DECLARATION OF Paul G. Harch, M.D.

I, Paul G. Harch, M.D., have personal knowledge of the facts stated in this declaration and, if called as a witness, I could and would testify competently thereto under oath. I declare as follows:

1. I am a hyperbaric and emergency medicine physician in New Orleans, Louisiana who has been actively practicing and researching the effects of hyperbaric oxygen therapy (HBOT) in acute and chronic brain injury of any and all causes over the past 16 years. I am the past president of the International Hyperbaric Medical Association, Clinical Assistant Professor and Director of the Hyperbaric Medicine Fellowship at Louisiana State University School of Medicine, New Orleans, and the announced director of the soon to be opened department of hyperbaric medicine at the large tertiary care and teaching institution in New Orleans, Charity Hospital (Medical Center of Louisiana, New Orleans). While I have not examined Terri Schiavo I am familiar with the argument over Mrs. Schiavo’s level of consciousness and neurological condition. Since the publication of Dr. Neubauer’s Letter to the Editor of the Lancet in 1990 (Neubauer RA, Gottlieb SF, Kagan RL. Lancet, 1990;335:542) about the possible existence of “Idling Neurons” in the brain of a woman 14 years post stroke whom he was able to bring to a much higher level of function over the course of nearly 16 months of HBOT it has become apparent that the dogma and scientific concepts about brain injury and the potential for recovery of brain function post injury were wrong. Most importantly, Dr. Neubauer was able to demonstrate with the sequence of a single SPECT brain blood flow study followed by a single HBOT and then immediate repeat SPECT study that damaged non-functional areas of brain could be seen to improve blood flow. This was consistent with the subsequent clinical improvement of the patient as she was treated with supplemental normal pressure and hyperbaric pressure oxygen. The article’s SPECT brain blood flow images reaffirmed a previous article by Dr. Neubauer in 1985 (Neubauer RA. Minerva Med Subacquea ed Iperbarica, 1985;5:75) on the effect of HBOT to recover function in patients with prolonged coma. Both articles strongly
suggested that injured brain tissue can exist for years in a living non-functional state and could be stimulated to permanently function again with high doses of oxygen. This experience in chronic brain injury has now been duplicated by myself and numerous other physicians around the world in multiple different neurological disorders.

2. It is my opinion given the conflicting reports of Mrs. Schiavo's condition, the reports of Dr. Neubauer above, and the published and unpublished reports of multiple other physicians who have treated patients with chronic brain injury years after injury that Mrs. Schiavo could potentially respond to stimulation with hyperbaric oxygen therapy.

3. Furthermore, it is my opinion and recommendation that at a minimum Mrs. Schiavo undergo the simple sequence of SPECT brain blood flow imaging, single HBOT at low pressure, and repeat SPECT brain blood flow imaging, under the direction of and in the hands of individuals who have demonstrated competence in the practice of this sequence of procedures and interpretation of the images, to demonstrate whether her brain has the potential to respond to repetitive HBOT. I would also recommend that the patient be videoed before and after the procedure to see if neurological changes could be documented since such changes would be a more powerful demonstration of her potential to respond than the images themselves. If positive changes were demonstrated either by imaging or video/exam I would recommend a course of at least 40 low pressure HBOT's. If the imaging were negative, depending on the exact appearance of the images, I would likely still recommend a trial of at least 40 low pressure HBOT's empirically to see if Mrs. Schiavo could be brought to a higher level of neurological function.

I declare under the penalty of perjury under the laws of the State of Louisiana that the foregoing is true and correct.

Executed this 7th day of March, 2005, in New Orleans, Louisiana.

[Signature]
Paul G. Harch, M.D., Declarant
Curriculum Vitae

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EDUCATIONAL BACKGROUND

1976-1980 Johns Hopkins University School of Medicine
   Doctor of Medicine, 1980
1972-1976 The University of California, Irvine
   Bachelor of Science, Biology
   Magna cum laude, Phi Beta Kappa

POSTGRADUATE TRAINING

9/1987 13th Annual Oceanographic and Atmospheric Administration Physician Diving Accident Medical Management Course, NOAA facility, Key Biscayne, Florida
7/1986-7/1987 Radiology resident, Louisiana State University School of Medicine, Charity Hospital, New Orleans, Louisiana
6/1986 Orientation course in Hyperbaric Oxygen Therapy and Wound Care, Long Beach Medical Center, Long Beach, California
6/1980-12/1982 Two years general surgery training at the University of Colorado Health Sciences Center, Denver, Colorado, with six months leave for auto-ped accident

OTHER TRAINING

7/1/2004 LSU Animal Care Orientation Training for basic science investigators.

