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# CURRICULUM VITÆ

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**Bruce Erhart Becker, M.D., M.S.**

## **EDUCATION:**

**High School:** Fargo Central High School (1961)  
Fargo, North Dakota

**Undergraduate:** Bachelor of Science  
Iowa State University,  
Ames, Iowa (1965)  
Major: English & Speech  
Minors: Zoology, Chemistry, Math

**Medical School:** Bachelor of Science in Medicine  
University of North Dakota  
Grand Forks, North Dakota (1965-67 )

Doctor of Medicine  
Tulane University School of Medicine,  
New Orleans, Louisiana (1969)

**Internship:** Brooke General Army Hospital  
San Antonio, Texas  
Rotating - Surgery (1970)

**Residency:** Physical Medicine and Rehabilitation  
Department of Rehabilitation Medicine  
University of Washington  
Seattle, Washington  
(October 1973 - October 1976)

**Post-Graduate:** Master of Science  
Department of Rehabilitation Medicine  
University of Washington  
Seattle, Washington  
(June 1976)

## **Post-Graduate Courses:**

Electrodiagnosis and Electromyography  
Ohio State University (February 1976)

The Physician in Management - Course I  
American Academy of Medical Directors  
Santa Barbara, CA (October 1979)

Public Speaking, Press & Media Relations  
American Academy of Medical Directors  
Scottsdale, Arizona (October 10-13, 1981)

## **LICENSURES**

Washington State Board of Medical Examiners, No. 13647.

Oregon State Board of Medical Examiners, No. 10263.

Michigan State Board of Medical Examiners, No. 4301060942

Montana State Board of Medical Examiners, No. 8449

Idaho State Board of Medicine, No. M-7738

## **CERTIFICATION**

Diplomate, National Board of Medical Examiners, No. 114607, July 1, 1970.

Diplomate, American Board of Physical Medicine and Rehabilitation, No. 1365, June 5, 1978.

Diplomate, American Association of Electromyography and Electrodiagnosis, May, 1985

Diplomate, American Board of Electrodiagnostic Medicine, Certificate No. 0122, March 18, 1989

Fellow, American College of Sports Medicine, April 15, 2002

## **HOSPITAL AFFILIATIONS**

Sacred Heart General Hospital, Eugene, Oregon  
Active Staff, 1976 - December 31, 1992

McKenzie-Willamette Memorial Hospital, Springfield, Oregon  
Courtesy Staff, 1979 - 1992  
Active Staff, 1992- December 31, 1992

Eugene Hospital and Clinic  
Courtesy Staff, 1978-December 31, 1992

Rehabilitation Institute of Michigan, Detroit Michigan

Active Staff, January, 1993 to May, 1999

Detroit Receiving Hospital, Detroit Michigan  
Affiliate Staff, January 1993 to May, 1999

Harper Hospital, Detroit Michigan  
Affiliate Staff, January 1993 to May, 1999

Hutzel Hospital, Detroit Michigan  
Affiliate Staff, January 1993 to May, 1999

Grace Hospital, Detroit Michigan  
Affiliate Staff, January 1993 to May, 1999

Children's Hospital of Michigan, Detroit Michigan  
Affiliate Staff, January 1993 to May, 1999

St. Luke's Rehabilitation Institute, Spokane Washington  
Active Staff, May 1999 to present

Sacred Heart Medical Center, , Spokane Washington  
Active Staff, May 1999 to present

Deaconess Hospital and Medical Center, , Spokane Washington  
Active Staff, May 1999 to present

Holy Family Hospital, Spokane, Washington,  
Active Staff, August, 1999 to present

## **ORGANIZATIONAL ROLES**

### **Sacred Heart General Hospital, Eugene Oregon**

Medical Director, Dept. of Physical Medicine & Rehabilitation,  
11/76 - 5/85

Medical Director, Rehab Action Center, 10/79 - 5/86

Medical Director, Injured Workers' Program, 5/85 - 10/86

Medical Director, Outpatient Rehabilitation Services, 10-89 to 11/92

### **Rehabilitation Medicine Associates, P.C., Eugene, Oregon**

Founder, 1977

Senior Partner, 1977-to December 31, 1992

### **Fiberlite Composites, Inc., Eugene, Oregon**

Founding Partner, Nov. 1985

President & Chairman of the Board, 1985-present

### **SciEx, Inc., Eugene, Oregon**

Medical Director, Dec., 1986 (founding) to present  
President, 1988-August, 1993

**Rehabilitation Institute of Michigan, Detroit, Michigan**

Vice President of Medical Affairs, January 1, 1993 to June 1, 1998.  
Chair, Residency Clinical Rotations Committee, 1993 to May, 1995  
Chair, Didactics Committee, May 95 to May, 1999  
Project Director, SEMSCIS 1993 to May, 1999  
Chair, Quality Improvement Committee, 1993 to May, 1999  
Chair, Quality Coordinating Council, 1993 to May, 1999  
Director, Continuing Medical Education, 1993 to May, 1999  
Residency Training Director, April 1996 to May, 1999

**St. Luke's Rehabilitation Institute, Spokane, Washington**

Medical Director, May 1999 to January 2005  
Chair, Medical Executive Committee, May 1999 to January 2005  
Medical Advisor for Research, January 2005 to present  
Medical Advisor for Aquatics, January 2005 to present

**Physical Medicine & Rehabilitation Northwest, LLC.**

Founding Officer, May 1999 to 2010

**Washington State University**

Research Professor, College of Education, April 16, 2007 to August 31, 2011  
Adjunct Research Professor, Nutrition and Exercise Physiology, September 1, 2011  
to present  
Director, National Aquatics and Sports Medicine Institute, July 2008 to present.

**National Swimming Pool Foundation**

Director of Aquatic Health Benefit Research, December 2011 to present

**International Society of Medical Hydrology & Balneology**

Scientific International Committee member, 1996-present

**ACADEMIC AFFILIATIONS**

**University of Oregon**

Associate Adjunct Professor, Center on Human Development (Rehabilitation Research and Training Center) 1978 - 85

**University of Washington**

Clinical Assistant Professor, Department of Rehabilitation Medicine, Seattle, Washington,  
July 1985 - July 1992  
Clinical Associate Professor, Department of Rehabilitation Medicine, July, 1992 to January  
1993.  
Clinical Associate Professor, Department of Rehabilitation Medicine, February 1, 2000 to  
June 30, 2003.  
Clinical Professor, Department of Rehabilitation Medicine, July 1, 2001 to present.

### **Wayne State University School of Medicine**

Assistant Professor, Department of Rehabilitation Medicine, February 1, 1993 to August 12, 1997

Associate Professor, Department of Rehabilitation Medicine, August 12, 1997 to May, 1999.

### **Washington State University**

Adjunct Clinical Associate Professor, Department of Veterinary and Comparative Anatomy, Pharmacology and Physiology, January 1, 2004 to present.

Research Professor, College of Education, April 16, 2007 to August 31, 2011

Adjunct Research Professor, Nutrition and Exercise Physiology, September 1, 2011 to present

Director, National Aquatics and Sports Medicine Institute, July 2008 to present.

### **MILITARY SERVICE**

Inducted June 26, 1969. Internship through June 1970. Rank: Captain. Medical Field Service School, August - September 1970.

General Medical Officer and Battalion Surgeon, 2nd BTN, 46th Infantry, Ferris Barracks, Erlangen, Germany APO 09066 October 1970 - September 1973. Rank: Major.

Orthopedic Consultant to the 120th Medical Dispensary: serving a community of six battalions and dependents, approximately 7,500 persons.

Assistant Dispensary Commander, 120th Medical Dispensary, 1970-75  
Orthopedic Consultant to the 97th General Hospital, Nurnberg, Germany

### **PROFESSIONAL SOCIETIES**

American Academy of Physical Medicine and Rehabilitation, Active Member 1976 - present

American Association of Electromyography and Electrodiagnosis, Active Member, 1976 to present, Certification May 1985

American Board of Electrodiagnostic Medicine, Certificate No. 0122, March 18, 1989

American College of Sports Medicine, Active Member, January 1998 to present,  
Advanced to Fellow, April 15, 2002

American Burn Association, Active Member, 1976-2003

American College of Physician Executives, 1995 to 2005

American Congress of Rehabilitation Medicine, Active Member 1986 – 2003

American Medical Association, Active Member 1976-2007

American Paraplegia Association, 1995 to 2003

American Spinal Injury Association, Active Member, 1979-2005

Association of Academic Physiatrists, Active member, 1987-2009

Northwest Association of Physical Medicine and Rehabilitation, member 1976-1992  
Vice-President 1982-1983  
President 1983-1984

Oregon Society of Physical Medicine and Rehabilitation, Active Member 1976-1992  
President 1982-1983

Oregon Medical Association , Active member 1976-1992  
Delegate 1982-1984, 1985-1987, 1989-91  
Professional Consultation Committee, 1986-1992

Lane County Medical Society, Active Member 1976-1992

Washington State Medical Association, Active Member 1999-present

Spokane County Medical Society, Active Member 1999-present  
CME Committee member, 1999-present

Society for Professional Well-being, Active Member, 1989-1997

## **PROFESSIONAL ACTIVITIES**

American Academy of Physical Medicine and Rehabilitation Annual Meeting Program  
Content Review Panel, 1985-1995  
Program Planning Subcommittee, 1999-2003

American Academy of Physical Medicine and Rehabilitation  
Medical Practice Committee member, 1985 - 6/94  
Subcommittee on Assessment of Diagnostic & Therapeutic Modalities and Devices,  
Chairman, 10/86 - 6/94  
Special Interest Group on Medical Hydrology and Aquatic Rehabilitation,  
Chair, 1993-2010  
Nominating Committee: November 1999-2001  
Member-at-large, Board of Governors, October 2004-2010  
Public and Professional Awareness Committee 2006-  
Industry Relations Committee 2010-  
Editor, The Physiatrist, Official Academy newsletter, January 2010-present

American Board of Physical Medicine and Rehabilitation  
Board Examiner, May 1985  
Board Examiner, May 1994

Board Examiner, May 1996  
Board Examiner, May 1997  
Board Examiner, May 1999  
Board Examiner, May 2001  
Board Examiner, May 2004

American Society of Medical Hydrology  
President-elect, 1992-3  
President, 1993 to 1998

Archives of Physical Medicine and Rehabilitation  
Editorial Review Panel 1984 - present

Association of Academic Physiatrists  
Course Director: "*Managing Change: Physiatric Leadership through Turbulent Times*",  
Naples Florida, January 20-22, 1994.  
Committee member, National Residency Match Program Committee, Directors  
Council, 1997-May 1999

Foundation for Physical Medicine and Rehabilitation  
Board of Directors Member at large, 2010-November 2013  
Secretary, Board of Directors, November 2013-present

International Society of Medical Hydrology  
International Advisory Board 1996-present  
Course Director: *Physiologic Aspects of Medical Hydrology*, International Society of  
Medical Hydrology 33<sup>rd</sup> World Congress, Karlovy Vary (Carlsbad), Czech Republic,  
October 5, 1998.

