

CURRICULUM VITAE
NICHOLAS S. HILL, M.D.

January 2013

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EDUCATION

Undergraduate	1971,	A.B.	Harvard College
Medical School	1975,	M.D.	Dartmouth Medical School

POSTGRADUATE TRAINING

Internship and Residencies:

1975-1977	Medicine	New England Medical Center Tufts University School of Medicine
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1977-1978	Internal Medicine	Boston Veterans Admin. Medical Center,
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Fellowships:

1978-1979	Cardiovasc. Med.	University of Massachusetts Medical Center
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1979-1982	Pulmonary Med.	Boston University School of Medicine
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LICENSURE AND CERTIFICATION

1977	#41058	Massachusetts
1987	#7167	Rhode Island
1975	Diplomate	National Board of Medical Examiners
1978	Diplomate	American Board of Internal Medicine
1983	Diplomate	American Board of Internal Medicine, Pulmonary Diseases
1987, renewed 2009		American Board of Internal Medicine, Special Qualification in Critical Care Medicine

ACADEMIC APPOINTMENTS

1982-1987	Assistant Professor of Medicine	Medicine	Tufts University School of Medicine
1987-1994	Associate Professor of Medicine	Medicine	Brown University
1994-2002	Professor of Medicine	Medicine	Brown University
2002-2012	Adjunct Professor of Medicine	Medicine	Brown Medical School Alpert School of Medicine, Brown University
2002-present	Professor of Medicine	Medicine	Tufts University School of Medicine

HOSPITAL APPOINTMENTS

1982-1987	Assistant Physician	Medicine	New England Medical Center
1987-2012	Associate Physician	Medicine	University Medicine Foundation, Rhode Island Hospital
1987-1996	Director, Resp. Care Unit	Medicine	Rhode Island Hospital
1996-2000	Medical Director, Pulmonary Rehab Program	Medicine	Meeting Street Center

1997-1998	Director, Medical ICU	Medicine	Rhode Island Hospital
1998-2002	Director, Critical Care Service	Medicine	Rhode Island Hospital
2000-2002	Chief, Pulmonary Division	Medicine	Miriam Hospital
2002-present	Chief, Pulmonary, Critical Care & Sleep Division	Medicine	Tufts Medical Center
2003-present	Medical Director, Outpatient Pulmonary Rehabilitation Program	Medicine	New England Sinai Rehabilitation Center

OTHER CLINICAL POSITIONS

Medical Director
Pulmonary Rehabilitation Program, Meeting Street Center, East Providence, RI, 1996-2000

Medical Director
Pulmonary Rehabilitation Program, Miriam Hospital, 2000-2002

Medical Director
VNA of Rhode Island, 1996-2002

Medical Director
Respiratory Care Tufts-New England Medical Center, 2002-

Physician
Pulmonary Hypertension Clinic, Rhode Island Hospital, 2002-
Consultant, Louise Wilcox Multidisciplinary ALS Clinic, Rhode Island Hospital, 2003-

Medical Director
Pulmonary Rehabilitation Program, New England Sinai Hospital, Stoughton, MA, 2003-

HONORS AND AWARDS

- 1973 Mosby Book Award, Dartmouth Medical School
- 1971 Phi Beta Kappa
- 1975 Alpha Omega Alpha
- 1984 Career Investigator Award, NIH
- 1984 Fellowship Award, Parker B. Francis Foundation
- 2002 Citizenship Award, City of Providence, RI
- 2002 Murray Kornfeld Honor Lecture, ACCP Annual Meeting
- 2003 Phil Kittredge Memorial Lecture, AARC Annual Meeting
- 2004 Eli Lilly Distinguished Scholar in Critical Care
- 2003-Present Best Doctors in America
- 2005 Henry Chadwick Medal, Massachusetts Medical Society
- 2006 Present Best Doctors in Boston, Boston Magazine
- 2007 Parker B. Francis Speaker, ATS International Conference
- 2009 Pulmonary Hypertension Association, Award of excellence in PAH Care
- 2009 Margaret Pfrommer Memorial Lecture, ACCP Annual Meeting

HOSPITAL COMMITTEES

Internship Selection Committee
New England Medical Center Hospital, 1983-1987

Internship Selection Committee
Rhode Island Hospital, 1987-2002

Animal Welfare Committee
Rhode Island Hospital, 1990-2002

Ethics Committee
Rhode Island Hospital, 1996-2002

Scientific Advisory Committee
General Clinical Research Center, Tufts-New England Medical Center

OTHER MAJOR COMMITTEE ASSIGNMENTS

Promotions Committee

Department of Medicine, 1995-2002

Chair, Research Committee

Dept. of Medicine, Brown Medical School, 1999-2002

Strategic Planning Committee

Brown Medical School, 1999-2000

Chair Elect

Medical Faculty Executive Committee

Brown Medical School, 1999-2000

Chair

Medical Faculty Executive Committee, 2000-2001

Chair Emeritus

Medical Faculty Executive Committee, 2001-2002

Research Advisory Committee

Academic Medical Center, 1999-2002

Clinical Research Development Committee

Tufts Medical Center, 2007-Present

Grant Review Committees/Study Sections

American Thoracic Society, Research Grant Review Committee, 1987-1990.

National Heart Lung & Blood Institute

Lung Biology and Pathology Review Group, Aspen, CO. June 1991

Program Project Grant Reviewer.

October 1992

Chair, Lung Biology and Pathology

Ad Hoc Review Group. 1996

Eastern Regional Cardiopulmonary Grant Review Committee

American Heart Association. March, Co-Chair, 1998, Chair 1999, 2000

Ad Hoc Reviewer

Orphan Products Division, FDA/NIH, June, 2000, Dec, 2002

Site Visitor for Review of General Clinical Research Center

Boston University, Boston, MA. July, 2000.

Member ARDSnet Review Committee

NIH. March 2005.

Member, Ad Hoc Review Group, Specialized Clinical Centers of Research, Pulmonary

Vascular Disease, NIH. March, 2006

Member, Ad Hoc Review Group, Centers for Multicenter Trial; Pulmonary Hypertension in

Sickle Cell Disease, NIH. April 2006

CONSENSUS CONFERENCES

American College of Chest Physicians Consensus Conference

Mechanical Ventilation Beyond The Critical Care Unit. October, 1993

Joint Consensus Group on Noninvasive Ventilation

American College of Chest Physicians and National Association of Medical Directors of Respiratory Care Scientific Advisor.

International Consensus, Conference

Noninvasive Positive Pressure Ventilation in Acute Respiratory Failure

Paris, France. April. 2000.

Roundtable on Mechanical Ventilation
European Intensive Care and Emergency Medicine Society
Brussels, Belgium. March 2003.

Jury Member, International Consensus Conference
On End-of-Life in the ICU. Brussels, Belgium. April 2003.

Presenter, International Consensus Conference
On Weaning from Mechanical Ventilation, Budapest, Hungary. March 2005.

