

RESIDENCY REVIEW COMMITTEE FOR EMERGENCY MEDICINE

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FOR CONTINUED ACCREDITATION - UNDERSEA AND HYPERBARIC MEDICINE

I. EDUCATIONAL PROGRAM

A. Program Narrative

Briefly describe the organization and conduct of the program, including inpatient, ambulatory care, laboratory, and other clinical facilities available to the program. (Please refer to Program Requirements.)

ORGANIZATION OF THE PROGRAM: The fellows in the LSU School of Medicine Undersea and Hyperbaric Medicine (UHM) Fellowship Program receive one of, if not, the broadest experiences in undersea and hyperbaric medicine in the United States. The primary training site is West Jefferson Medical Center, a parish owned and operated medical center that functions as a private institution. West Jefferson Medical Center is an award-winning hospital that has garnered U.S. News and World Reports' annual distinction as a Top 50 Hospital in the United States for the many years. The addition of the hyperbaric medicine department to the hospital's array of excellent programs has strengthened this distinction. West Jefferson functions as a Divers Alert Network (DAN) facility for all diving accidents in the South Central United States and Gulf of Mexico. Additionally, it supports an air ambulance service to deliver commercial divers involved in accidents rapidly to the hyperbaric medicine department. The second participating site is the Medical Center of Louisiana - New Orleans. It is a state-operated Level 1 Trauma Center for the city and parish of Orleans. The fellows are exposed to an astounding range of pathology, which has characterized its training programs for decades. The combination of these two institutions, with a mix of public indigent and private patients, access to the sport diving community in the Gulf of Mexico, a diverse faculty with extensive diving and hyperbaric medicine experience, active research, and a private not-for-profit hyperbaric research institution with an Assessment and Accreditation of Laboratory Animal Care (AAALAC) animal laboratory, make this program extremely strong and diversified.

CONDUCT OF THE PROGRAM: The UHM fellows are supervised and trained by one of largest concentrations of UHM board-certified attending physicians in the United States. The program was developed, from the beginning, to meet the highest standards in ACGME training. The didactic curriculum is thorough and expansive, covering all required topics, as well as approximately 60 additional hours of lectures. Moreover, the program has 40 hours of journal club and 10 hours of morbidity and mortality conferences annually. In addition to a large and diverse inpatient and ambulatory care exposure, the fellows tend to the injured divers in the Gulf of Mexico. This is an educational experience that the fellows are in a unique position to gain exposure from. The research opportunities are rich and rewarding. The program has an AAALAC laboratory, an experienced research staff, and an affiliated-residency program with research staff highly trained in Institutional Review Boards and statistical analyses. The attending staff are active researchers that have many research interests and ongoing studies.

INPATIENT EXPERIENCE: The inpatient experience for the fellowship occurs at The West Jefferson Medical Center (#1 site). The hospital staff welcomes the fellows, and allows them unfettered access to their patients. The fellows follow podiatrists and surgeons to the operating theatre. The

medicine specialists engage the fellows as they visit the department to examine their patients and discuss treatment options. The injured divers are housed as inpatients at this facility, allowing the fellows to not only treat them at the scene of the diving accident, but to assist in their care throughout their hospitalization.

AMBULATORY CARE EXPERIENCE: The ambulatory care is conducted at the MCLANO hyperbaric medicine and wound care department. It houses two monoplace chambers that run five days a week, from 7 am to 7 pm, treating underserved, indigent care patients. The ambulatory exposure give the fellows the opportunity to guide the treatment of complex medical patients. The fellows, in some regards, serve as a primary care physicians for a large number of these patients. This facility accommodates between 9,000 - 10,000 ambulatory care visits (hyperbaric medicine and wound care patients) annually. With the large amount of referrals the program receives from the orthopedics, medicine, infectious disease, podiatry, oral-maxillary facial surgery, plastic surgery, and gynecological clinics, the fellows have a remarkable opportunity to engage as specialty consultants, and to coordinate care for the patients.

LABORATORY FACILITIES: Both medical facilities house Joint Commission approved laboratories, will full capabilities, including blood banking. The fellows order any testing required for the care of patients. There is also an AAALAC-accredited animal laboratory for institutionally approved animal research. For basic biomedical research, the fellows have access to the LSU School of Graduate Studies. This school houses entire floors of research scientists encompassing all of the core medical sciences (anatomy, physiology, biochemistry, microbiology, pathology and pharmacology), with expansive laboratory equipment and space.

B. Resident Role

1. Describe the manner in which residents take call. How is faculty back-up for this experience structured? How are call activities reviewed by faculty and how is feedback given to resident regarding their decisions while on call? How do residents exercise graduated responsibility with regard to call?

MANNER IN WHICH THE FELLOWS TAKE CALL: The fellows coordinate, amongst themselves, the call schedule for each month. The "scheduler" duties are divided up among the fellows, and each fellow is the head scheduler for 3 months of the year. The fellows arrange one fellow to provide night call (from home) Monday through Friday. Then, each fellow is assigned one weekend of call (Saturday and Sunday call from home). Strict adherence to duty hour limitations is maintained at all times. Should a fellow come close to violating duty hours, the faculty relieves the fellow of his clinical responsibilities.