International Swimming Hall of Fame  
International Advisory Committee, 2010-present  
Advisory Committee for Aquatic Programs for Wounded Warriors, 2010-present

Physiatric Association of Spine, Sports and Occupational Rehabilitation (PASSOR)  
Newsletter Editor, 1998-2009 (Organization closed 4/09)  
Vice President (President-Elect), November 2001-2002  
Awards Committee Chair, November 2001-2002  
President, November 2002-2003

Sacred Heart General Hospital, Eugene, Oregon  
Rehabilitation Services Committee- 1976 to 12/92  
Medical Staff Executive Committee- 9/84 to 9/86

Oregon Medical Association  
Delegate, Lane County, 1979-80, 1981-83, 1985-86, 1988-90  
Professional Consultation Committee, 1987-1993

The Jimmie Heuga Center - Vail, Colorado

Pilot program Medical Staff member 1984 - 1986  
Chairman, Research Activities Committee 11/84 to 5/86  
Team physician, Jimmie Heuga Express 1985, 1986  
Medical Co-Director 1/85 - 7/85  
Medical Director 8/85 - 8/86  
Board of Directors 1/85 - 7/88

Exercise Research Associates of Oregon  
Board of Directors, founding, 1986 to 1993

Eastern Washington University  
Dept. of Physical Therapy, Professional Advisory Committee December 2000-  
present

American Heart Association  
State Advocacy Advisory Committee member 11/03 to present

Spokane County Medical Society  
Professional Education Committee member: 2000 to present

National Swimming Pool Foundation  
Director of Aquatic Health Benefit Research, December 2011 to present

## **AWARDS & HONORS**

First Prize, Conrad Jobst Award for "Outstanding Contributions in Vascular Research", 1975.

"Physician of the Year", 1977-1978, Governor's Committee on Employment of the Handicapped

Listed in "The Best Doctors in America: Midwest Region 1996-1997," Woodward/White Inc., Aiken S.C.

Listed in "The Best Doctors in America," National Edition: 1998-1999, 2000-2001, 2002-2003, 2003-2004, 2005-2006; Woodward/White Inc., Aiken S.C.

Aquatic Therapy Professional of the Year-1999, awarded by the Aquatic Therapy and Rehabilitation Institute, September 10, 1999.

Prince Distinguished Lecturer, Rehabilitation Institute of Chicago and Northwestern University School of Medicine, Department of Physical Medicine & Rehabilitation, Chicago, Illinois, December 6, 2000.

Named to Top 100 in Aquatic Leadership 2002, Who's Who in Aquatic Leadership by United States Water Fitness Association and Aquatics Magazine, November 14, 2002.

Named to Top 100 in Aquatic Leadership 2004, Who's Who in Aquatic Leadership by United States Water Fitness Association and Aquatics Magazine, February 2004.

Named to Top 100 in Aquatic Leadership 2005, Who's Who in Aquatic Leadership by United States Water Fitness Association and Aquatics Magazine, February 2005.

Named to "The Power 25," most influential aquatics professionals in the nation by *Aquatics International* magazine February 2006.

Named to "The Power 25," most influential aquatics professionals in the nation by *Aquatics International* magazine February 2010.

Awarded the **John K. Williams Adaptive Aquatics Award**, by the International Swimming Hall of Fame, Ft. Lauderdale FL, May 7, 2011

**Zeiter Lecturer**, American Academy of Physical Medicine & Rehabilitation Annual Assembly, Nov. 15, 2014

### CONSULTANTSHIPS

Oregon Division of Vocational Rehabilitation  
1976 - 1992

Easter Seal School  
1976 - 1980

Crippled Children's Division, University of Oregon  
1976 - 1992

Muscular Dystrophy Association, State of Oregon  
1976 - 1992

Independent Living Program  
1978 - 1992

Northwest Wheelchair Athletics Association  
1978 - 1993

### VISITING PROFESSORSHIPS

University Of Rochester Department of Physical Medicine & Rehabilitation, Rochester, New York, June 7-8, 1994

Louisiana State University, Department of Physical Medicine & Rehabilitation, New Orleans, Louisiana, June 9-10, 1995

University of Utah Department of Physical Medicine & Rehabilitation, Salt Lake City, Utah,  
January 30, 1998

University of Cincinnati Department of Physical Medicine and Rehabilitation, Cincinnati,  
OH, December 17-18, 1998.

Rehabilitation Institute of Chicago and Northwestern University School of Medicine,  
Department of Physical Medicine & Rehabilitation, Chicago, Illinois, December 6, 2000.

Washington University School of Medicine, Department of Physical Therapy, St. Louis, MO,  
May 31, 2002.

West Virginia University, Department of Exercise Physiology, Morgantown, West Virginia,  
April 9-11, 2006.

University of Iowa, Department of Orthopedics and Rehabilitation, Iowa City, Iowa,  
November 9, 2009.

West Virginia University, Department of Exercise Physiology, Morgantown, West Virginia,  
February 16-17, 2012.

University of Maryland, Rehabilitation & Orthopedic Institute, Pikesville, Maryland, May 4-  
5, 2014.

## **COMMUNITY AND VOLUNTEER ORGANIZATIONS**

National Ski Patrol - Senior Patrolman  
1972 - 1973 Garmisch-Partenkirchen Patrol  
1973 - 1976 Snoqualamie Summit Patrol  
1976 - 1977 Hoodoo Ski Patrol

King County Red Cross, Instructor, 1973 - 1976

King County Civil Defense, 1973 - 1976

Physician for Northwest Regional Games,  
Oregon Wheelchair Athletic Association  
May 1979, May 1981

Team Physician, Eugene Low Riders Basketball Team  
1978 - present

Health Systems Agency, HSA II Sub-area Council  
Member-at-Large  
1981 - 1985

OMA Committee on Health Care Planning, Portland, Oregon  
1984

Lane County Direction Services, Eugene, Oregon  
Board of Directors  
1978 - 1982

Emerald Executives Association, Eugene, Oregon  
1987-December, 1992

## PUBLICATIONS

**Becker Bruce E**, "Deep Vein Thrombosis and Pulmonary Embolism: Pathophysiology and Diagnosis in Spinal Cord Injury" - Entry and winner, Annual Conrad Jobst Foundation Award, 1975.

**Becker Bruce E**, "Burn Scar Hypertrophy: Control with a New Device", Archives of Physical Medicine and Rehabilitation, April 1980, Volume 61, pages 187-189.

Wong FS, Campbell DR, **Becker BE**, "Head Injury and Video Games," The Western Journal of Medicine, January 1983: Vol 138(1), p. 107.

**Becker Bruce E**, "Vocational Potential in Multiple Sclerosis", The Western Journal of Medicine, Vol. June 1986, p 319.

**Becker Bruce E**, "Maintaining Fitness in the Face of Disability", chapter in Nisus Instructional Manual, Nisus, Inc. 1987

**Becker Bruce E**, "Innovation Imperiled: Medical Technology in an Era of Cost Containment", The Physiatrist, Vol. 5, No. 1, December 1988, p. 2-3.

**Becker BE**, "Air Flotation Bed Technology", technology report prepared for American Academy of Physical Medicine and Rehabilitation, June 20, 1989.

**Becker BE**, "Deep Water Hydrotherapy in the Management of Lumbosacral Dysfunction", abs., Archives of Physical Medicine and Rehabilitation, Vol. 70, No. 11, Oct. 1989, p. 96.

Schwartz, RE, **Becker BE**, "Thermography", technology report prepared for American Academy of Physical Medicine and Rehabilitation, June 1, 1990.

**Becker Bruce E**, "Phonophoresis", technology report prepared for American Academy of Physical Medicine and Rehabilitation, June 1, 1990.

**Becker Bruce E**, "Motivating Adherence in the Rehabilitation Setting", solicited submission, Journal of Back and Musculoskeletal Medicine, Vol. 1, No. 3, Fall 1991, p. 37-48.

**Becker Bruce E**, "Durable Medical Equipment", solicited white paper, American Academy of Physical Medicine and Rehabilitation, Sept, 1990.

**Becker Bruce E**, "On Thinking Small and Other Strategies for Achieving Failure," editorial, (requested submission), The Physiatrist , Vol. 7, No. 5, August 1991, page 4.

Bruce M. Gans, MD., Nancy R. Mann, MD., **Bruce E. Becker, MD.**, requested submission "Delivery of Primary Care to the Physically Challenged," Archives of Physical Medicine & Rehabilitation, Dec., 1993: 74, (12-S), S-15-19.

Andrew Cole, MD, **Bruce E. Becker, MD**, "Introduction to Aquatic Rehabilitation," Journal of Back and Musculoskeletal Medicine, IV:4, October 1994, p. vii.

**Bruce E. Becker, MD**, "Biologic Aspects of Hydrotherapy, " requested submission, Journal of Back and Musculoskeletal Medicine, IV:4, October 1994, p. 255-265.

**Bruce E. Becker, MD.**, Andrew Cole, MD, "Swimming Onward: The Future of Aquatic Rehabilitation," requested commentary, Journal of Back and Musculoskeletal Medicine, IV:4, October 1994, p. 319-321.

**Bruce E. Becker, MD.**, "Considering the Biologic Aspects of Water," Advance for Directors in Rehabilitation, IV:4, April 1995, p. 53-55.

**Becker Bruce E**, Gans, BM, "Physiatric Practice in Free-Standing Rehabilitation Hospitals, " Phys Med & Rehab Cl North Am; W.B. Saunders Company, Melvin, J., Odderson, I., ed., VII:1, February 1996, p.43-53.

Desantis NM, **Becker BE**, "Building a Durable therapeutic Relationship: Avoiding Catastrophe between the Therapeutic Team and the Patient with a New Spinal Cord Injury," Topics in Spinal Cord Injury Rehabilitation, IV:3 Winter 1999, pp. 29-35.

**Becker BE**, "Violence as a Cause of Spinal Cord Injury: A Victim's Perspective, Topics in Spinal Cord Injury Rehabilitation, IV:3 Winter 1999, pp. 81-93.

DeVivo MJ, Jackson AB, Dijkers MP, **Becker BE**, "Current Research Outcomes from the Model Spinal Cord Injury Systems," Archives of Physical Medicine and Rehabilitation, 1999;80: 1363-4.

**Becker BE**, Delisa JA, "Model Spinal Cord Injury System Trends, and Implications for the Future," Archives of Physical Medicine and Rehabilitation, 1999;80: 1514-21.

**Becker BE**, "Aquatic Therapy in the Management of Spinal Disorders," Spine Line, March/April 2002, p. 1922.

Rodgers, M.L., Strode, A.D., Norell, D.M., Short, R.A., Dyck, D.G., & **Becker, B.E.** "Adapting multiple-family group treatment for brain and spinal cord injury: Intervention development and preliminary outcomes." American Journal of Physical Medicine & Rehabilitation, 2007;86: 482-492.

**Becker BE**, Borjesson SR, Dunlap E, Strode AD, "Comparative Cardiorespiratory Effects of an Aquatic Aerobic Exercise Program with Land-based Aerobic Exercise," Archives of Physical Medicine & Rehabilitation, submitted and in revision 11/1/08.

**Becker, BE**; "Healing Waters," Aquatics International, Washington DC, June 2007, p. 27-32.

G. Gregory Haff, PhD., **BE Becker, MD**, JM Lindle-Chewning, MA, K Huff MS, BW Sherlock, PTA, LA Sherlock MS, M Stolt MS; *Aquatic Cross-Training for Athletes: Part 1*, National Strength and Conditioning Association Journal; Vol. 30: 2, April 2008, 18-26.

