# Curriculum Vitae Nader M. Habashi, M.D., F.A.C.P., F.C.C.P Professor, Department of Medicine University of Maryland School of Medicine

Date: October 31, 17

# Contact Information (Business Address):

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Baltimore, MD 21201
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nmhabashi@gmail.com

# **EDUCATION**

June 1984 - M.D., American University - Plymouth Montserrat University of Southern California, Queen of Angels Medical Center, Los Angeles, CA

# Post-Graduate Education and Training:

Internship:

July 1984 - June 1985 Temple University/Conemaugh Valley Medical Center, Philadelphia & Johnstown, PA

Position: PGY-1, Transitional Medicine

## Residency:

July 1985 - June 1988 Temple University/Conemaugh Valley Medical Center, Philadelphia & Johnstown, PA

Position: PGY-2, PGY-3, PGY-4 Resident - Internal Medicine

#### Fellowships:

July 1988 - June 1990 Wayne State University - Detroit Medical Center, Detroit, Michigan

Position: PGY-5, PGY-6, Fellow Critical Care Medicine

July 1990 - June 1991 University of Utah Medical Center, Salt Lake City, Utah

Position: PGY-7, Fellow Pulmonary Disease

July 1991 - May 1992 University of Maryland, Maryland Institute for Emergency Medical Service

Systems, (M.I.E.M.S.S.) Baltimore, MD

Position: Senior Research Fellow, Critical Care Medicine/Extracorporeal Circulation

## Post Graduate:

July 1992 - 1993 Junior Attending Staff, Pulmonary and Critical Care Medicine, Maryland Institute for Emergency Medical Services (M.I.E.M.S.S.), Baltimore, Maryland 1991-1993 Extracorporeal Circulation and Research Development, Maryland Institute for Emergency Medical Services Systems, Baltimore, MD

#### Additional Specialized Training:

October, 1991 University of Milan, Institute of Anesthesiology, Milan, Italy

Professor: Luciano Gattinoni, M.D.

Extracorporeal CO2 removal in adult ARDS

November 1991 - Centre Laser C.H.U. SUD Marseilles, Marseilles Medical School, Marseilles, France. Professor: Jean-Francois Dumon, M.D. -Bronchoscopic Laser Resection; Christian Boutin, M.D. - Thoracoscopy

February 1992 University of California, San Diego Medical Center, San Diego, CA.

Professor: James Harrell, II, M.D. - Bronchoscopic Laser Resection

# Certifications:

September 1987 American Board of Internal Medicine

November 1992 American Board of Internal Medicine, Pulmonary Diseases

November 1993 American Board of Internal Medicine, Critical Care Medicine

December 2011 United Council for Neurologic Subspecialties, Neuro Critical Care

## Medical Licensures:

Maryland Expires - September 30, 2016 North Carolina Expires - October 26, 2016 California Expires - October 31, 2016

# Employment History:

Consulting Positions: July 1990-present

Consultant - Carolina Pulmonary and Critical Care Associates, P.A. 224 South Caswell Road, Charlotte, NC 28204, (704) 376-7386

## Faculty Positions:

July 1993 - June 1996

Clinical Instructor, Department of Medicine

University of Maryland School of Medicine, 22 South Greene Street, Baltimore, Maryland 21201 July 1996 - April 2007

Assistant Professor of Medicine, Department of Medicine

University of Maryland School of Medicine, 22 South Greene Street, Baltimore, Maryland 21201 April 2007 - April 2015

Associate Professor of Medicine, Department of Medicine

University of Maryland School of Medicine, 22 South Greene Street, Baltimore, Maryland 21201 April 2007 - Present

Medical Director, Multi-trauma Critical Care Unit

R Adams Cowley Shock Trauma Center, 22 South Greene Street, Baltimore, Maryland 21201 April 2015 - Present

Professor of Medicine, Department of Medicine

University of Maryland School of Medicine, 22 South Greene Street, Baltimore, Maryland 21201

#### Professional Society Memberships:

American College of Physicians 1986 - present - Fellow

American College of Chest Physicians 1991 - present - Fellow

American Thoracic Society 1991 - present - Member

Maryland State Medical Society 1996 - present - Member

American Medical Association 1991 - present - Member

Society of Critical Care Medicine 1988 - present - Member

European Society of Intensive Care Medicine 1996 - present - Member

Inter-mountain Thoracic Society 1990-1994 - Member

American Association for Bronchoscopy 1991 - present - Member

World Association for Bronchoscopy 1991 - present - Member

European Society of Respiratory Care 1996 - present - Member

Extracorporeal Life Support Organization 1991 - 1998 - Member National Association Medical Directors of Respiratory Care 1993 -1996 - Member

# Honors and Awards:

Teaching Awards:

1994-1995, 1996-1997, 1999-2000, 2000-2001, 2001-2002, 2004-2005, 2005-2006, 2006-2007 - Outstanding Teaching and Leadership in Critical Care. Presented by the Surgical/Critical Care Fellows for outstanding instructor.

2009-2010, 2013 - ICU Attending of the Year. Presented by the Surgical/Critical Care Fellows

# Shock Trauma Hero Awards:

1997, 2002, 2004, 2005, 2006, 2012

R Adams Cowley Shock Trauma Hero Award. Presented at the Shock Trauma Gala for outstanding achievement and patient care.

# Additional Awards:

1997 - Presented by the Baltimore County Fraternal Order of Police, for outstanding contribution to the welfare of a fallen police officer.

2012 - Co-Recipient of the Raymond H Alexander, MD Resident Paper Competition Award at The 26th Eastern Association for the Surgery of Trauma (EAST) Annual Scientific Assembly.

# Administrative Service - Institutional Service:

Academic Administrative Appointments:

Medical Director, Multi-trauma Critical Care Unit, R Adams Cowley Shock Trauma Center 2000 - present

Associate Director Respiratory Care 1993 - present

R Adams Cowley Shock Trauma Center, University of Maryland Medical Center

#### Clinical /Hospital Appointments:

Attending Intensivist/Pulmonologist 1993- present

R Adams Cowley Shock Trauma Center, University of Maryland Medical Center

## Non-academic Appointments:

\*Medical Director - 2003 - present

The Living Legacy Foundation (formerly Transplant Resource Center of Maryland)

1730 Twin Springs Road, Suite 200, Baltimore, Maryland 21227

Telephone (410) 242-7000

E-mail address: nhabashi@mdtransplant.org

#### \*Board of Trustees -

The Living Legacy Foundation (formerly Transplant Resource Center of Maryland)

# \*Executive Committee Member 2003- present

The Living Legacy Foundation (formerly Transplant Resource Center of Maryland)

\*Editorial Review Boards - Intensivist editor

Progress in Transplantation Journal: 2006- present Journal of Trauma and Treatment: 2014 - present

- \* Donor Management Task Force Member on behalf of the U.S. Department of Health and Human Services (HHS), Health Resources and Services Administration (HRSA) and the Organ Donation and Transplantation Alliance (the Alliance) 2010 Present
- \* Medical Director of Clinical Services 2012-present One Legacy

221 S. Figueroa St., Ste. 500, Los Angeles CA 90012

# Campus Activities:

1993 - present Shock Trauma CRRT Committee

1996 - present Shock Trauma Center ICU Committee

1997 - present Information Technology Committee

1997 - present Infection Control Committee

2001 - present Critical Operations Committee

2001 - present Resuscitation Committee

2003 - present STAPA Board Member

2012 - present STC Clinical Medical Director Respiratory Therapy

# Major Academic Tasks:

## 1991 - 1994

\*Co-Director, Critical Care Transport Program, R Adams Cowley Shock Trauma Center, University of Maryland Medical Center, Baltimore, MD

\*Co-Director, Advanced Pulmonary Care Service, R Adams Cowley Shock Trauma Center, University of Maryland Medical Center, Baltimore, MD.

\*Development of Artificial Membrane Lung for Respiratory Failure. United States Patent # 5,277,176. University of Maryland Shock Trauma Clinical Center.

\*Developed, organized and established Extracorporeal Lung Assistance Program (ECLA). University of Maryland Shock Trauma Clinical Center, (including guidelines, training manual, policies and procedures, nurse, physician training and education).

\*Developed, organized and established Critical Care Transport Program, (including guidelines, policies and procedures, nurse and physician training and education). University of Maryland Shock Trauma Clinical Center.

\*Initiated and co-authored guidelines, policies and procedures for non-invasive ventilation of the spinal cord injured patient. University of Maryland Shock Trauma Center.

\*Developed weaning protocols for mechanically ventilated multitrauma patient. University of Maryland Shock Trauma Clinical Center.

\*Developed weaning protocols for mechanically ventilated spinal cord injured patient. University of Maryland Shock Trauma Clinical Center.

## 1994 - 1995

\*Development of Guidelines, Policies and Procedures: Patient Suctioning in the ICU. University of Maryland Shock Trauma Clinical Center.

\*Development of Policy for Endoscopically Placed Feeding Tubes Including Methodology and Fellow Training. University of Maryland Shock Trauma Clinical Center.

1995 - present

\*Development of Guidelines, Policies and Procedures: Neuromuscular Blockade use in the ICU. University of Maryland Shock Trauma Clinical Center.

\*Development of Guidelines, Policies and Procedures: Fluid Utilization in Resuscitation.

University of Maryland Shock Trauma Clinical Center.

\*Development of Guidelines, Policies and Procedures: Patient Positioning with Respiratory Failure. University of Maryland Shock Trauma Clinical Center.

\*Development of Guidelines, Policies and Procedures: Chest Physical Therapy in the ICU. University of Maryland Shock Trauma Clinical Center.

- \*Developed, organized and established Extracorporeal Liver Exclusion Program. University of Maryland Shock Trauma Clinical Center.
- \*Development of pressure support weaning protocol for mechanically ventilated patients in Intermediate Care Units. University of Maryland Shock Trauma Clinical Center.
- \*Development of apnea testing protocol for brain dead patients using Carbogen. University of Maryland Shock Trauma Clinical Center.
- \*Development of brain death criteria checklist. University of Maryland Shock Trauma Clinical Center.
- \*Established intensivist model for organ donor management in the state of Maryland. Directed and contributed to an in increase in organs available for transplant from 2003-2005: heart recovery increased by 93%, lung recovery increased by 378%, liver recovery increased by 46% and kidney recovery increased by 39%.

# Administrative Service - Local and National

Off-campus Community Activities:

October, 1995 - Medical back-up for Papal visit to Baltimore, Maryland

June, 1996 - Medical back-up and sponsor for Philadelphia - DC AIDS Ride (6 sites along route from Philadelphia to D.C.).

1997 - present - Auxiliary Coast Guard, Annapolis, Maryland

# Teaching Activities:

1992 - present - Instructor: Extracorporeal Physiology, R Adams Cowley Shock Trauma Clinical Center, University of Maryland Medical Center, Baltimore, MD

1993 - present - Instructor: Fellow Training Program in Critical Care and Pulmonary Medicine. R Adams Cowley Shock Trauma Clinical Center, University of Maryland Medical Center, Baltimore, MD

1993 - present - Instructor: Fellow Training Program in Flexible and Rigid Bronchoscopy. R Adams Cowley Shock Trauma Clinical Center, University of Maryland Medical Center, Baltimore, MD

1993 - present - Instructor: Fellow Training Program Continuous Renal Replacement Therapy and other forms of dialysis. R Adams Cowley Shock Trauma Clinical Center, University of Maryland Medical Center, Baltimore, MD

1993 - present - Instructor: Fellow Training Program Esophageal Gastric Endoscopy. R Adams Cowley Shock Trauma Clinical Center, University of Maryland Medical Center, Baltimore, MD 1993 - present - Instructor: Advanced Ventilator Management. R Adams Cowley Shock Trauma Clinical Center, University of Maryland Medical Center, Baltimore, MD

1994 - present - Instructor: Respiratory Care Department: Mechanical Ventilation, Pulmonary Physiology, Pulmonary Mechanics. R Adams Cowley Shock Trauma Clinical Center, University of Maryland Medical Center, Baltimore, MD 21201

1995 - present - Instructor: Advanced Critical Care Lecture Series. R Adams Cowley Shock Trauma Clinical Center, University of Maryland Medical Center, Baltimore, MD 21201 2004 - Present - Medical Director / Educator for clinical coordinators of The Living Legacy Foundation of Maryland (formerly the Transplant Resource Center of Maryland)

6/23-7/5/08 - Bedside rounds and training of visiting Japanese Physician - Dr. Keiko Hasagawa 9/21-9/27/08 - Bedside rounds and training of visiting Japanese Physician - Dr. Yoshitomo Namba

2009 - Present - Nursing Journal Club for nurses at R Adams Cowley Shock Trauma Center 07/18/2013 - Ventilation Workshop for University of Maryland Residents

## Fellowships:

1993 - present Fellow of the American Society for Laser Medicine and Surgery

1994 - present Fellow American College of Physician Inventors

1995 - present Fellow American College of Chest Physicians

1995 - present Fellow American College of Physicians

# Major Research Interests:

Extracorporeal Life Support Modalities to include:

Extracorporeal Lung Assist via veno-veno route as an advanced modality to support Adult Respiratory Distress Syndrome (ARDS).

Extracorporeal hepatic bypass as a means to facilitate repair of massive hepatic and retrohepatic caval injuries.

Plasma exchange and plasma filtration for Streptococcal Shock and possibly Gram Negative Shock

Continuous dialysis and/or ultrafiltration:

- a. impact upon survival in patients with multi-organ failure
- b. solute clearance
- c. nutritional aspects and nutritional implications of continuous dialytic modalities
- d. cytokine clearance during continuous dialytic modalities

# Advanced Respiratory Failure:

- a. Positional therapy for ARDS
- b. Endobronchial techniques for control of bronchopleural fistulas
- c. Alternative techniques to minimize ventilator induced lung injury
- d. Prevalence of ARDS in the State of Maryland
- e. Prevention of ARDS

Jugular Venous Monitoring for Therapy of Intracranial Hypertension Transport of the Critically Ill Patient:

- a. Mobile ICU Transport/Inter-hospital transport of the extremely ill Adult Respiratory Distress Syndrome:
- 1. Acute Lung Injury
- 2. Ventilation Induced Lung Injury
- 3. Extracorporeal Membrane Oxygenation
- 4. Extracorporeal Carbon Dioxide Removal
- 5. Extracorporeal Liver Exclusion for traumatic liver injury
- 6. Liquid Breathing/ Perfluorocarbons
- 7. Biomedical Development of Artificial Membrane Lung for respiratory failure
- 8. Prone Positioning in Respiratory Failure
- i. Mechanical Ventilation
- j. Plasmapheresis

Principal Investigator: "Multicenter, Prospective, Randomized Controlled Pivotal Trial for Efficacy of Partial Liquid Ventilation (PLV) with Low and High Doses of Perflubron in Patients with Acute Lung Injury".

## Teaching Service:

\*Intensive Care Unit Patient Care and Teaching Responsibilities:

Eight of twelve months per year are dedicated to teaching critical care fellows ,residents, medical students from the fields of Medicine, Anesthesiology, Surgery/Traumatology and Emergency Medicine and nursing students.

Daily morning, afternoon and in-house night call teaching rounds conducted for 3-4 hours each day of clinical service. Afternoon and evening round consist of 1-2 additional hours Didactic lecture given 1-3 times/week during clinical service

Bedside teaching to include:

- \*Basic and Advanced Ventilator and Pulmonary Support
- \*Hemodynamic Management
- \*Parenteral Nutrition
- \*Therapy of Intracranial Hypertension
- \*Intensive care unit Management
- \*Introduction to ICU Medicine for Residents from Anesthesiology, Medicine, and Oral Surgery
- \*Continuous Renal Replacement Therapy in critically ill patients with multi-system organ failure
- \*Plasmapheresis
- \*Organ Donor Management

Bedside Instruction of Basic and Advanced Techniques of Bronchoscopy:

\*Didactic instruction of bronchoscopy to include bronchoscopy "skills lab" with simulator.

Bedside teaching of technical procedures including:

- \*Venous Cannulation
- \*Right Heart Catheterization
- \*Arterial Cannulation
- \*Closed Chest Thoracostomy Tubes
- \*Airway Management
- \*Large Vascular Cannulation for ECLA
- \*Pacemaker Insertion
- \*Jugular Bulb Catheter
- \*Bronchoscopy
- \*Endoscopically Placed Feeding Tubes
- \*TFF
- \*Placement of dialysis catheters and CRRT pump management
- \*Arterial line insertion
- \*Central venous catheter insertion

Journal Club and /Fellow Morbidity and Mortality Conferences:

- \*Basic Mechanical Ventilation
- \*Advanced Modes of Mechanical Ventilation
- \*Benefits of Spontaneous Breathing
- \*Effects of Dobutamine
- \*Volume Resuscitation
- \*Extracorporeal Techniques for lung, liver and kidneys (ECLA, CRRT, ECCOR, ECLE)
- \*Traumatic Brain Injuries and Management of Critically Ill Patients
- \*Spinal Cord Injuries and Management of Critically Ill Patients
- \*Management of Critically Ill Organ Donors

#### Patents:

January 11, 1994 - An Extracorporeal Lung Assist Device, Patent number 5,277,176
July 24, 2007 - Ventilation method and control of a ventilator based on same, Patent number 7,246,618 with Pending divisional application [US Serial No. 11/386,807] filed 3/23/2006 and pending continuation application [US Serial No. 11/878,295] filed 7/23/2007 based on Ventilation method and control of a ventilator based on same.

