

## Dean Hess Curriculum Vitae

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### Education

1972	B.A. <i>cum laude</i>	Chemistry	Messiah College
1974	Diploma	Respiratory Therapy	Saint Joseph Hospital
1980	M.Ed.	Biology	Millersville, University
1994	Ph.D.	Health Service Management	LaSalle University

### Faculty Academic Appointments

1975-1990	Program Director	School of Respiratory Therapy	York Hospital and York College of PA
1990-1992	Instructor	School of Respiratory Therapy	York College of PA
1992-1996	Instructor	Anesthesia	Harvard Medical School
1996-2004	Assistant Professor	Anesthesia	Harvard Medical School
2004-2016	Associate Professor	Anesthesia	Harvard Medical School
2016-2018	Teaching Associate	Anesthesia	Harvard Medical School
2015-present	Part-time Lecturer	College of Professional Studies Master of Science in Respiratory Care Leadership	Northeastern University

**Major Administrative Leadership Positions****Local**

1990-1992	Assistant Director of Research	York Hospital
1992-2016	Assistant Director of Respiratory Care	Massachusetts General Hospital
2016-present	Per diem, Respiratory Care	Massachusetts General Hospital

**Committee Service****Local**

1975-1992	Respiratory Therapy Program Advisory Committee	York College of PA
1977-1989	Allied Health Educator's Committee 1977-1979	York Hospital Chairman
1978-1984	Respiratory Therapy Advisory Committee	Harrisburg Area Community College
1980-1989	Health Record Administration Advisory Committee 1980-1989	York College of PA Allied Health Steering Committee
1981-1984	Allied Health Education Consortium of Dauphin, Lancaster, and York Counties 1981 1982-1983	Secretary Chairman
1992-1994	Critical Care Committee / Research Quality Improvement Subcommittee	Massachusetts General Hospital
1994-1995	Education Task Force; Patient Restructuring Committee	Massachusetts General Hospital
1994-1995	Intensive Care Unit Surveillance Group	Massachusetts General Hospital
1995-1997	Thoracic Operations Improvement Committee; Pathways Development Subcommittees 1995-1996 1996-1997	Massachusetts General Hospital Asthma, COPD and Pneumonia Chairman, Secretion Clearance Operations Improvement Committee
1996-1997	Health Professions Staff Committee	Massachusetts General Hospital

2000-2001	Patient Care Services Credentialing Committee	Massachusetts General Hospital
2000-2016	Code and Emergency Response Committee	Massachusetts General Hospital
2005-2007	Surgical CPM; Tracheostomy Care	Massachusetts General Hospital
2008-2016	Academic Appointments and Promotions Committee	Department of Anesthesia, Critical and Pain Medicine, Massachusetts General Hospital, Boston, MA

### Regional

2005-2007	Respiratory Care Exploratory Committee	Bunker Hill Community College, Boston, MA
2008-2015	Respiratory Care Advisory Committee	Bunker Hill Community College

### Professional Societies

1973-	<u>American Association for Respiratory Care (AARC)</u>	
1973-		Member
1987		Research Committee
1989-1990		Chair-elect, Adult Acute Care Section
1990		Consultant, Pulse Oximetry Study Group
1990-2015		Clinical Practice Guidelines Steering Committee (Chairman, 1991-2000)
1991-1992		Chair, Adult Acute Care Section
1993		Respiratory Care Research Council
1995		AARC representative to NAMDRC Consensus Conference on Home Nebulizer Therapy
1998-2001		AARC representative to ACCP Panel on Weaning from Mechanical Ventilation
2005-2017		Judge, Sputum Bowl Finals
1998-2020		Fellowship Selection Committee
1976-	<u>National Board for Respiratory Care (NBRC)</u>	
1976-		Member
1983-1987		Test item contributor
1987		Certified Pulmonary Function Test (CPFT) Examination Committee
1987		Judicial and Ethics Committee
1987-1988		Certified Respiratory Therapy Technician (CRTT) Examination Committee
1987-1992		Publications Committee
1987-1993		Member, Board of Trustees

1988-1989	Admissions Committee
1988-1989	Specialty Examination Committee
1988-2002	Clinical Simulation Examination Committee (Chairman, 1990 -1991)
1989-1991	Written Examination Committee
1989-1991	Rules and Bylaws Committee
1989-1991	Perinatal-Pediatrics Examination Committee
1889-1995	International Credentialing Committee (Chairman, 1989-1991)
1990-1991	Chairman, Examination Committee (Chairman, 1991)
1990-1995	Executive Committee
1991	Secretary
1991-1993	Long-Range Planning Committee (Chairman, 1992-1993)
1992-1993	President
1994	Ad Hoc Committee to Consider Combined Registry Examination
1994	Ad Hoc Committee to Establish Cut Score for Written Registry Examination
1994-1995	Past President
1994-1995	Chairman, Nominations Committee
1989-	<u>American Thoracic Society (ATS)</u>
1989-	Member
1995	ATS Guidelines Committee on “Sleep Apnea: Recognition and Diagnostic Approaches
1995	ATS Consensus Conference on Recognition of Sleep Apnea, Washington, DC
1995	ATS Statement. Standards for the diagnosis and care of patients with chronic obstructive pulmonary disease.
1995	Consensus Conference on Recognition of Sleep Apnea
1998-2002	Critical Care Assembly, Editor of Respiratory Care Section of the Journal Club on the Internet
1999-2002	Critical Care Program Committee
2000-2002	Writing Group, position paper on the use of inhaled nitric oxide
2007-2008; 2015-2018	Membership Committee
2012-2016	Noninvasive Ventilation Clinical Practice Guidelines Writing Committee
2013-2016	Mechanical Ventilation for ARDS Clinical Practice Guidelines Writing Committee

	2017-present	Long-term noninvasive ventilation in chronic hypercapnic COPD
<u>1992-</u>	<u>Society of Critical Care Medicine (SCCM)</u>	
	1992-present	Member
	1994	Workshop on ICU Personnel Cost Reduction, Coalition for Critical Care Excellence
	2003-present	Respiratory Care Section
	2010-present	Fellow Critical Care Medicine (FCCM)
	2012	Sepsis and Mechanical Ventilation Planning Committee
	2014-2015	ICU Liberation Planning Committee
	2015-2017	ACCM Nominating Committee for the Board of Regents.
1996-2016	<u>American College of Chest Physicians (ACCP)</u>	
	1996-2016	Member
	1997	Fellow College of Chest Physicians (FCCP)
	2001-2004	Health Science and Policy Committee
	2003	Ethics Committee
	2003	Abstract Review Committee
	2004-2006	Allied Health Network Steering Committee
2000-	<u>International Society for Aerosols in Medicine (ISAM)</u>	
	2000-	Member
2002-2016	<u>Massachusetts Thoracic Society (MTS)</u>	
	2002-2012	Member
	2007-2010	Chadwick Medal Award Committee
2007-2012	<u>Foundation for the Advancement of CardioThoracic Surgical Care (FACTS-Care)</u>	
	2006-2012	Board of Medical Advisors
	2007-2012	Member
	2010-2011	Program Committee
2014-2018	<u>American Board of Internal Medicine (ABIM)</u>	Member, Pulmonary Disease Board

**Editorial Activities**

**Ad hoc Reviewer** for the following journals:

American Journal of Respiratory and Critical Care Medicine  
 Anesthesiology  
 Anesthesia and Analgesia  
 Annals of the American Thoracic Society  
 Annals of Intensive Care  
 Chest  
 Canadian Medical Association Journal  
 Cochrane Collaboration  
 Critical Care  
 Critical Care Medicine  
 European Respiratory Journal  
 Intensive Care Medicine  
 Journal of Aerosol Medicine and Pulmonary Drug Delivery  
 Journal of Applied Physiology  
 Journal of Chronic Obstructive Pulmonary Disease.  
 Journal of Clinical Anesthesia  
 Journal of Critical Care  
 Journal of Clinical Monitoring  
 Journal of Intensive Care  
 PLOS One  
 Lancet  
 Lancet Respiratory Medicine  
 Lancet Digital Health  
 New England Journal of Medicine  
 Respiriology  
 Respiratory Care  
 Respiration  
 Simulation in Healthcare  
 Thorax

**Other Editorial Roles**

1985	Consulting Editor	RESPIRATORY CARE
1986	Guest Editor	RESPIRATORY CARE, York Hospital special issue (September)
1986-1998	Editorial Board (Chairman 1993-1994)	RESPIRATORY CARE
1990	Guest Editor	RESPIRATORY CARE; Noninvasive monitoring in respiratory care (June, July)
1990	Guest Editor	Malley, Clinical Blood Gasses, WB Saunders 1992 (Editorial Board)

1992	Guest Editor	Miller-Keane Encyclopedia & Dictionary of Medicine, Nursing, and Allied Health. WB Saunders, 1992 (Editorial Board)
1993	Guest Editor	RESPIRATORYCARE; Oxygenation in the critically ill patient (June and July)
1994	Guest Editor	Witek TJ, Schachter EN. Pharmacology and therapeutics in respiratory care. WB Saunders, 1994 (Consulting Editor)
1996	Guest Editor	RESPIRATORYCARE; Mechanical ventilation: ventilatory techniques, pharmacology, and patient management strategies (April and May)
1997	Guest Editor	RESPIRATORYCARE; Emerging health care delivery and respiratory care (January)
1997	Guest Editor	RESPIRATORYCARE; Noninvasive positive pressure ventilation (April)
1997	Guest Editor	Hess D, Hurford WE. Inhaled nitric oxide. Part 1 and Part 2. Respiratory Care Clinics of North America (September)
1998-2007	Associate Editor	RESPIRATORYCARE
1999	Guest Editor	Hess D, Hurford WE. RESPIRATORYCARE; Inhaled nitric oxide (February, March)
1999	Guest Editor	Bigatello LM, Hess DR. International Anesthesiology Clinics, Update on respiratory Critical Care (Summer)
2000-2012	Editorial Board	International Anesthesiology Clinics
2000-2012	Editorial Board	Critical Care Alert
2001	Guest Editor	Hess DR, MacIntyre NR. RESPIRATORY CARE; Tracheal gas insufflation (February)
2001	Guest Editor	Mishoe SC, Hess DR. RESPIRATORYCARE; Evidence-based medicine in respiratory care (November, December)
2002-2007	Contributing Editor	Practical Reviews in Critical Care

2003-2009	Editorial Board	Ibero American Journal of Noninvasive Ventilation
2003-present	Editorial Board	Journal of Aerosol Medicine and Pulmonary Drug Delivery
2004	Guest Editor	Hess DR. RESPIRATORY CARE; New Horizons: Evidence-based respiratory care
2005	Guest Editor	Hess DR, Bigatello LM. RESPIRATORY CARE; Applied Respiratory Physiology: Use of Ventilator Waveforms and Mechanics in Management of Critically Ill Patients (January, February)
2006	Guest Editor	Benditt JO, Hess DR. RESPIRATORY CARE; Neuromuscular Disease in Respiratory and Critical Care Medicine (August, September)
2007	Guest Editor	Rubin BK, Hess DR. RESPIRATORY CARE; Airway Clearance: Physiology, Pharmacology, Techniques, and Practice (September, October)
2008-2017	Editor-in-Chief	RESPIRATORY CARE
2017-present	Managing Editor	RESPIRATORY CARE
2008-2017	Editorial Board	Simulation in Healthcare: The Journal of the Society for Simulation in Healthcare

### **Honors and Prizes**

1974	Harold W. Metzler Memorial Award	Saint Joseph Hospital
1985	Literary Award	American Respiratory Care Foundation
1986	Literary Award	American Respiratory Care Foundation
1988	Literary Award	American Respiratory Care Foundation
1991	Best Original Paper	American Respiratory Care Foundation
1993	Literary Award	American Respiratory Care Foundation
1996	Teacher of the Year	MGH Pulmonary and Critical Care Fellows



1997	Honorary Member	Lambda Beta Society	
1998	Partners in Excellence Award	Partners HealthCare	Operations Improvement for Asthma and COPD
1998	Teacher of the Year	MGH Pulmonary and Critical Care Fellows	
1999	Forrest M. Bird Award	American Respiratory Care Foundation	Lifetime Scientific Achievement
1999	Life Membership	American Association for Respiratory Care	Lifetime Scientific Achievement
1999	Stanley M. Wyman, MD, Teaching Award	MGH Medical House Staff	Teaching of medical residents in MGH MICU
2000	Partners in Excellence Award	Neonatal Nitric Oxide Transport Team	Co-team leader
2001	Simon Rodbard Memorial Honor Lecture	American College of Chest Physicians	Recognition of contributions to the field of mechanical ventilation
2001	Teacher of the Year	Harvard Combined Pulmonary and Critical Care Medicine Program	Teaching of Pulmonary Critical Care fellows
2006	Jimmy A. Young Medal	American Association for Respiratory Care	Meritorious service to the AARC
2007	Robert H. Miller Award	National Board for Respiratory Care	Service to the profession.
2007	Partners in Excellence Award	Partners HealthCare	Code and Emergency Response Team
2008	Partners in Excellence Award	Partners HealthCare	Tracheostomy Care Team
2009	Shubin-Weil Master Clinician/Teacher: Excellence in Bedside Teaching Award	Society for Critical Care Medicine	Bedside teaching of critical care trainees
2009	Partners in Excellence Award	Partners HealthCare System, Inc.	Development of Rapid Response Team

2011	Chadwick Medal	American Lung Association of New England Medical and Scientific Branch (formerly Massachusetts Thoracic Society)	Meritorious contributions in the study of tuberculosis and other thoracic diseases
2012	Presidential Citation	Society of Critical Care Medicine	Outstanding contributions to the society in 2012
2014	Hector Leon Garza MD Achievement Award	American Respiratory Care Foundation	Excellence in international respiratory care
2016	Lifetime Achievement Award	Massachusetts Society for Respiratory Care	Contributions to the field of respiratory care
2018	Presidential Citation	Society of Critical Care Medicine	Outstanding contributions
2018	Legend in Respiratory Care	American Association for Respiratory Care	Outstanding contributions

### **Report of Funded and Unfunded Projects**

#### **Funding Information**

##### **Past**

1992	Injury patterns of seat belted patients admitted to a trauma center AAA Foundation for Traffic Safety PI: Dean Hess In this project, we probed the Trauma Registry and identified injury patterns of persons wearing seat belts who were involved in motor vehicle accidents. The AAA Foundation published the report.
1993	An evaluation of the delivery of steroids by MDI using a catheter nozzle extension: The effects of catheter length and number of puffs Monaghan/Trudell Fellowship for Aerosol Technique Development PI: Dean Hess We evaluated the use of a catheter inserted through the endotracheal tube to better deliver inhaled aerosols to intubated patients; published in Intensive Care Medicine.
1993-1994	Clinical evaluation of the validity of a mathematical model of respiratory dynamics during mechanical ventilation Puritan-Bennett PI: Dean Hess In this observational study, we collected respiratory data from mechanically ventilated patients and tested how well those results fitted previously published mathematical models of respiratory mechanics. The results were presented in abstract at the American Association for Respiratory Care.
1994-1998	Massachusetts General Hospital. Ohmeda NO protocols INO-05 and INO-06. (Site PI: William Hurford MD)

Funded by Ohmeda and INO Therapeutics.

Co-investigator

These were multi-center industry-sponsored studies to evaluate the effect of inhaled nitric oxide in patients with ARDS.

- 1996-1998 An evaluation of the feasibility of weekly rather than daily changes of in-line suction catheters  
Department Funds  
PI: Dean Hess  
In this study, we evaluated the rate of ventilator-associated pneumonia with weekly inline suction catheter changes. Results were published in abstract form and lead to a change in clinical practice at the Massachusetts General Hospital. This practice change was eventually adopted at many hospitals around the world.
- 1996-1999 Trial of liquid ventilation with perflubron in patients with ARDS.  
(Site PIs: Robert Kacmarek PhD RRT and B. Taylor Thompson MD)  
Alliance  
Co-investigator  
This was a multi-center industry-funded project to evaluate the effect of partial liquid ventilation in patients with ARDS.
- 1997-2008 The contribution of chest wall compliance to the shape of the total respiratory system pressure-volume curve in the acute respiratory distress syndrome (ARDS).  
(PI: R. Scott Harris, MD)  
Department Funds  
Co-investigator  
In this study, we inserted esophageal balloons to partition the respiratory mechanics of the lungs and the chest wall. The full paper was published in Critical Care Medicine.
- 1998-2000 Massachusetts General Hospital. Noninvasive ventilation using proportional assist ventilation  
Respironics.  
Site PI: Dean Hess  
This was a multi-center industry-funded project to evaluate the use of proportional assist ventilation in patients receiving noninvasive ventilation. The full paper was published in the American Journal of Respiratory and Critical Care Medicine.
- 1998-2000 Validation of the diffusing capacity for inhaled nitric oxide as a measurement of lung function in human subjects undergoing general anesthesia.  
(PI: William E. Hurford MD)  
Department Funds  
Co-investigator  
This study was designed to evaluate whether diffusing capacity can be measured in critically ill mechanically ventilated patients receiving inhaled nitric oxide therapy.
- 1998-2000 Nitric Oxide uptake during inhaled Nitric Oxide therapy  
Department Funds  
PI: Dean Hess

In this project, we attempted to determine NO uptake in patients receiving inhaled nitric oxide therapy. It was our hope that this would allow us to better identify patients who have a clinical response to this therapy.

- 1998-2002 Inhaled nitric oxide for the treatment of sickle cell crisis. PI: C. Alvin Head MD  
Funded by INO Therapeutics  
Technical Coordinator  
This was an investigator-initiated multi-center placebo-controlled study to evaluate the role of inhaled nitric oxide during sickle cell crisis.
- 1999-2000 The effect of altering inspiratory flow rise time and cycling criteria on comfort, respiratory drive and work of breathing in pressure support ventilation.  
(PI: Robert M. Kacmarek PhD RRT)  
Department Funds  
Co-investigator,  
In this observational clinical study, we studied the effects of changing the shape of the pressure waveform during pressure support ventilation. The results were published in Respiratory Care.
- 1999-2001 Prone positioning for lung recruitment in ARDS  
(PI: Robert M. Kacmarek PhD RRT)  
Department Funds  
Co-investigator  
This was an observational study using computed tomography to assess the effect of prone position on lung recruitment in mechanically ventilated patients. The results were presented as an abstract at the American Thoracic Society.
- 1999-2004 Effect of altering pressure and flow on pharyngeal muscle function.  
(PI: David White MD)  
NIH NCRR GCRC MO1 RR02635, 1 P50 HL60292, RO1 HL48531, and T32 HL07633.  
Co-investigator  
The purpose of this study was to determine the stimuli modulating genioglossus activity, dissociating the influences of pharyngeal negative pressure, from inspiratory airflow, resistance, and CO<sub>2</sub>. The paper was published in the American Journal of Respiratory and Critical Care Medicine.
- 1999-2006 The effect of lung recruitment maneuvers on oxygenation in patients with the acute respiratory distress syndrome.  
(PI: Luca Bigatello MD)  
Foundation for Anesthesia Education and Research  
Co-investigator  
This study was designed to assess the effect of lung recruitment maneuvers in mechanically ventilated patients with ARDS.
- 2000-2009 Open-label observational study of inhaled nitric oxide.  
(PI: William E. Hurford MD)  
Department Funds  
Co-PI

This was a Phase IV study conducted at the Massachusetts General Hospital after inhaled nitric oxide was FDA-cleared for market. The results were presented in abstract form at several national meetings.