G. Gregory Haff, PhD., **BE Becker, MD**, JM Lindle-Chewning, MA, K Huff MS, BW Sherlock, PTA, LA Sherlock MS, M Stolt MS; *Aquatic Cross-Training for Athletes: Part 2*, National Strength and Conditioning Association Journal; Vol. 30: 3, June 2008, 67-83.

**Becker, BE**, *Increasing Access to Aquatics*, WaterShapes, July 2008, p. 34-41

**B.E. Becker**, K. Hildenbrand, R Whitcomb, JP Sandler. "Biophysiologic Effects of Warm Water Immersion." International Journal of Aquatic Research and Education 3(1), 2009: 24-37.

**Becker BE**, editorial, "Research Needs in Aquatics," International Journal of Aquatic Research and Education 3(1), 2009: 4-9.

**Becker BE**, "Aquatic Therapy: Scientific Aspects for Rehabilitation," PM & R, the Journal of Function and Recovery, Vol. 1, September 2009, 859-872.

K. Hildenbrand, **B.E. Becker**, R Whitcomb, JP Sandler. "Age-Dependent Autonomic Changes Following Immersion in Cool, Neutral, and Warm Water Temperatures", International Journal of Aquatic Research and Education 4(2), 2010: 127-146.

K. Hildenbrand, S. Nordio, TS. Freson, **B. E. Becker**, "Development of an Aquatic Exercise Training Protocol for the Asthmatic Population," International Journal of Aquatic Research and Education, 4 (3), 2010: 278-299

**Becker, B.E.**, "Viewpoint: Rx for Aquatic Health," Aquatics International, October 2011, p. 20-24.

Hildenbrand, K., Freson, T., Barbosa-Leiker, C., Nordio, S., **Becker, B.** & Miller, A. "The Impact of an Aquatic Exercise Protocol on Physiologic Measures within an Asthmatic Population," International Journal of Aquatic Research and Education, 5(4): 378-388.

**Becker, B.E.**, "Aquatic Therapy: Current Status in the USA and Europe," International Rehabilitation Engineering and Devices (IRED), June 2014, p. 12-16, (in both English and Chinese)

## LETTERS TO THE EDITOR

**Becker Bruce E**, "Home Exercises and Out-Patient Hydrotherapy," British Journal of Rheumatology, 34(10):991-2, Oct. 1995.

**Becker, Bruce E**, "Clinical Crossroads: The Rehabilitative Model for Somatization Disorder", Journal of the American Medical Association, 279:9, March 4, 1998, p. 656.

**Becker, Bruce E**, "To the Editor: On Swimming Mythologies," International Journal of Aquatic Research and Education 3(2), 2009: p. 120.

## CHAPTERS

Manual of Physical Medicine and Rehabilitation:

Chapter 39, "Multiple Sclerosis";

Chapter 40, "Parkinson's Disease", W. B. Saunders Blue Book Series, 1984.

**Becker BE**, "Aquatic Physics," chapter author in Ruoti & Cole, *Aquatic Rehabilitation*, Lippencott & Co., 1996, pp .

**Becker, BE**, "Biophysiologic Aspects of Hydrotherapy," in *Comprehensive Aquatic Rehabilitation*, Bruce E. Becker, MD., Andrew J. Cole, MD, editors, Butterworth Heinemann Publishers, July 1997, pp 17-49.

**Becker BE**, Garrett G, "Hydrotherapeutic Application in Arthritis Rehabilitation," in *Comprehensive Aquatic Rehabilitation*, Bruce E. Becker, MD., Andrew J. Cole, MD, editors, Butterworth Heinemann Publishers, July 1997, pp 103-122.

**Becker BE**, Larson J, "Aquatic Therapy: From Acute Care to Lifestyle," in *Comprehensive Aquatic Rehabilitation*, Bruce E. Becker, MD., Andrew J. Cole, MD, editors, Butterworth Heinemann Publishers, July 1997, pp 143-161.

Wilder RA, Cole AJ, **Becker BE**, "Aquatic Strategies for Athletic Rehabilitation," in *Functional Rehabilitation of Sports and Musculoskeletal Injuries*, Ben Kibler, MD, Stan Herring, MD, and Joel Press, MD, editors, Aspen Publishers, Gaithersburg, MD, 1998, pp.109-124.

**Becker Bruce E**, Cole AJ, "Aquatic Rehabilitation", in Delisa J, & Gans BM, *Rehabilitation Medicine: Principles and Practice, 3<sup>rd</sup> Edition*, Lippencott Raven, Philadelphia PA, 1999, pp.887-901.

**Becker Bruce E**, "History and Principles of Aquatic Therapy," in Liemohn W, editor, *Exercise Prescription and the Back*, McGraw Hill Publishers, New York, NY, 2001, pp 183-195.

**Becker Bruce E**, "Aquatic Exercise Therapy," in Liemohn W, editor, *Exercise Prescription and the Back*, McGraw Hill Publishers, New York, NY, 2001, pp 197-213.

**Becker Bruce E**, Cole AJ, "Aquatic Rehabilitation", in Delisa J, & Gans BM, *Rehabilitation Medicine: Principles and Practice, 4th Edition*, Lippincott Williams Wilkins Publishers, Philadelphia, 2003.

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Becker, BE, “Biophysiologic Aspects of Hydrotherapy,” in ***Comprehensive Aquatic Rehabilitation, 2<sup>nd</sup> Edition***, Andrew J. Cole, MD, Bruce E. Becker, MD editors, Elsevier, Inc. Publishers, 2004, pp 19-56.

Becker BE, Garrett G, “Hydrotherapeutic Application in Arthritis Rehabilitation,” in ***Comprehensive Aquatic Rehabilitation, 2<sup>nd</sup> Edition***, Andrew J. Cole, MD, Bruce E. Becker, MD editors, Elsevier, Inc. Publishers, 2004, pp 207-226.

Becker, BE, Larson J, :Aquatic Therapy: From Acute Care to Lifestyle,” ***Comprehensive Aquatic Rehabilitation, 2<sup>nd</sup> Edition***, Andrew J. Cole, MD, Bruce E. Becker, MD editors, Elsevier, Inc. Publishers, 2004, pp 289-306.

Kinnaird D, **Becker BE**, “Contemporary Aquatic Therapy and Pain Management,” in Audette JF, ed, ***Integrative Pain Medicine: The Science and Practice of Complementary and Alternative Medicine in Pain Management***, Humana Press, Boston MA, 2008, pp 285-306.

**Becker Bruce E**, Cole AJ, “Aquatic Rehabilitation”, Chapter 62 in Delisa J, & Gans BM, ***Rehabilitation Medicine: Principles and Practice, 5th Edition***, Lippincott Williams Wilkins Publishers, Philadelphia, 2010, pp 1673-1689

**Becker, BE**, “Biophysiologic Aspects of Hydrotherapy,” in ***Comprehensive Aquatic Rehabilitation 3<sup>rd</sup> Edition.***, Bruce E. Becker, MD., Andrew J. Cole, MD, editors, Washington State University Publishing, 2011, pp 23-76.

Becker, BE, Larson J, :Aquatic Therapy: From Acute Care to Lifestyle,” ***Comprehensive Aquatic Rehabilitation, 3rd Edition***, Andrew J. Cole, MD, Bruce E. Becker, MD editors, Washington State University Publishing, 2011, pp 407-422.

Becker, Bruce E, “Aquatic Therapy: History, Theory and Applications,” Chapter 1 in Wilk, KE and Joyner, DM, editors, ***The Use of Aquatics in Orthopedic and Sports Medicine Rehabilitation and Conditioning***, Slack Inc. Thorofare, NJ, 2013, pp 3-16.

## JOURNAL ISSUE EDITORSHIPS

Andrew Cole, MD, **Bruce E. Becker, MD**, Issue Editors: Aquatic Rehabilitation, Journal of Back and Musculoskeletal Medicine, IV:4, October 1994.

**Bruce E. Becker, MD.**, issue editor, Topics in Spinal Cord Injury Rehabilitation, “Violence in Spinal Cord Injury,” Aspen Publishers, Inc., 4:3 Winter 1999.

**Becker BE**, newsletter editor, Physiatrix Association of Spine, Sports and Occupational Rehabilitation Newsletter, American Academy of Physical Medicine & Rehabilitation, 1998 to April 2009.

## BOOKS

*Comprehensive Aquatic Rehabilitation*, Bruce E. Becker, MD., Andrew J. Cole, MD, Butterworth Heinemann Publishers, July 1997.

*Comprehensive Aquatic Rehabilitation*, 2<sup>nd</sup> Edition, Andrew J. Cole, MD, Bruce E. Becker, MD, Elsevier Publishers, publication November 2003.

*Comprehensive Aquatic Rehabilitation*, 3rd Edition, Bruce E. Becker, MD, Andrew J. Cole, MD, Washington State University Press, Jan 2011

## ABSTRACTS

DeSantis N, **Becker B**, Dijkers M; “Risk factors for autonomic dysreflexia in chronic SCI”, *Jl of Spinal Cord Medicine*, 19:2 April 1996, p. 139.

DeSantis N, **Becker B**, Saliccioli G, Dijkers M; “Prevention of deep venous thrombosis in acute SCI using mechanical means: interim results from a clinical trial”, *Jl of Spinal Cord Medicine*, 19:2 April 1996, p. 139.

**Becker Bruce E**, “Thigh and Sciatic Nerve Injury: Golf,” *Medicine & Science in Sports & Exercise*. 31(5) Supplement:S46, May 1999.

Liemohn, W FACSM 1; Zuhosky, J P. 2; Graves, J E. FACSM 3; **Becker, B E**. 4; Miller, M A. “Core Stability: Its Importance to Spine Health and Total Kinetic Chain,” *Medicine & Science in Sports & Exercise*. 33(5) Supplement 1:S226, May 2001.

Borjesson, Susan R.; **Becker, Bruce E.**,”Quantification of Physiologic Adaptations in Respiratory Function: A Comparison of Water versus Land-Based Aerobic Exercise,” *Medicine & Science in Sports & Exercise*. 39(5) Supplement:S342-S343, May 2007.

**Becker BE**, Hildenbrand K, Whitcomb R: “Biophysiological Effects of Water Immersion,” *Medicine & Science in Sports & Exercise*. 40(5) Supplement 1:S282, May 2008.

Hildenbrand K, **Becker BE**, Whitcomb R: “Aging and the Autonomic Nervous System: Effects of Water Immersion,” *Medicine & Science in Sports & Exercise*. 41(5) Supplement 1:S83, May 2009.

Hildenbrand, Kasee; Nordio, Sara; Freson, Timothy S.; **Becker, Bruce E.**, “Development Of An Aquatic Exercise Training Protocol For The Asthmatic Population,” *Medicine & Science in Sports & Exercise*. 42(5):570, May 2010.

Hildenbrand K, Barbosa-Leiker C, Freson TS, Nordio S, **Becker BE**; “The Impact of an Aquatic Exercise Protocol on Physiologic Measures Within and Asthmatic Population: A Case Series,” *PM & R*, 2:9, Supplement, S152.