# Research:

#### Studies:

1. HP-00048074: Carbogen in Brain Death Testing. Retrospective & prospective review of patients receiving Carbogen in brain death apnea testing. Approved by the University of Maryland Medical Center IRB 6/2011 and currently in progress at University of Maryland Medical Center - R Adams Cowley Shock Trauma Center, Baltimore, MD.

- 2. HP-00052644: Transfusion Related Acute Lung Injury and Massive Transfusion in Trauma. This is a retrospective chart review of the management of trauma patients with transfusion related acute lung injury approved by the R Adams Cowley Shock Trauma Program 7/2012 and pending start of chart review.
- 3. HP-00047695:The Impact of Early Application of Airway Pressure Release Ventilation (APRV) on ARDS Incidence in Trauma Patients. Prospective study comparing APRV and Low Tidal Volume Strategy applied early to prevent ARDS in trauma patients. Approved by the University of Maryland Medical Center IRB 12/2012 and currently in progress at University of Maryland Medical Center R Adams Cowley Shock Trauma Center, Baltimore, MD.
- 4. HP-00053940: Thyroxine Infusion Prior to Brain Death. Retrospective chart review over a five year period of three institutions including: Maryland Shock Trauma Center, University of Southern California/Los Angeles County Hospital and University of California Irvine to characterize the clinical course of patients with severe traumatic brain injury who require pressors prior to the declaration of brain death (if such occurs), and determine if thyroxine results in significantly less use of pressors and shorter length of stay via hemodynamic stabilization. Approved by the University of Maryland Medical Center IRB 9/2012 and currently in progress at University of Maryland Medical Center R Adams Cowley Shock Trauma Center, Baltimore, MD.

# Experiments:

## 2011 -

1. Use of APRV as a preventive strategy for lung injury in a septic ARDS porcine model. Hands-on lab experiment; Syracuse University of New York Upstate Medical Center, Syracuse, NY. January 2011 - June 2012.

# <u>20</u>12 -

1. Use of APRV as a preventive strategy for lung injury in a hemorrhagic shock rat model. Hands-on lab experiment; Syracuse University of New York Upstate Medical Center, Syracuse, NY. June 2012 - December 2012.

## 2013 -

1. Comparison of Assist Control with Volume Guarantee, Airway Pressure Release Ventilation (APRV), CPAP 5 cmH2O and Nasal Cannula in a pre-term neonatal porcine model. Handson lab experiment; University Memphis, Memphis, TN. April 2013.

## 2013 - 2014

1. Use of APRV as a preventive strategy for lung injury in a septic ARDS porcine model. Hands-on lab experiment; Syracuse University of New York Upstate Medical Center, Syracuse, NY. November 2013 - June 2014.

# Publications:

# Chapters:

#### 1994-

1. Reynolds HN, Habashi NM, Borg UR. "New Directions and Applications for Extracorporeal Cardiopulmonary Support." In: Advances in Trauma and Critical Care. Mosby Yearbook. Editor: K.I. Maull, vol. 9:100-133. October.

- 1. Habashi NM, Borg UR, Reynolds HN, Aswad MA, Cottingham CA. New Directions in Ventilatory Management (New Techniques with Mechanical Ventilation). In: Advanced Therapy in Thoracic Surgery. B.C. Decker publishers, 1998.
- 1. Aswad M, Habashi NM, Borg UR, Reynolds HN, Cottingham CA, Rodriguez A, Scalea T: "Extracorporeal Liver Exclusion for Management of Severe Traumatic Liver Injuries". Trauma Quarterly, ASPEN Publishers

- 1. McCunn M, Habashi NM: "Airway Pressure Release Ventilation in the Acute Respiratory Distress Syndrome following Traumatic Injury". International Anesthesia Clinics, vol 40: 89-102.
- 2. Reynolds HN, Habashi NM, Cottingham CA, Frawley P.M., McCunn M: "Inter-hospital Transport of the Adult Mechanically Ventilated Patient". Respiratory Clinics, vol 8: 37-50.
- 3. Habashi NM, O'Connor J, McCunn M: "Ventilatory Management and Critical Care Issues following Cardiothoracic Trauma". Seminars in Cardiothoracic and Vascular Anesthesia, 3rd quarter.

### 2004-

1. Frawley PM, Habashi NM, "Airway Pressure Release Ventilation and Pediatrics: Theory and Practice". Critical Care Nursing Clinics of North America, Vol 16, 3:337-348.

#### 2006

1. Update in respiratory care technology, yearbook of respiratory care, Edition 2003-2006. European Respiratory Care and Spanish Society of Respiratory Care, International Alliance of Respiratory Care Societies and Latin American Board of Respiratory care dedicated to publish newest advances in technology related with respiratory care.

#### 2008 -

1. Habashi NM, Andrews PL: "What is the role of airway pressure release ventilation in ARDS?" The evidenced Based Practice of Critical Care, 2010, Saunders. Editors: Deutschman C, Neligan P. - Section II; 18:113-117.

#### 2013 -

1. Habashi NM, Andrews PL: "APRV/BiLevel Ventilation". Current Problems in Surgery on Current Approaches to Ventilatory Support; 50 (2013) 424-499. Editors: Frankel H, Kaplan L.

# 2014 -

1. Chapter 5: Airway Pressure Release Ventilation for Critical Care Emergency Medicine, Second Edition edited by Dr. Farcy, Dr. Chiu, Dr. Marshall and Dr. Osborn.

#### Manuals:

- 1. Habashi NM, Borg UR, Reynolds HN: "Simplified Extracorporeal Lung Assistance (SECLA) Training Manual, Guidelines, Policies and Procedures." University of Maryland, R Adams Cowley Shock Trauma Center.
- 2. Bar Lavie R, Habashi NM, Borg UR, Reynolds HN: "Plasmapheresis Training Manual, Guidelines, Policies and Procedures." University of Maryland, R Adams Cowley Shock Trauma Center.

#### **Educational Articles:**

#### March 2003 -

1. Habashi, NM: "Knowledge based weaning, Protocolized Care in the Weaning Process." Dräger Medical Educational Document.

## Journal Articles:

## 1985-

1. Habashi NM. "Investigation of the Hypoglycemic effect of Trimethoprim-Sulfamethoxazole. Clinical Research. April; Vol. 35: No.3, pg. 746a.

- 1. Habashi, NM., Dubois B: "The Role of Tyrosine Kinase in Regulation of Neonatal Lung Growth and Development." Clinical Research, April; Vol. 139: pg. 453.
- 1. \*Habashi NM, Borg UR, Reynolds HN: "An In-Vitro Model for Cardiopulmonary Simulation, a System for ECMO Training." International Journal for Artificial Organs; Vol. 7: pg. 339-407.

1995-

- 1. \*Habashi NM, Borg UR, Reynolds HN: "Low blood flow extracorporeal carbon dioxide removal (ECCO2R):a review of the concept and a case report." Intensive Care Medicine. August, Vol. 21: pg. 594-597.
- 2. \*Cottingham C, Habashi NM: "Extracorporeal Lung Assist in the Adult Trauma Patient." Clinical Issues in Critical Care, May, 1995; Vol. 6; #2: pg. 229-441 1998-
- 1. \*Borg UR, Reynolds HN, Habashi NM: "Veno-Venous Extracorporeal Lung Assist with Concurrent Distal Aortic Perfusion: Repair of Ruptured Aorta in a Patients with Dense ARDS." International Journal of Artificial Organs 1998 Jun:21(6)344-7.
- 2. \*Reynolds HN, McCunn M, Borg U, Habashi NM, Cottingham C, Bar-Lavie Y: "Acute respiratory distress syndrome: estimated incidence and mortality rate in a 5 million-person population base". Critical Care 1998, 2:29. 1999-
- 1. \*Reynolds HN, Cottingham C, McCunn M, Habashi NM\*, Scalea T: "Extracorporeal Lung Support in a Patient with Traumatic Brain Injury: The Benefit of Heparin-bonded Circuitry", Perfusion 14:489-493.
- 2. \*McCunn M, Cottingham C, Reynolds N, Mirvis S, Habashi NM. "Impact of A Portable Ct Scanner on Physician Ordering Patterns and Practices in the Intensive Care Unit". Critical Care Medicine. 27(1S) Supplement:153A, January 1999. 2000-
- 1. Teiken P, Regan M, Habashi NM., Cottingham CA, McCunn M, Scalea T, Reynolds HN: "Hyperlactemia, Increased Osmolar Gap and Renal Dysfunction During Continuous Lorazepam Infusion." Critical Care Medicine, April.
- 2. \*Gebremichael M, Borg U, Habashi NM\*, Cottingham C, Cunsolo L, McCunn M, Reynolds HN: "Interhospital Transport of the Extremely Ill Patient: The Mobile Intensive Care Unit." Critical Care Medicine, January.
- 3. <sup>†</sup>Tandon M, Reynolds H, Borg U, Habashi NM, Cottingham C. "Life-Threatening Acute Systemic Lupus Erythematosus: Survival After Multiple Extracorporeal Modalities: A Place for the Multipotential Extracorporeal Service." ASAIO Journal. 46(1):146-149, January/February 2000.

2001-

- 1. Frawley PM, Habashi NM: "Airway Pressure Release Ventilation: Theory and Practice", AACN Clinical Issues Vol 12 Nos. 2, pp 234-246.
- 2. \*Navarette-Navarro P, Rodriguez A, Reynolds HN, West R, Habashi NM, Rivera R, Chiu WC, Scalea T: "Acute respiratory distress syndrome among trauma patients: trends in ICU mortality, risk factors, complications and resource utilization", Intensive Care Medicine 27:1133-1140.

2002-

1. Habashi NM, O'Connor J, McCunn M: "Ventilatory Management and Critical Care Issues following Cardiothoracic Trauma". Seminars in Cardiothoracic and Vascular Anesthesia, 3rd quarter, 2002.

- 1. Frawley PM, Habashi NM: "Airway pressure release ventilation and pediatrics: theory and practice", Critical Care Nursing Clinics of Northern America, Advances in Respiratory Care, Vol 16, No. 3, pp 337-348.
- 2. Habashi NM, Andrews PL: "Ventilator strategies for post-traumatic acute respiratory distress syndrome: airway pressure release ventilation and the role of spontaneous breathing in critically ill patients", Current Opinion in Critical Care, 10:549-557. 2005-
- 1. Habashi, NM: "Other approaches to open-lung ventilation: Airway Pressure Release Ventilation", Critical Care Medicine, No. 3, Vol. 33, S228-S240. 2006-
- 1. \*Kacmarek R, Wiedemann H, Lavin P, Wedel M, Tutuncu A, Slutsky A, Habashi, NM. "Partial Liquid Ventilation in Adult Patients with Acute Respiratory Distress Syndrome", American Journal Respiratory Critical Care Medicine, Vol. 173; 882-889. (Principal Investigator for R Adams Cowley Shock Trauma Center).
- 2. <sup>†</sup>Habashi NM. "Knowledge Based Weaning: Protocolized care in the weaning process", Respiratory Therapy, Vol. 1, No. 2, February-March, 2006; 18-19.
- 3. <sup>†</sup>Habashi N, Andrews P, Scalea T. "Therapeutic aspects of fat embolism syndrome", Injury (International Journal of the Care of the Injured), 37S, S68—S73, 2006.
- 4. Andrews PL, Habashi N. "Airway pressure release ventilation: A boost for spontaneous breathing", American Nurse Today, October 2006, Vol. 1, No. 1, 10-12. 2007-
- 1. Scalea T, Bochicchio G, Habashi, N, et al. Increased Intra-Abdominal, Intrathoracic, and Intracranial Pressure After Severe Brain Injury: Multiple Compartment Syndrome. Journal of Trauma-Injury Infection & Critical Care, March 2007; 62(3):647-656
- 2. Andrews PL, Habashi N. "High Frequency Oscillatory Ventilation", American Nurse Today, October 2007, Vol. 2, Issue 10, 29-31.
  2008 -
- \*Andrews P, Habashi N. "Wake up and Breathe Ventilator Weaning." American Nurse Today. Published March 2010; Vol 5./No.3.
   2009 -
- 1. Andrews P, Habashi N. "Understanding Pneumonectomy", OR Nurse, March 2009 [CE article].

- 1. Lear G, Andrews P, Habashi N. "Avoiding Ventilator Complications, Advance, March, 2010.
- 2. Andrews P, Habashi N. "Weaning patients from the mechanical ventilator: The nurse's role", American Nurse Today, March 2010, Vol. 5, No. 3, 11-14.
- 3. <sup>†</sup>Andrews P, Habashi N. "Pulmonary Embolism." American Nurse Today, [CE article]; September 2010, Vol. 5, Number 9, 21-26.

- 1. <sup>†</sup>Andrews P, Habashi N. "Preload / Afterload." American Nurse Today; digital issue, February 2012: http://www.americannursetoday.com/article.aspx?id=8756&fid=8714
- 2. \*Sadowitz B, Roy S, Gatto LA, Habashi N, Nieman G. "Lung injury induced by sepsis: lessons learned from large animal models and future directions for treatment". Expert Rev Anti Infect Ther, 2011;9(12):1169-1178.
- 3. \*Roy S, Sadowitz B, Andrews P, Gatto L, Marx W, Ge L, Wang G, Lin X, Dean D, Kuhn M, Ghosh, Satalin J, Snyder K, Vodvotz Y, Nieman G, Habashi N. Early Stabilizing Alveolar Ventilation Prevents ARDS A Novel Timing-based Ventilatory Intervention to Prevent Lung Injury. J Trauma Acute Care Surg, 2011;73(2):391-400.

- 1. \*Habashi N, Andrews P. "Mechanical Ventilation of Spinal Cord Injured Patients". Journal of Neurosurgery 2012; 17:38-45.
- Roy S, Sadowitz B, Andrews P, Gatto L, Marx W, Ge L, Wang G, Lin X, Dean D, Kuhn M, Ghosh, Satalin J, Snyder K, Vodvotz Y, Nieman G, Habashi N. Early Stabilizing Alveolar Ventilation Prevents ARDS - A Novel Timing-based Ventilatory Intervention to Prevent Lung Injury. J Trauma Acute Care Surg, 2012;73(2):391-400.
   2013 -
- 1. \*Ichikado K, Muranaka H, Gushima Y, Kotani T, **Habashi N**, et al. "Fibroproliferative changes on high-resolution CT in the acute respiratory distress syndrome predict mortality/ventilator dependency: a prospective observational cohort study". British Medical Journal Open, 2013;2(2):000545.
- 2. \*Roy S, Habashi N, Sadowitz B, Andrews P, et al. "Early Stabilizing Alveolar Ventilation Prevents ARDS". Shock 2013;39(1):28-28.
- 3. \*Jenkins JK, Gebergzabher YD, Island ER, Habashi N, Hauser GJ. "Use of airway pressure release ventilation in a child with refractory hepatopulmonary syndrome after liver transplantation". Pediatr Transplantation 2013; 17: E81-E87.
- 4. \*Emr B, Gatto L, Roy S, Satalin J, Ghosh A, Snyder K, Andrews P, Habashi N, et al. "Airway Pressure Release Ventilation Prevents Ventilator Induced Lung Injury in Normal Lungs." *JAMA Surgery*, 2013; Nov, 148(11):1005.
- 5. +Roy S, Emr B, Sadowitz B, Gatto L, Ghosh A, Satalin J, Snyder K, Ge L, Wang G, Marx W, Dean D, Andrews P, Singh A, Scalea T, Habashi N, et al. "Preemptive Application of APRV Prevents the Development of ARDS in a Rat Traumatic Hemorrhagic Shock Model." Shock, 2013;40(3)210-216.
- 6. +Andrews P, Shiber J, Jaruga-Killeen E, Roy S, Sadowitz B, O'Toole R, Gatto L, Nieman G, Scalea T, Habashi N. "Early application of airway pressure release ventilation may reduce mortality in high-risk trauma patients: A systematic review of observational trauma ARDS literature." J Trauma Acute Care Surg, 2013; 75(4):635-641.
- 7. +Nieman G, Gatto L, Marx W, **Habashi N**. Is Time the Missing Component in Protective Ventilation Strategies? Critical care Medicine 2013;41(10):2461.

