

CURRICULUM VITAE

MICHAEL R. LITTNER, M.D., F.C.C.P., F.R.C.P.(C), FAASM

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Date of Birth: May 9, 1945

Place of Birth: Sault Ste Marie
Ontario, Canada

Citizenship: American

California Physician License: A24139

California Fluoroscopy License: RHC162450

DEA License: FL2032364

Marital Status: Married, Wife Sandra Ann

Children: Son Ross, born 1972
Son Dean, born 1975

Education:

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|-----------|---|
| 1963-1969 | University of Toronto Toronto, Ontario, Canada Graduated with an M.D. |
| 1969-1970 | Intern-Rotating Internship Women's College Hospital Toronto, Canada |
| 1970-1972 | Resident - Internal Medicine Kaiser Foundation Hospital Los Angeles, California |
| 1972-1974 | Fellow - Pulmonary Diseases and Respiratory Physiology UCLA Center for Health Sciences Los Angeles, California |

Appointments:

7/10 - present: Professor Emeritus of Medicine, David Geffen School of Medicine at UCLA

2007 - present Consultant to Balboa Sleep Disorders Laboratory, Northridge, CA

8/4/11 - present Volunteer Attending, Pulmonary Division, VA GLAHS

8/9/2010- 4/1/11 Pulmonary Outpatient Locum Tenens, Sonora Regional Medical Center
Sonora, CA

1974-1977 Assistant Professor of Medicine
Director of Pulmonary Function Laboratory
Attending Physician
Yale University School of Medicine
Yale-New Haven Hospital
New Haven, Connecticut

1977-1982 Assistant Professor of Medicine
1982-1988 Associate Professor of Medicine
1988- 2010 Professor of Medicine
7/1/2010-present Emeritus Professor of Medicine
David Geffen School of Medicine at UCLA
(Formerly UCLA School of Medicine)
Los Angeles, California

1977-2000 Medical Director,
Pulmonary Function Laboratory
Veterans Administration Medical Center
Sepulveda, California

2007-2010 Medical Director, Pulmonary Function Laboratory
VA GLAHS

2004-2010 Associate Director, VA GLAHS
AASM accredited Sleep Disorders Center

1995-present Director, Pulmonary Clinical Research Center
Sepulveda Research Corporation

1987-1988 Acting Chief
1988-2000 Chief, Pulmonary and Critical Care Medicine
Veterans Administration Medical Center
Sepulveda, California

2000-2010 Chief, Pulmonary, Critical Care and Sleep Medicine
Sepulveda campus of VA GLAHS

2002-2010 Associate Chief, ACGME Accredited (2006) Sleep Medicine Training
Program, VA GLAHS

1987-2006 Academic Chief, Pulmonary and Critical Care
Medicine, UCLA-San Fernando Valley Program
(Olive View Medical Center and Sepulveda
Veterans Administration Medical Center)

1987-2005 Program Training Director, Pulmonary and Critical Care Medicine, UCLA-San Fernando Valley Program

1998-2010 Co-Director, Combined Pulmonary and Critical Care Medicine Training Program (Cedars-Sinai, VA GLAHS – WLA and Sepulveda, and Olive View Medical Centers)

1989-2010 Member, Pulmonary Advisory Council, VA Central Office.

1993-present Consultant to the Simi Valley School District Medical Director, Respiratory Therapy School.

April 1, 1984 to Sept. 30, 1984 Extended educational leave at Wellcome Research Laboratories, Beckenham, Bromley, Kent, England
Did work in arachidonic acid metabolism.
Preceptor, Salvador Moncada, M.D., Ph.D.

1977-present Member of Volunteer Staff, Los Angeles County-Olive View Medical Center, Van Nuys, California

1992-1995 Member of Attending Staff, UCLA Medical Center

8/4/10 - present Volunteer Attending Staff West LA VA Medical Center and VA GLAHS

1977- 8/10 Chief, Airway Reactivity and Pulmonary Research, Veterans Administration Medical Center, Sepulveda, California

March 1-30 1998 Extended Educational Leave, Technion University, Haifa, Israel
Preceptor, Peretz Lavie, Ph.D.

Board Certifications:

1973 Internal Medicine (ABIM)
1974 Internal Medicine (Canada) (FRCP(C))
1974 Pulmonary Medicine (ABIM)
1987 Critical Care Medicine (recertified, 1997, 2007) (ABIM)
1993 Sleep Medicine (ABSM)
2007 Sleep Medicine (ABIM)

Professional Societies:

American College of Chest Physicians
American Thoracic Society
California Thoracic Society
Royal College of Physicians and Surgeons of Canada
Western Society for Clinical Investigation
American Academy of Sleep Medicine

American Association of Pulmonary and Critical Care Program Directors

Honors, Awards and Professional Invitations

American Lung Association (ALA) Fellow - July 1973-June 1974

Fellow, Royal College of Physicians and Surgeons of Canada [FRCP(C)] 1974

Selected to present a paper at the Cecile Lehman Mayer Research Forum, National Meeting of the ACCP, Nov. 1976

Fellow, American College Chest Physicians (FCCP) - 1978

Co-Chairman of scientific session on airway pharmacology at the 45th American College of Chest Physicians (ACCP) Meeting (national meeting), Houston, Texas, Nov. 1979

Chosen by the ACCP to participate in the Young Pulmonary Physicians meeting at Pheasant Run, Chicago, June 1979. An editorial in the journal "Chest" resulted from this meeting:

Scoggin CH, Petty TL: Issues and challenges for pulmonary medicine: The next generations view. Chest 76:495-496, 1979. The results were presented at the ACCP meeting in Houston.

Elected member of the executive board of Trudeau Society (LA County Chest Society), 1980

Elected program chairman of Trudeau Society, 1981

Selected as co-chairman of the 5th annual Southern California Pulmonary Research Conference, 1982

Lecturer in symposium on sleep apnea syndromes, annual meeting of the American Thoracic Society, May 1982

Workshop leader in course entitled "Pulmonary Function Testing: Indications and Interpretations." California Thoracic Society Annual Postgraduate Course, March 1982

Member: 1982 Advisory Committee of the American Thoracic Society, Scientific Assembly on Clinical Problems.

Elected Secretary-Treasurer Trudeau Society 1982, Vice President and President-Elect 1983

President, Trudeau Society, 1984

Member, Board of Directors, Western Medical Research Association, 1984

Member, Government Affairs Committee, American Lung Association of Los Angeles County 1986-1990

Member, Pulmonary Physiology Committee of the California Thoracic Society 1986-1988

Congressional Citation from Howard Berman, Member of Congress, for outstanding contribution to the community, 1988

Member, 1988-1998, Pulmonary Physiology Project to standardize pulmonary function testing procedures throughout California. This committee surveys pulmonary function laboratories in an Educational and Voluntary Certification Program.

Participant (Lecturer) in Sleep Disorders Symposium at Marburg, West Germany, May 1986 and March 1989

Participant in the First International Symposium on Sleep and Breathing in Banff, Alberta, Canada, April, 1989

Member, Ex Officio, Representing Veterans Affairs Central Office, March 28, 1990- Sept 30, 1991, National Commission on Sleep-Disorders Research. (Congressionally Mandated by Public Law 100-607)

Invited participant at the Third International Colloquium on Progress in Pulmonary Medicine: Examining New Frontiers in Treatment and Research. Florence, Italy, October 6-10, 1990.

American Thoracic Society Annual meeting Visit-the-Professor session on aerosol therapy in COPD in May, 1991 in Anaheim, California.

Invited participant to the Second International Symposium on Sleep and Breathing in Galveston, Texas for March 9-13, 1991.

President-elect, VA Pulmonary Physicians Association. 1991.

President, VA Pulmonary and Critical Care Association (renamed from VA Pulmonary Physicians Association), 1992.

Past President, VA Pulmonary and Critical Care Association, 1993.