## EDITORIAL ACTIVITIES

Editorial Board, Journal of Back and Musculoskeletal Medicine  
June 1989 to 1998

Bruce E. Becker, MD., guest editor & commentator, Rehab in Review, III:5, May 1995

Editorial Board, Journal of Aging and Physical Activity, Human Kinetics Press, April 2003-present

Editorial Board, International Journal of Aquatic Research and Education, Human Kinetics Press, August 2006—present.

Editor, The Physiatrist, official newsletter of the American Academy of Physical Medicine & Rehabilitation, January 2010-present.

### PUBLISHED EDITORIALS:

#### **The Physiatrist, Official Newsletter of The American Academy of Physical Medicine & Rehabilitation**

1. How My Wandering PM & R Career Led Me Here. Jan 2010
2. Physiatric Survival in a Brave New World March 2010
3. Exercise is Rehabilitation Medicine April 2010.docx
4. Exercise is Actually Many Rehabilitation Medicines May 2010.docx
5. A Vaguely Directed Rant June 2010.docx
6. Rehabilitation Medicine and Healthspan Promotion July/August 2010.docx
7. Reflections on Swaddling Sept 2010.docx
8. Annual Assembly Thoughts Oct. 2010
9. Patient Stories-The Cowboy Nov 2010.docx
10. Me, the American People and Frustration Dec 2010/Jan 2011.docx
11. The Price of Fame Feb 2011.docx
12. What We Know, What We Don't Know... Mar 2011.docx
13. The Value of Healing Touch April 2011
14. Play, Laughter, Opiates & Society May 2011.docx
15. Trusting Unhappiness June 2011.docx
16. The Physiatric Model of Care July 2011
17. Customer Service and Rehabilitation Medicine Sept 2011.docx

18. The R Word and Our Profession Oct 2011.docx
19. A Hard Rains Gonna Fall Nov 2011
20. Healers book review Dec 2011/Jan 2012
21. Exercise and Health,Chapter 3 Feb 2012
22. A Rehabilitation Religious Testimonial Mar 2012
23. AAPMR and Commercial Relationships April 2012
23. Science, Politics, Medicine and the Future May 2012
24. Reflections on Golf and My Father June 2012
25. Midsummer Thoughts and Reflections July 2012
26. A Trip to China Sept. 2012
27. Health Care Costs, PM&R and Leading vs. Following Oct 2012
28. The Back Pages of the Psychiatrist Nov 2012
29. Post-Election Morning and the Sun Still Rises, Dec 2012/Jan 2013Physiatrist Nov 2012  
editorial
30. Exercise and Aging Redux Jan 2013
31. Medical Errors and Psychiatric Practice Apr 2013
32. A Medical View of Gun Safety Mar 2013
33. Psychiatrists and the Legal System, March 2013
34. The Life Force Flower Jun 2013.docx
35. Do Psychiatrists Make Too Much Money July 2013
36. Money and Its Relationship to Work, August 2013
37. A Consumer Health Care Story Sept 2013
38. Wounded Warriors, Rehab Medicine and a Career Oct/Nov 2013
39. The American Health Care Quagmire Dec 2013/Jan 2014
40. Another Book Report Feb 2014
41. Hands on the Keyboard vs the Patient Mar 2014
42. The Hippocratic Oath, TLAs and our Brave New World April 2014
43. Life in the Bicycle Lane of the Technology Highway May 2014
44. Random Thoughts on Departing Italia June 2014
45. The VA Hospital System & Political Perspectives July/Aug 2014
46. Pay for (Whose) Performance Sept 2014
47. Medical Misperceptions of Chronic Disease Care Oct 2014

48. Misadventures in Prior Authorization Nov 2014

## RESEARCH ACTIVITIES

University of Washington, Department of Rehabilitation Medicine  
"Vascular Hemodynamics of Spinal Cord Injured Patients", 1974-1976

University of Oregon Center on Human Development, "Biofeedback Musculoskeletal Re-education of the Spastic Motor Unit", 1980-1982

Oregon Rehabilitation Center, Eugene, Oregon  
"Detection of Significant Bacteriuria by Leukocyte Esterase and Nitrate Urine Dipsticks for an Inpatient Rehabilitation Unit.", 1985-1987

The Jimmie Heuga Center, Vail Colorado, "Physical Fitness Determination in Neuromuscular Dysfunction", 1985-87

Principal Investigator, SciEx, Inc and the University of Oregon Department of Human Performance, "Deep Water Hydrotherapy, Protocols and Procedures in Musculoskeletal and Neuromuscular Injury", 1987-1990

Principal investigator, "Athletic Injuries in Recreational and Elite Wheelchair Athletes", Exercise Research Associates, Inc, Sciex, Inc., and University of Oregon Department of Human Performance, 1991

Co-principal investigator, "Targeting Adherence Behaviors in Low Back Rehabilitation," Oregon Research Institute with Injured Worker's Program, 7/91-1/92

"Monitoring Deep Vein Thrombosis through the Use of D-dimer and TET Complex", Eberhard Mammen, MD., Dennis Chong, MD., Ross Zafonte, DO., **Bruce E. Becker, MD.**, Gino Saliccioli, MD., Nancy DeSantis, MD., Michelle Buda Abela, Southern Michigan Spinal Injury System and Wayne State University, Detroit MI., 8/1/93 to 4/30/99.

"Early patterns of bone loss in acute spinal cord injury," Kleerkoper, M., Sowers, J., **Becker, B**; Field-initiated grant proposal to Paralyzed Veterans of America Sept. 1995, Co-principle investigator

Project Director and co-Principle Investigator, "Multi-family Group intervention in Traumatic Brain Injury and Spinal Cord Injury," Field-initiated research proposal to National Institute of Disability and Rehabilitation Research, H133G020006, Awarded August, 2002. Project period 10/1/02 through 9/31/05.

Project Co-Investigator, "Cognitive Recovery after Traumatic Brain Injury," National Institutes of Health, 1 RO1 NS047690-01, awarded March 2004. Project period 4/15/04 through 3/31/08.

Project Director and Principle Investigator, “Quantification of Physiologic Adaptations in Pulmonary Function After 15-Weeks of Structured Aquatics Training Versus Identically-Structured Land-Based Training in Healthy College-Aged Individuals,” Field-Initiated Research proposal, funded by the National Swimming Pool Foundation through Washington State University, project period September 1, 2005 through December 2006.

Project Director and Principle Investigator, “Quantification of Warm and Hot Water Immersion on Cardiovascular and Autonomic Nervous System in Healthy Pre-Hypertensive Adults,” Field-Initiated Research proposal, funded by the National Swimming Pool Foundation through Eastern Washington University and Washington State University, project period January 2007 through December 2008.

Project Co-Director and Co-Principle Investigator, “Aquatic Exercise Effects on Physiologic and Psychologic Parameters in an Asthmatic Population,” Field-Initiated Research proposal, funded by the National Swimming Pool Foundation through Washington State University, project period July 2008-May 2009.

## **GRANT-FUNDED RESEARCH ACTIVITIES**

Project Director and Principle Investigator, Southern Michigan Spinal Cord Injury System, PR / Award Number H133N00020-93, Rehabilitation Institute of Michigan, 5/7/93-8/31/95.

Project Director and Principle Investigator, Southern Michigan Spinal Cord Injury System, PR / Award Number H133N50006-96, Rehabilitation Institute of Michigan, 9/1/95-8/31/00.

Principle Investigator, “Long Term Training in Rehabilitation Residency Training,” U.S. Department of Education, Grant Award Contract #H129A70004-98, Rehabilitation Institute of Michigan, 7/1/97 to 6/30/98.

Project Director and Principle Investigator, “Multi-family Group Intervention for Traumatic Brain Injury and Spinal Cord Injury Patients and Families,” U.S. Department of Education, Grant Award Contract #H133G020006, 10/01/02-9/30/05.

Project Director and Principle Investigator, “Quantification of Physiologic Adaptations in Pulmonary Function After 15-Weeks of Structured Aquatics Training Versus Identically-Structured Land-Based Training in Healthy College-Aged Individuals,” Field-Initiated Research proposal, funded by the National Swimming Pool Foundation through Washington State University, project period September 1, 2005 through December 2006.

Project Director and Principle Investigator, “Quantification of Warm and Hot Water Immersion on Cardiovascular and Autonomic Nervous System in Healthy Pre-Hypertensive Adults,” Field-Initiated Research proposal, funded by the National Swimming Pool Foundation through Washington State University, project period January 2007 through May 2008.

Institute Director, the National Aquatics and Sports Medicine Institute, Washington State University, funded by the National Swimming Pool Foundation, funding contracted from July 1, 2008-June 31, 2013.

### **PRESENTATIONS 1980-1989**

**"Burn Scar Hypertrophy: A New Management Device"**, presented to the Annual Meeting of the Academy of Physical Medicine and Rehabilitation, Atlanta, Georgia, November 1979

**"Contemporary Stroke Rehabilitation"**, presented to the Medical Staff of Sacred Heart General Hospital, Eugene, Oregon, in November 1980.

**"Side Effects of Baclofen on a Rehabilitation Service"**, presented to the Northwest Association of Physical Medicine and Rehabilitation, Annual Meeting, Santa Barbara, California, in May 1982

**"Acute Psychiatric Sequelae Following Baclofen Discontinuation"**, presented to the Annual Meeting of the Academy of Physical Medicine and Rehabilitation, Houston, Texas, November 1982

**"Team Management of the Rehabilitation Patient"**, presented to the Sacred Heart General Hospital Medical Staff, Eugene, Oregon, in November 1982

**"Contemporary Rehabilitative Management of the Amputee"**, keynote speaker, Sacred Heart General Hospital-sponsored workshop for physicians and therapists in western USA, 16 April 1983

**"Conservative Management of Low Back Pain"**, presented to the Sacred Heart General Hospital Medical Staff, Eugene, Oregon, on 24 May 1983

**"Post-Traumatic Cystic Myelopathy"**, presented to the North-western Association of Physical Medicine and Rehabilitation, Vancouver, B.C., on 4 June 1983

**"Update on the Rehab Action Center"**, presented to the Sacred Heart General Hospital Medical Staff and Hospital Board, Eugene, Oregon, in August 1983

**"Hospital-Based Physician Contracts and Negotiating Strategy"**, presented to the American Academy of Physical Medicine and Rehabilitation Annual Meeting, Los Angeles, California, 7 November, 1983

**"Contracting with Hospitals: Physiatrist Roles"**, presented to the Oregon Society of PM&R Section of the Oregon Medical Association, Portland, Oregon, 12 February 1984

**"Contemporary Trends in Rehabilitation"**, presented to Western Lane Hospital Medical Staff, Florence, Oregon, 2 May 1984

**"Medicare and TEFRA - Impact on Hospital-Based Physicians"**, presented before the 21st Annual Meeting of the Northwest Association of Physical Medicine and Rehabilitation, Eugene, Oregon, 1 June 1984

**"The Injured Worker and the Primary Physiclan\*\*"**, presented to the Sacred Heart General Hospital Medical Staff Section on Family Practice, Eugene, Or., 20 September 1984

**"TEFRA and DRG's - Impact on Medical Practice in the 1980's\*"**, presented to the American Academy of Physical Medicine and Rehabilitation and the American Congress of Rehabilitation Medicine, Boston, Massachusetts, on 22 October 1984 .