#### 2014

- 1. +Kollisch-Singule M, Emr B, Smith B, Roy S, Jain S, Satalin J, Snyder K, Andrews P, Habashi N, Bates J, Marx W, Nieman G, Gatto L. "Mechanical Breath Profile of Airway Pressure Release Ventilation The Effect on Alveolar Recruitment and Microstrain in Acute Lung Injury." JAMA Surgery; 2014;13:59.
- 2. +Kollisch-Singule M, Emr B, Smith B, Ruiz C, Roy S, Qinghe M, Jain S, Satalin J, Snyder K, Ghosh A, Marx W, Andrews P, Habashi N, Nieman G, Gatto L. "Airway Pressure Release Ventilation (APRV) Reduces Conducting Airway micro-Strain in Lung Injury". J Am Coll Surg 2014;219:968-976.

#### 2015

- 1. +Andrews P, Sadowitz B, Kollisch-Singule M, Satalin J, Roy S, Snyder K, Gatto L, Nieman G, Habashi N. Arterial Oxygenation is Not a Predictor of Alveolar Stability in Acute Lung Injury: Potential Mechanism for Occult Ventilator Induced Lung Injury. Intensive Care Medicine Experimental 2015;3:16.
- 2. +Shiber J, Fontane E, Rabinowitz R, Gens D, Habashi N, Scalea T. Incomplete lemierre syndrome. Pediatre Emerg Care. 2015 Jan; 31(1):39-41.
- 3. +Nieman G, Gatto L, Bates J, Habashi N. Mechanical Ventilation as a Therapeutic Tool to Reduce ARDS Incidence. Chest: Ahead of the Curve 2015;148(6):1396-1404.
- 4. +Smith B, Lundblad L, Kollisch-Singule M, Satalin J, Nieman G, Habashi N, Bates J. Predicting the response of the injured lung to the mechanical breath profile. *J Appl Physiol* 118: 932-940, 2015.
- 5. +Kollisch-Singule M, Emr B, Jain S, Andrews P, Satalin J, Liu J, Porcellio E, Kenyon V, Wang G, Marx W, Gatto L, Nieman G, Habashi N. The effects of airway pressure release

ventilation on respiratory mechanics in extrapulmonary lung injury. Intensive Care Medicine Experimental 2015;3:35.

#### 2016

- 1. +Sadowitz B, Jain S, Kollisch-Singule M, Satalin J, Andrews P, Habashi N, Gatto L, Nieman G. Preemptive mechanical ventilation can block progressive acute lung injury. World J Crit Care Med 2016 February 4; 5(1): 74-82.
- 2. +Kollisch-Singule M, Jain S, Andrews P, Smith B, Hamlington-Smith, Roy S, DiStefano D, Nuss E, Satalin J, Meng Q, Marx W, Bates J, Gatto L, Nieman G, Habashi N. Effect of Airway Pressure Release Ventilation on Dynamic Alveolar Heterogeneity. *JAMA Surg*. 2016;151(1):64-72.
- 3. +Jain S, Kollisch-Singule M, Sadowitz B, Dombert L, Satalin J, Andrews P, Gatto L, Nieman G, Habashi N. Intensive Care Medicine Experimental 2016;4:11.
- 4. +Nieman G, Satalin J, Andrews P, Habashi N, Gatto L. Lung stress, strain, and energy load: engineering concepts to understand the mechanism of ventilator-induced lung injury (VILI). Intensive Care Medicine Experimental 2016;4:16.

#### 2017

- +Jain S, Kollisch-Singule M, Statalin J, Searles Q, Dombert L, Abdel-Razek O, Yepuri N, Leonard A, Gruessner A, Andrews P, Fazal F, Meng Q, Wang G, Gatto L, Habashi N, Nieman G. The role of high airway pressure and dynamic strain on ventilator-induced lung injury in a heterogeneous acute lung injury model. Inten Care Med Exp 2017;5:25.
- 2. +Nieman G, Satalin J, Andrews P, Aiash H, Habashi N, Gatto L. Personalizing mechanical ventilation according to physiologic parameters to stabilize alveoli and minimize ventilator induced lung injury (VILI). Inten Care Med Exp 2017;5:8.
- 3. +Nieman G, Satalin J, Kollisch-Singule M, Andrews P, Aiash H, Habashi N, Gatto L. Physiology in Medicine: Understanding Dynamic Alveolar Physiology to Minimize Ventilator Induced Lung Injury (VILI). J Appl Physiol 2017;122:1516-1522.
- 4. +Kollisch-Singule M, Jain S, Andrews P, Satalin J, Gatto L, Villar J, DeBacker D, Gattinoni L, Nieman G, Habashi N. Looking beyond macro-ventilatory parameters and re-thinking ventilator-induced lung injury. J Appl Physiol 2017; article in press (JAPPL-00412-2017R2).

NOTE: <sup>+</sup> Denotes a peer reviewed journal

# Abstracts:

## 1985-

1. Habashi NM: "Investigation of the Hypoglycemic Effect of Trimethoprim-Sulfamethoxazole." American College of Physicians, Regional Meeting, Philadelphia, PA. October.

## 1994-

1. Cunsolo LA, Habashi NM, Borg UR, Reynolds HN: "The Rational Development of Specialized Critical Care Transport Program". R A. Cowley 16th Annual Trauma Symposium, Baltimore, Maryland, November, 18.

#### 1995-

1. Borg UR, Consulo L, Reynolds HN, Habashi NM: "Intrahospital Transport of Patient on Extracorporeal Lung Assist". Abstract from proceedings of The Annual EEOS meeting, Bergamo, Italy.

- 2. Borg UR, Cunsolo LA, Reynolds HN, Habashi NM: "Intrahospital Transport of Patients on Extracorporeal Lung Assist (ECLA)". European Extracorporeal Life Support Organization 4th Conference of ECLA. Poster Presentation, Bergamo, Italy, May 10. 1996-
- 1. Borg UR, Reynolds HN, Habashi NM: "ECLA, ECMO, ECCO2: Is Your System Safe? Part I ECLA Circuit". 5th European Congress on Extracorporeal Life Support. Published in proceedings page 27a. Stockholm, Sweden June 20-29.
- 2. Borg UR, Reynolds HN, Habashi NM: "ECLA, ECMO, ECCO2: Is Your System Safe? Part II ECLA Circuit". 5th European Congress on Extracorporeal Life Support. Published in proceedings page 27b. Stockholm, Sweden June 20-29.
- 3. Borg UR, Habashi NM\*, Reynolds HN: "Blood Recovery from Medtronic Maxima PRF Membrane Oxygenator". 5th European Congress on Extracorporeal Life Support. Published in proceedings page 15. Stockholm, Sweden, June 20-29.
- 4. Kuramoto J, Ciesla N, Habashi NM, Reynolds HN, Borg U: "Physical Therapy (PT) Intervention for Patients Requiring Extracorporeal Lung Assist (ECLA)". 5th European Congress on Extracorporeal Life Support. Published in proceedings, page 26. Stockholm Sweden, June 20-29.
- 5. Bar-Lavie Y, Borg U, Kuramoto J, Habashi NM, Reynolds HN: "Results of a Prospective Prone Positioning Protocol in Patients with the Acute Respiratory Distress Syndrome". European Society of Critical Care. Glasgow, Scotland, September.
- 6. Habashi NM, Borg UR, Bar-Lavie Y, Reynolds HN: "Effects and Safety of Intermittent Prone Positioning as an Adjunct to Extracorporeal Lung Assist (ECLA)". CHEST, Vol 110; (4):(Suppl):pp595, October.

- 1. Habashi NM, Borg UR, Reynolds HN, Cottingham CA, Aswad MA: "Diagnostic and Therapeutic Procedures Performed During Extracorporeal Lung Assist". 6<sup>th</sup> European Congress on Extracorporeal Life Support. University of Oxford, Oxford, England, August 19-22.
- 2. Aswad MA, Habashi NM, Borg UR, Reynolds HN, Cottingham CA, Rodriguez A, Scalea T: "Extracorporeal Liver Exclusion for Severe Traumatic Liver Injuries".
- 3. Reynolds HN, McCunn M, Borg U, Habashi NM, Cottingham C, Bar-Lavie Y: "The Incidence and Mortality Rate Associated with the Adult Respiratory Distress Syndrome in Maryland". Accepted for presentation at the Society of Critical Care Medicine, 20th Educational and Scientific Symposium. San Diego, CA February, 6-10.
- 1. McCunn M, Reynolds HN, Cottingham C, Habashi NM: "Craniotomy for Intracerebral Hemorrhage (ICH) in a Patient with Acute Respiratory Distress Syndrome (ARDS) on Extracorporeal Support". Published in the proceedings from ITACCS Symposium, Vienna, Austria, May.
- 2. McCunn M, Reynolds HN, Cottingham C, Handley C, Habashi NM, Borg U: "Interhospital Transport of Critically Ill Trauma Patient with Acute Respiratory Distress Syndrome: Complications and Outcome". Published in the proceedings from ITACCS Symposium, Vienna, Austria, May.
- 3. McCunn M, Cottingham C, Reynolds HN, Habashi NM, Borg U: "Prone Positioning of Trauma Patients with Acute Respiratory Distress Syndrome: Complications and Morbidity". Published in the proceedings from ITACCS Symposium, Vienna, Austria, May.
- 4. McCunn M, Reynolds HN, Cottingham CA, Britten JS, Habashi NM: "Extracorporeal support in an adult with severe carbon monoxide poisoning: A case report." Extracorporeal Life Support Organization Symposium, San Antonio, Texas, Sept 18-20.
- 5. McCunn M, Mirvis SE, Cottingham CA, Reynolds HN, Habashi NM: "Computerized tomographic scan in adult patients on extracorporeal support: Applications, indications and complications." Extracorporeal Life Support Organization Symposium, San Antonio, Texas, September, 18-20.

- 1. Habashi N: "APRV in Respiratory Failure", First postgraduate course on mechanical ventilation, Dresden, Germany September 23-23.
- 2004-
- 1. Hutchison AA, Leaderstorf MR, Habashi NM: "Airway Pressure Release Ventilation in a Preterm Infant with Severe Bronchopulmonary Dysplasia". Case report. 2006-
- O'Toole R, O'Brien M, Habashi N, Pollak A, and Turen CH "Resuscitation Prior to stabilization of Femoral Fractures Limits ARDS in Polytrauma Patients Despite Low Utililization of Damage Control Orthopaedics". Podium Presentations 22<sup>nd</sup> Annual Meeting of Orthopedic Trauma Association, Phoenix, AZ, October 2006.
   2009-
- 1. Shiber J, O'Toole R, Habashi N. APRV is Associated with a Low Rate of ARDS in High-risk Trauma Patients. Crit Care Med 2009(suppl);37(12):A185.
- 1. Madden M, Saunders P, Dolly K, Manship R, Habashi N. The Use of Carbogen for Apnea Test on a Pediatric Patient. RCJournal 2011 Open Forum Abstracts.
- 2. Davis B, Saunders P, Madden M, Vogt K, Stein D, Habashi N. Use of Airway Pressure Release Ventilation with a Traumatic Brain Injured Patient. RCJournal 2011 Open Forum Abstracts.
- 3. Madden M, Habashi N, Saunders P, et al. A Safer Method of Performing Apneas Tests Using Carbogen and Capnography for Patients on APRV. RCJournal 2011 Open Forum Abstracts. 2012 -
- 1. Roy S, Kuhn M, Sadowitz B, Habashi N, et al. Preventative Ventilation Prior to Lung Injury Averts ARDS: A Novel Timing-Based Strategy of Ventilator Therapy. The 26th Eastern Association for the Surgery of Trauma (EAST) Annual Scientific Assembly. Recipient of the Raymond H Alexander, MD Resident Paper Competition Award.
- 2. Andrews P, Dolly K, Madden M, Habashi, N. The Use of Carbogen Facilitates Apnea Testing in a Patient on Venous-Arterial Extracorporeal Membrane Oxygenation (VA-ECMO). Poster Presentation (#84) at the 10th Annual Neurocritical Care Society Meeting, October 5, 2012, Sheraton Denver Downtown Hotel, Denver, CO.
- 3. Madden M, Andrews P, Cho S, Habashi, N. Successful Apnea Testing During Veno-Venous Extracorporeal Membrane Oxygenation (VV-ECMO). Poster Presentation (#82) at the 10th Annual Neurocritical Care Society Meeting, October 5, 2012, Sheraton Denver Downtown Hotel, Denver, CO.
- 4. Andrews P, Madden D, Brauer J, Madden M, Habashi N. "Use of Airway Pressure Release Ventilation (APRV) as a Rescue Mode from High Frequency Oscillatory Ventilation (HFOV)". AARC 2012 Open Forum Abstracts.
- 5. Roy SK, Sadowitz B, **Habashi N**, Andrews P, Ge L, Wang G, Gatto L, Carpenter DJ, Dean D, Satalin J, Vodovotz Y, Snyder K, Nieman GF. "Early Stabilizing Alveolar Ventilation Prevents ARDS." Shock 37(S1): 13.
- 6. **Habashi N**, Roy SK, Nieman GF, Andrews P, Satalin J, Gatto L. "Airway Pressure Release Ventilation Maintains Alveolar Stability By Limiting Loss of Lung Volume During Release Phase." Shock 37(S1): 102-103.

- 1. Smith B, Lundblad L, Satalin J, Kollish-Singule M, Emr B, Snyder K, Gatto L, Andrews P, Habashi N, Nieman G, Bates J. "Personalized Predictions of Recruitment, Derecuitment, and Tissue Distention in the Injured Lung". BMES 2014 Annual Meeting Respiratory Track, October 22-25, 2014, San Antonio, TX.
- 2. Kollisch-Singule M, Emr B, Jain S, Gatto L, Marx W, Andrews P, Nieman G, Habashi N. Application of Airway Pressure Release Ventilation before Lung Injury Prevents Progression to ARDS. Accepted 2014 to Critical Care Medicine.

- 3. Porcellio E, Kenyon V, Jain S, Kollisch-Singule M, Satalin J, Snyder K, Gatto L, Nieman G, Habashi N, Andrews P. Appropriately Set APRV Improves expiratory Flow and Carbon Dioxide Removal. 12<sup>th</sup> Annual American Medical Association Research Symposium, Dallas, TX, November 7, 2014.
- 4. Kenyon V, Porcellio E, Jain S, Kollisch-Singule M, Satalin J, Snyder K, Gatto L, Nieman G, Habashi N, Andrews P. Using Time Rather Than Applied Pressure to Control End Expiratory Lung Volume in APRV. 14<sup>th</sup> Annual Upstate Biomedical Sciences Retreat, Syracuse, NY, September 10, 2014.
- 5. Kenyon V, Porcellio E, Jain S, Kollisch-Singule M, Satalin J, Snyder K, Gatto L, Nieman G, Habashi N, Andrews P. Using Time Rather Than Applied Pressure to Control End Expiratory Lung Volume in APRV. 12<sup>th</sup> Annual American Medical Association Research Symposium, Dallas, TX, November 7, 2014.

# Presentations:

1986-

- Habashi, NM. Investigation of the Hypoglycemic Effect of Trimethoprim-Sulfamethoxazole. American College of Physicians, Regional Meeting, Philadelphia, PA. October. 1994-
- 1. Cunsolo LA, Habashi NM, Borg UR, Reynolds HN: "The Rational Development of Specialized Critical Care Transport Program". R A. Cowley 16th Annual Trauma Symposium, Baltimore, Maryland, November, 18.

1995-

- 1. Borg UR, Consulo L, Reynolds HN, Habashi NM: "Intrahospital Transport of Patient on Extracorporeal Lung Assist." Abstract from proceedings of The Annual EEOS meeting, Bergamo, Italy.
- 2. Borg UR, Cunsolo LA, Reynolds HN, Habashi NM: "Intrahospital Transport of Patients on Extracorporeal Lung Assist (ECLA)." European Extracorporeal Life Support Organization 4th Conference of ECLA. Poster Presentation, Bergamo, Italy, May 10. 1996-
- 1. Bar-Lavie Y, Borg UR, Kuramoto J, Habashi NM, Reynolds HN: "Results of a Prospective Prone Positioning Protocol in Patients with Acute Lung Injury". European Society of Critical Care. Glasgow, Scotland, September.
- 2. Habashi NM, Borg UR, Bar-Lavie Y, Reynolds HN: "Effects and Safety of Intermittent Prone Positioning as an Adjunct to Extracorporeal Lung Assist (ECLA)." (ACCP) San Francisco, CA, October.
- 3. Kuramoto J, Ciesla N, Habashi NM, Reynolds N, Borg UR: "Physical Therapy (PT) Intervention for Patients Requiring Extracorporeal Lung Assist (ECLA)." 5th European Congress on Extracorporeal Life Support. Stockholm, Sweden, June 20-29.
- 4. Borg UR, Reynolds HN, Habashi NM: "ECLA, ECMO, ECCO2: Is Your System Safe? Part I ECLA Circuit". 5th European Congress on Extracorporeal Life Support. Stockholm, Sweden June 20-29.
- 5. Borg UR, Reynolds HN, Habashi NM: "ECLA, ECMO, ECCO2: Is Your System Safe? Part II ECLA Circuit." 5th European Congress on Extracorporeal Life Support. Stockholm, Sweden June 20-29.
- 6. Borg UR, Habashi NM, Reynolds HN: "Blood Recovery from Medtronic Maxima PRF Membrane Oxygenator". 5th European Congress on Extracorporeal Life Support. Stockholm, Sweden, June 20-29.

