Clinical Hyperbaric Facility Accreditation Manual Fourth Edition

Undersea and Hyperbaric Medical Society, Inc.
631 U.S. Highway 1, Suite 307
North Palm Beach, FL 33408

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INTRODUCTION

In the late 1970s, there were fewer than 30 hyperbaric facilities operational in this country. Most were either military, commercial or highly specialized research facilities. It is estimated that there are now more than 1350 facilities in operation. We have seen the primary role of hyperbaric facilities transition from the treatment of diving-related disorders to providing an essential primary and adjunct treatment modality for multiple medical conditions. Refined research efforts will no doubt validate continued efficacy, and perhaps, even support new indications. The location of facilities is expanding from hospital-based to non-affiliated outpatient settings, some with appropriate medical supervision, and others without.

In the past decade, certification in hyperbaric technology and hyperbaric nursing has become a staffing requirement in many programs. After years of dedicated efforts by many members of the Undersea and Hyperbaric Medical Society (UHMS), the American Board of Preventive Medicine (ABPM), the American Board of Emergency Medicine (ABEM) and the American Osteopathic Conjoint Committee of Undersea and Hyperbaric Medicine recently approved certification for physicians in Undersea and Hyperbaric Medicine (UHM). Minimum recommended staffing and training standards did not exist several years ago. Now, they are an essential part of a more comprehensive set of guidelines and recommended practices. The UHMS Guidelines for Hyperbaric Facility Operations, 2nd Edition set these foundational standards of practice for hyperbaric medicine.

Each of these milestones reflects a continuing maturation and professional recognition of clinical hyperbaric medicine in the United States. As in any growth process, success has not come easy. There are still many challenges that must be faced. The UHMS is the primary professional organization that represents a broad constituency base for clinical hyperbaric medicine and should be proactive in dealing with these issues. It must position itself to grow with, and reflect the needs of, the community it serves while providing the leadership this specialty needs. There are many in the field who felt that the next evolutionary level should be one that provides a systematic means of quality assurance: a formal clinical hyperbaric facility accreditation program. Programs that evaluate the adequacy of the facility and equipment, the appropriateness of the staff and their training, quality of care and patient safety have proven useful to professional organizations in ensuring that quality is maintained within their specialty. The UHMS accepted this challenge and has established a professional, comprehensive clinical hyperbaric facility accreditation program.

The Society believes that such a program is the most efficient method to ensure that:

- Clinical hyperbaric facilities are staffed with the proper specialists who are well trained;
- Clinical hyperbaric facilities are using quality equipment that has been correctly installed and maintained, and is being operated with the highest level of safety possible;
- Clinical hyperbaric facilities are providing high quality of patient care;
- Clinical hyperbaric facilities are maintaining the appropriate documentation of informed consent, patient treatment procedures, physician involvement, and other necessary paperwork.

Many advantages can result from accreditation and impact the regulatory environment, individual hyperbaric facilities and programs, and the specialty of hyperbaric medicine. Of immediate importance is the community response to the current regulatory climate. In October of 2000, the Office of the Inspector General (OIG) of the Department of Health and Human Services released a

report entitled "Hyperbaric Oxygen Therapy: Its Usefulness and Appropriateness" (1). Among its findings, the OIG reported that a lack of testing and treatment monitoring raised a variety of quality of care concerns and that Medicare guidance to the field of hyperbaric medicine was limited. Specific OIG recommendations were for Medicare to initiate a national coverage decision policy for hyperbaric oxygen (HBO_2) therapy; improve policy guidance (e.g., practice guidelines and physician attendance policy); and improve oversight by requiring contractors to initiate edits and consistent medical review procedures, and explore the creation of a national registry of facilities and/or physicians. Without a doubt, this report lays the foundation for increased government involvement and intervention. By creating a national clinical hyperbaric facility accreditation program, the UHMS has responded proactively to the OIG findings and recommendations. This action is a sign to the various regulatory agencies that the organized hyperbaric medical community is concerned with our current situation and has responded to the recognized need to assure the quality of care across the continuum of clinical hyperbaric facilities is achieved and maintained. This publication is still being referenced in various Medicare Administrative Contractors' (MACs) Local Coverage Determinations (LCDs) regarding hyperbaric oxygen therapy.

Equally significant are the advantages that an individual clinical hyperbaric facility may realize. Though not all-inclusive, some of the more immediate are:

- Improved quality of care;
- Increased efficiency at the facility level;
- More effective risk management programs;
- Possibly lower liability insurance premiums;
- Staff motivation and esprit de corps;
- Maximized public relations and marketing efforts;
- Ability to recruit and retain quality staff;
- Develop alliances with other provider groups;
- Establish credibility of legitimate non-affiliated outpatient facilities among their professional referral base.

Achieving the regulatory- and facility-level advantages provides the foundation for significant advancements in the acceptance and credibility of hyperbaric medicine as a growing, recognized medical specialty, thus enhancing professional organizations such as the UHMS, the American College of Hyperbaric Medicine (ACHM), the Baromedical Nurses Association (BNA), the National Board of Diving and Hyperbaric Medical Technology (NBDHMT), and others who are at the forefront of the field. Further, a successful accreditation program will bring hyperbaric medicine in line with many other specialties such as the American College of Radiation Oncology (ACRO) and the Commission on Accreditation of Rehabilitation Facilities (CARF) who sponsor specialty-specific accreditation programs and will establish nationally recognized Standards of Practice for clinical hyperbaric medicine.

The UHMS is a member of the Joint Commission's Health Care Association Forum and is recognized as a complementary accrediting body. Additionally, the UHMS' accreditation program is ISO 9001:2015 certified by International Certifications, Inc.

I. ACCREDITATION POLICIES AND PROCEDURES

a. Eligibility for Survey

Any clinical hyperbaric organization that meets the UHMS's Survey Eligibility Criteria may apply for an accreditation survey. The following types of hyperbaric facilities are appropriate to seek accreditation from the UHMS.

- Hospital-based (hyperbaric only);
- Hospital-based (hyperbaric and wound care);
- Hospital-affiliated (hyperbaric only);
- Hospital-affiliated (hyperbaric and wound care);
- Non-affiliated outpatient clinic (hyperbaric only);
- Non-affiliated outpatient clinic (hyperbaric and wound care).

b. Survey Eligibility Criteria

A clinical hyperbaric facility is eligible for an accreditation survey by the UHMS if it:

1. has been providing hyperbaric treatment services for at least one year before undergoing an on-site survey;
2. is either a legally constituted organizational entity that provides hyperbaric treatment or other health care-related services, or a sub-unit that primarily provides such treatment services within a legally constituted organization that may be, but not need to be, health- or hyperbaric-related;
3. is in conformance with applicable federal, state and local laws and regulations;
4. provides medical and hyperbaric care that is under the direction or supervision of a physician or group of physicians (MD/DO) who accept responsibility for medical and hyperbaric care;
5. provides the signed *Application for Clinical Hyperbaric Facility Accreditation Survey,* the *Clinical Hyperbaric Facility Accreditation Presurvey Questionnaire,* and other documents as required in advance of the survey;
6. pays the appropriate accreditation fees;
7. acts in good faith in providing complete and accurate information to the Undersea and Hyperbaric Medical Society during the preaccreditation, accreditation and reaccreditation process.

Hyperbaric facilities are considered for accreditation on an individual basis. The UHMS will determine if the standards can be applied to any given applicant; if they cannot, then no survey will be conducted. The UHMS will inform the requesting facility of the reason(s) for determining that no survey will be conducted. If a survey is conducted and the UHMS realizes that the core standards cannot be reasonably applied to reach an accreditation decision, then the survey will be considered a formal consultation and no accreditation decision will be made. In such cases, the full survey fee applies.

c. Purpose and Application of the Standards

The standards and guidelines contained in the *Clinical Hyperbaric Facility Accreditation Manual* were adopted from existing organizational consensus standards and guidelines and to which clinical hyperbaric facilities are expected to conform. Standards and guidelines have been adopted from organizations such as the Joint Commission (JC), the National Fire Protection Association (NFPA), the Accreditation Association for Ambulatory Health Care (AAAHC), the Compressed Gas Association (CGA), the staffing and training guidelines of the UHMS, the Baromedical Nurses Association (BNA), and other organizations. Appropriate laws pertaining to the field of hyperbaric medicine, such as the Safe Medical Devices Act of 1976 have also been referenced as necessary. There has been no effort by the UHMS to create new standards as part of the accreditation process, only to combine those standards already in existence

under a single program for coordinated assessment.

Most survey probes are written in terms that will allow a hyperbaric facility to achieve conformance in a manner most compatible with its situation and attainment of high-quality hyperbaric patient care. In the cases where acceptable methods of achieving conformance to a particular probe are limited, the probe is written in very specific, measurable terms. However, regardless of the level of specificity of a particular probe, all efforts will be made by the survey team to assess conformance with the intent of the probe first, followed by conformance to the letter of the probe.

With the exception of the consensus-based staffing and training standards, the UHMS has not created its own standards to assess the basis for accreditation. The standards and guidelines from other organizations such as JC, AAAHC, and related organizations that have been referenced by the UHMS will be monitored for revision. When appropriate, revisions will be incorporated into subsequent annual editions of the *Clinical Hyperbaric Facility Accreditation Manual*. It should be noted that the UHMS expects clinical hyperbaric facilities to be in conformance with the 1999 edition (or earlier) of the National Fire Protection Association's *NFPA 99, Health Care Facilities* for issues related to building construction requirements. However, for facilities that became operational before the 1999 edition was issued, the edition of *NFPA 99*, which was applied at the time by the authority having jurisdiction (AHJ), will apply unless changes have been made to the chamber design or the building's infrastructure since installation. In such cases, all efforts to tailor the survey requirements will be made by the survey team to recognize conformance to the earlier edition of the standard. **It is important to note that for the day-to-day operational fire safety requirements and the development of an internal safety program for hyperbaric facilities, *NFPA 99, Health Care Facilities Code, Chapter 14, Hyperbaric Facilities, 2015 Edition* will be used as a primary reference.**

d. Principles Governing Accreditation Survey Procedures

The decision for accreditation is based on a careful, reasonable and fair assessment of a hyperbaric facility's conformance with applicable standards, guidelines, and policies and procedures of the UHMS Clinical Hyperbaric Facility Accreditation Program. The UHMS reserves the right to amend its policies, procedures and survey probes, as warranted and will serve notice to all accredited facilities of such changes. Also, amended policies, procedures, and survey probes will be updated in subsequent editions of the *Clinical Hyperbaric Facility Accreditation Manual.*

The UHMS expects substantial conformance with the various standards and guidelines as compiled in the *Clinical Hyperbaric Facility Accreditation Manual.* Conformance is assessed through a combination of documented evidence, answers to detailed questions concerning the implementation of processes and procedures in designated areas of concentration, and on-site surveyor observations and personal interviews.

A critical component of the assessment process is information provided by a hyperbaric facility seeking accreditation or reaccreditation. Central to the integrity of the UHMS Clinical Hyperbaric Facility Accreditation Program are the accuracy and truthfulness of the information that is provided for assessment. Information provided to the UHMS may take different forms: verbal, written or direct observation. It is imperative that the hyperbaric facility seeking accreditation enters into the accreditation or reaccreditation process in good faith. Failure to do so by knowingly providing falsified, inaccurate or incomplete documentation is grounds for termination of the accreditation process or revocation of an existing accreditation determination. In the

unlikely event that a survey is terminated due to a breach of trust, the UHMS is entitled to retain all accreditation fees paid by the hyperbaric facility.

Specific information disclosed to UHMS surveyors during the survey process, documents submitted to the UHMS for review, and documents produced by surveyors, staff members or UHMS committees regarding a specific hyperbaric facility are confidential and will not be disclosed to a third party by the UHMS.

e. Survey Procedures and Personnel

A team of physicians, nurses and technicians individually selected and trained by the UHMS will conduct hyperbaric facility accreditation surveys. More specifically, a physician with extensive experience in hyperbaric medicine, a Certified Hyperbaric Registered Nurse (CHRN) and a Certified Hyperbaric Technologist (CHT) will make up the Accreditation Survey Team (AST). Some reaccreditation surveys may have only two members such as a CHRN and CHT. Each applicant facility will be evaluated to determine the range of hyperbaric treatment services provided, the type and number of hyperbaric chambers employed, its size, and location. From this assessment, a surveyor team will be assembled to best match the needs of the facility seeking accreditation. In all cases, a physician will be designated as AST Team Chief and will be responsible for the conduct of the team during the survey process.

Each survey team will review the *Clinical Hyperbaric Facility Accreditation Presurvey Questionnaire* and the supplemental documents submitted along with the *Application for Clinical Hyperbaric Facility Accreditation Survey* prior to arriving at the hyperbaric facility to be surveyed. Also, facilities will be asked to have specific documents and other information available for the team to review upon arrival for the on-site survey. Refer to the UHMS website (www.UHMS.org) for the most current information on document preparation. All efforts will be made by the team to minimize any disruption of the daily routine of the facility being surveyed; however, the facility must also dedicate sufficient staff attention to ensure that survey process is efficient and timely. Though most of the evaluation will take place via preplanned documentation reviews, facility overview, and personal interviews, surveyors may ask for additional documentation or to observe a procedure. The facility's cooperation in such instances is greatly appreciated. Failure to provide the additional information determined to be necessary by the Survey Team Chief may be grounds to terminate the survey process.

The hyperbaric facility seeking accreditation must post a notice in a prominent location at least 30 days before the scheduled survey to inform patients and staff of the upcoming accreditation survey and their right to meet with the AST Team Chief during a prescribed period. The AST Team Chief will be available during that time to meet with the patient or staff member to discuss any issues of concern to the individual. These issues can be presented either verbally or in writing. All such information will be considered as part of the accreditation evaluation process. Since survey time is limited, written requests to meet with the AST Team Chief must be submitted to the UHMS at least one week before the scheduled survey to allow time to schedule an appropriate interview time. If no written requests are received, then no interview period will be scheduled.

The length of the survey will depend on the size and type of facility being surveyed. However, a minimum of two days is anticipated regardless of the type of facility. A typical schedule is provided in this manual for information.

Typically, upon completion of a survey, three briefings will be given before the AST departs. The first is with the Director of Hyperbaric Medicine (or his/her designee), the second to the Executive Staff of the host

facility, and the third will be to the entire hyperbaric staff. Each briefing will consist of a summary of the team's observations and recommendations. It must be noted, however, that the survey team is collecting information only during the survey process. They do not render a preliminary or final accreditation decision, and no indication of success measured against the total accreditation process will be provided.

Once the survey is complete, the AST Chief will prepare an *Accreditation Survey Report* with consolidated recommendations from other team members and submit to the Accreditation Council within ten (10) days of survey completion.

f. Survey Scope

The hyperbaric facility seeking accreditation will be assessed in the following major concentration areas with their respective survey probe code:

- HBOG - Hyperbaric Governance
- HBOA - Hyperbaric Administration
- HBOO - Hyperbaric Operations
- HBOM - Hyperbaric Maintenance
- HBOC - Hyperbaric Facility Construction
- HBOF - Hyperbaric Chamber Fabrication
- HBOV- Hyperbaric Chamber Ventilation
- HBOFP - Hyperbaric Chamber Fire Protection
- HBOE - Hyperbaric Chamber Electrical Systems and Services
- HBOGH - Hyperbaric Gas Handling
- HBOPR - Hyperbaric Patient Rights
- HBOPA - Hyperbaric Patient Assessment
- HBOPC - Hyperbaric Patient Care
- HBOEC - Hyperbaric Environment of Care
- HBOPE - Hyperbaric Patient Education
- HBOQI - Hyperbaric Quality Improvement
- HBOPI - Hyperbaric Professional Improvement
- HBOL - Hyperbaric Leadership
- HBOHR - Hyperbaric Human Resources
- HBOIM - Hyperbaric Information Management
- HBOIP - Hyperbaric Infection Prevention
- HBOMS - Hyperbaric Medical Staff
- HBOTP - Hyperbaric Teaching and Publication
- HBOCR - Hyperbaric Clinical Research

g. Accreditation Decision and Notification

After the on-site survey and receipt of the formal *Accreditation Survey Report*, the Accreditation Council will carefully review the report, supplemented by other relevant information prior to making a formal accreditation decision. A surveyor, a UHMS staff member, elected (voting) member of the UHMS Board of Directors or the Accreditation Council or anyone with a potential conflict of interest with the specific hyperbaric facility under consideration is not allowed to participate in deliberations or voting relative to the accreditation status of the hyperbaric facility seeking accreditation. A decision by the Accreditation Council of the UHMS to accredit a hyperbaric facility is final.

The following categories of hyperbaric facility accreditation have been established:

The facility's scope of practice determines designation level at the time of the survey. The level determination is not intended to dictate what a facility can or cannot do, but that it is descriptive of the facility's practice patterns at the time of the survey, or what they have been practicing the three to four years preceding the survey.

- Level One - a hyperbaric program that offers a full scope of services for the hyperbaric patient. They are typically hospital-based facilities that cover all recognized indications, including

emergency life- or limb-threatening injuries and are available for treatment of the emergent patient 24/7.

- Level Two - a hyperbaric program that provides a reduced scope of service for the hyperbaric patient (does not treat emergency patients). They are typically in the hospital setting and not available 24/7. These programs provide high-quality care to outpatients Monday through Friday and are not equipped or staffed for emergency indications.
- Level Three - a hyperbaric program that offers appropriate hyperbaric therapy in the non-affiliated setting (non-hospital based nor affiliated with a hospital).
- Level Four - International

Once the *Accreditation Survey Report* has been received and evaluated, the Accreditation Council will determine a hyperbaric facility's accreditation level:

- Full Accreditation (3 years)
  - Accredited:
    - Established based on assessed conformance with minimum standards that all non-affiliated, hospital-affiliated, and hospital-based hyperbaric facilities are expected to meet;
  - Accredited with a Plan for Improvement;
  - Accredited after a Plan for Improvement has been completed;
  - Accredited with Distinction
    - Established by clearly demonstrating the minimum conformance has been exceeded in specific activities deserving the added recognition as hyperbaric community leaders;
    - The decision to award a facility accreditation with distinction is based on a formal point system assigned to particular elements that must be met. A facility must achieve a consolidated score of 6 points out a possible total of 10.5 points.
    - The elements are:
      - 24/7-Level 1 status (2 pts);
      - Critical care within the scope of care (1.5 pts);
      - Research with the intent to publish (1 pt);
      - Publications (1 pt);
      - Presentations at local, regional, national and international conferences (1 pt);
      - Teaching facility with formal agreement (1 pt);
      - Medical Director is board-certified in UHM by ABMS or AOA (1 pt - Note that this element is mandatory);
      - All nurses and technicians are board certified (1 pt);
      - Effective quality improvement initiatives (1 pt);
        - Refer to the UHMS website (www.UHMS.org) for additional information on achieving accreditation with distinction.
- Provisional Accreditation
  - For unusual circumstances, the UHMS will award provisional accreditation
    - Valid for one year.
    - In order to retain accreditation, the facility must undergo a full survey after the one year of provisional accreditation.
- At the discretion of the Accreditation Council, any of the following issues may be grounds for an automatic denial of accreditation.

All efforts will be made by the UHMS to complete the review process and notify the hyperbaric facility with the accreditation decision within 60 days after submission of the formal *Accreditation Survey Report.* A copy of the factual findings of the survey (with recommendations) is mailed to the surveyed hyperbaric facility, along with the letter of accreditation notification and accompanying certificate of accreditation.

h. Rights of Reconsideration

An explanation will accompany a decision by the UHMS Accreditation Council for Deferred Accreditation that the hyperbaric facility has the right to reconsideration. In such cases, the hyperbaric facility can submit a written request substantiating the request for reconsideration by the UHMS within 14 days of receipt of the accreditation decision. Failure to provide a request for reconsideration with the specified time renders the initial accreditation decision final.

If the facility requesting reconsideration responds within the allotted time, the UHMS has 30 days to re-evaluate the initial *Accreditation Survey Report* and the supplemental information provided in the written request for reconsideration. Such a re-evaluation may require a supplemental site visit for which the requesting facility will incur an additional cost based on the published fee schedule. The decision by the Accreditation Council on a request for reconsideration after a thorough evaluation is final and cannot be appealed further.

i. Maintaining Accreditation

An accredited hyperbaric facility is required to maintain its operations in conformance with the current scope of UHMS accreditation. The UHMS reserves the right to modify its policies and procedures from time to time, provided that it informs all accredited facilities of the changes and that such changes are reflected in the current edition of the *Clinical Hyperbaric Facility Accreditation Manual.*

In order to maintain the currency of accreditation, an accredited facility must undergo full and regular surveys every three years (or four years for facilities accredited with distinction). All presurvey documents (*Application for Clinical Hyperbaric Facility Accreditation Survey, Clinical Hyperbaric Facility Accreditation Presurvey Questionnaire,* etc.) required at the time of re-application must be submitted, along with fees in place at the time of re-application, to the UHMS for consideration and processing. Failure to initiate this process far enough in advance to ensure sufficient time to process the application and schedule the subsequent on-site survey may cause accreditation to lapse.

Accredited facilities must implement a process to monitor any suspense related to their status as an accredited facility. Failure to monitor accreditation due dates may result in a lapse in accreditation.

j. Organizational Changes

Any accredited hyperbaric facility must notify the UHMS within 30 days of any significant organizational change such as address changes, mergers, acquisitions, name change, contract management change, or any major change in the status of health care providers (such as a change in medical director or safety director). Though not limited to these situations listed, failure to notify the UHMS of variations of this magnitude may result in revocation of accreditation.

k. Confidentiality

The UHMS will maintain as confidential all information that has been provided either directly or through the survey team with respect to a hyperbaric facility seeking accreditation or one that is accredited. All such information will be used solely to request a determination for accreditation and will not be disclosed to any third party without (1) written authorization to do so; (2) as provided in the *Clinical Hyperbaric Facility Accreditation Manual;* or (3) as otherwise may be required by law.

l. Interim Assessment Surveys

Interim assessments are required if an accredited facility physically moves from one

location to another. In such instances, a one-day technical assessment is conducted to evaluate continued compliance with construction and hyperbaric chamber installation codes.

m. Consultation Surveys

The UHMS provides specific Consulting Surveys by special request. Such informal surveys are designed to meet the unique needs of a hyperbaric facility by assisting the facility with understanding the survey probes and the survey process and to help prepare for accreditation or to achieve conformance with a particular standard or guideline.