Member, American Thoracic Society Pharmacotherapy Subcommittee on Standards in treatment of COPD, 1993-1994

Award from the American Sleep Disorders Association for contributions as a member of the National Commission on Sleep Disorders Research, June 24, 1993.

Fellow of the American Sleep Disorders Association, 1993.

Participant (Lecturer) in Third Sleep Disorders Symposium at Marburg, West Germany, August 31-September 2, 1994.

Member of the Standards of Practice Committee of the American Sleep Disorders Association (ASDA) 1995 - June, 1999.

Chair of the Standards of Practice Committee of the American Academy of Sleep Medicine (AASM) (formerly the ASDA), June, 1999 – June 2003.

Member, Task force of the American Sleep Disorders Association to formulate indications for polysomnography as a standard of practice. Dr. Littner was responsible for the Obstructive Sleep Apnea section. 1995 to 1997.

Member, Scoring Committee for part II examination for the American Board of Sleep Medicine 1996-1998; 2001, 2002.

Invited speaker, Ozark Chest Conference XVI, October 5, 1996 on COPD management.

Invited participant in the Combivent Speakers Conference, San Francisco, California, October,

1996.

Invited participant in the Problem-Based learning program for Astra Pharmaceuticals, Atlanta, Georgia, March, 1997

Presenter at the "COPD Summit" as a consultant to Glaxo, Atlanta, Georgia, August, 1997

Member, Editorial Board, Chest, July 1997- June 30, 2002

Member, Nation-wide VA Committee on Standards for Asthma and COPD, 1997-present. Chair of the Outpatient COPD Standards Committee, 1997, member COPD/DOD COPD guideline committee 1999.

Invited participant in the Combivent Speakers Meeting, Los Cabos, Mexico, September, 1997

Member, task force on oxygen, respiratory therapy and sleep disorders for the VA, 1997.

Invited participant, Problem-based learning for asthma facilitator's annual meeting funded by an unrestricted educational grant from Astra Pharmaceuticals, Phoenix, Arizona, April 30-May 3, 1998.

Invited Speaker as a consultant to Glaxo on COPD. Topic was Sleep disorders and COPD, July 11, 1998.

Visiting Professor, University of Nebraska, Omaha, September 25, 1998.

Invited Participant, Combivent Speakers Meeting, Scottsdale, Arizona, October 16-18, 1998.

Invited Participant in the Astra Problem-based learning annual meeting. St. Thomas, US Virgin Islands February 3-6, 1999.

Invited participant to the COPD Clearing the Air Conference, Paris, France, May 26-29, 1999
Sponsored by Boehringer Ingelheim.

Invited participant to the Novartis Investigators' Meeting on Formoterol, San Diego, CA June 11-13, 1999.

Chair, Standards of Practice Committee, American Academy of Sleep Medicine, June, 1999-June 2003

Invited participant, Investigators' Meeting on SMART study. Chicago, Illinois, October 26 and 27, 1999.

Consultant to TAP Pharmaceuticals on Asthma and GERD, August through October 1999 and October 2001 to present.

Consultant to Boehringer Ingelheim on new product, Tarrytown, New York, November 6, 1999.

Site visitor for accreditation of Sleep Disorders Centers for the American Academy of Sleep Medicine. Three times in 1999.

Invited participant in COPD meeting, Paris, France, Sponsored by Boehringer Ingelheim, July 2000.

Invited participant in Tiotropium Investigator's Meeting. New York, New York, March 9-12, 2000. Sponsored by Boehringer Ingelheim

Organizer and participant in Workshop on Evidence Based Medicine. San Antonio EPC, San Antonio, Texas, April 27, 28, 2000

Invited participant in tiotropium meeting, Paris, France. Sponsored by Boehringer Ingelheim, July 2000.

Presented a poster abstract on the Respimat-Atrovent device at the European Respiratory Society Meeting in Florence Italy, September, 2000.

Invited participant in the ACCP conference on Portable Monitoring for Sleep Apnea

Member, representing AASM on the Evidence Review Committee of the Portable Monitoring Joint Venture of the AASM, ATS and ACCP.

Speaker and attendee at the 1st annual VA Critical Care Meeting in Alexandria, VA, December, 2000

Chair, Standards of Practice meeting of the American Academy of Sleep Medicine, Dallas Texas, December, 2000.

Invited participant at Glaxo meeting on COPD, San Juan, Puerto Rico, January 19-21, 2001.

Co-chair of session at the Southern California Pulmonary and Critical Care Research Conference, Palm Springs, February 11, 2001.

Invited participant at Novartis Speakers Meeting. Phoenix Arizona, March 30 – April 1, 2001

Member of the VA technical advisory group on CPAP, BiLevel and AutoPAP machines for VA central office, 2001-present.

Cochair of the Pharmacotherapy of COPD Poster Discussion Session, Sunday May 20. 2001 International Conference, ATS, San Francisco, California.

Consultant to GSK on COPD in the VA, June 30, 2001, Denver, Colorado

Symposium Chair, Napa Valley Grille, Westwood, July 24, 2001 on Guidelines for Asthma and COPD. Speakers – Steven Rennard, M.D., Howard Zeitz, M.D.

Oral presentation at the European Respiratory Society Meeting in Berlin, Germany on Advair®, Serevent®, and Flovent® in poorly responsive COPD. September 24, 2001

Participant in Boehringer Ingelheim consultant's meeting on COPD, November 15-17, Phoenix, AZ, 2001

Participant in Novartis focus group, Los Angeles, CA, November 12, 2001

Abgenix Investigator's Meeting, San Francisco, CA, November 30 to December 1, 2001.

Chair, Standards of Practice meeting of the American Academy of Sleep Medicine, Dallas Texas, December 7-9, 2001.

Abstract reviewer for the APSS annual meeting, 2000, 2001, 2002.

Novartis Investigator's Meeting, New Orleans, LA, January 22-24, 2002.

Consultant to GSK on COPD in the VA, February 15-17, 2002, Paradise Valley, Arizona.

Attendee at the Second Annual VA Critical Care Meeting, Alexandria, VA, March 6 and 7, 2002

Member of the Organizing Committee, speaker and attendee to the National VA Sleep Research Conference in Philadelphia, PA, March 8 and 9, 2002.

Participant in VA nation-wide satellite symposium on COPD: Topic was Treatment Strategies in COPD April 4, 2002.

Invited participant in Combivent Speaker's Meeting, Aspen Colorado, April 18-21, 2002.

Member of the American Board of Sleep Medicine part II scoring committee. April 27 to 29, 2002 in Dallas, TX

Cochair of the Pharmacotherapy of COPD Poster Discussion Session, May 19, 2002 International Conference, ATS, Atlanta, Georgia

Attended meeting of the Evidence Review Committee of the Joint Venture on Portable Monitoring, May 2002.

Member of the Technical Advisory Group for clinical guidelines for the diagnosis of OSA and the use of CPAP for nation-wide use in the VA. 2000-present.

Participant in Pfizer pulmonary advisory group on COPD, Groton CT, August 19, 20, 2002.

Lecturer for Pfizer to train regional medical scientists on COPD in New York City, August 21, 2002.

Littner MR, Ballard D, Huang B, Samra NK. Twenty-four weeks of lansoprazole reduces asthma exacerbations and improves asthma quality of life in subjects with symptoms of acid reflux. **Presented** as a poster at the European Respiratory Society Meeting in Stockholm, Sweden for September 15, 2002.

Investigator meeting. Miami, Florida for COPD study, Boehringer Ingelheim, September 26, 27, 2002.

Investigator meeting, Amelia Island, Florida for COPD study, Boehringer Ingelheim, October 11, 12, 2002.