FACULTY BACK-UP FOR FELLOW CALL: The faculty have their own call schedule, which also covers every day and night of the month. Every consultation is handled with faculty back-up. The fellows never engage in on-call activities without attending supervision.

REVIEW OF ON-CALL ACTIVITIES AND FELLOW FEEDBACK: The fellows provide the operators at both institutions, as well as the emergency medicine and hyperbaric departments, with a monthly schedule containing the names and phone numbers of the fellow and faculty on call for each day and night of the month. When a consultation comes in, it is routed first to the fellow on call. He takes down all the information and calls the faculty back-up. They discuss the case, and decide if the patient requires emergency hyperbaric medicine therapy. If an emergency exists, the fellow

calls in the support team (nurses and technicians) and the faculty meets the fellow at the hyperbaric medicine department. Once there, they evaluate the patient and decide on the best course of action. Throughout the course of the emergency consultation, and at the end, the faculty engages the fellow in constructive feedback (in real time) with regard to his assessments, plans, differential diagnoses, management plans, and follow-up. The faculty is careful to allow time for all questions and inquiries on the part of the fellow to be answered, and together they manage complex cases in a constructive and educational manner.

GRADUATED CALL RESPONSIBILITIES OF FELLOWS: At the beginning of the year, the faculty helps out the fellows greatly, almost laying out advanced differential diagnoses and management plans, as these are usually complex emergencies with differential diagnoses that the fellows may not even have been exposed to in their primary training. As the year progresses, however, the fellow assumes a much larger role in the emergency consultations received while on call. As the fellows receive greater exposure to emergency patients, and as their didactic lectures evolve from basic hyperbaric medicine lectures to more advanced principles of hyperbaric medicine, they become more able to develop advanced differential diagnoses and management plans. At this point, the faculty becomes more of a guide, ensuring the fellows do not miss important assessments, differential diagnoses, management plans, or follow-up issues. Toward the end of the fellowship, the fellows lead the service, having proven themselves quite able to handle emergency consultations. The faculty then become Socratic teachers, sharpening the fellows' views by steadily identifying and eliminating those viewpoints that lead to contractions in theory or fact. Feedback is also given, in a larger context, when the patients are discussed at weekly Grand Rounds. If the emergency case is complex enough, the fellows present the case for morbidity and mortality conference. And finally, if the case is found to be particularly complex and difficult, the fellows present the case nationally, as part of the program's monthly national diving medical conference between Duke, the University of Pennsylvania, San Diego, San Antonio, Syracuse, and Hennepin. This conference is the most advanced teaching instrument the program has for providing feedback for the emergency consultations the fellows manage.

2. Other than on-call responsibilities, do residents have a period of training in which they are responsible for activities in more than one section of the laboratory at a time? If so, please describe this experience.

There are times in which the fellows may be responsible for more than one activity at a time while working in the Hyperbaric Medicine Department. On any given shift, they may be evaluating and screening patients prior to their hyperbaric therapy, while overseeing the technicians in their operation of the chamber consoles. As the dive begins, the fellows may then personally operate the console for multiplace or monoplace dives, while monitoring each dive and the patients' dive profiles. The fellows may also need to respond to any emergencies or complications that occur while the patients are undergoing hyperbaric oxygen therapy. This may include "locking in" to the chamber to directly assess a patient in distress. The fellows may also assess new patients for wound care and hyperbaric oxygen therapy, while setting up to perform wound care or wound debridements. Fellows are also responsible for re-evaluating all patients upon completion of their dives, while following the interpretation of a transcutaneous oxygen measurement that are also concluding. At all times, the fellows are supported by a faculty member who is present with the department.

3. How are residents involved in hospital and local, regional, and/or national activities related to the practice of Undersea and Hyperbaric Medicine/medicine? Give specific examples, e.g., list hospital committees on which residents serve.

The fellows are involved with hospital, local, regional, and national activities in undersea and hyperbaric medicine and wound care through a variety of informational and educational events. The fellows participate in hospital diabetes health fairs, and hospital-based, hyperbaric medicine multi-day specialty conferences for physicians, nurses, or observers (usually four multi-day conferences annually). Moreover, they present in-services and lectures for the local and regional diving companies, diving medical technician's courses, and our affiliated emergency medicine residency. They also attend the National Oceanic and Atmospheric Association (NOAA) Physician's Training Course in Diving Medicine, the Undersea and Hyperbaric Medicine Society (UHMS) Fitness to Dive Course, and present annually at the UHMS Scientific Assembly. One fellow also serves on the Institutional Animal Care and Use Committee of the Baromedical Research Institute.

4. How do residents participate in the educational activities of the department (medical students, medical staff, medical technologists and med tech students, other residents in Undersea and Hyperbaric Medicine, residents in other departments, etc)?