A Consulting Survey does not result in an accreditation decision. Though problems are identified, and opportunities for improvement are provided, the consulting report is strictly for the use of the requesting facility. The needs of the facility will determine the length of the survey and the number of consultants provided. This type of consulting survey will almost always require a three-day site visit for which the requesting facility will incur a cost based on the published fee schedule.

n. Accreditation Fee Schedule

Full Survey:
- **Application fee**: $2,500 (non-refundable, due at time of application)
- **Survey fee**: $7,500 (due 30 days prior to the scheduled survey date*)

International Survey:
- **Application fee**: $2,500 (non-refundable, due at time of application
- **Survey Fee**: $4,500 (due upon receipt of final invoice for the survey fee and reimbursable expenses below)
- **Reimbursable fees:** survey team travel expenses: airfare or mileage, lodging, meals, etc. will be invoiced after the survey has been completed.

Consultation Survey:
- **Consultation application fee:** $2,000 (non-refundable, due at the time of application)
- **Consultation fee:** $3,000 (due 30 days prior to the scheduled survey date*)

International Consultation Survey:
- **Consultation application fee:** $2,000 (non-refundable, due at the time of application)
- **Consultation survey fee:** $3,000
- (due upon receipt of final invoice for the survey fee and reimbursable expenses below)
- **Reimbursable fees: survey team travel expenses:** airfare or mileage, lodging, meals, etc. will be invoiced after the consultation survey has been completed.

Interim Assessment Fee:
- **Documentation review only**: $500
- **If on-site visit is required:** $1,000
- **Reimbursable fees:** survey team travel expenses: airfare or mileage, lodging, meals, etc. will be invoiced

*Failure to remit final payment 30 days prior to a scheduled survey may result in cancellation of the survey.

Cancellations/Rescheduling:
If a facility cancels a scheduled survey after any member of the AST has made travel commitments, the facility is responsible for reimbursing that team member for expenses incurred on the facility's behalf (for example, non-refundable airfare, hotel cancellation fees, etc.). An invoice will be submitted to the facility with payment due within 30 days of receipt.

If a facility reschedules a survey after any member of the AST has made travel commitments, the facility is responsible for reimbursing that team member for any change fees incurred. If any member of the AST cannot participate in the rescheduled date, the facility is responsible

for reimbursing that team member for expenses incurred on the facilities behalf (for example, non-refundable airfare, hotel, cancellation fees, etc.). An invoice will be submitted to the facility with payment due within 30 days of receipt.

II. STANDARDS

a. Survey Probe Reference Acronyms:

AAAHC	Accreditation Association for Ambulatory Health Care
ASME	American Society of Mechanical Engineers
ANSI	American National Standards Institute
BNA	Baromedical Nurses Association
CGA	Compressed Gas Association
CFR	Code of Federal Regulations
DNV-GL	Det Norske Veritas-Germannischer Lloyd
HFG	UHMS Guidelines for Hyperbaric Facility Operations, 2nd Edition, Undersea and Hyperbaric Medical Society (aka Hyperbaric Facilities Guide)
JC	The Joint Commission
MPCS	Manual of Patient Care Standards
NFPA	National Fire Protection Association
PVHO	Pressure Vessels for Human Occupancy

NOTE: Each specific probe is color-coded to indicate the chamber classification emphasis according to the legend below:

- Class A hyperbaric facility only
- Class B hyperbaric facility only
- All hyperbaric facilities

CODE	CONCENTRATION AREA	REFERENCES
b. HYPERBARIC GOVERNANCE		
HBOG 1.0	The hyperbaric facility's organization is a legal entity or an organized subordinate of a legal entity.	AAAHC 2.I.A DNV-GL GB.1
HBOG 2.0	The governing body determines the organization's mission, goals, and objectives.	JC LD.02.01.01 AAAHC 2.I.C.1 CARF 1.A.3 NFPA 99, 14.3.1.3.1
HBOG 2.1	The governing body ensures that the hyperbaric facility is adequate and appropriate personnel are available to carry out its mission, goals, and objectives.	JC LD.01.07.01 JC LD.04.01.11 AAAHC 2.I.C.2 NFPA 99, 14.4.1.4.2
HBOG 2.2	The governing body provides an organizational structure and specifies functional relationships among all organizational elements.	JC LD.01.01.01 AAAHC 2.I.C.3 CARF 1.A.1
HBOG 2.3	The governing body adopts bylaws or similar written policies, regulations, and procedures for the proper management of the organization.	JC LD.01.01.01 AAAHC 2.I.C.4 DNV-GL MS.1 CARF 1.E.1 NFPA 99, 14.3.1.3.3
HBOG 2.4	The governing body reviews all legal and medical ethical issues pertaining to the organization and its staff and responds appropriately when necessary.	JC LD.04.01.01 JC LD.04.02.03 AAAHC 2.I.C.8
HBOG 2.5	The governing body maintains effective lines of communication throughout all elements of the organization.	AAAHC 2.I.C.9
HBOG 2.6	The governing body establishes a financial management system appropriate for the organization.	JC LD.04.01.03 AAAHC 2.I.C.10 DNV-GL GB.2 SR.1 CARF 1.F.1
HBOG 2.7	The governing body determines the policy on the rights of the patient.	JC RI 01.01.01 AAAHC 2.I.C.11 DNV-GL PR.1

HBOG 2.8	The governing body approves all major contracts and/or agreements pertaining to the adequacy of care provided to patients and the safe operation of the organization.	JC LD.04.03.09 AAAHC 2.I.C.12 NFPA 99, 14.3.1.3.3 NFPA 99, 14.3.1.3.4
HBOG 2.9	The governing body established policies related to the employment of medical practitioners, hyperbaric chamber operation staff and administrative personnel.	AAAHC 2.I.C.2 AAAHC 2.I.C.12.a DNV-GL MS.2
HBOG 2.10	The governing body established policies pertaining to the organization's responsibilities to provide continuing education opportunities for health care and technical personnel.	JC LD.01.07.01 AAAHC 2.I.C.17 DNV-GL MS.10 CARF 1.A.8
HBOG 2.11	The organization establishes policies to provide after-hours information related to treatment of the hyperbaric patient.	AAAHC 2.I.C.12.e
HBOG 2.12	The governing body establishes appropriate policies to ensure conformance with Centers of Medicare and Medicaid Services, if the hyperbaric facility participates in the federal/state reimbursement program.	AAAHC 2.I.C.12.f CARF 1.A.7
HBOG 2.13	The governing body formulates short and long-range plans for the organization in accordance with the mission, goals and objectives of the organization.	AAAHC 2.I.C.13 CARF 1.D.2
HBOG 2.14	The governing body provides policies on nondiscrimination due to race, creed, sex or nationality,	JC LD.04.03.07 CARF 1.I.8
HBOG 2.15	The governing body establishes marketing and promotional policies in accordance with the requirements of the Food and Drug Administration.	21 CFR, Part 8.1.109 21 CFR, Part 868.5470 AAAHC 2.I.C.15
HBOG 2.16	The governing body ensures that a risk management program has been developed for the organization.	AAAHC 2.I.C.16 CARF 1.G.1
HBOG 2.17	The governing body ensures that the organization complies with the requirements of the Americans with Disabilities Act of 1900.	42 U.S.C. §§ 12101 et seq. AAAHC 2.I.C.14 CARF 1.L.2
HBOG 2.18	The governing body ensures that policies related to the safe operation of the hyperbaric facility are established.	JC LD.03.01.01 AAAHC 2.I.C.18 DNV-GL PE.3 NFPA 99, 14.3.1.3.3 NFPA 99, 14.3.1.4.4

HBOG 3.0	The governing body meets at least annually to review the organization's status on issues such as patient rights, quality of care, quality improvement, safety, equipment maintenance, administrative requirements, continuing medical education and code conformance.	JC LD.01.02.01 AAAHC 2.I.F AAAHC 2.I.G DNV-GL QM.1 SR.1a(1)
HBOG 3.1	The governing body maintains a written record of meetings where issues such as patient's rights, quality of care, quality improvement, safety, equipment maintenance administrative requirements, continuing medical education and code conformance, etc., are discussed.	AAAHC 2.I.F AAAHC 2.I.G CARF 1.N.1
HBOG 3.2	The governing body ensures that written job descriptions for all management positions are established.	JC LD.01.02.01 HFG Section 2
HBOG 4.0	The governing body ensures that policies related to the peer review process of granting, reappointing, and terminating clinical privileges for the hyperbaric practitioner are developed.	AAAHC 2.III.A HFG Section 2, 5
HBOG 4.1	At minimum, the governing body policies related to granting clinical privileges for the hyperbaric practitioner include the following elements: education and training, peer evaluation, current state license, DEA certification, a list of privileges requested, and other criteria directly related to the quality of care.	AAAHC 2.II.B.3.a AAAHC 2.II.B.3.b AAAHC 2.II.B.3.c AAAHC 2.II.B.3.d AAAHC 2.II.B.3.e DNV-GL MS.12 HFG Section 2, 5
HBOG 4.2	The governing body's policy on granting clinical privileges considers additional information concerning the applicant from other sources, including *the Federation of State Medical Boards Disciplinary Data Bank.*	JC MS.06.01.05 AAAHC 2.II.B.3.f
HBOG 4.3	The governing body provides a policy to establish the period of time for which privileges are granted to the hyperbaric practitioner.	AAAHC 2.II.B.3.5 DNV-GL MS.12 SR.2
HBOG 4.4	The governing body ensures that separate credentials files are maintained for each hyperbaric practitioner.	JC MS.06.01.03
HBOG 5.0	The governing body ensures that there is a mechanism to assess that all members of the hyperbaric medical staff provide the same level of quality of hyperbaric patient care.	JC MS.06.01.07 JC MS.08.01.01 JC MS.09.01.01 HFG Section 2

CODE	CONCENTRATION AREA	REFERENCES
c. HYPERBARIC ADMINISTRATION		
HBOA 1.1	Policies and procedures are established to ensure that only qualified hyperbaric program management personnel are employed.	AAAHC 3.A.2 DNV-GL MS.11 SR.1
HBOA 1.2	Policies and procedures are established to implement short and long-term strategic plans as developed by the governing body.	CARF 1.C.2
HBOA 1.4	Policies and procedures are in place to allocate and protect assets of the organization.	AAAHC 3.A.4
HBOA 1.5	Policies and procedures are in place to assure appropriate fiscal control of the hyperbaric facility.	JC LD.04.01.03 AAAHC 3.A.5 DNV-GL GB.2 SR.1 CARF 1.F.6
HBOA 1.6	Procedures are implemented to ensure that information is disseminated in a timely manner within the hyperbaric facility.	JC LD.03.04.01 AAAHC 3.A.6
HBOA 1.6.1	Staff meetings of the hyperbaric facility staff are held at least monthly.	JC LD.02.03.01 DNV-GL PE.7 CARF 3.C.16
HBOA 1.7	Policies and procedures are implemented to control the purchase, maintenance, repair and distribution of equipment, materials and supplies within the hyperbaric facility.	JC LD.01.01.01 AAAHC 3.A.7
HBOA 1.8	There is a clear organizational structure with defined lines of responsibility and authority.	JC LD.01.01.01 AAAHC 3.A.8
HBOA 1.9	Procedures to ensure effective data management are in place.	AAAHC 3.A.11 CARF 1.M.2
HBOA 1.9.1	Procedures are in place to ensure that data management processes are secure.	AAAHC 3.A.10 CARF 1.M.2
HBOA 2.0	Personnel policies are developed and made available to each employee of the hyperbaric facility.	AAAHC 3.B AAAHC 3.B.7 CARF 1.I.8
HBOA 2.1	Personnel policies are reviewed by senior management of the hyperbaric facility in accordance with local policy.	AAAHC 3.B.4.b CARF 1.I.8
HBOA 2.2	Performance appraisals, with feedback to each employee of the hyperbaric facility, are conducted at lease annually.	AAAHC 3.B.5 DNV-GL MS.9

HBOA 3.0	Hyperbaric facility operating instructions are developed and reviewed in accordance with local policy.	NFPA 99, 14.3.1.3.2.1 NFPA 99, 14.3.1.4.1 NFPA 99, 14.3.1.4.5
HBOA 4.0	The hyperbaric facility assesses patient satisfaction in accordance with local policy.	AAAHC 3.G DNV-GL QM.7 SR.11 CARF 1.M.6
HBOA 4.1	Findings of the patient satisfaction assessment are provided to the governing body for review and corrective action when necessary.	AAAHC 3.G
HBOA 5.0	Policies and procedures are in place to educate all hyperbaric facility staff on the recognition of potential hazards associated with the operation of a hyperbaric facility.	CARF 2.A.24 NFPA 99 14.3.1.4.3 NFPA 99 14.3.1.4.4.1 NFPA 99 14.3.1.2 HFG Section 4
HBOA 6.0	A safety director of the hyperbaric facility has been designated in writing.	NFPA 99 14.3.1.3.2 HFG Section 2, 3, 4
HBOA 6.1	The hyperbaric safety director has been supported by the governing body and facility management to obtain additional training related to hyperbaric safety.	NFPA 99 14.3.1.3.1 NFPA 99 14.3.1.4.4.1 HFG Section 1, 2, 3, 4
HBOA 6.2	The hyperbaric safety director works closely with facility management personnel and the hyperbaric physician(s) to establish procedures for the safe operation and maintenance of the hyperbaric facility.	NFPA 99 14.3.1.3.2.1 NFPA 99 14.3.1.3.2.2 HFG Section 2, 3, 4
HBOA 6.3	The hyperbaric safety director has been given written authority to restrict or remove any potential hazardous supply or equipment from the hyperbaric chamber.	NFPA 99 14.3.1.3.2.3 HFG Section 2, 3, 4
HBOA 6.4	The hyperbaric safety director has been involved in the planning and development of regulations, guidelines, policies and procedures related to the safe operation of the hyperbaric facility.	NFPA 99 14.3.1.3.2.1 NFPA 99 14.3.1.3.2.2 NFPA 99 14.3.1.3.4.1 HFG Section 2, 3, 4
HBOA 6.5	The hyperbaric safety director or technical director (if so designated) works closely with the medical director to establish the minimum staff qualifications, experience, and complement based on the number and type of hyperbaric chambers in use, their maximum treatment capacity, and the type of hyperbaric patient therapy normally provided.	NFPA 99 14.3.1.4.2 HFG Section 2, 3, 4
HBOA 7.0	Rules and regulations on the safe handling of gases in the hyperbaric facility are developed.	NFPA 99 14.3.3.1 HFG Section 4

CODE	CONCENTRATION AREA	REFERENCES
d. HYPERBARIC OPERATIONS (In accordance with NFPA 99, Health Care Facilities Code, 2015 Edition)		
HBOO 1.0	Rules and regulations pertaining to emergency procedures are available in the hyperbaric facility.	NFPA 99, 14.3.1.4.1 NFPA 99, 14.3.1.4.1.1 NFPA 99, 14.3.1.4.4 HFG Section 2, 3, 4
HBOO 1.1	Procedure related to chamber fire, mechanical and physiological emergencies which are practiced at least annually by all hyperbaric personnel are documented.	NFPA 99, 14.3.1.4.3 NFPA 99, 14.3.1.4.4.1 NFPA 99, 14.3.1.4.4.2 NFPA 99, 14.3.1.4.5 HFG Section 2, 3, 4
HBOO 1.2	All in-service training sessions on selected hyperbaric safety topics such as fire drills, mock patient emergencies simulated equipment failure, contaminated air, updates on codes and standards are documented.	NFPA 99, 14.3.1.4.3 NFPA 99, 14.3.1.4.4.1 NFPA 99, 14.3.1.4.4.2 HFG Section 2, 3, 4
HBOO 1.3	All hyperbaric personnel are trained on emergency hyperbaric chamber decompression procedures when all powered equipment is rendered inoperable.	NFPA 99, 14.3.1.4.4.2 HFG Section 2, 3, 4
HBOO 1.4	During manned hyperbaric chamber operations, the hyperbaric chamber operator is physically present and maintains visual or audible contact with the hyperbaric chamber control console at all times.	NFPA 99, 14.3.1.4.8 HFG Section 2, 3, 4
HBOO 2.0	Smoking, open flames, hot objects, and ultraviolet sources, which could cause premature operation of flame detectors (when installed) are prohibited from inside, outside or in the immediate vicinity of the hyperbaric chamber(s).	NFPA 99, 14.3.1.5.1.1 HFG Section 4
HBOO 2.1	Flammable agents, liquids or vapors are not allowed inside Class A multiplace hyperbaric chambers unless the hyperbaric safety director approves them.	NFPA 99, 14.3.1.5.2.2 HFG Section 2, 4
HBOO 2.2	Flammable agents, liquids or vapors are not allowed inside Class B monoplace hyperbaric chambers.	NFPA 99, 14.3.1.5.2.3 HFG Section 2, 4
HBOO 3.1	Antistatic procedures as stipulated by the hyperbaric safety director are used whenever the chamber atmosphere contains more than 23.5% oxygen by volume.	NFPA 99, 14.3.1.5.3.1 HFG Section 2, 3, 4
HBOO 3.2	For Class A or Class B hyperbaric chambers with atmosphere containing more than 23.5% oxygen by volume, the patient is electrically grounded by providing a high-impedance conductive pathway in contact with the patient's skin.	NFPA 99, 14.3.1.5.3.2 HFG Section 4
HBOO 4.0	Textile materials made of silk, wool, or synthetics are not permitted inside Class A multiplace or Class B monoplace hyperbaric chambers unless approved by the hyperbaric safety director.	NFPA 99, 14.3.1.5.4.1 HFG Section 2, 3, 4

HBOO 4.1	Only Garments made of 100% cotton or a 50/50 blend of cotton/polyester fabrics are permitted inside Class A and Class B hyperbaric chambers.	NFPA 99, 14.3.1.5.4.2 HFG Section 4
HBOO 4.2	When prohibited materials such as suture material, alloplastic devices, bacterial barriers, surgical dressings and biologic interfaces must be used inside a Class A or Class B hyperbaric chamber, written authorization, signed by the hyperbaric safety director, is available.	NFPA 99, 14.3.1.5.4.3 NFPA 99, 14.3.1.5.4.4 HFG Section 2, 3, 4
HBOO 4.3	Drapes used in a Class A multiplace chamber shall meet the flame propagation performance criteria contained in the NFPA 701.	NFPA 99, 14.3.1.5.7 NFPA 701 HFG Section 4
HBOO 4.5	The use of flammable hair sprays, hair oils, skin oils, lotions and cosmetics are forbidden for any chamber attendant/patient inside Class A multiplace and Class B monoplace hyperbaric chambers.	NFPA 99, 14.3.1.5.5 HFG Section 2, 3, 4
HBOO 4.6	Hyperbaric patients are re-clothed with garments approved by the hyperbaric safety director for wear inside Class A multiplace and Class B monoplace hyperbaric chambers.	NFPA 99, 14.3.1.5.8 HFG Section 2, 3, 4
HBOO 4.7	Other fabric items such as sheets, drapes, and blankets used inside Class A multiplace and Class B monoplace hyperbaric chambers shall be approved by the hyperbaric safety director.	NFPA 99, 14.3.1.5.6 NFPA 99, 14.3.1.5.7 HFG Section 2, 3, 4
HBOO 5.0	All equipment used inside a Class A multiplace chamber is approved by the hyperbaric safety director.	NFPA 99, 14.3.2.1 HFG Section 2, 3, 4
HBOO 5.2	Portable X-ray devices, electro cautery equipment and other similar high-energy devices are not used in the hyperbaric chamber unless approved by the hyperbaric safety director.	NFPA 99, 14.3.2.1.2 HFG Section 2, 3, 4
HBOO 5.3	Photographic equipment using photoflash, flood lamps, or similar equipment is not used inside the hyperbaric chamber when pressurized.	NFPA 99, 14.3.2.1.3 HFG Section 2, 3, 4
HBOO 5.4	Only Class I or Class II lasers are used in a Class A multiplace chamber under any condition.	NFPA 99, 14.3.2.1.4 HFG Section 2, 3, 4
HBOO 5.6	The use of paper inside the Class A multiplace hyperbaric chamber is kept to an absolute minimum.	HFG Section 4
HBOO 5.7	When paper must be taken into the Class A multiplace hyperbaric chamber, it is stored in a closed metal container.	NFPA 99, 14.3.2.1.6 HFG Section 4
HBOO 5.8	The container in which paper is stored is emptied after each hyperbaric chamber operation.	NFPA 99, 14.3.2.1.7 HFG Section 4
HBOO 5.9	No equipment is allowed inside a Class A multiplace hyperbaric chamber unless it has been approved in writing by the hyperbaric safety director.	NFPA 99, 14.3.2.1.8 HFG Section 2, 3, 4
HBOO 5.10	Oxygen Containers, valves, fittings and interconnecting equipment are all metal as much as possible.	NFPA 99, 14.3.2.2 HFG Section 4
HBOO 5.11	Valve seats, gaskets, hoses, and lubricants are selected for oxygen compatibility.	NFPA 99, 14.3.2.3 HFG Section 4

HBOO 5.12	Equipment used inside a Class A hyperbaric chamber that requires lubrication is lubricated with an oxygen-compatible flame resistant material.	NFPA 99, 14.3.2.4 HFG Section 4
HBOO 5.12.1	Bearings on equipment such as gurneys, etc., used in a Class A multiplace chamber that are not factory sealed are lubricated with an oxygen compatible lubricant.	NFPA 99, 14.3.2.4.1 HFG Section 4
HBOO 5.13	Equipment made of cerium, magnesium, magnesium alloys or similar materials are not allowed inside the Class A multiplace or Class B monoplace hyperbaric chamber.	NFPA 99, 14.3.2.5 HFG Section 2, 4
HBOO 5.14	Hydrocarbon detectors are installed if radiation equipment is used inside a Class A multiplace hyperbaric chamber.	NFPA 99, 14.3.2.6 HFG Section 4
HBOO 5.15	If radiation equipment is used inside a Class A multiplace hyperbaric chamber, it is not operated when flammable gases with concentrations in excess of 100 parts per million are detected.	NFPA 99, 14.3.2.6.1 HFG Section 4
HBOO 6.0	Oxygen and other gases are not introduced into a Class A multiplace or Class B monoplace hyperbaric chamber in their liquid state.	NFPA 99, 14.3.3.2 HFG Section 4
HBOO 6.1	Flammable gases are not used or stored inside a hyperbaric chamber or within the hyperbaric facility.	NFPA 99, 14.3.3.3 HFG Section 4
HBOO 6.2	The amount and type of pressurized gas containers stored in a Class A multiplace hyperbaric chamber are approved by the hyperbaric safety director.	NFPA 99, 14.3.3.4 HFG Section 2, 3, 4
HBOO 7.0	The ability to decompress a Class A multiplace hyperbaric chamber from 3 ATA to surface in less than 6 minutes is documented.	NFPA 99, 14.2.4.5.1 HFG Section 4
HBOO 7.1	The ability to decompress a Class B monoplace hyperbaric chamber from 3 ATA to surface in less than 2 minutes is documented.	NFPA 99, 14.2.4.5.2 HFG Section 4