- 2001-2002 Objective assessment of Passy-Muir valves.  
Department Funds  
PI: Dean R. Hess  
In this study, we measured tracheal pressure during placement of a speaking valve onto a tracheostomy tube to determine when a speaking valve could be used safely
- 2001-2002 An objective analysis of the pressure-volume curve in the acute respiratory distress syndrome. (PI: Jose Venegas PhD)  
Department Funds  
Co-investigator  
At the time of this study, there was much enthusiasm for the use of pressure-volume curves to set the ventilator, and this study was designed to better elucidate this approach. The results were published in the American Journal of Respiratory and Critical Care Medicine.
- 2001-2012 Pulmonary function after off-pump and on-pump coronary artery bypass surgery in moderate to severe obstructive pulmonary disease.  
PI: Marcos Vidal Melo MD PhD  
Department Funds  
Co-investigator  
This was an evaluation of intraoperative tidal alveolar recruitment/derecruitment, exhaled nitric oxide, and lung dysfunction in patients with and without COPD undergoing coronary artery bypass grafting.
- 2002 Performance of small volume nebulizers.  
Funded by Cardinal Healthcare/Allegiance.  
PI: Dean R. Hess  
This was an in vitro study that evaluated output and particle size from a variety of jet nebulizers.
- 2002 Performance of small volume nebulizers in upright and tilted positions  
Funded by Cardinal Healthcare/Allegiance.  
PI: Dean R. Hess  
In practice, patients often tilt the nebulizer to the side when breathing aerosol from the device. In this study, we compared the output of the device in several configurations and among commercially available devices.
- 2002-2003 Ventilatory patterns during prolonged mechanical ventilation: A pilot study.  
(PI: Luca Bigatello MD)  
The Jenney Foundation.  
Co-investigator  
In this study, we assessed respiratory variability in patients receiving long-term mechanical ventilation.

- 2002-2003 Noninvasive ventilation by a helmet and by a mask in volunteers with normal and increased ventilatory load  
(PI: Luca Bigatello MD)  
Sea-Long Medical Systems  
Co-investigator  
In this study, we investigated patient-ventilator interactions and rebreathing when using a helmet rather than a facemask as the interface.
- 2002-2003 Systematic recording of two known methods to measure the maximum inspiratory pressure developed by patients during mechanical ventilation: A quality assurance study  
Department Funds  
PI: Dean Hess  
Several methods can be used to evaluate respiratory muscle strength by maximum inspiratory pressure with mechanically ventilated patients. In this study, we compared several of these approaches.
- 2002-2006 Outcome of patients undergoing prolonged mechanical ventilation for acute respiratory failure. (PI: Luca Bigatello MD)  
The Jenney Foundation  
Co-investigator  
This was a retrospective analysis of the outcomes of patients admitted to the respiratory acute care unit and the Massachusetts General Hospital.
- 2003 Laboratory evaluation of biflex and cflex  
Funded by Respironics.  
PI: Dean Hess  
This was an in vitro evaluation of the performance of biflex and cflex on devices designed for the treatment of sleep apnea.
- 2004-2006 Assessment of induced sputum as a tool to evaluate anti-inflammatory agents in patients with cystic fibrosis (PI: Henry Dorkin MD)  
Cystic Fibrosis Foundation.  
Co-investigator  
In this study, we performed induced sputum as part of a multi-center study of the CF Foundation to determine whether sputum could be used to evaluate anti-inflammatory agents.
- 2005-2006 The effects of nitric oxide for inhalation on survival or the need for dialysis or a right ventricular assistance device (RVAD) in right ventricular infarction patients.  
(PI: Kenneth Bloch MD)  
Funded by INO Therapeutics  
Technical Coordinator  
This was a multi-center study to evaluate the benefit of inhaled nitric oxide in patients with right ventricular infarction.
- 2005-2006 A double-blind placebo-controlled trial of nebulized amikacin in mechanically ventilated patients with nosocomial pneumonia due to gram negative organisms (Site PI: Luca Bigatello MD)

Funded by Novartis.

Co-investigator

This was a multi-center study to evaluate the use of inhaled amikacin in patients with gram negative ventilator-associated pneumonia.

- 2005-2008 Identification for risk factors for occlusion of the tracheostomy tube by the posterior tracheal wall (PI: Ulrich Schmidt MD)  
Departmental funds  
Co-investigator  
This retrospective study evaluated the incidence of tracheostomy tube apposition and factors affecting this clinical problem.
- 2006-2010 Readmission rates after discharge from RACU (PI: Ulrich Schmidt MD)  
Departmental Funds  
Co-investigator  
This study assessed the effect of an intervention of verbal report in addition to written report on the readmission of patients to the RACU at the Massachusetts General Hospital.
- 2007 Utilization of noninvasive ventilation and Heliox in academic emergency departments. (PI: Carlos Camargo MD)  
Funded by Respironics.  
Co-PI  
This survey of academic emergency departments in the United States assessed the use of noninvasive and heliox, and factors affecting this utilization.
- 2007 Multicenter implementation of a consensus-developed, evidence-based, spontaneous breathing trial protocol (Site PI: Aaron Waxman MD)  
Funded by Partnership for Excellence in Critical Care.  
Co-investigator  
This multi-center study evaluated the widespread implementation of a protocol for spontaneous breathing trials and barriers to implementation of the protocol.
- 2007-2009 Evaluation of the impact of multi-disciplinary guidelines and a dedicated respiratory therapist on the care of patients with a tracheostomy  
Department Funds  
PI: Dean Hess  
This retrospective study assessed the impact of standardized guidelines and a dedicated respiratory therapist on care of patients with tracheostomy.
- 2008 The effects of nitric oxide for inhalation on myocardial infarction size (PI: Kenneth Bloch MD)  
Funded by INO Therapeutics  
Technical Coordinator  
This was a multi-center study to evaluate the effect of inhaled nitric oxide on infarct size in patients with acute MI.
- 2008-2012 Trend of ventilation in the operating room (PI: Ulrich Schmidt MD PhD)  
Department Funds.

Co-investigator

This study evaluated the trends in mechanical ventilation strategies in the operating rooms at the MGH following increasing recognition of the benefits of lung protective ventilation strategies.

- 2009-2011 The effect of tracheostomy downsizing on patient outcome. (PI: Ulrich Schmidt MD PhD)  
Department Funds.  
Co-investigator  
In this study, we evaluated the effect of early downsizing of tracheostomy tube size on the use of speaking valves and oral intake.
- 2010-2012 Development of an interactive, clinical algorithm-driven interoperable smart ventilator (PI: Jussi Saukkonen MD)  
Funded by CIMIT  
Co-investigator  
The aim of this study was to develop a clinical algorithm to interface with a critical care ventilator to inform evidence-based mechanical ventilation strategies.
- 2010-2012 Design of a low-cost ventilator for use in third world countries. (PI: Jussi Saukkonen MD)  
Funded by CIMIT and Gates Foundation  
Co-investigator  
The aim of this study was to design a ventilator that can be used effectively for positive pressure ventilation at low cost.
- 2011-2012 Aerosol furosemide for dyspnea relief: laboratory and clinical studies. (PI Robert Banzett PhD)  
NR12009  
Consultant  
This study evaluated the use of inhaled furosemide to treat dyspnea. I assisted with the design of the delivery system.
- 2012-2016 EPVent 2 - A Phase II study of Mechanical Ventilation Directed by Transpulmonary Pressures.  
(PI: Daniel Talmor MD and Stephen Loring MD)  
Co-investigator for MGH  
This is a multi-center study comparing the use of transpulmonary pressure to the use of the ARDSnet oxygenation tables to titrate PEEP in patients with ARDS
- 2011-2016 A study of the influence of sGC genotype on response to inhaled nitric oxide in healthy volunteers. (PI: Christopher Newton-Cheh MD)  
NIH: 1R01HL113933-01A1; August 5, 2013 – June 30, 2017); 5% effort  
Co-investigator  
The primary aim of this study is to determine if the change in plasma level of cGMP at 30 minutes after administration of inhaled NO differs in subjects according to *GUCY* genotype.



- 2011-2016      Cytoprotection by carbon monoxide in sepsis and ALI/ARDS: Novel opportunities for therapy. Overall PI Augustine M Choi MD; Mark Parrella MD; Core PI: Laura Fredenburgh MD  
NIH 5P01HL108801-03  
Core D co-investigator: CO delivery in sepsis and acute lung injury  
Funded until June 30, 2016; 10% effort  
Phase 1 clinical trial conducted at the Massachusetts General Hospital, Brigham and Women's Hospital, Duke University Medical Center, and Cornell University.
- 2019-present      Implementation of Interprofessional Training To Improve Uptake Of Noninvasive Ventilation In Patients Hospitalized With Severe Copd Exacerbation; PI Mihaela S Stefan, MD PhD. Baystate Medical Center.  
NIH 1R01HL146615-01  
Consultant
- 2019-present      Educational strategies to promote post-extubation non-invasive ventilation in patients with acute respiratory failure; PI Timothy D. Girard, MD. University of Pittsburgh.  
NIH 1U01HL143507-01  
Consultant

### **Report of Local Teaching and Training**

#### **Teaching of Students in Courses**

- 1998-1999      Ventilator-induced lung injury  
Harvard Pulmonary Medicine Postgraduate Course  
Boston, MA
- 1998              Harvard Emergency Medicine Course, Harvard Medical School  
Boston, MA
- 1998              Noninvasive positive pressure ventilation      Harvard Emergency Medical Course  
Harvard Medical School,  
Boston, MA
- 2005-2006      Mechanical Ventilation                              Harvard Medical School  
HST Respiratory Physiology                      Boston, MA  
HST students

#### **Formal Teaching of Residents, Clinical Fellows and Research Fellows**

##### **Local**

- 2000-2014      Mechanical ventilation                              Department of Medicine  
Internal medicine resident, emergency      Massachusetts General Hospital  
medicine residents, medical student
- 2000-2002      Noninvasive positive pressure ventilation,      Brigham and Women's Hospital,  
Core Critical Care Lecture Series              Boston, MA  
Anesthesia residents, critical care fellows

2001-2016	Mechanical ventilation Pulmonary Core Lectures, Anesthesia residents	Anesthesia and Critical Care Medicine, Massachusetts General Hospital
2003	Monitoring lung mechanics during mechanical ventilation Weaning from mechanical ventilation Critical Care Fellows	Anesthesia and Critical Care Medicine Massachusetts General Hospital
2003-2010	Mechanical Ventilation Core Lecture Series Stroke/ICU Fellows	Department of Neurology, Massachusetts General Hospital Boston, MA
2005	Monitoring waveforms and mechanics during mechanical ventilation Pediatric Critical Care Fellows	Massachusetts General Hospital Boston, MA
2005-2007	Advances in mechanical ventilation – what’s worth keeping? Pediatric Critical Care Fellows	Massachusetts General Hospital Boston, MA
2005-2019	Pulmonary Fellows Lecture Series Anatomy of the ventilator Noninvasive positive pressure ventilation Tracheostomy tubes Advanced ventilator modes Using the ventilator to assess lung mechanics Pulmonary Critical Care Fellows	Massachusetts General Hospital Boston, MA
2006	Noninvasive ventilation Anesthesia and Critical Care Residents	Massachusetts General Hospital Boston, MA
2007	New ventilation modes Anesthesia and Critical Care Residents	Massachusetts General Hospital Boston, MA
2010-2016	Mechanical ventilation teaching rounds Pulmonary critical care fellows	Massachusetts General Hospital Boston, MA
2011	Noninvasive ventilation Internal Medicine Residents	Massachusetts General Hospital Boston, MA
2012	Oxygen Therapy and Noninvasive ventilation Internal Medicine Residents	Massachusetts General Hospital Boston, MA
2013-2015	Pulmonary Fellows Lecture Series	Brigham and Womens Hospital

	Anatomy of the ventilator Using the ventilator to assess lung mechanics Advanced ventilator modes Pulmonary Critical Care Fellows	Boston, MA
2014-2015	Oxygen Therapy and Noninvasive ventilation Internal Medicine Residents	Massachusetts General Hospital Boston, MA

**Formal Teaching of Peers (e.g., CME and other continuing education courses)**

1998	Assessment of acid-base status	Respiratory Care Department Massachusetts General Hospital Boston, MA
1999	Aerosol delivery during mechanical ventilation	Respiratory Care Department Massachusetts General Hospital Boston, MA
1999	Basic lung mechanics, Assessment of ventilation	Respiratory Care Department Massachusetts General Hospital Boston, MA
1999	Update on aerosol delivery	Respiratory Care Department Massachusetts General Hospital Boston, MA
2000	Inhaled Nitric Oxide Update	Respiratory Care Department Massachusetts General Hospital Boston, MA
2001	Diseases requiring mechanical ventilation	Nursing care of the respiratory compromised patient Massachusetts General Hospital Boston, MA
2001	New drugs for inhalation - Bronchodilators, steroids and leukotriene antagonists	Respiratory Care Department Massachusetts General Hospital Boston, MA
2001	New drugs for inhalation - Antibiotics and mucolytics	Respiratory Care Department Massachusetts General Hospital Boston, MA
2002	Diseases requiring mechanical ventilation Blood gas interpretation	Nursing care of the respiratory compromised patient Massachusetts General Hospital. Boston, MA

2002	Patient-ventilator synchrony	Respiratory Care Department Massachusetts General Hospital Boston, MA
2002	Chest X-ray interpretation	Respiratory Care Department Massachusetts General Hospital Boston, MA
2002	Use of the NICO monitor	Respiratory Care Department Massachusetts General Hospital Boston, MA
2004	The evidence for techniques to discontinue mechanical ventilation	Respiratory Care Department Massachusetts General Hospital Boston, MA
2005	Prevention of ventilator-associated pneumonia: Role of the respiratory therapist	Respiratory Care Department Massachusetts General Hospital Boston, MA
2005-2010	Core Lecture Series; Mechanical ventilation strategies	Respiratory Acute Care Unit Massachusetts General Hospital Boston, MA
2008	Should we use an esophageal balloon to set PEEP?	Respiratory Care Department Massachusetts General Hospital Boston, MA
2009	Should saline instillation be part of VAP prevention?	Respiratory Care Department Massachusetts General Hospital Boston, MA
2010	Meta-analysis: Higher versus lower PEEP for ALI/ARDS	Respiratory Care Department Massachusetts General Hospital Boston, MA
2011	Noninvasive ventilation update	Respiratory Care Department Massachusetts General Hospital Boston, MA
2011	Respiratory care of the patient with neuromuscular disease	Respiratory Care Department Massachusetts General Hospital Boston, MA
2012	High-flow oxygen therapy	Respiratory Care Department Massachusetts General Hospital Boston, MA

2012	Ventilator-associated events	Respiratory Care Department Massachusetts General Hospital Boston, MA
2014	Esophageal manometry	Respiratory Care Department Massachusetts General Hospital Boston, MA
2014	Esophageal manometry	Anesthesia and Critical Care Staff/Residents/Fellows Massachusetts General Hospital Boston, MA
2013-2014	Anatomy of the ventilator	Neurology Critical Care Fellows Massachusetts General Hospital Boston, MA
2015	Mechanical ventilation of the patient with obstructive lung disease	Respiratory Care Department Massachusetts General Hospital Boston, MA
2015	Heart-lung interactions	Respiratory Care Department Massachusetts General Hospital Boston, MA
2016	Respiratory Physiology: Ventilation	Respiratory Care Department Massachusetts General Hospital Boston, MA
2016	Respiratory Physiology: Diffusion	Respiratory Care Department Massachusetts General Hospital Boston, MA
2016	Respiratory Physiology: Blood Flow	Respiratory Care Department Massachusetts General Hospital Boston, MA
2017	Respiratory Physiology: Ventilation:Perfusion Relationships	Respiratory Care Department Massachusetts General Hospital Boston, MA
2017	Respiratory Physiology: Gas Transport	Respiratory Care Department Massachusetts General Hospital Boston, MA
2017	Respiratory Physiology: Respiratory Mechanics	Respiratory Care Department Massachusetts General Hospital

		Boston, MA
2017	Respiratory Physiology: Control of Breathing	Respiratory Care Department Massachusetts General Hospital Boston, MA
2018	Respiratory Physiology: Blood Flow	Respiratory Care Department Massachusetts General Hospital Boston, MA
2018	Respiratory Physiology: Ventilation:Perfusion Relationships	Respiratory Care Department Massachusetts General Hospital Boston, MA
2018	Respiratory Physiology: Gas Transport	Respiratory Care Department Massachusetts General Hospital Boston, MA
2018	Respiratory Physiology: Respiratory Mechanics	Respiratory Care Department Massachusetts General Hospital Boston, MA
2018	Respiratory Physiology: Control of Breathing	Respiratory Care Department Massachusetts General Hospital Boston, MA
2019	Inhaled Drugs, Part 1	Respiratory Care Department Massachusetts General Hospital Boston, MA
2019	Inhaled Drugs, Part 2	Respiratory Care Department Massachusetts General Hospital Boston, MA
2019	Inhaled Drugs, Part 3	Respiratory Care Department Massachusetts General Hospital Boston, MA
2019	Inhaled Drugs, Wrap-Up	Respiratory Care Department Massachusetts General Hospital Boston, MA
2020	Mechanical Ventilation of the Patient with COPD	Respiratory Care Department Massachusetts General Hospital Boston, MA
2020	High Flow Nasal Cannula	Respiratory Care Department Massachusetts General Hospital Boston, MA

2021	Arterial Blood Gas Surrogates	Respiratory Care Department Massachusetts General Hospital Boston, MA
2021	Evaluation of Respiratory Mechanics and Waveforms during Mechanical Ventilation	Respiratory Care Department Massachusetts General Hospital Boston, MA

### Local Invited Presentations

1994	Delivery of aerosolized bronchodilators during mechanical ventilation / First Edward Farrell Memorial Lecture Children's Hospital, Boston, MA
1996	Waveforms and mechanics during mechanical ventilation / Lecture Options for humidification and drug delivery / Lecture Harvard Medical School, Cambridge, MA Management Issues in Respiratory and Critical Care
1997	Noninvasive positive pressure ventilation / Pulmonary Grand Rounds Massachusetts General Hospital, Boston, MA
1997	Mechanical ventilation of the asthmatic patient / Lecture Options for humidification and drug delivery / Lecture Harvard Medical School, Cambridge, MA Management Issues in Respiratory and Critical Care
1998	Waveforms and mechanics during mechanical ventilation / Lecture Mechanical ventilation of the patient with asthma / Lecture Techniques to deliver inhaled nitric oxide / Lecture Harvard Medical School, Cambridge, MA Management Issues in Respiratory and Critical Care
1999	Graphics and mechanics during mechanical ventilation / Lecture Open lung approach – pro / Debate Basic lung mechanics / Lecture Nitric oxide delivery systems / Lecture Harvard Medical School, Cambridge, MA Management Issues in Respiratory and Critical Care
2000	Basic mechanical ventilation for the primary care provider / Workshop Lung protective strategies are protective - pro / Debate Inhaled nitric oxide / Lecture Noninvasive positive pressure ventilation / Lecture Harvard Medical School, Cambridge, MA Management Issues in Respiratory and Critical Care

- 2000 New strategies for mechanical ventilation of the patient with acute respiratory failure /  
Lecture  
Harvard Pulmonary Medicine Postgraduate Course  
Boston, MA
- 2000 Heliox and noninvasive ventilation / Lecture  
Pulmonary and Critical Care Medicine Research Conference, Massachusetts General  
Hospital, Boston, MA.
- 2000 Noninvasive positive pressure ventilation / Emergency Medicine Resident Lecture  
Emergency Medicine Department, Massachusetts General Hospital, Boston, MA.
- 2000 Blood gases and acid-base balance / Lecture  
Spaulding Rehabilitation Hospital, Boston, MA
- 2000 Noninvasive positive pressure ventilation / Lecture  
Spaulding Rehabilitation Hospital, Boston, MA
- 2001 Mechanical ventilation / Lecture  
ARDS management / Lecture  
Advances in Mechanical Ventilation – What’s Worth Keeping? / Lecture  
Harvard Medical School, Cambridge, MA  
Management Issues in Respiratory and Critical Care
- 2001 Nursing care of the respiratory compromised patient with a focus on the mechanical  
ventilated and tracheostomized patient: Diseases requiring mechanical ventilation / Lecture  
Massachusetts General Hospital, Boston, MA
- 2001-2007 Advances in mechanical ventilation – What’s worth keeping? / Lecture  
Harvard Pulmonary Medicine Postgraduate Course  
Boston, MA
- 2001-2011 Mechanical ventilation / Lecture  
Pulmonary and Critical Care Medicine, Massachusetts General Hospital, Boston, MA
- 2002 Advances in Mechanical Ventilation – What’s Worth Keeping / Lecture  
Interactive Case Presentation / Lecture  
Harvard Medical School, Cambridge, MA  
Management Issues in Respiratory and Critical Care
- 2002 New modes of mechanical ventilation / Lecture  
Anesthesia and Critical Care Grand Rounds  
Massachusetts General Hospital, Boston, MA
- 2002 Nursing care of the respiratory compromised patient: Diseases requiring mechanical  
ventilation; Blood gas interpretation / Lecture  
Massachusetts General Hospital, Boston, MA