DEPARTMENTAL EDUCATIONAL ACTIVITIES OF FELLOWS: The fellows engage in many educational activities within our department. Each fellow gives four PowerPoint lectures for the express purpose of educating his peers, staff, rotating students, and any interested chamber technicians, and nurses. The topics include the following: one hyperbaric medicine lecture, one wound care lecture, one diving lecture, and a research lecture. The program also has four hours of journal club monthly (each fellow presents two articles), and ten hours of fellow-directed morbidity and mortality conferences per annum. Additionally, the fellows participate in quarterly diving medical technician courses in which they teach one or more lectures over a three day period.

RESIDENCY EDUCATIONAL ACTIVITIES OF FELLOWS: The fellows are also invited to lecture to the affiliated-emergency medicine residency on an emergency medicine indication(s) for hyperbaric oxygen therapy. The program sponsors a UHM journal club, where the fellows present a journal article of interest to both UHM fellows and emergency medicine specialists.

UHM EDUCATIONAL ACTIVITIES OF FELLOWS: The fellows engage with other UHM fellows in a number of educational activities. To begin, most of them meet every month via the national UHM diving conference. This program spearheaded this monthly meeting of the fellows and faculty of LSUHSC (New Orleans), Duke, the University of Pennsylvania, San Diego, San Antonio, Syracuse, and Hennepin. Each fellowship takes turns presenting the most difficult or complex diving cases recently encountered, and each case is reviewed by a large, well informed audience. The fellows also participate in the annual UHMS Fitness to Dive Course (New Orleans). This provides another opportunity for the fellows to interact with UHM fellows from all over the country at a highly regarded undersea and diving conference. Moreover, the fellows are required to present their research projects at a regional or national conference. They present their work usually at two venues: the LSU Internal Medicine Research Forum (usually held in February) and at the International UHMS Scientific Assembly (usually held in June). This latter conference is attending by UHM fellows throughout the world.

5. Describe specific procedures in which residents have participated since your last RRC review.

DIVING PROCEDURES: The specific procedures the fellows have been performing since the last RRC review include: hands on operation of the multi-place chamber during patient hyperbaric medicine therapies, hands on operation of the mono-place chamber during patient hyperbaric medicine therapies, acting as the in-chamber tender during multi-place chamber dives, and setting up and running the critical care ventilator during critical care dives.

WOUND CARE PROCEDURES: The specific procedures the fellows have been performing since the last RRC review include: performing transcutaneous oxygen monitoring, performing wound care with a variety of different wound dressings, performing wound debridements using sharp instruments, performing ultrasonic debridements, application of skin substitutes, pinch grafts to non-healing wounds, and using the dremel tool for nail care.

6. How are residents instructed in review of the medical literature?

In addition to the GME Core Curriculum Modules noted earlier in this document, the fellows are instructed in reviews of the medical literature through journal clubs, morbidity and mortality conferences, research projects, and didactic lectures.

JOURNAL CLUBS: Journal club occurs twice a month. These reviews last two hours each, and each fellow presents one article per review. They assess these articles using a standard evaluation form, which helps in the assessment of the merits of the research. The articles are picked by the faculty, who monitor the presentations, point out salient points, and provide a historical and clinical context.

MORBIDITY AND MORTALITY CONFERENCES: On a monthly basis, the fellows engage in these conferences. Each fellow takes the lead, and presents any patients that may have had complications from hyperbaric medicine therapy, or any diving patients with significant complications. These reviews are systemic, and involve a comprehensive review of the literature. The faculty monitor and guide the discussions on these topics, instilling and crystallizing the best medicine practices and evidence-based guidelines for these complications.

RESEARCH PROJECTS: Each fellow is required to complete a research project of publishable quality during their fellowship. They each get two weeks of dedicated time, an assigned and experienced research mentor, and a long list of projects and project ideas. The project must be annotated with references, and the fellow must fully research his topic. This provides the research mentor and the fellow with the opportunity to sift through the entire background literature on the subject of interest, and develop a high quality publication.

DIDACTIC LECTURES: Each fellow is required to present four PowerPoint lectures, one each related to hyperbaric medicine, diving medicine, wound care, and research. The fellows are encouraged to review the development of these lectures with their mentor. These presentations provide additional opportunities for the fellows to delve completely into the background and research related to their topic, and to critically assess the literature in order to develop a high quality presentation. The core faculty are present for these presentations to provide feedback and to answer any areas of controversy.

7. How is resident stress, including mental or emotional conditions inhibiting performance or learning and drug- or alcohol-related dysfunction, monitored?

If the fellows or faculty notice a dysfunction among a colleague (or fellow), they can report it directly to the program director at any time. In addition, the fellows are monitored for stress, learning difficulties, and drug or alcohol related dysfunctions through surveys and direct evaluations. The surveys include self assessments, stress evaluations, and sleep and fatigue questionnaires. They are filled out quarterly and assess a wide measure of personal and professional stressors. The fellows also meet with their research mentors, academic mentors, and the program director on a quarterly basis. During these meetings, the results of the surveys are reviewed, and the fellows are directly questioned about any difficulties they may be experiencing. The results of these self-evaluations, and the evaluations of the fellows by the faculty, are compared quarter to quarter, to identify any abrupt or concerning changes in behavior or stress level. If a fellow is found to be at risk in any way, or if there is a suspicion of drug or alcohol dependency, he is immediately referred to the LSU Campus Assistance Program (CAP). This is a free service provided by the sponsoring institution to assist employees, faculty, staff, residents, fellows, and students in resolving personal or work related problems. A counselor is on call 24 hours a day to assist in times of crisis.