CODE	CONCENTRATION AREA	REFERENCES
e. HYPERBARIC MAINTENANCE		
HBOM 1.0	The hyperbaric safety director ensures that all valves, regulators, meters, and similar equipment are proper, safe and compensated for use in the hyperbaric environment and are tested in accordance with the routine maintenance program of the facility.	NFPA 99, 14.3.4.1.1 HFG Section 2, 3, 4
HBOM 1.1	All pressure relief valves on the hyperbaric chamber are tested and calibrated in accordance with the routine maintenance program of the hyperbaric facility.	NFPA 99, 14.3.4.1.1.1 HFG Section 2, 3, 4
HBOM 1.2	The hyperbaric safety director ensures that all gas outlets inside and outside the hyperbaric chamber are properly labeled in accordance with CGA C-7 *Guide to Classification and Labeling of Compressed Gases.*	NFPA 99, 14.3.4.1.2 CGA C-7 HFG Section 2, 3, 4
HBOM 1.3	The gases being delivered to a labeled gas outlet has been verified to be accurate.	HFG Section 4
HBOM 1.3.1	Treatment gases (breathing air and oxygen) are USP grade.	NFPA 99, 14.2.9.6.5 NFPA 99, 14.2.9.7 HFG Section 4
HBOM 1.4	Hazardous materials are not stored in the same room that houses the hyperbaric chamber.	NFPA 99, 14.3.4.1.4 HFG Section 4
HBOM 1.5	Flammable gases are not stored in the same room that houses the hyperbaric chamber.	NFPA 99, 14.3.4.1.4.1 HFG Section 4
HBOM 1.6	All replacement parts and components used in the maintenance of the hyperbaric chamber and related support systems conform to the original design specification.	NFPA 99, 14.3.4.1.5 HFG Section 4
HBOM 2.0	The installation, repair, modification of equipment related to the hyperbaric chamber received an engineering evaluation, are tested under pressure, and approved in writing by the hyperbaric safety director.	NFPA 99, 14.3.4.2.1 HFG Section 2, 3, 4
HBOM 2.1	The hyperbaric safety director maintains a log of all maintenance performed and tests conducted on all hyperbaric chamber equipment and systems.	NFPA 99, 14.3.4.2.1.1 HFG Section 2, 3, 4
HBOM 2.2	Operating equipment logs are maintained and signed by the hyperbaric safety director prior to placing the hyperbaric chamber back to service.	NFPA 99, 14.3.4.2.2.1 HFG Section 2, 3, 4
HBOM 2.3	The hyperbaric safety director ensures that all electrical, monitoring, life support, protection and ventilating arrangements in the hyperbaric chamber are inspected and tested as part of the routine maintenance program of the hyperbaric facility.	NFPA 99, 14.3.1.3.5 HFG Section 2, 3, 4
HBOM 3.0	All electrical circuits for the hyperbaric chamber are tested in accordance with the routine maintenance program of the hyperbaric facility.	NFPA 99, 14.3.5.1.1 HFG Section 4
HBOM 3.1	Procedures are in place to deenergize all nonessential electrical equipment inside a Class A multiplace hyperbaric chamber before actions are taken to extinguish a fire should there be one.	NFPA 99, 14.3.5.1.2 HFG Section 4

HBOM 3.2	Procedures are in place to deenergize smoldering burning equipment inside a Class A multiplace hyperbaric chamber before efforts are taken to extinguish a localized fire involving only the equipment.	NFPA 99, 14.3.5.1.2.1 HFG Section 4
HBOM 4.1	Furniture leg tips, tires, casters, or other conductive devices on furniture and equipment are inspected to ensure they are free of wax, lint, or other material that could insulate them and render then nonconductive.	NFPA 99, 14.3.6.2.1.1 HFG Section 4
HBOM 4.3	Metals capable of impact sparkling are not used for casters or furniture leg tips.	NFPA 99, 14.3.6.2.1.2 HFG Section 4
HBOM 4.4	Casters are lubricated only with flame resistant, oxygen compatible lubricants.	NFPA 99, 14.3.6.2.1.3 NFPA 99, 14.3.6.2.1.4 HFG Section 4
HBOM 4.5	Wheel Chairs and gurneys with sealed bearings are used in a Class A multiplace hyperbaric chamber only when the requirements of NFPA 99, 14.2.9.4 for oxygen monitoring are met.	NFPA 99, 14.3.6.2.1.5 HFG Section 4
HBOM 4.8.1	All Materials containing rubber are inspected regularly for cracking and degradation.	NFPA 99, 14.3.6.2.3 HFG Section 4
HBOM 4.9	Electrical switches, valves, and electrical monitoring equipment associated with fire detection and extinguishments are visually inspected prior to each chamber pressurization.	NFPA 99, 14.3.6.3.1 HFG Section 4
HBOM 4.10	Fire detection equipment is tested by activating trouble circuits and signals weekly.	NFPA 99, 14.3.6.3.2 HFG Section 4
HBOM 4.11	Full testing of fire detection and extinguishing equipment, to include discharge of extinguishing agent, is conducted annually.	NFPA 99, 14.3.6.3.2 HFG Section 4
HBOM 4.11.1	When the Class A multiplace hyperbaric chamber fire suppression system is out of service for any reason, appropriate personnel and agencies are notified.	NFPA 99, 14.3.1.4.6 HFG Section 4
HBOM 4.11.2	When the Class A multiplace hyperbaric chamber fire suppression system is out of service for any reason, a sign indicating its status is conspicuously posted.	NFPA 99, 14.3.1.4.7 HFG Section 4
HBOM 4.12	A regular housekeeping program to ensure the facility is kept free of grease, lint, dirt and dust is implemented.	NFPA 99, 14.3.6.4 HFG Section 4
HBOM 4.12.1	Training for housekeeping personnel on potential damage to the equipment from cleaning procedures, potential personnel injury; specific cleaning procedures; and equipment not to be cleaned is documented.	NFPA 99, 14.3.6.4.1 HFG Section 4
HBOM 5.0	Written guidance is provided for a preventive maintenance program for all hyperbaric related equipment by local technical personnel or third-party maintenance contractor.	HFG Section 4, 6
HBOM 6.0	Written guidance is provided for a major maintenance program for specific hyperbaric facility components such as compressors, control components, fire suppression systems, etc.	HFG Section 4, 6

HBOM 7.0	All acrylic viewports and cylindrical tubes are visually inspected daily in accordance with the inspection requirements identified in ASME PVHO-2, *Safety Standard for Pressure Vessels for Human Occupancy In-service Guidelines for PVHO Acrylic Windows.*	ANSI/ASME PVHO-2, 2-4.3 HFG Section 4, 6
HBOM 7.1	Daily acrylic viewports and cylindrical tube inspections are documented by individual viewport or chamber serial number or designation.	ANSI/ASME PVHO-2 1-2.1 ANSI/ASME PVHO-2 2-1.3 HFG Section 4, 6

CODE	CONCENTRATION AREA	REFERENCES
f. FACILITY CONSTRUCTION (In accordance with NFPA 99, Health Care Facilities, 1999 edition)		
HBOC 1.0	For a hyperbaric facility with a Class A multiplace hyperbaric chamber, the chamber(s) and ancillary service equipment is protected by 2-hour fire-resistive-rated construction.	NFPA 99, 14.2.1.1
HBOC 1.1	Are connecting doors to the chamber(s) and ancillary service equipment rooms al least B-label, 1 ½ hour fire doors	NFPA 99, 14.2.1.1.6
HBOC 2.0	When used for hyperbaric procedures, the room housing either a Class A multiplace or Class B monoplace hyperbaric chamber(s) are used exclusively for hyperbaric operations.	NFPA 99, 14.2.1.1.7
HBOC 2.1	Multi-use service equipment rooms (e.g., compressors) are protected by 2-hour fire-resistive-rated construction and at lease B-label, 1 ½ hour fire doors.	NFPA 99, 14.2.1.1.8 NFPA 99, 14.2.1.1
HBOC 2.2	The supporting foundation for any hyperbaric chamber is sufficiently strong to support the chamber, especially considering the added floor stresses that will be created during any on-site hydrostatic testing of the chamber.	NFPA 99, 14.2.1.1.9 NFPA 99, 14.2.1.1.9.1
HBOC 3.0	A hydraulically calculated automatic wet pipe sprinkler system meeting the requirements of NFPA 13, *Standard for the installation of Sprinkler Systems*, or an automatic water mist fire protection system, is installed in the room housing a Class A multiplace hyperbaric chamber and/or Class B monoplace hyperbaric chamber(s)	NFPA 99, 14.2.1.2 NFPA 99, 14.2.1.2.1 NFPA 13 NFPA 750
HBOC 3.1	A hydraulically calculated automatic wet pipe sprinkler system meeting the requirements of NFPA 13, *Standard for the installation of Sprinkler Systems*, or an automatic water mist fire protection system, is installed in the room housing ancillary equipment for a Class A multiplace hyperbaric chamber and/or Class B monoplace hyperbaric chamber(s)	NFPA 99, 14.2.1.2 NFPA 13 NFPA 750
HBOC 4.0	For piped gases entering the room housing the hyperbaric chamber(s), shutoff valves at the site where the piping enters the hyperbaric room are installed.	NFPA 99, 14.2.1.3.2

CODE	CONCENTRATION AREA	REFERENCES
g. HYPERBARIC CHAMBER FABRICATION		
HBOF 1.0	All hyperbaric chambers used in the hyperbaric facility are fabricated and stamped in accordance with the design, fabrication, testing and stamping requirements of ANSI/ASME PVHO PVHO-1, *Safety Standard for Pressure Vessels for Human Occupancy*.	NFPA 99, 14.2.2.1 NFPA 99, 14.2.2.2 ANSI/ASME PVHO-1, 1-1
HBOF 1.1	Viewports and penetrator plates in Class A multiplace and Class monoplace hyperbaric chambers are designed and fabricated according to ANSI/ASME PVHO-1, Safety Standard for Pressure Vessels for Human Occupancy.	NFPA 99, 14.2.2.6.2 ANSI/ASME PVHO-1, 1-7.5
HBOF 1.2	The manufacturer of the hyperbaric chamber(s) used in the hyperbaric facility possesses a valid FDA 510(k) PreMarket Notification clearance number for the chamber(s) in use.	21 CFR §807.87 21 CFR §868.5470
HBOF 2.0	Class A multiplace hyperbaric chambers are equipped with a floor that is structurally capable of supporting equipment and personnel necessary for the operation of the chamber according to its expected purpose.	NFPA 99, 14.2.2.4
HBOF 2.1	The floor of a Class A multiplace hyperbaric chamber is noncombustible.	NFPA 99, 14.2.2.4.1
HBOF 2.3	If a Class A multiplace hyperbaric chamber has a bilge, access to the bilge is provided for cleaning.	NFPA 99, 14.2.2.4.2
HBOF 3.0	If the floor of a Class A multiplace hyperbaric chamber consists of removable floor (deck) plates, the plates are mechanically secured and electronically bonded to the chamber to ensure a positive electrical ground and to prevent movement of the plate.	NFPA 99, 14.2.2.4.3
HBOF 4.0	The interior of a Class A multiplace hyperbaric chamber is either unfinished or treated with paint/coating in accordance with NFPA 101 Class A interior finish.	NFPA 99, 14.2.2.5 NFPA 99, 14.2.2.5.1 NFPA 101 10-2
HBOF 4.2	If sound deadening materials are used inside a Class A multiplace hyperbaric chamber, they are made of limited-combustible materials.	NFPA 99, 14.2.2.5.4
HBOF 5.0	Access ports both inside and outside Class A multiplace hyperbaric chambers for monitoring and other electrical circuits are housed in weatherproof enclosures for protection in the event of sprinkler activation.	NFPA 99, 14.2.2.6.1
HBOF 6.0	Unless specifically designed for interior use in a Class A multiplace hyperbaric chamber, sources of illumination are mounted on the outside of the chamber and arranged to shine through chamber ports or through chamber penetrators designed for fiber optic or similar lighting.	NFPA 99, 14.2.3.1
HBOF 6.1	Lighting fixtures used in conjunction are designed so they do not exceed the temperature ratings for the viewport material are not exceeded.	NFPA 99, 14.2.3.1.1 ANSI/ASME PVHO-1, 5-5.1
HBOF 7.0	If a Class A multiplace hyperbaric chamber has permanent lighting installed inside the chamber, or has portable lighting for temporary use, the lighting complies with the requirements of NFPA 99, 14.2.8.3.15.	NFPA 99, 14.2.3.2 NFPA 99, 14.2.8.3.15

HBOF 7.1	Emergency lighting inside a Class A multiplace hyperbaric chamber is provided.	NFPA 99, 14.2.3.3 ANSI/ASME PVHO-1, 5-5.5.2
HBOF 9.0	ASME PVHO-1 certification forms are on file for each hyperbaric chamber.	ANSI/ASME PVHO-1 2-1.3

CODE	CONCENTRATION AREA	REFERENCES
g. HYPERBARIC CHAMBER VENTILATION		
HBOV 1.1	The minimum threshold ventilation rate for Class A multiplace chambers is 3 actual cu ft per minute.	NFPA 99, 14.2.4.1.1.1
HBOV 1.4	A Class A multiplace chamber is capable of ventilation during both pressurization and non-pressurization.	NFPA 99, 14.2.4.1.1.2
HBOV 2.0	Individual breathing apparatus is available for immediate use by each occupant of a Class A multiplace chamber.	NFPA 99, 14.2.4.1.3
HBOV 2.1	Individual breathing apparatus is supplied from a gas supply source that is independent from the chamber atmosphere.	NFPA 99, 14.2.4.1.3.1
HBOV 2.2	The breathing gas supply is capable of providing sufficient gas flow to allow for simultaneous use of all breathing apparatus equipment.	NFPA 99, 14.2.4.1.3.2
HBOV 2.3	The proper function of individual breathing apparatus at all pressures that can be encountered in the chamber has been documented. This applies to Class A multiplace chambers and Class B Monoplace chambers with air break capability.	NFPA 99, 14.2.4.1.3.3
HBOV 2.4	Individual breathing apparatus switch to an alternate air supply that is independent to the chamber atmosphere in the event of a fire inside the chamber.	NFPA 99, 14.2.4.1.3.4
HBOV 2.5	A means for respiratory and eye protection from combustion products allowing unrestricted mobility shall be available outside a Class A or Class B chamber for use by personnel in the event the air in the vicinity of the chamber is fouled by smoke or other combustion products.	NFPA 99, 14.2.4.5.3
HBOV 3.0	Compressor intakes to provide sources of chamber air are located so as to avoid air contaminated by exhaust from activities of vehicles, internal combustion engines, stationary engines, or building exhaust, etc.	NFPA 99, 14.2.4.2.2
HBOV 3.1	If a conventional oil-lubricated compressor is used to provide chamber air, it is equipped with air treatment and monitoring packages.	NFPA 99, 14.2.4.2.4 NFPA 99, 14.2.9.6
HBOV 3.3	If a conventional oil-lubricated compressor is used to provide chamber air, the air treatment package includes automatic safeguards.	NFPA 99, 14.2.4.2.4.1
HBOV 3.4	Air compressor installations consist of two or more individual compressors with capacities such that required system flow rates are maintained on a continuous basis with any single compressor out of operation. Facilities with reserve air tanks or when a non-electric compressor is provided for ventilation airflow within the chamber and supply air for chamber pressurization are exempt from this requirement.	NFPA 99, 14.2.4.2.5 NFPA 99, 14.2.8.2.5
HBOV 3.5	Power to each compressor is supplied from a separate electrical branch circuit unless exempted by HBOV 3.4	NFPA 99, 14.2.4.2.5.1

HBOV 3.6	Air compressor installations that supply medical air to piped gas systems as wells as to the hyperbaric facility meet the requirement of the NFPA 99, 5.1.3.6.3 and NFPA 99, 14.2.4.2.6.	NFPA 99, 14.2.4.2.6 NFPA 99, 5.1.3.6.3
HBOV 3.7	Air compressors that supply air exclusively to the hyperbaric facility meet the requirements of NFPA 99, 14.2.4.2.	NFPA 99, 14.2.4.2
HBOV 4.0	If the air within a Class A multiplace chamber is warmed or cooled, ambient air is circulated over or past coils through which a constant flow of warm or cool water or water/glycol mixture is circulated.	NFPA 99, 14.2.4.3.1
HBOV 4.1	If the air within a Class A multiplace chamber is dehumidified, it is done so through the use of coils.	NFPA 99, 14.2.4.3.4
HBOV 4.2	If the air within a Class A multiplace chamber is humidified, it is done so through the use of an air-powered water nebulizer.	NFPA 99, 14.2.4.3.4
HBOV 4.3	If a fan is used to circulate the air within a Class A multiplace chamber, the fan shaft is lubricated with a nonflammable lubricant.	NFPA 99, 14.2.4.3.6
HBOV 5.0	Class B monoplace chambers maintain a minimum ventilation rate of at least 1 actual $cuft^3$/minute.	NFPA 99, 14.2.4.4.1
HBOV 5.1	Class B monoplace chambers not designed for 100% oxygen environment are constantly monitored for oxygen levels.	NFPA 99, 14.2.4.4.2 NFPA 99, 14.2.9.4
HBOV 5.1.1	Class B monoplace chambers not designed for 100% oxygen environment are equipped with audible and visual alarms.	NFPA 99, 14.2.9.4.1 NFPA 99, 14.2.9.4.1.1
HBOV 6.0	Class B monoplace chambers not designed for 100% oxygen environment provide air that meets requirements for CGA Grade E air with the additional limits of no condensable hydrocarbons.	NFPA 99, 14.2.9.6.3
HBOV 7.0	The air supplied to a Class A multiplace chamber meets the requirements for CGA Grade E air.	NFPA 99, 14.2.9.6.2
HBOV 8.0	The chamber atmosphere is continually monitored for combustible gas concentrations whenever any volatile agent are used in the chamber.	NFPA 99, 14.2.9.3.1 NFPA 99, 14.2.4.3.3.1
HBOV 8.1	Whenever any volatile agents are used in the chamber, the monitor is set to provide audible and visual alarms at 10 percent lower explosion limit (LEL) for the particular gas used.	NFPA 99, 14.2.9.3.1.1
HBOV 9.0	Oxygen levels are continuously monitored in any chamber in which nitrogen or other diluent gas is added to the chamber to reduce the volumetric concentration of oxygen in the atmosphere.	NFPA 99, 14.2.9.4.1
HBOV 9.1	Audible and visual alarms are provided to indicate unsafe low oxygen partial pressure in the chamber whenever nitrogen or other diluent gas is added to the chamber to reduce the volumetric concentration of oxygen in the atmosphere.	NFPA 99, 14.2.9.4.1.1
HBOV 10.0	Oxygen levels are continuously monitored in a Class A chamber when breathing mixtures containing oxygen concentrations in excess of 21 percent by volume are being breathed by patients and/or attendants and/or any flammable agents are present in the chamber.	NFPA 99, 14.2.9.4.2
HBOV 10.1	Audible and visual alarms indicate volumetric oxygen concentrations in excess of 23.5 percent.	NFPA 99, 14.2.9.4.2.1

HBOV 11.0	The atmosphere of a Class A multiplace chamber is monitored for safe carbon dioxide levels during saturation operations whenever ventilation is not used.	NFPA 99, 14.2.9.5
HBOV 12.0	The air supply for both Class A multiplace and Class B monoplace chambers is sampled at least every 6 months and after major repairs or modification of the compressor.	NFPA 99, 14.2.9.6.1
HBOV 13.0	Exhaust from a Class A multiplace or Class B monoplace chamber is piped outside the building, the point of exit being clear of all neighboring hazards and clear of possible reentry of exhaust gases into the building.	NFPA 99, 14.2.10.2 NFPA 99, 14.2.10.2.2 NFPA 99, 14.2.10.2.3
HBOV 13.1	The point of exhaust from a Class A multiplace or Class B monoplace chamber is protected by a screen (minimum of 0.3 cm (0.12 in) mesh) and is situated to prevent intrusion of rain, snow or airborne debris.	NFPA 99, 14.2.10.2.4
HBOV 13.2	The point of exhaust from a Class A multiplace or Class B monoplace chamber is identified as an oxygen exhaust by a sign prohibiting smoking or open flame.	NFPA 99, 14..10.2.5
HBOV 13.3	Each Class B monoplace chamber has an independent exhaust pipeline.	NFPA 99, 14.2.10.2.1
HBOV 14.0	The supply piping for all air, oxygen or other breathing mixtures from certified commercially supplied cylinders are provided with a particulate filter of at least 66 microns or finer.	NFPA 99, 14.2.10.3
HBOV 14.1	Particulate filters used in accordance with HBOV 14.0 meet the construction requirements of ANSI/ASME PVHO-1 and is located as close to the source as practical.	NFPA 99, 14.2.10.3.1 ANSI/ASME PVHO-1, 4-4.3.2