Summarizer Conference on Respiratory Complications of Neuromuscular Disease,
American Respiratory Care Foundation. March, 2006

TRAINING OF STUDENTS/POST-DOCTORAL FELLOWS

Name	Title	Dates	Current Position
Alec Martin-Achard MD	Role of Oxidants in Lung Injury	83-84	Practice, Geneva, SW
Peter Jederlinic, MD	ACE Activity In Hypoxic Lungs	84-85	Asst Prof of Med, Cooperstown, NY
Chester Mohr MD	NIV in Neuromuscular Disease	85-86	Practice, Cape Cod Hospital
James Klinger MD	ANP in Hypoxic Pulmonary Hypertension	88-92	Assoc Prof. Med, Brown University
Anibal Arjona PhD.	Growth Suppressive Effect of ANP	91-94	Research Assoc, Boston Heart Fnd
Raymond Petit MD	Polycythemia and Pulmonary Hypertension	91-92	Private Practice, Massachusetts
James Nakashima PhD	ANP Receptor Modulation in Endothelial Cells	92-99	Asst. Prof. Med, Brown University
Thomas Meyer MD	Noninvasive Ventilation in Respiratory Failure	93-94	Asst. Prof. Medicine, Jefferson Univ.
Naomi Kramer MD	Noninvasive Ventilation in Respiratory Failure	94-95	Asst. Prof. Medicine, Brown Univ.
Richard Swift MD	CNP Responses during Hypoxia	95-96	Private Practice, New Jersey
Sangeeta Mehta MD	Mechanisms of Noninvasive Ventilation	95-97	Prof Medicine, Univ of Toronto
James McCormick MD	Masks for Noninvasive Ventilation	97-98	Private Practice, Westerly, RI
Mallik Karemsetty PhD	Mechanisms of Pulmonary Vasoreactivity	98-00	Asst. Prof of Med Brown University
John Ladetto MD	Angiogenesis in Pulmonary Hypertension	99-00	Private practice, Pawtucket, RI
Ioana Preston MD	Phosphodiesterase Inhibitors In PHT	2000-1	Critical Care Fellow, Brown Univ.
Tim Liesching MD	Noninvasive Ventilation for CHF	2001-2	University
Vinay Maheshwari MD	Utilization of NPPV in Acute Care	2003-5	Asst Prof Med, Tufts University
Kate Steiner MD	Pulmonary Hypertension	2005-6	Asst Prof Med, UMASS University
Aylin Ozsancek MD	Utilization of Noninvasive Ventilation	2005-8	Research Fellow
Ali Khodabنده MD	Noninvasive Ventilation	2006-8	Research Fellow
John Brennan MD	Pulmonary Hypertension Critical Care	2006-8	Private Practice
Samy Sidhom MD	Utilization of Noninvasive Ventilation	2008-9	Research Fellow
Imrana Qawi MD	Sedation for Noninvasive Ventilation	2009	Research Fellow
Archan Shah MD	Pulmonary Hypertension	2009	Research Fellow, Pre-Doctor Trainee
Matthew Cohn MD	Effect of Breathe Ventilation System on Work of Breathing in COPD patients	2012-3	Research Fellow
Viola Tracy MD	Effect of Breathe Ventilation System on Work of Breathing in COPD patients	2012-3	Research Fellow
Gabriel Salameh	Pulmonary Vasoconstriction in Rats	94-95	Medical Student, UMDMJ
James Watt	Endothelin in Hypoxic Vasoconstriction	95-96	Unknown
David Sciacca	Pulmonary Hypoxic Vasoconstriction	96-97	Medical Student, Tufts
Christopher Alia	Vasoconstrictor Responses	96-98	Medical Student, NY Medical College
Grace Wang	Endothelin Receptors during Hypoxia	97-98	Research Assistant, Brown University
Brian Kwong	Angiogenesis In Pulmonary Hypertension	2000-1	Medical Student Early ID Trainee
Kenyatta Lee	Northern Analysis of Brain Natriuretic Peptide	95-96	Medical Student, Cornell University
Stacy Harrington	Histologic Analysis of Pulmonary Arteries	97-98	Undergraduate Univ. of Delaware
Shanta Whitaker	MAP Kinases in Hypoxic Pulmonary Hypertension	2001	Graduate/Student, Microbiology

TEACHING RESPONSIBILITIES▪ **University Teaching Roles**

Section Leader	Biomed 117	Mammalian Physiology	1991-1994
Co-director	Biomed 209	Topics in Respiratory Physiology	1987-1989
Co-director	Biomed 219	Topics in Environmental Physiology	1989-1994
Section Leader	Biomed 281	Second year Pulmonary Pathophysiology	1987-2002
Small Group Leader and Lecturer Tufts University			
	Lecturer in second year Pathophysiology		2002-
	Small group Leader		2002-

▪ **Hospital Teaching Roles**

Attending Physician, Medical Intensive Care Unit, Brown	1987-2002
Attending Physician, Pulmonary Consult Service, Brown	1987-2002
Attending Physician, Respiratory Care Unit, Brown	1987-2002
Attending Physician, Pulmonary Ward, Tufts	2002-
Attending Physician, Medical Intensive Care Unit, Tufts	2002-

PROFESSIONAL SOCIETIES

American College of Chest Physicians, Fellow 1982-
 American Thoracic Society, Member 1982-
 Rhode Island Thoracic Society, Member 1987-
 Massachusetts Thoracic Society, Councilor, 1982-1987
 American Association for the Advancement of Science, 1985-
 American Physiological Society, Member 1985-
 American Federation for Clinical Research, Member, 1982-
 New England Chapter of American College of Chest Physicians 1984-
 Pulmonary Hypertension Association 2004-

OFFICE AND COMMITTEE ASSIGNMENTS IN PROFESSIONAL SOCIETIES

- **American Thoracic Society**
 - Program Planning Committee, Assembly on Pulmonary Circulation 1991-1993
 - Chair-elect, 1995 Chair, 1996. Member, 2006-7
 - Member, Research Coordinating Committee, 1992-1995
 - Member, Planning Committee, 2000-2006
 - Chair, Nominating Committee, Pulmonary Circulation Assembly, 2002-2003
 - Member, Program Review Subcommittee, 2003-2004
 - Chair, Program Planning Committee, Critical Care Assembly, 2003-2006
 - Member, Nominating Committee, Critical Care Assembly, 2006-7
 - Member, Steering Committee, Critical Care Assembly, 2006-7
 - Secretary-Treasurer 2008-9, Vice President 2009-10, President Elect 2010-11
 - President 2011-12, Immediate Past President 2012-13.
- **American College of Chest Physicians**
 - Vice Chair, Home Care Network, 2001-2002
 - Chair, Home Care Network, 2002-2004
 - Steering Committee, Home Care Network, 2001-
- **Rhode Island Thoracic Society,**
 - National Chapter Representative 1991-2000
- **New England Chapter of American College of Chest Physicians**
 - Vice President 1994-1995
 - President, 1995-1996
- **Pulmonary Hypertension Association 2004-**
 - Member, Scientific Leadership Committee 2004-2012

MAJOR RESEARCH INTERESTS

- Pulmonary Vascular Biology

My main focus has been on the regulation of pulmonary vascular tone using hypoxia as a model. I have devoted considerable attention to the role of natriuretic peptides in ameliorating hypoxic pulmonary vasoconstriction and remodeling, and more recent interests have been in the role of angiogenic factors in hypoxic pulmonary hypertension, the role of serotonin in modulating pulmonary vasoreactivity, retinoic acid and the pathogenesis of PH, and signal transduction pathways including Rho Kinase and lipoxigenases.

- Clinical Pulmonary Hypertension

I established a Pulmonary Hypertension Center at Rhode Island Hospital and New England Medical Center and get referrals from all over Southern New England. My group has participated in many multicenter trials to evaluate the role of both intravenous and subcutaneous prostacyclins and more recently oral endothelin antagonists and combination therapy. We have also recently published studies on therapeutic approaches in various forms of pulmonary hypertension, and continue to be interested in contributing to advances in therapy and suggesting new possible therapeutic approaches.

- Noninvasive Ventilation

A major interest in clinical research has been to evaluate ways of delivering and testing the efficacy of noninvasive ventilation; the provision of mechanical ventilatory assistance without requiring an invasive airway. My group has performed a number of controlled trials dealing with these issues, and continues to examine new applications, improved techniques, and ethical aspects of noninvasive ventilation. Our most recent thrust has been to explore ways of enhancing the utilization of noninvasive ventilation in critical care and to understand the effect of noninvasive ventilation on sleep in the ICU.