Littner MR, Leung FW, Ballard ED, Huang B, Samra NK. Lansoprazole for 24 weeks reduces asthma exacerbations and improves quality of life in subjects with symptoms of acid reflux – a multicenter, randomized, double-blind, placebo controlled trial. **Presented** as an oral presentation at a plenary session of the American College of Gastroenterology annual meeting in Seattle on October 21, 2002)

Lecturer in plenary session symposium on portable monitoring in sleep apnea. Topic: Evidence for and against use. San Diego, Californian as part of the ACCP meeting, November 4, 2002.

Chair, VA technical advisory group on supplemental oxygen for VA central office, 2002-present. Resulted in new practice guidelines for the VA for use of home, ambulatory and portable oxygen therapy.

Chair, Standards of Practice meeting of the American Academy of Sleep Medicine, Dallas Texas, December 5-7, 2002.

Member of an investigation team for the VA at the Portland VA for an IRB issue, February 2003

Participant and contributor in a meeting to develop a COPD CME program sponsored by Pharmedica, New York, NY February 28 to March 2, 2003

Participant in Boehringer Ingelheim COPD speakers' meeting, Boca Raton, FL, April 10-13, 2003

Member VA planning group for O2 and Sleep Apnea prosthetic nation-wide training for VA May 6 and 7, 2003

Investigators' meeting for AstraZeneca for esomeprazole in asthma. Philadelphia, PA, April 4 to 5, 2003

Member, Part II scoring committee for the American Board of Sleep Medicine, May 3 to 5, 2003, Tucson, AZ

Speaker, VA training for prosthetics and clinicians for oxygen and sleep disorders, Las Vegas, NV, May 6 and May 7, 2003

Member, AASM Sleep Medicine Course Committee, June 2003 to 2005.

Participant in the Novartis Training for Xolair speakers, Orlando Florida, July 11-13, 2003.

Participant in Management of COPD Patient CME Course Training (also helped develop), Boston, Mass, July 18-20, 2003.

Participant and lecturer in Pfizer pulmonary advisory group on COPD, Groton CT, September 22, 23, 2003.

Lecturer on Anticholinergics in COPD in Bronchodilators in COPD session, ACCP annual meeting, Orlando, Florida, October 29, 2003.

Participant in Boehringer-Ingelheim Investigators' meeting on results of tiotropium vs. salmeterol study, New York City, January 10, 2004

Moderator for Roundtable discussion of COPD for Pfizer Pharmaceuticals at the American Thoracic Society Meeting in Orlando, Florida, May 2004 (3 sessions).

Site visitor to Bellevue Children's Sleep Center, Washington State for Accreditation for the AASM, June 24-25, 2004

Reviewer for the Canadian Coordinating Office of Health Technology Assessment on the use of sleep laboratories for the diagnosis of obstructive sleep apnea, September, 2004

Moderator for Roundtable discussion of COPD for Pfizer Pharmaceuticals at the American Thoracic Society Meeting in San Diego, California, May 2005

Member Editorial Board, Journal of Clinical Sleep Medicine, January 2005-2009

Symposium Chair and Speaker, Essentials for the Diagnosis and Management of COPD-2005. Annenberg Center for Health Sciences at Eisenhower. Held at the Le Merigot Hotel, Santa Monica California, July 16, 2005

Co-chair, VA/DOD COPD Guidelines Committee. Dr. Littner Co-chairs as the VA Chair with the DOD Chair (Dr. John Mitchell), 2005 to 2007.

Member, Professional Activity Committee, World Association of Sleep Medicine (WASM), October, 2005 to 2007. Co-Chair, 2007 to present.

Chair, American Academy of Sleep Medicine (AASM) Board Review Course for the American Board of Medical Specialties Examination. October 6 to 8, 2006 September 21 to 23, 2007, October 12 to 14, 2007, and September 26 to 28, 2008, lecturer August 15 and September 12, 2009.

Member Editorial Board The Open Sleep Journal, 2007 to present

Member, Associated Professional Sleep Societies (APSS) Program Committee, 2008-2011 for Sleep2009, Sleep2010, Sleep2011 annual meetings of the Sleep Research Society and the American Academy of Sleep Medicine

Excellence in Education Award from the American Academy of Sleep Medicine, June 9, 2008 at the Annual Meeting of the Associated Professional Sleep Societies (Sleep2008).

Chair, American Academy of Sleep Medicine Documents Review Committee, February 2009 to June, 2010.

Associate Editor, Journal of Clinical Sleep Medicine, June 2009 to present

Associate Editor, Sleep Section of Frontiers in Psychiatry

Member, Academic Affairs Committee of the American Academy of Sleep Medicine beginning, June, 2010.

Study Sections

American Heart Association of Los Angeles County, 1987, 1990- 1992.

Research Advisory Committee for applications for Geriatric Centers for the VA, April 1991.

American Academy of Sleep Medicine study section for SMERF, June, 2000.

Consultant Reviewer (past and present):

Chest
Journal of Applied Physiology
Journal of Gerontology
Lung

Sleep

American Journal of Respiratory and Critical Care Medicine

Williams and Wilkins, publishers

Archives of Internal Medicine

Office of Technology Assessment for a report on Biological Rhythms and Shift Work

AHCPR commissioned Evidence based reports on Diagnosis of Sleep apnea and Acute

exacerbations of chronic obstructive pulmonary disease

Neurobiology of Aging

Committees:

1. Chair, Education Committee, Sepulveda Veterans Administration Medical Center 1979-1981. Acting ACOS for Education, 1981. Member, 1981 to 1988.
2. Chair, Subcommittee on Continuing Medical Education(CME), Sepulveda Veterans Administration Medical Center 1978 to 1988.
3. Vice Chair, Patient Education Committee, Sepulveda Veterans Administration Medical Center 1978 to 1986.
4. Chair, CME Committee of Medical Service, Sepulveda Veterans Administration Medical Center 1977-1988
5. Member, Education Committee, Medical Service, Sepulveda Veterans Administration Medical Center 1977 to 1980.
6. Member, Cardiopulmonary Resuscitation Committee, Sepulveda Veterans Administration Medical Center, 1980 to 1987.
7. Member, Animal Studies Subcommittee, SVAMC, 1980 to 1987.
8. Member, Committee for Ethical Animal Research (County-wide committee), 1981 to 1986.
9. Member, Quality Assurance Committee, Medical Service, Sepulveda Veterans Administration Medical Center 1984-1987.
10. Member, Physiology Committee of the California Thoracic Society, 1986-1988.
11. Member, Government Affairs Committee, American Lung Association of Los Angeles County, 1986-1990
12. Member, Pulmonary Physiology Project to standardize pulmonary function testing procedures throughout California, 1988-2000.
13. Alternate member, Committee on Appointments and Promotions, Department of Medicine, UCLA 1988-1990.
14. Chair, Committee on Development on the ambulatory care center initiative (PACE) for the Department of Medicine, Sepulveda Veterans Affairs Medical Center, 1989-1990.
15. Member, Medical Center-Wide Education and Clinical Care Subcommittee for the development of the ambulatory care center initiative (PACE) for Sepulveda Veterans Affairs Medical Center, 1989-1990.

16. Member, Clinical Systems Task force for PACE, 1990.
17. Member, Committee on Appointments and Promotions, Department of Medicine, UCLA, 1990-1993.
18. Member, Committee on Appointments and Promotions Deadlines, UCLA, 1993.
19. Chair, Respiratory Care Committee, SVAMC, 1993-1995
20. Temporary Chair, MICU/CCU committee, SVAMC, 1993-1994.
21. Member, Committee on role of subspecialists in primary care delivery at Sepulveda VAMC, 1993-1994.
22. Acting Chair, Pharmacy and Therapeutics Committee, Sepulveda VAMC, September 1994-January 1995.
23. Chair, Pulmonary Rehabilitation Program, Sepulveda VAMC, June, 1994-1995.
24. Member, Search Committee for Chief of Medicine, Sepulveda VA 1995.
25. Member, Invasive procedures committee, Sepulveda VA, 1995-2000.
26. Member, ad hoc Committee for identification of radiology services at Sepulveda VAMC, 1996.
27. Member, Institutional Review Board C, VA Greater Los Angeles Healthcare System May 1999 – 2004
28. Member of the Research Education Steering Committee. September 2001.
29. Chair, Institutional Review Board A, VA Greater Los Angeles Healthcare System, 2004-February, 2009.