CODE	CONCENTRATION AREA	REFERENCES
i. HYPERBARIC CHAMBER FIRE PROTECTION		
HBOFP 1.0	A fire suppression system consisting of an independently supplied and operated handline system is installed in a Class A multiplace chamber.	NFPA 99, 14.2.5.1.1
HBOFP 1.1	A fire suppression system consisting of an independently supplied and operated deluge system is installed in a Class A multiplace chamber.	NFPA 99, 14.2.5.1.1
HBOFP 1.6	A fire signaling device is provided at the chamber operator's control console for contacting the telephone operator or suitable authority to activate the emergency fire/rescue network of the institution containing the hyperbaric facility. A telephone meets the intent of this probe.	NFPA 99, 14.2.5.1.4
HBOFP 1.7	Fire blankets and portable carbon dioxide extinguishers are not installed or taken into a Class A multiplace chamber.	NFPA 99, 14.2.5.1.5
HBOFP 1.8	Booster pumps, control circuitry, and other electrical equipment involved in fire suppression system operation is powered from a critical branch of the emergency electrical system as specified in NFPA 99, 14.2.8.2.2.2	NFPA 99, 14.2.5.1.6 NFPA 99, 14.2.8.2.2.2
HBOFP 2.0	A fixed water deluge extinguishing system is installed in all chamber compartments of a Class A multiplace chamber that are designed for manned operations.	NFPA 99, 14.2.5.2
HBOFP 2.1	In Class A multiplace chambers that consist of more than one chamber compartment (lock) the design of the deluge system ensures adequate operation when the chamber compartments are at different depths pressures).	NFPA 99, 14.2.5.2.1
HBOFP 2.2	Manual activation and deactivation deluge controls are located at the operator's control console.	NFPA 99, 14.2.5.2.4
HBOFP 2.3	Manual activation and deactivation deluge controls are located in each chamber compartment (lock) containing a deluge system.	NFPA 99, 14.2.5.2.4
HBOFP 2.4	Manual activation and deactivation deluge controls on the operator's control console and in-chamber locations are designed to prevent unintended activation.	NFPA 99, 14.2.5.2.4.1
HBOFP 2.5	Water is delivered from the sprinkler heads of a deluge system within 3 seconds of activation of any affiliated deluge control.	NFPA 99, 14.2.5.2.5.
HBOFP 2.8	There is sufficient water available in the deluge system to maintain the flow specified in NFPA 99, 14.2.5.2.6 simultaneously in each chamber compartment (lock) containing a deluge system for one (1) minute.	NFPA 99, 14.2.5.2.7
HBOFP 2.9	The deluge system has sufficient stored pressure to operate for at least 15 seconds without electrical branch power.	NFPA 99, 14.2.5.2.8
HBOFP 3.0	A handline extinguishing system is installed in all chamber compartments (locks) of Class A multiplace chambers.	NFPA 99, 14.2.5.3
HBOFP 3.1	At least one handline is located in each personnel transfer compartment (lock).	NFPA 99, 14.2.5.3.2

HBOFP 3.1.1	At least two handlines are located in each patient treatment compartment (lock).	NFPA 99, 14.2.5.3.1
HBOFP 3.2	If any chamber compartment of a Class A multiplace chamber is equipped with a bilge access panel, at least one handline is long enough to allow the use of the handline for fire suppression in the bilge area.	NFPA 99, 14.2.5.3.3
HBOFP 3.3	Handlines have an internal diameter of at least ½ inch.	NFPA 99, 14.2.5.3.4
HBOFP 3.4	Handlines are rated at a working pressure greater than the highest supply pressure of the supply system.	NFPA 99, 14.2.5.3.4
HBOFP 3.5	Each handline is activated by a manual, quick-opening, quarter-turn valve located within the compartment (lock) or a hand-operated, spring-return to close valves at the discharge end of handline.	NFPA 99, 14.2.5.3.5 NFPA 99, 14.2.5.3.5.1
HBOFP 3.6	Handlines are equipped with override valves placed in easily accessible locations outside a Class A multiplace chamber.	NFPA 99, 14.2.5.3.6
HBOFP 3.7	The water supply for the handline system is designed to ensure at least 50 psi minimum water pressure above maximum chamber pressure.	NFPA 99, 14.2.5.3.7
HBOFP 5.0	The deluge system is functionally tested at least semi-annually in accordance with NFPA 99, 14.2.5.2.7	NFPA 99, 14.2.5.5 NFPA 99, 14.2.5.2.7
HBOFP 5.1	The handline system is functionally tested at least semi-annually in accordance with NFPA 99, 14.2.5.3.7.	NFPA 99, 14.2.5.5 NFPA 99, 14.2.5.3.7
HBOFP 5.2	During initial construction, or whenever changes were made to the installed extinguishment system, testing of spray coverage per NFPA 99, 20.2.5.2.6 was performed at surface pressure and at maximum operating pressure.	NFPA 99, 14.2.5.5.3
HBOFP 5.4	A detailed record of extinguishment systems test results is provided to the hyperbaric safety director.	NFPA 99, 14.2.5.5.4
HBOFP 6.0	A sign cautioning against introducing prohibited materials inside the Class A multiplace hyperbaric chamber is posted at the chamber entrance.	NFPA 99, 14.2.5.1.7
HBOFP 7.0	Signs cautioning against introducing prohibited materials inside the Class B monoplace hyperbaric chamber are posted throughout the hyperbaric chamber room.	NFPA 99, 14.2.7.1
HBOFP 8.0	A fire alarm signaling device is provided in the room housing the Class B monoplace hyperbaric chamber. A telephone meets the intent of this probe.	NFPA 99, 14.2.7.2

CODE	CONCENTRATION AREA	REFERENCES
j. HYPERBARIC CHAMBER ELECTRICAL SYSTEMS AND SERVICE		
HBOE 1.0	All hyperbaric chamber service equipment, switchboards, panels or control consoles are located outside of and in the vicinity of the chamber.	NFPA 99, 14.2.8.1.2
HBOE 1.1	Consoles or module spaces containing both oxygen piping and electrical equipment are continuously ventilated or continuously monitored for excessive oxygen concentrations whenever electrical equipment is energized.	NFPA 99, 14.2.8.1.3
HBOE 1.2	For fixed electrical installations, no circuit breakers, line fuses, motor controllers, relays, transformers, ballasts, lighting panels, or powered panels are located inside a Class A multiplace chamber.	NFPA 99, 14.2.8.1.4
HBOE 1.3	If motors are located in a Class A multiplace chamber, the motor meets the requirements of NFPA 99, 14.2.8.3.14.	NFPA 99, 14.2.8.1.4.1 NFPA 99, 14.2.8.3.14
HBOE 1.4	All electrical equipment connected to or used in conjunction with a hyperbaric patient complies with the requirements of NFPA 99, Chapter 8, "Electrical Equipment in Health Care Facilities", and the applicable paragraphs of NFPA 99, 14.2.8.3	NFPA 99, 14.2.8.1.5 NFPA 99, Chapter 10 NFPA 99, 14.2.8.3
HBOE 1.6	Electrical equipment does not need to remain functional as long as there is a manual means of chamber decompression.	NFPA 99, 14.2.8.1.6
HBOE 2.0	Electrical service to a Class A multiplace chamber or Class B monoplace chamber is supplied from two independent sources of electric power.	NFPA 99, 14.2.8.2.1
HBOE 2.1	For hyperbaric chambers located in a hospital, one power source is a prime-motor-driven generator set located on the premises of the hospital and is designated as the Emergency System and meets the requirements of NFPA 99, Chapter 6, "Electrical Systems".	NFPA 99, 14.2.8.2.1.2 Chapter 6
HBOE 2.2	For hyperbaric chambers not located in a hospital, the designated emergency system complies with NFPA 70, National Electrical Code, Article 700, Emergency Systems.	NFPA 99, 14.2.8.2.1.3 NFPA 70, Article 700
HBOE 2.3	Electrical equipment associated with life support functions of a hyperbaric chamber or facility is connected to the critical branch of the emergency system and restores power within 10 seconds of interruption. Types of equipment include but is not limited to: a. Electrical outlets inside a Class A multiplace chamber b. Chamber emergency lighting (internal or externally mounted) c. Chamber intercommunications d. Alarm systems, including fire detectors e. Chamber fire suppression system equipment and controls. Booster pumps are on separate branch circuits serving no other loads. f. Other electrical controls for chamber pressurization and ventilation control g. Chamber room lighting to ensure continued safe operation of the facility during a normal power outage.	NFPA 99, 14.2.8.2.2 NFPA 99, 14.2.8.2.2.1

HBOE 2.4	Electrical-motor-driven compressors and auxiliary electrical equipment normally located outside the hyperbaric chamber and used for chamber atmospheric control is connected to the equipment system or emergency system.	NFPA 99, 14.2.8.2.3 NFPA 99, Chapter 6 NFPA 70 Article 700
HBOE 2.5	Electrical-motor-driven compressors and auxiliary electrical equipment located outside the hyperbaric chamber are arranged for delay-automatic or manual connection to the alternate power source to prevent excessive current draw on the system during restarting.	NFPA 99, 14.2.8.2.4
HBOE 2.6	Electrical control and alarm systems design prevents hazardous conditions such as loss of chamber pressure control, deluge activation, spurious alarms, etc., do not occur during power interruption or power restoration.	NFPA 99, 14.2.8.2.6
HBOE 3.0	Equipment or equipment components installed in or used in a Class A multiplace chamber is rated, or tested and documented, for intended hyperbaric conditions prior to use.	NFPA 99, 14.2.8.3.2
HBOE 3.1	Only the minimum of electrical equipment necessary for the safe operation of the chamber and required for patient care is allowed inside a Class A multiplace chamber.	NFPA 99, 14.2.8.3.3
HBOE 3.2	Portable equipment is not permitted in the chamber unless it is needed for patient treatment.	NFPA 99, 14.2.8.3.4
HBOE 3.3	A continuous ground is maintained between all conductive surfaces enclosing electrical circuits and the chamber hull.	NFPA 99, 14.2.8.3.9.2
HBOE 3.3.1	The resistance between the grounded chamber hull and the electrical ground does not exceed 1 ohm.	NFPA 99, 14.2.8.4.1.3
HBOE 3.3.1.1	The integrity of the electrical ground of a Class A multiplace chamber is verified at least weekly.	HFG Section 4
HBOE 3.3.1.2	The integrity of the electrical ground of a Class B monoplace chamber is verified prior to each patient treatment.	HFG Section 4
HBOE 3.5	Flexible cords used to connect portable equipment to the fixed electrical supply circuit in a Class A multiplace chamber is of the type approved for extra-hard utilization in accordance with NFPA 70, Table 400-4.	NFPA 99, 14.2.8.3.9 NFPA 70 Table 400.4
HBOE 3.6	Flexible cords used to connect portable equipment to the fixed electrical supply circuit in a Class A multiplace chamber includes a ground conductor and meet the requirements of NFPA 70, Article 501.140	NFPA 99, 14.2.8.3.9 NFPA 70 Article 501.140
HBOE 3.7	Electrical receptacles installed in a Class A multiplace chamber are waterproof.	NFPA 99, 14.2.8.3.10.1
HBOE 3.8	Electrical receptacles installed in a Class A multiplace chamber are of the type that provide for connection to the grounding conductor of the flexible cord.	NFPA 99, 14.2.8.3.10.2
HBOE 3.9	Electrical receptacles installed in a Class A multiplace chamber are supplied from an isolated power circuit that meets the requirements of NFPA 99, 14.2.8.4.2.	NFPA 99, 14.2.8.3.10.3
HBOE 3.10	Electrical receptacles installed in a Class A multiplace chamber are of the locking type or carry a label warning against unplugging the cord under load with the power cord secured and protected against a trip hazard from movement of people inside the chamber.	NFPA 99, 14.2.8.3.10.5

HBOE 3.11	Electrical switches in fixed wiring installations of Class A multiplace chambers are waterproof.	NFPA 99, 14.2.8.3.11
HBOE 3.12	Electrical switches in fixed wiring installations of Class A multiplace chambers are housed in electrical enclosures so that no sparks from arching contacts can reach the chamber environment.	NFPA 99, 14.2.8.3.11.1
HBOE 3.13	There are no exposed live electrical parts other than those that are intrinsically safe or that constitute patient monitoring leads meeting the requirements of NFPA 99, 14.2.8.3.17 used in Class A multiplace chambers.	NFPA 99, 14.2.8.3.13 NFPA 99, 14.2.8.3.13.1 NFPA 99, 14.2.8.3.13.2
HBOE 3.14	Electrical motors are not used in Class A multiplace chambers unless they meet the requirements of NFPA 70, Article 501.125(a)(1) for the chamber pressure and oxygen concentration or the motor is the totally enclosed type meeting requirements of NFPA 70, Article 501.125(a)(2) or (3).	NFPA 99, 14.2.8.3.14 NFPA 70, Article 501.125(a)(1) NFPA 70, Article 501.125(a)(3) NFPA 70, Article 501.125(a)(2)
HBOE 3.15	Permanently installed lighting inside a Class A multiplace chamber has lens guards installed.	NFPA 99, 14.2.8.3.15.2(2)
HBOE 3.16	Permanently installed lighting inside a Class A multiplace chamber is located away from areas where they would experience physical damage from normal movement of people and equipment.	NFPA 99, 14.2.8.3.15.2(3)
HBOE 3.17	Ballasts and other energy storage components that are part of the lighting circuit are installed outside the Class A multiplace chamber in accordance with NFPA 99, 14.2.8.1.4	NFPA 99, 14.2.8.3.15.3
HBOE 3.18	Portable fixtures intended for spot illumination in Class A multiplace chambers are shatterproof or otherwise protected from physical damage.	NFPA 99, 14.2.8.3.15.4
HBOE 3.20	Circuits such as headset cables, sensor heads, etc., not enclosed in accordance with NFPA 99, 14.2.8.3.7 are either intrinsically safe, or limited by circuit design to no more than 28 V and 0.5 A under normal or circuit fault condition.	NFPA 99, 14.2.8.3.16.2
HBOE 3.21	Chamber speakers used in Class A multiplace chamber are designed so that the electrical circuitry and wiring is completely enclosed.	NFPA 99, 14.2.8.3.16.3
HBOE 3.22	The electrical rating of speakers used in Class A multiplace chambers do not exceed 28 V RMS and 25 W.	NFPA 99, 14.2.8.3.16.3
HBOE 3.23	Battery operated portable intercom headset units meet the requirements of NFPA 99, 14.2.8.3.17.5 for battery operated devices.	NFPA 99, 14.2.8.3.16.5
HBOE 4.1	The electrical and mechanical integrity of portable patient care related electrical appliances used in a Class A multiplace chamber are verified and documented through an on-going maintenance program as required by NFPA 99, Chapter 10, "Electrical Equipment."	NFPA 99, 14.2.8.3.17.2 NFPA 99, Chapter 10
HBOE 4.2	Portable patient care related electrical appliances used in a Class A multiplace chamber conform to the requirements of NFPA 99, 14.2.8.3.1 and NFPA 99, 14.2.8.3.12	NFPA 99, 14.2.8.3.17.3 NFPA 99, 14.2.8.3.1 NFPA 99, 14.2.8.3.12
HBOE 4.3	Portable patient care related electrical appliances used in a Class A multiplace chamber that use oxygen contain provisions to prevent oxygen accumulation in the electrical portions of the equipment under normal and abnormal conditions.	NFPA 99, 14.2.8.3.17.4

HBOE 5.0	When battery-operated devices are used in Class A multiplace chambers, the batteries are fully enclosed and secured within the equipment enclosure.	NFPA 99, 14.2.8.3.17.5(1)
HBOE 5.1	When battery-operated devices are used in Class A multiplace chambers, the batteries are suitable for the chamber operating pressure and are of the sealed-type that does not allow off-gassing during normal use.	NFPA 99, 14.2.8.3.17.5(3)
HBOE 5.2	When battery-operated devices are used in Class A multiplace chambers, the rating of the equipment does not exceed 12 V and 48 W.	NFPA 99, 14.2.8.3.17.5(3)
HBOE 5.3	When portable, battery-operated devices are used in the Class A multiplace chamber the batteries are not charged during chamber operation.	NFPA 99, 14.2.8.3.17.5(4)
HBOE 5.4	Batteries in in-chamber equipment are not changed during chamber operation.	NFPA 99, 14.2.8.3.17.5(5)
HBOE 5.5	Lithium and Lithium ion batteries are not used in the chamber during chamber operations, unless the product has been accepted or listed for use in hyperbaric conditions by the manufacturer or a nationally recognized testing agency.	NFPA 99, 14.2.8.3.17.5(7)
HBOE 6.0	All portable, cord-connected equipment does not exceed 120 V and 2 A.	NFPA 99, 14.2.8.3.17.6(1)
HBOE 6.1	The electrical rating of cord-connected equipment has an on-off power switch.	NFPA 99, 14.2.8.3.17.6(2)
HBOE 6.2	The plug of a cord-connected device is not used to interrupt the power to the device.	NFPA 99, 14.2.8.3.17.6(3)
HBOE 8.0	Electrical equipment inside a Class B monoplace chamber is restricted to communication functions and patient physiological monitoring leads.	NFPA 99, 14.2.8.6.1
HBOE 9.0	Communication wires in Class B monoplace chambers are protected from physical damage and from coming into contact with flammable materials in the chamber by appropriate barriers or conduit.	NFPA 99, 14.2.8.6.1.2
HBOE 9.1	Patient monitoring leads in Class B monoplace chambers are part of an approved electromedical apparatus that meet the requirements of NFPA 99, 14.2.8.3.17.	NFPA 99, 14.2.8.6.1.3
HBOE 10.0	Lighting inside a Class B monoplace chamber is supplied from an external source.	NFPA 99, 14.2.8.6.2
HBOE 11.1	Control equipment, power amplifiers, output transformers, and monitors associated with communication and monitoring equipment in a Class A multiplace chamber are installed outside the chamber or meet the requirements of NFPA 99, 14.2.8.3.16.	NFPA 99, 14.2.9.1.3 NFPA 99, 14.2.8.3.16
HBOE 12.0	In a Class A multiplace chamber, an intercommunication system connects all personnel compartments (locks), main compartments (locks), and the chamber operator's control console.	NFPA 99, 14.2.9.2.1
HBOE 12.1	If used, oxygen mask microphones are approved intrinsically safe at the maximum proposed pressure of the Class A multiplace chamber and 95 ± 5 percent oxygen.	NFPA 99, 14.2.9.2.2
HBOE 16.3	Electrical monitoring equipment used in a Class A multiplace chamber meets the requirements of NFPA 99, 14.2.8.	NFPA 99, 14.2.9.7 NFPA 99, 14.2.8
HBOE 16.4	Closed circuit TV monitoring of the chamber interior is used by chamber operators when they do not have direct visual contact of the chamber interior from their operating location.	NFPA 99, 14.2.9.8
HBOE 17.0	All furniture permanently installed in a Class A multiplace chamber is grounded.	NFPA 99, 14.2.10.1

CODE	CONCENTRATION AREA	REFERENCES
k. HYPERBARIC GAS HANDLING		
HBOGH 1.0	The contents of compressed gas cylinders are legibly marked by the chemical name, or other commonly accepted name of the material, on the exterior of the cylinder.	NFPA 99, 5.1.3.1.2 CGA C-9-2013, 4.1 CGA C-7
HBOGH 1.3	Compressed gas cylinders intended for medical use containing oxygen are color marked green.	CGA P-2-2013, 5.2.3 Table 1 CGA C-9-2013, 5.1-Table 1
HBOGH 1.4	Compressed gas cylinders intended for medical use containing helium are color marked brown.	CGA P-2-2013, 5.2.3 Table 1 CGA C-9-2013, 5.1-Table 1
HBOGH 1.5	Compressed gas cylinders intended for medical use containing nitrogen are color marked black	CGA P-2-2013, 5.2.3 Table 1 CGA C-9-2013, 5.1-Table 1
HBOGH 1.6	Compressed gas cylinders intended for medical use containing air are color marked yellow.	CGA P-2-2013, 5.2.3 Table 1 CGA C-9-2013, 5.1-Table 1
HBOGH 1.7	Compressed gas cylinders intended for medical use containing gas mixtures other than mixtures of oxygen and nitrogen (such as heliox) are marked according to the combination of colors corresponding to each component gas.	CGA P-2-2013, 5.2.3 Table 1 CGA C-9-2013, 5.1-Table 1 CGA C-9-2013, 5.4
HBOGH 1.10	On high-pressure gas cylinders, the color markings are on the shoulder of the cylinder.	CGA C-9-2013, 5.3
HBOGH 2.0	High-pressure gas cylinders are stored in an assigned location that is secure and accessible only to authorized personnel.	CGA P-2-2013, 6.3.2 CGA G-4-2015, 5.2.1
HBOGH 2.1	High-pressure gas cylinders are not stored near flammable materials or substances such as oil, grease, or other readily combustible substance.	CGA P-2-2013, 6.3 CGA G-4-2015, 5.2.2
HBOGH 2.2	Gas cylinders are not stored in areas where temperatures exceed 125°F.	CGA P-2-2013, 6.1 CGA G-4-2015, 5.2.5
HBOGH 2.3	Gas cylinders are protected from abnormal mechanical shock that may damage the cylinder, valve or pressure relief valve.	CGA P-2-2013, 6.3 CGA G-4-2015, 5.2.6
HBOGH 2.4	Large gas cylinders are stored in such a manner that they are restrained from being knocked over.	CGA G-4-2015, 5.2.6

HBOGH 2.5	Large gas cylinders are transported by the use of a hand truck that provides a means of restraining or chaining the cylinder.	CGA P-2-2013, 6.2 CGA G-4-2015, 5.3.10
HBOGH 2.6	If small, high-pressure cylinders are stored and used in a horizontal position, they are secured by a holder or cradle which is designed to protect the valve and regulator.	CGA G-4-2015, 5.2.11
HBOGH 2.7	Valve protection caps, when provided, are in place, fastened hand-tight unless the cylinder is in actual use.	NFPA 99, 5.1.3.2.10 CGA G-4-2015, 5.2.12
HBOGH 2.8	Gas cylinders are stored in a manner so that they will be used in the order in which they have been received from the supplier.	CGA G-4-2015, 5.2.14
HBOGH 2.9	Empty and full gas cylinders are stored separately with the layout being planned so that the old stock can be removed first with a minimum of handling of the other cylinders.	CGA P-2-2013, 6.3 CGA G-4-2015, 5.2.15
HBOGH 2.10	Gas cylinders are stored in dry, well-ventilated locations in such a manner as to prevent accidental movement.	CGA P-2-2013, 6.3 CGA G-4-2015, 5.2.16
HBOGH 2.11	Pressure-reducing regulators are used to reduce the pressure from the cylinder to the supply line.	CGA G-4-2015, 5.5.d
HBOGH 2.12	Oxygen cylinders are not allowed to drop below a pressure of 25 psig.	CGA G-4-2015, 5.5
HBOGH 2.13	Used cylinders are marked or tagged as “EMPTY”.	CGA G-4-2015, 5.6.c
HBOGH 3.0	Liquid oxygen cylinders are stored out of doors or in a well-ventilated area.	CGA G-4-2015, 8.4.1
HBOGH 3.1	When liquid oxygen cylinders are stored inside, the room ventilation does not allow the oxygen concentration to exceed 23.5% in the storage area.	CGA G-4-2015, 8.4.1
HBOGH 3.2	When using liquid oxygen cylinders, only regulators, valves, hoses, and other equipment designed and cleaned for oxygen service are used.	CGA G-4-2015, 8.4.2
HBOGH 3.3	When using liquid oxygen cylinders, personal protection (eye protection, gloves, etc.) designed for handling cryogenic liquids are available and used.	CGA G-4-2015, 8.4.2.1
HBOGH 4.0	Procedures are in place to positively identify the contents of commercially procured gas cylinders prior to use. Commercially procured gas cylinders containing USP Grade medical air or oxygen are exempt from this requirement.	NFPA 99, 5.1.3.1.6 NFPA 99, 14.2.9.6.5 NFPA 99, 14.2.9.6.4 CGA P-2-2013, 6.1 HFG Section 4
HBOGH 5.0	Only personnel who have been specifically trained in the safe handling of compressed gases handle compressed gases.	CGA P-2-2013, 6
HBOGH 5.1	The door(s) of locations containing central gas supply systems or cylinders containing oxygen or medical air are labeled “Medical Gases: No Smoking or Open Flame”.	NFPA 99, 5.1.3.1.9
HBOGH 6.0	Bulk oxygen storage systems (storage capacity >20,000 ft3) are located above ground out of doors or in a building of fire-resistive or noncombustible/limited-combustible construction, adequately vented, and used exclusively for the storage of oxygen.	NFPA 50, 2.1.1