- 1. Aswad MA, Habashi NM, Borg UR, Reynolds HN, Cottingham CA, Rodriguez A, Scalea T: "Extracorporeal Liver Exclusion for Severe Traumatic Liver Injuries". American Association for the Surgery of Trauma Japanese Society of Trauma Surgery Joint Meeting, Honolulu, HI, September.
- 2. Reynolds HN, McCunn M, Borg U, Habashi NM, Cottingham C, Bar-Lavie Y: "The Incidence and Mortality Rate Associated with the Adult Respiratory Distress Syndrome in Maryland". Society of Critical Care Medicine 20<sup>th</sup> Educational and Scientific Symposium. San Diego, CA. February, 6-10.

# National Invited Lectures: 1992-

- 1. "ARDS: Pathophysiology and New Therapies." First Annual Extracorporeal Lung Assistance Conference. University of Maryland, Baltimore MD.
- 2. The Role of Extracorporeal Respiratory Support in ARDS." Department of Medicine Grand Rounds. Conemaugh Valley Medical Center, Johnstown PA, December.

- 1. "ARDS, Carbon Dioxide Physiology, ECMO, ECCOR and SECLA." Second Annual Extracorporeal Lung Assistance Conference. University of Maryland, Baltimore, MD 1994-
- 1. "Advances in Extracorporeal Lung Assist." Conference By the Sea. American Association of Respiratory Care. Ocean City, MD, September 16.
- 2. "Acute Lung Injury and Barotrauma, The Role of ECLA." Pulmonary Update Conference. Vanderbilt University St. Thomas Hospital, Nashville, TN. October 14.
- 3. "Mechanical Ventilation in Acute Lung Injury." Mid-Atlantic Respiratory and Critical Care Conference, AARRC. Washington, DC.
- 4. "Extracorporeal Lung Assist (ECLA)." Mid-Atlantic Respiratory and Critical Care Conference, AARRC. Washington, DC.
- 5. "Acute Lung Injury and Extracorporeal Lung Assist." Washington Chapter of Society of Critical Care Medicine. National Institute of Health, Washington, DC, December. 1995-
- 1. "Ventilator Induced Lung Injury." Respiratory Update Conference on Mechanical Ventilation. Bowman Gray School of Medicine, Forsythe Hospital, Winston-Salem, NC, May.
- 2. "Extracorporeal Lung Assist." Respiratory Update Conference on Mechanical Ventilation. Bowman Gray School of Medicine, Forsyth Hospital, Winston-Salem, NC, September.
- 3. "Prone Positioning in ARDS." Respiratory Update Conference on Mechanical Ventilation. Bowman Gray School of Medicine, Forsyth Hospital, Winston-Salem, NC, September.
- 4. "Airway Pressure Release Ventilation." University of Maryland 3rd Annual Respiratory Symposium, Baltimore, MD, October.
- 5. "ARDS." "Mechanical Ventilation." "Extracorporeal Support." American Association of Critical Care Nurses. Philadelphia, PA, October.
- 6. "Prone Positioning in ARDS." ICU Grand Rounds. The Johns Hopkins University, Baltimore, MD, October.
- 7. "ECLA in Trauma and Post Surgical Patients." Surgical Grand Rounds. St. Vincent's Hospital and Medical Center, NY Medical College, NY, NY, November. 1996-
- 1. "ARDS/Extracorporeal Support." Pulmonary Update 1996. The Medical Center at Bowling Green, Bowling Green, KY, January 27.
- 2. "ARDS: Alternative Therapeutic Options." Laurence A. Grossman Medical Learning Center, St. Thomas Hospital, Nashville, TN, February 15.

- 3. "Extracorporeal Management of the ARDS Patient." Laurence A. Grossman Medical Learning Center, St. Thomas Hospital, Nashville, TN, February 15.
- 4. "Alternative Methods of Mechanical Ventilation in ARDS." Laurence A. Grossman Medical Learning Center, St. Thomas Hospital, Nashville, TN, February, 15
- 5. "Alternative Therapies: Prone Positioning." Laurence A. Grossman Medical Learning Center, St. Thomas Hospital, Nashville, TN, February 15.
- 6. "Case Presentation, Discussant ICU Rounds: Patient presentation and case management." Laurence A. Grossman Medical Learning Center, St. Thomas Hospital, Nashville, TN, February 15.
- 7. "Acute Lung Injury. Acute Lung Injury and Current Ventilation Techniques." The Medical Center at Bowling Green, Bowling Green, KY, March 19.
- 8. "Prone Positioning. Critical Care Grand Rounds." National Institute of Health, Bethesda, MD, June 4.
- 9. "Pulmonary Medicine for Orthopedics." R Adams Cowley Shock Trauma Clinical Center, Baltimore, MD, June 19.
- 10. "ALI/ ARDS and ECLA for Respiratory Failure." Texas Society for Respiratory Care. Dallas, TX, July.
- 11. "Advanced Ventilator Modes for ARDS." Texas Society for Respiratory Care. Dallas, TX, July.
- 12. "APRV. South Florida Respiratory Society." Tampa General Hospital, Tampa, FL, October 10.
- 13. "Pulmonary Failure. Lecture Series Dietetic Interns." R Adams Cowley Shock Trauma Clinical Center, Baltimore, MD. November 18.
- 14. New Strategies of Mechanical Ventilation. Trends in Critical Care Nursing. Philadelphia, PA, October 22.
- 15. "Alternative Therapies for ARDS." Trends in Critical Care Nursing. Philadelphia, PA, October 23.
- 16. "APRV. Department of Respiratory Care." Prince George's Community College Respiratory Therapy Program. Prince George's Hospital, Largo, MD, November 26.
- 17. "Evaluation of Chest X-Rays in the Critically Ill Patient." Lecture Series Trauma/ Critical Care Nursing Masters Program. University of Maryland School of Nursing, Baltimore, MD, December 3.

- 1. "APRV." Department of Medicine Grand Rounds. Boone Memorial Hospital, Boone, NC, January 22.
- 2. "Pulmonary Medicine for Orthopedics." R Adams Cowley Shock Trauma Clinical Center. Baltimore, MD, January.
- 3. "APRV." Department of Medicine Grand Rounds. Easley Memorial Hospital, Easley, SC, February.
- 4. "APRV: New Modes of Ventilation." The Johns Hopkins Respiratory Care Seminar. The Johns Hopkins University School of Medicine, Baltimore, MD, March 27.
- 5. "Alternative Therapies for ARDS." Texas Respiratory Care Society Annual Conference. San Antonio, TX, May 8.
- 6. "Update in Ventilator Modes: APRV." 7th Annual Conference by the Tee. Maryland/ District of Columbia Society for Respiratory Care. Columbia, MD, May 22.
- 7. "Acute Lung Injury and Current Ventilation Techniques." R Adams Cowley Shock Trauma Clinical Center Respiratory Conference. Baltimore, MD, June 3.
- 8. "APRV." Department of Medicine Grand Rounds. Lincoln Medical Center, Lincolnton, NC, July 24.
- 9. "APRV- New Ventilator Modes." Dräger Annual Training Conference. Chantilly, VA, July 31.
- 10. "Complex Mechanical Ventilation." Maryland/DC Society Respiratory Care Conference By the Sea, Ocean City, MD, September 19.

- 1. "ARDS Update." Grand Rounds. DC General Hospital, Washington, DC, February, 18.
- 2. "Prone Positioning and Ventilator Management in ARDS." Boston, MA, February, 11.
- 3. "Mechanical Ventilation and APRV Update." Visiting Professor and Guest Speaker, Carolina Medical Center, Charlotte, N.C. August 19.

# 1999-

- 1. "Respiratory Management of the Trauma Patient." Visiting Professor and Guest Speaker, Saint Vincent's Hospital and Medical Center, NY, NY, February 17.
- 2. "ECLA/ECMO in Respiratory Failure". Carolina Medical Center, Charlotte, NC, May 15.
- 3. "ECLA/ECMO in Respiratory Failure." Washington Regional Chapter of the Society of Critical Care Medicine, September 15.
- 4. "Mechanical Ventilation and the Patient with ARDS." 18th R Adams Cowley National Trauma Symposium Program, Baltimore, MD, November 17-20.
- 5. Grand Rounds, "Point/Counterpoint: The Treatment of Acute Respiratory Failure." R Adams Cowley Shock Trauma Center, Baltimore, MD, November 23.

## 2000-

- 1. "ARDS and APRV", Rhode Island Hospital Center, Brown University, Department of Pulmonary and Critical Care, February.
- 2. Grand Rounds, "ARDS and Airway Pressure Release Ventilation." Lancaster General Hospital, Lancaster, PA, March 30.
- 3. "Airway Pressure Release Ventilation", Guest Speaker, Pulmonary Grand Rounds, Hahnemann University, Philadelphia, PA September 8.

#### 2001-

- 1. "ECMO in Trauma" Southeastern ECMO Society and the Johns Hopkins University, May 4. Baltimore, MD.
- 2. "ARPV", Maryland DC Respiratory Society, Conference by the Sea, Ocean City, MD, September 13.
- 3. "Organ Donor Lung Management". Maryland DC Respiratory Society, Conference By the Sea, Ocean City, Maryland, September 13.
- 4. "APRV", Delaware Society of Respiratory Care, DuPont Country Club, Wilmington, DE, October 26.
- 5. "APRV", "Respiratory Failure". Remote videoconference with multitrauma critical care unit at R Adams Cowley Shock Trauma Center, Baltimore, Maryland, AARC, San Antonio, TX, December 1-4.

## 2002-

- 1. "APRV", "Respiratory Mechanics & Respiratory Failure", St. John's Medical Center, St. Louis, MO, April 4.
- 2. "APRV, ARDS": University Hospital & Medical Center at Stony Brook, Stony Brook, NY, September 13.
- 3. "APRV". "11th Annual Mechanical Ventilation: Principles and Applications, Workshops: 'APRV, Bi-level Ventilation'; 'Manipulating Mean Airway Pressure'", Hyatt Regency, Minneapolis, MN. November 8-12.

- 1. NICU Rounds and "APRV and Mechanical Ventilation in Pediatrics and Neonates". Johns Hopkins Hospital, Baltimore, MD. February 18.
- 2. "APRV". "4th Annual Partners in Respiratory Care Excellence Conference Advances in Adult, Pediatric and Neonatal Critical Care." Salisbury University, Salisbury, MD. March 21.
- 3. "APRV". Current Topics in Respiratory Care. Johns Hopkins Hospital, Baltimore, MD, April 16.
- 4. "APRV". North Arundel Hospital, Glen Burnie, MD, May 8.

- 5. "APRV and Pediatrics". Children's National Medical Center, Washington, DC, June 5.
- 6. "APRV". National Institute of Health, Critical Care Medicine Department, Bethesda, MD, June 18.
- 7. "ICU of the Future". Dräger Medical National Sales Meeting, Scottsdale Plaza, Scottsdale, AZ, July 11.
- 8. Critical Care Rounds and "APRV and Pediatrics". Children's Hospital of Philadelphia, Philadelphia, PA, July 24.
- 9. "APRV in Trauma". Ryder Trauma Center, University of Miami, Miami, FL, August 22.
- 10. "APRV and Pediatrics". Remote educational teleconference from Baltimore, Maryland to Minneapolis, MN, November 17.

- 1. "Airway Pressure Release Ventilation: APRV". Pulmonary Care Symposium, Hilton Harrisburg Towers, Harrisburg, PA, February 20.
- 2. "APRV lecture and workshop, Pulmonary Medicine Update, 2004: Latest Technique In Lung-Protective Strategy". Methodist Hospital, Cancer Center Auditorium, Omaha, Nebraska, April 2.
- 3. "Airway Pressure Release Ventilation: APRV & Basics of Mechanical Ventilation". Pennsylvania Society for Respiratory Care, Radisson Hotel, King of Prussia, Pennsylvania, April 23.
- 4. "APRV & Spontaneous Breathing". Presentation given and attendance of patient care rounds, Palmetto Richland Memorial Hospital, Columbia, SC, August 26.
- 5. "APRV & Hemodynamic Affects". South Dakota Society for Respiratory Care, Rushmore Plaza Holiday Inn, Rapid City, SD, September 13.
- 6. "APRV & Waveform Analysis". Remote Educational Teleconference to ICU clinicians, Lakeland Regional Medical Center, remotely Baltimore, MD to Lakeland, FL, September 30.
- 7. "APRV, Waveform Analysis & Spontaneous Breathing". Remote Educational Teleconference to ICU clinicians, Sparks Regional Medical Center, remotely from Baltimore, MD to Fort Smith, AR, October 20.
- 8. "APRV". Ohio Society of Respiratory Care Conference, Akron General Health & Wellness Center, Akron, OH, October 22.
- 9. "APRV & Spontaneous Breathing". National Respiratory Care Week, National Institute of Health, Bethesda, MD, October 26.
- "APRV Workshop". Remote Educational Teleconference to ICU clinicians, Lakeland Regional Medical Center, remotely Baltimore, MD to Lakeland, FL, November 16.
   2005-
- 1. "APRV & Spontaneous Breathing". Lecture and patient care rounds, UTMB, Galveston, TX, March 16.
- 2. "APRV, Lung Recruitment & Spontaneous Breathing". NDSRC 2005 Convention, Holiday Inn, Fargo, ND, April 12.
- 3. "APRV, Lung Recruitment & Spontaneous Breathing". Lecture, St. Luke's Hospital, Houston, TX, June, 30.
- 4. "APRV". Remote Educational Teleconference to ICU clinicians, Sparks Regional Medical Center, remotely Baltimore, MD to Lakeland, FL, August 16.
- 5. "APRV". Remote Educational Teleconference, ISRC Annual state Conference 2005, remotely Baltimore, MD to Boise, ID, September 9.
- 6. "APRV in Pediatric Patients". Lecture given to PICU nursing staff, Johns Hopkins Hospital, Baltimore, MD, September 14.
- 7. "APRV in Pediatric Patients". Lecture given to PICU physician staff, Johns Hopkins Hospital, Baltimore, MD, September 14.
- 8. "APRV". Remote Educational Teleconference, Ozark Technical Community College Conference, remotely Baltimore, MD to Springfield, MO, September 23.

- 9. "APRV & Spontaneous Breathing". Ohio Society of Respiratory Care Conference, Akron General Health & Wellness Center, Akron, OH, October 21.
- 10. "Spontaneous Breathing: Applying physiology to practice". Remote Educational Lecture, conducted remotely from Baltimore, MD to clinicians nationwide, November 14.
- 11. "APRV & Spontaneous Breathing Workshop". Remote Educational Lecture and Workshop, University of Medicine and Dentistry of New Jersey, conducted remotely from Baltimore, MD to Newark, NJ, November 30.
- 12. "Protocolized Weaning: Module 1". Remote Educational Lecture, AARC, remote from Baltimore, Maryland to San Antonio, TX, December 3.
- 13. "APRV: Module 1". Remote Educational Lecture, AARC, remote from Baltimore, Maryland to San Antonio, TX, December 3.
- 14. "Protocolized Weaning: Module 2". Remote Educational Lecture, AARC, remote from Baltimore, Maryland to San Antonio, TX, December 4.
- 15. "APRV: Module 2". Remote Educational Lecture, AARC, remote from Baltimore, Maryland to San Antonio, TX, December 4.
- 16. "APRV Case Presentations". Remote Educational Lecture, AARC, remote from Baltimore, Maryland to San Antonio, TX, December 5.

- 1. "Pathophysiology and assessment of ALI". Management of Critically Ill Patients on Mechanical Ventilation, R Adams Cowley Shock Trauma Center University of Maryland Medical Center, Baltimore, MD, January 4.
- 2. "Pediatric Respiratory Failure: Alternative Ventilatory Modes APRV". Annual Society of Critical Care Medicine 2006, Moscone West Convention Center, San Francisco, CA, January 10.
- 3. "APRV and Spontaneous Breathing". Live, remote lecture for members of American Association of Respiratory Care (AARC), conducted remotely from Baltimore, MD to clinicians nationwide, January 27.
- 4. "APRV and Spontaneous Breathing". Department of Pulmonary, Critical Care and Sleep Medicine, Georgetown University Hospital, Washington, DC, March 1.
- 5. "APRV and Spontaneous Breathing". Lecture conducted remotely from Baltimore, MD to clinicians at St. Joseph's Hospital, Atlanta, GA, March 14.
- 6. "APRV and Spontaneous Breathing". Lecture conducted remotely from Baltimore, MD to clinicians at Medical Center of Central Georgia, Macon, GA, 7th Annual Advanced Course in Mechanical Ventilation March 31.
- 7. "ICU Donor Management". Neuro ICU staff (residents, attendings, nurses, therapists, pharmacy), Johns Hopkins Hospital, Baltimore, MD, April 4.
- 8. "Donor Management". Neurotrauma staff nurses, R Adams Cowley Shock Trauma Center, Baltimore, MD, April 12, 2006.
- 9. "APRV in Donors". Gift of Life Michigan Organ & Tissue Donation Program, Ann Arbor, MI, April 13, 2006.
- 10. "ECMO in Trauma Patients". Critical Care Fellows, R Adams Cowley Shock Trauma Center, Baltimore, MD, April 27, 2006.
- 11. "The Intensivist's Role in Organ Donation: Donor Management and Beyond", Gift of Life Institute, Philadelphia, PA, May 3, 2006.
  - o Setting the Stage for Successful Partnerships Panel Discussion
    - OPO Relationships Produce Lasting Results
    - Physician Roles
  - Advanced Practice Management
  - O Managing Seven Patients Simultaneously-Phase II
    - Every Donor is a Lung Donor (Management + APRV)
- 12. "APRV and Spontaneous Breathing". Physician staff, University of Maryland Medical Center PICU, Baltimore, MD, May 9, 2006.