8. Describe the manner in which residents have the opportunity to assume increasing patient responsibility as they progress through the program.

At the beginning of the year, the fellows shadow the faculty during patient encounters. This is necessary, as some fellows will have had little exposure to differential diagnoses and management issues associated with the evaluation of a patient with unique injuries such as pulmonary barotrauma, inner ear decompression sickness, and decompression sickness of the spinal cord. The faculty fully engages the fellow in the care of the patient, taking great time to explain all patient examinations, findings, and pertinent history taking. The fellow and the faculty discuss these cases in detail, and together they work out a plan of management.

By the beginning of the second quarter, the fellows show competency in procedural, consultative, and dictation skills. They develop their own style of patient care, and are less dependent upon the faculty to provide step by step guidance. At this time, the faculty allows the fellows to interview and assess most patients first. The fellows then report their physical exam findings, history taking, differential diagnoses, medical decision making, and management plans. The faculty review these findings, interviews and examines the patient (with the fellow present), and together a plan of care is coordinated.

By the beginning of the fourth quarter, the fellows have mastered many procedural skills and conceptually difficult illnesses and injuries. They have a comfort zone with answering questions from consulting services and emergency calls taken during overnight call. They display aplomb when answering pointed and complex questioning from their faculty, and are ready for independent functioning. At this point, the faculty allows the fellows to work fairly independently. The fellows see their own patients, develop differential diagnoses, management plans and follow-ups. The fellows still report to faculty, and the faculty examines and evaluates each patient independently. However, during this time, the fellows are considered by the team (nurses, chamber technicians, clerks, and the safety director) to be an independent physicians. They find little or no fault with their decisions, and often remark upon the astuteness of the work of the fellows and their rapport

with the patients. The fellows lead discussions during Grand Rounds and during patient reviews. The faculty offers pearls of experience and fill in any gaps that are found in the fellows' reasoning, but usually these are style points. The fellows function with autonomy at this point, and are well respected leaders of the team.

9. Describe the manner in which residents are given the opportunity to function as consultants to other physicians.

ROUTINE CONSULTATIONS FROM OTHER SERVICES: The program has busy consultation services at both facilities. The clerks present the faxed consultations to the fellows for reply. The patient is then scheduled for a consultation. These consultations come from the clinics of plastic surgery, medicine, oral maxillofacial surgery, general surgery, infectious disease, orthopedics, podiatry, psychiatry, and physical therapy. Once the fellow completes the consultation and discusses the case with the faculty, the fellow contacts the primary care doctor or the consulting service with the management plan. The fellow may be talking to an upper level resident or an attending staff of many years experience. However, the fellow fields this call as a representative of our service and is expected to be able to provide clear, succinct reasoning for his plan. At all times, the faculty is present for help and guidance, but the duty is for the fellow to manage these interactions in a thoughtful and insightful manner.

WRITTEN LETTERS AND FOLLOW-UP TO THE PRIMARY CARE PHYSICIANS: The fellows are charged with the responsibility of keeping the primary care physicians up to date on our care of their patients. Toward this end, the fellows write thank you letters for consultations, continuation of care letters, progress letters, discharge letters, and any other letters of update that are required. These tasks hone the fellows for their work as leaders at their own hyperbaric medicine departments, by allowing them opportunities to represent the progress of their work to the physicians that have consulted them.

EMERGENCY CONSULTATION SERVICES: The fellowship provides 24 hour a day emergency coverage for all hyperbaric medicine and diving related emergencies within the region (and the Gulf of Mexico). These calls may be received from emergency departments, inpatient wards, intensive care units, off-shore commercial diving accidents, and the Divers Alert Network. It is the fellow's that take the initial consultations. They are trained on the types of questions to ask related to the history and physical examination findings, laboratory and radiographic studies, and the patient work-up. The fellow then relays this information to the on-call faculty, and they decide together on the further treatment and management of this patient.

10. Do residents always sign out their cases with a member of the staff?

Yes, at all levels of training.

C. Clinical Content

Does the curriculum include the following academic and clinical content?

1. History of undersea and hyperbaric medicine (x) YES () NO
2. Decompression theory and physiology (x) YES () NO
3. Oxygen physiology (x) YES () NO
4. Pathophysiology of decompression illness and arterial gas embolism (x) YES () NO
5. Diving operations and human performance in hypo/hyperbaric environments.. (x) YES () NO
6. Medical examination/standards for divers (x) YES () NO
7. Effects of hyperbaric oxygenation on infectious diseases (x) YES () NO
8. Principles of treating gas exposures (x) YES () NO
9. Effects of hyperbaric oxygenation on irradiated tissues and ischemic wounds. (x) YES () NO
10. Tissue oxygen measurement (x) YES () NO
11. Multiplace and monoplace hyperbaric chamber operations..... (x) YES () NO
12. Evaluation for clinical hyperbaric treatment..... (x) YES () NO
13. Hazards of standard electrical standards (x) YES () NO
14. Emergency procedures for monoplace and multiplace installations (x) YES () NO
15. Saturation diving (x) YES () NO
16. Systems management (x) YES () NO

D. Clinical Training

Provide a single page description of the clinical experience available to the residents. Describe the length of the experience and the role of each resident as primary or consulting physician.