HBOGH 6.1	The location of bulk oxygen storage systems (storage capacity >20,000 ft3) is such that containers and associated equipment are not beneath or exposed by the failure of electric power lines, piping containing all classes of flammable or combustible liquids, or piping containing flammable gases.	NFPA 50, 2.1.1
HBOGH 6.2	The location of bulk oxygen storage systems (storage capacity >20,000 ft3) is such that mobile supply equipment has ready access and is protected to access by authorized personnel.	NFPA 50, 2.1.2
HBOGH 7.0	The minimum distance from a bulk oxygen storage system (storage capacity >20,000 ft3) and buildings of wooden frame construction is 50 ft.	NFPA 50, 2.2.1
HBOGH 7.1	The minimum distance from a bulk oxygen storage system (storage capacity >20,000 ft3) and buildings of other than wood frame construction is 1 ft.	NFPA 50, 2.2.2
HBOGH 7.2	The minimum distance from any bulk oxygen storage system (storage capacity >20,000 ft3) to any opening in walls of adjacent structures is 10 ft.	NFPA 50, 2.2.3
HBOGH 7.3	The minimum distance from any bulk oxygen storage system (storage capacity >20,000 ft3) to solid materials that burn rapidly, such as excelsior or paper, is 50 ft.	NFPA 50, 2.2.7
HBOGH 7.4	The minimum distance from any bulk oxygen storage system (storage capacity >20,000 ft3) to solid materials that burn slowly, such as heavy timber, is 25 ft.	NFPA 50, 2.2.8
HBOGH 7.5	The minimum distance from any bulk oxygen storage system (storage capacity >20,000 ft3) to places of public assembly is 50 ft.	NFPA 50, 2.2.10
HBOGH 7.6	The minimum distance from any bulk oxygen storage system (storage capacity >20,000 ft3) to areas occupied by non-ambulatory patients is at least 50 ft in a direct line from the inner container pressure-relief device discharging piping outlets, and from filling and vent connections.	NFPA 50, 2.2.11
HBOGH 7.7	The minimum distance from any bulk oxygen storage system (storage capacity >20,000 ft3) to any public sidewalk or parked vehicle is 10 ft.	NFPA 50, 2.2.12
HBOGH 7.8	The minimum distance from any bulk oxygen storage system (storage capacity >20,000 ft3) to any line of adjoining property that can be built upon is 5 ft.	NFPA 50, 2.2.13
HBOGH 8.0	For installations that require the operation of any equipment associated with bulk oxygen systems (storage capacity >20,000 ft3) by the user, legible instructions are maintained at operating locations.	NFPA 50, 4.1
HBOGH 9.0	For installations with bulk oxygen storage systems (storage capacity >20,000 ft3), inspections of the bulk oxygen system are conducted annually and are maintained by a qualified representative of the equipment owner.	NFPA 50, 4.2.1
HBOGH 9.1	Weeds and long dry grass is not within 15 ft of any bulk oxygen storage (storage capacity >20,000 ft3) container.	NFPA 50, 4.2.2

CODE	CONCENTRATION AREA	REFERENCES
l. HYPERBARIC PATIENT RIGHTS		
HBOPR 1.0	The hyperbaric facility addresses ethical issues in providing patient care.	AAAHC 1 CARF 1.B.1
HBOPR 1.1	The hyperbaric facility demonstrates respect for maintaining confidentiality of the hyperbaric patient.	DNV-GL PR.1 SR.8 CARF 1.E.1
HBOPR 1.2	The hyperbaric facility demonstrates respect for maintaining the privacy of the hyperbaric patient.	JC RI.01.01.01 AAAHC 1.C DNV-GL PR.1 SR.5 CARF 1.E.1
HBOPR 1.3	The hyperbaric facility demonstrates respect for maintaining the security of the hyperbaric patient.	JC RI.01.07.03 DNV-GL PR.1 SR.6 CARF 2.B.3
HBOPR 1.4	The hyperbaric patient's right to hyperbaric treatment is respected and supported.	JC RI.01.02.01 AAAHC 1.A
HBOPR 1.4.1	The hyperbaric patient receives a written statement of his or her rights.	JC RI.02.01.01 AAAHC 1.F.1 DNV-GL PR.1
HBOPR 1.5	The hyperbaric patient is involved in all aspects of their hyperbaric treatment and is given the opportunity to participate in decisions regarding their hyperbaric treatment.	JC RI.01.02.01 AAAHC 1.E DNV-GL PR.1 SR.2
HBOPR 1.5.1	The hyperbaric patient is provided, as complete as possible, information concerning their diagnosis, evaluation, treatment, and prognosis.	AAAHC 1.D DNV-GL PR.1 SR.3
HBOPR 1.5.1.1	When it is not medically advisable to provide the information in HBOPR 1.5.1 to the hyperbaric patient, the information is provided to a person so designated by the hyperbaric patient or to a legally authorized person.	AAAHC 1.D
HBOPR 2.0	Informed consent is obtained from the hyperbaric patient or legally authorized person.	JC RI.01.03.01 DNV-GL PR.4 CARF 1.K.2
HBOPR 2.1	All consent forms for the hyperbaric patient are documented in accordance with local hospital policy.	JC RI.01.03.01
HBOPR 3.0	If the hyperbaric patient participates in clinical research, they are informed that the research project they are involved in has been approved by an Institutional Review Board.	AAAHC 19.B CARF 1.K.2

HBOPR 3.1	All hyperbaric patients participating in clinical research are given a description of the expected benefits.	JC RI.01.03.05
HBOPR 3.2	All hyperbaric patients participating in clinical research are given a description of the potential discomforts and risks.	JC RI.01.03.05
HBOPR 3.3	All hyperbaric patients participating in clinical research are given a full explanation of the procedures to be followed, especially those that are experimental.	JC RI.01.01.03 JC RI.01.03.05
HBOPR 3.4	All hyperbaric patients asked to participate in clinical research are told that they may refuse to participate, and that their refusal will not compromise their access to hyperbaric oxygen therapy.	JC RI.01.03.05 AAAHC 1.F.7
HBOPR 4.0	The following information is made available to the hyperbaric patient: A. patient rights B. patient conduct and responsibilities C. hyperbaric services available D. provisions for after-hour and emergency care E. fees for hyperbaric treatment services F. payment policies G. methods for expressing grievances and suggestions to the hyperbaric facility	JC RI.01.01.01 JC RI.01.01.03 JC RI.01.02.01 JC RI.01.07.01 AAAHC 1.F
HBOPR 5.0	Marketing or advertising regarding the competence and capabilities of the hyperbaric facility is not misleading to the hyperbaric patient.	21 CFR, Part 801.109 AAAHC 2.I.C.15

CODE	CONCENTRATION AREA	REFERENCES
m. HYPERBARIC PATIENT ASSESSMENT		
HBOPA 1.0	Each hyperbaric patient is assessed for their physical, psychological and social status.	JC PC.01.02.01 JC PC.01.02.09 JC PC.01.02.11 JC PC.01.02.13 CARF 2.A.13
HBOPA 1.1	The nutritional status of each hyperbaric patient is assessed when warranted by the patient's needs or condition.	JC PC.01.02.01 JC PC.01.03.01 CARF 2.A.13
HBOPA 1.2	The functional status of each hyperbaric patient is assessed when warranted by the patient's needs or condition.	JC PC.01.02.07 CARF 2.A.13
HBOPA 1.3	Pain is assessed in each hyperbaric patient.	JC PC.01.02.15 DNV-GL NS.3 SR.3 CARF 2.A.13
HBOPA 1.4	Diagnostic testing necessary to determine the needs of the hyperbaric patient are performed as necessary.	JC PC.02.01.21
HBOPA 1.5	Each hyperbaric patient is reassessed at intervals determined by local hospital policy.	JC PC.01.02.03
HBOPA 1.5.1	When significant changes are noted in the condition of the hyperbaric patient, the hyperbaric physician contacts the patient's primary physician.	JC PC.02.01.19
HBOPA 2.0	Initial patient assessments are performed in accordance with local hospital policy.	JC PC.01.02.01

CODE	CONCENTRATION AREA	REFERENCES
n. HYPERBARIC PATIENT CARE		
HBOPC 1.0	The care and treatment of the hyperbaric patient is planned to ensure that they are appropriate to the patient's needs and condition.	JC PC.02.01.01 CARF 2.A.14 HFG Section 2, 3, 6
HBOPC 1.1	When planning for the care and treatment of the hyperbaric patient, the following is considered: A. the patient's history B. the patient's physical status C. diagnostic data D. the risks and benefits of the hyperbaric treatment	JC PC.01.02.01 DNV-GL MS.17 SR.1 HFG Section 2, 3, 6
HBOPC 1.2	Before obtaining informed consent for hyperbaric treatment, the risks, benefits, and potential complications associated with hyperbaric treatment are discussed with the hyperbaric patient or their legal guardian.	JC PC.02.01.21 JC RI.01.01.03 AAAHC 6.N DNV-GL PR.4 CARF 1.H.3
HBOPC 1.3	A plan of hyperbaric care is developed and documented in the patient's medical record before hyperbaric treatment is initiated.	HFG Section 2, 3, 6
HBOPC 2.0	Hyperbaric patient care procedures (such as debridement) are performed in a manner that respects privacy.	JC RI.01.01.01 AAAHC 1.B CARF 1.E.1
HBOPC 3.0	The hyperbaric facility addresses prescribing or ordering and procuring medications not available in the hyperbaric facility.	JC MM.04.01.01
HBOPC 3.1	Preparing and dispensing medication(s) adhere to law, regulation, licensure, and professional standards of practice.	JC MM.03.01.01 JC MM.05.01.07 JC MM.05.01.11 CARF 2.A.26
HBOPC 3.2	Preparation and dispensing of medication(s) is appropriately controlled.	JC MM.05.01.07 JC MM.05.01.11 DNV-GL MM.1 SR.4
HBOPC 3.3	Emergency medications are consistently available, controlled, and secure in the hyperbaric treatment area.	JC MM.03.01.03
HBOPC 4.0	All hyperbaric health care providers have the necessary and appropriate training and skills to deliver hyperbaric therapy in a safe, appropriate and ethical manner.	AAAHC 4.A AAAHC 4.B AAAHC 4.C HFG Section 1, 2, 3, 4, 5, 6

HBOPC 4.1	The Clinical Hyperbaric Medicine Physician is an M.D. or D.O. graduate holding a valid diploma from an accredited medical school.	HFG Section 1-I
HBOPC 4.1.1	The Clinical Hyperbaric Medicine Physician is board certified or board eligible in a recognized medical or surgical specialty.	HFG Section 1-I
HBOPC 4.1.2	The Clinical Hyperbaric Medicine Physician has completed at least a 40-credit-hour UHMS-approved Hyperbaric Medicine Introductory Course.	HFG Section 1-I, 5, 6
HBOPC 4.1.3	The Clinical Hyperbaric Medicine Physician maintains an unrestricted license to practice medicine in the state where the physician delivers hyperbaric therapy.	HFG Section 1-I, 5
HBOPC 4.1.4	The Clinical Hyperbaric Medicine Physician is specifically credentialed to practice clinical hyperbaric medicine in the sponsoring medical facility under the process delineated by the facility's privileging or credentials committee.	HFG Section 1-I, 5, 6
HBOPC 4.1.5	The Clinical Hyperbaric Medicine Physician was allowed to work unsupervised by the Hyperbaric Medical Director after a period of proctorship where the Clinical Hyperbaric Medicine Physician demonstrated consistent competence in standard clinical hyperbaric treatments, procedures, and safety.	HFG Section 1-I, 2, 5, 6
HBOPC 4.1.6	The Clinical Hyperbaric Medicine Physician is board certified in Undersea and Hyperbaric Medicine (UHM) or possesses a UHMS Certificate of Added Qualification (CAQ).	HFG Section 1-I, 5, 6
HBOPC 4.1.7	The Clinical Hyperbaric Medicine non-Physician Practitioner is a nurse practitioner or physician assistant holding a valid diploma from an accredited medical institution.	HFG Section 1-III
HBOPC 4.1.8	The Clinical Hyperbaric Medicine non-Physician Practitioner maintains an unrestricted license to practice in the state where the non-physician practitioner delivers hyperbaric therapy.	HFG Section 1-III
HBOPC 4.1.9	The Clinical Hyperbaric Medicine non-Physician Practitioner has completed at least a 40-credit-hour UHMS-approved Hyperbaric Medicine Introductory Course.	HFG Section 1-III
HBOPC 4.1.10	The Clinical Hyperbaric Medicine non-Physician Practitioner is board certified by the BNA or the NBDHMT.	HFG Section 1-III
HBOPC 4.1.11	The Clinical Hyperbaric Medicine non-Physician Practitioner is specifically credentialed to practice clinical hyperbaric medicine in the sponsoring medical facility under the process delineated by the facility's privileging or credentials committee.	HFG Section 1-III
HBOPC 4.1.12	The Clinical Hyperbaric Medicine non-Physician Practitioner was allowed to work unsupervised by the Hyperbaric Medical Director after a period of proctorship where the Clinical Hyperbaric Medicine Physician demonstrated consistent competence in standard clinical hyperbaric treatments, procedures, and safety.	HFG Section 1-III
HBOPC 4.2	The Hyperbaric Medical Director meets the entry-level qualifications, training, and practice guideline requirements of HBO PC 4.1, 4.1.2, 4.1.3, 4.1.4, 4.1.5 and 4.1.6	HFG Section 1-II
HBOPC 4.2.2	The Hyperbaric Medical Director is in good standing and supports a high standard of practice.	HFG Section 1-II

HBOPC 4.2.3	The Hyperbaric Medical Director demonstrates leadership, management, teaching, and administrative abilities.	HFG Section 1-II
HBOPC 4.2.4	The Hyperbaric Medical Director has a working understanding of the codes and regulations associated with the classes of hyperbaric chambers used in the hyperbaric facility.	HFG Section 1-II
HBOPC 4.2.5	The Hyperbaric Medical Director supports the pursuit of scholarly activities and debate in the field of hyperbaric medicine.	HFG Section 1-II
HBOPC 4.3	All hyperbaric medicine physicians and non-Physician Providers successfully complete and document at least 12 credit hours or 24 credit hours of Physician Category I CME in hyperbaric medicine related topics for each 12 months or 24 months of hyperbaric medicine practice.	HFG Section 1-I HFG Section 1-III
HBOPC 4.4	The Hyperbaric Registered Nurse holds a current nursing license in the state in which the nurse is practicing.	HFG Section 1-IV
HBOPC 4.4.1	The Hyperbaric Registered Nurse successfully completed at least a 40 credit hour National Board of Diving and Hyperbaric Medical Technology (NBDHMT) or UHMS approved Hyperbaric Medicine Introductory Course.	HFG Section 1-IV
HBOPC 4.4.2	The Hyperbaric Registered Nurse is current in BLS.	HFG Section 1-IV
HBOPC 4.4.3	The Clinical Hyperbaric Registered Nurse demonstrates an interest in learning, practicing, and maintaining competency in the field of hyperbaric nursing.	HFG Section 1-IV
HBOPC 4.4.4	The Hyperbaric Registered Nurse obtained Certified Hyperbaric Registered Nurse (CHRN) certification when eligible.	HFG Section 1-IV
HBOPC 4.4.5	The Certified Hyperbaric Registered Nurse obtained a minimum of 40 continuing education units (CEUs) in the most recent 4-year period, with 20 CEUs in the field of hyperbaric medicine/nursing.	HFG Section 1-VI
HBOPC 4.5	The Hyperbaric Nursing Director/Manager (if designated) meets the training standards of HBOPC 4.4.1.	HFG Section 1-VII
HBOPC 4.5.1	The Hyperbaric Nursing Director/Manager (if designated) is a Certified Hyperbaric Registered Nurse (CHRN) or higher.	HFG Section 1-V
HBOPC 4.5.2	The Hyperbaric Nursing Director/Manager (if designated) has at least 12 months recent practical experience in hyperbaric nursing.	HFG Section 1-VII
HBOPC 4.5.3	The Hyperbaric Nursing Director/Manager (if designated) possesses a Bachelor of Science degree.	HFG Section 1-V
HBOPC 4.5.4	The Hyperbaric Nursing Director/Manager (if designated) possesses a working knowledge of the codes and regulations that govern the operation of a hyperbaric medicine facility.	HFG Section 1-V
HBOPC 4.5.5	The Hyperbaric Nursing Director/Manager (if designated) participates in professional organizations appropriate for the hyperbaric nurse.	HFG Section 1-V
HBOPC 4.5.6	The Hyperbaric Nursing Director/Manager (if designated), maintains a minimum of 60 CEUs per the most recent 4-year period with 30 CEUs in the field of hyperbaric medicine/nursing.	HFG Section 1-V

HBOPC 4.5.7	The Hyperbaric Nursing Director/Manager (if designated) actively participates in hyperbaric education and leadership activities.	HFG Section 1-V
HBOPC 4.7	Hyperbaric Chamber Operations Staff have successfully completed at least a 40 credit hour National Board of Diving and Hyperbaric Medical Technology (NBDHMT) or UHMS approved Hyperbaric Medicine Introductory Course.	HFG Section 1-VIII
HBOPC 4.7.1	Hyperbaric Chamber Operations Staff working in a clinical hyperbaric medicine facility are licensed, if required, in their specialty in the state in which they perform their duties.	HFG Section 1-VII
HBOPC 4.7.2	Hyperbaric Chamber Operations Staff are current in BLS certification.	HFG Section 1-VII
HBOPC 4.7.3	Hyperbaric Chamber Operations Staff have a working knowledge of all applicable hyperbaric safety codes and standards.	HFG Section 1-VII
HBOPC 4.7.4	Hyperbaric Chamber Operations Staff have a working knowledge of decompression procedures.	HFG Section 1-VII
HBOPC 4.7.5	Hyperbaric Chamber Operations Staff are certified by the National Board of Diving and Hyperbaric Medical Technology (NBDHMT)	HFG Section 1-VII
HBOPC 4.7.6	Hyperbaric Chamber Operations Staff participate in professional hyperbaric organizations.	HFG Section 1-VII
HBOPC 4.7.7	Hyperbaric Chamber Operations Staff complete courses specifically related to operational hyperbaric safety issues.	HFG Section 1-VII
HBOPC 4.7.8	Hyperbaric Chamber Operations Staff have training and/or experience in hyperbaric chamber maintenance, to include a mechanical background where appropriate.	HFG Section 1-VII
HBOPC 4.8	The Hyperbaric Safety Director has successfully completed at least a 40 credit hour National Board of Diving and Hyperbaric Medical Technology (NBDHMT) or UHMS approved Hyperbaric Medicine Introductory Course.	HFG Section 1-VIII
HBOPC 4.8.1	The Hyperbaric Safety Director has successfully completed a UHMS or NBDHMT approved hyperbaric safety director training course.	HFG Section 1-VIII
HBOPC 4.8.2	The Hyperbaric Safety Director has been certified by the NBDHMT or the Baromedical Nurses Association Certification Board (BNACB) within 1 year of assuming the responsibilities of safety director.	HFG Section 1-VIII
HBOPC 4.9	The Hyperbaric Technical Director (if designated) has successfully completed at least a 40 credit hour National Board of Diving and Hyperbaric Medical Technology (NBDHMT) or UHMS approved Hyperbaric Medicine Introductory Course.	HFG Section 1-IX
HBOPC 4.9.1	The Hyperbaric Technical Director (if designated) has documented experience of at least 5 years in hyperbaric facility operations.	HFG Section 1-IX
HBOPC 4.9.2	The Hyperbaric Technical Director (if designated) is certified by the NBDHMT.	HFG Section 1-IX
HBOPC 4.10	The non-clinical Hyperbaric Program Manager (if designated) has successfully completed at least a 40 credit hour National Board of Diving and Hyperbaric Medical Technology (NBDHMT) or UHMS approved Hyperbaric Medicine Introductory Course.	HFG Section 1-IX
HBOPC 4.10.1	The non-clinical Hyperbaric Program Manager (if designated) has documentation of at least 1-year's experience in hyperbaric chamber operations.	HFG Section 1-X

