

None.