- 2003      Monitoring lung mechanics in the mechanically ventilated patient / Grand Rounds  
Anesthesia and Critical Care Medicine  
Massachusetts General Hospital, Boston, MA
- 2003      Inhalers and inhalation aids / Lecture  
Partners Asthma Center, Boston, MA.
- 2005      Ventilator-associated pneumonia / Lecture  
Prone positioning for ARDS / Lecture  
Anesthesia and Critical Care,  
Massachusetts General Hospital, Boston, MA.
- 2005      Noninvasive positive pressure ventilation / Lecture  
Partners International Telemedicine Program, King Edward VII Memorial Hospital  
Teleconference from Boston, MA, to Hamilton, Bermuda
- 2005      Discontinuation of mechanical ventilation / Lecture  
The Brain and beyond: Creative initiatives in the care of individuals with neurological  
disease  
Massachusetts General Hospital, Boston, MA.
- 2005      Inhalers and inhalation aids/ Lecture  
Home oxygen therapy for the COPD patient / Lecture  
Partners Asthma Center, Boston, MA.
- 2005      Mechanical ventilation of the patient with spinal cord injury / Lecture  
Spaulding Rehabilitation Hospital, Boston, MA.
- 2006      Drug Delivery and devices / Lecture  
Partners Asthma Center, Boston, MA.
- 2006      Gadgets and gizmos for aerosol delivery / Lecture  
Partners Asthma Center, Boston, MA.
- 2006      Management of the spinal cord injured patient who has a tracheostomy / Lecture  
Spaulding Rehabilitation Hospital, Boston, MA.
- 2006      Discontinuing mechanical ventilation – by protocol? / Lecture  
Harvard Critical Care and Trauma Symposium, Boston, MA.
- 2007      Mechanical ventilation of the patient with asthma / Asthma Grand Rounds  
Brigham and Women's Hospital, Boston, MA.
- 2008      Mechanical Ventilation: Primum non nocere / Grand Rounds  
Anesthesia and Critical Care  
Massachusetts General Hospital, Boston, MA.
- 2008      Noninvasive positive pressure ventilation; Ancillary therapies for ARDS / Lecture

- Harvard Critical Care and Trauma Symposium, Boston, MA.
- 2008 Anatomy of the ventilator / Lecture  
Harvard Critical Care and Trauma Symposium, Boston, MA.
- 2008-2009 Mechanical Ventilation / Lecture  
Fundamental Critical Care Support Course  
Massachusetts General Hospital, Boston, MA.
- 2008-2009 Mechanical Ventilation *Primum non nocere* / Lecture  
Harvard Pulmonary Medicine Postgraduate Course  
Boston, MA
- 2009 Respiratory Management / Lecture  
MGH Limb Girdle Muscular Dystrophy Symposium, Boston, MA.
- 2009-2013 Aerosol Delivery Devices / Lecture  
MGH Pediatric Intensive Care Lecture Series, Boston, MA.
- 2010 Aerosol Delivery Devices / Pharmacy Grand Rounds  
Massachusetts General Hospital, Boston, MA
- 2010 New Ventilator Modes / Lecture  
BWH/Harvard CME Critical Care Board Review Studio Course.  
Boston, MA
- 2010 Weaning from Mechanical Ventilation / Lecture  
BWH/Harvard CME Critical Care Board Review Studio Course  
Boston, MA
- 2010, 2013 Monitoring the Patient on Mechanical Ventilation / Lecture  
BWH/Harvard CME Critical Care Board Review Studio Course  
Boston, MA
- 2010-2015 Advanced Ventilator Modes – What’s new and what’s worth keeping? / Lecture  
Harvard Pulmonary Medicine Postgraduate Course  
Boston, MA
- 2011 New Ventilator Modes / Pulmonary Grand Rounds  
Pulmonary and Critical Care Medicine  
Massachusetts General Hospital, Boston, MA
- 2013 Invasive and Noninvasive Ventilation / Lecture  
BWH/Harvard CME Critical Care Board Review Studio Course  
Boston, MA
- 2013 New Ventilator Modes / Lecture  
BWH/Harvard CME Critical Care Board Review Studio Course.

Boston, MA

- 2013 Ventilator Liberation / Lecture  
BWH/Harvard CME Critical Care Board Review Studio Course.  
Boston, MA
- 2014 Moving from Reaction to Prediction: Leveraging High Speed Data Recording and  
Advanced Computational Tools for Prediction of Sedation-Related Adverse Events in  
Children / Discussant  
Radcliffe Institute for Advanced Study  
Harvard University, Cambridge, MA
- 2016 High-flow oxygen therapy: How does it work? When should it be used? / Lecture  
Harvard Pulmonary Medicine Postgraduate Course  
Boston, MA
- 2017 Noninvasive respiratory support / Lecture  
Harvard Pulmonary Medicine Postgraduate Course  
Boston, MA
- 2018 Noninvasive respiratory support / Lecture  
Harvard Pulmonary Medicine Postgraduate Course  
Boston, MA

### **Report of Regional, National and International Invited Teaching and Presentations**

#### **Invited Presentations and Courses**

##### **Regional**

- 1989 Weaning from mechanical ventilation / Lecture  
Dartmouth Medical Center, Lebanon, NH
- 1990 Noninvasive monitoring in respiratory care / Lecture  
Respiratory Care Research / Lecture  
Massachusetts Society for Respiratory Care, Sturbridge, MA
- 1993 Monitoring and graphical display / Lecture  
St. Vincent Hospital, Worcester, MA
- 1993 Waveforms and lung mechanics during mechanical ventilation / Lecture  
Danbury Hospital, Danbury, CT
- 1993 Waveforms and lung mechanics during mechanical ventilation / Lecture  
Dosage considerations during mechanical ventilation / Lecture  
Massachusetts Society for Respiratory Care, Sturbridge, MA
- 1994 Respiratory equipment and ventilator-associated pneumonia / Lecture  
St. Vincent Medical Center, Worcester, MA

- 1994      Respiratory care equipment and nosocomial pneumonia / Lecture  
Massachusetts Society for Respiratory Care, Sturbridge, MA
- 1995      Ventilator-induced lung injury / Lecture  
Massasoit Community College, Brockton, MA
- 1995      Waveforms and mechanics during mechanical ventilation / Lecture  
Dartmouth-Hitchcock Respiratory Critical Care Conference, Nashua, NH
- 1995      Respiratory care at the crossroads / Lecture  
Massachusetts Thoracic Society, Burlington, MA
- 1995      What does the future hold? / Graduation address for respiratory therapy students  
Massasoit Community College, Brockton, MA
- 1996      Noninvasive positive pressure ventilation / Critical Care Grand Rounds  
Saints Memorial Medical Center, Lowell, MA
- 1996      Waveforms and mechanics during mechanical ventilation / Lecture  
Rhode Island Society for Respiratory Care, Newport, RI
- 1996      Respiratory care at the crossroads / Lecture  
St. Vincent's Hospital Respiratory and Critical Care Review, Worcester, MA
- 1996      Mechanical ventilation and artificial airways / Lecture  
Braintree Rehabilitation Conference, Cambridge, MA
- 1997      Inhaled nitric oxide / Lecture  
Maine Society for Respiratory Care, Portland, ME
- 1998      Inhaled nitric oxide / Lecture  
Boston Medical Center, Boston, MA
- 1998      Choosing a ventilator for noninvasive ventilation / Lecture  
Brown University and Rhode Island Hospital, Newport, RI
- 1998      Mechanical ventilation of the patient with asthma / Lecture  
Respiratory care at the crossroads / Lecture  
Connecticut Society for Respiratory Care, Foxwoods, CT
- 1998      Mechanical ventilation / Lecture  
Society of Critical Care Medicine Critical Care Providers' course  
Beverly Hospital, Beverly, MA
- 1999      Indications for noninvasive ventilation / Lecture  
Rhode Island Hospital Noninvasive Ventilation Course, Newport, RI
- 1999      Respiratory equipment and ventilator-associated pneumonia / Lecture

- Maine Society for Respiratory Care, Rockland, ME
- 1999 Mechanical ventilation / Lecture  
Society of Critical Care Medicine Critical Care Providers' course  
Beverly Hospital, Beverly, MA
- 2000 Inhaled nitric oxide / Lecture  
Regional Respiratory Care Meeting, Springfield, MA
- 2000 Noninvasive positive pressure ventilation / Lecture  
Maine Society for Respiratory Care, Portland ME
- 2000 What's new in masks and ventilators for noninvasive ventilation? / Lecture  
Rhode Island Hospital Noninvasive Ventilation Program, Providence, RI
- 2000 Monitoring during mechanical ventilation / Lecture  
Graphics and mechanics during mechanical ventilation / Lecture  
Noninvasive positive pressure ventilation / Lecture  
Maine Medical Center, Portland, ME
- 2000 Update on aerosol delivery devices / Lecture  
Massachusetts Society for Respiratory Care, Sturbridge, MA
- 2001 BiPAP and other ventilatory aids / Lecture  
ALS Society of Massachusetts, Dedham, MA
- 2001 Mechanical ventilation of the patient with ARDS / Lecture  
Southcoast Hospital System, Dartmouth, MA
- 2001 Aerosol Delivery During Mechanical Ventilation / Lecture  
Lahey Clinic, Burlington, MA
- 2001 Weaning from mechanical ventilation / Medical Grand Rounds  
Worcester Medical Center, Worcester, MA
- 2002 Weaning from mechanical ventilation / Lecture  
Rhode Island Society for Respiratory, Care Newport, RI
- 2002 Aerosol delivery techniques / Lecture  
Massachusetts Thoracic Society, Burlington, MA
- 2002 Weaning from mechanical ventilation / Lecture  
Massachusetts Society for Respiratory Care, Sturbridge, MA
- 2002 Noninvasive positive pressure ventilation / Lecture  
Dartmouth-Hitchcock Medical Center, Lebanon, NH
- 2002 New ventilator modes – where and when do we use them? / Lecture  
Achieving Success with Noninvasive Ventilation / Lecture

- Tufts University School of Medicine, Braintree, MA
- 2003 Mechanical ventilation of the patient with acute lung injury / Lecture  
Union Hospital, Lynn, MA
- 2003 Monitoring lung mechanics during mechanical ventilation / Lecture  
Community College of Rhode Island, Lincoln, RI
- 2003 Monitoring during mechanical ventilation / Lecture  
Naugatuck Valley Community College, Waterbury, CT
- 2003 Ventilator management of ARDS / Lecture  
Quinnipiac University, Hamden, CT
- 2003 Weaning from mechanical ventilation / Lecture  
Northern Essex Community College, Lawrence, MA
- 2003 Topics in mechanical ventilation / Medicine/Surgery Grand Rounds  
North Shore Medical Center/Union Hospital, Lynn, MA
- 2003 Advances in mechanical ventilation: what's worth keeping? / Lecture  
Weaning from mechanical ventilation / Lecture  
Catholic Medical Center, Manchester, NH
- 2004 New ventilator modes / Lecture  
Rhode Island Community College, Lincoln, RI
- 2004 Evidence-based medicine / Lecture  
Northern Essex Community College, Lawrence, MA
- 2004 Evidence-based medicine / Lecture  
Naugatuck Valley Community College, Waterbury, CT
- 2004 What is evidence-based medicine and why should I care? / Lecture  
Champlain College, Burlington, VT
- 2004 New modes: Do they make a difference? / Lecture  
Patient-ventilator synchrony / Lecture  
Inhaled therapies: heliox, nitric oxide, and aerosols / Lecture  
Tufts New England Medical Center, Boston, MA
- 2005 Evaluating waveforms and lung mechanics in the mechanically ventilated patient / Lecture  
Manchester Community College, Manchester, CT
- 2005 Mechanical ventilation of the patient with ARDS / Lecture  
Northern Essex Community College, Lawrence, MA
- 2005 Mechanical ventilation of the patient with ARDS / Lecture

- Rhode Island Community College, Lincoln, RI
- 2005 Mechanical ventilation of the patient with ARDS / Lecture  
Naugatuck Valley Community College, Waterbury, CT
- 2005 Tracheostomy and facilitating speech in the patient with tracheostomy / Lecture  
Springfield Technical Community College / Springfield, MA
- 2005 Advances in mechanical ventilation / Lecture  
60<sup>th</sup> Annual Meeting of the Massachusetts Thoracic Society, Weston, MA
- 2005 What is evidence-based respiratory care and why should I care? / Lecture  
Maine Society for Respiratory Care, Boothbay ME
- 2005 Noninvasive positive pressure ventilation / Lecture  
Weaning from mechanical ventilation / Lecture  
Maine Society for Respiratory Care, Bangor, ME
- 2005 What is evidence-based respiratory care / Lecture  
COPD treatment and options for inhaled drug delivery / Lecture  
Vermont/New Hampshire Society for Respiratory Care, Waterville Valley, NH
- 2005 Lung mechanics and graphics during mechanical ventilation / Lecture  
Mechanical ventilation of the patient with obstructive lung disease / Lecture  
Weaning from mechanical ventilation / Lecture  
Tracheostomy tubes and facilitating speech in the patient with a tracheostomy / Lecture  
Maine Medical Center, Portland, ME
- 2005 What's new in masks and ventilators for noninvasive ventilation? / Lecture  
Tufts New England Medical Center, Newton, MA
- 2006 Noninvasive positive pressure ventilation / Lecture  
Community College of Rhode Island, Lincoln, RI
- 2006 Techniques for prevention of ventilator-associated pneumonia / Lecture  
Naugatuck Valley Community College, Waterbury, CT
- 2006 Weaning from mechanical ventilation / Lecture  
Springfield Technical Community College, Springfield, MA
- 2006 Evaluating waveforms and lung mechanics in the mechanically ventilated patient / Lecture  
Manchester Community College / Manchester, CT
- 2006 Weaning from mechanical ventilation / Lecture  
Northern Essex Community College, Lawrence, MA
- 2006 Weaning from mechanical ventilation; Tracheostomy tubes and facilitating speech in the patient with a tracheostomy / Lecture

- 3<sup>rd</sup> Annual Berkshire Trauma Symposium, Berkshire, MA
- 2006      What is evidence-based respiratory care? / Lecture  
Rhode Island Society for Respiratory Care, Newport, RI
- 2006      Use of prone ventilation / Lecture  
New noninvasive ventilation techniques / Lecture  
Open lung strategies for ARDS / Lecture  
What's new in masks, ventilators for NIV / Lecture  
Tufts University 8th Annual Conference in Mechanical Ventilation, Tufts, University,  
Quincy, MA
- 2006      The evidence for aerosol delivery techniques / Lecture  
Massachusetts Society for Respiratory Care, Sturbridge, MA
- 2006      Noninvasive ventilation – 2006 Update / Lecture  
Tracheostomy tubes and facilitating speech in the patient with a tracheostomy tube /  
Lecture  
Vermont/New Hampshire Society for Respiratory Care, Mt. Snow, VT
- 2007      Ventilator modes / Lecture  
ICU Consortium of Boston / Boston, MA
- 2007      Patient-ventilator dys-synchrony / Lecture  
Manchester Community College, Manchester, CT
- 2007      What is evidence-based respiratory care? / Lecture  
Community College of Rhode Island, Lincoln, RI
- 2007      Techniques for acute NIV – what's new? / Lecture  
NIV for ALI/ARDS (con) / Debate  
Interfaces and ventilator choices for acute NIV / Lecture  
9th Annual Conference in Mechanical Ventilation: New Trends. Tufts New England  
Medical Center, Newton, MA
- 2007      Respiratory care of the patient with ALS / Lecture  
New England Sinai Hospital, Stoughton, MA
- 2007      Evidence-based respiratory care / Lecture  
Naugatuck Valley Community College, Waterbury, CT
- 2007      Evidence-based respiratory care / Lecture  
Springfield Technical Community College, Springfield, MA
- 2007      Respiratory care of the patient with neuromuscular disease / Lecture  
Massachusetts Society for Respiratory Care, Sturbridge, MA
- 2007      Management of COPD exacerbation / Lecture



- Northern Essex Community College / Lawrence, MA
- 2008 Patient-ventilator dys-synchrony / Lecture  
Manchester Community College, Manchester, CT
- 2008 Mechanical ventilation: State of the art / Lecture  
The art of respiratory care / Lecture  
What's new in noninvasive ventilation? / Lecture  
Tufts University Mechanical Ventilation Course, Newton, MA
- 2008 Mechanical Ventilation: Primum non nocere / Lecture  
Northern Essex Community College / Lawrence, MA
- 2008 Techniques to avoid intubation / Lecture  
The Council of Pulmonary Service Managers of Western Massachusetts, Springfield, MA
- 2009 Patient-ventilator dys-synchrony / Lecture  
Manchester Community College, Manchester, CT
- 2009 State of the art of mechanical ventilation / Lecture  
Springfield Technical Community College, Springfield, MA
- 2009 Advances in mechanical ventilation. First do no harm / Lecture  
Massachusetts Society for Respiratory Care, Sturbridge, MA
- 2010 Advances in mechanical ventilation / Lecture  
Lahey Clinic, Burlington, MA
- 2010 Noninvasive ventilation: 2010 Update / Grand Rounds  
New England Sinai Hospital, Stoughton, MA
- 2010 I know I should do that ... but the evidence gets in the way / Lecture  
Massachusetts Society for Respiratory Care, Sturbridge, MA
- 2010 Using teamwork to improved respiratory care / Lecture  
New England Sinai Hospital Better Breathers IX, Norwood, MA
- 2011 Patient-ventilator dys-synchrony / Lecture  
Manchester Community College, Manchester, CT
- 2912 Evaluation of respiratory mechanics during mechanical ventilation/Lecture  
New England Sinai Hospital, Stoughton, MA
- 2012 Mechanical ventilation of the patient with obstructive lung disease / Lecture  
Manchester Community College, Manchester, CT
- 2012 Liberation from mechanical ventilation / Lecture  
Massachusetts Society for Respiratory Care, Sturbridge, MA

- 2012 Invasive and noninvasive ventilation for the patient with neuromuscular disease / Lecture  
Spaulding Hospital, Cambridge, MA
- 2013 Mechanical ventilation of the patient with obstructive lung disease / Lecture  
Manchester Community College, Manchester, CT
- 2013 Five things I learned about mechanical ventilation in the past 40 years / Lecture  
Massachusetts Society for Respiratory Care, Sturbridge, MA
- 2014 What is evidence-based respiratory care? / Lecture  
Massachusetts Society for Respiratory Care, Sturbridge, MA
- 2015 Mechanical ventilation of the patient with obstructive lung disease / Lecture  
Manchester Community College, Manchester, CT
- 2015 Respiratory Care at 65 / Lecture  
Massachusetts Society for Respiratory Care, Sturbridge, MA
- 2016 Mechanical ventilation of the patient with obstructive lung disease / Lecture  
Manchester Community College, Manchester, CT
- 2016 A physiologic approach to identify and treat flow and mode asynchrony / Lecture  
Challenges in Mechanical Ventilation and Airway Technologies  
Massachusetts General Hospital and Harvard Medical School  
Boston, MA
- 2016 Five Things I Learned about Mechanical Ventilation in the Past 40 Years / Lecture  
Tufts Medical Center, Boston, MA
- 2017 Mechanical Ventilation 2017 - State of the Art / Lecture  
Initiating NIV and High Flow Nasal O<sub>2</sub> / Workshop  
The 2017 Debate: NIV for Hypoxemic Respiratory Failure - Is It Dead? / Debate  
Trends in Mechanical Ventilation 2017; Tufts Medical Center, Waltham, MA
- 2017 Technical/Application Issues with the Use of NIV / Lecture  
Tracheostomy Tube Management / Lecture  
Challenges in Mechanical Ventilation and Airway Technologies  
Massachusetts General Hospital and Harvard Medical School  
Boston, MA
- 2017 Noninvasive Respiratory Support / Lecture  
The Council of Pulmonary Service Managers  
Holyoke, MA
- 2018 NIV vs. HFNC vs. early intubation in respiratory failure / Debate  
Oxygen – high or low supplementation / Debate  
Acute Respiratory Failure and Mechanical Ventilation  
Massachusetts General Hospital