CLINICAL EXPERIENCES OF THE FELLOWS: The clinical experience of the fellows is divided between the West Jefferson and the MCLANO facilities. The shifts begin at 7 a.m. and conclude at 7 p.m., Monday through Friday. The West Jefferson facility is also open on Saturdays. Emergency call coverage is 24 hours a day, 7 days a week. During the day, the fellow on shift (at which ever facility receives the emergency consultation) will answer the consultation. The night call is from home (7 p.m. to 7 a.m.). In general, each fellow covers one weekend of call and 3 – 4 additional at home night call shifts monthly. The fellow on call at night covers both facilities. Should another emergency consultation occur simultaneously, a back-up faculty physician handles the second consultation. The on-call faculty and fellow are never separated.

CLINICAL DUTIES OF THE FELLOWS: The fellowship directs the fellows to perform all of the consultations for hyperbaric medicine patients, diving patients, emergency consultations, fitness to dive patients, and chamber tenders. They are, at all times, supervised by attending faculty. The fellows directly observe all patients undergoing hyperbaric oxygen therapy and are chamber side for each ascent and descent. They must also directly work the control panel for the dives of ten multi-place chamber runs and ten mono-place chamber runs. Additionally, the fellows may elect to participate as an inside tender for then multi-place dives. They participate in the examination, evaluation, treatment, and follow-up of all wound care patients that present for care during clinic hours. This care is inclusive of all procedures, measurements and digital photography. It is also the responsibility of the fellows to prepare grand rounds every week. These Power Point presentations are a review of all the hyperbaric medicine and diving patients currently on the services of both facilities. Preparation of these presentations allows the fellows to review all patients' recent studies, treatments, consultations from other services, and overall progress. The fellows also initiate all communication with the primary care providers that consult our service, and are responsible for letters related to the initial consultation, update letters, letters of significant findings or changes, and all clinic discharge letters.

LENGTH OF EXPERIENCE: The Fellows rotate between the West Jefferson and the LSU facility on a monthly basis over the period of one year. They average ten days of clinic service monthly and seven nights of at home call per month.

THE FELLOW'S ROLE AS A PRIMARY OR CONSULTING PHYSICIAN: The fellows are fortunate in the broad experiences they gain through rotation at both training sites. The experience at West Jefferson is that of a private institution, and promotes the development of skills as consulting physicians. The fellows perform initial consultations, follow admitted patients daily through patient rounds, follow patients into the operating theatre (assisting in surgical cases), and write letters of update to the referring doctors. At the MCLANO facility, the experience is very much like that of a primary care physician. The opportunity to serve the large indigent population at this institution, allows the fellows to guide patients through the clinic system, coordinating primary, vascular, nutritional, physical therapy, orthopedic, infectious disease, and surgical care. Many of these patients lack a primary care physician, and the fellows gain invaluable experience with the large role they play in coordinating their care.

E. Resident Clinical Opportunities

Provide the following information describing the clinical opportunities residents have to evaluate and manage patients with both acute and non-emergency indications for hyperbaric oxygen.

Clinical Assessment and Patient Management Opportunities July 1, 2009 through June 30, 2010	# of Opportunities
Assessment of prospective divers for fitness to dive	12
Assessment of hyperbaric chamber personnel	27
Assessment of patients with suspected decompression sickness	10
Assessment of patients with specific problem wounds	1337
Assessment and management of patients with complications of hyperbaric therapy	14
Management of critically ill patients in the hyperbaric environment	5
Assessment of indications for hyperbaric oxygen therapy	825
Assessment of patient with toxic gas exposure	16

F. Additional Clinical and Educational Experiences

1. Describe how residents maintain their primary board skills during training.

The fellows maintain their primary board skills during training by moonlighting. Moonlighting is not required, but is encouraged by the fellowship, as long as the fellows maintain a satisfactory academic status, meet all fellowship-associated clinical and educational responsibilities, the moonlighting is performed in accordance within the established rules of the fellowship, and does not violate the eighty hour duty hour standards. Moonlighting activities must be included in the 80 hour duty limit. Prior to engaging in any activity outside the scope of the clinical and educational duties of the fellowship, the fellows must receive approval from the program director. The fellows shall provide the program director information regarding the nature, duration and location of the outside activity or moonlighting. The program director is responsible for ensuring that the moonlighting does not interfere with the fellows' education, clinical responsibilities, duties, and assignments. It is within the sole discretion of the program director to determine whether outside activities interfere with fellowship commitments. The fellows download their duty hours from Residency Partner and they are reviewed by the program director and the fellows' mentors on a regular basis.