WORK EXPERIENCE

2002-present Named Director, LSUHSC/Medical Center of Louisiana, New Orleans Hyperbaric Medicine and Wound Care Department
9/1998-5/99 Medical Director, Jo Ellen Smith Hyperbaric Medicine and Wound Care Unit, Jo Ellen Smith Medical Center, New Orleans, LA
7/1983-1993  Assistant Director, Jo Ellen Smith Hyperbaric Medicine and Wound Care Unit, Jo Ellen Smith Medical Center, New Orleans, LA


7/1991-6/1993  Medical Research Director, LSU Hyperbaric Medicine and Wound Care Fellowship Program

7/1990-7/1993  Co-director, Department of Hyperbaric Medicine and Wound Care, Northshore Regional Medical Center, Slidell, LA

7/1988-7/1993  Co-director, Emergency Department, Northshore Regional Medical Center, Slidell, LA

7/1988-7/1990  Director, Department of Hyperbaric Medicine and Wound Care, Northshore Regional Medical Center, Slidell, LA

6/1986-Present  Hyperbaric Medicine and Wound Care, Independent contractor with Van Meter & Associates, multiple facilities in Metro New Orleans and vicinity

7/1985 - 7/1988  Staff Physician, Hyperbaric Medicine and Wound Care Dept, Northshore Regional Medical Center, Slidell, LA

7/1985-Present  Emergency Medicine, Independent Contractor, Van Meter & Associates Emergency Medicine Physicians, Emergency department experience at multiple New Orleans area hospitals

7/1984-6/1985  Staff physician, emergency department, Hotel Ella Hospital, New Orleans, Louisiana

5/1983-9/1984  Minor Emergency Center, Denver Tech Center/Swedish Hospital, Englewood, Colorado

CERTIFICATION AND LICENSURE


Diplomate, Board of Certification in Emergency Medicine, Inc., American Association of Physician Specialties, Forest Park, Georgia, July, 1997

Diplomate, American Board of Hyperbaric Medicine, Austin, Texas, February 8, 1994.

Licensed in Colorado-1981 (voluntarily not renewed late 1980's), Louisiana - July, 1984; California - April, 1997; and Mississippi - August, 1997

SPEX Certification Exam taken in Metairie, Louisiana, 1996 as prerequisite for California Medical License.

APPOINTMENTS & HONORS

8/2004  Elected to the Board of Directors, The American Board of Hyperbaric Medicine,
Austin, Texas.

4-8/2004
Nominee and subsequent semi-finalist for NIH Director's Pioneer Award

8/2003
Featured in ABC 26 News Series, "Unsung Hero", New Orleans, LA

7/2003
Richard A. Neulander, MD Award for "Excellence in Hyperbaric Medicine for Pediatric Neurology" presented by International Hyperbaric Medical Association and "Friends of Rebecca"

4/2003
Founder, President, and Chairman of the Board, International Hyperbaric Medical Association Foundation, a not-for-profit research, educational, and training foundation, Alexandria, Virginia.

2/2003
Third Place, Clinical Fellow Category- Dr. Julie Anderson (Dr. Harch-Clinical Faculty), LSU School of Medicine Annual Resident and Fellows' Research Forum, February, 2003, for: Successful Delayed Hyperbaric Treatment of Decompression Illness in a Sport SCUBA Diver.

Fall, 2002
Peer Reviewer and Consultant to AHRQ-funded Oregon Health Science Center Evidence Based Medicine Review: HBOT and Brain Injury, Fall 2001 – Fall 2002

2/2002
First Place, Clinical Fellow Category- Dr. Tracy LeCros (Dr. Harch-Clinical Faculty), LSU School of Medicine Annual Resident and Fellows' Research Forum, February, 2002, for: The Effect of Low Dose Hyperbaric Oxygen Therapy on the SPECT Brain Imaging and Cognitive Function of an Alzheimer's Patient.

1/2002

11/1/2001
Submitted the scientific argument and application to the Center for Medicare and Medicaid Services of the U.S. Dept. of Health and Human Services for approval of hyperbaric oxygen therapy reimbursement for diabetic foot wounds. Granted 4/1/2003.

7/2001-12/2004
President, International Hyperbaric Medical Association

7/26/2001
Elected first president of the International Hyperbaric Medical Association at 2nd International Symposium on Hyperbaric Oxygenation and the Brain Injured Child, Ft. Lauderdale, Florida

6/28/2001
Appointed Vice-President of the newly formed International Hyperbaric Medical Association, West Palm Beach, Florida.