Boston, MA

- 2018      When Less is More / Lecture  
Massachusetts Society for Respiratory Care  
Tauton, MA
- 2018      Mechanical Ventilation for Severe Asthma and COPD / Lecture  
Tufts University Medical Center  
Boston, MA
- 2020      Lung Protective Ventilation: Volume, Pressure, Neither, or Both?  
Mechanical Ventilation for Severe Asthma / Lecture  
Tufts University Medical Center  
Boston, MA
- National**
- 1986      Noninvasive monitoring of oxygenation / Lecture  
Ohio Society for Respiratory Care, Columbus, OH
- 1987      Emergency ventilation techniques / Lecture  
Washington Society for Respiratory Care, Spokane, WA
- 1987      Goal-oriented respiratory care / Lecture  
St. Vincent's Charity Hospital, Cleveland, OH
- 1988      Respiratory care research / Lecture  
Pennsylvania Society for Respiratory Care, Philadelphia, PA
- 1988      Noninvasive monitoring of oxygenation / Lecture  
Weaning from mechanical ventilation / Lecture  
New Jersey Society for Respiratory Care, Atlantic City, NJ
- 1988      History of pulmonary function testing / Lecture  
Respiratory Care Journal Conference, St. Petersburg, FL
- 1989      Capnography / Lecture  
St. Vincent's Charity Hospital, Cleveland, OH
- 1989      Weaning from mechanical ventilation / Lecture  
Baptist Medical Center, Memphis, TN
- 1989      Pulse oximetry and capnography / Visiting Professor  
Cleveland Clinic, Cleveland OH
- 1990      Ten commandments for the care of the patient with COPD / Lecture  
Aerosol delivery techniques / Lecture

- Annenberg Center Satellite Conference, Palm Springs, CA
- 1990 Aerosol delivery to mechanically ventilated patients / Lecture  
Annenberg Center Respiratory Care Conference, Palm Springs, CA
- 1990 Aerosol delivery to mechanically ventilated patients / Lecture  
Kansas Society for Respiratory Care / Kansas City, KS
- 1990 Noninvasive monitoring in respiratory care / Lecture  
The NBRC examinations / Lecture  
Maryland/DC Society for Respiratory Care / Ocean City, MD
- 1990 Noninvasive monitoring in respiratory care / Visiting Professor  
Mayo Clinic, Rochester, MN
- 1991 Aerosol therapy delivery techniques / Lecture  
Noninvasive monitoring in respiratory care / Lecture  
Michigan Society for Respiratory Care, Grand Rapids, MI
- 1991 Aerosol therapy during mechanical ventilation / Lecture  
Region II Respiratory Care meeting, Cincinnati, OH
- 1991 Respiratory care research / Lecture  
Maryland/DC Society for Respiratory Care, Ocean City, MD
- 1991 Aerosol therapy delivery techniques / Lecture  
Noninvasive monitoring in respiratory care / Lecture  
Michigan Society for Respiratory Care, Grand Rapids, MI
- 1991 Aerosol therapy during mechanical ventilation / Lecture  
Region II Respiratory Care Meeting, Cincinnati, OH
- 1991 Aerosol therapy delivery techniques / Lecture  
Noninvasive monitoring in respiratory care / Lecture  
Washington Society for Respiratory Care, Tacoma, WA
- 1991 Aerosol therapy delivery techniques / Lecture  
Noninvasive monitoring in respiratory care / Lecture  
Washington Society for Respiratory Care, Tacoma, WA
- 1991 Respiratory care research / Lecture  
Maryland/DC Society for Respiratory Care, Ocean City, MD
- 1991 Noninvasive monitoring in respiratory care / Lecture  
Hospital for Sick Children, Washington, DC
- 1992 Aerosol delivery techniques / Lecture  
Noninvasive ventilation in acute respiratory failure / Lecture

Washington Thoracic Society, Seattle, WA

- 1992 Monitoring respiratory mechanics during mechanical ventilation / Lecture  
Kaiser Medical Center, Los Angeles, CA
- 1992 Aerosol delivery during mechanical ventilation / Lecture  
Monitoring during resuscitation / Lecture  
Pennsylvania Society for Respiratory Care, Seven Springs, PA
- 1992 Respiratory care research / Workshop  
Michigan Society for Respiratory Care, Lansing, MI
- 1992 Quality control and quality assurance of blood gas analysis - what is the difference /  
Lecture  
Data management / Benchmark Lecture Series / Lecture  
Denver, CO (Instrumentation Laboratories)
- 1992 Quality control and quality assurance of blood gas analysis - what is the difference /  
Lecture  
Data management / Benchmark Lecture Series / Lecture  
Denver, CO, Columbia, MD (Instrumentation Laboratories)
- 1992 Quality control and quality assurance of blood gas analysis - what is the difference /  
Lecture  
Data management / Lecture  
Benchmark Lecture Series, Charlotte, NC (Instrumentation Laboratories)
- 1992 Aerosol delivery of ribavirin and pentamidine - Current issues and controversies / Lecture  
Update on bronchodilator aerosols in respiratory care / Lecture  
Texas Society for Respiratory Care, San Antonio, TX
- 1992 NBRC Agency Update; Blueprint for success on the Clinical Simulation Examination /  
Lecture  
American Association for Respiratory Care Summer Forum Naples, FL
- 1992 Clinical Practice Guidelines practice guidelines and therapist driven protocols / Lecture  
North Carolina Society for Respiratory Care, Atlantic Beach, NC
- 1992 Aerosol Administration / Lecture  
Professor's Rounds in Respiratory Care  
AARC/VHA Satellite Video Conference, Dallas TX
- 1992 Respiratory care - Looking towards the year 2000 / Lecture  
Non-invasive ventilation in acute respiratory failure / Lecture  
NBRC update / Lecture  
Hawaii Society for Respiratory Care, Honolulu, HI

- 1992      Quality control and quality assurance of blood gas analysis - what is the difference? /  
Lecture  
Data management / Lecture  
Benchmark Lecture Series, Honolulu, HI (Instrumentation Laboratories)
- 1992      Monitoring lung mechanics during mechanical ventilation / Lecture  
Clinical Practice Guidelines / Lecture  
Ohio Society for Respiratory Care, Columbus, OH
- 1992      Aerosol delivery technique / Lecture  
Monitoring lung mechanics during mechanical ventilation / Lecture  
Alfred A. DuPont Medical Center, Wilmington, DE
- 1992      Quality control and quality assurance of blood gas analysis - what is the difference? /  
Lecture  
Data management / Lecture  
Benchmark Lecture Series, Dallas, TX (Instrumentation Laboratories)
- 1993      Aerosol delivery techniques / Lecture  
Primedica satellite video series, Denver, CO
- 1993      Clinical Practice Guidelines practice guidelines / Lecture  
Evaluation of waveforms and lung mechanics during mechanical ventilation / Lecture  
Pennsylvania Society for Respiratory Care, Seven Springs, PA
- 1993      Quality control and quality assurance of blood gas analysis - what is the difference? /  
Lecture  
Data management / Lecture  
Benchmark Lecture Series, Miami, FL (Instrumentation Laboratories)
- 1993      Quality control and quality assurance of blood gas analysis - what is the difference? /  
Lecture  
Data management / Lecture  
Benchmark Lecture Series, Atlanta, GA (Instrumentation Laboratories)
- 1993      Research primer / Lecture  
Controversies in aerosol delivery techniques / Lecture  
North Dakota Society for Respiratory Care, Bismarck, ND
- 1993      Research for respiratory therapists / Lecture  
Pennsylvania Society for Respiratory Care, Philadelphia, PA
- 1993      Capnography / Lecture  
American Thoracic Society Meeting, San Francisco, CA
- 1993      Lung mechanics and waveforms during mechanical ventilation / Lecture  
St. Vincent's Charity Hospital, Cleveland, OH

- 1993 Objective evaluation of equipment / Lecture  
University of Texas Medical Branch, Galveston, TX
- 1993 NBRC Agency Update and Results of the 1992 NBRC job analysis / Lecture  
AARC Summer Forum, Vail, CO
- 1993 Waveforms and lung mechanics during mechanical ventilation / Lecture  
Primedica satellite video series, Denver, CO
- 1993 Clinical Practice Guidelines / Lecture  
New York Society for Respiratory Care, Newburgh, NY
- 1993 Blood gas analysis – pre-analytical and postanalytical considerations / Lecture  
OSHA requirements regarding bloodborne pathogens / Lecture  
Instrumentation Laboratories Benchmark Series, Minneapolis, MN
- 1993 Blood gas analysis - preanalytical and postanalytical considerations / Lecture  
OSHA requirements regarding bloodborne pathogens / Lecture  
Instrumentation Laboratories Benchmark Series, Indianapolis, IN
- 1993 Clinical Practice Guidelines practice guidelines / Lecture  
Kentucky Society for Respiratory Care, Lexington, KY
- 1993 Waveforms and lung mechanics during mechanical ventilation / Lecture  
American Lung Association, Syracuse, NY
- 1993 Clinical Practice Guidelines / Lecture  
New Jersey Society for Respiratory Care, Atlantic City, NJ
- 1993 Aerosol delivery during mechanical ventilation / Lecture  
The future of respiratory care / Lecture  
NBRC update / Lecture  
Conducting the literature search as part of the research process / Lecture  
Novel methods for aerosol drug delivery / Lecture  
Capnography / Lecture  
American Association for Respiratory Care Congress, Nashville, TN
- 1994 Noninvasive monitoring in respiratory care / Lecture  
Carolinas Medical Center, Charlotte, NC
- 1994 Noninvasive respiratory monitoring / Lecture  
International Healthcare Satellite Series, Denver, CO
- 1994 Invasive respiratory monitoring / Lecture  
International Healthcare Satellite Series, Denver, CO
- 1994 Novel approaches to therapeutic aerosol administration / Lecture  
Region II Respiratory Care Meeting, Cincinnati, OH

- 1994 Respiratory equipment and ventilator-associated pneumonia and respiratory care research /  
Lecture  
Virginia Society for Respiratory Care, Virginia Beach, VA
- 1994 Aerosol delivery during mechanical ventilation / Lecture  
St. Vincent's Charity Hospital, Cleveland, OH
- 1994 Respiratory care research / Lecture  
Inhaled nitric oxide / Lecture  
Update on NBRC matrix / Lecture  
Texas Society for Respiratory Care, Corpus Christi, TX
- 1994 Waveforms and mechanics during mechanical ventilation / Lecture  
ARDS / Lecture  
Maryland/DC Society for Respiratory Care, Ocean City, NJ
- 1994 Techniques of aerosolized drug administration / Lecture  
Inhaled nitric oxide / Lecture  
St. Mary's Hospital Respiratory Care Conference, West Palm Beach, FL
- 1994 Inhaled nitric oxide / Lecture  
Waveforms and mechanics during mechanical ventilation / Lecture  
Ohio Society for Respiratory Care, Columbus, OH
- 1994 Five things I learned this year about respiratory diagnosis and monitoring / Lecture  
Management of bronchospasm in intubated patients / Lecture  
Monitoring the ventilator / Lecture  
American Association for Respiratory Care Congress, Las Vegas, NV
- 1995 Waveforms and mechanics during mechanical ventilation / Lecture  
Ventilator-induced lung injury / Lecture  
Oregon Society for Respiratory Care, Eugene, OR
- 1995 Inhaled nitric oxide / Lecture  
Ventilator-induced lung injury / Lecture  
Region II Respiratory Care Meeting, Cincinnati, OH
- 1995 Inhaled nitric oxide / Lecture  
Ventilator-induced lung injury / Lecture  
Miami Valley Hospital Trauma Program, Dayton, OH
- 1995 Five things I learned in the last year about respiratory monitoring and diagnosis / Lecture  
St. Vincent's Charity Hospital, Cleveland, OH
- 1995 Waveforms and mechanics during mechanical ventilation / Lecture  
Aerosol delivery during mechanical ventilation / Lecture  
Ventilator circuit changes and ventilator-associated pneumonia / Lecture



- California Society for Respiratory Care, San Diego, CA
- 1995 Waveforms and mechanics during mechanical ventilation / Lecture  
Inhaled Nitric Oxide / Lecture  
Forsyth Memorial Hospital, Winston-Salem, NC
- 1995 Waveforms and mechanics during mechanical ventilation / Lecture  
Kentucky Society for Respiratory Care, Louisville, KY
- 1995 Waveforms and mechanics during mechanical ventilation / Lecture  
How to survive restructuring / Lecture  
Northern California Neonatal/Pediatric Network, Lafayette, CA
- 1995 Respiratory care at the crossroads: Evolution or extinction / Lecture  
AARC Clinical Practice Guidelines / Lecture  
Respiratory monitoring in the ICU / Lecture  
What is a null hypothesis, what is a P value? / Lecture  
American Association for Respiratory Care, Orlando, FL
- 1996 The role of the respiratory therapist in research / Lecture  
Pennsylvania Society for Respiratory Care, Philadelphia, PA
- 1996 How to set the ventilator / Lecture  
AARC video conference series, Dallas, TX
- 1996 Respiratory care at the crossroads / Lecture  
Prevention of ventilator-induced lung injury / Lecture  
North Carolina Society for Respiratory Care, New Bern, NC
- 1996 Therapist-driven protocols and clinical practice guidelines / Lecture  
South Miami Hospital, Miami, FL
- 1996 Respiratory care at the crossroads / Lecture  
Aerosol delivery during mechanical ventilation / Lecture  
Inhaled nitric oxide for ARDS / Lecture  
Napa Valley Respiratory Care Conference, Napa, CA
- 1996 Success rates and predictors of success for noninvasive ventilation / Lecture  
ARCF Consensus Conference on Noninvasive Mechanical Ventilation, Vail, CO
- 1996 Inhaled nitric oxide / Lecture  
Prevention of ventilator-induced lung injury / Lecture  
Evaluation of waveforms and mechanics during mechanical ventilation / Lecture  
York Hospital, York, PA
- 1996 Inhaled nitric oxide / Lecture  
Holy Spirit Hospital, Camp Hill, PA

- 1996      Inhaled nitric oxide / Lecture  
Fairfax Medical Center, Fairfax, VA
- 1996      Respiratory care at the crossroads / Lecture  
Prevention of ventilator-induced lung injury / Lecture  
Illinois Society for Respiratory Care, Finley, IL
- 1996      How to know which ventilator to purchase / Lecture  
Clinical Practice Guidelines / Lecture  
Conference for medical directors of respiratory care, San Diego, CA
- 1996      ATS guidelines for in-patient management of COPD / Lecture  
How to measure outcomes / Lecture  
Research ethics / Lecture  
Inhaled nitric oxide / Lecture  
Annual convention of the American Association for Respiratory Care, San Diego, CA
- 1997      Prevention of ventilator-associated lung injury / Lecture  
Buffalo General Hospital Mechanical Ventilation course, Buffalo, NY
- 1997      Prevention of ventilator-associated lung injury / Lecture  
Noninvasive positive pressure ventilation / Lecture  
Prone position and inhaled nitric oxide / Lecture  
Pressure controlled ventilation / Lecture  
Nassau County Medical Center, East Meadow, NY
- 1997      Use of waveforms during mechanical ventilation / Lecture  
American Thoracic Society, San Francisco, CA
- 1997      Inhaled nitric oxide / Lecture  
University of Rochester/Strong Memorial Hospital, Rochester, NY
- 1997      Aerosol delivery techniques / Lecture  
NCS Healthcare, Mansfield, OH
- 1997      Full ventilatory support of alveolar ventilation / Lecture  
Noninvasive positive pressure Ventilation / Lecture  
ACCP Mechanical Ventilation Course, San Diego, CA
- 1997      Respiratory care at the crossroads -- evolution of extinction? / Lecture  
Noninvasive monitoring in adult respiratory care / Lecture  
California Society for Respiratory Care, Monterey, CA
- 1997      Inhaled nitric oxide: Issues and answers / Lecture  
AARC videoconference, Dallas, TX
- 1997      Inhaled nitric oxide / Lecture  
Downstate Medical Center/Brooklyn VA Hospital, Brooklyn, NY

- 1997      Aerosol delivery and Inhaled nitric oxide / Lecture  
Mercy Hospital Regional Respiratory Care Meeting, Sacramento, CA
- 1997      Inhaled nitric oxide / Lecture  
Mayo Clinic Foundation, Distinguished Didier Lecture, Rochester, MN
- 1997      Noninvasive positive pressure ventilation for acute respiratory failure / Lecture  
Akron General Hospital, Akron, OH
- 1997      Use of waveforms during mechanical ventilation / Lecture  
American College of Chest Physicians, New Orleans, LA
- 1997      Mechanical ventilation of the asthmatic patient / Lecture  
Central New York Lung Association, Syracuse, NY
- 1998      Inhaled nitric oxide / Lecture  
Johns Hopkins University, Baltimore, MD
- 1998      Respiratory care at the crossroads / Lecture  
Noninvasive positive pressure ventilation / Lecture  
Pennsylvania Society for Respiratory Care, Seven Springs, PA
- 1998      Ventilator-associated lung injury / Lecture  
Fairview Hospital, Cleveland, OH
- 1998      Inhaled nitric oxide and noninvasive positive pressure ventilation / Lecture  
Ohio State University, Columbus, OH
- 1998      Inhaled nitric oxide / Lecture  
Ventilator-associated lung injury / Lecture  
Michigan Society for Respiratory Care, Lansing, MI
- 1998      Initiation of noninvasive ventilation and monitoring the effect / Lecture  
American Thoracic Society post-graduate course, Chicago, IL
- 1998      Ventilator-associated lung injury / Lecture  
Noninvasive ventilation for acute respiratory failure / Lecture  
Oklahoma Lung Association, Oklahoma City, OK
- 1998      Nuts and bolts of noninvasive ventilation / Lecture  
Mayo Clinic Foundation Critical Care Course, Rochester, MN
- 1998      Noninvasive positive pressure ventilation / Lecture  
American College of Chest Physicians Mechanical Ventilation course, Baltimore, MD
- 1998      Monitoring during mechanical ventilation / Lecture  
Inhaled nitric oxide / Lecture

- Guidelines and protocols for mechanical ventilation / Lecture  
University of Minnesota Mechanical Ventilation Course, Minneapolis, MN
- 1998 Weaning from mechanical ventilation / Lecture  
Noninvasive positive pressure ventilation / Lecture  
Mercy Hospital Respiratory Care Conference, Sacramento, CA
- 1998 Weaning from mechanical ventilation / Lecture  
American Association for Respiratory Care Satellite Conference, Dallas, TX
- 1998 Noninvasive positive pressure ventilation / Lecture  
University of Michigan Medical Center, Ann Arbor, MI
- 1998 Graphics and mechanics during mechanical ventilation / Lecture  
Noninvasive positive pressure ventilation / Lecture  
Ventilator testing / Lecture  
Weaning from mechanical ventilation / Lecture  
Future uses for inhaled nitric oxide / Lecture  
Protocols for weaning from mechanical ventilation / Lecture  
Nosocomial pneumonia and respiratory equipment / Lecture  
American Association for Respiratory Care International Congress, Atlanta, GA
- 1999 Noninvasive positive pressure ventilation / Lecture  
Pennsylvania Society for Respiratory Care, Seven Springs, PA
- 1999 Critique of noninvasive ventilators for use in the home / Lecture  
Practical aspects of NPPV in the ICU / Lecture  
Practical aspects of initiation of NPPV / Lecture  
Is NPPV applicable to patients with ARDS? / Lecture  
Airway management in the ICU / Lecture  
World Congress on Noninvasive Ventilation, Orlando, FL
- 1999 Ventilators and their management / Lecture  
AARC Satellite Conference, Dallas, TX
- 1999 Selecting a mode. Choosing the correct equipment for noninvasive ventilation / Lecture  
American Thoracic Society Postgraduate Course, San Diego, CA
- 1999 Mechanical ventilation for parenchymal lung disease / Lecture  
Noninvasive positive pressure ventilation / Lecture  
Noninvasive ventilation workshop / Lecture  
American College of Chest Physicians Mechanical Ventilation Course, Phoenix, AZ
- 1999 Techniques to improve oxygenation / Lecture  
Weaning from mechanical ventilation / Lecture  
Illinois Society for Respiratory Care, Chicago, IL
- 1999 Respiratory equipment and nosocomial pneumonia / Lecture