Teaching:

1. Fundamentals of Clinical Medicine 1: 1978, 1979, 1986. Forty hours per year as an instructor for second year medical students in clinical diagnosis. This represents the second year students' first formal clinical teaching and encompasses history taking and clinical examination of all organ systems.
2. Lecturer and small group discussion leader in two week Pathophysiology of Pulmonary Disease Course, 1979-1986,1995. Course Director, 1987-1992. This course is for second year medical students at UCLA.
3. Lecturer in Advances in Internal Medicine
 - a. Sleep disorders
 - b. Practical approach to pulmonary function
 - c. Preoperative assessment of pulmonary reserve
 - d. Therapy of Asthma
 - e. Pulmonary edema
4. Lecturer in Major Medical Disease. Part of Core Curriculum for third year medical

- students.
- a. COPD/Pulmonary Function testing (repeated twice a year).
5. Attending at VA GLAHS:
 - a. Pulmonary Subspecialty – outpatient, 12 months a year
 - b. Pulmonary Consults – 2 months a year at WLA
 - c. Sleep clinic – twice a month at WLA
 6. Participants in weekly chest medicine conference. This involves discussions of case material. Fellows, residents, interns and students are present.
 7. Supervising attending in chest clinic 44 times per year. Fellows and residents take part.
 8. Supervision of Fellows in bronchoscopy.
 9. Lecturer in Department of Medicine lecture series on emergency medicine. For Fellows, Residents, Interns and Students.
 10. Board review course for Pulmonary Fellows. Pulmonary Physiology in theory and in practice (several lectures).
 11. Review of pulmonary function with pulmonary Fellows: Eight to ten formal individual sessions per year.
 12. Pulmonary Physiology Lectures (apart from those mentioned above):
 - a. Thirty to forty sessions per year dealing with case studies, special procedures, etc., with Fellows, Residents, Interns and Students.
 13. Sixteen sessions of one hour each with groups of one or two third year medical students. This involves intensive discussion with and instruction of these students on an individual basis in clinical medicine. It includes history taking, physical examination, selection and interpretation of laboratory tests and patient management.
 14. Selected lectures at community hospitals:
 - a. Stockton, California, Upper Airway Obstruction, 1978
 - b. Camarillo, California, 1980
 - c. Vandenberg Air Force Base, 1980, Drug Therapy of Asthma for b and c, e, and f.
 - d. Sherman Oaks Community Hospital, 1980, Asbestosis and Other Occupational Lung Diseases.
 - e. West Park Hospital, Canoga Park, CA, 1981
 - f. Port Hueneme Naval Hospital, Oxnard, CA, 1981
 - g. Riverside Hospital, North Hollywood, CA, 1982
Sleep Apnea Syndrome (also for h, and i)
 - h. Valley Presbyterian Hospital, Van Nuys, CA, 1982
 - i. Valley Hospital Van Nuys, 1986
 - j. Daniel Freeman Hospital Inglewood CA, 1987 Preoperative pulmonary assessment
 - k. Riverside Hospital Monthly Medical Association, Lecture, Riverside, CA - Sleep-Apnea Syndrome, May, 1990
 - l. Nurse Practitioners Association of Los Angeles, Therapy of COPD, April, 1991.
 - m. Olive Medical Center Symposium entitled "Expectations from Respiratory Care," Lecture, Sleep Disordered Breathing, July, 1991
 - n. VA Hill Street Clinic, Los Angeles, Therapy of COPD, April, 1992.
 - o. American Lung Association of Los Angeles County conference "The Endangered

- p. Lung," Workshop on Treatment and Diagnosis of Asthma, June, 1992.
 - q. Compton HMO, October, 1992, Therapy of COPD
 - r. Stockton group of physicians. January, 1993, Therapy of COPD
 - r. Martin Luther King Hospital. February, 1993, Therapy of COPD
 - s. Washington Hospital, Culver City, April, 1993, Therapy of COPD
 - t. Cigna Medical Group, May 1993, Therapy of COPD
 - u. Westlake HMO, May 1993, Therapy of COPD
 - v. Century City Hospital noon conference, June 1993, Therapy of COPD
 - w. Santa Barbara Medical Lecture on Therapy of COPD, July 21, 1993
 - x. Santa Barbara Pharmacy Society Lecture on Therapy of COPD, July 21, 1993
 - y. UCLA Combined Pulmonary Program Meeting, Use of Inhaled Steroids in COPD, May 3, 1994.
 - z. St. Joseph's Medical Center, Burbank, COPD November, 1994.
 - aa. UCLA Pulmonary Function Symposium, Sleep Disorders, 1995, 1996
 - bb. Valley Presbyterian Hospital - Sleep Disorders, April, 1996
 - cc. UCLA Pulmonary and Critical Care conference lecture on Sleep Disorders, November 21, 1996
 - dd. Los Angeles VA Outpatient Clinic on Therapy of COPD November 26, 1996.
 - ee. Holy Cross Hospital. Therapy of COPD, February, 1997.
 - ff. Encino Hospital. Therapy of COPD, April, 1997.
 - gg. San Diego, California. Asthma therapy. Astra regional sales training meeting. July, 1997
 - hh. Los Angeles, California. Asthma therapy. Astra national sales training meeting, September, 1997.
 - ii. Encino Hospital. Therapy of COPD. November, 1997.
 - jj. Los Angeles VA Outpatient Clinic on Indications for Sleep Studies December 2, 1997.
 - kk. Health Care Partners. Therapy of asthma. January, 1998.
 - ll. Talk on COPD in Oxnard. February, 15, 2000
 - mm. Talk on COPD at Encino Hospital, January 18, 2001
15. Lecture topics given over past several years (most given more than once):
- 1. Sleep apnea syndrome
 - 2. Arterial oxygen desaturation during sleep in COPD
 - 3. The clinical spectrum of asthma
 - 4. Drug therapy of asthma
 - 5. Diagnosis of upper airway obstruction
 - 6. Atypical sarcoidosis
 - 7. Bronchospasm during excretory urography
 - 8. Oxygen delivery systems in clinical practice
 - 9. Diagnosis and management of pulmonary embolism
 - 10. Preoperative evaluation of pulmonary reserve
 - 11. Prostaglandin synthesis and hypoxic pulmonary vasoconstriction
 - 12. Practical approach to interpretation of pulmonary function
 - 13. Modification of induced airway constriction in healthy subjects
 - 14. Acute respiratory failure
 - 15. Shock lung
 - 16. Interpretation of exercise studies
 - 17. Use of maximal and partial expiratory flow-volume curves
 - 18. Asbestosis and other occupational lung diseases
 - 19. Gas exchange in the lung
 - 20. Pleural fluid analysis: The usefulness of pleural glucose values
 - 21. Physiology of chest wall disease
 - 22. Basic pulmonary function