RESEARCH SUPPORT

GRANT AWARD/ FUNDING AGENCY	\$ AMOUNT	YEAR(S)
• CLINICAL INVESTIGATOR AWARD, NHLBI Principal Investigator	• \$50,000	• 1983-1988
• PARKER B. FRANCIS FOUNDATION FELLOWSHIP Principal Investigator	• \$25,000	• 1983-1987
• SHERMAN-WELCH FOUNDATION AWARD Massachusetts Thoracic Society Principal Investigator	• \$5,000	• 1983-1985
• GRANT-IN-AID AMERICAN THORACIC SOCIETY Principal Investigator	• \$17,500	• 1983-1985
• TRAVENOL, INC Grant for Study of Negative Pressure Ventilation in COPD Co-Investigator	• \$25,000	• 1984-1986
• RESPIRONICS, INC. Grant for Study of Nasal Ventilation in COPD Principal Investigator	• \$18,000	• 1988-1989
• GRANT-IN-AID, RHODE ISLAND HEART ASSOCIATION Principal Investigator	• \$20,000	• 1988-1989
• RESPIRONICS, INC. Grant for Study of Nasal Ventilation in Neuromuscular Disease Principal Investigator	• \$5,000	• 1990
• GRANT-IN-AID, RHODE ISLAND HEART ASSOCIATION Principal Investigator	• \$20,000	• 1990-1991
• BURROUGHS-WELLCOME, INC. Multicenter Trial Of Prostacyclin Infusion in Primary Pulmonary Hypertension Principal Investigator	• \$20,000	• 1991-1994
• RESPIRONICS, INC Grant for Study of Nasal Ventilation Principal Investigator	• \$8,000	• 1992
• LIFECARE, INC. Grant for Study of Negative Pressure Ventilator Principal Investigator	• \$16,000	• 1993
• RHODE ISLAND HEART ASSOCIATION - GRANT-IN-AID, Principal Investigator	• \$25,000	• 1993-1995

- PURITAN-BENNETT, INC • \$4,000 • 1995
Grant for Evaluation Of 335 Bi-level Positive Airway Pressure Ventilation
Principal Investigator
- RESPIRONICS, INC. • \$18,300 • 1994-1995
Comparison of Bipap Vs CPAP In Management of Acute Pulmonary Edema
Principal Investigator
- RESPIRONICS, INC • \$14,000 • 1995-1996
Evaluation of Exhalation Valves for Bilevel Positive Airway Pressure Ventilation
Principal Investigator
- RESPIRONICS, INC • \$5,000 • 1996-1997
Evaluation of Oronasal vs Nasal Masks for Administration of Noninvasive Ventilation
Principal Investigator
- RESPIRONICS, INC. • \$62,500 • 1997-1998
Evaluation of the Vision Proportional Assist Ventilator
Principal Investigator
- RHODE ISLAND HEART ASSOCIATION - GRANT-IN-AID, • \$30,000 • 1997-1999
Modulation of Pulmonary Hypertension by Natriuretic Peptides
Principal Investigator
- MILES LABORATORY • \$20,000 • 1996-1997
Phase III Trial of Norasept (Anti-TNF Antibody) for the Therapy of Sepsis.
Principal Investigator
- GLAXO-WELLCOME, INC. • \$20,000/pt • 1997-1998
Randomized Trial of Intravenous Flolan for Patients with Pulmonary Hypertension
due to Scleroderma
- UNITED THERAPEUTICS INC. • \$15,000/pt • 1998-1999
Randomized Trial of Subcutaneous UT-15 to Treat Patients with Severe Pulmonary
Hypertension
- RESMED, INC. • \$40,000 • 1998-1999.
Randomized Trial of Noninvasive Ventilation to Facilitate Extubation of Patients with
Respiratory Failure
- RESMED, INC. • \$40,000 • 2000-
Randomized Trial of NPPV after Hypercapnic Respiratory Failure in COPD.
Principal Investigator
- SUNTORY, INC. • \$45,000 • 2000-
Phase II Multicenter Trial of Alpha-hANP Infusion in ARDS.
Principal Investigator
- ICOS PHARMACEUTICALS/TEXAS BIOCHEMICAL • \$20,000/pt • 2001-2002
Randomized Controlled Trial of Sitaxsentan in the Therapy of Severe Pulmonary
Hypertension
- RESPIRONICS, INC. • \$10,000 • 2002-2003
Trial of the Total Face Mask for Noninvasive Ventilation
- PFIZER, INC. • \$17,000/pt • 2003
Randomized Trial of the Phosphodiesterase Inhibitor, Sildenafil in Pulmonary
Arterial Hypertension
- ELI LILLY. • \$50,000/yr • 2003-2006
Distinguished Scholar in Critical Care Medicine Chest Foundation, Enhancing the
Utilization of Noninvasive Positive Pressure Ventilation.
- MYOGEN, INC. • \$15,000/pt • 2003-2005
Randomized Trial of Ambrisentan to Treat Patients with Pulmonary Arterial
Hypertension
- PFIZER, INC. • \$17,000/pt • 2003-2005
Randomized Trial of the Phosphodiesterase Inhibitor, Sildenafil, Added to
Intravenous Epoprostenol in Patients with Pulmonary Arterial Hypertension.
- ENCYSIVE, INC. • \$17,000/pt • 2004-2006
Open-Label Trial of Sitaxsentan In The Therapy Of Severe Pulmonary Hypertension.

- RESMED, INC. Investigation of Inspiratory Time Limits for Enhancing Patient-Ventilator Synchrony During Noninvasive Ventilation • \$40,000 • 2004-2005
- ACTELION, INC. Transition from Prostacyclin Infusion to Oral Bosentan (Investigator Initiated) • \$35,000/yr • 2003-2005
- UNITED THERAPEUTICS, INC. Transition from IV Epoprostenol to Sc Treprostinil (Investigator Initiated) • \$40,000 • 2003-2005
- UNITED THERAPEUTICS, INC. Trial Of Ropivacaine, A Local Anesthetic, In Controlling Site Pain during Sc Treprostinil Infusion. • 2,000 /pt • 2005
- SUNOL, INC.SAFETY Pharmacokinetics and Physiological Effects Of Ch36 In Patients with Acute Lung Injury • 8000/pt • 2005
- ASTRA-ZENCA, INC. Efficacy and Safety of Quetiapine in Medical Intensive Care Unit Patients with Delirium: a Randomized Study • \$5,000/pt • 2005-2006
- ICOS PHARMACEUTICALS, INC. Randomized, Controlled Trial of Tadalafil to Treat Pulmonary Arterial Hypertension. • \$8,000/pt • 2005-2006
- RESPIRONICS, INC. Enhancement of the Utilization of Noninvasive Positive Pressure Ventilation Multicenter Trial. • \$333,000/yr • 2005-2008
- COTHERIX, INC. Addition of Inhaled Iloprost to Sildenafil In Pulmonary Arterial Hypertension- Multicenter Trial • \$8,000/pt • 2006-2007
- ACTELION, INC. Addition of Bosentan to Sildenafil In Pulmonary Arterial Hypertension, Multicenter Trial • \$8,000/pt • 2006-2007
- UNITED THERAPEUTICS, INC. Evaluation of Oral Treprostinil In Pulmonary Arterial Hypertension Multicenter Trial • \$8,000/pt • 2006-2007
- LUNG RX, INC. Addition of inhaled Treprostinil to Sildenafil or Bosentan In Pulmonary Arterial Hypertension Multicenter Trial. • \$8,000/pt • 2006-2007
- EPIX PHARMACEUTICALS Effect of Serotonin B2 Receptor Blockade On Pulmonary Hypertension in COPD. • \$8,000/pt • 2006-2007
- GILEAD PHARMACEUTICALS Ambrisentan to Treat Patients with WHO Groups 1,3 and 4 Pulmonary Arterial Hypertension. ARIES 3. • \$8,000/pt • 2006-2007
- UNITED THERAPEUTICS Long-term effects of inhaled treprostinil • \$10,000/pt • 2007-2008
- RESPIRONICS GRANT Utilization of Noninvasive Ventilation in Acute Care. The major goal of this multicenter project is to evaluate the utilization of noninvasive ventilation in acute respiratory care in different hospitals. • • 2007-2013
- ACTELION Study to assess the safety and tolerability of ACT-064992 in patients with symptomatic pulmonary arterial hypertension • \$10,000/pt • 2008-2009
- UNITED THERAPEUTICS Evaluation of oral treprostinil effect on exercise capacity • \$6,000/pt • 2008-2010
- UNITED THERAPEUTICS A post-marketing observational study to assess respiratory tract adverse events in pulmonary arterial hypertension patients treated with Tyvaso (treprostinil) inhalation solution • \$4,000/pt • 2008-2010
- ACTELION REVEAL Registry of pulmonary hypertension patients • \$3,000/pt • 2008-