- Heliox and inhaled nitric oxide / Lecture  
California Society for Respiratory Care, Ventura, CA
- 1999 Noninvasive positive pressure ventilation and prone positioning / Lecture  
Mercy St. John Medical Center, St. Louis, MO
- 1999 Monitoring during mechanical ventilation / Lecture  
Inhaled nitric oxide / Lecture  
University of Minnesota Mechanical Ventilation course, Minneapolis, MN
- 1999 New modes of mechanical ventilation and weaning from mechanical ventilation /  
Lecture  
Indiana Society for Respiratory Care, Indianapolis, IN
- 1999 Mechanical ventilation of the patient with COPD and exotic gas therapy – heliox and  
inhaled nitric oxide / Lecture  
Mercy Hospital/California Society for Respiratory Care, Sacramento, CA
- 1999 New modes of mechanical ventilation / Lecture  
York Hospital, York, PA
- 1999 Weaning from mechanical ventilation / Lecture  
Pressure controlled ventilation / Lecture  
Holy Spirit Hospital, Camp Hill, PA
- 1999 Inhaled nitric oxide – background / Lecture  
Inhaled nitric oxide delivery systems / Lecture  
How to conduct an in-service / Lecture  
INO Therapeutics Inhaled Nitric Oxide Program, Dallas, TX
- 2000 Noninvasive positive pressure ventilation / Lecture  
Multidisciplinary case presentation / Lecture  
Society of Critical Care Medicine, Orlando, FL
- 2000 Inhaled nitric oxide – background / Lecture  
Inhaled nitric oxide delivery systems / Lecture  
Evidence for use of inhaled nitric oxide / Lecture  
How to conduct an in-service / Lecture  
INO Therapeutics Inhaled Nitric Oxide Program, Orlando, FL
- 2000 Mechanical ventilation precourse workshop / Lecture  
Monitoring during mechanical ventilation / Lecture  
Noninvasive positive pressure ventilation / Lecture  
Approaches to respiratory care under managed care / Lecture  
The future of respiratory care / Lecture  
University of Southern California Critical Care Symposium, Las Vegas, NV

- 2000 Tracheal gas insufflation and related techniques to introduce gas flow into the trachea /  
Lecture  
Respiratory Care Journal Conference on Tracheal Gas Insufflation, Dallas, TX
- 2000 Monitoring in respiratory care: What goes and what stays / Lecture  
AARC Satellite Conference, Dallas, TX
- 2000 Mechanical ventilation of the patient with asthma and aerosol drug delivery / Lecture  
St. John's Mercy Medical Center, Departments of Critical Care Medicine and  
Respiratory Care, St. Louis, MO
- 2000 Monitoring the patient with acute respiratory failure / Lecture  
Monitoring of mechanics/gas exchange / Lecture  
Mechanical ventilation: Principles and applications / Lecture  
University of Minnesota, Minneapolis, MN
- 2000 Ventilator-associated lung injury / Lecture  
Noninvasive positive pressure ventilation / Lecture  
Mechanical ventilation of the patient with obstructive lung disease / Lecture  
Inhaled nitric oxide for sickle cell disease / Lecture  
Monitoring oxygenation, Monitoring resistance and compliance / Lecture  
Proportional assist ventilation / Lecture  
Pro/Con - aerosol therapy is an occupational hazard for respiratory therapists / Lecture  
American Association for Respiratory Care International Convention, Cincinnati, OH
- 2000 Mechanical ventilation of the patient with parenchymal lung disease / Lecture  
Mechanical ventilation of the patient with obstructive lung disease / Lecture  
Noninvasive positive pressure ventilation / Lecture  
Oxygen therapy for sleep and exercise / Lecture  
Pro/con: Use of pressure-volume curves to set the ventilation / Lecture  
Pro/con: Use of active versus passive humidification during mechanical ventilation /  
Lecture  
Weaning from mechanical ventilation / Panel  
American College of Chest Physicians, San Francisco, CA
- 2000 Inhaled nitric oxide / Lecture  
Noninvasive positive pressure ventilation for acute respiratory failure / Lecture  
Northeast Pulmonary Teaching Conference, Ithaca, NY
- 2001 Pressure-volume curves and ARDS management / Lecture  
Nassau County Medical Center, Long Island, NY
- 2001 Mechanical ventilation / Lecture  
Noninvasive ventilation / Lecture  
Monitoring during mechanical ventilation / Lecture  
University of Southern California 39<sup>th</sup> Annual Symposium on Critical Care, Trauma,  
and Mechanical Ventilation, Las Vegas, NV

- 2001 Noninvasive positive pressure ventilation / Lecture  
AARC Satellite Conference, Dallas, TX
- 2001 Physiology of mechanical ventilation – Noninvasive ventilation and noninvasive ventilation – the role of nurses and respiratory therapists / Lecture  
American Thoracic Society, San Francisco, CA
- 2001 New concepts in aerosol delivery / Lecture  
Evaluation of graphics and mechanics during mechanical ventilation / Lecture  
California Society for Respiratory Care, Los Angeles, CA
- 2001 Aerosol medication delivery / Lecture  
Weaning from mechanical ventilation / Lecture  
Heliox therapy / Lecture  
Mercy/St. John Medical Center, St. Louis, MO
- 2001 Noninvasive positive pressure ventilation / Lecture  
Duke University Medical Center, Durham, NC
- 2001 Mechanical ventilation of the patient with COPD / Lecture  
Weaning from mechanical ventilation / Lecture  
North Carolina Society for Respiratory Care, Wilmington, NC
- 2001 Mechanical ventilation of the patient with ARDS / Lecture  
Minnesota Society for Respiratory Care, St. Cloud, MN
- 2001 Inhaled nitric oxide / Lecture  
St. Francis Medical Center, Tulsa, OK
- 2001 Noninvasive positive pressure ventilation / Lecture  
York Hospital Medical Grand Rounds, York, PA
- 2001 Ventilator-induced lung injury / Lecture  
Capital District of the Pennsylvania Society for Respiratory Care, York, PA
- 2001 Patient-ventilator dyssynchrony / Lecture  
Weaning from mechanical ventilation / Lecture  
Noninvasive positive pressure ventilation / Lecture  
Adjuncts for mechanical ventilation / Lecture  
ACCP Postgraduate course on mechanical ventilation (co-director), Philadelphia, PA
- 2001 Equipment for noninvasive ventilation in the home / Lecture  
Simon Rodbard Memorial Honor Lecture – Advances in mechanical ventilation: What’s worth keeping? / Lecture  
ACCP Annual Convention, Philadelphia, PA
- 2001 Monitoring during mechanical ventilation / Lecture  
Monitoring gas exchange / Lecture

University of Minnesota Mechanical Ventilation Course, Minneapolis, MN

- 2001 Inhaled nitric oxide / Lecture  
Medical City of Dallas, Dallas, TX
- 2002 New modes of mechanical ventilation / Lecture  
Washington University. Pulmonary and Critical Care Medicine Grand Rounds, St. Louis, MO
- 2002 Heliox therapy / Lecture  
Noninvasive positive pressure ventilation / Lecture  
Society for Critical Care Medicine, San Diego, CA
- 2002 Weaning from mechanical ventilation / Lecture  
Satellite Conference – Meet the Professor, Dallas, TX
- 2002 Evidence for secretion clearance techniques / Lecture  
Noninvasive positive pressure ventilation / Lecture  
INOVA Fairfax Medical Center, Fairfax, VA
- 2002 Evidence-based respiratory care / Lecture  
King’s Mountain Symposium, Bristol, TN
- 2002 Noninvasive positive pressure ventilation / Lecture  
Techniques to improve secretion clearance / Lecture  
American Thoracic Society, Atlanta, GA
- 2002 The role of respiratory equipment in the development of nosocomial pneumonia / Lecture  
Consensus Conference, ICU-Acquired Pneumonia, Chicago, IL
- 2002 Evidence-based respiratory care / Lecture  
Ohio Society for Respiratory Care, Cleveland, OH
- 2002 New modes and features of mechanical ventilation / Lecture  
Advances in mechanical ventilation – what’s worth keeping? / Lecture  
Evidence-based secretion clearance / Lecture  
St-John’s Mercy Medical Center, St. Louis, MO
- 2002 Weaning from mechanical ventilation / Lecture  
Maryland/DC Society for Respiratory Care, Ocean City, MD
- 2002 Noninvasive positive pressure ventilation / Lecture  
Advances in mechanical ventilation – what’s worth keeping? / Lecture  
Pulmonary and Critical Care Symposium, Sacramento, CA
- 2002 How to do an effective PowerPoint presentation / Lecture  
What is evidence-based respiratory care? / Lecture



- 20 years of progress in secretion clearance techniques / Discussion Section  
American Association for Respiratory Care International Congress, Tampa, FL
- 2002 Noninvasive positive pressure ventilation / Lecture  
Mechanical ventilation of the patient with obstructive lung disease / Lecture  
Pharmacological adjuncts to mechanical ventilation / Lecture  
American College of Chest Physicians, San Diego, CA
- 2002 Monitoring during mechanical ventilation / Lecture  
Monitoring gas exchange / Lecture  
Ventilator roundtable / Panel  
University of Minnesota Mechanical Ventilation Course, Minneapolis, MN
- 2003 Mechanical ventilation of the patient with acute lung injury / Lecture  
Weaning from mechanical ventilation / Lecture  
Oregon Society for Respiratory Care, Portland, OR
- 2003 Practical update on mechanical ventilation / Lecture  
Weaning from mechanical ventilation / Lecture  
Noninvasive positive pressure ventilation / Lecture  
New modes and features of mechanical ventilators / Lecture  
University of Southern California Critical Care, Trauma, and Emergency Medicine  
Symposium, Las Vegas, NV
- 2003 Weaning from mechanical ventilation / Lecture  
New modes and features of mechanical ventilators / Lecture  
Pinnacle Health Systems Pulmonary Care Symposium, Harrisburg, PA
- 2003 Advances in mechanical ventilation – what’s worth keeping? / Lecture  
Liberation for mechanical ventilation – weaning the patient or weaning old-fashioned ideas  
/ Lecture  
Michigan Society for Respiratory Care, Lansing, MI
- 2003 Evidence-based respiratory care – why should I care? / Lecture  
Advances in mechanical ventilation – what’s worth keeping? / Lecture  
Northeast Pulmonary Teaching Conference, Syracuse, NY
- 2003 Mechanical ventilation of the patient with ARDS / Lecture  
King’s Mountain Symposium, Bristol, TN
- 2003 Equipment needs for noninvasive ventilation / Lecture  
American Thoracic Society, Seattle, WA
- 2003 New ventilator modes – fact versus fantasy / Lecture  
Johns Hopkins University. Anesthesia Grand Round, Baltimore, MD
- 2003 Noninvasive positive pressure ventilation / Lecture  
Applications of exhaled carbon dioxide monitoring / Lecture

Minnesota Society for Respiratory Care, Mankato, MN

- 2003 New ventilator modes and features / Lecture  
West Virginia Society for Respiratory Care, Roanoke, WV
- 2003 Sedation and paralysis of the mechanically ventilated patient / Lecture  
AARC Satellite Conference, Dallas, TX
- 2003 View from the cockpit. Lessons learned from aviation to improve patient safety / Lecture  
Cerner Conference, Kansas City, MO
- 2003 Practical application of NPPV: Is new technology better? / Lecture  
Case-based use of ventilator graphics during mechanical ventilation / Lecture  
Evidence-based guidelines for selection of an aerosol delivery device / Lecture  
American College of Chest Physicians, Orlando, FL
- 2003 What is evidence-based medicine and why should I care? / Lecture  
The evidence for noninvasive positive pressure ventilation / Lecture  
Improving patient synchrony during noninvasive ventilation / Lecture  
How to conduct a retrospective study / Lecture  
The role of the respiratory therapist in prevention of ventilator-associated pneumonia /  
Lecture  
American Association for Respiratory Care Annual Convention, Las Vegas, NV
- 2004 Heliox and inhaled nitric oxide / Lecture  
American Association for Respiratory Care. Professor's Rounds, Dallas, TX
- 2004 Weaning from mechanical ventilation and protocols / Webcast presenter  
American Association for Respiratory Care. Dallas, TX.
- 2004 Techniques to avoid intubation and Invasive ventilation of the patient with COPD /  
Lecture  
Society of Critical Care Medicine, Orlando, FL
- 2004 Noninvasive positive pressure ventilation and aerosol delivery during mechanical  
ventilation / Lecture  
Oregon Thoracic Society, Redmond, OR
- 2004 Advances in mechanical ventilation – What's worth keeping? / Lecture  
Noninvasive positive pressure ventilation / Lecture  
The University of Texas Health Science Center at San Antonio, San Antonio, TX
- 2004 Noninvasive positive pressure ventilation / Lecture  
Evidence-based respiratory care / Lecture  
Wisconsin Society for Respiratory Care, Wisconsin Dells, WS
- 2004 Ventilator-associated pneumonia and the role of the respiratory therapist / Webcast  
presenter

AARC, Dallas, TX

- 2004 Respiratory Care in the ICU / Lecture  
AARC Corporate Sponsorship Meeting, Dallas, TX
- 2004 Noninvasive positive pressure ventilation / Lecture  
St. Joseph Hospital, Asheville, NC
- 2004 Ventilator-associated pneumonia and the role of the respiratory therapist / Lecture  
Evidence based respiratory care / Lecture  
Virginia Society for Respiratory Care, Virginia Beach, VA
- 2004 Is there a role for new ventilator modes? / Postgraduate Course on Mechanical  
Ventilation  
American Thoracic Society, Orlando, FL
- 2004 Mechanical ventilation of the patient with ARDS / Lecture  
Evidence-based respiratory care / Lecture  
Washington Society for Respiratory Care, Seattle, WA
- 2004 Options for inhaled drug delivery / Lecture  
AARC Summer Forum, Vail, CO
- 2004 Noninvasive positive pressure ventilation / Lecture  
Advances in mechanical ventilation – what’s worth keeping? / Lecture  
California Society for Respiratory Care, San Diego, CA
- 2004 Graphics and mechanics during mechanical ventilation: Using the ventilator as a probe of  
pathophysiology / Lecture  
Ventilation of the COPD patient / Lecture  
Management of COPD – Options for treatment and inhaled drug delivery / Lecture  
Maryland/DC Conference by the Sea, Ocean City, MD
- 2004 Ventilator-associated pneumonia and the role of the respiratory therapist / Lecture  
Safety, effectiveness, and the AARC clinical practice guidelines / Lecture  
American Association for Respiratory Care, Professor’s Rounds, Dallas, TX
- 2004 What is evidence-based medicine? / Lecture  
Inhaled nitric oxide therapy / Lecture  
Aerosol delivery / Lecture  
Hawaii Society for Respiratory Care, Honolulu, HI
- 2004 Prevention of VAP / Lecture  
Noninvasive positive pressure ventilation / Lecture  
Pulmonary and Critical Care Symposium, Sacramento, CA
- 2004 Mechanical ventilation of the patient with ARDS / Lecture  
Noninvasive positive pressure ventilation: The science and the art / Lecture

York Hospital/Pennsylvania Society for Respiratory Care, York, PA

- 2004 Noninvasive positive pressure ventilation: the nuts and bolts / Lecture  
 Advances in ventilators for NIV / Lecture  
 The weak link: the mask for NIV / Lecture  
 The nuts and bolts of pediatric noninvasive ventilation / Workshop  
 Ventilator options for accomplishing NPPV in the pediatric population / Lecture  
 How to incorporate guidelines and the strength of recommendations / Lecture  
 Heliox usage with nebulizers and mechanical ventilation / Lecture  
 Multi-disciplinary approach to patient-focused care: Acute and long-term NPPV / Lecture  
 American College of Chest Physicians), Seattle, WA
- 2004 What is Evidence Based Medicine? / Lecture  
 Weaning From Mechanical Ventilation / Lecture  
 7<sup>th</sup> Annual Respiratory Care Conference, Fairview Hospital, Cleveland, OH
- 2004 Tracheostomy tubes and related appliances / Lecture  
 Facilitation of speech in the patient with a tracheostomy / Lecture  
 New nebulizer designs / Lecture  
 American Association for Respiratory Care International Conference, New Orleans, LA
- 2005 Mechanical ventilation of the patient with ARDS / Lecture  
 Tracheostomy tubes and facilitating speech in the patient with tracheostomy / Lecture  
 Evaluating waveforms and lung mechanics in the mechanically ventilated patient / Lecture  
 Mercy/St. John Medical Center, St. Louis, MO
- 2005 Ventilator graphics / Lecture  
 What's new in masks and ventilators for noninvasive ventilation? / Lecture  
 Society of Critical Care Medicine, Phoenix, AZ
- 2005 Heliox therapy / Webcast presenter  
 American Association for Respiratory Care, Dallas, TX
- 2005 What is evidence-based medicine? / Lecture  
 Advances in mechanical ventilation / Lecture  
 19<sup>th</sup> Annual High Country Conference on Respiratory Care, Boone, NC
- 2005 Ventilator graphics / Webcast presenter  
 American Association for Respiratory Care, Dallas, TX
- 2005 What is evidence-based medicine? / Lecture  
 Patient-ventilator synchrony / Lecture  
 25<sup>th</sup> Annual Conference at the Slopes, Pennsylvania Society for Respiratory Care,  
 Seven Springs, PA
- 2005 Mechanical ventilation of the patient with ARDS / Lecture  
 MD Anderson Cancer Center; Innovative Therapies in Critical Care Medicine,  
 Houston, TX

- 2005 COPD and treatment options for inhaled drug delivery / Lecture  
Virginia Society for Respiratory Care, Virginia Beach, VA
- 2005 Modern therapeutic approaches to asthma/COPD therapy / Lecture  
American Association of Pharmaceutical Scientists Workshop on Nasal and Pulmonary Delivery, San Francisco, CA.
- 2005 Mechanical ventilation of the patient with obstructive lung disease / Lecture  
Workshop on noninvasive ventilation techniques / Lecture  
Workshop on feedback loops and mechanical ventilation / Lecture  
Long inspiratory times and other recruitment strategies / Lecture  
Adjuncts to mechanical ventilation / Lecture  
American College of Chest Physicians. Mechanical Ventilation 2005, La Jolla, CA
- 2005 Noninvasive positive pressure ventilation. 2005 Update / Lecture  
American Association for Respiratory Care Professors Rounds, Dallas, TX.
- 2005 Mechanical ventilation of the patient with ARDS / Lecture  
Tracheostomy tubes and facilitating speech in the patient with tracheostomy / Lecture  
Maryland/DC Society for Respiratory Care, Ocean City, MD
- 2005 Heliox and noninvasive ventilation / Lecture  
Ventilator waveforms in the patient with ARDS / Lecture  
Guidelines for selection of an aerosol delivery device / Lecture  
51<sup>st</sup> International Respiratory Congress, San Antonio, TX
- 2006 Prevention of ventilator-associated pneumonia: Role of the respiratory therapist / Lecture  
Weaning from mechanical ventilation / Lecture  
20<sup>th</sup> Annual High Country Conference on Respiratory Care, Boone, NC
- 2006 Emergency airway management workshop / Lecture  
Features and modes of the modern ventilator: What features do we need? / Lecture  
Update on noninvasive ventilation / Lecture  
44<sup>th</sup> Annual Symposium on Critical Care, Trauma, and Emergency Medicine,  
Las Vegas, NV
- 2006 The mask and aerosol delivery / Lecture  
International Society for Aerosols in Medicine, Miami, FL
- 2006 Noninvasive positive pressure ventilation / Lecture  
Evaluating graphics and lung mechanics during mechanical ventilation / Lecture  
Michigan Society for Respiratory Care, Lansing, MI
- 2006 Techniques for prevention of ventilator-associated pneumonia / Lecture  
MD Anderson Hospital, Houston, TX
- 2006 The evidence for aerosol delivery techniques / Lecture