23. Body plethysmography (pressure and volume)
 24. Provocation of bronchospasm
 25. Diffusion
 26. Flow-volume curves
 27. Exercise testing
 28. Sleep studies
 29. Control of ventilation
 30. Acid-base balance and arterial blood gases
 31. Theory of flow limitation
 32. Helium-oxygen flow-volume curves
 33. Tests of smaller airway function
 34. Beta-adrenergic responsiveness in health and in asthma
16. Selected Medical Grand Rounds:
Arachidonic acid metabolism in the lung.
University of California, Irvine, August 31, 1985, and
Sepulveda VAMC, October 24, 1985, and Pulmonary Grand
Rounds - Wadsworth VAMC, October 1, 1985. Sleep Apnea
Syndrome - Wadsworth VAMC, September, 1989.
Sepulveda VAMC August, 1986 and 1988, November, 1989,
Sleep Disorders, Sepulveda VAMC, October, 1993. Sleep
Apnea Syndrome, Sepulveda VAMC, February 16, 1995.
GERD and Asthma, Sepulveda VA September, 2003
17. Lectures, Symposium and Special Meetings since 1994
1. Invited participant, Zileuton conference, July, 1994, Laguna Niguel, California
 2. Investigators meeting for HFA as an alternative propellant for inhalers, Orlando, Florida, August, 1994
 3. Participant (Lecturer) in Third Sleep Disorders Symposium at Marburg, West Germany, August 31-September 2, 1994.
 4. St. Joseph's Medical Center, Burbank, COPD, November, 1994.
 5. Investigators meeting for Accolate study, Boca Raton, Florida, July 1995.
 6. UCLA Pulmonary Function Symposium, Sleep Disorders, 1995, 1996
 7. Invited participant, Problem-based learning program, February 1996, Scottsdale Arizona
 8. Investigators meeting for albuterol and ipratropium study, March 1996, Chicago, Illinois
 9. Valley Presbyterian Hospital - Sleep Disorders, April, 1996
 10. Scorer and proctor for American Board of Sleep Medicine Examination, Dallas, Texas, April 19-22, 1996
 11. Task Force meeting on indications for Polysomnography, Minneapolis, Minnesota, April 24-28, 1996.
 12. Task Force meeting on indications for Polysomnography, Washington, DC, June, 1996.
 13. Invited participant, Problem-based learning program, Part II, June, Chicago Illinois, June, 1996
 14. Investigators meeting for Neupogen in Pneumonia with sepsis, June 1996, Marina Del Ray, California.
 15. Invited speaker, Ozark Chest Conference XVI, October 5, 1996 on COPD management.
 16. Invited participant, Accolate speakers meeting, October 11-13, 1996, Fort Myer, Florida
 17. Investigators meeting for Seratrodast in COPD, October 18-20, 1996, Chicago, Illinois

18. Invited participant in the Combivent Speakers Conference, San Francisco, California, October 25-26, 1996.
19. Invited participant, Clarithromycin speakers meeting, November 1996, Tucson Arizona.
20. UCLA Pulmonary and Critical Care conference lecture on Sleep Disorders, November 21, 1996
21. Los Angeles VA Outpatient Clinic on Therapy of COPD, November 26, 1996.
22. Encino Community Hospital, Therapy of COPD, March 6, 1997
23. Invited participant in Problem Based Learning Course, Atlanta, Georgia, March 13-16, 1997
24. Holy Cross Hospital, Mission Hills, Therapy of COPD, March 25, 1997
25. Simi Valley Respiratory Therapy School, 10 lectures a year since 1993-present.
26. Asthma/COPD Standards Committee meeting, June, 1997, Co-Leader, Chronic COPD Group.
27. Glendale Adventist Hospital, Asthma Therapy, July, 1997
28. Astra asthma Workshop, San Diego, California, July, 1997
29. Speaker and invited participant, COPD Summit, Atlanta, Georgia, August, Consultant to MCR education, 1997.
30. Astra asthma workshop, Los Angeles, CA, September 8, 1997
31. Asthma/COPD Standards Committee meeting, September 9-11, 1997, Co-Leader, Chronic COPD Group.
32. Invited participant. Combivent speakers meeting, Los Cabos, Mexico. September 14-17, 1997.
33. Tarzana Community Hospital, Therapy of COPD September 24, 1997
34. Invited participant in Problem Based Learning Workshop, San Diego California, November 12, 1997
35. Encino Hospital. Therapy of COPD. November, 1997.
Los Angeles VA Outpatient Clinic on Indications for Sleep Studies December 2, 1997.
36. Health Care Partners. Therapy of asthma. January, 1998.
37. Zeneca Speakers Meeting, Orlando, Florida, January 9-11, 1998
38. West Hills Hospital, Therapy of COPD, February, 1998
40. City of Hope Symposium. Speaker on Asthma, June, 1998
41. GLAHS, Los Angeles Outpatient Division. Asthma, March 1999.
42. Evidence-based medicine, Cookbook or Blueprint. Grand Rounds, VAGLAHS - Sepulveda, October 7, 1999
43. Pulmonary edema, Pulmonary and Critical Care training program for integrated program given at Cedars Sinai, October 14, 1999
44. COPD and sleep disorders, Pulmonary Grand Rounds, Cedars-Sinai Medical Center, February 14, 2001.
45. Role of long-acting beta2-agonists in obstructive lung disease
 - a. Sagamore Hotel in Bolton Landing – New York State, May 17, 2001
 - b. Lancaster, California – June 21, 2001
 - c. Southfield, Michigan – July 11, 2001
 - d. Bay City, Michigan – August 15, 2001
46. Sleep disorders. Sherman Way campus of Northridge Hospital. October 11, 2001.
47. COPD, Palm Springs, October 25, 2001
48. Speaker on COPD at the Queen Mary in Long Beach, CA for GSK, March 23, 2002
49. Speaker at the Pfizer training session for regional medical scientists on pathophysiology and pharmacotherapy of COPD. August 21, 2002
50. Speaker on pathophysiology and pharmacotherapy of COPD in Moline and Bloomington, Illinois, on November 18 and 19, 2002.
51. Speaker, American Academy of Asthma, Allergy and Immunology on sleep apnea the March 2003 AAAAI annual meeting, March 10, 2003 and March 22, 2004.

52. Participant in the Pharmedica CME advisory group for COPD, New York, NY, February 28 to March 2, 2003
53. Participant in Boehringer Ingelheim speakers' meeting, Boca Raton, FL, April 10-13, 2003.
54. Speaker on update in COPD in Palmdale, CA, October 16, 2003, Bakersfield, October 21, 2003, Torrance, November 3, 2003, Seattle Washington, December 15, 2003, Seal Beach, CA February 11, 2004, Long Beach, CA, May 11, 2004, Sherman Oaks, CA, May 13, 2004, Beverly Hills, CA, June 10, 2004, Riverside, CA June 22, 2004, June 28, Pasadena, CA, July 1, Glendale, CA, July 13, Grand Rounds – Medicine UCI, Irvine, CA, July 14, Sherman Oaks, CA, July 21, Burbank, CA, July 22, Bakersfield x 2, CA, BI preceptorship for UCLA, August 7, August 11, Cedars Pulmonary Grand Rounds, September 15, Lancaster, CA, 2004, Granada Hills, Knollwood Country Club, September 29, 2004, California Physicians' Assistant Association Meeting, Palm Springs, CA October 23, 2004.
55. Participant in Boehringer Ingelheim meeting on results from tio-salmeterol study, New York, NY January 9-11, 2004
56. Participant in Boehringer Ingelheim speakers' meeting, Sarasota Florida, January 22-25, 2004
57. Speaker on Sleep Apnea, AAAAI San Francisco, March 21, 2004
58. Consultant meeting with Otsuka Pharmaceuticals, Georgetown, DC, April 22-24 and November 5-7, 2004
59. Novartis Advisory Board, St. Petersburg, FL, May 1-3, 2004
60. Facilitator, ATS Poster Session, Orlando, FL, May 25, 2004
61. Lectures at the National Sleep Medicine Course, near Chicago, ILL, on COPD/Asthma and Sleep, and Overview of OSA, August 23, 2004.
62. Bayer Investigator's meeting, Lisbon, Portugal, August 24-27, 2004.
63. Peer Review of Charts at Tampa VA at VISN request, September 5-7, 2004
64. COPD/Asthma and Sleep for Pulmonary Fellows, WLA, September 9, 2004
65. Lecture on Acute Exacerbations of COPD, LA Farm Restaurant, November 9, 2004
66. GSK investigators' meeting Tucson, AZ, November 10-11, 2004
67. AstraZeneca Meeting on GERD and Asthma, participant December 2-4, 2004
68. Dinner Meeting and Morning 8 to 9 and 11 to 12 on Anticholinergics in COPD, Phoenix, AZ, February 10 and 11, 2005
69. Speaker on Sleep Apnea, AAAAI San Antonio, March 22, 2005
70. Dinner Meeting, New Haven, CT on Anticholinergics in COPD, May 4, 2005
71. Visiting Professor, St. Francis Hospital, Hartford, CT, May 5, 2005. Gave talks on COPD and Obstructive Sleep Apnea
72. Dinner Meeting, Hartford, CT, May 5, 2005 on Anticholinergics in COPD
73. Visiting Professor, UCONN Health Center on COPD and Journal Club on use of pulmonary function to predict COPD mortality, May 6, 2005
74. Visiting Professor, Rockville General Hospital, Hartford, CT on COPD, May 6, 2005
75. Boehringer Ingelheim Investigator's meeting for COPD study. Dr. Littner was the coordinating investigator for the study, July 8-10, 2005
76. VA/DOD National Guideline Development Committee Meeting, August 1 to 5, 2005, Bolger Center, Potomac, Maryland. Dr. Littner was Co-chair
77. Lunch and Dinner Meetings in Lemoore and Hanford, California, Anticholinergics in COPD. August 10, 2005
78. Boehringer Ingelheim Speakers' Meeting, San Francisco, CA, August 16-18, 2005
79. Lecturer in the National Sleep Medicine Course, Oak Hills, Illinois on Sleep in COPD and Asthma, August 22, 2005
80. Dinner Talk in Rockford Illinois, August 23, 2005 on Update of COPD
81. Invited participant representing the VA at the Sixth Long Term Oxygen Therapy Consensus Conference in Denver CO, August 25-28, 2005
82. Lunch and Dinner Meetings in Fresno, California, Anticholinergics in COPD. August