2. Specifically describe how residents are provided an average of at least 5 hours per week of planned educational experiences.

GRAND ROUNDS: Wednesdays are reserved for education. The fellows are excused from all other clinical responsibilities. This arrangement enables all the fellows and faculty to participate. Grand Rounds begin at 12 p.m. and end between 5 - 6 p.m. The fellows and faculty are required to sign-in on the attendance record, and fellow attendance is closely monitored. All conferences are also evaluated by those in attendance. The curriculum is modified on a regular basis to reflect the results of these evaluations.

DIDACTIC LECTURES: Grand Rounds begin with 2 – 3 hours of didactic lectures. These lectures are divided into series and include: 1) Introduction to Hyperbaric Medicine lecture series (22 hours); 2) Hyperbaric Medicine General Theory Lecture Series (22 hours); 3) Hyperbaric Medicine Indications lecture series (18 hours); 4) Hyperbaric Medicine Advanced Theory and Research lecture series (23 hours); 5) Hyperbaric Medicine Wound Care lecture series (13 hours); 6) Hyperbaric Medicine Fitness to Dive lecture Series (6 hours); 7) Hyperbaric Medicine Potpourri lecture series (8 hours); 8) Hyperbaric Medicine Board Review lecture series (8 hours); and 9) Hyperbaric Medicine Video lecture series (13 hours).

MORBIDITY AND MORTALITY CONFERENCES: During the monthly departmental meetings, formal morbidity and mortality conferences are held. Fellows and faculty are required to participate. Additionally, each fellow is required to present one formal morbidity and mortality conference (one hour) which includes a comprehensive review of the literature and best medicine recommendations.

FELLOW DIRECTED PRESENTATIONS: Each fellow is required to develop and present four formal didactic presentations. The topics include wound care (1 hour), morbidity and mortality conference (1 hour), hyperbaric medicine (1 hour), and a formal research presentation (30 minutes).

JOURNAL CLUBS: Journal club occurs every other week for two hours. Four to five articles are discussed at each meeting, and each fellow presents at least one article. At the beginning of the academic year, each fellow is given a jump drive containing 89 seminal journal club articles for this assignment.

PATIENT GRAND ROUNDS: Every week a fellow presents (in Power Point format) the current patients that the fellow has on his service (1 hour). These very educational presentations are reviews all of the hyperbaric medicine and diving patients currently on service. Preparation of these presentations allows the fellow to review all patients' recent studies, treatments, consultations from other services, and overall progress.

G. Block Diagram

Provide a block diagram of a typical resident's rotations/assignments.

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Rotation	HBO	HBO / NOAA	HBO	HBO/ RES	HBO / VAC	HBO	HBO	HBO	VAC / HBO	HBO	HBO	HBO
Site	WJMC	MCLA NO	WJMC	MCLA NO	WJMC	MCLA NO	WJMC	MCLA NO	WJMC	MCLA NO	WJMC	MCLA NO

RES = Research

HBO = Hyperbaric Medicine

NOAA = National Oceanic and Atmospheric Administration Physician Diving Medicine Course

VAC = Vacation (2 weeks)

WJMC = West Jefferson Medical Center

MCLANO = Medical Center of Louisiana - New Orleans

II. FACILITIES AND RESOURCES

A. Institutional Data

Provide the following information for each site where residents are assigned for required rotations. If more than 4 sites are involved, copy this section and continue with site #5.

12-month period covered by statistics	FROM: January 2009	TO: December 2009
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Hospital Data	Site #1 West Jeff	Site #2 MCLANO	Site #3	Site #4	Row Total
Number of Hospital Beds	308 staffed	390			698
Total Hospital Admissions	14,546	13,702			28,248
Average Bed Occupancy (%)	61.7% staffed	71%			66.4%
Current Accreditation/ Licensure Dates					
JCAHO	10/09/2009	4/17/2010 valid for 39 months			
La State	9/30/2010	12/31/10			
Does Site Participate in ACGME- Accredited Residencies Below?	YES	YES			YES
Internal Medicine	(X) YES () NO	(X) YES () NO	() YES () NO	() YES () NO	YES
Anesthesiology	(X) YES () NO	(X) YES () NO	() YES () NO	() YES () NO	YES
General Surgery	(X) YES () NO	(X) YES () NO	() YES () NO	() YES () NO	YES
# of and Hyperbaric Patients	9566	9,423			18,989

B. Program Equipment and Facilities

	Site #1 West Jeff	Site #2 MCLANO	Site #3	Site #4
Is there a hyperbaric chamber available?	(X) YES () NO	(X) YES () NO	() YES () NO	() YES () NO
Is there a clinical laboratory available at all times?	(X) YES () NO	(X) YES () NO	() YES () NO	() YES () NO
Are radiologic services available at all times?	(X) YES () NO	(X) YES () NO	() YES () NO	() YES () NO
Are intensive care units available?	(X) YES () NO	(X) YES () NO	() YES () NO	() YES () NO
Do residents have access to computer-based literature review service at all times?	(X) YES () NO	(X) YES () NO	() YES () NO	() YES () NO