- Evaluation of waveforms and lung mechanics in the patient with ALI/ARDS / Lecture  
Washington Society for Respiratory Care, Spokane, WA
- 2006 Facilitation of speech in the patient with tracheostomy / Lecture  
Cardiothoracic Surgical Critical Care 2006, Washington DC
- 2006 New respiratory therapy concepts and technologies / Lecture  
31<sup>st</sup> Annual Congress of the Oncologist Nurses Society, Boston, MA
- 2006 What is evidence-based respiratory care? / Lecture  
Management of COPD: Role of the respiratory therapist / Lecture  
Kansas Society for Respiratory Care, Topeka, KS
- 2006 Equipment needs for noninvasive ventilation / Lecture  
American Thoracic Society, San Diego, CA
- 2006 The evidence for aerosol delivery techniques / Lecture  
COPD update: Role of the respiratory therapist / Lecture  
Virginia Society for Respiratory Care, Virginia Beach, VA
- 2006 The evidence for aerosol delivery techniques / Lecture  
COPD update: Role of the respiratory therapist / Lecture  
Illinois Society for Respiratory Care, Chicago, IL
- 2006 The evidence for aerosol delivery techniques / Lecture  
Evaluating waveforms and lung mechanics in the mechanically ventilated patient / Lecture  
Georgia Society for Respiratory Care, Saint Simonds Island, GA
- 2006 The evidence for aerosol delivery techniques / Lecture  
Ohio Society for Respiratory Care, Columbus, OH
- 2006 The evidence for aerosol delivery techniques / Lecture  
NPPV – 2006 Update / Lecture  
Maryland/DC Society for Respiratory Care, Ocean City, MD
- 2006 Inhaled nitric oxide / Lecture  
Memorial Hermann – Texas Medical Center, Houston, TX.
- 2006 The evidence for aerosol delivery techniques / Lecture  
North Carolina Society for Respiratory Care, Charlotte, NC
- 2006 The evidence for aerosol delivery techniques / Lecture  
New York State Society for Respiratory Care, Verona, NY
- 2006 Advances in mechanical ventilation: Primum non nocere (First do no harm) / Lecture  
Patient ventilator dys-synchrony / Lecture  
Mercy-St. John Medical Center, St. Louis, MO

- 2006 Mechanical ventilation of the patient with ARDS / Lecture  
Mechanical ventilation of the patient with obstructive lung disease / Lecture  
Noninvasive ventilation workshop / Lecture  
Neuromuscular respiratory failure / Lecture  
Noninvasive positive pressure ventilation – 2006 update / Lecture  
New nebulizer designs / Lecture  
Spacers and valved holding chambers / Lecture  
COPD – an interactive session / Lecture  
American Association for Respiratory Care International Congress, Las Vegas, NV
- 2007 Emergency airway management workshop / Lecture  
Weaning from mechanical ventilation / Lecture  
How many knobs do I need on my ventilator? / Lecture  
University of Southern California 45<sup>th</sup> Annual Symposium on Critical Care, Trauma and  
Emergency Medicine, Las Vegas, NV
- 2007 Anatomy of the ventilator / Lecture  
Cardiothoracic Surgical Critical Care 2007, Washington, DC
- 2007 Appropriate use of aerosol devices / Webcast presenter  
Dallas, TX. American Association for Respiratory Care, Dallas, TX
- 2007 Respiratory care in 2020 / Lecture  
Breath-actuated/conserving nebulizers are best / Lecture  
Cleveland Clinic 2007 Lung Summit. Cleveland, OH
- 2007 Guidelines for selection of an aerosol delivery device / Lecture  
14th Annual King's Mountain Pulmonary Symposium, Bristol, TN
- 2007 Mechanical ventilation for the patient with ARDS / Lecture  
Patient-ventilator synchrony / Lecture  
Maryland/DC Society for Respiratory Care, Ocean City, NJ
- 2007 Aerosol delivery for the patient with asthma / Lecture  
Respiratory Care Journal Conference, Scottsdale, AZ
- 2007 Aerosol generation and delivery – the devices / Lecture  
American College of Chest Physicians, Chicago, IL
- 2007 Navigating the course of aerosol delivery – the road less traveled ... or more / Lecture  
American College of Allergy, Asthma, and Immunology, Dallas, TX
- 2007 Interdisciplinary management of the patient with a tracheostomy or ventilator / Lecture  
American Speech-Language-Hearing Association, Boston, MA
- 2007 Mechanical ventilation for the patient with COPD / Lecture  
Noninvasive positive pressure ventilation workshop / Lecture  
Noninvasive ventilation should be used for all forms of acute respiratory failure / Lecture

- Pharmacological prevention of VAP / Lecture  
Patient-ventilator dyssynchrony / Lecture  
American Association for Respiratory Care Annual Congress, Orlando, TX
- 2008 Weaning from mechanical ventilation / Lecture  
Cardiothoracic Surgical (CTS) Critical Care 2008, Washington, DC
- 2008 Weaning from mechanical ventilation / Lecture  
Noninvasive ventilation for malignancies / Lecture  
Strategic Practices of Critical Care Medicine, The University of Texas M.D. Anderson  
Cancer Center, Houston, TX
- 2008 Pediatric noninvasive ventilation / Lecture  
Techniques of noninvasive ventilation / Lecture  
University of Arkansas Diamond Conference, Little Rock, AR
- 2008 Mechanical ventilation of the patient with ARDS / Lecture  
Noninvasive positive pressure ventilation / Lecture  
Mechanical ventilation of the patient with asthma / Lecture  
Aerosol delivery during mechanical ventilation / Lecture  
American College of Physicians, Washington, DC
- 2008 What is evidence-based respiratory care? / Lecture  
Lehigh Valley Hospital Center, Allentown, PA
- 2008 What is evidence-based respiratory care? / Lecture  
Texas Society for Respiratory Care, South Padre Island, TX
- 2008 Advances in mechanical ventilation: First do no harm / Lecture  
Jewish Hospital, Louisville, KY
- 2008 Evidence for airway clearance techniques / Lecture  
The art of respiratory care / Lecture  
North Regional Respiratory Care Conference
- 2008 Advances in mechanical ventilation: First do no harm / Lecture  
The future of respiratory care / Lecture  
MD/DC Society for Respiratory Care, Ocean City, MD
- 2008 Equipment for noninvasive ventilation / Lecture  
Workshop: The ventilator for noninvasive ventilation / Lecture  
PEEP: Bringing the evidence to the bedside / Lecture  
Patient-ventilator synchrony with pressure support ventilation / Lecture  
Noninvasive and invasive ventilation for patients with neuromuscular disease / Lecture  
International Congress of the American Association for Respiratory Care, Anaheim, CA
- 2009 Mechanical ventilation and the equation of motion / Lecture  
Society of Critical Care Medicine, Nashville, TN



- 2009 Advances in mechanical ventilation: First do no harm / Lecture  
Salisbury University, Salisbury, MD
- 2009 Noninvasive ventilation: 2009 update / Lecture  
AARC Professor's Rounds, Dallas, TX
- 2009 Mechanical ventilation of the patient with ARDS / Lecture  
Noninvasive positive pressure ventilation / Lecture  
Mechanical ventilation of the patient with asthma / Lecture  
American College of Physicians, Philadelphia, PA
- 2009 Noninvasive ventilation: optimizing technique, minimizing failure / Lecture  
Measurements of respiratory mechanics: the value of the transpulmonary pressure /  
Lecture  
Using ventilator waveforms to your clinical advantage / Lecture  
American Thoracic Society, San Diego, CA
- 2009 Noninvasive ventilation: 2009 Update / Lecture  
Jewish Hospital, Louisville, KY
- 2009 Management of the ventilator discontinuation process / Lecture  
Computer control and feedback systems - What can and cannot be done / Lecture  
Noninvasive ventilation workshop / Lecture  
AARC Summer Forum. Mechanical Ventilation for Educators and Managers, Marco  
Island, FL
- 2009 Optimizing mechanical ventilation / Lecture  
Eleventh Annual Rainbow Respiratory Conference, Cleveland OH
- 2009 How to set PEEP in the patient with ALI/ARDS / Lecture  
Should we use low tidal volume in everyone? / Lecture  
Hawaii Society for Respiratory Care, Honolulu, HI
- 2009 Approaches to difficult weaning and mobilization in the ICU / Lecture  
Cardiovascular Thoracic Critical Care Congress, Washington, DC
- 2009 Advances in mechanical ventilation: First do no harm / Lecture  
Patient-ventilator synchrony / Lecture  
Washington Adventist Hospital, Tacoma Park, WA
- 2009 Teamwork in the ICU / Didier Lecture/Critical Care Grand Rounds  
Mayo Clinic, Rochester, MN
- 2009 Mechanical ventilation adjuncts / Lecture  
Mechanical ventilation of the patient with COPD / Lecture  
The mask for noninvasive ventilation / Lecture  
When to use PEEP / Lecture

- Invasive approach to diagnosis of ventilator-associated pneumonia / Lecture  
How the Respiratory Care journal works / Lecture  
International Congress of the American Association for Respiratory Care,  
San Antonio, TX
- 2010 Mechanical ventilation of the patient with neuromuscular disease / Lecture  
Patient-ventilator dys-synchrony / Lecture  
Society of Critical Care Medicine, Miami, FL
- 2010 New ventilator modes – An evidence-based approach / Lecture  
11<sup>th</sup> Annual Course in Mechanical Ventilation and Critical Care, Emory University,  
Atlanta, GA
- 2010 Anatomy of the ventilator and noninvasive ventilation / Lecture  
48<sup>th</sup> Annual USC Weil Symposium on Critical Care and Emergency Medicine,  
University of Southern California, Palm Springs, CA
- 2010 Lung protective ventilation strategies / Lecture  
Strategic Practices of Critical Care Medicine, MD Anderson Hospital, Houston, TX
- 2010 Monitoring respiratory mechanics / Lecture  
Monitoring during noninvasive ventilation / Lecture  
American Thoracic Society, University of Southern California, New Orleans, LA
- 2010 Optimum PEEP and tidal volume / Lecture  
Liberation from mechanical ventilation / Lecture  
Ventilator Summit 2010, Cleveland Clinic Foundation, Cleveland, OH
- 2010 Monitoring gas exchange / Lecture  
AARC Professor Rounds, Dallas, TX
- 2010 Management of the ventilator withdrawal process / Lecture  
AARC Summer Forum, Marco Island, FL
- 2010 How to maximize noninvasive ventilation / Lecture  
How to use PEEP / Lecture  
Fifteenth Annual Challenges in Critical Care, Penn State University, Hershey, PA
- 2010 Refractory hypoxemic respiratory failure / Lecture  
MD/DC Society for Respiratory Care, Ocean City, MD
- 2010 Mechanical ventilation of the patient with ARDS / Lecture  
Arkansas Society for Respiratory Care, Hot Springs, AR
- 2010 New ventilator modes / Lecture  
FACTS-Care, Washington, DC
- 2010 Noninvasive ventilation / Lecture

- Preventing complications / Lecture  
Regions Hospital Optimizing Mechanical Ventilation 2010, St. Paul, MN
- 2010 Management of the ventilator discontinuation process / Lecture  
Conventional ventilation of the patient with ARDS / Lecture  
High-frequency oscillatory ventilation should be part of your institution's armamentarium for managing severe ALI-ARDS – Con / Lecture  
The top 5 original research papers published in respiratory care in 2010 / Lecture  
The role of the respiratory therapist in the management of asthma / Lecture  
56th International Respiratory Congress, Las Vegas, NV
- 2011 Patient-ventilator synchrony during volume-controlled ventilation / Lecture  
Society of Critical Care Medicine Congress, San Diego, CA
- 2011 New modes of mechanical ventilation / Lecture  
Society of Thoracic Surgery Congress, San Diego, CA
- 2011 Optimizing noninvasive ventilation / Lecture  
What is the role of spontaneous breathing trials? / Lecture  
Approaches to prolonged mechanical ventilation / Lecture  
International Conference on Comprehensive Mechanical Ventilation, Orlando Regional Medical Center, Orlando, FL
- 2011 Current indications for oxygen: Looking at the evidence / Lecture  
Long Term Oxygen Therapy Conference, Orlando, FL
- 2011 Interfaces and ventilators for noninvasive ventilation / Lecture  
Noninvasive ventilation. Optimizing technique and minimizing failure / Lecture  
International Conference of the American Thoracic Society, Denver, CO
- 2011 Mechanical ventilation of the patient with obstructive lung disease / Lecture  
The ventilator liberation process / Lecture  
Lung-protective ventilation – the importance of PEEP / Lecture  
The role of noninvasive ventilation in the ventilator liberation process / Lecture  
Approaches to noninvasive ventilation – the North American perspective / Lecture  
The 5 best case reports published in Respiratory Care in 2011 / Lecture  
57<sup>th</sup> International Respiratory Congress, Tampa, FL
- 2011 Mechanical ventilation of the patient with obstructive lung disease / Lecture  
Liberation from mechanical ventilation / Lecture  
Missouri Society for Respiratory Care, Springfield, MO
- 2012 Mechanical ventilation – First do no harm / Lecture  
39th Annual Pacific Northwest Regional Respiratory Care Conference and Scientific Assembly, Spokane, WA
- 2012 Conventional ventilation for the patient with ARDS / Lecture  
Early mobility – role of the respiratory therapist / Lecture

- Ventilator liberation – role of protocols / Lecture  
Pro-con: Should rescue therapies be used for severe ARDS? / Lecture  
Respiratory Sepsis, Society for Critical Care Medicine, Boston, MA
- 2012      Inhaled gases and aerosols / Lecture  
The ventilator discontinuation process / Lecture  
Advances in Critical Care Treatments, MD Anderson Cancer Center, Houston, TX
- 2012      Patient assessment / Lecture  
Oxygen therapy / Lecture  
Invasive mechanical ventilation / Lecture  
Noninvasive mechanical ventilation / Lecture  
Management of the patient with COPD / Lecture  
American Association for Respiratory Care, Dallas, TX
- 2012      Advances in mechanical ventilation: First do no harm / Lecture  
MD/DC Society for Respiratory Care, Ocean City, MD
- 2012      Inhaled gases and aerosols / Lecture  
Liberation from mechanical ventilation / Lecture  
Robert Packer Hospital, Sayre, PA
- 2012      Bedside evaluation of respiratory mechanics / Lecture  
Noninvasive ventilation / Lecture  
Neurally adjusted ventilatory assist / Lecture  
Preventing complications / Lecture  
Optimizing mechanical ventilation / Lecture  
HealthPartners Institute for Medical Education, St. Paul, MN
- 2012      Conventional ventilation of the patient with acute respiratory distress syndrome / Lecture  
Lung Summit: Controversies in pulmonary medicine, critical care medicine, and  
mechanical ventilation, Cleveland, OH
- 2012      Mechanical ventilation of the patient with obstructive lung disease / Lecture  
The ventilator liberation process / Lecture  
The 5 best case reports published in Respiratory Care in 2012 / Lecture  
Science and evidence: Separating fact from fiction / Lecture  
Year in review: Noninvasive ventilation / Lecture  
Pro-con: Is a full-featured ventilator necessary? / Lecture  
Update on the Journal Respiratory Care / Lecture  
Approaches to PEEP selection in patients with ARDS / Lecture  
From VAP to VAE: Implications for the respiratory therapist / Lecture  
58<sup>th</sup> International Respiratory Congress, New Orleans, LA
- 2013      How managers and educators can get the most from their journal / Lecture  
AARC Summer Forum, Orlando, FL
- 2013      Modes of noninvasive ventilation and mask interfaces employed / Lecture

International Society for Aerosols in Medicine, Chapel Hill, NC

- 2013 Is there a role for new ventilator modes? / Lecture  
5<sup>th</sup> Critical Care Symposium at Long Beach Memorial Hospital, Long Beach, CA
- 2013 What is evidence-based medicine and why should I care? / Lecture  
Duke University 11<sup>th</sup> Optimizing Mechanical Ventilation Conference, Durham, NC
- 2013 Respiratory mechanics / Lecture  
American Thoracic Society, Philadelphia, PA
- 2013 Tracheostomy tubes / Lecture  
Adult Airways and Airway Adjuncts, Tampa, FL
- 2013 From VAP to VAE / Lecture  
AARC Professors Rounds, Dallas, TX
- 2013 From ventilator-associated pneumonia to ventilator-associated events / Lecture  
Five things I learned about mechanical ventilation in the past 40 years / Lecture  
Hawaii Society for Respiratory Care, Honolulu, HI
- 2013 From ventilator-associated pneumonia to ventilator-associated events / Lecture  
Queen's Medical Center, Honolulu, HI
- 2013 Five things I learned about mechanical ventilation in the past 40 years / Lecture  
What is evidence-based medicine and why should I care? / Lecture  
New York Society for Respiratory Care, Syracuse, NY
- 2013 High frequency ventilation in adults: Indicated or contraindicated? / Lecture  
Ventilator-associated events: What every respiratory therapist should know / Lecture  
Respiratory mechanics during positive pressure ventilation / Lecture  
What's in the journal this month? How can the clinician, manager, and educator get the most from their journal? / Lecture  
The 5 best case reports published in Respiratory Care in 2013 / Lecture  
International Congress of the American Association for Respiratory Care, Anaheim, CA
- 2014 Respiratory mechanics during positive pressure ventilation / Lecture  
Advanced modes of mechanical ventilation / Lecture  
Oregon Thoracic Society, Bend, OR
- 2014 Noninvasive positive pressure ventilation / Lecture  
AARC Professors Rounds, Dallas, TX
- 2014 Advanced ventilator modes: Separating fact from fiction / Lecture  
University of California, Irvine, CA
- 2014 Mechanical Ventilation / Workshop  
Eisenhower Medical Center, Palm Springs, CA

- 2014 Five things I learned about mechanical ventilation in the past 40 years / Lecture  
Georgia Society for Respiratory Care, Savannah, GA
- 2014 How to get the most from your Journal / Lecture  
From ventilator-associated pneumonia to ventilator-associated events / Lecture  
Indiana Society for Respiratory Care, Bloomington, IN
- 2014 Approaches to noninvasive ventilation / Lecture  
PEEP and auto-PEEP / Lecture  
Ventilation of the patient with obstructive lung disease / Lecture  
Patient safety / Lecture  
PEEP and recruitment maneuvers / Lecture  
The 5 best case reports published in RESPIRATORYCARE in 2014/ Lecture  
AARC Congress 2014; The 60th International Respiratory Convention & Exhibition, Las Vegas, NV
- 2015 Current and future objective monitors outside the ICU / Lecture  
National Association for Medical Direction of Respiratory Care, Orlando, FL
- 2015 Five things I learned about mechanical ventilation in the past 40 years / Lecture  
What is evidence-based respiratory care? / Lecture  
Pennsylvania Society for Respiratory Care, King of Prussia, PA
- 2015 Ventilator modes for hypoxemic respiratory failure / Lecture  
Preventing Lung Injury and Multiple Organ Dysfunction Syndrome from the Operating Room / Lecture  
Proportional assist ventilation / Lecture  
Society for Critical Care Medicine, Phoenix, AZ
- 2015 Respiratory care at 65 / Lecture  
Massachusetts Society for Respiratory Care, Foxborough, MA
- 2015 PEEP and recruitment maneuvers  
Noninvasive ventilation / Lecture  
Cardiorespiratory interactions / Lecture  
Analyzing mechanical ventilator graphics / Lecture  
Pulse oximetry – Beyond SpO<sub>2</sub> / Lecture  
Respiratory Compromise – Role of the respiratory therapist / Lecture  
How to lie with statistics and figures: What’s a P anyway? / Lecture  
Five common reasons why the editor will reject your paper / Lecture  
AARC Congress 2015; The 61st International Respiratory Convention & Exhibition, Tampa, FL
- 2015 Nonconventional ventilator modes: Advance or distraction? / Lecture  
Critical Care Grand Rounds, University of Alabama at Birmingham
- 2016 How Should We Set Positive End-Expiratory Pressure? / Lecture