HBOPC 4.10.2	The non-clinical Hyperbaric Program Manager (if designated) is certified by the NBDHMT if the individual possesses a qualified vocation that allows him/her to seek certification.	HFG Section 1-X
HBOPC 4.10.3	The non-clinical Hyperbaric Program Manager (if designated) has a working knowledge of all applicable hyperbaric safety codes and standards.	HFG Section 1-X
HBOPC 4.10.4	The non-clinical Hyperbaric Program Manager (if designated) is current in BLS certification.	HFG Section 1-X
HBOPC 4.10.5	The non-clinical Hyperbaric Program Manager (if designated) completes courses specifically related to operational hyperbaric safety issues.	HFG Section 1-X
HBOPC 4.10.6	The non-clinical Hyperbaric Program Manager (if designated) has a working knowledge of decompression procedures.	HFG Section 1-X
HBOPC 4.10.7	The non-clinical Hyperbaric Program Manager (if designated) participates in professional hyperbaric organizations.	HFG Section 1-X
HBOPC 5.0	The clinical hyperbaric facility provides for hyperbaric health care providers and staff to communicate with hyperbaric patients in the language primarily used by them.	AAAHC 1.C
HBOPC 6.0	Clinical interventions are developed to address the potential for injury related to transferring the hyperbaric patient in/out of the chamber, explosion of equipment, fire and/or medical support equipment.	BNA Standards of Care MPCS-HBO pg1
HBOPC 6.1	Clinical interventions are developed to address the potential for barotraumas to ears, sinuses, teeth, and lungs or cerebral gas embolism related to changes in atmospheric pressure inside a hyperbaric chamber.	BNA Standards of Care MPCS-HBO pg2
HBOPC 6.2	Clinical interventions are developed that address the potential for oxygen toxicity related to delivery of 100% oxygen at an increased atmospheric pressure.	BNA Standards of Care MPCS-HBO pg2
HBOPC 6.3	Clinical interventions are developed that address the potential for inadequate therapeutic gas delivery related to the delivery system and the patient's needs/limitations.	BNA Standards of Care MPCS-HBO pg3
HBOPC 6.4	Clinical interventions are developed that address anxiety and fear related to feelings of confinement anxiety associated with the hyperbaric chamber.	BNA Standards of Care MPCS-HBO pg4
HBOPC 6.5	Clinical interventions are developed that address pain related to associated medical problems.	BNA Standards of Care MPCS-HBO pg4
HBOPC 6.6	Clinical interventions are developed that address discomfort related to temperature and humidity changes inside the hyperbaric chamber.	BNA Standards of Care MPCS-HBO pg4
HBOPC 6.7	Clinical interventions are developed that address the potential for ineffective individual coping related to the stresses of illness and/or poor psychosocial support systems.	BNA Standards of Care MPCS-HBO pg4
HBOPC 6.8	Clinical interventions are developed that address the potential for dysrhythmia related to disease pathology.	BNA Standards of Care MPCS-HBO pg5
HBOPC 6.9	Clinical interventions are developed that address the potential for fluid volume deficit related to dehydration or fluid shifts.	BNA Standards of Care MPCS-HBO pg5

HBOPC 6.10	Clinical interventions are developed that address altered cerebral tissue perfusion related to: A. carbon monoxide poisoning B. decompression sickness C. acute necrotizing infection D. gas embolism	BNA Standards of Care MPCS-HBO pg5
HBOPC 6.11	Clinical interventions are developed that address the potential for alteration in comfort, fluid and electrolyte balance related to nausea and vomiting.	BNA Standards of Care MPCS-HBO pg5

CODE	CONCENTRATION AREA	REFERENCES
o. HYPERBARIC ENVIRONMENT OF CARE		
HBOEC 1.0	The hyperbaric facility complies with applicable state and local building codes and regulations.	JC EC.01.01.01 AAAHC 8.A.1 DNV-GL PE.1 SR.3
HBOEC 2.0	The hyperbaric facility complies with applicable state and local fire prevention regulations (NFPA 101, Life Safety Code) as appropriate.	JC EC.02.03.01 JC EC.02.03.05 JC LS.02.01.10 AAAHC 8.A.2 DNV-GL PE.2 SR.1
HBOEC 2.1	Hallways leading from occupied rooms or spaces of the hyperbaric facility to exits are at least 36” in clear width, with minimum height of 7’ and the minimum headroom of 6’8”.	NFPA 101, 24.2.6
HBOEC 2.2	The minimum clear width for doors in the means of egress is not less than 28”.	NFPA 101, 24.2.4.1
HBOEC 2.3	There are no stairs with 3 steps (risers) or less in hallways leading from occupied rooms or spaces in the hyperbaric facility to an exit.	NFPA 101, 32.2.1.4.1 NFPA 101, 32.2.1.4.2 NFPA 101, 32.2.1.4.3
HBOEC 2.5	The floor on both sides of doors occurring between an occupied space of the hyperbaric facility and an exit is level and at the same elevation for a distance at least equal to the widest single door leaf.	NFPA 101, 7.2.1.3.2 NFPA 101, 7.2.1.15.6
HBOEC 2.6	Any door in a means of egress is capable of swinging to a full 90-degree opening.	NFPA 101, 7.2.1.3.2 NFPA 101, 7.2.1.15.6
HBOEC 2.6.5	The direction of travel to an exit from the hyperbaric facility is obvious (no windows or mirrors are located in such a manner as would confuse the path to exit or be mistaken as an exit.	NFPA 101, 7.1.10.2.3
HBOEC 2.7	Exit signs in the hyperbaric facility are clearly illuminated at all times.	NFPA 101, 7.10.5.1
HBOEC 2.8	There is sufficient lighting at all times (with emergency power back-up) in all exit corridors to make the direction and path of travel safe to traverse (avoid tripping, stumbling, etc.)	NFPA 101, 7.10.1.7
HBOEC 2.9	All hyperbaric personnel have access to a written plan for protection of all occupants in the event of a fire in the hyperbaric facility and for their evacuation to areas of refuge and from the building when necessary.	NFPA 101, 18.7.1.1
HBOEC 2.9.1	All hyperbaric personnel are trained and kept informed of their duties with respect to the hyperbaric facility evacuation plan.	NFPA 101, 18.7.1.2
HBOEC 3.0	The hyperbaric facility contains fire-fighting equipment to control a limited fire.	JC EC.02.03.05 AAAHC 8.B.1 DNV-GL PE.2 SR.4

HBOEC 6.0	If present in the hyperbaric facility, stairwells are protected by fire doors.	AAAHC 8.B.4
HBOEC 7.0	The hyperbaric facility periodically instructs all hyperbaric personnel in the proper use of safety, emergency, and fire-extinguishing equipment.	JC EC.03.01.01 AAAHC 8.D NFPA 99, 14.3.1.4.3
HBOEC 7.1	The hyperbaric facility is designed and maintained to ensure the safe evacuation of hyperbaric patients and the staff is knowledgeable, trained and proficient in emergency egress procedures especially for non-ambulatory patients or those with compromised ambulatory abilities.	JC EM.02.02.11 AAAHC 7.II.E NFPA 99, 14.3.1.4.3
HBOEC 7.2	The hyperbaric facility conducts and documents worst case hyperbaric specific fire drills at least annually for all full-time and part-time personnel.	JC EC.02.03.03 AAAHC 8.E.1 NFPA 99, 14.3.1.4.3 NFPA 99, 14.3.1.4.5
HBOEC 7.2.1	The hyperbaric facility participates in organizational fire drills.	JC EC.02.03.03
HBOEC 10.0	Conditions that present slip, trip and fall hazards, electrical shock, burns, poisoning or other traumas are mitigated or rendered safe by engineering and management controls.	JC EC.02.01.01 JC EC.02.05.01 AAAHC 8.G DNV-GL PE.3 SR.4
HBOEC 11.0	Reception areas, toilets, and telephones are provided in accordance with the hyperbaric patient and visitor volume.	JC EC.02.06.01 AAAHC 8.B.5
HBOEC 13.0	Provisions are made to reasonably accommodate disabled individuals in the hyperbaric facility.	JC EC.02.06.01 AAAHC 8.H
HBOEC 14.0	All examination rooms, dressing rooms, and reception areas are constructed and maintained in a manner that ensures the privacy of the hyperbaric patient during interview, examinations, treatment, and consultation.	JC RI.01.06.05 AAAHC 8.B.6
HBOEC 15.0	Adequate lighting and ventilation are provided in all areas of the hyperbaric facility.	JC EC.02.06.01 AAAHC 8.I DNV-GL PE.8 SR.8
HBOEC 16.0	The hyperbaric facility is clean and properly maintained.	JC EC.02.06.01 AAAHC 8.J DNV-GL PE.1 SR.1
HBOEC 17.0	Food snack services and refreshments provided to hyperbaric patients meet their clinical needs and are prepared, stored, served, and disposed of in conformance with local health department requirements.	AAAHC 20.N.1
HBOEC 18.0	The hyperbaric facility has developed and implements a plan for the management of hazardous materials and waste.	JC EC.02.02.01 AAAHC 8.K DNV-GL PE.5 SR.1
HBOEC 19.0	The space in the hyperbaric facility is adequate for the patient treatment, administrative and management functions conducted in the facility.	JC EC.02.06.01 AAAHC 8.L

HBOEC 20.0	The hyperbaric facility plans and implements a medical equipment management plan.	JC EC.02.04.03 AAAHC 8.N DNV-GL PE.7 SR.1
HBOEC 20.1	All medical equipment items within the hyperbaric facility are maintained, tested and inspected.	JC EC.02.04.03 AAAHC 8.N DNV-GL PE.7 CARF 1.J.7
HBOEC 21.0	An alternate power source, adequate for the protection of the life and safety of hyperbaric patients and staff, is available for the hyperbaric facility.	JC EC.02.05.03 AAAHC 9.T DNV-GL PE.8 SR.6

CODE	CONCENTRATION AREA	REFERENCES
p. HYPERBARIC PATIENT EDUCATION		
HBOPE 1.0	The hyperbaric facility plans for and supports the provisions and coordination of education activities for the hyperbaric patient.	JCACHO PC.02.03.01 HFG Section 2
HBOPE 1.1	The hyperbaric facility identifies and provides the resources necessary for achieving education objectives for the hyperbaric patient.	JCACHO PC.02.03.01
HBOPE 1.2	The hyperbaric patient receives education and training specific to the patient's assessed needs, abilities, learning preferences, and readiness to learn as appropriate to the care and services provided by the hyperbaric facility.	JCACHO PC.02.03.01
HBOPE 1.3	The hyperbaric patient receives education about nutritional interventions, modified diets, etc., when applicable.	JCACHO PC.02.03.01
HBOPE 1.4	The hyperbaric facility educates the hyperbaric patient on the safe and effective use of medical supplies, as appropriate.	JCACHO PC.02.03.01
HBOPE 1.5	The hyperbaric patient is educated on other resources, and when necessary, how to obtain further care, services, or treatment to meet their needs.	JCACHO PC.02.03.01
HBOPE 1.6	The hyperbaric facility provides education to the hyperbaric patient regarding their responsibilities to their hyperbaric treatment.	JCACHO PC.02.01.01
HBOPE 1.7	The hyperbaric facility provides education regarding self-care activities to the hyperbaric patient, as appropriate.	JCACHO PC.02.03.01
HBOPE 1.8	Nursing interventions are developed to educate the hyperbaric patient on anxiety related to the knowledge deficit of hyperbaric oxygen therapy and treatment procedures.	BNA Standards of Care
HBOPE 1.9	Nursing interventions are developed to educate the hyperbaric patient on altered health maintenance related to the management of chronic wounds.	BNA Standards of Care
HBOPE 1.10	Nursing interventions are developed to educate the hyperbaric patient on altered health maintenance related to restrictions following decompression sickness.	BNA Standards of Care
HBOPE 1.11	Nursing interventions are developed to educate the hyperbaric patient on altered health maintenance related to symptoms to report after carbon monoxide poisoning.	BNA Standards of Care

CODE	CONCENTRATION AREA	REFERENCES
q. HYPERBARIC QUALITY IMPROVEMENT		
HBOQI 1.0	The hyperbaric facility has established a quality improvement program.	JC LD.04.04.05 AAAHC 5.I.A DNV-GL QM.1 SR.1 HFG Section 6
HBOQI 1.1	The hyperbaric facility quality improvement program addresses issues such as clinical, administrative, cost-of-care issues, and patient outcomes.	JC LD.04.04.05 AAAHC 5.I.A DNV-GL QM.1 SR.1a
HBOQI 1.2	Performance expectations are established for new, existing and modified hyperbaric processes.	JC LD.04.04.03 DNV-GL QM.1 SR.1a
HBOQI 1.3	The performance of new, existing and modified hyperbaric processes is measured.	JC LD.04.04.03 DNV-GL QM.7
HBOQI 2.0	Data are collected to monitor the stability of existing hyperbaric processes, identify opportunities for improvement, identify changes that will lead to improvement, and sustain improvement.	JC PI.01.01.01 AAAHC 5.I.B DNV-GL QM.7
HBOQI 2.1	Examples of hyperbaric quality improvement activities may include (but not limited to) evaluation of the following hyperbaric patient care issues: A. unexpected results or complications of hyperbaric treatment B. clinical performance and practice patterns of hyperbaric providers C. medical record review for quality of care and completeness of entries D. other professional services provided E. assessment of patient satisfaction F. staff concerns G. accessibility H. medical/legal issues I. wasteful practices J. utilization review K. patient grievances	JC PI.02.01.01 DNV-GL QM.7
HBOQI 2.2	Hyperbaric practitioners evaluate the frequency, severity, and source of unexpected hyperbaric related problems.	JC PI.02.01.01
HBOQI 2.3	Data are systematically analyzed on an ongoing basis.	JC PI.02.01.01 DNV-GL QM.1 SR.1
HBOQI 2.4	Undesirable patterns or trends in performance are analyzed.	JC PI.02.01.01 DNV-GL QM.5

HBOQI 2.5	The hyperbaric facility identifies changes that will lead to improved performance and reduce the risk to the hyperbaric patient.	JC PI.03.01.01
HBOQI 2.6	Appropriate records of hyperbaric quality improvement activities are maintained.	DNV-GL QM.5
HBOQI 3.0	There is a person or committee responsible for the hyperbaric risk management program.	AAAHC 5.II.G

CODE	CONCENTRATION AREA	REFERENCES
r. HYPERBARIC PROFESSIONAL IMPROVEMENT		
HBOPI 1.0	The hyperbaric facility maintains a hyperbaric reference library with open access to all facility staff.	AAAHC 16.B.3
HBOPI 2.0	The hyperbaric facility provides orientation and training to familiarize all personnel with the facility's policies, procedures, etc.	DNV-GL SM.6
HBOPI 3.0	The hyperbaric facility encourages participation in seminars, workshops, and other educational activities related to the practice of hyperbaric medicine and facility safety.	AAAHC 2.III.J.2 DNV-GL MS.10 HFG Section 2
HBOPI 4.0	The hyperbaric facility monitors the requirements for continued staff licensure and certification.	AAAHC 2.II.B.6 HFG Section 1, 2, 5, 6

CODE	CONCENTRATION AREA	REFERENCES
s. HYPERBARIC LEADERSHIP		
HBOL 1.0	Senior hyperbaric leaders provide for hyperbaric program planning by defining a mission, a vision, and values for the hyperbaric facility and creating the strategic, operational, programmatic, and other plans and policies to achieve the mission and vision of the hyperbaric facility.	JC LD.02.01.01 JC LD.04.01.07 AAAHC 2.I.C.1 AAAHC 2.I.C.5 CARF 1.A.3 HFG Section 6
HBOL 1.1	Senior hyperbaric leaders communicate the hyperbaric facility's mission, values and plans.	JC LD.02.03.01
HBOL 1.2	Planning by senior hyperbaric leaders provides for setting performance improvement priorities and identifies how the hyperbaric facility adjusts priorities in response to unusual or urgent events.	JC LD.04.04.01 DNV-GL QM.6 SR.4 SR.5 CARF 1.A.3
HBOL 2.0	The hyperbaric facility provides patient care according to its written goals and scope of services.	JC PC.01.01.01
HBOL 3.0	Senior hyperbaric leaders develop programs for recruitment, retention, development, and continuing education of all hyperbaric staff members.	JC LD.01.04.01 JC LD.01.07.01 CARF 1.A.3 HFG Section 1, 2
HBOL 3.1	Senior hyperbaric leaders implement programs to promote hyperbaric staff member's job-related advancement and educational goals.	JC LD.01.07.01 CARF 1.I.5 HFG Section 1, 2
HBOL 4.0	Senior hyperbaric leaders recommend a sufficient number of qualified and competent persons to provide hyperbaric care.	JC LD.01.04.01 NFPA 99, 14.3.1.4.2 DNV-GL MS.11 SR.1 CARF 1.I.1 HFG Section 2, 3, 5
HBOL 5.0	Senior hyperbaric leaders participate in hyperbaric facility performance improvement activities.	JC LD.04.04.01 JC PI.03.01.01 DNV-GL QM.4 CARF 2.A.19 HFG Section 2, 6
HBOL 5.2	Senior hyperbaric leaders assign facility personnel to participate in performance-improvement activities.	CARF 2.A.19

HBOL 5.3	Senior hyperbaric leaders provide adequate time to personnel to participate in performance-improvement activities.	JC LD.04.04.05
HBOL 5.4	Senior hyperbaric leaders provide for hyperbaric staff training in the basic approaches to and methods of performance improvement.	JC LD.04.04.05 HFG Section 4

CODE	CONCENTRATION AREA	REFERENCES
t. HYPERBARIC HUMAN RESOURCES		
HBOHR 1.0	The senior leaders of the hyperbaric facility define the qualifications and performance expectations for all hyperbaric staff positions.	JC HR.01.02.01 DNV-GL MS.2 CARF 1.I.2 HFG Section 1, 2, 3, 5
HBOHR 2.0	The hyperbaric facility is staffed with adequate personnel whose qualifications are consistent with their job responsibilities.	JC HR.01.01.01 NFPA 99, 14.3.1.4.2 CARF 1.I.1 HFG Section 1, 2, 3
HBOHR 2.1	At least two trained and credentialed Hyperbaric physician or non-physician providers are on staff for a full-time Clinical Hyperbaric Medicine Program.	HFG Section 3-I
HBOHR 2.1.1	A trained and credentialed hyperbaric physician is designated as, and is responsible for, the duties of Medical Director.	HFG Section 3-I
HBOHR 2.1.2	Hyperbaric physician or non-physician provider staffing ensures coverage for twenty-four hour hyperbaric medicine consultation in programs offering emergency hyperbaric oxygen treatment.	HFG Section 3-I
HBOHR 2.1.3	Hyperbaric physician or non-physician provider staffing ensures timely and appropriate patient evaluation and treatment.	HFG Section 3-I
HBOHR 2.1.4	Hyperbaric physician or non-physician provider staffing ensures appropriate physician supervision during hyperbaric treatments.	HFG Section 3-I
HBOHR 2.1.5	Hyperbaric physician or non-physician provider staffing ensures conformance and maintenance, through personal initiative or appropriate delegation, of patient, staff, department and hospital (as appropriate) training and safety requirements.	HFG Section 3-I
HBOHR 2.1.6	Hyperbaric physician or non-physician provider staffing ensures the proper administration of the hyperbaric facility within recognized local and national standards.	HFG Section 3-I
HBOHR 2.1.7	Hyperbaric physician or non-physician provider staffing ensures adequate physician rest and recovery.	HFG Section 3-II
HBOHR 2.2	At least one Clinical Hyperbaric Registered Nurse (CHRN) or Certified Hyperbaric Technologist (CHT) is on duty in the clinical area at all times when a patient is receiving hyperbaric treatment.	HFG Section 3-II
HBOHR 2.2.1	A Registered Nurse is responsible for ensuring that a RN assessment is conducted in accordance with local hospital policy for outpatients.	HFG Section 3-II
HBOHR 2.2.2	A Registered Nurse ensures that there is RN supervision of non-physician wound care treatments.	HFG Section 3-II

HBOHR 2.2.3	A Registered Nurse ensures that there is RN attendance of any critically ill or emergency patient.	HFG Section 3-II
HBOHR 2.2.4	A Registered Nurse ensures RN case management as appropriate.	HFG Section 3-II
HBOHR 2.2.5	RN-licensed activities are defined.	HFG Section 3-II
HBOHR 2.2.6	LVN-licensed activities are defined.	HFG Section 3-II
HBOHR 2.2.7	Unlicensed activities for RN and LVN personnel are defined.	HFG Section 3-II
HBOHR 2.3	A minimum of one hyperbaric technician or trained hyperbaric staff member is on duty in the hyperbaric facility when non-treatment hyperbaric chamber operations are ongoing.	HFG Section 3-III
HBOHR 3.0	Hyperbaric staff mix determinations provide for safe hyperbaric treatment by allowing for the following factors: A. type and number of hyperbaric chambers used at the hyperbaric facility B. anticipated patient treatment load C. types of patient treatments anticipated (routine or emergency) D. number of patient treatments to be conducted daily E. location of hyperbaric facility (hospital based, clinic, or non-affiliated) F. experience level of available nursing and technical staff G. degree of ancillary technical support (hospital maintenance staff, etc.)	NFPA 99, 14.3.1.4.2 HFG Section 3
HBOHR 4.0	The hyperbaric facility provides an orientation process to acquaint new hyperbaric staff to initial job and assesses the staff's ability to fulfill specified responsibilities.	JC HR.01.04.01 DNV-GL SM.6 CARF 1.I.5 HFG Section 1
HBOHR 4.1	The hyperbaric facility provides ongoing in-service training and other educational programs to maintain and improve hyperbaric staff competence.	JC HR.01.05.03 DNV-GL MS.10 CARF 1.I.5 HFG Section 1, 2, 5, 6
HBOHR 4.2	The hyperbaric facility assesses each hyperbaric staff member's ability to meet the performance expectations stated in his or her job description in accordance with local policy.	JC HR.01.02.05 JC HR.01.07.01 DNV-GL MS.2 SR.2 HFG Section 1, 2, 5, 6

CODE	CONCENTRATION AREA	REFERENCES
u. HYPERBARIC INFORMATION MANAGEMENT		
HBOIM 1.0	The hyperbaric facility develops and maintains a system for the collection, processing, maintenance, storage, retrieval, and distribution of hyperbaric patient records.	JC IM.01.01.01 AAAHC 6.A DNV-GL MR.2 SR.2 CARF 1.E.3 HFG Section 6
HBOIM 2.0	The hyperbaric facility establishes an individual clinical record for each patient assessed for or receiving hyperbaric treatment.	AAAHC 6.C DNV-GL MR.2 SR.1 CARF 2.A.33
HBOIM 2.1	Only authorized hyperbaric personnel make entries into the hyperbaric patient record.	JC IM.01.02.03 DNV-GL MR.4 SR.3
HBOIM 2.2	Entries in a hyperbaric patient record include, but are not limited to: A. date, provider and profession (MD, RN, etc.) B. purpose of assessment or treatment C. clinical findings D. diagnosis or impression E. studies ordered, such as TCOM, laboratory, etc. F. therapy administered G. disposition, recommendations, and instructions given to the patient H. authentication and verification of contents by the hyperbaric practitioner, as required	JC IM.01.01.01 AAAHC 6.I CARF 2.A.40
HBOIM 3.0	A member of the hyperbaric staff is designated in charge of hyperbaric patient records whose responsibilities include, but are not limited to: A. the confidentiality, security, and physical safety of records B. the timely retrieval of individual hyperbaric patient records on request C. the unique identification of each hyperbaric patient's record D. the supervision of the collection, processing, maintenance, storage, retrieval, and distribution of hyperbaric patient records E. the maintenance of a predetermined, organized and secured record format	JC IM.02.01.03 JC IM.02.02.03 AAAHC 6.B
HBOIM 4.0	The hyperbaric facility has establishes policies pertaining to hyperbaric patient records that address, but not limited to, the following: A. retention of active records B. retirement of inactive records C. timely entry of data in records D. release of information contained in records E. frequency of records review	JC IM.02.01.03 JC IM.02.02.03 AAAHC 6.R DNV-GL MR.3