III. PROGRAM CONFERENCES

1. List the conferences, seminars, journal clubs, etc. in which residents participate.

Name of Conference	Frequency Held	Individual(s) or Department Responsible for Organization of Sessions
Medical Morbidity / Mortality	Monthly	Fellows and Faculty
Journal Club / Research	Twice a Month	Associate Program Director
Guest Speaker EM Journal Club	Once a Year	Fellows
Diving Medical Technician's Course	Four Times a Year	Safety Officer
Diving Medical Conference	Monthly	Fellows
NOAA Physician's Diving Course	Annually	NOAA
UHMS Fitness to Dive Course	Annually	UHMS
LSU Internal Medicine Research Forum	Annually	LSU HSC
Patient Grand Rounds	Weekly	Fellows

2. Summarize resident participation in (attendance, planning, presenting, etc.) conferences.

The fellows plan, present, and attend the weekly patient grand rounds, the monthly morbidity and mortality conferences, the hyperbaric medicine journal clubs, the emergency medicine journal club, and the national monthly diving medical conferences. The fellows attend and present at the quarterly diving medical technician's courses, the LSU Internal Medicine Research Forum, and the UHMS Annual Scientific Assembly. The fellows attend the NOAA Physician's Diving Course and the UHMS Fitness to Dive Course.

3. Specifically describe how residents are provided an average of at least 5 hours per week of planned educational experiences.

As noted earlier in Section F., question 2 (please see previous page), the fellows receive 5 - 6 hours per week in planned educational experiences that include Grand Rounds, didactic lectures, morbidity and mortality conferences, fellow directed presentations, journal clubs, and national diving medical conferences.

V. RESIDENT RESEARCH

Describe the research/investigative work by residents during the last three years (including work in progress.) List resulting publications, underlining resident author names. Do not enclose reprints or manuscripts.

1. Wilder M, Danilyants E, Murphy-Lavoie H, LeGros T. "The Treatment of the Necrotic Skin Lesions of Calciphylaxis with Hyperbaric Oxygen Therapy." Undersea and Hyperbaric Medical Society Annual Research Forum, St. Pete, Florida, June 2010.
2. Wilder M, Murphy-Lavoie H, LeGros T. "Survey of Undersea and Hyperbaric Medicine Fellowships: Barriers to Fellowship Development and Potential Solutions." Undersea and Hyperbaric Medical Society Annual Research Forum, St. Pete, Florida, June 2010.

3. Wilder M, Gomez J, Staab P, Harch P, Van Meter K, Murphy-Lavoie H, LeGros T. "Massive Venous Gas Embolism Complicating the Evaluation of a Toxic Patient." Undersea and Hyperbaric Medical Society Research Forum, St. Pete, Florida, June 2010.
4. Gomez J, Wyatt HA, Kriedt F, LeGros TL, Murphy-Lavoie H, Van Meter K. "Extended Life in a Continuous Hyperbaric Environment." Undersea and Hyperbaric Medical Society Annual Research Forum, St. Pete, Florida, June 2010.
5. Wilder M, Danilyants E, Murphy-Lavoie H, LeGros T. "The Treatment of the Necrotic Skin Lesions of Calciphylaxis with Hyperbaric Oxygen Therapy." Louisiana State University Health Sciences Center, Internal Medicine Research Forum, February 2010.
6. Gomez J, Wyatt HA, Kriedt F, LeGros TL, Murphy-Lavoie H, Van Meter K. "Extended Life in a Continuous Hyperbaric Environment." Louisiana State University Health Sciences Center, Internal Medicine Research Forum, February 2010.
7. Colon-Hernandez RA, Murphy-Lavoie H, LeGros TL, Hardy S. "Carboxy-Hemoglobin Levels with Primary or Secondary Hookah Smoke Exposure." Louisiana State University Health Sciences Center, Internal Medicine Research Forum, February 2010.

V. EVALUATION

1. How does the program ensure that the program director, with participation of members of the teaching staff advances residents to positions of higher responsibility only on the basis of evidence of their satisfactory progressive scholarship and professional growth?

The fellows are reviewed in a very systemic and well rounded manner: they evaluate themselves using three different survey tools; their work products are evaluated by their peers and staff; and their clinical and diagnostic acumen is evaluated in a 360 degree fashion by their peers, faculty, patients, staff, mentors, and the program director. On a quarterly basis, the faculty meet, both with the fellows, and without them, and review these evaluation tools. During these meetings, the progress that each fellow has made is discussed in detail. The mentors and faculty are queried as to any concerns related to fellow professionalism and conduct. The program director also relates the content of her meetings with the fellows to the faculty. The evaluations, board scores, clinical progress, didactic responsibilities, and research projects are discussed in full detail. Fellows are advanced or remediated after thorough review of their work in total. The fellow has, at all times, a representative (their mentor) present to advocate on their behalf during faculty discussions. A large majority of the programs benchmarks are objective, and easily comparable between and across fellowship participants. The goal of the fellowship is to ensure that, in the end, each fellow can function in an independent and highly competent manner.