- UNITED THERAPEUTICS • \$4,000/pt • 2009-2010
An open-label extension trial of UT-15C SR in subjects with pulmonary arterial hypertension
- BAYER • \$8,000/pt • 2009-2012
Randomized controlled trial to evaluate efficacy and safety of oral BAY 63-2521 in patients with PAH (2 studies – blinded and extension)
- HOSPIRA • \$3,000/pt • 2009-
Use of dexmetomidine as sedative agent during non-invasive ventilation
- GILEAD • \$8,000/pt • 2009-2012
Randomized controlled study of Cicletanine in subjects with PAH
- GILEAD AMBITION • \$8,000/pt • 2010-
Assesses the effect of an up- front combination of Tadalafil and Ambrisentan compared to each drug alone in patients with pulmonary arterial hypertension
- GeNO LLC • \$3,000/pt • 2010
Evaluates new way to deliver inhaled nitric oxide and assesses response in patients with pulmonary hypertension
- PHAROS • \$2,000/pt • 2010-
Examines natural history of scleroderma in registry centered at Georgetown Medical Center
- RESPIRONICS • \$3,000/pt • 2010-2011
High intensity non-invasive positive pressure ventilation (NPPV) for stable hypercapnic COPD patients
- GENZYME • \$40,000/pt • 2011-
Evaluation of neutral endopeptidase inhibitor + nitric oxide in rates with pulmonary hypertension induced by monocrotalins
- NHLBI - RO-1 AWARD • \$220,000/yr • 1991-2001
"Atrial Natriuretic Peptide and the Lung"
Principal Investigator
- NIH • • 2008-2013
Endothelin and Angiotensin Receptor Signaling in Pulmonary Hypertension
Co-Investigator, (PI: Peter Polgar PhD)
- NIH/NHLBI • • 2009-
The role of endothelial and angiotension receptor signaling in pulmonary hypertension
Co-Investigator,(PI: Peter Polgar PhD)
- NIH/NHLBI • • 2011-2016
Implementation and Outcomes of Noninvasive Ventilation in COPD
Co-Investigator, (PI: Peter Lindenauer PhD)
- NIH/NHLBI • • 2012-2014
Targeted Rho kinase-1 KO Mouse Model for Vascular Smooth Muscle Remodeling
Collaborator, PI: Deniz Toksoz, PhD
- NIH/NHLBI • • 2012-2016
Smooth Muscle Cell Protein Serotonylation and Pulmonary Hypertension
Collaborator,(PI: Barry Fanburg, MD)
- NIH/NHLBI • \$62,500 • 2013-2017
National Biological Sample and Data Repository for PAH
Co-Investigator, (PI: Bill Nichols, PhD)
- BREATHE TECHNOLOGIES, INC. • \$60,000 • 2012-13
Effect of Noninvasive Open Ventilation (NICU) on Work of Breathing in COPD patients.

EDITORIAL BOARDS AND ACTIVITY

Editorial Boards:

American Journal of Respiratory and Critical Care Medicine 1994-2000, 2002-2008
 Ibero American Journal of Noninvasive Mechanical Ventilation 2003-
 Chronic Respiratory Disease, Arnold Publishers, London. 2003-
 Breathe, education Journal of European Respiratory Society, 2006-
 Expert Reviews in Respiratory Medicine 2007-
 Breathe 2008-

Associate Editor, Chest 2005-
 Respiratory Care 2008-

Reviewer for the following journals:

- American Journal of Epidemiology
- American Journal of Physiology: Lung cellular and molecular physiology
- American Journal of Respiratory and Critical Care Medicine
- Annals of internal Medicine
- Chest
- Circulation Research
- Critical Care Medicine
- European Respiratory Journal
- General Internal Medicine
- Intensive Care Medicine
- International Journal of COPD
- International Journal of Sports Medicine
- Journal of Applied Physiology
- Journal of Clinical Investigation
- Lung
- Medicine and Science in Sports and Medicine
- Muscle & Nerve
- New England Journal of Medicine
- Respiratory Care
- Respiratory Medicine
- Thorax

BIBLIOGRAPHY Original Articles

1. Bouverot P, Hill NS, Jammes Y. Ventilatory responses to CO₂ in intact and chronically chemodenervated Peking Ducks. *Respir Physiol* 22:137-156, 1974.
2. Hill NS, Tenney SM. Ventilatory responses to CO₂ and hypoxia in the two-toed sloth (*Choloepus hoffmanni*). *Respir Physiol* 22:322-332, 1974.
3. Hill NS, Rounds S. Amrinone dilates pulmonary vessels and blunts hypoxic vasoconstriction in isolated rat lungs. *Proc Soc Exp Biol Med* 173:205-212, 1983.
4. Hill NS, Rounds S. Vascular reactivity is increased in rat lungs injured with a-naphthyl-thiourea. *J Appl Physiol: Respir Environ Exercise Physiol* 54:1693-1701, 1983.
5. Hill NS, O'Brien RF, Rounds S. Repeated lung injury due to a-naphthylthiourea causes right ventricular hypertrophy in rats. *J Appl Physiol: Respir Environ Exercise Physiol* 56:388-396, 1984.
6. Brody JS, Vaccaro CA, Hill NS, Rounds S. Binding of charged ferritin to alveolar wall components and charge selectivity of macromolecular transport in permeability pulmonary edema in rats. *Circ Res* 55:155-167, 1984.
7. Ou LC, Hill NS, Tenney SM. Ventilatory responses and blood gases in susceptible and resistant rats to high altitude. *Respir Physiol* 58:161-170, 1984.
8. Hill NS, Ou LC. The role of pulmonary vascular responses to chronic hypoxia in the development of chronic mountain sickness in rats. *Respir Physiol* 58:171-85, 1984.
9. Rounds S, Farber HW, Hill NS, O'Brien RF. Effects of endothelial cell injury on pulmonary vascular reactivity. *Chest* 88:213S-216S, 1985.
10. Ou LC, Sardella GL, Hill NS, Tenney SM. Acute and chronic pulmonary pressor responses to hypoxia: the role of blunting in acclimatization. *Respir Physiol* 64:81-91, 1986.
11. Farber HW, Arbetter J, Schaefer EJ, Hill SP, Grimaldi R, Dallal G, Hill NS. Acute metabolic effects of an endurance triathlon. *Ann Sports Med* 3:131-138, 1987.