- 30, 2005
83. Pulmonary Advisory Meeting, Dey Pharmaceuticals, September 9-11, 2005, San Francisco
 84. BI COPD talks Venice Free Clinic and San Diego, October 18, 2005
 85. BI COPD talks, Charlie G's September 6, Patina, September 13, Venice Free Clinic and San Diego, September 18, Matsuhisa October 15, Seal Beach October 17, Le Petit Jacques, November 6, 2005.
 86. GSK COPD talk Cal D'Sol October 26, 2005.
 87. Pfizer COPD Roundtable, November 3, Montreal, Canada after ACCP meeting
 88. BI COPD talks (COPD Regional Tour), January 17, 18 and 19 in Des Moines, Little Rock, Kansas City, MO. Cleveland, Ohio and Dallas, TX, Jan
 89. Dey Speakers Meeting, Phoenix January 20 (evening) and 21, 2006 on COPD
 90. BI talk on COPD, Chicago, January 31, 2006
 91. Novartis Speakers' meeting San Francisco on Asthma, California, February 10 (evening) to 12, 2006
 92. Altana Investigator's meeting, Las Vega, NV February 24 to 26, 2006
 93. VA-wide COPD guideline committee meeting, Co-chair, Sepulveda, CA March 1 to 3, 2006
 94. ACCP Program Training Director's Meeting, Tucson, AZ March 24-26, 2006
 95. Takeda Speakers Meeting, Washington, DC March 27-28, 2006
 96. VA-wide PAP specifications review for recommendations for VA-wide PAP contract for Sleep Apnea Treatment, Hines VA, Hines, IL April 17 to 20, 2006
 97. Almirall Investigator's meeting for COPD study, Las Vegas, NV, June 5 to 7, 2006
 98. Advisory Group for Health Learning Systems on Pulmonary Disease, June 9 to 11, 2006, Dallas, TX
 99. Clinical Connexion Advisory Group for Shering-Plough, Minneapolis, MN, July 14-15, 2006
 100. Talk for Center for Health Care Education on Asthma and COPD, Long Beach, June 28, 2006, Riverside, July 20, 2006
 101. Dey Pulmonary Advisory Meeting, Georgetown, DC August 11 to 13, 2006
 102. Investigator's meeting for Boehringer Ingelheim for COPD study, Fort Lauderdale, FL, August 18 to 20, 2006
 103. Pulmonary Grand Rounds, Harbor-UCLA Medical Center, Torrance, CA talk on Portable Monitoring for the Diagnosis of Sleep Apnea
 104. BI talk on Spiriva and COPD, Torrance, CA September 25, 2006
 105. Talk for Center for Health Care Education on Asthma and COPD, Harrahs Casino for CHCE, Reno NV, September 28, 2006
 106. Talk for Takeda on Rozerem, L'Orangerie, October 11, 2006
 107. Talk on COPD for Dey, Riverside, CA October 12, 2006
 108. Talk on COPD for BI, Ontario Mills, CA, October 18, 2006
 109. Con on treatment for mild sleep apnea, ACCP meeting, Salt Lake City, Utah, October 24, 2006
 110. Talk for BI, Bellflower, CA November 7, 2006
 111. Novartis Advisory Board on COPD, November 10 to 12, 2006, Philadelphia, PA
 112. Talks on COPD for GSK, Glendale (noon) and French Restaurant, Pasadena (Evening), November 14, 2006
 113. Talk for Center for Health Care Education on Asthma and COPD, Bakersfield, CA December 7, and Fresno, December 11, 2006
 114. January 16, 2007. Talk for Boehringer Ingelheim on RLS through Current Medical Directions (CMD), Berkeley and San Francisco
 115. February 5 and 8, 2007, WASM2007 Bangkok, Thailand, Talk on Portable Monitoring and Standards of Practice
 116. February 13, 2007 San Fernando Valley talks on COPD for GSK
 117. February 22 to 24, 2007 New York city, COPD pulmonary advisory board for Otsuka