6/2/2001
Invited guest speaker (3 segments) on Children's Miracle Network Telethon of Southeast Texas, Port Arthur, TX, June 2, 2001

3/16/2001
Guest speaker at Medical Center of Louisiana Foundation Board Meeting, University Hospital, New Orleans, LA

2/8/2001
Invited guest appearance on Health Call TV Show for HOTEST (Hyperbaric Oxygen Therapy For Acute Stroke) Trial, WAF-TV, New Orleans, LA hosted by Jerry Ramey.
2000-Present
Clinical Assistant Professor, Grant Faculty, LSU School of Medicine, New Orleans, Dept. of Medicine, Emergency Medicine Section

October, 1999

1998-Present
National Coordinator and Co-Principal Investigator, Hyperbaric Oxygen Therapy in Acute Stroke Pilot Trial (HOTFAST) — by invitation of James Tolle, M.D., President of World Federation of Neurology, Director - National Stroke Research Center, Bowman Gray School of Medicine of Wake Forest University

6/20/98
Invited participant to planning group meeting of the German hyperbaric oxygen therapy in acute stroke trial, Göttingen, Germany

5/1998

11/1997
Elected Fellow of the American College of Hyperbaric Medicine

1992-2000
Clinical Instructor, Grant Faculty, LSU School of Medicine, New Orleans, Dept. of Medicine, Emergency Medicine Section

1/1991-Present
Member, Board of Directors, Paramedical Research Institute, New Orleans, LA

LEGAL EXPERIENCE

Served on 4 Physician Review Panels in Louisiana malpractice cases.

Expert witness in emergency and diving medicine. Multiple state and federal cases.

Testimony at four Grand Jury hearings on SPECT Brain Imaging and Hyperbaric Oxygen Therapy for Neurological Injuries


PUBLICATIONS and BOOK CHAPTERS


**ABSTRACTS**


ALTERNATE PUBLICATIONS AND FEATURED ARTICLES


SPEAKING ENGAGEMENTS, LECTURES AND PRESENTATIONS


8) Testimony: "Neurological Treatments with Hyperbaric Medicine Will Save Billions in Government Health Care, Disability, and Education Costs", before the Labor, Health and Human Services and Education Subcommittee of the Committee on Appropriations, United States House of Representatives, April 27, 2004, Washington, D.C.


17) Hyperbaric Oxygen Therapy in Auto-Immune Disorders presented to Fibromyalgia Support Group, Doctors' Hospital, Metairie, LA October 30, 2002

18) "Pro" Panel Member of Workshop: The role of HBO in Neurological Disorders, International Congress on Hyperbaric Medicine, San Francisco, California, October 2, 2002


20) Submission of Application for CMS coverage of HBO for Diabetic Foot Wounds and subsequent meeting with CMS officials for same; also meetings and correspondence prior to submission of application, June 2001 - April 2002

21) Formulation of Criteria and Protocols for HBO or (Brain Injury for Texas House Bill 1676 and subsequent phone conference and presentation of same to Texas Dept. of Insurance, Austin, Texas, Fall, 2001 through March 2002 (to President of International Hyperbaric Medical Association [HMA])

22) Hyperbaric Oxygen Therapy: A Reappraisal, Crittenton Hospital Medical Center, Continuing Medical Education Program, Department of Surgery, February 27, 2002, Rochester, Michigan

23) Hyperbaric Oxygen Therapy in Chronic Traumatic Brain Injury and Substance Abuse, Boys Town National Research Hospital, October 5, 2001, Omaha, Nebraska

24) Lecture on Hyperbaric Oxygen and Brain Injury to Administration and Select Physicians at St. Elizabeth's Hospital, Beaumont, Texas, September 17-18, 2001...

25) Expert Testimony (as President of the HMA) at the Texas Medicaid Appeal Hearing of William Cresey for Hyperbaric Oxygen Therapy in Anoxic Brain Injury. Teleconference, August 15, 2001


27) Presentation to UHMS HBO Committee of Pro-Argument for Inclusion of Acute Severe Traumatic Brain Injury on Accepted Indications List. Thirty-Fourth Annual Undersea & Hyperbaric Medical Society Scientific Meeting, June 14-16, 2001, San Antonio, Texas


29) Effects of Hyperbaric Medicine on the Brain presented to Oklahoma Center for Neuroscience, The University of Oklahoma Health Sciences Center, Skirvin L. Young Biomedical Research Center, April 19, 2001