12. Konstam MA, Hill NS, Bonin JD, Isner JM. Prostaglandin medication of hemodynamic responses to pulmonary microembolism in rabbits: effect of ibuprofen and meclofenamate. *Exp Lung Res* 12:331-345, 1987.
13. Hill NS, Smith RP, Ou LC. Time course of the development of cardiopulmonary responses to chronic hypoxia in two strains of rat with differing susceptibilities to high altitude. *Respir Physiol* 70:229-240, 1987.
14. Hill NS, Sardella GL, Ou LC. Reticulocytosis, increased mean red cell volume, and greater blood viscosity in altitude susceptible compared to altitude resistant rats. *Respir Physiol* 70:241-249, 1987.
15. Langleben D, Jones RC, Aronovitz MJ, Hill NS, Ou LC, Reid LM. Pulmonary artery changes in two colonies of rats with differing sensitivity to chronic hypoxia. *Am J Pathol* 128:61-66, 1987.
16. Hill NS, Ou LC. The possible role of atrial natriuretic factor in modulating the pulmonary hypertensive response to hypoxia. *Chest* 93:955-965, 1988.
17. Jederlinic P, Hill NS, Ou LC, Fanburg BL. Angiotensin converting enzyme in chronically hypoxic rats. *Thorax* 43(9):703-707, 1988.
18. Zibrak JD, Hill NS, Federman E, Kwa SL, O'Donnell C. Evaluation of intermittent long-term negative pressure ventilation in patients with severe chronic obstructive pulmonary disease. *Am Rev Respir Dis* 138:1515-1518, 1988.
19. Hill NS, Jederlinic P, Gagnon J. Supplemental oxygen reduces right ventricular hypertrophy in monocrotaline-injected rats. *J Appl Physiol* 66:1642-1648, 1989.
20. Ou LC, Sardella GL, Hill NS, Thron CD. Does atrial natriuretic factor protect against right ventricular overload. I. Hemodynamic study. *J Appl Physiol* 67:1606-1611, 1989.
21. Ou LC, Yen S, Sardella GL, Hill NS. Does atrial natriuretic factor protect against right ventricular overload. II. Tissue binding study. *J Appl Physiol* 67:1612-1616, 1989.
22. Lamon-Fava S, McNamara JR, Farber HW, Hill NS, Schaefer EJ. Acute changes in lipid, lipoprotein, apolipoprotein and low-density lipoprotein particle size after an endurance triathlon. *Metabolism* 38:921-925, 1989.
23. Konstam MA, Brockway B, Aronovitz MJ, Ramberg K, Palabrica TM, Otradovec CL, Cooper A, Hill NS. Kinetics of pulmonary platelet deposition and clearance during thrombin-induced microembolism in rabbits. *Exp Lung Res* 15:867-879, 1989.
24. Mohr CH, Hill NS. Long-term follow-up of nocturnal ventilatory assistance in patients with respiratory failure due to Duchenne-type muscular dystrophy. *Chest* 97:91-96, 1990.
25. Hill NS, Lee SL, Fanburg BL. Effect of calcium channel blockers on serotonin uptake (43043). *Proc Soc Exp Biol Med* 193:326-330, 1990.
26. Strumpf DA, Carlisle CC, Millman RP, Smith KW, Hill NS. An evaluation of the Respironics BiPAP Bi-level CPAP device for delivery of assisted ventilation. *Resp Care* 35:415-422, 1990.
27. Hill NS, Lee SL, Jederlinic P, Fanburg BL. Effect of chronic in vivo exposure to hypoxia on serotonin uptake by isolated rat lungs. *Gen Pharmacol* 21:943-947, 1990.
28. Strumpf DA, Millman RP, Carlisle CC, Grattan LM, Ryan SM, Erickson AD, Hill NS. Nocturnal positive pressure ventilation via nasal mask in patients with severe chronic obstructive pulmonary disease. *Am Rev Respir Dis* 144:1234-1239, 1991.
29. Hill NS, Jacoby C, Farber HW. Effect of an endurance triathlon on pulmonary function. *Med Sci Sports Exer* 23:1260-1264, 1991.
30. Farber HW, Schaefer EJ, Franey R, Grimaldi R, Hill NS. The endurance triathlon: metabolic changes after each event and during recovery. *Med Sci Sports Exer* 23:959-965, 1991.
31. Hill NS, Eveloff SE, Carlisle CC, Goff SG. Efficacy of nocturnal nasal ventilation in patients with restrictive thoracic disease. *Am Rev Respir Dis* 145:365-371, 1992.
32. Hill NS, Redline S, Carskadon MA, Curran FJ, Millman RP. Sleep-disordered breathing in patients with Duchenne muscular dystrophy using negative pressure ventilators. *Chest* 102:1656-1662, 1992.
33. Klinger JR, Moalli R, Warburton RR, Wrenn DS, Hill NS. C-receptor ligand blocks pulmonary clearance of atrial natriuretic peptide in isolated rat lungs. *Proc Soc Exp Biol Med* 201:154-158, 1992.
34. Petit RD, Warburton RR, Ou LC, Brinck-Johnson T, Hill NS. Exogenous erythropoietin fails to augment hypoxic pulmonary hypertension in rats. *Respir Physiol* 91:261-270, 1993.
35. Hill NS, Petit RD, Gagnon J, Warburton RR, Ou LC. Hematologic responses and the early development of hypoxic pulmonary hypertension in rats. *Respir Physiol* 91:271-282, 1993.
36. Ou LC, Juan JC, Hill NS. Possible role of pulmonary blood volume in chronic hypoxic pulmonary hypertension. *J Appl Physiol* 74:3020-3026, 1993.
37. Klinger JR, Petit RD, Curtin LA, Warburton RR, Wrenn DS, Steinhilber ME, Field LJ, Hill NS. Cardiopulmonary responses to chronic hypoxia in transgenic mice that overexpress atrial natriuretic peptide. *J Appl Physiol* 75:198-205, 1993.
38. Klinger JR, Petit RD, Warburton RR, Wrenn DS, Arnal F, Hill NS. Neutral endopeptidase inhibition attenuates the development of hypoxic pulmonary hypertension in rats. *J Appl Physiol* 75:1615-1623, 1993.
39. Meyer TJ, Eveloff SE, Bauer MS, Schwartz WA, Hill NS, Millman RP. Adverse environmental conditions in the respiratory and medical intensive care unit settings. *Chest* 105:1211-1216, 1994.