118. February 28, 2007 COPD talk for GSK in Simi, CA
119. March 5, 2007. Talk on RLS for BI through CMD, Miami, FL
120. March 15, 2007. Talk on RLS for BI, Saddle Peak Lodge, Calabasas, CA
121. March 16-18, 2007. Speakers training for Takeda on ramelteon, Fort Lauderdale, FL
122. March 23-24, 2007. Advisory board on Chantix for Pfizer, San Francisco, CA
123. March 27-29, 2007. Advisory board for BI on COPD, Atlanta, Georgia
124. March 30-31, 2007. Speakers training for Novartis on Xolair, Dallas, TX
125. April 17, 2007. Talk on COPD for GSK, Visalia (noon) and Fresno (dinner), CA
126. April 18, 2007. Talk on COPD for GSK, Fresno (noon) and Visalia (dinner), CA
127. April 20, 2007. Talk at the ACP Internal Medicine2007, San Diego, CA on Sleep Disorders for Multiple Small Feedings of the Mind
128. July 13-15, 2007, Dey Speaker's Meeting for COPD, Washington, DC
129. July 27-29, 2007, Dey Pulmonary Advisory Group for COPD, San Francisco, CA
130. August 24, Talk on RLS for BI, San Diego, CA
131. August 28, Pulmonary Advisory Board for Otsuka on COPD, Princeton, New Jersey
132. September 18, 2007. BI talk on COPD Lowry's, Beverly Hills
133. October 10 Sacramento, California, 18 Colorado Springs, Colorado, 29, Boise Idaho, 30, Los Angeles California, December 6, Romeoville, Illinois. Dey talk on Perforomist and COPD, 2007
134. Portable Monitoring Meeting, Invited participant, sponsored by the American Thoracic Society, Washington, D.C. October 14 to 16, 2007
135. March 11, 2008, Salt Lake City Dey talk on Perforomist and COPD
136. April 21 to 25, 2008, New Orleans, Louisiana Co-Chaired VA meeting on development of COPD guidelines
137. June 5 to 7, 2008, Baltimore, Maryland AstraZeneca Pulmonary Advisory Group Meeting on COPD
138. July 31 to August 1, 2008, Dallas, Texas, AstraZeneca speaker's training for Symbicort and Asthma
139. October 3, 2008. Berlin, Germany, participant in Boehringer-Ingelheim Uplift data presentation
140. November 17 and 18, 2008. National VA Sleep Management Work Group development. Milwaukee, WI
141. December 6, 2008. Dey Pulmonary Advisory Group, Dallas TX
142. December 12, 2008. AstraZeneca Pulmonary Advisory Group, Miami, FL
143. December 15, 2008. AstraZeneca visiting professor, Bakersfield, CA
144. February 28, 2009. Dallas, TX AstraZeneca Speaker Training in COPD for Symbicort (Brand Team)
- 144a. Talks given in 2009 for AstraZeneca on COPD and Symbicort: 3/30 Canoga Park, CA, 4/20, Woodland Hills, CA, 4/23, Oxnard, CA, 4/27 Roseville, CA, 5/1 Tacoma, WA x2, 5/4 Reno, NV, 5/11 Monterey, CA x 2, Dallas, TX x 3, 6/1 Fort Collins, CO, 6/29 Thousand Oaks, CA, 7/6 Fresno, CA, 7/10 Santa Rosa, CA, 7/13 Minneapolis, MN, 7/20, Calabasas, CA, 7/24 Tucson, AZ, 7/27, Chula Vista, CA, 7/31 Houston, TX, 8/3 Modesto, CA, 8/17, Chandler, AZ, 8/24 Las Vega, NV, 9/8 Boulder, CO, 11/16 Fort Harrison and Great Falls, MT
145. March 13, 2009. Denver, Colorado Talks on Portable Monitoring for OSA and Sleep and Endocrinology, Selected Topics, Rocky Mountain Sleep Conference, Doubletree Hotel
146. March 24 to 26, 2009, New Orleans, LA. VA Respiratory Prosthetics Meeting on oxygen and CPAP therapy. Speaker on March 24 on current Clinical Practice Recommendations for Oxygen therapy.
147. Chair, Best Practices Post-Graduate Course, Sleep2009, Saturday, June 6, 2009, Seattle, WA
148. Introduced Invited Speaker, Thomas Balkin, Ph.D. (The Sleepy Soldier), Sleep2009, Monday, June 8, 2009, Seattle, WA

149. Pulmonary Advisory Group for Forest Pharmaceuticals on mock FDA advisory committee for roflumilast, October 30, 2010, San Diego, California
150. AstraZeneca Pulmonary Advisory Group on COPD. May 1, 2010 Denver, Colorado
151. Novartis Adverse Event Adjudication Committee. January 2011.

RECENT GRANT SUPPORT

1. Principal Investigator, Budesonide Study of asthma, Supported by Astra through G.H. Besselaar, Associates. 1991-1993. Budget of \$79,200
2. Principal Investigator, Zileuton study of asthma, supported by Abbott through ClinTrials. 1993-1994. Budget of \$35,000.
3. Principal Investigator, Combivent Study, Supported by Boehringer Ingelheim Pharmaceuticals, Inc. Budget of \$60,000. 1993-1994.
4. Co-Principal Investigator, Salmeterol Asthma Study, Supported by Glaxo, 1994-1995, Budget of \$20,000.
5. Principal Investigator, Alternate propellant study for ipratropium, supported by Boehringer Ingelheim Pharmaceuticals, Inc. Budget of \$72,000. November 1994 - February 95.
6. Principal Investigator, Tiotropium, supported by Boehringer Ingelheim Pharmaceuticals, Inc. Budget of \$162,250. January to August 1995.
7. Principal Investigator, Serevent COPD study, supported by Glaxo through Pharmaceutical Product Development, Inc. Budget of \$120,000; August 95 to February 96.
8. Principal Investigator, Accolate asthma study, supported by Zeneca. August, 95 to January, 97. Budget of \$126,000
9. Principal Investigator, combined albuterol and ipratropium solution in COPD. Dey Pharmaceuticals through Collaborative Clinical Research. Budget of \$92,000. May to October, 1996.
10. Principal Investigator, Bineb device for delivery of aerosol. Supported by Boehringer-Ingelheim. Budget of \$80,000. February to October, 1996
11. Co-principal Investigator (with Michael Tuck, M.D.), Candesartan Cilexetil in essential hypertension. Astra-Merck through Pharmaceutical Research Associates. Budget of \$25,000. July to October 1996.
12. Co-principal Investigator (with Susan Stein, M.D.), Neupogen in sepsis trial. Supported by Amgen. Budget of \$40,000 July, 1996 to present.
13. Principal Investigator, Fluticasone, triamcinolone and salmeterol in asthma. Supported by Glaxo. Budget of \$40,000 October, 1996 to May 1997.
14. Principal Investigator, Seratrodast in COPD. Supported by TAP. Budget of \$60,000 December, 1996 to October, 1997.
15. Principal Investigator, Nasal dilation in sleepy snorers. Supported by Sepulveda Research

- Corporation. Budget of \$6,000. October, 1996 to present.
16. Principal Investigator, Budesonide once a day use in asthma, Supported by Astra. Budget of \$40,000. May to October, 1997
 17. Principal Investigator, Serevent and theophylline in COPD. Supported by Glaxo. Budget of \$70,000. May, 1997 to March, 1998
 18. Principal Investigator of Formoterol asthma study supported by Novartis. Budget of \$10,750. August 1998 to September 1999.
 19. Principal Investigator of study of Salmeterol and Fluticasone in COPD. Supported by Glaxo. Budget of \$100,000. September 1998 to March 2000.
 20. Principal Investigator of study of Salmeterol in Sleep-related Desaturation in COPD. Single-site investigator initiated proposal supported by Glaxo. Budget of \$89,000. October, 1999 to September, 2006.
 21. Principal Investigator of study of Montelukast plus Salmeterol vs. Montelukast plus Fluticasone in Asthma. Supported by Merck. Budget of \$67,000. November, 1999 to June, 2001.
 22. Principal Investigator of study of lansoprazole in GERD in asthma. Supported by TAP. Budget of \$30,000. December, 1999 to September, 2001.
 23. Principal Investigator of study of L-753099 in COPD. Supported by Merck. Budget of \$72,000. April, 2000 to October, 2000.
 24. Principal Investigator of study of HFA-Atrovent in COPD. Supported by Boehringer Ingelheim. November 2000 to January 2001. Budget of \$63,000.
 25. Principal Investigator of study of combination of ipratropium and salmeterol in COPD. Supported by GlaxoSmithKline. March 2001 to October 2002. Budget of \$120,000.
 26. Principal Investigator of study of a mucolytic in COPD. Supported by Inspire Pharmaceuticals. March 2001 to June 2001. Budget of \$6,500.
 27. Principal Investigator of study of HFA-Combivent in COPD. Supported by Boehringer Ingelheim. March 2001 to June 2001. Budget of \$35,000.
 28. Principal Investigator of study of Advair on mortality in COPD over 3 years. Supported by GlaxoSmithKline. May 2001 to May 2005. Budget of \$64,000
 29. Principal Investigator of study of Ariflo in COPD. Supported by GSK. September, 2001 to June 2002, Budget of \$30,000.
 30. Co-Investigator (5%) of Sleep Disturbance and Outcomes of Rehabilitation in the Nursing Home. Principal Investigator Cathy Alessi, MD, Total Award: \$698,204. Funding Period: 1/1/02 -- 12/31/04 Funding Agency: VA Health Services Research & Development (HSR&D)
 31. Principal Investigator of study of Combivent vs. Salmeterol in COPD. Supported by GSK. October 2001 to June 2002. Budget of \$40,000.