**"Governmental Regulation of Inpatient Rehabilitation Services\*"**,  
**"Physiatrists in the Hospital Setting: Learning Administrative Ropes\*"**, presented to the American Academy of Physical Medicine and Rehabilitation and the American Congress of Rehabilitation Medicine, Kansas City, Kansas on 2 October 1985.

**"Management Skills in Hospital-Based Practice\*"**, presented to the American Academy of Physical medicine and Rehabilitation and American Congress of Rehabilitation Medicine, Kansas City, Kansas, 2 October 1985.

**"The Role of Rehabilitation Services in the Management of Low Back Pain"**, presented at the 1986 Rehabilitation Conference in Eugene, Oregon, October 10-11, 1986.

**"Hospital-Based Psychiatric Practice: Surviving the 80's\*"**, presented to the American Academy of Physical Medicine and Rehabilitation and the American College of Rehabilitation Medicine, Baltimore, Maryland, 21 October 1986.

**"Detection of Significant Bacteriuria by Leukocyte Esterase and Nitrite Urine Dipsticks for an Inpatient Rehabilitation Unit"**, presented to the AAPMR/ACRM meeting, Baltimore, Maryland, 1986.

**"Learning Administrative Ropes: Managing and Marketing Rehabilitative Services\*"**, presented to the AAPMR/ACRM Annual Meeting, Orlando, Fla., Oct 1987.

**"Choosing the Ideal Practice Setting"**,  
**"Start-up Costs of Medical Practice"**,  
**"Effective Time Management"**, given as course faculty presentations: THE BUSINESS AND LEGAL ASPECTS OF PHYSIATRIC PRACTICE, Univ. of Colorado School of Medicine, Dept. of Rehabilitation Medicine, Vail, Co., September 22-24, 1988

**"Care of the Industrially Injured Back\*"**, American Academy of Physical Medicine and Rehabilitation Study Guide Update presentation, AAPMR/ACRM Annual Meeting, Seattle, Wash. Nov. 1, 1988.

**"Rehabilitation Practice Start-Up Costs"**,

**“Learning to Be An Administrator”**, given as course faculty presentations: THE BUSINESS AND LEGAL ASPECTS OF PHYSIATRIC PRACTICE, Univ. of Colorado School of Medicine, Dept. of Rehabilitation Medicine, Vail, Co., September 20-23, 1989

**“The Value of Deep Water Hydrotherapy in the Management of Lumbosacral Dysfunction”**, poster given at AAPMR/ ACRM Annual meeting, San Antonio, Tx. Nov. 7, 1989

### **PRESENTATIONS 1990-1999**

**“Office Practice of PM & R in the 1990’s”**,

**“Marketing Rehabilitation Services”**, given as faculty presentations: PREPARING THE PHYSIATRIST FOR THE CHANGING PRACTICE OF THE 90’S, presented by The Medical Practice Committee of the American Academy of PM & R, sponsored by Baylor University Medical Center, Dallas, Texas, June 29-30, 1990.

**“Looking for the Ideal Practice Setting”**

Basics of Practice Economics”, given as faculty presentations: THE BUSINESS ASPECTS OF PHYSIATRIC PRACTICE, sponsored by the Department of Rehabilitation Medicine, University of Colorado School of Medicine, Phoenix, Arizona, October 18-20, 1990.

**“The Oregon Worker’s Compensation System: National Parallels”**, faculty presentation at American Academy of Physical Medicine and Rehabilitation and Baylor College of Medicine co-sponsored course PREPARING THE PHYSIATRIST FOR THE CHANGING PRACTICE OF THE 90’S, Dallas, Texas, May 31, 1991.

**“Management and Operation of a Physical Medicine and Rehabilitation Group Practice”**, faculty presentation, BUSINESS ASPECTS OF THE PRACTICE OF PHYSICAL MEDICINE AND REHABILITATION, Rehabilitation Institute of Michigan and Wayne State University, Detroit, Michigan, June 21, 1991.

**“Looking for the Ideal Practice Setting”**

**“Basics of Practice Economics”**, given as faculty presentations: PREPARING YOURSELF FOR PHYSIATRIC PRACTICE, sponsored by the American Academy of Physical Medicine & Rehabilitation and the Department of Rehabilitation Medicine, University of Colorado School of Medicine, Washington, D.C., October 25, 1991.

**Hydrorehabilitation:1991**, faculty presentation: REHABILITATION AQUATICS 1991: STATE OF THE ART, American Academy of Physical Medicine & Rehabilitation Annual Meeting, Washington, D.C., October 28-29, 1991.

**“Physiatric Practice: Status 1992”**, faculty presentation, Northwest Association of Physical Medicine & Rehabilitation Annual Meeting, Portland, Oregon, June 6, 1992.

**“Looking for the Ideal Practice Setting”**

**“Basics of Practice Economics”**, given as faculty presentations: PREPARING YOURSELF FOR PHYSIATRIC PRACTICE, sponsored by the American Academy of

Physical Medicine & Rehabilitation and the Department of Rehabilitation Medicine, University of Colorado School of Medicine, San Francisco, California, November 12, 1992.

**"Medical Hydrology: Clinical Applications in Rehabilitation Medicine"**, faculty presentation, Medical Hydrology Special Interest Group, American Academy of Physical Medicine & Rehabilitation, San Francisco, California, November 14, 1992.

Course Director, *ADVANCES IN AQUATIC REHABILITATION*, sponsored by the American Academy of Physical Medicine & Rehabilitation, San Francisco, California, November 16, 1992.

**"Biologic Effects of Aquatic Therapy,"**

**"Prescribing and Monitoring Aquatic Therapy,"** faculty presentations, *ADVANCES IN AQUATIC REHABILITATION*, sponsored by the American Academy of Physical Medicine & Rehabilitation, San Francisco, California, November 16, 1992.

**"Aquatic Rehabilitation: Translating Physiologic Effects into Clinical Effectiveness,"**

"Medical Prescribing and Monitoring," faculty presentations, *AQUATIC THERAPY WORKSHOP* sponsored by Baylor University Department of Physical Medicine & Rehabilitation, Tom Landry Sports Medicine and Research Center, Baylor University Medical Center, Dallas, Texas, February 5-6, 1993.

**"Looking for the Ideal Practice Setting"**

**"Understanding Basic Fiscal Life Support"**, faculty presentations at the Southern Regional PM & R Conference: *"ENTERING PRIVATE PRACTICE"*, New Orleans, Louisiana, May 1-2, 1993.

**"The Efficient Use of Physician Extenders in Physiatric Practice"**\* \*\* with Douglas Hemler, MD., faculty presentation at the Fourth Annual Practice Management Seminar, *"IMPROVE YOUR PRACTICE'S PRODUCTIVITY: A BUSINESS SEMINAR FOR THE PHYSIATRIST"*, sponsored by the American Academy of Physical Medicine & Rehabilitation, Cincinnati, Ohio, May 21-22, 1993.

**"Biologic Effects of Aquatic Therapy,"**

**"Prescribing and Monitoring Aquatic Therapy,"** faculty presentations in *REVIVING THE SCIENCE OF HYDROTHERAPY*, annual meeting of the Aquatic Exercise Association, Minneapolis, Minnesota, September 22, 1993

**"Non-Operative Management of Musculoskeletal Pathology"**, presentation to University Orthopedic Physicians, Hutzel Hospital, Detroit MI., October 25, 1993

**"Looking for the Ideal Practice Setting", \***

**"Fundamentals of Practice Economics"** \* given as faculty presentations: *PREPARING YOURSELF FOR PHYSIATRIC PRACTICE*, sponsored by the American Academy of Physical Medicine & Rehabilitation and the Department of Rehabilitation Medicine, University of Colorado School of Medicine, Miami Beach, FL., October 29, 1993

**“Primary Care for People with Disabilities”** course faculty Michigan State Medical Society 1993 Annual Meeting, Detroit, MI, Nov. 10, 1993

**“Maintaining Fitness in the Aging Athlete,”** Monterey Bay Area Medical Society Annual Meeting, Alta, Utah, December 8, 1993.

**“Defining & Aligning Group Values,”** \* Faculty presentation at Course A: *Managing Change: Physiatric Leadership through Turbulent Times*, Association of Academic Physiatrists Annual Meeting, Naples, Florida, January 21, 1994.

**“Physiologic Principles of Aquatic Rehabilitation,”** faculty presentation at workshop *Contemporary Techniques in Aquatic Rehabilitation*, International Rehabilitation Medicine Association, Washington, D.C., April 13, 1994.\*

**“Case Studies in Aquatic Rehabilitation: Spinal Stenosis Management,”** faculty presentation at course *Contemporary Medical Hydrology*, International Rehabilitation Medicine Association, Washington, D.C., April 15, 1994.\*

**“Physiatric Survival Techniques in Difficult Times,”** Visiting Professor lecture at University of Rochester School of Medicine, Department of Physical Medicine and Rehabilitation, Rochester, N.Y., June 17, 1994.

**“Looking for the Ideal Practice Setting”, \***

**“Fundamentals of Practice Economics”** \* given as faculty presentations: *PREPARING YOURSELF FOR PHYSIATRIC PRACTICE*, sponsored by the American Academy of Physical Medicine & Rehabilitation and the Department of Rehabilitation Medicine, University of Colorado School of Medicine, Anaheim, California, October 6, 1994.

**“Biomechanics and Therapeutic Exercises in Water”**, American Academy of Physical Medicine and Rehabilitation Workshop, 56th Annual Assembly, Anaheim, California, October 10, 1994.

**“Physical Principles in Aquatic Physiology”**, faculty presentation and course director in American Academy of Physical Medicine and Rehabilitation Forum: *Medical Hydrology and Aquatic Rehabilitation: Current Research and Scientific Application*, American Academy of Physical Medicine and Rehabilitation Workshop, 56th Annual Assembly, Anaheim, California, October 9, 1994.

**“Prevention of Deep Vein Thrombosis in Spinal Cord Injury: Efficacy of Mechanical Measures”**, research presentation at Del Harder Research Symposium, Rehabilitation Institute of Michigan, May 12, 1995.

**“Aquatic Biophysiology”**, course presentation for American College of Sports Medicine Annual Meeting, Minneapolis, Minnesota, June 2, 1995.

**“Advances in the Physiologic Rationale for Aquatic Rehabilitation,”** Louisiana Society of Physical Medicine & Rehabilitation New Orleans, Louisiana, June 8, 1995.

**“Preparing Yourself for the Workplace”, \***

**“Fundamentals of Health Care Economics” \*** given as faculty presentations:

*PREPARING YOURSELF FOR PHYSIATRIC PRACTICE*, sponsored by the American Academy of Physical Medicine & Rehabilitation and the Department of Rehabilitation Medicine, University of Colorado School of Medicine, Orlando, Florida, November 14, 1995.

**“Joint Injury: Specific Aquatic Rehabilitation Techniques”**, faculty presentation and course director in American Academy of Physical Medicine and Rehabilitation SIG Forum: *Mastering the Techniques of Aquatic Rehabilitation*, American Academy of Physical Medicine and Rehabilitation Workshop, 57th Annual Assembly, Orlando, Florida, November 17, 1995.