40. Hill NS, Klinger JR, Warburton RR, Pietras L, Wrenn DS. Brain natriuretic peptide: possible role in the modulation of hypoxic pulmonary hypertension. *Am J Physiol* 266 (Lung Cell Mol Physiol 10): L308-L315, 1994.
41. Klinger JR, Arnal F, Warburton RR, Ou LC, and Hill NS. Down-regulation of pulmonary atrial natriuretic peptide receptors in rats exposed to chronic hypoxia. *J Appl Physiol* 77:1309-1316, 1994.
42. Petit RD, Warburton RR, Ou LC, Hill NS. Pulmonary vascular adaptation to augmented polycythemia during chronic hypoxia. *J Appl Physiol* 79:229-235, 1995.
43. Kramer N, Meyer TJ, Meharg J, Cece RD, Hill NS. Randomized, prospective trial of noninvasive positive pressure ventilation in acute respiratory failure. *Am J Respir Crit Care Med* 151:1799-1806, 1995.
44. Aaron JN, Carlisle CC, Carskadon MA, Meyer TJ, Hill NS, Millman RP. Environmental noise is a cause of sleep disruption in a respiratory intensive care unit. *Sleep* 19:701-710, 1996.
45. Arjona AA, Hsu CA, Wrenn DS, Hill NS. Effects of natriuretic peptides on vascular smooth muscle cells derived from different vascular beds. *Gen Pharm* 28: 382-392, 1997.
46. Hill NS, Mehta S, Carlisle CC, McCool FD. Evaluation of the Puritan-Bennett 335 portable pressure support ventilator: Comparison with the Respironics BiPAP /T. *Respir Care* 41:885-894, 1996.
47. Mehta S, Jay GD, Woolard RH, Hipona R, Connolly EM, Cimini DM, Drinkwine JH, Hill NS. Randomized prospective trial of bilevel vs continuous positive airway pressure in acute pulmonary edema. *Crit Care Med* 25:620-628, 1997.
48. Brem AS, Bina RB, Hill N, Alia C, Morris DJ. Effects of licorice derivatives on vascular smooth muscle function. *Life Sciences* 60:207-214, 1997.
49. Colice GL, Hill NS, Lee Y-J, Du H, Klinger J, Leiter JC, Ou L-C. Exaggerated pulmonary hypertensive response to monocrotaline in rats susceptible to chronic mountain sickness *J Appl Physiol* 83:25-31, 1997.
50. Maramatsu M, Tyler RC, Gutkowska J, Klinger JR, Hill NS, Rodman DM, McMurtry IF. Atrial natriuretic peptide activity accounts for increased cGMP in hypoxia-induced hypertensive rats. *J Appl Physiol* 272:L1126-L1132, 1997.
51. Meyer TJ, Pressman MR, Benditt J, McCool FD, Millman RP, Natarajan R, Hill NS. Air leaking through the mouth during nocturnal nasal ventilation: Effect on sleep quality. *Sleep* 1997; 20: 561-569.
52. Hill NS, Warburton RR, Pietras L, Klinger JR. Nonspecific endothelin receptor antagonist, bosentan, blunts monocrotaline-induced pulmonary hypertension in rats. *J Appl Physiol* 83:1209-1215, 1997.
53. Klinger JR, Wrenn DS, Warburton RR, Pietras L, Ou L-C, Hill NS. Atrial natriuretic peptide expression in rats with different pulmonary hypertensive responses to hypoxia. *Am J Physiol* 273:H411-H417, 1997.
54. Klinger JR, Warburton RR, Pietras L, Hill NS. Brain natriuretic peptide inhibits hypoxic pulmonary hypertension in rats. *J Appl Physiol* 84: 1646-1652, 1998.
55. Klinger JR, Siddig FM, Swift RA, Jackson C, Pietras L, Warburton RR, Hill NS. Plasma C-type natriuretic peptide levels are increased in rats exposed to chronic hypoxia. *Am J Physiol (Lung)* 275: L645-L652, 1998.
56. Bina RB, Hill N, Brem AS. Effect of serum on vascular smooth muscle function. *Life Sciences* 62: 1195-1201, 1998.
57. Klinger JR, Warburton R, Pietras L, Swift R, John S, Smithies O, and Hill NS. Genetic disruption of atrial natriuretic peptide causes pulmonary hypertension in normoxic and hypoxic mice. *Am J Physiol* 276: L868-L874 1999.
58. Salameh G, Karamsetty MR, Warburton RR, Klinger JR, Ou L-C, Hill NS. Differences in acute hypoxic pulmonary vasoresponsiveness between rat strains: Role of endothelium. *J Appl Physiol* 87: 356-362, 1999.
59. Klings ES, Hill NS, Jeong MH, Simms RW, Korn JH, Farber HW. Systemic sclerosis associated pulmonary hypertension: acute and long-term effects of epoprostenol (prostacyclin). *Arthr Rheum* 42: 2638-2645, 1999.
60. Hinderliter AL, Willis PW, Long W, Clarke WR, Ralph D, Caldwell EJ, Williams W, Ettinger NA, Hill NS, Summer WR, de Boisblanc B, Koch G, Li S, Clayton LM, Jobsis MM, and Crow JW. Frequency of prognostic significance of pericardial effusion in primary pulmonary hypertension. *Am J Cardiol* 84: 481-484, 1999.
61. Badesch DB, Tapson VE, McGoon MD, Hill NS (19th in list of 30 authors). A comparison of continuous intravenous epoprostenol with conventional therapy for pulmonary hypertension secondary to the scleroderma spectrum of disease. *Ann Intern Med.* 132: 425-434, 2000.
62. Karamsetty MR, Nakashima JM, Ou L-C, Klinger JR, Hill NS. EDHF contributes to strain-related differences in pulmonary arterial relaxation in rats. *Am J Physiol.* 280: L458-L464, 2001.
63. Mehta S, McCool FD, Hill NS. Leak compensation in positive pressure ventilators - a lung model study. *Eur Respir J* 17 (2): 259-267, 2001.
64. Karamsetty MR, Klinger JR, Hill NS. Phytoestrogens restore nitric oxide mediated relaxation in isolated pulmonary arteries from chronically hypoxic rats. *J Pharmacol Exp Ther* 297: 968-974, 2001.
65. Preston I, Klinger JR, Landzberg M, Houtchens J, Nelson D, Hill NS. Vasoresponsiveness of pulmonary hypertension associated with sarcoidosis. *Chest* 120:866-872, 2001.
66. Gay PL, Hess DR, Hill NS. Noninvasive proportional assist ventilation for acute respiratory insufficiency: Comparison with pressure support ventilation. *Am J Respir Crit Care Med* 164:1606-1611, 2001.
67. Karamsetty MR, Pietras L, Klinger JR, Lanzillo JJ, Leiter JC, Ou L-C, Hill NS. The role of endothelin-1 in strain-related susceptibility to develop hypoxic pulmonary hypertension in rats. *Respir Physiol* 128: 219-227, 2001.

68. Klinger JR, Pietras L, Warburton R, **Hill NS**. Reduced oxygen increases atrial natriuretic peptide release from atrial cardiocytes. *Exp Biol Med* 226:847-853, 2001.
69. Klinger JR, Warburton RR, Pietras L, Oliver P, Fox J, Smithies O, **Hill NS**. Targeted disruption of the gene for natriuretic receptor-A worsens hypoxia-induced cardiac hypertrophy. *Am J Physiol Heart Circ Physiol* 282: 2002; 282:H58-65.
70. Ward NS, LinDY, Nelson DL, Houtchens J, Schwartz WA, Klinger JR, **Hill NS**, Levy MM. Successful determination of lower inflection point and maximal compliance in a population of patients with ARDS. *Crit Care Med* 2002; 30:963-968.
71. Vachieri JL, **Hill N**, Zwicke D, Barst R, Blackburn S, Naeije R. Transitioning from I.V. Epoprostenol to Subcutaneous Treprostinil in Pulmonary Arterial Hypertension. *Chest*. 2002 May;121(5):1561-5.
72. Raymond RJ, Hunderliter AL, Willis PW, Ralph D, Caldwell EJ, Williams W, Ettinger NA, **Hill NS**, Summer WR, de Boisblanc B, Schwartz T, Koch G, Clayton LM, Jobsis MM, Crow JW, Long W. Echocardiographic predictors of adverse outcomes in primary pulmonary hypertension. *J Am Coll Cardiol* 2002; 39:1214-1219.
73. **Hill NS**, Carlisle C, Kramer NR. Effect of a nonbreathing valve on long-term nasal ventilation using a bilevel device. *Chest* 2002; 122:84-91.
74. Karamsetty MR, Klinger JR, **Hill NS**. Evidence for the role of p38 MAP kinase in hypoxia-induced pulmonary vasoconstriction. *Am J Physiol lung Cell Mol Physiol* 2002; 283:L859-866.
75. Kwok H, McCormack J, Cece R, Houtchens J, **Hill NS**. Controlled trial of oronasal versus nasal mask ventilation in the treatment of acute respiratory failure. *Crit Care Med* 2003; 31:468-473.
76. Hinderliter AL, Willis PW 4th, Long WA, Clarke WR, Ralph D, Caldwell EJ, Williams W, Ettinger NA, **Hill NS**, Summer WR, de Boisblanc B, Koch G, Li S, Clayton LM, Jobsis MM, Crow JW: PPH Study Group. Frequency and severity of tricuspid regurgitation determined by Doppler echocardiography in primary pulmonary hypertension. *Am J Cardiol*. 2003; 91:1033-7.
77. Keenan SP, Sinuff T, Cook DJ, **Hill NS**: Which patient with acute exacerbation of chronic obstructive pulmonary disease benefit from noninvasive positive-pressure ventilation? A systematic review of the literature. *Ann Intern Med*. 2003 June 3; 138(11):127.
78. Budhiraja R, Kayyali US, Karamsetty M, Fogel M, **Hill NS**, Chalkley R, Finlay GA, Hassoun PM. Estrogen modulates xanthine dehydrogenase/xanthine oxidase activity by a receptor-independent mechanism. *Antioxid Redox Signal* 2003; 5:705-711.
79. Keenan SP, Sinuff T, Cook DJ, **Hill NS**: Does noninvasive positive pressure ventilation improve outcome in acute hypoxemic respiratory failure? A systematic review. *Crit Care Med*. 2004, Dec. 32(12):2516-2523.
80. Esteban A, Frutos-Vivar F, Ferguson ND, Arabgi Y, Apezteguia C, Gonzalez M, Epstein, SK, **Hill NS**, Nava S, Soares MA, D'Empaire G, Alia I, Anzueta A. Noninvasive positive pressure ventilation for respiratory failure after extubation. *N Engl J Med* 2004, June 350(24): 2452-2460.
81. Preston IR, **Hill NS**, Gambardella LS, Warburton RR, Klinger RJ. Synergistic effects of ANP and sildenafil on cGMP levels and amelioration of acute hypoxic pulmonary hypertension. *Exp Biol Med (Maywood)* 2004, Oct: 229(9): 920-925.
82. Barst RJ, Langleben D, Frost A, Horn EM, Oudiz R, Shapiro S, McLaughlin V, **Hill N**, Tapson VF, Robbins IM, Zwicke D, Duncan B, Dixon RA, Frumkin LR; STRIDE-1 Study Group. Sitaxsentan therapy for pulmonary arterial hypertension. *Am J Respir Crit Care Med*. 2004 Feb 15;169(4):441-7.
83. Levy M, Tanios MA, Nelson D, Short K, Senechia A, Vespia J, **Hill NS**. Outcomes of patients with do-not-intubate orders treated with noninvasive ventilation. *Crit Care Med*. 2004, Oct: 32(10): 2002-2007.
84. Preston IR, Tang G, Tilan JU, **Hill NS**, Suzuki YJ. Retinoids and pulmonary hypertension. *Circulation* 2005, Feb; 111(6): 782-790.
85. Frost AE, Langleben D, Oudiz R, **Hill N**, Horn E, McLaughlin V, Robbins IM, Shapiro S, Tapson VF, Zwicke D, DeMarco T, Schilz R, Rubenfire M, Barst RJ. The 6-min walk test (6MW) as an efficacy endpoint in pulmonary arterial hypertension clinical trials: demonstration of a ceiling effect. *Vascul Pharmacol*. 2005 Jun;43(1):36-9.
86. Diaz GG, Alcaraz AC, Talavera JC, Perez PJ, Rodriguez AE, Cordoba FG, **Hill NS**. Noninvasive positive pressure ventilation to great hypercapnic coma secondary to respiratory failure. *Chest* 2005; 127(3): 952-960.
87. Preston IR, Klinger JR, Houtchens J, Nelson D, Farber HW, **Hill NS**. Acute and chronic effects of sildenafil in patients with pulmonary arterial hypertension. *Respir Med* 2005 May;99(12):1501-10.
88. Preston IR, **Hill NS**, Warburton RR, Fanburg BL. The role of 12-lipoxygenase in hypoxia-induced rat pulmonary artery smooth muscle cell proliferation. *Am J Physiol Lung Cell Mol Physiol* 2006 Feb;290(2):L367-74.
89. Klinger JR, Thaker S, Houtchens J, Preston IR, **Hill NS**, Farber HW. Pulmonary hemodynamic responses to brain natriuretic peptide and sildenafil in patients with pulmonary arterial hypertension. *Chest*. 2006 Feb;129(2):417-25.
90. Maheshwari V, Paioli D, Rothaar R, **Hill NS**. Utilization of noninvasive ventilation in acute care hospitals: a regional survey. *Chest*. 2006 May;129(5):1226-33.
91. Steiner MK, Preston IR, Klinger JR, Criner GJ, Waxman AB, Farber HW, **Hill NS**. Conversion to bosentan from prostacyclin infusion therapy in pulmonary arterial hypertension: a pilot study. *Chest*. 2006 Nov; 130(5):1471-80.