HBOIM 4.1	Except when otherwise required by law, the content and format of hyperbaric clinical records, including the sequence of information, are uniform.	JC IM.02.02.01 AAAHC 6.G
HBOIM 4.2	Reports, histories and physicals, progress notes, and other pertinent patient information are reviewed and incorporated into the hyperbaric patient record in a timely manner.	JC IM.02.02.03 AAAHC 6.J
HBOIM 4.3	Entries in hyperbaric patient records are legible.	AAAHC 6.D DNV-GL MR.5 SR.2a
HBOIM 5.0	Hyperbaric patient records are reviewed on an ongoing basis for completeness and timeliness of information, and action is taken to improve the quality and timeliness of documentation that impacts hyperbaric patient care.	JC IM.02.02.03 JC IM.04.01.01

CODE	CONCENTRATION AREA	REFERENCES
v. HYPERBARIC INFECTION PREVENTION		
HBOIP 1.0	The hyperbaric facility uses a coordinated process to reduce the risks of endemic and epidemic nosocomial infections in hyperbaric patients, staff and visitors.	JC IC.01.03.01 JC IC.01.04.01 JC IC.01.05.01 JC IC.01.06.01 JC IC.02.01.01 JC IC.02.02.01 JC IC.02.03.01 DNV-GL IC.1 SR.1 CARF 1.H.11 HFG Section 6
HBOIP 1.1	One or more qualified hyperbaric staff personnel manage the infection prevention process.	JC IC.01.01.01 DNV-GL IC.1 SR.6
HBOIP 1.2	The hyperbaric facility takes action to control outbreaks of nosocomial infections when they are identified.	JC IC.02.03.01

CODE	CONCENTRATION AREA	REFERENCES
w. HYPERBARIC MEDICAL STAFF		
HBOMS 1.0	The Hyperbaric Medicine Director is certified by an appropriate specialty board, or affirmatively establishes comparable competence, through the credentialing process.	JC MS.06.01.03 CARF 3.D.21 HFG Section 1, 2, 3, 5, 6
HBOMS 1.1	All hyperbaric medical staff personnel participate in continuing education related to the practice of hyperbaric medicine.	JC MS.12.01.01 DNV-GL MS.10 HFG Section 1, 2, 6
HBOMS 1.1.1	Participation in continuing education activities by hyperbaric medical staff is documented.	JC MS.12.01.01 HFG Section 1, 2, 6

CODE	CONCENTRATION AREA	REFERENCES
x. HYPERBARIC TEACHING AND PUBLISHING		
HBOTP 1.0	For hyperbaric facilities that are involved in formal teaching activities, policies have been developed that addresses the reasonableness of the time spent away from direct patient care and administrative activities.	AAAHC 18.A.1
HBOTP 2.0	For hyperbaric facilities that are involved in publication activities, policies have been developed that address: A. the need for governing body approval when the views, policies, and procedures expressed in the publication are attributed to the hyperbaric organization B. the terms and conditions of compensation from publication and the cost of publication	AAAHC 18.C
HBOTP 3.0	The staff of the hyperbaric facility is actively involved in medical and lay community educational activities related to the practice of hyperbaric medicine.	HFG Section 2, 6

CODE	CONCENTRATION AREA	REFERENCES
y. HYPERBARIC CLINICAL RESEARCH		
HBOCR 1.0	For hyperbaric facilities that are involved in clinical research, research activities are performed in accordance with ethical and professional practice and legal requirements and these activities are periodically monitored.	AAAHC 19.A
HBOCR 1.1	An appropriate Institutional Review Board (IRB) or equivalent approves clinical research protocols.	AAAHC 19.B
HBOCR 1.2	Clinical research conducted in a hyperbaric facility is appropriate to the expertise of the hyperbaric staff and the resources of the facility.	AAAHC 19.C
HBOCR 1.3	Hyperbaric personnel involved in clinical research are provided adequate facilities.	AAAHC 19.D
HBOCR 1.4	Provisions are made to ensure that the rights and welfare of all research subjects are adequately protected and that the informed consent of the subject, in the language spoken by him or her, is obtained by adequate and appropriate methods.	AAAHC 19.E DNV-GL PR.4
HBOCR 1.5	All members of the hyperbaric staff are informed of the hyperbaric facility's research policies.	AAAHC 19.F

III. SURVEY RATING PROCESS

Information gathered from a careful review of the *Clinical Hyperbaric Facility Accreditation Presurvey Questionnaire* and the on-site survey form the basis for a facility's accreditation decision. The survey team evaluates a hyperbaric facility's degree of conformance with the consolidated requirements. Though it is desirable for a facility to conform to all requirements, it should be noted that the UHMS is seeking to ascertain substantial conformance with the requirements. Surveyors will determine substantial conformance through a combination of personal interviews, observations and document reviews. The rating scheme is based on a similar approach used by the Rehabilitation Accreditation Commission - CARF. This scheme was selected due to its ease of application, its existing validation as a measurement tool and for flexibility to achieve survey team consensus. Conformance to each survey area will be determined according to a rating scale of 0 to 3. Each rating corresponds to the following conformance level:

Rating 0 ***Non-conformance***.
The hyperbaric facility does not even partially conform to the major provision of the standard or its intent. When a rating of 0 is assigned, a recommendation must be made that addresses the requirement. Suggestions for achieving conformance may be included in the recommendation.

Rating 1 ***Partial conformance***.
The hyperbaric facility meets some of the provisions of the standard and its intent, yet does not meet the standard or its intent in its entirety. When a rating of 1 is assigned, a recommendation must be made to explain what the facility should to do to be in full conformance with the requirement.

Rating 2 ***Conformance***.
The hyperbaric facility fully meets the provisions of the standard and its intent. No recommendation or comment is required.

Rating 3 ***Exemplary conformance***.
The hyperbaric facility significantly exceeds all provisions of the standard and its intent. A statement must be provided to justify the assignment of an exemplary notation.

NA ***Not applicable***

IV. DOCUMENT REVIEW GUIDANCE

Introduction

A review of pertinent facility documents helps surveyors streamline the assessment process. Most documents requested for review reflect your facility's performance of one or more of the survey probes that have been compiled for assessment. A smaller sampling helps orient surveyors to specific facility policies and plans. Having these documents organized and readily available electronically for surveyor review helps minimize the length of the assessment process. REFER TO THE UHMS WEBSITE FOR THE MOST CURRENT GUIDANCE RELATED TO DOCUMENT PREPARATION.

Document Preparation

Virtually every document requested should already exist in some form. It should not be necessary to prepare a new document for purposes of the survey. To facilitate the identification of appropriate materials for review, issues of surveyor interest have been provided where possible to identify a specific probe requirement. This allows the facility to identify the particular documents in which the issues are addressed. It is possible that these issues will be addressed as elements of other documents such as organizational bylaws, rules and regulations; minutes or reports of the governing body; staff meetings with attached reports; nursing policies; and safety policies. If a document to support a specific probe is a form, do not provide a blank form. Instead, demonstrate that the form is being used.

Document Review Room

A room should be made available to the survey team throughout the assessment process. The room should be capable of being closed off or otherwise made private to facilitate surveyor team meetings and discussions as required. Additionally, the room should be located within the hyperbaric facility.

Documents To Be Available For Review

The following documents are representative examples of the types of documents that should be made available for review during the survey process. It is important to note that they are not the only documents that should be available for review. Depending on the extent of services provided and whether a hyperbaric facility is involved in academic instruction and/or clinical research, not every facility will be expected to provide all documents as listed. For additional clarification, the specific probes are referenced to the document type requested for a given area of emphasis.

Code	Concentration Area Documents	Yes	No	NA
	Hyperbaric Governance (HBOG)			
HBOG 1.0	Document depicting the legal status of the organization or facility			
HBOG 2.0	Document describing the hyperbaric facility's mission, goals and objectives			
HBOG 2.3	Governing body bylaws for the management of the hyperbaric facility			
HBOG 2.5	Document that reveals how the governing body maintains effective lines of communication with the staff of the hyperbaric facility			
HBOG 2.7	Document related to the involvement of the governing body in establishing a policy on patient's rights			
HBOG 2.9	Document related to the governing body policies on employment for all staff			
HBOG 2.10	Document related to the governing body policy on continuing medical education			
HBOG 2.11	Document related to the facility policy on after-hours information related to hyperbaric treatment			
HBOG 2.12	Document related to policies to insure compliance with Centers for Medicare and Medicaid Services reimbursement policies and procedures			
HBOG 2.13	Document that depicts governing body involvement in development of short-range and long-range plans of the hyperbaric facility			
HBOG 2.18	Document that illustrates the governing body's involvement in the development of facility safety policies and procedures			
HBOG 3.1	Document that indicates at least an annual governing body review of the status of patient's rights, quality of care, quality improvement, safety, etc.			
HBOG 4.0 – 4.1	Document that depicts the governing body policy on granting, reappointing, and terminating clinical privileges for a hyperbaric practitioner			
HBOG 5.0	Document that reveals the governing body policy on medical staff assessment			
	Hyperbaric Administration (HBOA)			
HBOA 1.5	Document to depict policies on fiscal control of the hyperbaric facility			
HBOA 1.6	Document that reveals the method of timely dissemination of information in the facility			
HBOA 1.6.1	Minutes of staff meetings for the previous 12 months			
HBOA 1.7	Document to reveal policies on the procurement, maintenance, and disposition of equipment and supplies within the hyperbaric facility			
HBOA 1.8	An operational/administrative organization chart			
HBOA 1.9 – 1.9.1	Document to demonstrate that policies on data management and security are in place			
HBOA 2.0 – 2.2	Document to define facility personnel policies supplemented by evidence of in accordance with local policy and completion of timely performance feedback for the employee			
HBOA 3.0	Copy of unit Operating Instructions			
HBOA 4.1	Report of patient satisfaction assessments provided to the governing body for review			
HBOA 5.0	Evidence that all facility staff are educated on the hazards associated with the operation of a hyperbaric facility			

HBOA 6.0	Document that designates an individual as safety director			
HBOA 6.1-6.5	Documents that indicate the involvement of the safety director in the development of policies related to safety, maintenance, staffing and operation of the hyperbaric facility			
HBOA 6.6	Document that illustrates the facility's policy on the safe handling of gases within the facility			
	Hyperbaric Operations (HBOO)			
HBOO 1.1	Document that demonstrates that emergency procedures are routinely practiced by facility personnel			
HBOO 1.2	Document that reveals that in-service training on safety related issues are routinely conducted			
HBOO 1.3	Document that indicates that all personnel have been trained on emergency decompression procedures			
HBOO 4.1 & 4.6	Document that defines the patient clothing requirement and approved by hyperbaric safety director			
HBOO 4.2	Documented authorization from the safety director when prohibited materials are allowed inside the hyperbaric chamber			
HBOO 7.0 – 7.1	Document that demonstrates that each hyperbaric chamber meets NFPA decompression rate requirements			
	Hyperbaric Maintenance (HBOM)			
HBOM 1.0 – 1.1	Document that defines the routine maintenance policy of the facility			
HBOM 1.3.1	Document that reports the results of the validation of the purity and grade of patient treatment gases			
HBOM 2.1	A log that demonstrates the Safety Director is tracking all maintenance performed and tests conducted on hyperbaric equipment items			
HBOM 4.12.1	Document that demonstrates that training on the hazards associated with the operation of a hyperbaric facility has been conducted for housekeeping personnel			
HBOM 5.0	Document that depicts the preventive maintenance program for all hyperbaric equipment			
HBOM 6.0	Document that indicates the guidance provided for the major maintenance program for specific items of hyperbaric equipment such as compressors, etc.			
HBOM 7.0 – 7.1	Document to indicate that daily acrylic inspections are being performed on each hyperbaric chamber			
	Hyperbaric Facility Construction (HBOC)			
HBOC 1.0 – 3.3	A copy of the Certificate of Occupancy or building clearance granted by the local Authority Having Jurisdiction of the municipality in which the facility operates			
	Hyperbaric Chamber Fabrication (HBOF)			
HBOF 1.0 – 6.1	A copy of the FDA 510(k) Premarket Notification Clearance letter to the manufacturer of the hyperbaric chamber (note: this document can be downloaded from the Internet at www.fda.gov/cdrh/510khome.html after searching under Product Code CBF)			

	Hyperbaric Chamber Ventilation (HBOV)			
	No documents required for review			
	Hyperbaric Chamber Fire Protection (HBOFP)			
HBOFP 5.0	Test results of the semi-annual functional test of the Class A deluge and handline fire suppression system			
HBOFP 5.4	Report to the safety director of Class A fire system extinguishment tests			
	Hyperbaric Chamber Electrical Systems and Service (HBOE)			
HBOE 4.1	Document to indicate that electrical and mechanical integrity of portable patient care equipment is verified and documented through an on-going maintenance program			
	Hyperbaric Gas Handling (HBOGH)			
HBOGH 4.0	Document to validate that the content of gas cylinders procured from commercial sources is verified			
	Hyperbaric Patient Rights (HBOPR)			
HBOPR 1.0	Minutes, reports or other evidence that the hyperbaric facility addresses ethical issues that arise out of patient care activities			
HBOPR 1.4.1	A copy of the Patient's Rights Statement			
HBOPR 2.0	A copy of the Patient Informed Consent Form			
HBOPR 3.0 – 3.4	Documentation to support informed consent for a patient to participate in Institutional Review Board (IRB) approved clinical research			
HBOPR 4.0	Documentation to reveal the hyperbaric patient has been informed on issues such as patient conduct and responsibilities; hyperbaric services available; provisions for after-hour and emergency care; fees for services; payment policies and methods of expressing grievances and suggestions.			
	Hyperbaric Patient Assessment (HBOPA)			
HBOPA 1.0 – 1.5.1	Policies, procedures and documented processes for initial and follow-up patient assessment			
HBOPA 2.0	Policies and procedures that address the scope of assessment for registered nurses			
	Hyperbaric Patient Care (HBOPC)			
HBOPC 1.3	Document to validate that the plan for hyperbaric care is entered into the patient's medical record before hyperbaric therapy begins			
HBOPC 3.0 – 3.3	Policies and procedures related to the prescribing, procuring, preparing and dispensing medications			
HBOPC 4.0; 4.1.2; 4.4.1; 4.7	Documents to validate that all healthcare providers and technical personnel have met minimum hyperbaric training requirements as required by their specialty			
HBOPC 4.1.4	Document to verify that physicians are specifically credentialed to practice Clinical Hyperbaric Medicine in the sponsoring medical facility			

HBOPC 4.3; 4.4.5; 4.5.6; 4.6.4	Documents to verify that all certified healthcare providers are meeting the minimum requirements for continuing education as required by their specialty			
HBOPC 4.8.1	Document to verify that the safety director has successfully completed a UHMS or NBDHMT course on hyperbaric safety			
HBOPC 4.8.2	Document to verify that the safety director has been certified within 1 year of assuming the responsibilities of safety director			
HBOPC 4.9.2	Document to verify that the Technical Director (if so designated) is certified by the NBDHMT			
HBOPC 6.0 – 6.11	Documents to demonstrate that appropriate nursing interventions are developed and routinely practiced			
	Hyperbaric Environment of Care (HBOEC)			
HBOEC 2.9	Management plan for protection of all occupants of the facility in the event of fire			
HBOEC 2.9.1; 7.2	Document to indicate that all personnel are trained and kept informed of their duties with respect to the facility fire evacuation plan			
HBOEC 18.0	Document to verify the development of a plan and management policies for hazardous materials and waste			
HBOEC 20.0	Document to validate a medical equipment management plan			
	Hyperbaric Patient Education (HBOPE)			
HBOPE 1.0 – 1.11	Policies or procedures related to patient education			
	Hyperbaric Quality Improvement (HBOQI)			
HBOQI 2.6	Document(s) to reveal the scope of facility quality improvement initiatives and their results			
	Hyperbaric Professional Improvement (HBOPI)			
HBOPI 4.0	Policies related to maintaining the requirements for continued licensure and certification			
	Hyperbaric Leadership (HBOL)			
HBOL 5.2	Document to define the responsibilities for acting on recommendations through performance improvement activities			
HBOL 5.4	Document(s) to indicate that senior hyperbaric leaders have provided staff personnel with adequate educational opportunities related to performance improvement			
	Hyperbaric Human Resources (HBOHR)			
HBOHR 1.0	Documents to describe job descriptions for all hyperbaric facility personnel positions			
HBOHR 2.2.5	Document(s) to define RN (licensed) activities			
HBOHR 2.2.6	Document(s) to define LVN (licensed) activities			
HBOHR 2.2.7	Documents(s) to define unlicensed RN and LVN activities			
HBOHR 4.0	Document(s) to outline the orientation process for new hyperbaric facility staff			
HBOHR 4.1	Document to indicate that in-service training is provided to staff to maintain and improve staff performance			

HBOHR 4.2	Document(s) to indicate that staff performance according to the incumbent's job description is assessed			
	Hyperbaric Information Management (HBOIM)			
HBOIM 5.0	Documents, minutes, reports, etc., to reflect the process used to review hyperbaric patient records for quality of documentation and timely completion for the most recent 12-month period supplemented by the completed record review summary sheet			
	Hyperbaric Infection Prevention (HBOIP)			
HBOIP 1.0	Document to describe the local hyperbaric facility's Infection Prevention Program			
	Hyperbaric Medical Staff (HBOMS)			
HBOMS 1.1.1	Document(s) to validate medical staff participation in continuing medical education activities related to hyperbaric medicine			
	Hyperbaric Teaching and Publishing			
HBOTP 1.0 – 2.0	Document(s) that describe the facility's policies related to teaching and publication activities			
HBOTP 1.0 – 2.0	Copies of all course control documents (plans of instruction, etc.) for courses taught by the staff of the hyperbaric facility			
HBOTP 1.0 – 2.0	Copies of all documents submitted to UHMS or NBDHMT for course review and approval			
HBOTP 1.0 – 2.0	Copies of abstracts, articles, scientific papers, etc., published or presented by staff members in the three years previous to the survey			
	Hyperbaric Clinical Research (HBOCR)			
HBOCR 1.0	Copies of all IRB approved clinical research efforts conducted in the three years prior to the survey			
HBOCR 1.0	Results of all IRB approved clinical research efforts concluded in the three years prior to the survey			
HBOCR 1.1	Copies of all IRB approvals for clinical research currently being conducted in the facility			

VI. SURVEY SCHEDULE

<table>
<tr><th colspan="6">Accreditation Survey Team (AST)</th></tr>
<tr><td colspan="6">DAY ONE</td></tr>
<tr><td colspan="4">0800-0815</td><td colspan="2">AST arrive on-site</td></tr>
<tr><td colspan="4">0815-0845</td><td colspan="2">Opening Conference & Program Overview (Given by Facility Staff)</td></tr>
<tr><td colspan="4">0845-0900</td><td colspan="2">Facility Orientation (Tour)</td></tr>
<tr><th colspan="2">AST Team Chief</th><th colspan="2">CHRN</th><th colspan="2">CHT</th></tr>
<tr><td>0900-0930</td><td>Medical Director -Discussion</td><td colspan="2">Document Review</td><td colspan="2">Document Review</td></tr>
<tr><td colspan="2">Document Review</td><td>0900-1200</td><td>HBOA (Administration)
HBOPA (Patient Assessment)
HBOPE (Patient Education)
HBOIM (Information Management)</td><td>0900-1200</td><td>HBOO (Operations)
HBOM (Maintenance)
HBOF (Chamber Fabrication)
HBOV (Chamber Ventilation)</td></tr>
<tr><td>0930-1200</td><td>HBOG (Governance)
HBOPR (Patient Rights)
HBOMS (Medical Staff)
HBOPC (Patient Care)</td><td colspan="2"></td><td colspan="2"></td></tr>
<tr><td colspan="4">1200-1300</td><td colspan="2">Lunch</td></tr>
<tr><td>1300-1530</td><td>HBOPI (Professional Improvement)
HBOL (Leadership)
HBOCR (Clinical Research)</td><td>1300-1530</td><td>HBOQI (Quality Improvement)
HBOHR (Human Resources)
HBOTP (Teaching & Publication)
HBOIP (Infection Prevention)</td><td>1300-1530</td><td>HBOFP (Fire Protection)
HBOE (Electrical Systems)
HBOGH (Gas Handling)
HBOFC (Facility Construction)</td></tr>
<tr><td colspan="4">1530-1630</td><td colspan="2">AST Hotwash (Closed Door)</td></tr>
<tr><td colspan="6">DAY TWO</td></tr>
<tr><td>0800-0900</td><td colspan="3">Observe Patient Care Operations</td><td>0800-0900</td><td>HBOEC (Environment of Care)</td></tr>
<tr><td colspan="4">0900-1000</td><td colspan="2">Validation and Follow-up</td></tr>
<tr><td colspan="4">1000-1200</td><td colspan="2">Draft Preliminary Report</td></tr>
<tr><td colspan="4">1200-1300</td><td colspan="2">Lunch</td></tr>
<tr><td colspan="4">1300-1400</td><td colspan="2">Draft Preliminary Report</td></tr>
<tr><td colspan="4">1400-1430</td><td colspan="2">Medical Director Outbrief</td></tr>
<tr><td colspan="4">1430-1500</td><td colspan="2">Hospital Executive Staff Outbrief</td></tr>
<tr><td colspan="4">1500-1600</td><td colspan="2">Facility Staff Outbrief</td></tr>
<tr><td colspan="4">1600</td><td colspan="2">AST Team Depart</td></tr>
</table>

VI. PROBE UPDATE LOG

a. REVISED PROBES

CODE	REVISION	REASON CODE	ORIGINAL PROBE
HBOG 4.3	Removed “usually for no more than two years”.	1, 4	The governing body provides a policy to establish the period of time for which privileges are granted to the hyperbaric practitioner, usually for no more than two years.
HBOA 2.1	Removed “annually” and added “in accordance with local policy”	1, 4	Policies and procedures are established to implement short and long-term strategic plans as developed by the governing body.
HBOA 4.0	Replaced “at lease semi-annually” with “in accordance with local policy”.	1, 4	The hyperbaric facility assesses patient satisfaction at least semi-annually.
HBOA 3.0	Replaced “at lease annually” with “in accordance with local policy”.	1, 4	Hyperbaric facility operating instructions are developed and reviewed at least annually.
HBOA 6.0	Added “in writing”.	1, 4	A safety director of the hyperbaric facility has been designated.
HBOA 6.1	Added “such as a hyperbaric safety director training course”.	1, 4	The safety director has been supported by the governing body and facility management to obtain additional training specifically related to hyperbaric safety.
HBOO 4.0	Replaced “they meet the flame resistant requirements for the small-scale test in NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films” with “approved by hyperbaric safety director”.	1, 2, 4	Textile materials made of silk, wool, or synthetics are not permitted inside Class A multiplace or Class B monoplace hyperbaric chambers unless they meet the flame resistant requirements for the small-scale test in NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.
HBOO 4.1	Specified cotton/polyester blend to be “50/50”.	1, 2	Only garments made of 100% cotton or cotton /polyester blend fabrics are permitted inside Class A and Class B hyperbaric chambers.
HBOO 5.4	Specified “Only Class I and Class II Lasers” can be used in a Class A multiplace chamber.	1, 2	Laser equipment is not used inside the hyperbaric chamber under any condition.
HBOM 1.3.1	Treatment gases are now required to be USP grade.	1, 2	Treatment gases provided to patients are tested for gas purity in accordance with the routine maintenance program of the hyperbaric facility.