**“Risk Factors for Autonomic Dysreflexia in Chronic Spinal Cord Injury,”\*** presented to American Spinal Injury Association, 22nd Annual Meeting, Seattle, Washington, April 24, 1996.

**“Preparing Yourself for the Workplace”, \***

**“Fundamentals of Health Care Economics” \*** given as faculty presentations: *PREPARING YOURSELF FOR PHYSIATRIC PRACTICE*, sponsored by the American Academy of Physical Medicine & Rehabilitation and the Department of Rehabilitation Medicine, University of Colorado School of Medicine, Chicago, Illinois, October 8, 1996.

**“Physiologic Adaptations during Aquatic Therapy,”\*** faculty presentation and course director in American Academy of Physical Medicine and Rehabilitation SIG Forum: *Mastering the Techniques of Aquatic Rehabilitation*, American Academy of Physical Medicine and Rehabilitation Workshop, 58th Annual Assembly, Chicago, Illinois, October 11, 1996.

**“Physiologic changes in the Aging Athlete,”** invited presentation, Sierra Cascade Trauma Society, Steamboat, Colorado, January 30, 1997.

**“Physiologic Adaptations during Aquatic Therapy,”** faculty presentation, 13th Annual University of Utah Physical Medicine and Rehabilitation Update, Park City, Utah, February 3, 1997.

**“Community Hospital vs. Model System Care: Efficiency and Cost Comparisons,”** American Spinal Injury Association, 23rd Annual Meeting, Houston, Texas, March 24, 1997.

**“Health Promotion in Healthy and Disabled Older Adults,”** Institute of Gerontology, Wayne State University, 10th Annual Conference on Issues in Aging, Troy, Michigan, May 21, 1997.

**“Applied Scientific Principles: Medical & Biologic Aspects of Aquatic Therapy,”** Aquatic Therapy Symposium 1997, Las Vegas, Nevada, August 17, 1997.

**“Preparing Yourself for the Workplace”, \***

**“Fundamentals of Health Care Economics” \*** given as faculty presentations:

*PREPARING YOURSELF FOR PHYSIATRIC PRACTICE*, sponsored by the American

Academy of Physical Medicine & Rehabilitation and the Department of Rehabilitation Medicine, Atlanta, GA, November 11, 1997.

**“The Economic Aspects of Physiatric Practice: “We Don’t Seem to be in Kansas Anymore, Toto,”** Visiting Professor Lecture, University of Utah School of Medicine, Department of Physical Medicine and Rehabilitation, Salt Lake City, Utah, January 30, 1998

**“The Aging Athlete and Human Potential: Clinical and Rehabilitative Implications,”** Keynote Speaker, 14th Annual University of Utah Physical Medicine and Rehabilitation Update, Park City, Utah, January 31, 1998.

**“Violence as a Cause of Spinal Cord Injury, a 25 Year Review,”** Sierra Cascade Trauma Society, Mont Tremblant, Quebec, March 12, 1998.

**“Medical and Biologic Aspects of Aquatic Therapy,”** Core Curriculum lecture, Aquatic Therapy Symposium 1998, Washington D.C., September 10, 11, 1998.

**“The American Renaissance in Aquatic therapeutics: Medical and Scientific Foundations,”** International Society of Medical Hydrology 33<sup>rd</sup> World Congress, Karlovy Vary (Carlsbad), Czech Republic, October 5, 1998.

**“Entering the Workplace: 1998”**,

**“Fundamentals of Health Care Economics”** given as faculty presentations: *PREPARING YOURSELF FOR PHYSIATRIC PRACTICE*, sponsored by the American Academy of Physical Medicine & Rehabilitation and the Department of Rehabilitation Medicine, American Academy of Physical Medicine & Rehabilitation 60<sup>th</sup> Annual Assembly, Seattle WA, November 3, 1998.

**“Community Options in Rehabilitation: Managed Care Consequence or Creative Progress?,”**

**“Managed Care Impact upon Rehabilitation therapies and Health system Responses,”** Minicourse lectures, American Academy of Physical Medicine & Rehabilitation and the Department of Rehabilitation Medicine, American Academy of Physical Medicine & Rehabilitation 60<sup>th</sup> Annual Assembly, Seattle WA, November 6, 1998.

**“Evidence Based Therapeutics: Aquatic Therapy,”** Visiting Professor lecture, University of Cincinnati Department of Physical Medicine and Rehabilitation, Cincinnati, OH, December 18, 1998.

**“Thigh and Sciatic Nerve Injury-Golf,”** American College of Sports Medicine, 46<sup>th</sup> Annual Meeting, Seattle, WA, June 2, 1999.

**“The Aging Athlete and Human Potential: Clinical and Rehabilitative Implications,”** Visiting Physician lecture, Newport General Hospital Medical Staff, Newport, WA, July 13, 1999.

**“Current Research in Physiology and Aquatherapy”** Aquatic Therapy and Rehabilitation Institute Annual Symposium, Core curriculum lecture, San Diego, September 9, 10, 1999.

**“Aquatic Therapy and the Amputee,”** Northwest Association of Orthotists and Prosthetists Annual Meeting, Spokane, WA, September 17, 1999.

**“The Fountain of Youth: Benefits of Exercise in an Aging America,”** Inland Northwest Health Services Partners Update, Deaconess Hospital, Spokane, WA. October 29, 1999.

**“Practice Environments-1999”**

**“Entering the Workplace: 1999”,**

**“Fundamentals of Health Care Economics”** given as faculty presentations:  
*PREPARING YOURSELF FOR PHYSIATRICAL PRACTICE*, sponsored by the American Academy of Physical Medicine & Rehabilitation and the Department of Rehabilitation Medicine, American Academy of Physical Medicine & Rehabilitation 61<sup>th</sup> Annual Assembly, Washington, DC, November 9, 1999.

**“Nonsurgical Management of the Industrial Worker,”** faculty presentation at *WORKERS COMP IN THE NEW MILLENIUM*, Spokane, WA November 30, 1999.

#### **PRESENTATIONS 2000-2009**

**“Cardiopulmonary Effects of Aquatic Therapy,”** University of Utah Update in Physical Medicine and Rehabilitation 2000, Park City, Utah, January 29, 2000.

**“Orthopedic Rehabilitation: Aquatic Therapy Principles and Clinical Practice,”** Sierra-Cascade Trauma Society, Park City, Utah, February 28, 2000.

**“Physiologic Benefits of Exercise in Aging,”** Valley General Hospital CME presentation, Spokane, WA., April 4, 2000.

**“Violence Induced Spinal Cord Injury: An Epidemiologic Overview”**

**“Violence Induced Spinal Cord Injury: The Patient Perspective,”** Course Director, and presenter, American Spinal Injury Association Annual Meeting, Chicago. IL, April 16, 2000.

**“Physiologic Principles of Aquatic Therapy,”** Rehabilitation Hospital of Indiana, Indianapolis, Indiana, June 1, 2000.

**“Physiologic Principles of Aquatic Therapy,”** Bonner General Hospital Medical Staff CME, Sandpoint, Idaho, August 3, 2000.

**“Aquatic Physiology Update: Research Findings from the Last 10 Years,”** Aquatic Therapy Rehabilitation Institute presentations (2), Orlando, FL, August 24-26, 2000.

**“Aquatic Physiology Update: Research Findings from the Last 10 Years,”** Aquatic Therapy Pacific Northwest Regional Update, Spokane, WA, September 8-9, 2000.

**“Aquatic Physiology Update: Research Findings from the Last 10 Years,”** Northwest Association of Physical Medicine & Rehabilitation, Spokane, WA, September 22, 2000.

**“Introduction to Medical Rehabilitation,”** Eastern Washington University, Cheney, WA, September 25, 2000.

**“Aquatic Physiology 2000: A Comprehensive Review,”** National Therapeutic Recreation Society / National Parks and Recreation Association, Phoenix, AZ, October 9-10, 2000.

**“Practice Environments-2000”**

**“Looking for the Ideal Practice Setting”,**

**“Fundamentals of Practice Economics”** given as faculty presentations: *PREPARING YOURSELF FOR PHYSIATRIC PRACTICE*, sponsored by the American Academy of Physical Medicine & Rehabilitation and the Department of Rehabilitation Medicine, American Academy of Physical Medicine & Rehabilitation 62nd Annual Assembly, San Francisco, CA, October 31, 2000.

**“Cardiopulmonary Effects of Aquatic Therapy,”** American Academy of Physical Medicine & Rehabilitation 62nd Annual Assembly, San Francisco, CA, November 1, 2000.

**“TeleMedicine and Rehabilitation: the Spokane Experience,”** American Academy of Physical Medicine & Rehabilitation 62nd Annual Assembly, San Francisco, CA, November 5, 2000.

**“The Scientific Basis of Aquatic Therapy”,** Prince Distinguished Lectureship, Rehabilitation Institute of Chicago and Northwestern University School of Medicine, Department of Physical Medicine & Rehabilitation, Chicago, Illinois, December 6, 2000.

**“Aquatic Therapy: Physiology and Spine-Related Applications,”** Veterans Administration Hospital Regional Spine Care and Aquatic Conference, Seattle, Washington, January 19, 2001.

**“Aging Energetically, What the High Performance Athlete Tells Us about Gerontology,”** Invited presentation, Whitefish Primary Care Conference, Whitefish, Montana, January 25, 2001.

**“Advances in Spinal Cord Injury Cure Research 2001,”** Sierra Cascade Trauma Society, Sun Valley, Idaho, March 5, 2001.

**“Exercise and Aging, the Real Fountain of Youth,”** Spokane Longevity League, Spokane Washington, March 20, 2001.

**“The Older Human in the Aquatic Environment,”** Invited speaker, National Association of Geriatric Care Managers 2001 Western Region Conference, Seattle, Washington, April 28, 2001.

**"Development of Core Stability in the Aquatic Environment,"** Symposium presenter: *Core Strength: Its Importance to Spine Health and the Total Kinetic Chain*, American College of Sports Medicine, 2001 Annual Meeting, Baltimore, Maryland, June 1, 2001.

**"Physiologic Aspects of Aquatic Therapy,"** symposium keynote speaker, Disability International Foundation, Aquatic Therapy symposium, Longview, Washington, June 15, 2001.

**"Practice Environments-2001"**

**"Looking for the Ideal Practice Setting",**

**"Fundamentals of Practice Economics"** given as faculty presentations: *PREPARING YOURSELF FOR PHYSIATRICAL PRACTICE*, sponsored by the American Academy of Physical Medicine & Rehabilitation and the Department of Rehabilitation Medicine, American Academy of Physical Medicine & Rehabilitation 63rd Annual Assembly, New Orleans, Louisiana, September 11, 2001.

**"Backs to the Future: Restoring and Preserving Spine Health through the Lifespan,"** keynote presentation to the general public in Grand Opening of the Inland Neuroscience and Spine Center, Sacred Heart Medical Center, Spokane, WA, April 17, 2002.

**"What the Elite Masters Athlete Tells Us About Aging,"** National Rehabilitation Association Pacific Regional Conference, Spokane, WA, May 17, 2002.

**"The Scientific Basis of Aquatic Therapy",**

**"Case Studies in Therapy: Aquatic Strategies,"** invited lectureships, Washington University School of Medicine, Department of Physical Therapy, St. Louis, MO, May 31, 2002.