- 13. "APRV and Spontaneous Breathing". Multidisciplinary clinical staff, Boston University, Boston, MA, May 11, 2006.
- 14. "APRV and Spontaneous Breathing". Surgical physician staff, Boston University, Boston, MA, May 11, 2006.
- 15. "APRV, Spontaneous Breathing and Weaning". Bedside rounding and lecture with clinicians from Maine Medical Center and University of Nevada School of Medicine, May 15, 2006.
- 16. "APRV and Spontaneous Breathing". Lecture conducted remotely from Baltimore, MD to Maine State Society Respiratory Care Conference, Spruce Point, ME, May 18, 2006.
- 17. "APRV and Spontaneous Breathing". Physician staff, University of Maryland Medical Center NICU, Baltimore, MD, June 2, 2006.
- 18. "APRV and Spontaneous Breathing". Lecture conducted remotely from Baltimore, MD to clinicians at Great Plains Regional Medical Center, North Platte, NE, June 5, 2006.
- 19. "APRV & the Role of Spontaneous Breathing in Critically Ill Patients". SACCS, San Antonio, TX, June 14, 2006.
- 20. "APRV & the Role of Spontaneous Breathing in Critically Ill Patients". Brooke Army Medical Center, San Antonio, TX, June 15, 2006. Multicast to other institutions in Texas.
- 21. "APRV & The Role of Spontaneous Breathing in Critically Ill Patients" / "Knowledge Based Weaning". Texas State Respiratory Conference, San Antonio, TX, June 16, 2006.
- 22. "Hawaii Statewide Organ Donation Collaborative". St. Francis Le 'ahi Hospital, Honolulu, HI, June 27, 2006.
  - o Goal: 3.75 Organs Per Donor Panel Discussion
    - •Understand the importance of timely management of the potential donor
    - •Create standing "Potential Donor Management Guidelines" at each hospital
    - Post-consent donor management considerations
- 23. "Overview of Mechanical Ventilation". Lecture for new graduates, University of Maryland, Department of Respiratory Therapy, July, 2006
- 24. "APRV and Spontaneous Breathing". Lecture conducted remotely from Baltimore, MD to clinicians at Baptist Atlanta Hospital, Atlanta, GA, July 13, 2006.
- 25. "Overview of Mechanical Ventilation". Lecture for new graduates, University of Maryland, Department of Respiratory Therapy, August, 2006
- 26. "Managing the Critically Ill Donor". Lecture given to Transplant Resource Center of Maryland clinical coordinators, TRC, Baltimore, MD, August 16, 2006.
- 27. "APRV & The Role of Spontaneous Breathing in Critically Ill Patients". Arizona State Respiratory Conference, Phoenix, AZ, August 23, 2006.
- 28. "Knowledge Based Weaning". Arizona State Respiratory Conference, Phoenix, AZ, August 23, 2006.
- 29. "APRV and Spontaneous Breathing". Physician and Respiratory Therapy staff, John C Lincoln Hospital, Phoenix, AZ, August 23, 2006.
- 30. "APRV in the Donor Patient". NATCO, Chicago, IL, August 28, 2006.
- 31. "APRV and Spontaneous Breathing in Critically Ill Patients". Pulmonary Physician Conference, Latter Day Saints Hospital, Salt Lake City, UT, September 12, 2006.
- 32. "APRV and Spontaneous Breathing in Critically Ill Patients". Physician Grand Rounds, Utah Valley Hospital, Salt Lake City, UT, September 13, 2006.
- 33. "APRV and Spontaneous Breathing in Critically Ill Patients". Remote lecture from Baltimore, MD to clinicians in Ontario, CA, September 20, 2006.
- 34. "APRV and Spontaneous Breathing in Critically Ill Patients". Massachusetts Society of Respiratory Care, Sturbridge, MA, September 27, 2006.
- 35. "APRV & the Role of Spontaneous Breathing in Critically Ill Patients". New York State Respiratory Conference, Long Island, NY, September 29, 2006.
- 36. "Knowledge Based Weaning". New York State Respiratory Conference, Long Island, NY, September 29, 2006.

- 37. "APRV & the Role of Spontaneous Breathing in Critically Ill Patients". Fourth Annual Excellence in Respiratory Care, York, PA, October 5, 2006.
- 38. "Modes of Mechanical Ventilation Q&A". Remote Q&A session from Baltimore, MD to clinicians (RCPs, RNs, MDs) at SUNY Downstate, October 24, 2006.
- 39. "APRV & the Role of Spontaneous Breathing in Critically Ill Patients". Remote lecture from Baltimore, MD to clinicians nationwide, October 26, 2006.
- 40. "APRV & the Role of Spontaneous Breathing in Critically Ill Patients". Grand Rounds, Cooper Hospital, Camden, NJ, October 31, 2006.
- 41. "APRV & Spontaneous Breathing Panel Discussion". Remote session from Baltimore, MD to clinicians (RCPs, RNs, MDs) at Covenant Health Care, Saginaw, MI, November 7, 2006.
- 42. "Ventilator Management and Critical Care Issues Following Cardiothoracic Trauma, APRV & Spontaneous Breathing". 13<sup>th</sup> Annual Pulmonary Critical Care Symposium, Johnson City, TN, November 9, 2006.
- 43. "Overview of Mechanical Ventilation". Lecture for new graduates, University of Maryland, Department of Respiratory Therapy, December 1, 2006.
- 44. "Spontaneous Breathing and Mechanical Ventilation". AARC National Congress 2006, Las Vegas, NV, December 11, 2006.
- 45. "APRV & Spontaneous Breathing". Remote session from Baltimore, MD to clinicians (RCPs, RNs, MDs) at Reading Hospital, Reading, PA, December 12, 2006.
- 46. "APRV Case Studies". AARC National Congress 2006, Las Vegas, NV, December 13, 2006. 2007 -
- 1. "Someone to Watch over Me" How to Get 24-7 Access to an Intensivist: Enhancing Donor Management with Technology through the Virtual ICU", NATCO 2007 Transplant Institute Program for Advanced Transplant & Procurement Professionals; Solving the Organ Shortage Crisis, Marco Island, FL, January 14, 2007.
- 2. "Breathless" Airway Pressure Release Ventilation (APRV): Is It Working? NATCO 2007 Transplant Institute Program for Advanced Transplant & Procurement Professionals; Solving the Organ Shortage Crisis, Marco Island, FL, January 14, 2007.
- 3. Bedside rounds and lecture/teaching with physicians and respiratory therapists from Reading Hospital at Multi-trauma Critical Care Unit, University of Maryland Medical Center-R Adams Cowley Shock Trauma Center, Baltimore, MD, January 19, 2007.
- 4. "APRV & Spontaneous Breathing". Remote session from Baltimore, MD to clinicians (RCPs, RNs, MDs) at Flagstaff Hospital, Flagstaff, AZ, January 24, 2007.
- 5. "APRV & Spontaneous Breathing". Remote session from Baltimore, MD to clinicians (RCPs, RNs, MDs) at Georgia State Respiratory Care Meeting, Atlanta, GA, January 26, 2007.
- 6. "APRV & Spontaneous Breathing". Grand Rounds, Maine Medical Center, Portland, ME February 8, 2007.
- 7. "APRV & Spontaneous Breathing". Anesthesia Grand Rounds, Fletcher Allen Health Care, Burlington, VT, April 12, 2007.
- 8. "APRV & Spontaneous Breathing". Medical Grand Rounds, Fletcher Allen Health Care, Burlington, VT, April 12, 2007.
- 9. Patient care rounds with teaching, Fletcher Allen Health Care, Burlington, VT, April 12, 2007.
- 10. "Lung Protective Strategies" Panel Discussion Participant, Colorado State Respiratory Society Meeting, Beaver Creek, CO, May 24, 2007.
- 11. "Knowledge Based Weaning", Colorado State Respiratory Society Meeting, Beaver Creek, CO, May 24, 2007.
- 12. "APRV & Spontaneous Breathing". Grand Rounds, Wellmont Holston Valley Hospital, Kingsport, TN, June 14, 2007.
- 13. "APRV & Spontaneous Breathing". Lecture given to medical students, physicians, nurses and respiratory therapists. University of Iowa Hospital Center, Iowa City, IA, June 21, 2007.

- 14. "Hemodynamics, Lung Recruitment and Renal Failure Management of Organ Donors". Lecture given to transplant coordinators at the Living Legacy Foundation, Baltimore, MD, July 9, 2007.
- 15. "APRV & Spontaneous Breathing". Lecture given to medical students, physicians, nurses and respiratory therapists. Remote session from Baltimore to VA Medical Center, Albuquerque, NM, July 25, 2007.
- 16. "ECMO in the Critical Care Patient". Lecture given to physicians, medical students, fellows and nurses. University of Maryland Medical Center R Adams Cowley Shock Trauma Center, August 2, 2007.
- 17. "Donor Management". Lecture given to transplant coordinators at the Living Legacy Foundation, Baltimore, MD, August 8, 2007.
- 18. "Did I Fix the Donor of Just the Numbers? Successful Lung Recruitment Strategies for Organ Donors" Lecture given at NATCO 2007 Meeting for OPOs. Marriott Marquis, New York, NY, August 13, 2007.
- 19. "Successful Strategies for Managing the Donor with Renal Failure." Lecture given at NATCO 2007 Meeting for OPOs. Marriott Marquis, New York, NY, August 14, 2007.
- 20. "Ventilator Competency Training". Training conducted for transplant coordinators at the Living Legacy Foundation, Baltimore, MD, August 17, 2007.
- 21. "Ventilator Competency Training". Training conducted for transplant coordinators at the Living Legacy Foundation, Baltimore, MD, September 13, 2007.
- 22. "Saving More Lives by Maintaining Donor Organ Function", 2007 CHEP Conferences; Collaborating to Save Lives: The Vital Role of the Critical Care Physician to Maximize Organs, Marriott BWI Conference Center, Baltimore, MD, September 18, 2007.
- 23. "Hemodynamics, Lung Recruitment and Renal Failure Management of Organ Donors". Lecture given to transplant coordinators at the Living Legacy Foundation, Baltimore, MD, September 25, 2007.
- 24. "ECMO in the Critical Ill, Injured and Trauma Patients". Critical Care Fellows, R Adams Cowley Shock Trauma Center, Baltimore, MD, September 26, 2007.
- 25. "APRV & Spontaneous Breathing". 5<sup>th</sup> Annual Northern New England Critical Care Conference, Stoweflake Conference Center, Stowe, VT, October 19, 2007.
- 26. "APRV & Spontaneous Breathing". Lecture given to physicians from Grossmont Hospital and surrounding hospitals, San Diego, CA, November 6, 2007.
- 27. "Donor Management Lung Protective Strategies in the Donor". Quarterly Lung Summit, New York Organ Donor Network, conducted remotely from Baltimore, MD, November 7, 2007.
- 28. "Successful Strategies for Donor (organ) Management". UNOS Region 2 Transplant Collaborative, Baltimore, MD, November 8, 2007. (lecture given twice).
- 29. "APRV Case Studies". 2007 National AARC Congress Booth Lecture, Orlando, FL, December 2, 2007.
- 30. "APRV Case Studies". 2007 National AARC Congress Booth Lecture, Orlando, FL, December 3, 2007.

- 1. "APRV & Spontaneous Breathing". Lecture conducted remotely from Baltimore, MD to physicians and respiratory therapists at Henry Ford Hospital, Detroit, MI, January 9, 2008.
- 2. "Ventilator Management: Improving Lung Recovery Outcomes". AOPO Medical Director's Symposium, The Canyons-Grand Summit Resort Hotel, Park City, Utah, January 10, 2008.
- 3. "Organ Donation: Preserving the Option of Organ Donation". The Living Legacy Foundation of Maryland mini-collaborative, Columbia Hilton, Columbia, MD, January 24, 2008.
- 4. "APRV Theory & Spontaneous Breathing". Lecture conducted remotely from Baltimore, MD to physicians at St. John's Hospital, Tulsa, OK, March 5, 2008.

- 5. "A Team Approach to ECMO". 19th Annual Symposium sponsored by Chesapeake Bay Chapter of American Association of Critical Care Nurses. Conference Center at Sheppard Pratt, Towson, MD, March 13, 2008.
- 6. "APRV Practical Application". Lecture conducted remotely from Baltimore, MD to physicians at St. John's Hospital, Tulsa, OK, April 2, 2008.
- 7. "Critical Care Review". Lecture for critical care fellows at R Adams Cowley Shock Trauma Center, Baltimore, MD, May 14, 2008.
- 8. "Mechanical Ventilation Mode Enhancements". Lecture conducted remotely from Baltimore, MD to physicians and respiratory therapists at Logan Regional Hospital, Logan, UT, May 21, 2008.
- 9. "APRV & Spontaneous Breathing". 2<sup>nd</sup> Annual Concepts in Respiratory Critical Care at the John H. Ammon Medical Education Center, Christiana Hospital Campus, Newark, DE, May 23, 2008.
- 10. "Utilizing Advanced Clinical Practitioners to Implement Donor Management Protocols", American Society of Transplantation, American Transplant Congress, Metropolitan Toronto Convention Centre, Toronto, Ontario, Canada, May 31, 2008.
- 11. "APRV & Spontaneous Breathing". Carolinas Medical Center's Innovations in Respiratory Medicine 2008, Renaissance Charlotte Suites, Charlotte, NC, June 5, 2008.
- 12. "Donor Management Workshop: Case Study #2". Association of Organ Procurement Organizations (AOPO) 25th Annual Meeting, JW Marriott Desert Ridge Resort and Spa, Phoenix, AZ, June 12, 2008.
- 13. "The Varying Role of the Medical Director". Association of Organ Procurement Organizations (AOPO) 25th Annual Meeting, JW Marriott Desert Ridge Resort and Spa, Phoenix, AZ, June 12, 2008.
- 14. Bronchoscopy workshop for critical care fellows at R Adams Cowley Shock Trauma Center, Baltimore, MD, June 30, 2008.
- 15. Mechanical ventilator workshop modes and features. McKay Dee Hospital, Ogden, UT, June 8, 2008.
- 16. "Mechanical ventilation, volume resuscitation, maximizing organ perfusion". Lecture given to transplant coordinators at the Living Legacy Foundation, Baltimore, MD, August 15, 2008.
- 17. Bedside critical care rounds and interactive teaching for clinicians from Virtua Hospital on multi-trauma critical care unit, R Adams Cowley Shock Trauma Center, Baltimore, MD, August 29, 2008.
- 18. "Mechanical ventilation, volume resuscitation, hemodynamic management and maximizing organ perfusion". Lecture given to transplant coordinators at the New York Organ Donation, New York, NY, September 17, 2008.
- 19. ARDS in trauma. Journal Club for STC Fellows. Baltimore, MD, October 23, 2008.
- 20. "Respiratory Failure in Trauma". Special Topics in Trauma Care, University of Maryland Medical Center R Adams Cowley Shock Trauma Center, Marriott Conference Center, Baltimore, MD, November 2, 2008.
- 21. "Extracorporeal Membrane Oxygenation ECMO". R Adams Cowley Shock Trauma Center fellows, Baltimore, MD, November 20, 2008.
  2009 -
- 1. "Ventilator Alphabet: CMV/I:E/APRV/SIMV/TV What Do They All Mean and How Do They Affect My Donor?", NATCO 2009 Symposium for Advanced Transplant Professionals, Marco Island, FL, January 17, 2009.
- 2. "APRV". Journal Club for nurses, R Adams Cowley Shock Trauma Center, Baltimore, MD, April 2, 2009.
- 3. "APRV and Spontaneous Breathing". Critical Care Grand Rounds, St. John's Mercy Medical Center, St. Louis, MO, April 14, 2009.
- 4. "Organ Donor Management". Lecture given to transplant coordinators at the Living Legacy Foundation, Baltimore, MD, April 17, 2009.