32. Principal Investigator of study of anti-cytokine therapy in COPD. Supported by Abgenix. January 2002 to December 2002. Budget of \$50,000.
33. Principal Investigator of study of sputum inducer in lung cancer. Supported by Inspire Pharmaceuticals, April to December 2002, Budget of \$30,000
34. Principal Investigator of study of salmeterol vs. tiotropium in COPD. Supported by Boehringer Ingelheim. May 2002 to January, 2003. Budget of \$70,000.
35. Principal Investigator of study of tiotropium in COPD over 4 years. Supported by Boehringer Ingelheim. October 2002 to October 2007. Budget of \$230,000.
36. Principal Investigator of study of Combivent Respimat in COPD. Supported by Boehringer Ingelheim. October 2002 to October 2003. Budget of \$108,000.
37. Principal Investigator of study of Ariflo and Advair in COPD. Supported by GSK. January 2003 to December 2003, Budget of \$90,000.
38. Principal Investigator of study of esomeprazole in asthma. Supported by AstraZeneca. May 2003 to December 2003. Budget of \$30,000.
39. Principal Investigator of study of OC-6535 in COPD. Supported by Otsuka Maryland Research Institute. July 2003 to June 2004. Budget of \$80,000
40. Principal Investigator of study of roflumilast in COPD. Supported by Altana. January, 2004 to December, 2005. Budget of \$45,000
41. Principal Investigator for study of formoterol. Supported by Dey Pharmaceuticals. July 2004 to December 2005, Budget of \$120,000.
42. Principal Investigator for Study of COPD exacerbations for Bayer Pharmaceuticals, October 2004 to September 2006, Budget of \$200,000
43. Principal Investigator of Study of tiotropium in COPD patients of African Descent. Supported by Boehringer-Ingelheim. September 2004 to August 2005. Budget of \$40,000
44. Principal Investigator of Study of Advair vs. Serevent for exacerbations in COPD. Supported by GSK, October, 2004 to September, 2006. Budget of \$90,000
45. Principal Investigator of Study of Ariflo in COPD, January, 2005 to June, 2007. Supported by GSK. Budget of \$80,000.
47. Principal Investigator of Study of Symbicort in COPD, February 2005 to June 2007. Supported by AstraZeneca. Budget of \$62,000
48. Coordinating Investigator of Study of BEA BR 2180 in COPD. Supported by Boehringer-Ingelheim. July 2005 to June 2006, Budget of \$140,000
46. Principal Investigator of Study of Roflumilast in COPD, July, 2006 to December 2007. Budget of \$90,000.
49. Principal Investigator of study of formoterol in COPD, April 2006 to December, 2006. Supported by Dey Pharmaceuticals. Budget of \$60,000

50. Principal Investigator of study of LAS 34273 in COPD. August 2006 to March 2008. Supported by Almirall. Budget of \$100,000.
51. Principal Investigator of study of Tiotropium vs. Combivent in COPD. October, 2006 to September, 2007. Supported by Boehringer Ingelheim, Budget of \$72,000.
52. Principal Investigator of study of Combivent Respimat. Supported by Boehringer Ingelheim. Budget of \$110,000. February 2007 to December 2007.
53. Principal Investigator of study of mometasone/formoterol in COPD supported by Schering-Plough, Budget of \$80,000. September 2007 to June 2009
54. Principal Investigator of study of BEA BR2180 supported by Boehringer-Ingelheim. Budget of \$135,000. October 2007 to December, 2008
55. Principal Investigator of study of BioMarck Protocol BREATH1 in COPD. Budget of \$75,000. September 2008 to December, 2010
56. Principal Investigator of study of Novartis Protocol CQAB149B2351 in COPD, Budget of \$80,000. June 2009 to June 2010.
57. Principal Investigator of study of GSK Protocol HZC112206 in COPD. Budget of \$140,000, December 2009 to December 2010.

BIBLIOGRAPHY

MICHAEL R. LITTNER, M.D.

PEER REVIEWED PAPERS PUBLISHED

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2. Littner MR, Odero DO, Schachter EN: Shortness of breath and hemoptysis in a 24 year old pregnant female. *Bull Am Coll Chest Phys* 15:15-16, 1975
3. Bouhuys A, Littner MR: Computer graphics and lung function tests. *Biosci Comm* 1:330-345, 1975
4. Littner, MR, Schachter EN, Putman CE, Odero DO, Gee JBL: The Clinical assessment of roentgenographically atypical pulmonary sarcoidosis. *Am J Med* 62:361-368, 1977
5. Farmer W, Littner MR, Gee JBL: Assessment of therapy of upper airway obstruction. *Arch Int Med* 137:309-312, 1977
6. Rosenfield AT, Littner MR, Ulreich S, Farmer W, Putman CE: Respiratory effects of intravenous urography: Preliminary results. *Investigative Radiology* 12:295-298, 1977
7. Littner MR, Rosenfield AR, Ulreich S, Putman CE: An evaluation of bronchospasm during excretory urography. *Radiology* 24:17-21, 1977
8. Grossman J, Littner MR: Severe sarcoidosis in pregnancy. *Obstet Gyn* 50:81s-84s, 1977
9. Littner MR: W10294A: A new bronchodilator. *Lung* 154:187-194, 1977

10. Putman CE, Rothman SL, Littner MR, Allen WE, Schachter EN, McCloud TC, Bein ME, Gee JBL: Computerized tomography in pulmonary sarcoidosis. *Computerized Tomography* 1:194-209, 1977
11. Schachter EN, Kreisman H, Littner MR, Beck GJ, Voncken F: Airway responses to exercise in mild asthmatics. *J Allergy Clin Immunol* 61:390-398, 1978
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13. Littner MR, Bouhuys A: Pulmonary studies. Biological effects of long-term methadone use. Ed H. Kleber, Monograph published by NIDA Research DHHS Publication No. (ADM) 81-1029, 1980, pp 10-23
14. Schachter EN, Littner MR, Luddy P, Beck GJ: The monitoring of oxygen delivery systems in clinical practice. *Critical Care Medicine* 8:405-409, 1980
15. Littner MR, McGinty DJ, Arand DL: Determinants of oxygen desaturation in the course of ventilation during sleep in chronic obstructive pulmonary disease. *Am Rev Respir Dis* 122:849-857, 1980
16. Arand DL, McGinty DJ, Littner MR: Respiratory patterns associated with oxygen desaturation during sleep in chronic obstructive pulmonary disease. *Chest* 80:183-190, 1981
17. Littner MR, Rosenfield AT, Ulreich S, Putman C, Meadows G: Bronchospasm during excretory urography: A lack of specificity for the methylglucamine cation. *Amer J Roentgenology* 137:477-481, 1981
18. Littner MR, Tashkin DP, Calvarese B, Bautista M: Acute bronchial and cardiovascular effects of pirbuterol dihydrochloride aerosol in asthma. *Ann Allergy* 47:14-20, 1982
19. Tashkin DP, Conolly ME, Deutsch RI, Hui KK, Littner MR, Scarpace P, Abrass I: Subsensitization of beta-adrenoreceptors in airways and lymphocytes of healthy and asthmatic subjects. *Am Rev Respir Dis* 125:185-193, 1982
20. Schachter EN, Rimar S, Littner MR, Beck GJ, Bouhuys A: Airway reactivity and exercise in healthy subjects. *Chest* 81:461-465, 1982
21. Scarpace PJ, Littner MR, Tashkin DP, Abrass IB: Lymphocyte beta-adrenergic refractions induced by theophylline or metaproterenol in healthy and asthmatic subjects. *Life Sciences* 31:1567-1573, 1982
22. Littner MR, Kazmi GM, Lott FD: The effects of arachidonic acid, PGI₂ and 6-Keto-PGF_{1α} on cyclic nucleotide concentrations in a ventilated and artificially perfused isolated dog lung. *Prostaglandins, Leukotrienes and Medicine* 9:257-275, 1982
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None

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None

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