**"The Scientific Basis of Aquatic Therapy",** invited lectureship, Washington University School of Medicine, Clinical Symposium, St. Louis, MO, June 1, 2002.

**"Recent Research Advances in Hydrotherapy,"** Invited Lectureship, 34<sup>th</sup> World Congress of the International Society of Medical Hydrology, Budapest and Heviz, Hungary, October 16, 2002.

**"Practice Environments-2002"**

**"Looking for the Ideal Practice Setting",**

**"Fundamentals of Practice Economics"** given as faculty presentations: *PREPARING YOURSELF FOR PHYSIATRICAL PRACTICE*, sponsored by the American Academy of Physical Medicine & Rehabilitation and the Department of Rehabilitation Medicine, American Academy of Physical Medicine & Rehabilitation 64th Annual Assembly, Orlando, FL, November 19, 2002 .

**"Athletic Performance through the Age Span: Breaking Stereotypes with World Records\*,"** lecture presented at course *Breaking Barriers: Health and Athletic Competition Across the Health, disability and Age Span*, Course director B. E. Becker, American Academy of Physical Medicine & Rehabilitation and the Department of Rehabilitation Medicine,

American Academy of Physical Medicine & Rehabilitation 64th Annual Assembly, Orlando, FL, November 24, 2002.

**“Principles of Fitness and Conditioning in Senior Populations”**

**“Athletic Performance through the Age Span: Breaking Stereotypes with World Records”**

**“Principles of Therapy Prescription,”** Course lectures given to Spokane Family Medicine Residency Training Program, Spokane, WA January 10, 2003.

**“Alternative Strategies in Pain Management: Avoiding the Poppy Fields,”**

**“Panel Discussion on Common Spine Pain Issues,”**

**“The Dark Side of COX-2 Inhibitors,”** Sierra-Cascade Trauma Society, Vail CO, January 26-31, 2003.

**“Aquatic Physiology Principles and Practice,”** Keynote speech at the 2<sup>nd</sup> Annual Aquatic Fitness and Rehabilitation Conference, sponsored by the Disability International Foundation, Longview, WA February 15, 2003.

**“Athletic Performance through the Age Span: Breaking Stereotypes with World Records,”** Spokane Rotary, Downtown Chapter, Spokane WA, March 6, 2003.

**“Athletic Performance through the Age Span: Breaking Stereotypes with World Records,”** Spokane Rotary, Westside Chapter, Spokane WA, July 1, 2003.

**“Electrodiagnosis in Carpal Tunnel Syndrome,”**

**“Cauda Equina Syndrome and Other Complex Back Conditions,”** invited lectures at course, *Diagnosis and Treatment of Two Common Occupationally-Related Musculoskeletal Conditions: Carpal Tunnel Syndrome and Low Back Pain*, Center for Occupational Health and Education, Spokane WA., September 13, 2003

**“Athletic Performance through the Age Span: Breaking Stereotypes with World Records,”** invited lecture West Plains Business Association, Spokane WA, September 24, 2003.

**“Practice Environments-2003”**

**“Looking for the Ideal Practice Setting”,**

**“Fundamentals of Practice Economics”** given as faculty presentations: *PREPARING YOURSELF FOR PHYSIATRIC PRACTICE*, sponsored by the American Academy of Physical Medicine & Rehabilitation and the Department of Rehabilitation Medicine, American Academy of Physical Medicine & Rehabilitation 64th Annual Assembly, Chicago, IL, October 7, 2003 .

**“Human Performance Across the Age Span: Implications for Healthy Aging,”** Sierra Cascade Trauma Society, 33<sup>rd</sup> Annual Meeting, Snowmass, Colorado, February 9, 2004.

**“The Elite Senior Athlete: Breaking Aging Stereotypes with World Records,”** invited lecture, Canadian Association of Sports Medicine, American Medical Society for Sports Medicine, Physiatric Association of Spine, Sports and Occupational Rehabilitation, 2004 joint meeting *Rendezvous 2004*, Vancouver, British Columbia, April 17, 2004.

**“Clinical Assessment of Core Stability,”** American College of Sports Medicine 51<sup>st</sup> Annual Meeting, Indianapolis, Indiana, June 4, 2004.

**“Aquatic Discipleship: Ethical, Professional and Organizational Implications,”**

invited keynote speech,

**“The Physiology of Aquatic Therapy,”** invited lecture,

Aquatic Therapy and Rehabilitation Institute, Las Vegas, Arizona, August 13, 2004.

**“Practice Environments-2004”**

**“Looking for the Ideal Practice Setting”,**

**“Economic Principles in Physiatric Practice,”** given as faculty presentations:

*PREPARING YOURSELF FOR PHYSIATRIC PRACTICE*, sponsored by the American Academy of Physical Medicine & Rehabilitation and the Department of Rehabilitation Medicine, American Academy of Physical Medicine & Rehabilitation 65th Annual Assembly, Phoenix AZ, October 5, 2004.

**“Bloody Noses, Fractured Egos, and Other Pitfalls of Administrative Practice,”**

American Academy of Physical Medicine & Rehabilitation 65th Annual Assembly, Phoenix AZ, October 7, 2004.

**“Core Strengthening for Low Back Pain: Aquatic Therapy Applications,”** 2

workshops at American Academy of Physical Medicine & Rehabilitation 65th Annual Assembly, Phoenix AZ, October 8, 2004.

**“The Collision of Aging and Performance,”** lecture component of PASSOR course *Sports Medicine Problems in Seniors*, American Academy of Physical Medicine & Rehabilitation 65th Annual Assembly, Phoenix AZ, October 8, 2004.

**“The Elite Senior Athlete: Breaking Aging Stereotypes with World Records,”** invited presentation, Pacific Coast Collegiate Healthcare Association Annual Meeting, Spokane WA, October 21, 2004.

**“Physiologic Aspects of Aquatic Therapy,”** invited presentation, University of Washington School of Medicine, Department of Rehabilitation Medicine, April 25, 2005.

**“Topical Analgesics and Agents”**

**“Diagnostic Ultrasound and Extracorporeal Shock Wave Therapy in Musculoskeletal Disorders,”**

**“Movement Therapies and Aquatics in Musculoskeletal Pain,”** invited lecturer,

“Contemporary Update in Pain Management,” American Academy of Physical Medicine and Rehabilitation, New Orleans LA, May 3-4, 2005.

**“Topical Analgesics and Agents”**

**“Diagnostic Ultrasound and Extracorporeal Shock Wave Therapy in Musculoskeletal Disorders,”**

**“Movement Therapies and Aquatics in Musculoskeletal Pain,”** invited lecturer,  
“Contemporary Update in Pain Management,” American Academy of Physical Medicine and Rehabilitation, San Francisco CA, June 16-17, 2005.

**“Aquaphysiology: The Cardiovascular Benefits of Immersion,”**  
**“Aquatics and Arthritis Care,”** invited presentations at World Aquatic Health Conference,  
Pacific Palms Conference Resort, City of Industry, CA, September 20<sup>th</sup>, 2005

**“Practice Environments-2005”**

**“Looking for the Ideal Practice Setting”,**

**“Economic Principles in Physiatric Practice,”** given as faculty presentations:  
*PREPARING YOURSELF FOR PHYSIATRIC PRACTICE*, sponsored by the American Academy of Physical Medicine & Rehabilitation and the Department of Rehabilitation Medicine, American Academy of Physical Medicine & Rehabilitation 66th Annual Assembly, Philadelphia PA, October 25, 2005.

**“Extracorporeal Shock Wave Therapy in the Management of Musculoskeletal Dysfunction,”** American Academy of Physical Medicine & Rehabilitation and the Department of Rehabilitation Medicine, American Academy of Physical Medicine & Rehabilitation 66th Annual Assembly, Philadelphia PA, October 29, 2005.

**“Core Strengthening for Low Back Pain: Aquatic Therapy Applications,”** 3 invited workshops at American Academy of Physical Medicine & Rehabilitation 66th Annual Assembly, Philadelphia PA, October 29, 2005.

**“Science and Research in Aquatic Therapy,”** Invited visiting professor lecture at West Virginia University, Morgantown WV, April 10, 2006.

**“Quantification of Physiological Adaptations in Respiratory Function After 15 Weeks of Deep Water Exercise Versus Land-Based Exercise in Healthy College-Aged Individuals,”** invited presentation at the 35<sup>th</sup> Congress of the International Society of Medical Hydrology & Climatology, Istanbul, Turkey, June 8<sup>th</sup>, 2006.

**“Healthier Hearts, Lungs and Lives-- Just Add Water\*\*”,** Invited Keynote for the World Aquatic Health Conference, Austin Texas, September 20<sup>th</sup>, 2006

**“A Comparison of Regular Aquatic Exercise with Land-Based Aerobic Exercise : Results of the NSPF-WSU Study\*\*,”** World Aquatic Health Conference, Austin Texas, September 20<sup>th</sup>, 2006

**“Ai Chi: An Aquatic Movement Technique for Chronic Pain Rehabilitation”**  
Invited workshops at American Academy of Physical Medicine & Rehabilitation 67<sup>th</sup> Annual Assembly, Honolulu HI, November 9, 10 & 11, 2006

**“Building a Culture through Staff Hiring,”** invited presentation for course “LOST: Learning Office Survival Techniques,” American Academy of Physical Medicine & Rehabilitation 67<sup>th</sup> Annual Assembly, Honolulu HI, November 10, 2006

**“Quantification of Physiological Adaptations in Respiratory Function After 15 Weeks of Deep Water Exercise Versus Land-Based Exercise in Healthy College-Aged Individuals,”** invited presentation at the 30<sup>th</sup> Annual assembly of the Sierra Cascade Trauma Society, Jackson Hole, Wyoming, February 9<sup>th</sup>, 2007.

**“Options in Physiatric Practice-2007”**

**“Economic Principles in Physiatric Practice,”** \*\* given as faculty presentations: *PREPARING YOURSELF FOR PHYSIATRIC PRACTICE*, sponsored by the American Academy of Physical Medicine & Rehabilitation and the Department of Rehabilitation Medicine, American Academy of Physical Medicine & Rehabilitation 68th Annual Assembly, Boston MA, October 26, 2007.

**“Physiologic Changes in the Hot Tub: Preliminary Results from the Aquatic Research Lab at Washington State University,”\*\*** invited presentation, World Aquatic Health Conference, Cincinnati OH, October 3, 2007.

**“Physiologic Changes in the Hot Tub: Preliminary Results from the Aquatic Research Lab at Washington State University,”** invited poster presentation, Cancer Researchers and CAM Practitioners: Fostering collaborations; Advancing the Science; Office of Cancer Complementary and Alternative Medicine, National Institutes of Health, Bethesda MD, October 22-23, 2007.

**“Physiologic Changes in the Hot Tub: Preliminary Results from the Aquatic Research Lab at Washington State University,”** invited presentation, Washington State University Foundation Trustees Annual Assembly, Spokane WA, October 26, 2007.