- 5. "APRV Practical Application". Lecture for Fellows at University of Maryland Medical System, R Adams Cowley Shock Trauma Center, Baltimore, MD, April 22, 2009.
- 6. "Advanced Donor Management". The Gift of Life Symposium: 'On Track with the Best Practices for Organ Donation', Marriott Conference Center, Baltimore, MD, August 21, 2009.
- 7. "ARDS Clinical Manifestations & Treatment". Baltimore Training Symposium on Neonatal Ventilation & ARDS/Lung Recruitment Strategies, Baltimore, MD, September 23, 2009.
- 8. "APRV". Baltimore Training Symposium on Neonatal Ventilation & ARDS/Lung Recruitment Strategies, Baltimore, MD, September 23, 2009
- 9. Bronchoscopy workshop for critical care fellows at R Adams Cowley Shock Trauma Center, Baltimore, MD, September 24, 2009.
- 10. Bedside rounds and lecture [critical care management, APRV, mechanical ventilation, CRRT] with visiting physicians from Japan, October 6, 2009.
- 11. "APRV Case Studies". Remote lecture to Respiratory Therapists across US from Baltimore, MD, October 13, 2009.
- 12. "APRV & Spontaneous Breathing". University of Maryland Pulmonary Department, UMMS, Baltimore, MD, October 19, 2009.
- 13. "APRV Q&A Discussion". Lecture conducted remotely from Baltimore, MD to physicians and respiratory therapists across United States, October 27, 2009.
- 14. "Post Operative Respiratory Failure". Lecture conducted remotely from Baltimore, MD to physicians and respiratory therapists across United States, October 27, 2009.
- 15. "Airway Pressure Release Ventilation (APRV)". Lecture given to Anesthesia group at UMMS, Baltimore, MD, November 4, 2009.
- 16. "Open Lung Strategies, Recruitment Maneuvers and Proning". Organ Donor Management Winter Workshop, Baltimore, MD, December 9, 2009.
- 17. "Optimization of Organ Function & Management Strategies." Organ Donor Management Winter Workshop, Baltimore, MD, December 9, 2009.
- 18. "Shock Resuscitation and Monitoring". Organ Donor Management Winter Workshop, Baltimore, MD, December 10, 2009.
- 19. "Airway Pressure Release Ventilation (APRV). Organ Donor Management Winter Workshop, Baltimore, MD, December 10, 2009.
- 20. "Hands-on Ventilator Workshop". Organ Donor Management Winter Workshop, Baltimore, MD, December 10, 2009.
- 21. "APRV & Spontaneous Breathing". 2009 Pulmonary Critical Care Conference, Charlotte, NC, December 11, 2009.

# <u>2010-</u>

- 1. "Role of the Medical Director in Maryland's OPO". CMS Training for OPO site surveyors. Crowne Plaza, Timonium, MD, January 28, 2010.
- 2. "APRV & Spontaneous Breathing". Lecture conducted remotely from Baltimore, MD to respiratory therapists and physicians at hospitals in PA, OH and WV. March 9, 2010.
- 3. "APRV & Spontaneous Breathing". Tenth Annual Symposium, Partners in Respiratory Care Excellence X Advances in Neonatal, Pediatric and Adult Critical Care. Salisbury University, Salisbury, MD, March 10, 2010.
- 4. "To ECMO or Not to ECMO: That is the Question". Maryland Committee on Trauma, TraumaCare 2010, ABC's Innovation & Integration. Baltimore Hilton, Baltimore, MD, April 1, 2010.
- 5. "Correlating Donor Management and Organ Yield: Case Review". Physician Forum on Organ Donation and Transplantation; Improving Practices and Pathways to Increase the Available Supply of Transplantable Organs. Philadelphia Gift of Life Donor Program, Philadelphia, PA, April 7, 2010.
- 6. "Recruitment Strategies and APRV in the Organ Donor". LifeBanc, Cleveland, OH, May 12, 2010.

- 7. "Recruitment Strategies and APRV in the Organ Donor". Physician's Dinner [Cleveland LifeBanc], Cleveland, OH, May 12, 2010.
- 8. Pro/Con Debate: "ARDS Mechanical Ventilation: ARDSNet is the only way"; Baltimore Area Critical Care Society Chapter Meeting, UMMC, Baltimore, MD. May 26, 2010.
- 9. "Clinical Case Study" Presentation on organ donor management. AOPO Annual Meeting, Marriott Baltimore Waterfront, Baltimore, MD, June 15, 2010.
- 10. "Strategies for Optimizing Heart and Lung Function". AOPO Annual Meeting, Marriott Baltimore Waterfront, Baltimore, MD, June 15, 2010.
- 11. "Organ Donor Management" Physician's Group at Western Maryland Regional Medical Center, Cumberland, MD, September 8, 2010.
- 12. "Organ Donor Management Training" OPO Coordinator group at The Living Legacy of Maryland, Baltimore, MD, September 14, 2010.
- 13. "Pathophysiologic evolution of Respiratory Failure" 2010 National Rehab Week Symposium. Weinberg Learning Center, University of Maryland, Baltimore, MD, September 20, 2010.
- 14. "Physiology & Pathophysiology of the Cardio-pulmonary System" for critical care fellows at R Adams Cowley Shock Trauma Center, Baltimore, MD, October 6, 2009.
- 15. "APRV & Spontaneous Breathing". Respiratory Care Symposium, Mission Hospital, Asheville, NC, October 21, 2010.
- 16. "ARDS 43 Years Later". Special topics In Trauma Symposium, Marriott Conference Center, Baltimore, MD, October 22, 2010.
- 17. "APRV & Spontaneous Breathing". 16<sup>th</sup> Annual J. Robert Wilson Memorial Lecture: Advancements in Respiratory Care, Akron Memorial Hospital, October 29, 2010.
- 18. "APRV & Spontaneous Breathing". Adult Critical Care Conference, Winchester Medical Center Conference Center, November 5, 2010.
- 19. "APRV & Spontaneous Breathing". Internal Medicine Grand Rounds, National Naval Medical Center, Bethesda, MD, November 12, 2010.

- 1. "Donor Management Workshop: Fluid management in the Donor". NATCO Symposium for Advanced Transplant Professionals, January 15, 2011.
- 2. "APRV & Spontaneous Breathing". NYDART Springtime respiratory Therapy Symposium, Kingsborough Community College, Brooklyn, NY, March 18, 2011.
- 3. "APRV & Spontaneous Breathing Part 1". 2011 PSRC Eastern Regional Conference, Valley Forge Convention Center, King of Prussia, PA, April 14, 2011.
- 4. "APRV & Spontaneous Breathing Part 2". 2011 PSRC Eastern Regional Conference, Valley Forge Convention Center, King of Prussia, PA, April 14, 2011.
- 5. "Management of the Critically Ill Donor". 2011 American Transplant Congress (ATC), Pennsylvania Convention Center, Philadelphia, PA. May 4, 2011.
- 6. Bedside rounds, teaching and presentation of APRV. R Adams Cowley Shock Trauma Center, Baltimore, MD. June 21, 2011.
- 7. "Early Application of APRV in Trauma Patients". UMMS Pediatric Fellows, University of Maryland Medical Center, Baltimore, MD. June 28, 2011.
- 8. "Airway Pressure Release Ventilation (APRV)". Georgia Society for Respiratory Care Summer Continuing Education Meeting, Hilton Savannah DeSoto, Savannah, GA. July 29, 2011.
- 9. "Early Application of APRV in Trauma Patients". Chest Conference, Rochester General Hospital, Rochester, NY. August 17, 2011.
- 10. "APRV Concepts and Application". Rochester General Hospital, Rochester, NY. August 17, 2011
- 11. "Early Application of APRV in Trauma Patients". STC Fellows, R Adams Cowley Shock Trauma Center, Baltimore, MD. August 24, 2011.

- 12. "Donor Hospital Intensivists as Members of the Donor Management Team: Models of Engagement". 2011 National Donor Management Summit; ED to OR: Preserving the Option of Donation. Westin Crown Center, Kansas City, MO. September 21, 2011
- 13. "ALI / ARDS Update 2011". 38<sup>th</sup> Annual Western PSRC Annual Conference in Respiratory Care and Sleep Medicine, Four Points Sheraton (Cranberry), Pittsburgh, PA. September 29, 2011.
- 14. "Use of APRV in the Critically Injured Patient". The 15<sup>th</sup> Annual Trauma & Anesthesia Symposium 2011. Woodlands Inn & Resort, Wilkes-Barre, PA. October 1, 2011.
- 15. Respiratory Care Conference 2011. Mansfield University/Robert Packer Hospital, Guthrie, PA, October 6, 2011.
- 16. "Lung Recruitment: Strategies and Techniques". The 2011 Drs. Judah Skolnick and Douglas David Pulmonary Symposium. October 7, 2011.
- 17. "Caring for the Organ Donor Patient". Special Topics in Trauma 2011, UMMS Shock Trauma Center, Baltimore, MD. October 28, 2011.
- 18. "APRV- Airway Pressure Release Ventilation". Missouri State Respiratory Care Fall Symposium. Presented remotely from Baltimore, MD to Ozark Technical Community College, Springfield, MO. December 2, 2011.
- 19. "Optimizing the Gift of Transplantable Organs Through Effective Donor Management". 2011 UMMC donation Collaborative: "Together We Can Make a Difference", UMMS, Baltimore, MD. December 5, 2011.

- 1. "Pressure Control vs. Volume Control in Lung Donor Management: A Debate." NATCO 2012 Symposium for Advanced Transplant Professionals. Loews Hotel, Miami, FL. January 14, 2012.
- 2. "APRV". Grand Rounds, SUNY Upstate Medical Center, Syracuse, NY. January 18, 2012.
- 3. "Donor Management Training". One Legacy Foundation, Los Angeles, CA. February 13, 2012.
- 4. "Donor Management Training". One Legacy Foundation, Los Angeles, CA. February 15, 2012.
- 5. "Mechanical Ventilation with Spinal Cord Injured Patients". Respiratory Therapy Meeting, University of Maryland School of Medicine, Baltimore, MD. March 8, 2012.
- 6. "Mechanical Ventilation and Lung Protective Strategies". Fellows training, R Adams Cowley Shock Trauma Center, Baltimore, MD. March 29, 2012.
- 7. "APRV Overview and Concepts". The Twelfth Annual Triad Cardiopulmonary Conference, Forsyth Medical Center Conference Center, Winston-Salem, NC. April 11, 2012.
- 8. "APRV Case Studies". The Twelfth Annual Triad Cardiopulmonary Conference, Forsyth Medical Center Conference Center, Winston-Salem, NC. April 11, 2012.
- 9. "Early Application of APRV in Trauma Patients". STC Fellows, R Adams Cowley Shock Trauma Center, Baltimore, MD. April 19, 2012.
- 10. "Using APRV to Prevent ARDS". Rochester Annual Regional Symposium. Presented remotely from Baltimore, MD to Conference Center at Niagara Falls, April 26, 2012.
- 11. "Donor Management Training". One Legacy Foundation, Los Angeles, CA. August 28, 2012.
- 12. "Donor Management Training". One Legacy Foundation, Los Angeles, CA. August 31, 2012.
- 13. "Use of APRV to Prevent ARDS". Kansas Regional Critical Care and Trauma Conference. Presented remotely from Baltimore, MD to Labette Community College, Thiebaud Theater, Parsons, KS. September 7, 2012.
- 14. "Use of APRV to Prevent ARDS". Inspire 2012 Respiratory Therapy Society of Ontario (RTSO) Education Forum and Annual General Meeting, Oakville, Ontario Canada. October 16, 2012.
- 15. "Use of APRV to Prevent ARDS". Respiratory Therapy Meeting, St. Luke's Hospital, Boise, Idaho. October 17, 2012.
- 16. "APRV Q&A" for physicians and respiratory therapists. St. Luke's Hospital, Boise, Idaho. October 17, 2012.

- 17. "Preserving Organ Function After Authorization". Organ Donation & Transplantation Symposium, Sheraton Fairplex Conference Center, Pomona, CA. October 23, 2012.
- 18. "APRV as a Preemptive Strategy for ARDS". NYDART Annual Fall Respiratory Therapy Symposium, Long Island Marriott Hotel & Conference Center, Long Island, NY. October 26, 2012.
- 19. "Saving 8 Lives Simultaneously: Effective Donor Management". 2012 Donation Collaborative Series: "Working Together to Increase Organ, Eye and Tissue Donation:. University of Maryland Baltimore SOuthern Management Conference Campus Center, Baltimore, MD. November 28, 2012.
- 20. "Use of APRV to Prevent ARDS". Grand Rounds, Sinai Hospital, Baltimore, MD. December 13, 2012.

- 1. "Management of the Organ Donor". Grand Rounds, GBMC, Baltimore, MD. January 3, 2013.
- 2. "Pressure Control Ventilation". NATCO 2013 Symposium for Advanced Transplant Professionals, Miami, FL. February 2, 2013.
- 3. "Pressure Control vs Volume Control in Lung Donor Management Debate". NATCO 2013 Symposium for Advanced Transplant Professionals, Miami, FL. February 2, 2013.
- 4. "Early Application of APRV to Avoid ARDS". Current Concepts in Critical Care Ventilation 2013, Banner Desert Medical Center, Phoenix, AZ. February 12, 2013.
- 5. "APRV Q&A". Dell Children's Medical Center, Austin, TX. February 13, 2013.
- 6. "Early Application of APRV to Prevent ARDS". Neonatal Grand Rounds, Dell Children's Medical Center, Austin, TX. February 14, 2013.
- 7. "Early Application of APRV to Prevent ARDS". Neonatal Grand Rounds, Dell Children's Medical Center, Austin, TX. February 14, 2013.
- 8. "Early Application of APRV to Prevent ARDS". Fellows training, R Adams Cowley Shock Trauma Center, Baltimore, MD. March 20, 2013.
- 9. "APRV". UMMC Respiratory Care on the Cutting Edge, SMC Campus Center, Baltimore, MD. April 5, 2013.
- 10. "The Use of APRV to Prevent ARDS." Multidisciplinary Critical Care Conference. VMC Auditorium at East Carolina University, Greenville, NC. April 30, 2013.
- 11. "The Use of APRV to Prevent ARDS." Regional Respiratory Conference. ECHI Auditorium at East Carolina University, Greenville, NC. April 30, 2013.
- 12. "The Use of APRV to Prevent ARDS." 2013 North Regional Respiratory Care Conference (NRRCC). Kalahari Resort & Convention Center, Wisconsin Dells, WI. May 1, 2013.
- 13. "Increase in Lung Transplants and Other Transplanted Organs." OneLegacy Physicians Dinner and Lecture. The Grand, Long Beach, CA. May 14, 2013.
- 14. "Increase in Lung Transplants and Other Transplanted Organs." OneLegacy Physicians Dinner and Lecture. The Mission Inn, Riverside, CA. May 15, 2013
- 15. "Early Application of APRV to Avoid ARDS." Contemporary Concepts in Critical Care Ventilation 2013, sponsored by Dräger Medical. Newport Beach Marriott Hotel & Spa, Newport Beach, CA. June 28, 2013
- 16. "Use of APRV to Prevent ARDS." Grand Rounds, Jacobi Medical Center, Bronx, NY. September 9, 2013.
- 17. "Patient & Donor Management: Best Practices for Improved Outcomes." Donation and Transplantation Symposium, Fairplex Convention Center, Pomona, CA, October 15, 2013.
- 18. "Airway Pressure Release Ventilation: New Strategies-Improved Success." Donation and Transplantation Symposium, Fairplex Convention Center, Pomona, CA, October 15, 2013.
- 19. "Hemodynamics Donor Management Simulation Workshop." One Legacy, Los Angeles, CA. October 16-18, 2013.
- 20. "Ventilator Management for Donors." Excellence in End of Life Care: A Seminar on Donation for the Advanced Care Team Member, The Living Legacy Foundation, The BWI Westin, Baltimore, MD. November 7, 2013.

- 21. "Medical Management of the Organ Donor." Excellence in End of Life Care: A Seminar on Donation for the Advanced Care Team Member, The Living Legacy Foundation, The BWI Westin, Baltimore, MD. November 7, 2013.
- 22. "Can Airway Pressure Release Ventilation (APRV) Prevent ARDS in Trauma Patients?" The AARC's 59th International Respiratory Convention & Exhibition; Pre-conference: Respiratory Care and the Trauma Patient. November 15, 2013.
- 23. "Shock Resuscitation". The AARC's 59th International Respiratory Convention & Exhibition; Pre-conference: Respiratory Care and the Trauma Patient. November 15, 2013.
- 24. Moderator for UMMS Surgical Residents Journal Club. "ARDS". University of Maryland, Baltimore, MD. December 12, 2013.