2. How does the teaching staff evaluate the following?
 - a) The utilization of the resources available to the program

The program director, faculty, and fellows have formal monthly meetings to evaluate the needs of the program. Input is sought from nursing staff, chamber techs, and departmental directors. The program coordinator reviews a list of bullet points related to each facility, and any deficiencies in

resources are then related to the section chief. The resource utilization needs are met in a timely manner through monthly meetings and the support of the section chief.

b) The contribution of each site participating in the program

The monthly meetings aid in delineating any concerns related to departmental participation of the two rotational sites. The departmental directors of each site are present for these meetings, and are extremely open to suggestions and concerns related to the educational and clinical experience of the fellows. Several changes have been made throughout the course of the fellowship based on these meetings. For example, the program replaced fellow participation in the MCLANO diabetic foot clinic with the opportunity to partake in the total contact casting and wound vac clinics. This change was made because the other clinics provide a greater opportunity for the fellows to engage in procedural skills not taught at many programs. The most recent change made to the West Jefferson fellow experience has been that the fellows no longer travel to the diving companies to present lectures, but educate the divers through the quarterly diving medical technician's course at the West Jefferson facility. The program evaluates and make changes often to improve the experience of the fellows. The departmental directors are very supportive of these endeavors.

c) The financial and administrative support of the program

The program director has meetings with the program coordinator and the section chief at regular intervals. During this time, any financial or administrative issues related to the fellowship are discussed. Through these meetings, the program director is kept abreast of any concerns related to the support of the fellowship. The program director also utilizes the LSU GME office as a resource for any financial or administrative issues.

d) The volume and variety of patients available to the program for educational purposes

During the scheduled monthly meetings, one of the bullet points reviewed by the program coordinator is the current census at each facility. The fellows and faculty are also queried as to the adequacy of the patient experience for the fellows. Should the program find a dip in the census at any time, immediate corrective action is taken. This may be in the form of a hospital wide or specialty specific grand rounds to promote the hyperbaric medicine service, a mailing to referring physicians advocating hyperbaric medicine services, or other measures. These actions have proven to be invaluable in sustaining a healthy census of patients at each facility. From experience, these two facilities provide a wide range of hyperbaric medicine and diving patients that benefit the educational experiences of our fellows.

e) The performance of members of the teaching staff

The performance of the teaching staff is evaluated through the measurement tools described below.

LECTURE EVALUATION SURVEYS: Each member of our teaching staff is graded following each lecture that they present. These lectures are graded by their fellows, peers, staff, and any rotating residents and students. The lecturer is graded on enthusiasm, clarity, interactions with the audience, organization, depth of knowledge, and overall presentation. Everyone in attendance fills out the evaluation form, with comments, and turns it in at the end of the presentation.

ATTENDING CLINICAL EVALUATIONS: These evaluations focus on the fellows' perception of many aspects of their clinical experience received from their staff, including: responsiveness; respect; medical knowledge; integrity; problem solving; interactions with learners; clinical learning environment management; management of goal objectives; evaluation of learners; learner feedback; and overall clinical skills. These surveys are filled out on a quarterly basis, and collected for review by the program director. The faculty receive written synopses of these evaluations.

ROTATION EVALUATION SURVEYS: These surveys are filled out by the fellows at the end of each rotation. The questions are related to the effectiveness of the rotation in fulfilling the goals and objectives of the rotation as well as the educational goals and objectives of the fellowship. The survey asks the fellows to evaluate the rotation for success in promoting education and understanding of the ACGME core competencies and the fellows' perception of the rotation in abiding by their duty hour requirements.

FACULTY REVIEW WITH PROGRAM DIRECTOR: The faculty meet with the program director on a biannual basis for a formal review of the didactic and clinical experiences of the fellows. Discussions related to improvement in these areas are discussed. A formal evaluation is filled out by the program director. The program director and the faculty discuss the evaluations of their teaching abilities, clinical abilities, commitment to the educational program, scholarly activities, the rotational assessments filled out by the fellows, and the global evaluation they receive from the program director.

f) The quality of supervision of residents

The supervision of the fellows is comprehensive and without interruption. The fellowship keeps close track of the fellows' perception of the clinical acumen of the faculty. The program director also meets regularly with nursing, chamber technicians, and safety directors to gauge the effectiveness of the departments as a whole, and gives the staff opportunity to voice any concerns related to the faculty leadership within these departments. At the departmental monthly meetings, voice is given to the fellows and the staff to relate any concerns regarding the fellowship, including the effectiveness of the supervising faculty. All requests for anonymity are given, and the fellows may also address any concerns with their mentors or a provided ombudsman. The program director meets biannually with the teaching staff to review their evaluations and address any deficiencies.

I. PROGRAM GRADUATES

Provide the following data on program activity during the last five years.

Academic Year	# of Residents In Training	# of Completing Program	# Taking ABEM Exam	# Passing ABEM Exam
2010 - 2011	4	n/a	n/a	n/a
2009-2010	3	3	n/a	n/a
2008-2009 first year of accreditation	0	0	n/a	n/a