- Open Lung Strategies - Setting Positive End-Expiratory Pressure / Workshop  
 Mechanical Ventilation: Abdominal/Chest Wall Interactions / Lecture  
 Delivery of Aerosolized Drugs / Lecture  
 Trace Gases During Mechanical Ventilation / Lecture  
 Hypoxemic Respiratory Failure: When Is Noninvasive Ventilation Appropriate? / Lecture  
 Conversing with the Experts / Panel  
 Society of Critical Care Medicine, 45<sup>th</sup> Critical Care Congress
- 2016      Respiratory Care at 65 / Lecture  
 VAE Surveillance / Pro/Con  
 Esophageal Pressure/Transpulmonary Pressure Monitoring / Pro/Con  
 North Regional Respiratory Care conference, Rochester, MN
- 2016      Noninvasive respiratory support / Lecture  
 How to set PEEP / Lecture  
 Critical Care Best Practices 2016  
 Baptist Health, Miami
- 2016      Five Things I Learned about Mechanical Ventilation in the Past 40 Years / Lecture  
 Surgical-Medical Grand Rounds  
 Iowa Methodist Medical Center  
 Des Moines, IA
- 2016      Respiratory Care at 65 / Lecture  
 How to Best Select PEEP / Lecture  
 New York Society for Respiratory Care  
 Verona, NY
- 2016      PEEP and Recruitment Maneuvers  
 Respiratory Care at 65 ... A Magical Mystery Tour  
 Hawaii Society for Respiratory Care  
 Honolulu, HI
- 2016      Noninvasive respiratory support / Lecture  
 Bristol Regional Medical Center  
 Bristol, TN
- 2016      Inhaled Carbon Monoxide: From Toxin to Therapy / Lecture  
 You Want to Get Published in Respiratory Care? 5 Tips from the Editor / Lecture  
 Should We Use Volume Control to Ventilate a Patient with ARDS? Yes! / Lecture  
 Noninvasive Respiratory Support / Lecture  
 The 62<sup>nd</sup> International Respiratory Convention and Exhibition  
 San Antonio, TX
- 2017      Five Things I Learned About Mechanical Ventilation in the Past 40 Years / Lecture  
 Pulmonary and Critical Care Medicine Grand Rounds  
 Winthrop University Hospital, Mineola, NY

- 2017      Respiratory Care – A View of the Past with an Eye on the Future / Lecture  
Low Tidal Volumes Should Be Used for All Patients / Debate  
APRV should not be used for ARDS / Debate  
Pennsylvania Society for Respiratory Care  
Valley Forge, PA
- 2017      Finding the evidence: separating science from fake news / Lecture  
How to lie with statistics / Lecture  
Summer Forum, American Association for Respiratory Care  
Tucson, AZ
- 2017      How to lie with statistics / Lecture  
Finding the evidence: separating science from fake news / Lecture  
Retrospective studies and quality assurance / Lecture  
The 63<sup>rd</sup> International Respiratory Convention and Exhibition  
Indianapolis, TX
- 2017      Traditional and Novel Ways to Monitor Patients in the Post-Operative Period / Lecture  
Society for Anesthesia and Sleep Medicine  
Boston, MA
- 2017      Respiratory care – a view of the past with an eye on the future / Lecture  
Massachusetts Society for Respiratory Care  
Worcester, MA
- 2017      An evidence-based approach to mechanical ventilation of the patient with hypoxemic  
respiratory failure / Lecture  
An evidence-based approach to liberation from mechanical ventilation / Lecture  
Eighth Annual State of the Science - Critical Care Best Practices Symposium  
Baptist Health South Florida  
Miami, FL
- 2018      Noninvasive respiratory support / Lecture  
Society of Critical Care Medicine  
San Antonio, FL
- 2018      Mechanical ventilation of patients with asthma and COPD / Lecture  
American Thoracic Society  
San Diego, CA
- 2018      Aerosol delivery during mechanical ventilation / Lecture  
Suncoast Pulmonary Symposium  
Fort Myers, FL
- 2018      Noninvasive respiratory support / Lecture  
Ohio Society for Respiratory Care  
Columbus, Ohio



- 2018 High flow nasal cannula – not just hot air / Lecture  
Using a Literature Search to Define a Research Question / Lecture  
American Association for Respiratory Care Congress  
Las Vegas, NV
- 2019 Lung Protective Ventilation - Volume, Pressure, Neither, Or Both? / Lecture  
York Hospital  
York, PA
- 2019 Controlled Vs. Spontaneous Ventilation / Workshop  
Refractory Hypoxemia – A Systemic Approach / Tutorial  
High Flow Nasal Cannula for Whom? / Lecture  
Applications and Advanced Options for Non-Invasive Ventilation / Tutorial  
Mechanical Ventilation Conference, Mayo Clinic  
Rochester, MN
- 2019 Noninvasive Respiratory Support / Lecture  
York Hospital  
York, PA
- 2019 High Flow Nasal Cannula for Hypoxemic Respiratory Failure / Lecture  
Mistakes Made by New Authors / Lecture  
Noninvasive Ventilation for COPD / Lecture  
American Association for Respiratory Care Congress, New Orleans LA
- 2020 Noninvasive Respiratory Support / Virtual Lecture  
Ohio Chapter of SCCM
- 2020 Safety and Efficacy of Noninvasive Respiratory Support in COVID-19 / Virtual Lecture  
SCCM, COVID-19: What's Next
- 2020 47th Donald F. Egan Scientific Memorial Lecture: Evidence-Based Respiratory Care /  
Virtual Lecture  
Noninvasive Respiratory Support for COVID-19 / Virtual Lecture  
Pro: Low Tidal Volumes Should Be Used for Everyone / Virtual Debate  
American Association for Respiratory Care Live!
- International**
- 1987 The use of PEEP in clinical settings other than acute respiratory failure / Lecture  
Respiratory Care journal conference, Ixtapa, MX
- 1989 Noninvasive monitoring in respiratory care - past present and future / Lecture  
Capnography and capnometry: Technical aspects, physiologic aspects, and clinical  
applications / Lecture  
Respiratory Care journal conference, Ixtapa, MX
- 1991 Neonatal and pediatric respiratory care: Some implications for adult practitioners / Lecture

- Respiratory Care journal conference, Cancun, MX
- 1991      Monitoring during resuscitation / Lecture  
Respiratory Care journal conference, Cancun, MX
- 1991      Aerosol therapy delivery techniques / Lecture  
Noninvasive monitoring in respiratory care / Lecture  
Alberta Society for Respiratory Care, Calgary, Alberta, CA
- 1992      Noninvasive monitoring in respiratory care / Lecture  
Central American Respiratory Care Conference, Mexico City, MX
- 1992      Techniques and devices for monitoring oxygenation / Lecture  
Respiratory Care journal conference, Puerto Vallarta, MX
- 1993      NBRC update and overview / Lecture  
II Congreso Nacional en Terapia Respiratoria (Second National Respiratory Therapy Congress), Mexico City, MX
- 1993      Current state of the art of noninvasive monitoring in the ICU / Lecture  
Respiratory management of the burn patient and hemodynamic monitoring / Lecture  
Asia Pacific Association for Respiratory Care, Manila, Philippines
- 1993      Current state of the art of noninvasive monitoring in the ICU / Lecture  
Philippine Pediatric Society Postgraduate Course in Critical Care Medicine, Davao, Philippines
- 1994      Nosocomial pneumonia during mechanical ventilation / Lecture  
Waveforms and mechanics during mechanical ventilation / Lecture  
Capnography and transcutaneous PCO<sub>2</sub> monitoring / Lecture  
Aerosol bronchodilator delivery during mechanical ventilation / Lecture  
Humidification during mechanical ventilation / Lecture  
Asia-Pacific Respiratory Care Congress, Christchurch, New Zealand
- 1994      Techniques of emergency drug administration during resuscitation / Lecture  
Respiratory Care journal conference on resuscitation in acute care hospitals, Cancun, Mexico
- 1995      Introduction of innovations in mechanical ventilation / Lecture  
American Association for Respiratory Care Consensus Conference  
Ixtapa, Mexico
- 1995      Waveforms and mechanics during mechanical ventilation / Lecture  
Inhaled Nitric Oxide / Lecture  
Asia Pacific Association for Respiratory Care, Nagoya, Japan
- 1995      Inhaled Nitric Oxide / Lecture

- Respiratory Care Journal Conference on New approaches to management of acute Respiratory Failure, Cancun, Mexico.
- 1996      Monitoring during mechanical ventilation / Lecture  
Circuits, humidification, and ventilator associated pneumonia / Lecture  
Mechanical Ventilation Symposium, University of Toronto, Toronto, Ontario, Canada
- 1996      The role of the respiratory therapist in the ICU / Lecture  
Respiratory Care Journal Conference, Cancun, Mexico
- 1997      Noninvasive positive pressure ventilation / Lecture  
Tracheal gas insufflation / Lecture  
Mechanical Ventilation Course, University of Toronto, Toronto, ON, Canada
- 1997      Graphic monitoring during mechanical ventilation / Lecture  
Osaka University Medical Center, Osaka, Japan
- 1997      Therapeutic applications of heliox / Lecture  
Japanese Society for Medical Gases, Tokyo, Japan
- 1998      Therapeutic Applications of Heliox / Lecture  
Japanese Society for Medical Gases, Tokyo, Japan
- 1998      Adverse effects and toxicity of inhaled nitric oxide / Lecture  
Respiratory Care Journal conference, Banff, Alberta, Canada
- 1998      Aerosol delivery during mechanical ventilation / Lecture  
Use of spacers for aerosol delivery / Lecture  
Mexican Association for Respiratory Care, Mexico City, Mexico
- 1998      Proportional assist ventilation and automatic tube compensation / Lecture  
Techniques to improve oxygenation during mechanical ventilation / Lecture  
American College of Chest Physicians, Toronto, Ontario, Canada
- 1998      Indications for translaryngeal intubation / Lecture  
Management of the artificial airway / Lecture  
Respiratory Care Journal Conference on Airway Management, Cancun, Mexico
- 1999      Monitoring oxygenation / Lecture  
Respiratory Care Journal conference on Oxygen Therapy, Cancun, Mexico
- 1999      New nebulizer designs / Lecture  
ARCF Aerosol Consensus Conference, Bermuda
- 1999      Monitoring pulmonary gas exchange and respiratory monitoring / Lecture  
Asia Pacific Association for Respiratory Care, Beijing, China
- 1999      Monitoring in the Intensive Care Unit / Lecture

- Respiratory therapist weaning protocols / Lecture  
 Patient ventilator synchrony during mechanical ventilation / Lecture  
 Toronto Critical Care Medicine Symposium, Toronto, Ontario
- 2000  
 Pressure vs. volume ventilation / Lecture  
 Ventilation of the patient with obstructive lung disease / Lecture  
 Weaning from mechanical ventilation / Lecture  
 Noninvasive positive pressure ventilation / Lecture  
 Aerosol delivery techniques / Lecture  
 Fourth Pulmonary Medicine Update, Cairo, Egypt
- 2000  
 Positive pressure ventilation for the patient with obstructive lung disease / Lecture  
 Weaning from mechanical ventilation / Lecture  
 Noninvasive positive pressure ventilation / Workshop  
 American College of Chest Physicians Mechanical Ventilation Course,  
 Buenos Aires, Argentina
- 2000  
 Monitoring pulmonary mechanics during mechanical ventilation / Lecture  
 Inhaled nitric oxide / Lecture  
 Weaning from mechanical ventilation / Lecture  
 Use of filters in the ICU / Lecture  
 Hospital Sírío-Libanês, São Paulo, Brazil.
- 2000  
 Monitoring pulmonary gas exchange / Lecture  
 Equipment for noninvasive ventilation / Lecture  
 Pressure support ventilation - a simple mode? / Lecture  
 American Thoracic Society, Toronto, Ontario, Canada
- 2000  
 Humidification and aerosols during mechanical ventilation / Lecture  
 Proportional assist ventilation / Lecture  
 Congress of the Asia Pacific Association for Respiratory Care, Seoul, Korea
- 2001  
 Evidence-based secretion clearance / Lecture  
 Respiratory Care Journal Conference, Banff, Alberta, Canada
- 2001  
 Physiology of the artificial airway / Lecture  
 Noninvasive positive pressure ventilation / Lecture  
 Argentina Society for Respiratory Physical Therapy/Argentina Society for Critical Care  
 Medicine, Buenos Aires, Argentina
- 2001  
 Ventilator circuits / Lecture  
 Humidification / Lecture  
 Aerosol drug delivery / Lecture  
 Inhaled Nitric Oxide and Heliox / Lecture  
 New modes of mechanical ventilation / Lecture  
 Mechanical Ventilation Conference, Mexico City, Mexico
- 2001  
 Recruitment maneuvers / Lecture

- Respiratory Care journal conference, Cancun, Mexico
- 2002 Indications for monitoring the critically ill patient / Lecture  
International Conference on Heart-Lung Interactions, Turin, Italy
- 2002 Ventilator circuits and ventilator-associated pneumonia / Lecture  
Noninvasive pressure support ventilation / Lecture  
Aerosol delivery during mechanical ventilation / Lecture  
SMART, Milan, Italy
- 2002 Noninvasive positive pressure ventilation / Workshop  
Ventilator modes during weaning from mechanical ventilation / Lecture  
Prevention of ventilator-associated pneumonia / Lecture  
Recruitment maneuvers / Lecture  
13<sup>th</sup> Congreso Argentino de Terapia Intensiva, Buenos Aires, Argentina
- 2003 Lung recruitment maneuvers / Lecture  
Noninvasive positive pressure ventilation / Lecture  
Monitoring lung mechanics during mechanical ventilation / Lecture  
New modes and features of mechanical ventilators / Panel  
India Society for Critical Care Medicine, Jaipur, India
- 2003 Anatomy of the ventilator / Lecture  
Ventilation of the patient with obstructive lung disease / Lecture  
Monitoring pulmonary mechanics in the mechanically ventilated patient / Lecture  
Ventilator modes / Lecture  
Noninvasive positive pressure ventilation / Lecture  
Respiratory Care Update, Cairo, Egypt
- 2003 Information retrieval / Lecture  
Respiratory Care Journal Conference, Banff, Alberta
- 2003 Weaning from mechanical ventilation – what has the evidence taught us? / Lecture  
Aerosol delivery during mechanical ventilation / Lecture  
Is pressure support ventilation a simple mode? / Lecture  
Monitoring during mechanical ventilation / Lecture  
The role of the ventilator circuit in the development of nosocomial pneumonia / Lecture  
Tips to improve the success of noninvasive ventilation / Lecture  
10<sup>th</sup> Intensive Care Congress of Southern Brazil, Gramado, Brazil
- 2004 Monitoring during mechanical ventilation / Lecture  
The evidence base for noninvasive positive pressure ventilation / Lecture  
Recruitment maneuvers – As useful as hoped? / Lecture  
Weaning from mechanical ventilation – what has the evidence taught us? / Lecture  
Is pressure support a simple mode? / Lecture  
VIII International Symposium on the Treatment of the Critically Ill Patient, Hospital Sírio-  
Libanês, São Paulo, Brazil.

- 2004 Pressure support ventilation / Lecture  
Respiratory Care Journal Conference, Cancun, Mexico
- 2005 Role of positioning on ventilator-associated pneumonia / Lecture  
Noninvasive positive pressure ventilation and ventilator-associated pneumonia / Lecture  
Respiratory Care Journal Conference, Cancun, Mexico
- 2005 Conference summary; Metered dose inhalers and dry powder inhalers / Lecture  
Respiratory Care Journal Conference, Los Cabos, MX
- 2005 Weaning from mechanical ventilation / Lecture  
Selection of an aerosol delivery device / Lecture  
Canadian Society of Respiratory Therapists, Edmonton, Alberta, CA
- 2005 The evidence for noninvasive ventilation / Lecture  
The interface for noninvasive ventilation / Lecture  
The ventilator for noninvasive ventilation / Lecture  
Monitoring during noninvasive Ventilation / Lecture  
Proportional assist ventilation / Lecture  
Physiologic effects of PEEP / Lecture  
Pulmonary graphics in the patient with acute lung injury / Lecture  
Noninvasive Mechanical Ventilation and Pulmonary Mechanics, Chilean Society of Critical Care, Division of Kinesiology, Santiago, Chile
- 2005 An evidence-based approach to weaning from mechanical ventilation / Lecture  
Prevention of ventilator-associated pneumonia / Lecture  
Mechanical ventilation of the patient with asthma / Lecture  
International Symposium on Mechanical Ventilation, São Paulo, Brazil
- 2005 Mechanical ventilation of the patient with multiple trauma / Lecture  
New modes of mechanical ventilation / Lecture  
XVIII Pan-American Trauma Society, Guayaquil, Ecuador
- 2005 Noninvasive positive pressure ventilation / Lecture  
Luis Vernaza Hospital, Guayaquil, Ecuador
- 2006 Equipment for noninvasive ventilation / Lecture  
Respiratory Care Journal Conference, Ixtapa, Mexico
- 2006 Monitoring during mechanical ventilation / Lecture  
7<sup>th</sup> International Congress on Pediatric Pulmonology (CIPP), Montreal, Canada
- 2006 Respiratory muscle training and weaning from mechanical ventilation / Lecture  
Advances in mechanical ventilation – First Do No Harm / Lecture  
13<sup>th</sup> International Symposium for Respiratory Physiotherapy in the Intensive Care Unit, Curitiba, Brazil

- 2006 Noninvasive positive pressure ventilation should be used for all forms of respiratory failure / Lecture  
High frequency ventilation should not be used in adults with ARDS / Lecture  
Respiratory Care Journal Conference, Banff, Alberta, Canada
- 2006 Inhaled nitric oxide / Lecture  
Evaluation of mechanics in patients receiving mechanical ventilation / Lecture  
Alberta Respiratory Therapy Association, Calgary, Alberta, Canada
- 2006 Patient-ventilator synchrony during noninvasive ventilation / Lecture  
Assessment of respiratory mechanics in the mechanically ventilated patient / Lecture  
Respiratory muscle fatigue / Lecture  
Introduction to HFOV / Lecture  
VII Intensive Kinesiology and 24<sup>th</sup> Chilean Intensive Medicine Congress, La Serena, Chile
- 2006 Tracheal gas insufflation and aerosol delivery during mechanical ventilation / Lecture  
Noninvasive positive pressure ventilation – an evidence-based review / Lecture  
Advances in mechanical ventilation – first do no harm / Lecture  
11<sup>th</sup> Asian Pacific Society of Respirology Conference, Kyoto, Japan
- 2007 Ventilator modes, old and new / Lecture  
Monitoring respiratory mechanics / Lecture  
Strategies for mechanical ventilation of patients with obstructive lung disease / Lecture  
Prevention of ventilator-associated pneumonia / Lecture  
Noninvasive positive pressure ventilation / Lecture  
University of Cairo. 7<sup>th</sup> Pulmonary Medicine Update, Cairo, Egypt
- 2007 Conference summary / Lecture  
Respiratory Care Journal Conference on airway clearance techniques, Cancun, Mexico
- 2007 What is evidence-based respiratory care and why should I care? / Lecture  
Advances in mechanical ventilation: first do no harm / Lecture  
Canadian Society for Respiratory Therapy, Montreal, Quebec, Canada
- 2007 Aerosol delivery during noninvasive ventilation / Lecture  
16<sup>th</sup> Congress of the International Society for Aerosols in Medicine, Tours, France
- 2007 Techniques for NIV in acute care / Lecture  
Noninvasive and Home Mechanical Ventilation: ICU and beyond 2007, American College of Chest Physicians, Montreal, Quebec, Canada
- 2007 Graphics monitoring – a look into the lungs / Lecture  
VILI – new insights in pathology, implications in treatment / Lecture  
Identification, quantification, and management of auto PEEP / Lecture  
Mechanical Ventilation 2007 Basics and Beyond, K. R. Hospital, Bangalore, India
- 2007 Aerosol delivery during mechanical ventilation / Lecture  
Clinical applications of capnography / Lecture

XIII Annual International Symposium on Adult Mechanical Ventilation, Sao Paulo, Brazil