92. Frutos-Vivar F, Ferguson ND, Esteban A, Epstein SK, Arabi Y, Apezteguia C, Gonzalez M, Hill NS. Risk factors for extubation failure in patients following a successful spontaneous breathing trial. *Chest* Dec 2006 130(6):1554-1671.
93. Liu Y, Li M, Warburton RR, Hill NS, Fanburg BF. The 5-HT transporter transactivates the PDGFbeta receptor in pulmonary artery smooth muscle cells. *FASEB J* Sept 2007; 21(11):2725-2734.
94. Liu T, Warburton RR, Guevara OE, Hill NS, Fanburg BF, Gaestel M, Kayyali US. Lack of MK2 inhibits myofibroblast formation and exacerbates pulmonary fibrosis. *Am J Respir Cell Mol Biol*. Nov. 2007; 37(5):507-517.
95. Girgis RE, Frost AE, Hill NS, Horn EM, Langleben D, McLaughlin VV, Oudiz RJ, Robbins IM, Seibold JR, Shapiro S, Tapson VF, Barst JR. Selective endothelin A receptor antagonism with sitaxsentan for pulmonary arterial hypertension associated with connective tissue disease. *Ann Rheum Dis*. Nov 2007 66(11):1467-1472.
96. Badisch DB, Hill NS, Burgess G, Rubin LI, Barst RJ, Galie N, Simonneau G. Sildenafil for pulmonary arterial hypertension associated with connective tissue disease. *J Rheumatol*, 2007. Dec; 34(12):2417-2422.
97. Scala R, Nava S, Conti G, Antonelli M, Naldi M, Archinucci I, Coniglio G, Hill NS. Noninvasive versus conventional ventilation to treat hypercapnic encephalopathy in chronic obstructive pulmonary disease. *Intensive Care Med*. 2007, Dec; 33(12):2101-8.
98. Devlin JW, Nava S, Fong JJ, Bahady I, Hill NS. Survey of sedation practices during noninvasive positive pressure ventilation to treat acute respiratory failure. *Crit Care Med* Oct. 2007; 35(10):2298-2303.
99. Curtis JR, Cook DJ, Sinuff T, White DB, Hill N, Keenan SP, Benditt JO, Kacmarek R, Kirchoff KT, Levy MM. Noninvasive positive pressure ventilation in critical and palliative care settings: understanding the goals of therapy. Society of Critical Care Medicine Palliative Noninvasive Positive Ventilation Task Force. *Crit Care Med*. 2007 Mar; 35(3):932-9.
100. Scala R, Nava S, Conti G, Antonelli M, Naldi M, Archinucci I, Coniglio G, Hill NS. Noninvasive versus conventional ventilation to treat hypercapnic encephalopathy in chronic obstructive pulmonary disease. *Intensive Care Med*. 2007 Dec; 33(12):2101-8.
101. Badesch DB, Hill NS, Burgess G, Rubin LJ, Barst RJ, Galie N, Simonneau G; SUPER Study Group. Sildenafil for pulmonary arterial hypertension associated with connective tissue disease. *J Rheumatol*. 2007 Dec; 34(12):2417-22.
102. Sinuff T, Cook DJ, Keenan SP, Burns KE, Adhikari NK, Rocker GM, Mehta S, Kacmarek R, Eva K, Hill NS. Noninvasive ventilation for acute respiratory failure near the end of life. *Crit Care Med*. 2008 Mar; 36(3):789-94. PMID: 18209669.
103. Nava S, Santoro C, Grassi M, Hill N. The influence of the media on COPD patients' knowledge regarding cardiopulmonary resuscitation. *Int J Chron Obstruct Pulmon Dis*. 2008; 3(2):295-300.
104. O'Connor HH, Kirby KJ, Terrin N, Hill NS, White AC. Decannulation following tracheostomy for prolonged mechanical ventilation. *J Intensive Care Med*. 2009 May-Jun; 24(3):187-94.
105. Liu T, Guevara OE, Warburton RR, Hill NS, Gaestel M, Kayyali US. Modulation of HSP27 alters hypoxia-induced endothelial permeability and related signaling pathways. *J Cell Physiol*. 2009 Sep; 220(3):600-10.
106. Ferreira JC, Chipman DW, Hill NS, Kacmarek RM. Bilevel vs ICU ventilators providing noninvasive ventilation: effect of system leaks: a COPD lung model comparison. *Chest*. 2009 Aug; 136(2): 448-56.
107. White AC, Joseph B, Gireesh A, Shantilal P, Garpestad E, Hill NS, O'Connor HH. Terminal withdrawal of mechanical ventilation at a long-term acute care hospital: comparison with a medical ICU. *Chest*. 2009 Aug; 136(2):465-70.
108. Devlin JW, Roberts RJ, Fong JJ, Skrobik Y, Riker RR, Hill NS, Robbins T, Garpestad E. Efficacy and safety of quetiapine in critically ill patients with delirium: A prospective, multicenter, randomized, double-blind, placebo-controlled pilot study. *Crit Care Med*. 2010 Feb; 38(2):419-27.
109. Chan MC, Hilyard AC, Wu C, Davis BN, Hill NS, Lal A, Lieberman J, Lagna G, Hata A. Molecular basis for antagonism between PDGF and the TGFbeta family of signaling pathways by control of miR-24 expression. *EMBO J*. 2010 Feb 3; 29(3):559-73.
110. Minai OA, Nathan SD, Hill NS, Badesch DB, Stoller JK. Pulmonary hypertension in lung diseases: survey of beliefs and practice patterns. *Respir Med*. 2010 May; 104(5):741-8.
111. Liu T, Guevara OE, Warburton RR, Hill NS, Gaestel M, Kayyali US. Regulation of vimentin intermediate filaments in endothelial cells by hypoxia. *Am J Physiol Cell Physiol*. 2010 Apr 28.
112. Casserly B, Pietras L, Schuyler J, Wang R, Hill NS, Klinger JR. Cardiac atria are the primary source of ANP release in hypoxia-adapted rats. *Life Sci*. 2010 Sep 11; 87(11-12):382-9.
113. Svenda J, Hill N, Myers AG. Organic Synthesis Toward Small-Molecule Probes and Drugs Special Feature: A multiply convergent platform for the synthesis of trioxacarbons. *Proc Natl Acad Sci U S A*. 2011 Jan 20.
114. Chan MC, Weisman AS, Kang H, Nguyen PH, Hickman T, Mecker SV, Hill NS, Lagna G, Hata A. The amiloride derivative phenamil attenuates pulmonary vascular remodeling by activating NFAT and the bone morphogenetic protein signaling pathway. *Mol Cell Biol*. 2011 Feb; 31(3):517-30.
115. Ozsancak A, Sidhom S, Liesching TN, Howard W, Hill NS. Evaluation Of The Total Face Masktm For Noninvasive Ventilation To Treat Acute Respiratory Failure. *Chest*. 2011 Feb 1.