HBOM 2.0	Added “in writing” in addition to approval by hyperbaric safety director.	1, 4	The installation, repair, modification of equipment related to the hyperbaric chamber receive an engineering evaluation, are tested under pressure, and approved by the safety director.
HBOM 7.1	Added “viewport serial number” in addition to chamber serial number.	1, 2, 4	Acrylic viewports and cylindrical tube inspections are documented by individual chamber serial number or designation.
HBOC 3.0	Added “automatic water mist fire protection system”.	1, 2	A hydraulically calculated automatic wet pipe sprinkler system meeting the requirements of NFPA 13, Standard for the Installation of Sprinkler Systems is installed in the room housing a Class A multiplace hyperbaric chamber and/or Class B monoplace hyperbaric chamber(s).
HBOC 3.1	Added “automatic water mist fire protection system”.	1, 2	A hydraulically calculated automatic wet pipe sprinkler system meeting the requirements of NFPA 13, Standard for the Installation of Sprinkler Systems is installed in the room housing ancillary equipment for a Class A multiplace hyperbaric chamber and/or Class B monoplace hyperbaric chamber(s).
HBOV 2.3	Added “This applies to Class A Multiplace Chambers and Class B Monoplace Chambers with air break capabilities”.	1, 2, 4	The proper function of individual breathing apparatus at all pressures that can be encountered in the chamber has been documented.
HBOV 3.4	Added “Facilities with reserve air tanks or when a non-electric compressor is provided for ventilation airflow within the chamber and supply air for chamber pressurization are exempt from this requirement”.	1, 2, 4	Air compressor installations consist of two or more individual compressors with capacities such that required system flow rates are maintained on a continuous basis with any single compressor out of operation.
HBOV 6.0	Changed grade of air from Grade D to Grade E	1, 2	Class B monoplace chambers not designed for 100% oxygen environment provide air that meets requirements for CGA Grade D air with the additional limits of no condensable hydrocarbons.
HBOV 7.0	Changed grade of air from Grade D to Grade E	1, 2	The air supplied to a Class A multiplace chamber meets the requirements for CGA Grade D air.
HBOV 12.0	Specified carbon dioxide concentration sampling periods to be “at least every 6 months and after major repairs or modification of the compressors”.	1, 2	The air supply for both Class A multiplace and Class B monoplace chambers is sampled periodically for concentrations of carbon monoxide.
HBOV 14.0	Changed requirements on the particulate filter from “10 microns or finer” to “66 microns or finer”	1, 2	The supply piping for all air, oxygen or other breathing mixtures from certified commercially supplied flasks is provided with a particulate filter of at least 10 microns or finer.

HBOFP 1.6	Added “A telephone meets the intent of this probe”.	1, 2, 4	A fire signaling device is provided at the chamber operator’s control console for contacting the telephone operator or suitable authority to activate the emergency fire/rescue network of the institution containing the hyperbaric facility.
HBOFP 7.0	Signs cautioning against introducing prohibited material inside the Class B monoplace hyperbaric chamber are now required to be posted “throughout the chamber room” instead of “at the entrance”.	1, 4	A sign cautioning against introducing prohibited material inside the Class B monoplace hyperbaric chamber is posted at the chamber entrance.
HBOFP 8.0	Added “A telephone meets the intent of this probe”.	1, 2, 4	A fire alarm signaling device is provided in the room housing the Class B monoplace hyperbaric chamber(s)
HBOE 5.4	Replace “charged” with “changed”.	1, 3	Batteries in in-chamber equipment are not charged during chamber operation.
HBOGH 4.0	Added “Commercially procured gas cylinders containing USP Grade medical air or oxygen are exempt from this requirement”.	1, 2, 6	Procedures are in place to positively identify the contents of commercially procured gas cylinders prior to use.
HBOPC 4.3	Now Require 12 credit hours or 24 credit hours for each 12 months or 24 months.	1, 5	All hyperbaric medicine physicians successfully complete and document at least 12 credit hours of Physician Category I CME in hyperbaric medicine related topics for each 24 months of hyperbaric medicine practice.
HBOPC 4.4.5	Now require 40 CEUs in the most recent 2-year period with 20 CEUs in hyperbaric medicine/nursing field instead of 20 CEUs in the most 2-year field and 10 CEUs in hyperbaric medicine/nursing filed.	1, 5	The Certified Hyperbaric Registered Nurse obtained a minimum of 20 continuing education units (CEUs) in the most recent 2-year period, with 10 CEUs in the field of hyperbaric medicine/nursing.
HBOPC 4.5.6	Now require 60 CEUs in the most recent 4-year period with 30 CEUs in hyperbaric medicine/nursing field instead of 30 CEUs in the most 4-year field and 15 CEUs in hyperbaric medicine/nursing filed.	1, 5	The Hyperbaric Nursing Director/Manager (if designated) maintains a minimum of 30 CEUs per the most recent 2-year period with 15 CEUs in the field of hyperbaric medicine/nursing.
HBOPC 4.7.7	Replaced “attend” with “complete”.	1, 4	Allied Hyperbaric Health Care Providers attend courses specifically related to operational hyperbaric safety issues.
HBOPC 4.10.2	Added “if the individual possesses a qualified vocation that allows him/her to seek certification”.	1, 4, 5	The non-clinical Hyperbaric Program Manager (if designated) is certified by the NBDHMT.

HBOPC 4.10.5	Now require non-clinical Hyperbaric Program Manager to “complete” courses instead of “attend”.	1, 4, 5	The non-clinical Hyperbaric Program Manager (if designated) attends courses specifically related to operational hyperbaric safety issues.
HBOEC 2.1	Require hallways to be at least 36” in width and 7’ in height instead of 44” in width and 7’6” in height.	1, 2	Hallways leading from occupied rooms or spaces of the hyperbaric facility to exits are at least 44” in clear width, with minimum height of 7’6” and the minimum headroom of 6’8”.
HBOEC 2.2	Require minimum clear width for doors to be no less than 28” instead of 32”.	1, 2	The minimum clear width for doors in the means of egress is not less than 32”.
HBOEC 3.0	Deleted “including appropriately maintained and placed fire extinguishers of the proper type”.	1, 2, 6	The hyperbaric facility contains fire-fighting equipment to control a limited fire, including appropriately maintained and placed fire extinguishers of the proper type.
HBOEC 7.2	Now requires “worst case hyperbaric specific fire drills” to be documented.	1, 2, 4	The hyperbaric facility conducts drills of the internal emergency plan at least annually for all full-time and part-time personnel.
HBOHR 4.2	Added “in accordance with local policy”.	1, 4	The hyperbaric facility assesses each hyperbaric staff member’s ability to meet the performance expectations stated in his or her job description.

b. NEW PROBES

CODE	NEW ADDITION	REASON CODE
HBOF 9.0	ASME PVHO-1 certification forms are on file for each hyperbaric chamber.	1, 2
HBOV 13.3	Each Class B monoplace chamber has an independent exhaust pipeline.	1, 2
HBOE 3.3.1.1	The integrity of the electrical ground of a Class A multiplace chamber is verified at least weekly.	1, 2
HBOE 3.3.1.2	The integrity of the electrical ground of a Class B multiplace chamber is verified prior to each patient treatment.	1, 4, 5
HBOE 5.5	Lithium and Lithium ion batteries are not used in the chamber during chamber operations, unless the product has been accepted or listed for use in hyperbaric conditions by the manufacturer or a nationally recognized testing agency.	1, 2
HBOPC 4.1.6	The Clinical Hyperbaric Medicine Physician is board certified in Undersea and Hyperbaric Medicine (UHM) or possesses a UHMS Certificate of Added Qualification (CAQ).	1, 5
HBOPC 4.1.7	The Clinical Hyperbaric Medicine non-Physician Practitioner is a nurse practitioner or physician assistant holding a valid diploma from an accredited medical institution.	1, 5
HBOPC 4.1.8	The Clinical Hyperbaric Medicine non-Physician Practitioner is board certified by the BNA or the NBDHMT.	1, 5
HBOPC 4.1.9	The Clinical Hyperbaric Medicine non-Physician Practitioner has completed at least a 40-credit-hour UHMS-approved Hyperbaric Medicine Introductory Course.	1, 5
HBOPC 4.1.10	The Clinical Hyperbaric Medicine non-Physician Practitioner maintains an unrestricted license to practice in the state where the non-physician practitioner delivers hyperbaric therapy.	1, 5
HBOPC 4.1.11	The Clinical Hyperbaric Medicine non-Physician Practitioner is specifically credentialed to practice clinical hyperbaric medicine in the sponsoring medical facility under the process delineated by the facility's privileging or credentials committee.	1, 5
HBOPC 4.1.12	The Clinical Hyperbaric Medicine non-Physician Practitioner was allowed to work unsupervised by the Hyperbaric Medical Director after a period of preceptorship where the Clinical Hyperbaric Medicine Physician demonstrated consistent competence in standard clinical hyperbaric treatments, procedures, and safety.	1, 5

c. DELETED PROBES

CODE	ORIGINAL PROBE	REASON CODE
HBOA 1.0	Policies and procedures to implement policies developed by the governing body are maintained by the hyperbaric facility.	1, 4, 6
HBOA 1.3	Policies and procedures are established to validate that all reasonable efforts are being made to comply with all applicable laws, regulations, codes and standards.	1, 4, 6
HBOO 3.3	Shoes with ferrous nails are not worn inside a Class A hyperbaric chamber.	
HBOO 5.1	The use of ancillary equipment inside a Class A multiplace chamber is approved for use by the safety director.	1, 4, 6
HBOO 5.5	Equipment known to be, or suspected of being, defective is not used in the hyperbaric chamber or in conjunction with the operation of the hyperbaric chamber until it is repaired, tested and accepted by the safety director.	1, 4, 6
HBOM 4.0	If a Class A multiplace hyperbaric chamber has a conductive floor, it meets the requirements for conductive floors in NFPA 99, E.6.6.8, "Reduction in Electric Hazard".	1, 2, 4, 6
HBOM 4.6	If conductive accessories are used inside the hyperbaric chamber, they meet the conductivity requirements of NFPA 99, Annex E, 6.6.8.3, Reduction in Electrostatic Hazard.	1, 2, 4, 6
HBOM 4.7	If conductive tests are conducted, they are in accordance with NFPA 99, Annex E, "Flammable Anesthetizing Locations".	1, 2, 4, 6
HBOF 2.2	The supporting foundation for any hyperbaric chamber is sufficiently strong to support the chamber, especially considering the added floor stresses that will be created during any on-site hydrostatic testing of the chamber.	1, 2, 4, 6
HBOF 4.1	If the hyperbaric facilities maintenance program requires periodic treating (painting) of the interior of a Class A multiplace hyperbaric chamber, the finish manufacturer's product application procedures and material safety data sheets are reviewed to determine the recommended period of off gassing.	1, 2, 4, 6
HBOF 8.0	Form PVHO-2, Fabrication Certification For Acrylic Windows, is on file for each acrylic window and/or acrylic tube.	1, 2, 4, 6
HBOF 8.1	ASME PVHO Enclosure 1, Acrylic Window Design Certification, is on file for each acrylic window and/or acrylic tube.	1, 2, 4, 6
HBOF 8.2	ASME PVHO Enclosure 1, Acrylic Window Design Certification, is on file for each acrylic window and/or acrylic tube.	1, 2, 4, 6

HBOF 8.3	ASME PVHO Enclosure 3, Material Testing Certification For Acrylic, is on file for each acrylic window and/or acrylic tube.	1, 2, 4, 6
HBOF 8.4	ASME PVHO Enclosure 4, Pressure Testing Certification, is on file for each acrylic window and/or acrylic tube.	1, 2, 4, 6
HBOF 8.5	ASME Form U-1, Manufacturer's Data Report For Pressure Vessels or ASME Form U-1A, is on file for each hyperbaric chamber.	1, 2, 4, 6
HBOV 1.0	When a Class A multiplace chamber is used as an operating room, it is ventilated and conditioned in accordance with minimum temperature requirements for hospital operating rooms as specified in NFPA 99, 13-4.1, Anesthetizing Locations.	1, 2, 4, 6
HBOV 1.2	If inhalation anesthetic gases are used in a Class A multiplace chamber, a closed anesthetic system with exhaled-gas scavenging and overboard dumping is used.	1, 2, 4, 6
HBOV 1.3	Flammable inhalation anesthetics are not used inside Class A multiplace chambers.	1, 2, 4, 6
HBOV 3.2	If a conventional oil-lubricated compressor is used to provide chamber air, air treatment package meets the monitoring requirements of NFPA 99, 20.2.8.6.	1, 2, 4, 6
HBOV 6.1	Air supplied to Class B monoplace chambers is sampled for carbon monoxide.	1, 2, 4, 6
HBOV 12.1	Air supplied from an oil-lubricated compressor capable of contaminating the compressor output due to wear or failure is continuously monitored for volatized hydrocarbons and carbon monoxide at a location downstream from the oil filter when the compressor is running.	1, 2, 4, 6
HBOFP 1.2	The design of the Class A multiplace chamber fire suppression system is such that the failure of components in either the handline or deluge system will not render the other system inoperative.	1, 2, 4, 6
HBOFP 1.3	The design of the Class A multiplace chamber fire suppression system is such that activation of either the handline or the deluge system automatically causes a visual and aural alarm to occur at the chamber operator's control console.	1, 2, 4, 6
HBOFP 1.4	The design of the Class A multiplace chamber fire suppression system is such that activation of either the handline or the deluge system automatically causes all ungrounded electrical leads for power and lighting inside the chamber are disconnected.	1, 2, 4, 6
HBOFP 1.5	The design of the Class A multiplace chamber fire suppression system is such that activation of either the handline or the deluge system automatically causes emergency lighting and communication to be activated where available.	1, 2, 4, 6
HBOFP 3.8	The water supply for the handline system is capable of supplying a minimum of 5 gpm (18.8 L/min) flow simultaneously to each of any two handlines at the maximum chamber pressure.	1, 2, 4, 6
HBOFP 3.9	The handline system provides water simultaneously to any two handlines at maximum chamber pressure for not less than 4 minutes.	1, 2, 4, 6
HBOFP 4.0	When equipped with an automatic detection system, surveillance fire detectors responsive to the radiation from a flame are used.	1, 2, 4, 6
HBOFP 4.1	When equipped with an automatic detection system, the type and arrangement of detectors are such that they respond to flame origination within one (1) second.	1, 2, 4, 6

HBOFP 4.2	When equipped with an automatic detection system, the number of detectors and their sensitivity is matched to the configuration of the interior chamber spaces to be protected.	1, 2, 4, 6
HBOFP 4.3	When equipped with an automatic detection system, the system is powered from the critical branch of the emergency electrical system or has an automatic battery backup.	1, 2, 4, 6
HBOFP 4.4	When equipped with an automatic detection system, when used to automatically activate the deluge system, the requirements for manual activation/deactivation (NFPA 99, 20.2.5.2.4) and deluge system response time (NFPA 99, 20.2.5.2.5) are met.	1, 2, 4, 6
HBOFP 4.5	When equipped with an automatic detection system, it includes self-monitoring functions for fault detection and appropriate fault alarms and indications.	1, 2, 4, 6
HBOE 1.5	Electrical equipment is protected from sprinkler water to the maximal extent possible should the room sprinkler system be activated.	1, 2, 4, 6
HBOGH 4.1	Procedures are in place to positively identify the contents of gas mixes produced by the hyperbaric facility.	1, 2, 4, 6
HBOPA 1.4.1	When a diagnostic test requires clinical interpretation, any relevant clinical information is provided with the request.	1, 2, 4, 6
HBOPC 4.2.1	The Hyperbaric Medical Director has at least 12 months of recent credentialed experience in clinical hyperbaric medicine after meeting the entry-level qualifications, training, and practice guidelines of HBO PC 4.1, 4.1.2, 4.1.3, and 4.1.4.	1, 4, 5
HBOPC 4.5.1	The Hyperbaric Nursing Director/Manager (if designated) is a Certified Hyperbaric Registered Nurse (CHRN).	1, 4, 5
HBOPC 4.6	The Hyperbaric Clinical Nurse Specialist (if designated) meets all of the training requirements of HBOPC 4.4.1.	1, 4, 5
HBOPC 4.6.1	The Hyperbaric Clinical Nurse Specialist (if designated) possesses a Masters Degree in Nursing.	1, 4, 5
HBOPC 4.6.2	The Hyperbaric Clinical Nurse Specialist (if designated) has at least 24 months of recent practical experience in clinical hyperbaric medicine with at least 12 months in an advanced or administrative role.	1, 4, 5
HBOPC 4.6.3	The Hyperbaric Clinical Nurse Specialist (if designated) is certified as a Hyperbaric Registered Nurse Clinician (CHRNC).	1, 4, 5
HBOPC 4.6.4	The Hyperbaric Clinical Nurse Specialist maintains a minimum of 15 CEUs in the field of hyperbaric medicine/nursing within the most recent two years.	1, 4, 5
HBOPC 4.8.3	The Hyperbaric Safety Director has at least 12 months experience in clinical hyperbaric chamber operations.	1, 4, 5
HBOEC 2.6.1	Doors at external entrance(s) of the building housing the hyperbaric facility swing in the direction of exit travel.	1, 2, 4, 6
HBOEC 2.6.2	During its swing, no door blocks more than one half of the required corridor width (at least 1’10” clear remains unobstructed) and does not project more than 7” into the corridor when fully open.	1, 2, 6
HBOEC 2.6.3	At least two different exits that are remotely located from each other are provided from the hyperbaric facility and from the building floor.	1, 2, 4, 6

HBOEC 2.6.4	No required exit from the hyperbaric facility requires travel through spaces that contain combustible materials or are subject to locking from either side of door (kitchens, storerooms, rest rooms, workrooms, closets, or similar).	1, 2, 4, 6
HBOEC 3.1	Portable fire extinguishers are provided and located so that no point in the facility is more than 75 feet from the nearest extinguisher.	1, 2, 6
HBOEC 4.0	Illuminated signs with emergency power capability are prominently displayed and all exits from each floor or hall of the hyperbaric facility.	1, 2, 6
HBOEC 5.0	The hyperbaric facility has emergency lighting, appropriate to the facility, to provide adequate evacuation of patients and staff, in case of an emergency.	1, 2, 6
HBOEC 8.0	The hyperbaric facility has hyperbaric personnel trained in cardiopulmonary resuscitation and the use of cardiac emergency equipment present in the hyperbaric facility during hours of operation.	1, 2, 4
HBOEC 9.0	Smoking is prohibited in areas where oxygen is stored or administered, and other hazardous locations.	1, 6
HBOEC 9.1	Smoking is only allowed in designated areas outside of the hyperbaric facility.	1, 6
HBOEC 12.0	When appropriate, adequately marked hyperbaric patient and visitor parking is provided.	1, 6

d. REASON CODES	
1	Updated all references and added DNV/GL references
2	All NFPA/ASME references were brought in alignment with current code
3	Misspellings were corrected
4	Probes that had been confusing or did not reflect local policy were clarified
5	HBOPC probes were brought in alignment with UHMS position statements and 2nd edition of Guidelines for Operations publication
6	Deleted probes were no longer relevant or no longer required by code

VIII. REFERENCES

Accreditation Handbook for Ambulatory Health Care, Accreditation Association for Ambulatory Health Care Inc., 3201 Old Glenview Road, Wilmette, IL 60091, 2015.

Americans with Disabilities Act of 1990, Public Law 101-336 (42 U.S.C. 12101), July 26, 1990.

ASME PVHO-1-2012, *Safety Standard For Pressure Vessels For Human Occupancy,* American Society of Mechanical Engineers, Three Park Ave., New York, NY, 10016-5990, 2012.

ASME PVHO-2-2012, *Safety Standard For Pressure Vessels For Human Occupancy In-Service Guidelines For PVHO Acrylic Windows,* American Society of Mechanical Engineers, Three Park Ave., New York, NY, 10016-5990, 2012.

CGA C-9, *Standard Color Marking of Compressed Gas Containers Intended for Medical Use,* Compressed Gas Association, Inc., 1235 Jefferson Davis Highway, Arlington, VA 22202, 2013.

CGA G-4, *Oxygen,* Compressed Gas Association, Inc., 1235 Jefferson Davis Highway, Arlington, VA22202, 2015.

CGA G-4.3, *Commodity Specification For Oxygen,* Compressed Gas Association, Inc., 1235 Jefferson Davis Highway, Arlington, VA22202, 2015.

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