**“Physiologic Changes in the Hot Tub: Preliminary Results from the Aquatic Research Lab at Washington State University,”\*\*** invited presentation, Sierra Cascade trauma Society 32<sup>nd</sup> Annual Conference, Aspen Snowmass CO, February 9, 2008

**“Autonomic Nervous System Changes During Cool, Neutral and Warm Water Immersion”** poster presentation at American College of Sports Medicine 55<sup>th</sup> Annual Assembly, Indianapolis IN, May 29, 2008.

**“Autonomic Nervous System Changes During Cool, Neutral and Warm Water Immersion,”** Invited Keynote presentation at the International Society of Medical Hydrology 36<sup>th</sup> World Congress, Porto, Portugal, June 26<sup>th</sup>, 2008.

**“The Elite Senior Athlete: Breaking Aging Stereotypes with World Records,”** invited presentation, International Osseointegration Council, Spokane WA, August 12, 2008.

**“Aquatic Rehabilitation: The Scientific Rationale,”** invited keynote lecture, Aquatic Physical Therapy Section of the American Physical Therapy Association, Summit 2008, Mesa Arizona, September 19, 2008.

**“Athletic Enhancement through Aquatic Exercise,”** Invited presentation, United States Olympic Training Center, Colorado Springs, Colorado, October 15, 2008.

**“Immersion Temperature Effects on the Autonomic Nervous System: The Key to Tranquillity,”\*\*** invited presentation, World Aquatic Health conference, Colorado Springs, Colorado, October 16, 2008.

**“The Collision of Aging and Performance: What Senior Athletes Tell Us About Aging,”** \*American Academy of Physical Medicine & Rehabilitation 68th Annual Assembly, San Diego CA, November 23, 2008.

**“The National Aquatics & Sports Medicine Institute: Progress & Challenges,”** presentation to WSU Friends and Alumni at Cougar Hardwood Classic, Seattle WA, December 13, 2008.

**“The National Aquatics & Sports Medicine Institute at WSU,”** presentation to Pullman WA Lion’s Club, Pullman WA, March 23, 2009.

**“Immersion Temperature Effects on the Autonomic Nervous System: Potential Impacts on Human Health,”** invited presentation, International Aquatic Fitness Conference, Orlando, Florida, May 13, 2009.

**“Research Needs in Aquatic Exercise: Moving Vision into Reality,”\*** invited presentation, International Aquatic Fitness Conference, Orlando, Florida, May 14, 2009

**“Aquatic Therapy: The Scientific Rationale,”\*** Keynote presentation, International Aquatic Fitness Conference, Orlando, Florida, May 14, 2009.

**“Aging and the Autonomic Nervous System: Effects of Water Immersion,”** \*American College of Sports Medicine 56<sup>th</sup> Annual Assembly, Seattle WA, May 29, 2009.

**“Public Speaking: Tools to Building Professional Success,”** invited presentation American Academy of Physical Medicine & Rehabilitation 69th Annual Assembly, Austin Texas, October 25, 2009.

**“Wet and Healthy: Health Benefits of Aquatic Activity”**, invited presentation, National Environmental Public Health Conference, CDC-sponsored, Atlanta GA, October 28, 2009.\*\*

**“How Hot Water Immersion Affects the Nervous System: A Comparison of Older and Younger Populations,”** 2009 World Aquatic Health Conference, Atlanta GA, October 29, 2009.\*\*

**“Breaking Stereotypes of Aging: What Master’s Athletes Teach Us About the Physiology of Longevity:** Visiting Professor lecture, University of Iowa Department of Orthopedics and Rehabilitation, November 5, 2009.

#### **PRESENTATIONS: 2010-2019**

**“Water: Running, Training and Rehabilitation: a round table discussion,”** Invited panel member, 2010 American College of Sports Medicine Northwest Section Annual Assembly, Portland Oregon, March 5, 2010

**“Aquatic Rehabilitation Strategies for the Total Hip and Knee Patient,”**  
**“The Physiology of Aquatic Therapy as Applied in Orthopedic Rehabilitation,”**  
Invited lecturer, *Justifiable Aquatic Therapy Strategies for the Total Hip and Knee Replacement Client*, Aquatic Therapy University, Aquatic Resources Network, Minneapolis MN, April 9-10, 2010.

**“Aquatic Neurological Therapy,”**  
**“Aquatic Pain Management Strategies,”** invited lectures, International Aquatic Fitness Conference, Orlando, FL, April 21, 2010.

**“Aquatic Therapy Effectiveness Research Overview”**, invited lectures, International Aquatic Fitness Conference, Orlando, FL, April 22, 2010.

**“The Impact of an Aquatic Exercise Protocol on Physiologic Measures within an Asthmatic Population,”** poster presentation, American College of Sports Medicine, Baltimore MD, May 4, 2010.

**“How Water Immersion Affects the Nervous System: A Comparison of Older and Younger Populations,”**  
**“Development of an Aquatic Exercise Program for Asthma: Effects Upon Asthma Symptoms and Physiology,”** invited lectures, International Society of Medical Hydrology, Paris, France, June 24, 2010.

**“The Health Benefits of Aquatic Activity,”** invited keynote lectureship, Universite Catholique de Leuven, Leuven Belgium, June 28, 2010.

**“The Health Benefits of Aquatic Activity,”** invited lectureship, University of Leiden, Leiden, Holland, June 28, 2010.

**“Aqua-Activity: A Pathway to Health and Function - Research Update on Physiologic Benefits,”** invited lectureship, 2010 World Aquatic Health Conference, Colorado Springs, CO, October 8, 2010.\*\*

**“Heart Rates and Aerobic Training: Methods Used to Increase Aerobic Fitness,”**  
**“Aquatic Exercise and Heart Disease,”**  
**“Aquatic Exercise and Asthma,”** invited lectures at the 2011 International Aquatic Fitness conference, Orlando Florida, May 11-13, 2011.

**“Aging Energetically: What High Performance Athletes tell Us about Gerontology,”**  
**“Physiologic Aspects of Aquatic Therapy: the Cardiovascular Benefits of Immersion,”**

**“Aquatic Rehabilitation: The Scientific Rationale in Hip and Knee Patients,”** invited lectures at *Aging Energetically*, Tamarack Wellness Center and Slocum Center, Eugene, Oregon, October 8, 2011

**“Aquatic Exercise Benefits in Heart and Kidney Disease,”** invited lecture, 2011 World Aquatic Health Conference, Seattle WA, October 13, 2011.\*\*

**“Clinical & Translational Research Opportunities in Aquatic Physiology”**  
**“Breaking Stereotypes of Aging: What Master’s Athletes Teach Us About the Physiology of Longevity,”** invited lectures, West Virginia University, Morgantown, WV, Feb. 16-17, 2012.

**“Making an Impact on World Health: Focusing Aquatic Research Toward the Big Issues,”**  
International Society of Medical Hydrology & Balneology 38th World Congress, invited Keynote speaker, Lanjarón, Spain, June 21, 2012.

**“Contemporary Aquatic Therapy: American and European Advances 2012”**  
**“The Health and Medical Benefits of Aquatic Activity”**,  
invited Keynote lectures, Jinling Summit Forum of Rehabilitation Medicine, Nanjing, China, July 22-23, 2012

**“Living Young while Growing Old: Lessons from Master’s Athletes on the Aging Process,”** Invited lecture at ShellPoint Retirement Community, Ft. Myers FL, January 3, 2013.\*\*

**“Aquatic Therapy: Scientific Foundations and Clinical Rehabilitation Applications\*\*,”**  
**“Cardiac and Pulmonary Diseases: World Health Organization Panel on Aquatic Health Benefits,”** Invited keynote lecture at the 1<sup>st</sup> European Conference on Evidence Based Aquatic Therapy (ECEBAT), Izmir, Turkey, March 21-23, 2013

**“The Health Benefits of Aquatic Activity,\*\*”** invited guest lecture at ShellPoint Retirement Community, Ft. Myers FL, May 9<sup>th</sup>, 2013

**“Immersion and the Autonomic Nervous System: Effects and Clinical Implications,”**  
**“Aquatic Practices Across the Globe”**  
**“Research Needs in Aquatic Therapy”**, invited keynote speaker at New Moves, Australian Physiotherapy Association, Melbourne, Australia, October 17-20, 2013

**“Warm, Wet and Healthy,”** keynote presentation at Caldera Spas International Meeting, Las Vegas, NV, January 22, 2014.

**“Wet and Healthy: Aquatic Exercise and Healthspan Promotion,”** invited keynote lecture, Shell Point Retirement Community and the Grand Opening of the LifeQuest Aquatic Center, Ft. Myers, FL, Feb. 27, 2014.

**“Aquatic Exercise Benefits”\*\***

**“Transitional Research in Aquatic Therapy,”\*\*** keynote lectures at Aquatics and Robotics, Unique Exercise Options, PVA sponsored conference at the University of Maryland Rehabilitation and Orthopedic Institute, May 4 & 5, 2014.

**“Making An Impact on World Health: Focusing Aquatic Research Toward the Big Issues,”** invited keynote, 2014 World Aquatic Health Conference, Portland, Oregon, October 9, 2014

**“Physiologic Aspects of Aquatic Therapy”**

**“Aquatic Therapy in Arthritis Rehabilitation”**

**“Pain Management Using Aquatic Therapy”**

**“Athletic Enhancement & Plyometric Training Through Aquatic Exercise”**

**“Aquatic Exercise in the Management of Lumbosacral Dysfunction”**

**“Aquatic Research to Meet Critical Global Health Issues”**

Invited visiting professor lectures at the UK Aquatic Therapy Conference sponsored by the Aquatic Therapy Association of Chartered Physiotherapists, Headley Court, Epsom, Surrey, England, November 1-2, 2014.

**“Exercise IS Rehabilitation Medicine: Our Past, Present and Future,”** 46<sup>th</sup> Annual Walter J. Zeiter Honorary Lectureship, presented at the 2014 Annual Assembly of the American Academy of Physical Medicine & Rehabilitation, San Diego, A, November 15, 2014.\*\*

**“The Physiologic Basis of Aquatic Therapy,”** Visiting Professor Keynote Lecture, Xinhua College of Sun Yat-sen University, Dongguan City, Guangdong Province, People’s Republic of china, March 26<sup>th</sup>, 2015.

**“Immersion and Aquatic Activity: Implications for Brain Function,”**

**“The History of the Chinese Edition of Comprehensive Aquatic Therapy, 3rd Ed.,”**

Invited keynote lectures, International Rehabilitation Canton Forum, Guangzhou, People’s Republic of China, March 29<sup>th</sup>, 2015.

**“Aquatic Exercise and Brain Function”,** invited keynote lecture, Aqua Leuven 2015, The 2<sup>nd</sup> European Conference on Evidence Based Aquatic Therapy, Leuven, Belgium, April 16, 2015

**“Aquatic Immersion and Exercise: Effects on the Brain”,** invited keynote speaker, Submergence Section of Urban Blue, Blue Mind 5, sponsored by Blue Mind Collective, Carnegie Institute for Science, Washington DC, May 11, 2015.

\* Lectures marked with an asterisk are available upon request as recorded media.

\*\* Lectures double-asterisked are available as video or as digital media.

**PERSONAL**

Marital Status: Married - June 22, 1968

Wife: Carol Ann Wedemeyer - October 28, 1946

Daughter: Adrienne Christine - April 22, 1975

Son: Derek August - May 24, 1979

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