116. Kawut SM, Bagiella E, Lederer DJ, Shimbo D, Horn EM, Roberts KE, Hill NS, Barr RG, Rosenzweig EB, Post W, Tracy RP, Palevsky HI, Hassoun PM, Girgis RE; ASA-STAT Study Group. Randomized clinical trial of aspirin and simvastatin for pulmonary arterial hypertension: ASA-STAT: *Circulation*. 2011 Jun 28;123(25):2985-93.
117. Lukácsovits J, Carlucci A, Hill N, Ceriana P, Pisani L, Schreiber A, Pierucci P, Losonczy G, Nava S. Physiological changes during low and high "intensity" noninvasive ventilation. *Eur Respir J*. 2011 Sep 1.
118. Devlin JW, Skrobik Y, Riker RR, Hinderleider E, Roberts RJ, Fong JJ, Ruthazer R, Hill NS, Garpestad E. Impact of quetiapine on resolution of individual delirium symptoms in critically ill patients with delirium: a post-hoc analysis of a double-blind, randomized, placebo-controlled study: *Crit Care*. 2011 Sep 17;15(5):R215.
119. Devlin JW, Skrobik Y, Riker RR, Hinderleider E, Roberts RJ, Fong JJ, Ruthazer R, Hill NS, Garpestad E. Impact of quetiapine on resolution of individual delirium symptoms in critically ill patients with delirium: a post-hoc analysis of a double-blind, randomized, placebo-controlled study. *Crit Care*. 2011;15(5):R215. Epub 2011 Sep 17. PMID: 21923923.
120. Liu T, Milia E, Warburton RR, Hill NS, Gaestel M, Kayyali US. Anthrax lethal toxin disrupts the endothelial permeability barrier through blocking p38 signaling: *J Cell Physiol*. 2012 Apr; 227(4):1438-45.
121. Wang D, Prakash J, Nguyen P, Davis-Dusenbery BN, Hill NS, Layne MD, Hata A, Lagna G. Bone morphogenetic protein signaling in vascular disease: anti-inflammatory action through myocardin-related transcription factor. *A.J Biol Chem*. 2012 Aug;10;287(33):28067-77, doi: 10.1074/jbc.M112.379487. Epub 2012 Jun 20. PMID: 22718766
122. Wei L, Warburton RR, Preston IR, Roberts KE, Comhair SA, Erzurum SC, Hill NS, Fanburg BL. Serotonylated fibronectin is elevated in pulmonary hypertension.. *Am J Physiol Lung Cell Mol Physiol*. 2012 Jun 15;302(12):L1273-9. Epub 2012 Apr 20. PMID: 22523280.

BOOK CHAPTERS/REVIEWS: Peer Reviewed/Reviews (18)

- 1) Hill NS, Antmann E, Green L, Alpert JS. Intravenous nitroglycerin: A review of pharmacology, indications, therapeutic effects, and complications. In: *Chest* 79:69-76. 1981.
- 2) Rounds S, Hill NS, O'Brien RF. Pulmonary vascular reactivity after acute lung injury. Third International Banff Hypoxia Symposium. In: J. Sutton, ed., Alan R. Liss, Houston, 1983.
- 3) Rounds S, Hill NS. Pulmonary hypertensive diseases. In: *Chest* 85:397-405, 1984.
- 4) Hill NS, Rounds S. Pulmonary hypertension: Diagnosis and approach to therapy. In: Brody JS, Snider GL, eds. *Current Topics in the Management of Respiratory Diseases*. 2nd edition, Vol. II. Churchill-Livingstone, New York, 1985, pp. 31-53.
- 5) Hill NS. Fluid and electrolyte considerations in diuretic therapy of hypertensive patients with chronic obstructive pulmonary disease. In: *Arch Intern Med* 146:129-133, 1986.
- 6) Hill NS. Clinical applications of body ventilators. In: *Chest* 90:897-905, 1986.
- 7) Fanburg BL, Deneke SM, Lee SL, Hill NS. Mediators of lung injury in oxygen toxicity. Bronchopulmonary dysplasia and related chronic respiratory disorders. In: 90th Ross Conference on Pediatric Research, March, 1985. Ross Laboratories, Columbus, pp. 16-23, 1986.
- 8) Hill NS, Rounds S. Pulmonary embolism. In: Nobel J, ed. *Primary Care for the Internist*. Little Brown and Co. 1987.
- 9) Hill NS, Fanburg BL. Clinical correlates of endothelial cell dysfunction. In: Rayn U, ed *Pulmonary Endothelium, Lung Biology in Health and Disease*. Marcel Dekker, New York 1987.
- 10) Hill NS. The cardiac exam in lung disease. In: *Med Clin N.A.* 8:273-285, 1987.
- 11) Hill NS. The right ventricle in chronic obstructive pulmonary disease. In: M. Konstam M, Isner J, eds. *The Right Ventricle*. Martinus-Nijhoff, Norwell, MA, 1988.
- 12) Rondinelli RD, Hill NS. Rehabilitation of the patient with pulmonary disease. In: DeLisa JA, ed. *Rehabilitation Medicine, Principles and Practice*, J.B. Lippincott, Philadelphia, PA, 1988.
- 13) Hill NS. Home care of ventilator assisted and dependent patients. In: *J Cardiopulm Rehab* 8:462-472, 1988.
- 14) Hill NS. The use of theophylline in "irreversible" chronic obstructive pulmonary disease: In: An update. *Arch Int Med* 148:2579-2584, 1988.
- 15) Jayes RL, Hill NS, Pauker SG. Open lung biopsy in primary pulmonary hypertension: A decision analysis. In: *Sem Respir Med* 10:232-241, 1989.
- 16) Strumpf DA, Millman RP, Hill NS. The management of chronic hypoventilation. *Chest* 94:474-480, 1990.
- 17) Klinger JR, Hill NS. Evaluation and management of right ventricular dysfunction in chronic obstructive pulmonary disease. *Chest* 99:715-723, 1991.
- 18) Ou LC, Hill NS, Pickett BP, Faulkner CS, Sardella GL, Thron CD, Tenney SM. Hypoxia-induced right ventricular aneurysm. Symposium on Pulmonary Circulation. In: Jezeck V, Morpurgo M, Tramarin R, eds. *Current Topics in Rehabilitation*: Springer-Verlag, Berlin, 1992.
- 19) Hill NS, Weiss EB. Status asthmaticus. In: Weiss EB, ed. *Bronchial Asthma: mechanisms and therapeutics*. 3rd Edition. Little Brown and Co., Boston 1993.
- 20) Hill NS. Noninvasive ventilation. "Does it work, for whom, and how?": In: *Am Rev Respir Dis* 147:1050-1055, 1993.