- 2007 Anatomy of the ventilator / Lecture  
Noninvasive positive pressure ventilation / Lecture  
Dongsan Medical Center, Daegu, Korea
- 2008 A survey of the use of noninvasive ventilation in academic emergency departments /  
Podium abstract presentation  
American Thoracic Society, Toronto, ON
- 2008 Patient-ventilator dys-synchrony / Lecture  
Use of noninvasive ventilation in the Emergency Department / Lecture  
XIV International Symposium on Mechanical Ventilation, São Paulo, Brazil
- 2008 Lung protective strategies for acute respiratory failure / Lecture  
Noninvasive ventilation workshop / Lecture  
What is evidence-based respiratory care? / Lecture  
Respiratory care of the patient with neuromuscular disease / Lecture  
Advances in mechanical ventilation – First do no harm / Lecture  
Aerosol delivery during mechanical ventilation / Lecture  
The 1<sup>st</sup> International Respiratory Therapy Conference, Tawam Hospital, Abu Dhabi,  
United Arab Emirates
- 2009 Inhaled vasodilator therapy / Lecture  
Respiratory Care Journal Conference, Cancun, Mexico
- 2009 Dealing with tracheostomy in adults / Lecture  
Aerosol therapy during mechanical ventilation / Lecture  
12<sup>th</sup> International Conference on Home Mechanical Ventilation, Barcelona, Spain
- 2009 Weaning protocols / Lecture  
3<sup>rd</sup> European Respiratory Care Association Congress, Stresa, Italy
- 2009 State of the art of mechanical ventilation / Lecture  
New ventilator modes / Lecture  
Aerosol delivery during mechanical ventilation / Lecture  
Patient-ventilator synchrony / Lecture  
Jornadas Intensivo Clinica Alemana, Santiago, Chile
- 2009 Weaning from mechanical ventilation – a practical approach / Lecture  
Meet the professor – Weaning from mechanical ventilation / Lecture  
Inhaled drugs during mechanical ventilation / Lecture  
Critical Care Canada Forum, Toronto, ON, Canada
- 2010 Anatomy of the ventilator / Lecture  
New ventilator modes / Lecture  
Mechanical ventilation of the patient with neuromuscular disease / Lecture



- Noninvasive ventilation 2010 update / Lecture  
 The 5 best papers in Respiratory Care 2009 / Lecture  
 University of Cairo 10<sup>th</sup> Pulmonary Medicine Update, Cairo, Egypt
- 2010 Patient-ventilator interactions during noninvasive ventilation / Lecture  
 Respiratory Care Journal Conference, Cancun, Mexico
- 2010 Mechanical ventilation of the patient with ARDS / Lecture  
 Management of refractory hypoxemic respiratory failure / Lecture  
 Basic ventilator modes / Workshop  
 Ventilator graphics / Workshop  
 American College of Physicians, Toronto, ON, Canada
- 2010 New ventilator modes / Lecture  
 When to use PEEP / Lecture  
 Noninvasive ventilation for neuromuscular disease / Lecture  
 Aerosol delivery during noninvasive ventilation / Lecture  
 Second National Symposium on Respiratory Therapy, Santiago, Chile
- 2010 The role of noninvasive ventilation in long term respiratory care / Lecture  
 Respiratory protocols during a pandemic / Lecture  
 Recruitment maneuvers should be routinely attempted in all ARDS patients: Con / Debate  
 Asia Ventilation Forum, Kaohsiung, Taiwan
- 2010 Ventilator-induced lung injury / Critical Care Grand Rounds  
 Chang Gung University, Tao-Yuan, Taiwan
- 2010 Noninvasive ventilation in acute respiratory failure / Lecture  
 Patient-ventilator interaction during volume-control ventilation / Lecture  
 Ventilator-associated pneumonia / Lecture  
 Noninvasive ventilation / Workshop  
 Hospital de Rehabilitación Respiratoria María Ferrer, Buenos Aires, Argentina
- 2010 When should NIV be initiated for patients with stable COPD? / Lecture  
 Showa University, Tokyo, Japan
- 2010 How to initiate a noninvasive ventilation program: bringing evidence to the bedside /  
 Lecture  
 Acute NPPV Congress, Sapporo, Japan
- 2011 Devices for asthma management / Lecture  
 Mechanical ventilation of the patient with asthma / Lecture  
 Noninvasive ventilation update / Lecture  
 Weaning the long-term mechanically ventilated patient / Lecture  
 Study Design: Clinical trials and meta-analysis / Lecture  
 Gulf Thoracic Congress, Dubai, UAE
- 2011 Respiratory muscle training during mechanical ventilation / Lecture

- Should every mechanically ventilated patient receive PEEP? / Lecture  
Assessment of respiratory mechanics and graphics in the mechanically ventilated patient with ARDS / Lecture  
Use of HFOV in patients receiving mechanical ventilation / Debate  
XI Congress of the Peruvian Society of Intensive Care Medicine, Lima, Peru
- 2011 Noninvasive ventilation for acute respiratory failure / Lecture  
Noninvasive ventilation in the home / Lecture  
Evidence-based respiratory care / Lecture  
How to write a scientific paper / Lecture  
Ho Chi Minh City Respiratory Society, Ho Chi Minh City, Vietnam
- 2011 Noninvasive ventilation for acute respiratory failure / Lecture  
Noninvasive ventilation in the home / Lecture  
Evidence-based respiratory care / Lecture  
How to write a scientific paper / Lecture  
Bach Mai Hospital, Hanoi, Vietnam
- 2011 Aerosol delivery techniques / Lecture  
Mechanical ventilation of the patient with ARDS / Lecture  
Noninvasive ventilation for acute respiratory failure / Lecture  
Universad del Desarrollo, Concepción, Chile
- 2011 Noninvasive ventilation. The approach in the United States / Lecture  
The Netherlands. European Respiratory Society, Amsterdam
- 2012 COPD assessment / Lecture  
Long term oxygen therapy / Lecture  
Mechanical ventilation of the patient with obstructive lung disease / Lecture  
Noninvasive ventilation / Lecture  
Asthma/COPD Educator Course & Aerosol Delivery Workshop in collaboration with Gulf Thoracic Society and Saudi Thoracic Society, Riyadh, Saudi Arabia
- 2012 Waveforms and respiratory mechanics during mechanical ventilation / Lecture  
Patient-ventilator synchrony / Lecture  
Use of spontaneous breathing trials / Lecture  
Patient-ventilator interaction / Lecture  
XVI International Conference of respiratory physiotherapy in the ICU, Rio de Janeiro, Brazil
- 2012 Mechanical ventilation – first do no harm / Lecture  
Canadian Society of Respiratory Therapists, Vancouver, CA
- 2012 Mechanical ventilation – first do no harm / Lecture  
Noninvasive ventilation / Lecture  
Patient-ventilator synchrony / Lecture  
Liberation from mechanical ventilation / Lecture  
VII International Course in Critical Care, Quito, Ecuador

- 2012 COPD assessment / Lecture  
 Mechanical ventilation for the patient with obstructive lung disease / Lecture  
 Noninvasive ventilation / Lecture  
 Oxygen therapy for the patient with COPD / Lecture  
 Aerosol delivery devices / Lecture  
 Mechanical ventilation – first do no harm / Lecture  
 Gulf Thoracic Society, Dubai, UAE
- 2012 Facilitating speech in the patient with a tracheostomy / Advisory Committee  
 13th International Conference On Home Mechanical Ventilation, Barcelona, Spain
- 2012 Anatomy of the ventilator / Lecture  
 Respiratory mechanics during mechanical ventilation / Lecture  
 Lung protective ventilation / Lecture  
 Mechanical ventilation of the patient with obstructive lung disease / Lecture  
 Noninvasive ventilation / Lecture  
 Liberation from mechanical ventilation / Lecture  
 Hospital De Especialidades Eugenio Espejo, Quito, Ecuador
- 2013 Role on noninvasive ventilation in the ventilator discontinuation process / Lecture  
 How to select the best PEEP / Lecture  
 Patient-ventilator synchrony / Lecture  
 2<sup>nd</sup> Latin American Congress of Respiratory Therapy, Santiago, Chile
- 2013 Can an ARDS patient be ventilated awake? / Lecture  
 Weaning and heart failure, The role of NIV in weaning / Lecture  
 5 things I learned about mechanical ventilation in the past 40 years / Lecture  
 3<sup>rd</sup> International Symposium on Critical Pulmonary and Advanced Respiratory Care,  
 organized by the Hospital Italiano de Buenos Aires, Buenos Aires, Argentina
- 2013 Outcome measures in airway clearance / Lecture  
 Do protocols of weaning make a difference / Lecture  
 Optimizing aerosol therapy: body positioning and ventilatory pattern / Lecture  
 Bedside assessment: when the problem is the ventilator set-up / Lecture  
 ARIR 2013, Genova, Italy
- 2013 Monitoring respiratory mechanics during mechanical ventilation / Lecture  
 Liberation for mechanical ventilation / Lecture  
 Noninvasive ventilation – 2013 update / Lecture  
 XVI International Mechanical Ventilation Conference, Mexico City, Mexico
- 2014 Patient-ventilator interaction / Lecture  
 Lung-protective ventilation strategies / Lecture  
 The ventilator liberation process / Lecture  
 VII International Congress of Cardiorespiratory Care in Costa Rica  
 San José, Costa Rica

- 2014 Lung-protective ventilation / Lecture  
Monitoring lung mechanics / Lecture  
Liberation for mechanical ventilation / Lecture  
XVII International Mechanical Ventilation Conference, Mexico City, Mexico
- 2014 What is evidence-based medicine? / Lecture  
What is the role of advanced ventilator modes? / Lecture  
Mechanical Ventilation of the Patient with Obstructive Lung Disease / Lecture  
Patient-ventilator asynchrony / Lecture  
PEEP selection in the patient with ARDS / Lecture  
Noninvasive Ventilation / Workshop  
2<sup>nd</sup> International Respiratory Therapy Conference  
Tawam Hospital, Al Ain, United Arab Emirates
- 2015 How to set up a ventilator: standard versus high pressure / Lecture  
Tracheostomy tubes / Lecture  
14<sup>th</sup> JIVD International Conference on Home Mechanical Ventilation, Lyon, France
- 2015 Evidence-based mechanical ventilation / Lecture  
Newer modes of mechanical ventilation = better outcomes? / Lecture  
Patient-ventilator asynchrony during lung protective ventilation / Lecture  
Current strategies for severely impaired gas exchange / Lecture  
XIII Congreso Internacional Sopemi 2015, Lima, Peru
- 2016 Anatomy of the Ventilator / Lecture  
How to Set the Ventilator / Lecture  
ATS Global Scholars Program
- 2016 Airway clearance techniques in chronic obstructive pulmonary disease / Lecture  
New modalities for noninvasive ventilation / Lecture  
We love air heated and humidified / Lecture  
3<sup>rd</sup> International Conference on Respiratory Physiotherapy, Rimini, Italy
- 2016 The ventilator liberation process / Lecture  
Noninvasive respiratory support: HFNC, CPAP, NIV / Lecture  
Mechanical ventilation of the patient with obstructive lung disease / Lecture  
Setting PEEP for acute respiratory failure / Lecture  
Sociedad Chilena de Medicina Intensiva, Santiago, Chile
- 2016 Respiratory mechanics in the mechanically ventilated patient: Beyond pressure and flow measures / Lecture  
HFNC versus CPAP in the newborn / Lecture  
13<sup>th</sup> European Conference on Pediatric and Neonatal Mechanical Ventilation  
Montreux, Switzerland
- 2017 Anatomy of the Ventilator / Lecture  
How to Set the Ventilator / Lecture  
ATS Global Scholars Program

- 2017 Noninvasive ventilation: What is the evidence? / Lecture  
 High flow nasal cannula: What is the evidence? / Lecture  
 Liberation for mechanical ventilation: It's not weaning anymore / Lecture  
 Clinical case roundtable / Panel Discussion  
 XX International Mechanical Ventilation Conference  
 Mexico City, Mexico
- 2017 Update on ARDS and mechanical ventilation / Lecture  
 You want to get published in Respiratory Care? / Lecture  
 11<sup>th</sup> Intercoastal Respiratory Therapy and Critical Care Assembly  
 Xi'an City, China
- 2017 Mechanical Ventilation – An evidence-based approach / Lecture  
 Effectiveness of high flow nasal cannula in adults with respiratory failure / Lecture  
 Treatment of post-extubation respiratory failure / Lecture  
 3rd International Congress of SAKiCaRe  
 Buenos Aires, Argentina
- 2018 Aerosol delivery during mechanical ventilation / lecture  
 Inhaled gases during mechanical ventilation / lecture  
 Trigger, cycle, and patient-ventilator interaction / lecture  
 XXI International Forum of Critical Care Medicine  
 Mexico City, Mexico
- 2019 When Less is More / Lecture  
 Taiwan Society for Respiratory Therapy  
 Taipei City, Taiwan
- 2019 When Less is More / Lecture  
 How to publish a paper in SCI Journal / Lecture  
 Wuhan Wuchang Hospital  
 Wuhan, China
- 2019 Patient-ventilator dyssynchrony / Lecture  
 Aerosol delivery - Non-invasive ventilation and high-flow nasal oxygen / Lecture  
 Gas administration: when and how – Mechanical ventilation in non-ARDS patients /  
 Lecture  
 How I manage a patient with acute respiratory patient with acute respiratory failure / Panel  
 Choosing the optimal ventilatory conditions / Lecture  
 The different modes - Assisted breathing / Lecture  
 39th International Symposium on Intensive Care and Emergency Medicine  
 Brussels, Belgium
- 2019 Spontaneous Ventilator Modes / Lecture  
 The Ventilator Circuit – invasive ventilation / Lecture  
 The Ventilator Circuit – noninvasive ventilation / Lecture  
 XXII International Mechanical Ventilation Conference

Mexico City, Mexico

- 2019 Noninvasive Respiratory Support / Lecture  
Liberation from Mechanical Ventilation / Lecture  
Tracheostomy Tubes / Lecture  
Norwegian Annual autumn meeting for long-term mechanical ventilation  
Bergen, Norway
- 2020 Noninvasive Respiratory Support in the COVID-19 Era / Virtual Lecture  
International Mechanical Ventilation Conference  
Mexico City, Mexico
- 2020 NIV vs HFNC for Hypercapnic COPD Exacerbation and Hypoxemic Respiratory Failure  
Mistakes by New Authors / Virtual Lecture  
Taiwan Society for Respiratory Therapy 3<sup>rd</sup> International Congress

### **Report of Clinical Activities and Innovations**

#### **Current Licensure and Certification**

- 1976-present Registered Respiratory Therapist (NBRC)
- 1991-present Neonatal/Pediatric Respiratory Care Specialist (NBRC)
- 1992-present Respiratory Care License, Commonwealth of Massachusetts

#### **Practice Activities**

- |           |                                 |                                   |  |           |
|-----------|---------------------------------|-----------------------------------|--|-----------|
| 1992-2016 | Respiratory Care                | Massachusetts<br>General Hospital | Oversee respiratory care activities, primarily in the medical ICU and Neurosciences ICU                | 6-12 h/wk |
| 2000-2016 | Multidisciplinary<br>ALS Clinic | Massachusetts<br>General Hospital | Provide support for respiratory care (noninvasive ventilation, invasive ventilation, airway clearance) | 2-4 h/wk  |

#### **Report of Technological and Other Scientific Innovations**

- |  |   |
|--|---|
| Nasal delivery system for inhaled nitric oxide<br>1999 | United States Patent #6,142,147<br>This innovation has contributed to the clinical use of inhaled nitric oxide in spontaneously breathing patients. |
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#### **Recognition**

2011	Distinguished Alumni Wall of Honor Inductee	Penn Manor High School	Lifetime alumnus achievement award
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### **Report of Scholarship**

#### **Research investigations**

1. **Hess D**, Lind L. Nomograms for the application of the Bourns BP200 as a volume constant ventilator. *Respir Care* 1980;26:248-50.
2. Kauffman G, **Hess D**. Use of medication cards in a respiratory therapy training program. *Respir Care* 1980; 25:660-3.
3. **Hess D**, Coval G. Nomograms to estimate the duration of flow from oxygen cylinders. *EMT J* 1981; 5:114-7.
4. **Hess D**. The use of arterial blood gas cards in a respiratory therapy program. *Respir Ther* 1981 (Sept/Oct); 11:83-4.
5. Kauffman G, **Hess D**. Modification of the infant Laerdal resuscitation bag to monitor airway pressure. *Crit Care Med* 1982; 10:112-3.
6. **Hess D**, Figaszewski E, Henry D, Hoffman S, Pino D. Subjective effects of dry versus humidified low flow oxygen on the upper respiratory tract. *Respir Ther* 1982(Nov/Dec); 12:71-5.
7. Maxwell C, **Hess D**, Silage D. Clinical application of the hand-held computer in respiratory intensive care. *Crit Care Q* 1983; 6(2):85-91.
8. **Hess D**. Use of the hand-held computer as a teaching tool for acid-base interpretation. *Respir Care* 1984; 29:375-9.
9. **Hess D**, Maxwell C, Silage D. An arterial blood gas interpretation program for the hand-held computer. *Respir Care* 1984; 29:756-9.
10. **Hess D**, D'Agostino D, Magrosky S, Myers C, Shuman J. Effect of nasal cannula displacement on arterial PO<sub>2</sub>. *Respir Care* 1984; 29:21-4.
11. **Hess D**, Elser R, Agarwal N. The effect of measured versus calculated hemoglobin oxygen saturation, carboxyhemoglobin, and methemoglobin on the pulmonary shunt calculation. *Respir Care* 1984; 29:1001-5.
12. Maxwell C, **Hess D**, Shefet D. Use of the arterial/alveolar oxygen tension ratio to predict the FIO<sub>2</sub> needed for a desired PaO<sub>2</sub>. *Respir Care* 1984; 29:1135-9.
13. **Hess D**, Easter G. Effect of tidal volume, respiratory rate, and initial FIO<sub>2</sub> on the time required to reach 100% oxygen with the Bear 1 ventilator. *Respir Ther* 1986; Jan/Feb:17-21.

14. **Hess D**, Maxwell C, Agarwal N, Silage D. Hand-held computer applications in critical care medicine. *Respir Ther* 1985; 15(4):25-8.
15. **Hess D**, Baran C. Ventilatory volumes using mouth-to-mouth, mouth-to-mask, and bag valve-mask techniques. *Am J Emerg Med* 1985; 3:292-6.
16. **Hess D**, Good C, Didyoung R, Agarwal N, Rexrode WO. The validity of assessing arterial blood gases 10 minutes after an FIO<sub>2</sub> change in mechanically ventilated patients without chronic pulmonary disease. *Respir Care* 1985; 30:1037-41.
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18. Smoker J, **Hess D**, Frey V, Tangen M, Rexrode WO. A protocol to assess oxygen therapy. *Respir Care* 1986; 31:35-9.
19. **Hess D**, Evans C, Thomas K, Eitel D, Kochansky M. The relationship between conjunctival PO<sub>2</sub> and arterial PO<sub>2</sub> in 16 normal persons. *Respir Care* 1986; 31:191-8.
20. **Hess D**, Eitel D. Blood gas analysis. A portable and inexpensive computer system interprets arterial blood gases. *Medical Electronics* 1986; 17(Oct):78-81.
21. **Hess D**, Baran C. Ventilatory volumes using mouth-to-mouth, mouth-to-mask, and bag-valve techniques. *Respir Care* 1986; 31:774-9.
22. Smoker JM, Tangen MI, Ferree SM, **Hess D**, Rexrode WO. A protocol to assess and administer aerosol bronchodilator therapy. *Respir Care* 1986; 31:780-5.
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24. **Hess D**, Eitel D. A portable and inexpensive computer system to interpret arterial blood gases. *Respir Care* 1986; 31:792-5.
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33. **Hess D**, Kacer K, Beener C. An evaluation of the accuracy of the Ohmeda 5410 Spirometer. *Respir Care* 1988; 33:21-6.
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39. **Hess D**, Goff G, Johnson K. The effect of hand size, resuscitator brand, and use of two hands on volumes delivered during adult bag-valve ventilation. *Respir Care* 1989;34:805-10.
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