- 1. "Use of APRV to Prevent ARDS." Fellows Lecture, University of Maryland, Baltimore, MD. January 8, 2014.
- 2. "Airway Pressure Release Ventilation (APRV)". Critical Care Conference. Carrier Conference, Syracuse, NY. April 4, 2014.
- 3. "Surgery Grand Rounds Organ Donor Management" Upstate University Health System, Syracuse, NY. April 16, 2014.
- 4. "Use of APRV as a Preemptive Strategy to Prevent ARDS". 50<sup>th</sup> Annual Canadian Society of Respiratory Therapy Conference, Queen Elizabeth Fairmont Hotel, Montreal Quebec Canada. May 24, 2014.
- 5. "Overview of Organ Donor Management". One Legacy OPO, Los Angeles, CA. June 4, 2014.
- 6. "Preserving Organ Function Prior to Authorization". The Donation & Transplantation Symposium, Fairplex Conference Center, Pomona, CA, October 21, 2014.
- 7. "Maximizing the Gift: Modes, Medication & Microperfusion. The Donation & Transplantation Symposium, Fairplex Conference Center, Pomona, CA, October 21, 2014.
- 8. "Use of APRV as a Preemptive Strategy to Prevent ARDS". NYDART, Long Island, NY, October 24, 2014.
- 9. "Pro Con debate APRV is Ideal to Prevent ARDS". The AARC's 60th International Respiratory Convention Las Vegas Nevada December 11, 2014.

#### 2015 -

- 1. "Antibiotic Management in the Organ Donor". One Legacy Medical Advisory Committee Meeting, Los Angeles, CA, March 10, 2015.
- 2. "Use of APRV as a Preemptive Strategy to Prevent ARDS". Grand Rounds, Hartford Hospital, Hartford, CT, April 28, 2015.
- 3. "Early Application of Airway Pressure Release Ventilation (APRV) to Prevent ARDS". 52<sup>st</sup> Annual Canadian Society of Respiratory Therapy Conference (CSRT), Hyatt Regency Hotel, Calgary, Alberta Canada. May 23, 2015.
- 4. "APRV Overview and Application". Fellows Lecture at R Adams Cowley Shock Trauma Center, Baltimore, MD, June 26, 2015.
- 5. "APRV A Physician's Perspective". FOCUS Fall conference, Las Vegas, NV, October 21, 2016. (Lecture given twice)

- 1. "Large Tidal Volumes During Spontaneous Breathing: Sedate or Tolerate?". 45th Critical Care Congress, Orlando, FL, February 24, 2016.
- 2. "Donor Management Phases". One Legacy, Los Angeles, CA, March 29-April 1, 2016.
- 3. "APRV Workshop". SUNY Medical Center, Syracuse, NY, June 2-3, 2016.
- 4. "APRV as a Therapeutic Tool to Reduce ARDS Incidence: Never Let the Lung Collapse". 52<sup>nd</sup> CSRT Annual Education Conference, Ottawa, Canada, May 26, 2016.
- 5. "Managing the Organ Donor". One Legacy, Los Angeles, CA, July 19-22, 2016.

- 6. "APRV Workshop". SUNY Medical Center, Department of Medicine, Syracuse, NY, September 23, 2016.
- 7. "APRV Workshop". University of Vermont, Burlington, VT, December 1-2, 2016. 2017
- 1. "Use of Airway Pressure Release Ventilation (APRV) in the ICU. Gwinett Medical Center, Lawrenceville, GA. January 17-18, 2017.
- 2. "Beyond the Ventilator: Rethinking Ventilator Induced lung Injury". New York State Thoracic Society Annual Scientific Session. February 3, 2017.
- 3. Organ Donor Management. One Legacy, Los Angeles, CA. March 27-31, 2017.
- 4. "Use of APRV to Prevent ARDS". UMMS Pediatric Fellows. April 7, 2017.
- 5. APRV Workshop. SUNY Upstate, Syracuse, NY. April 26-28, 2017.
- 6. "Pitfalls of Current Lung Protective Strategies". CSRT, Halifax, Canada. May 12, 2017.
- 7. "APRV Spontaneous Breathing and Hemodynamics". CSRT Halifax, Canada. May 12, 2017.
- 8. Organ Donor Management. One Legacy, Los Angeles, CA. June 5-8, 2017.
- 9. "Beyond the Ventilator: Rethinking Ventilator Induced lung Injury". UMMS Critical Care Fellows Lecture. July 27, 2017.
- 10. "Beyond the Ventilator: Rethinking Ventilator Induced lung Injury". UMMS Critical Care Fellows Lecture. July 27, 2017.

# International Invited Lectures 1997-

- "APRV- New Ventilator Modes." Visiting Professor and Guest Speaker, Asian-Pacific Conference, Medical College of Taiwan, Tiapai, Taiwan, August 21-September 1.
   1998-
- 1. Mechanical Ventilation and APRV Update. Visiting Professor and Guest Speaker, 18th International Symposium on Intensive Care and Emergency Medicine. Brussels, Belgium, March 17-20.
- 2. Visiting Professor and Guest Speaker, Asian-Pacific Symposium on Mechanical Ventilation. Taipai, Taiwan, April 18.
  - "Airway Pressure Release Ventilation"
  - "New Approaches to Old Problems Airway Pressure Release Ventilation, Liquid Ventilation, the Clinical Experience"
- 3. Visiting Professor and Guest Speaker, Asian-Pacific Symposium on Mechanical Ventilation. Sidney, Australia, April 19.
  - "Airway Pressure Release Ventilation"
  - "New Approaches to Old Problems Airway Pressure Release Ventilation, Liquid Ventilation, the Clinical Experience"
- 4. Visiting Professor and Guest Speaker, Asian-Pacific Symposium on Mechanical Ventilation. Brisbane, Australia, April 20.
  - Airway Pressure Release Ventilation
  - New Approaches to Old Problems Airway Pressure Release Ventilation, Liquid Ventilation, the Clinical Experience"
- 5. Visiting Professor and Guest Speaker, Asian-Pacific Symposium on Mechanical Ventilation. Melbourne, Australia, April 21.
  - "Airway Pressure Release Ventilation"
  - "New Approaches to Old Problems Airway Pressure Release Ventilation, Liquid Ventilation, the Clinical Experience."
- 6. Visiting Professor and Guest Speaker, Asian-Pacific Symposium on Mechanical Ventilation. Adelaide, Australia, April 22.
  - "Airway Pressure Release Ventilation; New Approaches to Old Problems"
  - "Airway Pressure Release Ventilation, Liquid Ventilation, the Clinical Experience"

- 7. "New Modes of Mechanical Ventilation Point Counter Point." Visiting Professor and Guest Speaker, Presented to the India Medical Association. New Delhi, India September 14.
- 8. "New Modes of Mechanical Ventilation." Visiting Professor and Guest Speaker, Presented to the India Medical Association. Madras, India September 15.
- 9. "New Modes of Mechanical Ventilation." Visiting Professor and Guest Speaker, Presented to the India Medical Association. Bombay, India September 16.
- 10. "Mechanical Ventilation and APRV Update." Visiting Professor and Guest Speaker, The Royal Thai Society of Critical Care Medicine. Thailand, September 18.
- 11. "Mechanical Ventilation and APRV Update." Visiting Professor and Guest Speaker, The National Medical Institute. Singapore, India, September 19.
- 12. "APRV/ARDS and Spontaneous Breathing." Guest Speaker, XXV Reunion National Joint Meeting AAMCTI-SCCM, Ixtapa, Guerreto, Mexico, October 30. 1999-
- 1. "New Ventilatory Support Strategies in ARDS." Visiting Professor and Speaker, Hong Kong, May 10-11. Hong Kong Society of Critical Medicine.
- 2. ICU Rounds and Case Presentation, Hong Kong, May 15.
- 3. "New Ventilatory Support Strategies in ARDS." Visiting Professor and Guest Speaker, Bangkok/Thailand, May 11-13. Thai Society of Critical Medicine.
- 4. ICU Rounds and Case Presentations, Siriraj Hospital, Bangkok, May 12.
- 5. "New Ventilatory Support Strategies in ARDS." 2nd Asia Pacific Interscience Congress of Medicine, Tan Tock Seng Hospital's 7th Annual Scientific Meeting, Singapore, May 14.
- 6. ICU Round and Case Presentation at the Tan Tock Seng Hospital, Singapore, May 12-15.
- 7. "ARDS and Airway Pressure Release Ventilation." Indian Society of Critical Care Medicine, New Delhi India, October 6.
- 8. "ARDS and Airway Pressure Release Ventilation." Nizam's Institute of Medical Science, Hydrabad, India, October 7.
- 9. "ARDS and Airway Pressure Release Ventilation." Beijing Medical University, Beijing, China, October 9.
- 10. "ARDS and Airway Pressure Release Ventilation." Shanghai Second Medical University, Shanghai, China, October 10.
- 11. "ARDS and Airway Pressure Release Ventilation." University of ULSAN College of Medicine, Seoul, Korea, October 12.
- 12. "ARDS and Airway Pressure Release Ventilation." Catholic University of Korea, Seoul, Korea, October 13.

- 1. "Respiratory dysfunction in traumatized patient", Guest Speaker, Trauma Anaesthesia and Intensive Care Educational Symposium, Damanhour, Egypt, April 13.
- 2. "Extracorporeal hepatic bypass as a mean to facilitate massive hepatic and retrocaval hepatic injuries repair", Guest Speaker, Trauma Anaesthesia and Intensive Care Educational Symposium, Damanhour, Egypt, April 14.
- 3. "ICU Management of ARDS", Guest Speaker, Trauma Anaesthesia and Intensive Care Educational Symposium, Damanhour, Egypt, April 14.
- 4. "Advances in mechanical ventilation", First postgraduate course on mechanical ventilation, Dresden, Germany September 23-23.
- 5. "Airway pressure release ventilation", Pulmonary and Critical Care Grand Rounds, University of Calgary, Calgary Canada October 17.
- 6. "Update on new ventilator strategies in ARDS Airway pressure release ventilation", Canada Respiratory Therapy Meeting, University of Edmonton, October 18.
- 7. "Ventilator strategies in ARDS", Western Pacific Association of Critical Care Medicine 11th Congress on Critical Care Challenges in a New Era, November 29 December 3.
- 8. "Prone Positioning", Western Pacific Association of Critical Care Medicine 11<sup>th</sup> Congress on Critical Care Challenges in a New Era, Tan Tock Seng Hospital National University of Singapore, November 29 December 3.

- 9. "ICU in the next millennium the future ICU", Western Pacific Association of Critical Care Medicine 11th Congress on Critical Care Challenges in a New Era, November 29.
- 10. "Lung Recruitment Workshop", Western Pacific Association of Critical Care Medicine 11th Congress on Critical Care Challenges in a New Era, Tan Tock Seng Hospital National University of Singapore, December 3.
- 11. "Advances in Mechanical Ventilation APRV", Grand Rounds, Gangzou China December 4.
- 12. "Advances in Mechanical Ventilation APRV", Grand Rounds, Peking Union Medical College, Beijing, China, December 4.
- 13. "Advances in Mechanical Ventilation APRV", ICU Rounds Peking Union Medical College Hospital, December, 4.
- 14. Critical Care Grand Rounds, Tianjin Medical University, Tianjin, China, December 4.
- 15. ICU Rounds Hospital Number 3, Tainjin Medical University, Tianjin China, December 4.
- 16. "Advances in Mechanical Ventilation", Critical Care Grand Rounds Keio University School of Medicine, Tokyo, Japan, December 5.
- 17. ICU Rounds Keio University Medical/Surgical ICU. Tokyo, Japan, December 5.
- 18. ICU Rounds, National Defense Hospital, Tokyo, Japan, December 7. 2002-
- 1. "ARDS, ALI": University of Toronto; Toronto General Hospital, Toronto, Canada, April 21.
- 2. "ARDS, ALI": Michener Institute, Toronto, Canada, April 23.
- 3. "Teleconference on Telemedicine in the ICU": European Society of Intensive Care Medicine, Barcelona, Spain, September 28-October 2.

- 1. "Knowledge Based Weaning; Protocolized care in the weaning process." 23rd International Symposium on Intensive Care and Emergency Medicine Brussels, Belgium. March 18 21.
- 2. "New Ventilator Modes and Body Positioning Strategies in ARDS". Trauma Criticare 2003 Conference, New Delhi, India, September 28.
- 3. Chairperson for "Antimicrobial Protocols for Wards and ICU". Trauma Criticare 2003 Conference, New Delhi, India, September 28.
- 4. "ICU Management". Evita XL Launching Seminar, scientific meeting, Guangzhou, China, October 12-13.
- 5. "Knowledge Based Weaning and Protocolized Care". Evita XL Launching Seminar, Guangzhou, Shanghai and Beijing China, October 13-16.
- 6. "APRV and Body Positioning Strategies in ARDS". Round Table Discussions, Beijing, China, October 14-16.
- 7. "APRV and ARDS". International Teleconference from Baltimore, Maryland to Lübeck, Germany, November 19.

# 2004-

- 1. "Lung Protective Strategies in ARDS Patients". 11th International Symposium On Shock And Critical Care, Bali International Convention Centre, Nusa Dua, Bali, August 14.
- 2. "Cause of Severe Hypoxia and Ventilatory Strategies in Patients with ARDS". 11th International Symposium on Shock and Critical Care, Bali International Convention Centre, Nusa Dua, Bali, August 15.

- 1. "ICU and a Team Approach for Accelerated Healing". Intensive Care World Congress in Buenos Aires, Argentina, August 28.
- 2. "Ventilator modalities in the management of ARDS; Use of Airway Pressure Release Ventilation in ARDS". Chest 2005 Conference, Montreal, Quebec, Canada, November 1. 2006-
- 1. "Knowledge Based Weaning". The Canadian Society of Respiratory Therapists Educational Forum 2006, Saint John, New Brunswick, Canada, May 26, 2006.
- 2. "APRV, Spontaneous Breathing". Remote lecture conducted from Baltimore to Teikyo University Hospital Emergency Care Center, Nippon Medical University, Toho University,

- Tokyo Women's Medical University, Saga Koseikan HP, in Tokyo Japan, November 17, 2006.
- 3. "APRV Case Studies". Review of case studies conducted from Baltimore to Teikyo University Hospital Emergency Care Center, Nippon Medical University, Toho University, Tokyo Women's Medical University, Saga Koseikan HP, in Tokyo Japan, November 17, 2006.
- 4. "Panel Discussion". Remote lecture conducted from Baltimore to Teikyo University Hospital Emergency Care Center, Nippon Medical University, Toho University, Tokyo Women's Medical University, Saga Koseikan HP, in Tokyo Japan, November 17, 2006. 2007 -
- 1. "APRV & Spontaneous Breathing in the Neonate", Remote lecture from Baltimore, MD to clinicians (RCPs and MDs) at William Osler Healthcare Centre, Brampton, Ontario, Canada, January 18, 2007.
- 2. "APRV & Spontaneous Breathing". Lecture given to medical students, nurses, respiratory technicians, physicians, Wakayama Medical University, Wakayama City, Japan, February 23, 2007.
- 3. "APRV & Spontaneous Breathing". Lecture given to medical students, nurses, respiratory technicians, physicians, Osaka City Medical Center, Osaka City, Japan, February 23, 2007.
- 4. "APRV & Spontaneous Breathing". 34<sup>th</sup> Annual Meeting of The Japanese Society of Intensive Care Medicine, Kobe, Japan, March 1, 2007.
- 5. "Improving the ICU Care Process While Reducing Costs". 34<sup>th</sup> Annual Meeting of The Japanese Society of Intensive Care Medicine, Kobe, Japan, March 2, 2007.
- 6. "Remote Clinical Consultation Services". 34<sup>th</sup> Annual Meeting of The Japanese Society of Intensive Care Medicine, Kobe, Japan, March 2, 2007.
- 7. "APRV & Spontaneous Breathing". Lecture given to medical students, nurses, respiratory technicians, physicians, Tokyo Women's Medical University Yachiyo Hospital, Tokyo, Japan, March 6, 2007.
- 8. "APRV & Spontaneous Breathing". Lecture given to medical students, nurses, respiratory technicians, physicians, Tokyo Dental University Ichikawa Hospital, Tokyo, Japan, March 6, 2007.
- 9. "APRV & Spontaneous Breathing". Lecture given to medical students, nurses, respiratory technicians, physicians, Tokyo Women's Medical University Main Hospital, Tokyo, Japan, March 7, 2007.
- 10. "APRV & Spontaneous Breathing". Lecture given to medical students, nurses, respiratory technicians, physicians, Tokyo Women's Medical University East Medical Center, Tokyo, Japan, March 7, 2007.
- 11. "APRV & Spontaneous Breathing". Lecture given to medical students, nurses, respiratory technicians, physicians, Juntendo University Urayasu Hospital, Tomioka, Urayasu, Chiba, Japan, March 8, 2007.
- 12. "APRV & Spontaneous Breathing". Lecture given to medical students, nurses, respiratory technicians, physicians, Nippon Medical School, Bunkyo-ku, Tokyo, Japan, March 8, 2007.
- 13. "APRV & Spontaneous Breathing". Lecture given to medical students, nurses, respiratory technicians, physicians, Teikyo University Hospital, Tokyo, Japan, March 9, 2007.
- 14. "APRV & Spontaneous Breathing". Lecture given to medical students, nurses, respiratory technicians, physicians, Kameda Medical Center, Kamogawa City, Chiba, Japan, March 9, 2007.
- 15. "APRV Case Studies". 20<sup>th</sup> Annual Ventilatory Care Technical Meeting, Tokyo, Japan, March 10, 2007.
- 16. "APRV Case Studies". Conducted from Baltimore to Canadian Society of Respiratory Therapists, Montreal, Quebec, Canada, June 1, 2007.
- 17. "APRV & Spontaneous Breathing". Lecture conducted from Baltimore to Tokyo, Japan presented to medical students, physicians, nurses and biomedical engineers, June 23, 2007.