30) Effects of Hyperbaric Medicine on the Brain presented to Oklahoma Medical Research Foundation, Wilman Learning Center, Oklahoma City, Oklahoma April 18, 2001

31) Hyperbaric Oxygen Therapy and its Effect on Neuro-rehabilitation, Jim Thorpe Rehabilitation Center, Integris Health, Oklahoma, April 18, 2001

32) Hyperbaric Oxygen Therapy in Head and Neck Radiotherapy and Osteointegration, LSU Dental Clinic, Charity Campus, April 6, 2001


36) Hyperbaric Oxygen Therapy in Central Nervous System Rehabilitation presented in Louisiana State University School of Medicine, Dept. of Physical Medicine and Rehabilitation, New Orleans, LA August 4, 2000

37) Hyperbaric Oxygen Therapy in Treatment of Chronic Stroke and other Neurological Diseases presented to the Adult Communicative Disorders Support Group at Gehlner Clinic, Division of Communicative Disorders, New Orleans, LA July 17, 2000

38) Hyperbaric Oxygen Therapy: A Reappraisal presented at West Jefferson Medical Center, CME Activity, Marrero, LA June 21, 2000

39) Parent Networking and Discovery of Hyperbaric Oxygen as a Therapy for Brain Damage (Julie Gordon, MUMS and Paul Harris, M.D.) presented at "Crossing Disciplines and Boundaries to Improve Perinatal Care" A Multi-State Conference, National Perinatal Association, Albany, N.Y., June 9, 2000

40) Hyperbaric Oxygen Therapy in Head and Neck Radioceyesis and Osseointegration presented to LSU Oral and Maxillofacial Department, LSU Dental School, New Orleans, LA, March 28, 2000

41) Hyperbaric Oxygen Therapy for Cerebral Palsy presented to Barbara Grotto, Harahan, LA, March 22, 2000

42) Hyperbaric Oxygen Therapy & SPECT Brain Imaging in the Treatment of Static Encephalopathy presented to the Southeast Regional Chapter of Physical Therapists, Children's Hospital, New Orleans, LA, December 1, 1999

43) Hyperbaric Oxygen Therapy & SPECT Brain Imaging in the Treatment of Static Encephalopathy of Childhood presented to Jefferson Parish School Board's Physical and Occupational Therapy Department, Harahan, LA, November 11, 1999

44) Guest on CHQR Radio, Topic: Hyperbaric Oxygen Therapy, Calgary, Canada, November 9, 1999


47) Cerebral Palsy/HBOT Interview by Meg Farris for Medical Watch segment of Channel 4 Eyewitness News, New Orleans, LA, 4/30/99

48) Application of Hyperbaric Oxygen Therapy to Acute Neurological Conditions presented at Hyperbaric Medicine 1999, 7th Annual Advanced Symposium, Columbia, South Carolina, April, 1999

49) Hyperbaric Oxygen Therapy: A Realistic aspect presented at University of Texas Southwestern Medical Center at Dallas, UT Southwestern Faculty Club, Emergency Medicine Residents, and Alternative Medicine Research Foundation, February 23, 1999, Dallas, Texas


56) Review of SPECT Brain Imaging and Decompression Sickness presented to Diving Medicine Group at Pensacola Naval Air Station, Pensacola, Florida, Physiology Department 10/2/97


58) Hyperbaric Oxygen Therapy in the Treatment of Chronic Cerebral Palsy, Presentation to Miami Children's Hospital, Department of Pediatric Neurology, 1996.


60) Hyperbaric Oxygen Therapy: A Reappraisal. Northshore Regional Medical Center Medical Staff, March 20, 1996.

61) Hyperbaric Oxygen Therapy and SPECT Brain Imaging in Treatment of Cerebral Manifestations of Autoimmune Diseases, LSU School of Medicine Monthly Citywide Rheumatology Conference, September 27, 1995, New Orleans, Louisiana.
62) CNS Injuries and Hyperbaric Oxygen Therapy, Indications and Use of Hyperbaric Oxygen Therapy, August 18-20, 1993, Gulfport, Mississippi, Gulfport Regional Medical Center.


67) New Concepts in Treatment of Cerebral Decompression Sickness; Advances in the Treatment of Brain Injuries Such as Trauma and Stroke. Indications and Use of Hyperbaric Oxygen Therapy, October 8-10, 1994, Gulfport, Mississippi.

68) Hyperbaric Oxygen Therapy Tailing Treatment and SPECT Brain Imaging in the Treatment of Cerebral Decompression Sickness. Presentation to the joint meeting of the Research Group on Space and Underwater Neurology of the World Federation of Neurology and the American College of Hyperbaric Medicine, August 26, 1994, Ft. Lauderdale, Florida.

69) Grand Rounds, Hyperbolic Oxygen Therapy in Chronic Brain Injury, August 16, 1994, University of Texas Medical Branch, Galveston, Texas.

70) Decompression Sickness, Encephalopathy and SPECT Brain Imaging, NODHMA Diver Medical Recertification Course, to Ellen Smith Medical Center Hyperbaric Medicine and Diving Unit, New Orleans, LA, February 26, 1994.

71) SPECT Brain Imaging and Low Pressure Hyperbaric Oxygen Therapy in the Diagnosis and Treatment of Type II Brain Decompression Sickness. L.S.U. School of Medicine, Department of Medicine Grand Rounds, New Orleans, LA, February 17, 1994.

72) Diving Accidents and Decompression Sickness, Indications and Use of Hyperbaric Oxygen Therapy in Clinical Practice, October 22, 1993, Holiday Inn, Benchfront, Hosted by Hyperbaric Medicine and Problem Wound Care Unit, Memorial Hospital at Gulfport, Mississippi.


75) Brain Imaging in Decompression Illness, Guest lecturer, Advanced Topics in Hyperbaric Medicine Course, April 5-7, 1993, Columbia, South Carolina.

77) Hyperbaric Medicine. A Limited Review. Primary Practice Considerations II. September 8, 1991, sponsored by Northshore Regional Medical Center, Westin Canal Place, New Orleans, LA.

78) Pulmonary Barotrauma I: Cerebral Arterial Air Embolism, National Board of Diving and Hyperbaric Medical Technology (NBDHMT), Diver Medic Recertification Program, February 23, 1991, In Ellen Smith Hyperbaric Medicine and Diving Unit, New Orleans, LA.


80) Managing Patients With Pain of Sudden Onset, Pain Management Institute, November 6, 1990, Northshore Regional Medical Center, Slidell, LA.

81) Hyperbaric Oxygen Therapy and Podiatry, Keynote address, Region Ten Meeting of the American Podiatric Association, Westin Canal Place, October 18, 1990, New Orleans, LA.

82) Choices and Consequences of “Do the Wild Thing,” Young Adult Series Part III, Community Education Series, June 21, 1990, Northshore Regional Medical Center, Slidell, LA.

83) Sexual Boundaries in Adolescence, panel discussion, Community Education Program, April 5, 1990, Northshore Regional Medical Center, Slidell, LA.

84) Carbon Monoxide Poisoning and Hyperbaric Oxygen Therapy, Presentation at Northshore Regional Medical Center staff meeting, March, 1990, Slidell, LA.

85) AIDS Update 1990, Community Education Series, March 1, 1990, Northshore Regional Medical Center, Slidell, LA.

86) Diabetes Mellitus and Hyperbaric Oxygen Therapy, Community Education Series, January 31, 1990, Northshore Regional Medical Center, Slidell, LA.

87) Hyperbaric Oxygen Therapy: A Review, presentation to Highland Park Hospital Medical Staff Meeting, January, 1988, Covington, LA.

SOCIETIES AND MEMBERSHIPS

1) American College of Hyperbaric Medicine; Elected Fellow in October 1997.


3) International Hyperbaric Medical Association (IHMA); President, 2001 - 2004

4) Undersea and Hyperbaric Medical Society; 1992 - 1997

5) Louisiana Chapter, American Medical Association

6) Orleans Parish Medical Society
7) Louisiana State Medical Society
8) American Association of Physician Specialists

RESEARCH GRANTS AND AWARDS

1) March, 1993. Grant of new $650,000 Siemens multiSPECT gamma camera for use in SPECT brain imaging research.

2) April, 1993. Edgar Field Memorial Award for excellence in research, Neurological Applications of Hyperbaric Oxygen Therapy.

3) August, 1993. A $2,500 equivalent grant from Amersham/Medi-Physics for SPECT brain imaging of neurologically normal controls.

4) December, 1995. $25,000 grant from Louis Ross, Sr. for brain injury research.

5) April, 1997. $7,500 equivalent grant from Dupont Pharma Radiopharmaceuticals for 25 doses of Neuroline to use in SPECT brain imaging study of N2O4 exposed and non-exposed individuals.

6) September, 1997. $50,000 grant from Louis Ross, Sr. for brain injury research.

7) November, 1997. Unrestricted grant in the amount of $3,000 for Scientific and Educational Activities from Dupont Pharma Radiopharmaceuticals.

Rev. 1/05