- 18. "APRV Case Studies". Conducted from Baltimore to Tokyo, Japan presented to medical students, physicians, nurses and biomedical engineers, June 23, 2007.
- 19. "APRV & Spontaneous Breathing". Lecture conducted from Baltimore to Tokyo, Japan presented to medical students, physicians, nurses and biomedical engineers, September 8, 2007.
- 20. "APRV Case Studies". Conducted from Baltimore to Tokyo, Japan presented to medical students, physicians, nurses and biomedical engineers, September 8, 2007.
- 21. "APRV & Spontaneous Breathing". Lecture conducted from Baltimore to Tokyo, Japan presented to medical students, physicians, nurses and biomedical engineers, November 16, 2007.
- 22. "APRV Case Studies". Conducted from Baltimore to Tokyo, Japan presented to medical students, physicians, nurses and biomedical engineers, November 16, 2007.

- 1. "APRV Case Studies". Keio Medical University, Tokyo, Japan. February 9, 2008.
- 2. "APRV Theory & Practical Application". 21<sup>st</sup> Annual Ventilatory Care Technical Meeting, Tokyo, Japan, February 9, 2008.
- 3. "APRV Case Studies" and bedside rounds. Kurume University, Fukuoka, Japan, February 11, 2008.
- 4. "Lung Recruitment & Multi-system Organ Failure; the Role of APRV". Nippon Medical University, Tokyo, Japan, February 12, 2008.
- 5. "APRV in Pediatrics & Neonates". Tokyo Women's Medical University, Tokyo, Japan, February 13, 2008.
- 6. "Lung Recruitment & Multi-system Organ Failure; the Role of APRV". 35<sup>th</sup> Annual Meeting of The Japanese Society of Intensive Care Medicine, Tokyo, Japan, February 14, 2008.
- 7. "APRV Hands-on Workshop" (conducted 2 times). 35<sup>th</sup> Annual Meeting of The Japanese Society of Intensive Care Medicine, Tokyo, Japan, February 15, 2008.
- 8. "APRV Theory & Practical Application". Orchard Parade Hotel, Singapore, February 18, 2008.
- 9. "Lung Recruitment & Multi-system Organ Failure; the Role of APRV". Orchard Parade Hotel, Singapore, February 18, 2008.
- 10. Interactive bedside rounds and APRV Practical Application, Singapore General Hospital, February 19, 2008.
- 11. "APRV Theory & Practical Application" and interactive bedside rounds. KK Women's & Children's Hospital, Singapore, February 19, 2008.
- 12. "APRV Theory & Practical Application". Hotel Imperial, Kuala Lumpur, Malaysia, February 18. 2008.
- 13. "APRV & Spontaneous Breathing". Remote lecture conducted from Baltimore to United Kingdom for respiratory practitioners, April 24, 2008.

#### 2009

- 1. Mechanical Ventilation Workshop with International group of Physicians. Osaka International Convention Center, Osaka, Japan, February 26, 2009.
- 2. "Airway Pressure Release Ventilation, Recruitment & Spontaneous Breathing". 36th Annual Meeting of The Japanese Society of Intensive Care Medicine, Osaka International Convention Center, Osaka, Japan, February 27, 2009.
- 3. "APRV: Up-to-date". Lecture given to medical students, nurses, respiratory technicians, physicians at Toho University, Tokyo, Japan, March 1, 2009.
- 4. "APRV and Spontaneous Breathing". Lecture given to medical students, nurses, respiratory technicians, physicians at Kameda Medical Center, Kamogawa, Japan, March 3, 2009.
- 5. "APRV and Practical Application". Lecture given to physicians at Hotel Imperial, Kuala Lumpur, Malaysia, May 22, 2009.
- 6. "Post-Operative Respiratory Failure". Pan Pacific Hotel, Singapore, May 23, 2009.

7. "APRV & Spontaneous Breathing. III International Congress on Respiratory Support, Krasnovarsk, Siberia, August 27, 2009.

## 2011 -

- 1. Airway Pressure Release Ventilation (APRV) Global Webinar. June 14, 2011.
- 2. Airway Pressure Release Ventilation (APRV) Global Webinar. June 15, 2011.

## 2012 -

- 1. Airway Pressure Release Ventilation (APRV) Global Webinar. April 24, 2012.
- 2. Airway Pressure Release Ventilation (APRV) Global Webinar. April 25, 2012.
- 3. "Airway Pressure Release Ventilation (APRV)". Advanced Ventilation Symposium. King's College London School of Medicine, London, England. September 13, 2012.
- 4. "Recruitment Manoeuvres pro/con Debate". Advanced Ventilation Symposium. King's College London School of Medicine, London, England. September 13, 2012.
- 5. "Use of APRV to Prevent ARDS". The Intensive Care Society State of the Art Meeting 2012. ICC Capital Suite, London, England. December 11, 2012.

# 2013 -

- 1. "Use of APRV to Prevent ARDS". Lecture to medical students and physicians. Tokyo University Hospital, February 28, 2013.
- 2. "Basic APRV". Japanese Intensive Care Congress. Matusmoto City, Japan, March 1, 2013.
- 3. "Use of APRV to Prevent ARDS". Japanese Intensive Care Congress. Matusmoto City, Japan, March 1, 2013.
- 4. "Airway Pressure Release Ventilation (APRV)". Advanced Ventilation Symposium 2013. The Royal Society of Medicine London. London, England, September 4, 2013.
- 5. "Post-Operative Respiratory Failure and APRV in the Operating Room." 58th Annual Ontario Anesthesia Meeting-Ontario Anesthesia Satellite Symposium. Niagara Falls, Ontario, September 27, 2013.

- 1. "APRV Workshop". The Royal College of Medicine, St. Thomas Hospital. London, England, January 21, 2014.
- 2. "APRV Workshop". Russell's Hall Hospital. Dudley, West Midlands, UK. January 22, 2014.
- 3. "ARDS Prevention with Airway Pressure Release Ventilation". Scottish Intensive Care Society 23<sup>rd</sup> Annual Scientific Meeting. Old Course Hotel, St. Andrews, Scotland. January 23, 2014.
- 4. "Spontaneous Breathing during Mechanical Ventilation". Scottish Intensive Care Society 23<sup>rd</sup> Annual Scientific Meeting. Old Course Hotel, St. Andrews, Scotland. January 24, 2014.
- 5. "APRV Workshop". Basic Physiology, Practical Application and Use of APRV as a Preemptive Mode to Prevent ARDS". Learning Square in Shinbashi, Japan. February 24, 2014.
- 6. "APRV Workshop". Basic Physiology, Practical Application and Use of APRV as a Preemptive Mode to Prevent ARDS". Learning Square Midousuzi in Osaka, Japan. February 25, 2014.
- 7. "Use of APRV as a Preemptive Mode to Prevent ARDS". 41st Annual Meeting of Japanese Society of Intensive Care Medicine (JSICM). Kyoto International Conference Center, Kyoto, Japan. February 27, 2014.
- 8. "Use of APRV as a Preemptive Mode to Prevent ARDS". Unviersiti Malaya Pusat Perubatan UM (PPUM), Kuala Lumpur, Malaysia. March 1, 2014.
- 9. "Round table discussion on use of APRV". Unviersiti Malaya Pusat Perubatan UM (PPUM), Kuala Lumpur, Malaysia. March 1, 2014.
- 10. "Spontaneous Breathing and Hemodynamics". Advanced Ventilation Symposium, The Royal Society of Medicine London. London, England, June 24, 2014.
- 11. "APRV Workshop". Advanced Ventilation Symposium 2013. The Royal College of Physicians and Surgeons of Glasgow. Glasgow, Scotland. June 26, 2014.
- 12. "Use of APRV as a Preemptive Mode to Prevent ARDS". Singapore. October 3, 2014.

- 13. "Round table discussion on use of APRV". Singapore. October 3, 2014.
- 14. "Use of APRV as a Preemptive Mode to Prevent ARDS". St. Vincent's Hospital, Sydney, Australia. October 6, 2014.
- 15. "Use of APRV as a Preemptive Mode to Prevent ARDS". Wangaretta Hospital, Melbourne, Australia. October 7, 2014.
- 16. "Use of APRV as a Preemptive Mode to Prevent ARDS". Ventilation Symposium, Sydney, Australia. October 8, 2014.
- 17. "APRV Workshop". Ventilation Symposium, Keynote Speaker, Sydney, Australia. October 8, 2014.

- 1. "APRV Workshop". Melbourne Australia, June 17, 2015
- 2. "APRV". The Royal Society of Medicine London. London, England, June 30, 2015.
- 3. "APRV Overview & Application". The Royal Marsden Hospital, July 1, 2015.
- 4. "Use of APRV to Prevent ARDS". Hangzhou Seminar, Hangzhou, China, August 22, 2015
- 5. "Use of APRV to Prevent ARDS". Guangzhou Seminar, Guangzhou, China, August 23, 2015
- 6. "Use of APRV to Prevent ARDS". Beijing Union Hospital, Beijing, China, August 25, 2015
- 7. "Use of APRV to Prevent ARDS". 10<sup>th</sup> National Congress on Trauma, Zhengzhou, China, August 28, 2015.
- 8. "Use of APRV to Prevent ARDS". Taipei Seminar, Taipei, Taiwan, August 31, 2015.
- 9. "Use of APRV to Prevent ARDS". Kaoshiung Hospital, Kaoshiung, Taiwan, September 1, 2015.
- 10. "Use of APRV to Prevent ARDS". Taipei Hospital, Taipei, Taiwan, September 2, 2015.
- 11. "Use of APRV to Prevent ARDS". SFAI 2016: The Swedish Society of Anaesthesiology and Intensive Care Medicine's Annual Meeting, Karlstad, Sweden, September 21, 2015.
- 12. "APRV Workshop". Stockholm, Sweden, September 22, 2015.
- 13. "Spontaneous Breathing & Hemodynamics". Advanced Ventilation Symposium, Helsingborg, Sweden, September 24, 2015.
- 14. "Weaning APRV". Advanced Ventilation Symposium, Helsingborg, Sweden, September 24, 2015.
- 15. "Applying APRV Early Latest data to prevent ARDS". Advanced Ventilation Symposium, Helsingborg, Sweden, September 24, 2015.
- 16. "APRV Workshop". Mumbai, India, October 31, 2015.

# 1. "APRV Prevention and Treatment of ARDS". People's Hospital of Henan Province, Zhengzhou, China, May 19, 2016.

- 2. "APRV Prevention and Treatment of ARDS". 10<sup>th</sup> Congress of CSCCM, Zhengzhou, China, May 20, 2016.
- 3. "APRV Application". 10<sup>th</sup> Congress of CSCCM, Zhengzhou, China, May 21, 2016.
- 4. "APRV Prevention and Treatment of ARDS". Zhongda Hospital, Nanjing, China, May 23, 2016
- 5. "APRV Prevention and Treatment of ARDS". Xi'an Hospital, Xi'an, China, May 24, 2016. "Use of APRV to Prevent ARDS". Advanced Ventilation Symposium, The Royal Society of Medicine London, England, June 9, 2016.
- 6. "APRV Overview & Application". The Royal Marsden Hospital, June 10, 2016.
- "APRV Application to Prevent ARDS". Care Convention 2016, Warwick, England, June 13-14, 2016 (Lecture given twice).
   2017-
- 1. "APRV When, Why and How?". 6<sup>th</sup> Advanced Ventilation Symposium, The Royal Society of Medicine London, London, England, June 29, 2017.
- 2. "APRV Overview, Hemodynamics & Basic Science". The Royal Marsden Hospital, June 30, 2017.
- 3. "Beyond the Ventilator: Rethinking Ventilator Induced lung Injury". Beijing Emergency and Critical Care Medicine Forum, Beijing China. August 19, 2017.

- 4. "Use of APRV to Prevent ARDS". Beijing Emergency and Critical Care Medicine Forum, Beijing China. August 19, 2017.
- 5. "Use of APRV to Prevent ARDS". Tianjin, China. August 20, 2017.
- 6. "Beyond the Ventilator: Rethinking Ventilator Induced lung Injury". Shanghai China. August 22, 2017.
- 7. "Use of APRV to Prevent ARDS". Shanghai China. August 22, 2017.
- 8. "Beyond the Ventilator: Rethinking Ventilator Induced lung Injury". Hangzhou China. August 23, 2017.
- 9. "Use of APRV to Prevent ARDS". Hangzhou China. August 23, 2017.
- 10. "Use of APRV to Prevent ARDS". International Respiratory Care Forum. Shanghai, China. August 24, 2017.
- 11. "APRV Looking Beyond the Ventilator." 8<sup>th</sup> Neonatology Conference "Neonatal Care in Egypt", Port Said, Egypt. October 18 & 19, 2017.

#### Letter to the Editor:

- Habashi NM, Reynolds HN, Borg UR: American Journal Respiratory and Critical Care Medicine 1995, 1, (151) 255-6, in response to Article by Morris et.al. "Randomized Clinical Trial of Pressure Controlled Inverse Ratio Ventilation and Extracorporeal CO2 Removal for Adult Respiratory Distress Syndrome".
- 2. Habashi N, Roy S, Andrews P, et al.: "Up in Smoke: APRV Must be Applied Correctly to Protect the Lung". In response to article by Batchinsky A, et al.: "Comparison of airway pressure release ventilation to conventional ventilation in the early management of smoke inhalation". Crit Care Med 2011;39(10):2314-2321.
- 3. Andrews P, Scalea T, Habashi N.: "What's in a Name? Mechanical Ventilation is at the Mercy of the Operator". Submitted and approved for publication (JT-D-13-01237). In response to article by Maung, et al. "Compared to conventional ventilation, airway pressure release ventilation may increase ventilator days in trauma patients". J Trauma;73(2):507-510).
- 4. Nieman G, Satalin J, Kollisch-Singule M, Andrews P, Aiash H, Habashi N, Gatto N. Dynamic Alveolar Mechanics are More than a Soap Bubble on a Capillary Tube. In response to a Letter to Editor submitted by Jammati, et al regarding the publication by Nieman G, et al. Physiology in Medicine: Understanding dynamic alveolar physiology to minimize ventilator-induced lung injury. *Journal of applied physiology* 122: 1516-1522, 2017. Submitted and approved for publication J Appl Physiol 2017.

#### **Book Reviews:**

 Aeromedical Evacuation: Management of Acute and Stabilized Patients. William W. Hurd MD, John G. Jernigan MD, editors. New York: Springer-Verlag, 2003. Hard-cover, Illustrated, 373 pages.

### Manuscript Review:

- 1. "Renal Preservation with Natriuretic Peptide in Cardiogenic Shock", MS# KI-00853, 2005, Kidney International.
- 2. "Evaluation of Airway Pressure Release Ventilation Compared to Low Tidal Volume Ventilation in Acute Lung Injury: Prospective Randomized Pilot Study", RC 2659, Respiratory Care Journal, January 30, 2006.

- 3. "Short-term Cardiorespiratory Effects of Proportional Assist and Pressure Support Ventilation in Patients with Acute Lung Injury/Acute Respiratory Distress Syndrome", MS# 200601123, Eumorfia Kondili, M.D.; Nektaria Xirouchaki; Katerina Vaporidi; Maria Klimathianaki; Dimitris Georgopoulos, Anesthesiology Journal, March 10, 2006.
- 4. "The effect of exogenous surfactant administration in patients with lung contusion", MS# CCM-00072, 2006, Tsangaris I, Galiatsou E, Kostanti E, Kitsakos A and Nakos G. Critical Care Medicine Journal, March 10, 2006. Revised 4/12/06
- 5. "The impact of spontaneous breathing on distribution of lung aeration in patients with Acute Respiratory Distress Syndrome: Airway Pressure Release Ventilation (APRV) vs. Pressure Support Ventilation". CCM-01184-2008, Yoshida, et al., July 23, 2008.
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- 7. "Airway pressure release ventilation reduces the elevation of bronchoalveolar lavage fluid HMGB1 and lung water in experimental ARDS induced by lung lavage." CCM-02132-2008, Akashi T, Kitagaki K, Eishi Y and Makita K. Submitted November 27, 2008; reviewed December 30, 2008.
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