

Dr. G. Umberto Meduri

M.D.

Founding member of the FLCCC Alliance and co-author of the MATH+ and I-MASK+ Prophylaxis and Treatment Protocols for COVID-19



Contributions to the Field of Medicine

Dr. Meduri is the father of noninvasive ventilation, as he first investigated and reported its applications in all forms of acute respiratory failure. Dr. Meduri collaborated with Italian investigators (Drs. M. Antonelli and M. Confalonieri) in several landmark randomized trials providing efficacy and safety evidence. The worldwide implementation of noninvasive ventilation – based on the protocol developed by Dr. Meduri - is recognized as a significant contributor to reducing morbidity and mortality in critical care medicine. In patients with severe COVID-19, noninvasive ventilation has played an essential role in decreasing the need for endotracheal intubation.

Dr. Meduri was the first to describe the concepts of both the dysregulated systemic and pulmonary inflammation in ARDS and the cellular mechanisms responsible for regulation. His identifying the glucocorticoid receptor as the critical regulator for restoring health in critical illness has provided the rationale for prolonged glucocorticoid treatment in multiple critical illness states.

Over the past thirty years, Dr. Meduri has been the leading investigator and developer worldwide to use prolonged glucocorticoid treatment in acute respiratory distress syndrome (ARDS) and severe pneumonia, as principal investigator in translational research and multiple landmark randomized trials. To date, prolonged glucocorticoid administration is the only treatment intervention that has reduced mortality in ARDS and in COVID-19. Dr. Meduri's work was referenced in 25,000 peer-reviewed publications.

Education

Medical School	1977	Padua University School of Medicine , Padua, Italy Medical Doctor Degree
Internship	1978–1979	Barberton Citizens Hospital , Barberton, Ohio, Flexible Internship
Residency	1979–1982	Kettering Medical Center , Dayton, Ohio, Internal Medicine Residency
Fellowship	1983–1985	Memorial Sloan-Kettering Cancer Center , New York, NY, Critical Care Medicine, 1982–1983, Pulmonary Medicine, 1983–1985

Certification

1977	ECFMG (290-918-2) 1977
1979	FLEX (40126-6A) 1979
1982	American Board of Internal Medicine (085019)
1986	Diplomate in Pulmonary Medicine (085019)
2007	Diplomate in Critical Care Medicine (085019)

Licensure

1981	Ohio (45706)
1985	Connecticut (26390)
1988–current	Tennessee (19185)

Professional Societies and Organizations

American Thoracic Society (#00009187)
American College of Chest Physicians, Fellow (#17311)
American College of Physicians, Fellow
Society of Critical Care Medicine (#004448)
Consultant for the FDA Anesthesiology and Respiratory Therapy Devices Panel (1996–2000)

University Appointments

1982–1985	Cornell University / New York Hospital, New York, NY. Clinical Instructor in Medicine Yale University School of Medicine / Norwalk Hospital, Norwalk, CT.
1985–1988	Hinds Center for Respiratory Research, Director of Clinical Research,
1987–1988	Associate Director Pulmonary and Critical Care Fellowship Program, University of Tennessee Health Science Center, Memphis, TN.
1988–1992	Assistant Professor of Medicine,
1992–1997	Associate Professor of Medicine,
1994	Tenure,
1996–2007	Director of Memphis Lung Research Program,
1997–present	Professor of Medicine,
2004–present	Adjunct Professor in the Department of Pharmaceutical Sciences,
2007–2009	Director of Medical Intensive Care Unit – Memphis Veteran Administration Medical Center

Administration

1986–1987	Norwalk Hospital, Norwalk, CT, Director Subsection of Critical Care,
1988–1996	University of Tennessee Health Science Center, Director of Respiratory Services, UT Bowld Hospital
1996–2007	University of Tennessee Health Science Center, Director of the Memphis Lung Research Program
2010–2019	Memphis Veteran Administration Medical Center, Chair Cooperative Studies Program No. 574 (2010–2019) ESCAPe [Extended Steroid (in) CAP(e)]

Abstract Reviewer for Scientific Meetings

American College of Chest Physicians
American Thoracic Society

Manuscript Reviewers for Journals

American Journal of Medicine
Journal of American Medical Association
American J. Respiratory and Critical Care Med
Journal of Bronchology (Associate Editor 1994–97)
Antimicrobial Agents of Chemotherapy
Lancet
Chest
Mayo Clinic Proceeding
Clinical of Infectious Diseases
Neuroimmune Biology (Associate Editor 2002–)
Critical Care Medicine
New England Journal of Medicine
European Respiratory Journal
PLOS one
Intensive Care Medicine
Southland Medical Journal
Critical Care
Therapeutic Advances in Respiratory Disease

Patents – Medical Instrumentation

- Patent A61M25/00; A61M25/00: Gandhi RA, Meduri GU, Ostrowski DS. Catheter having an imperforated protective barrier
- Patent 604/265: Gandhi RA, Meduri GU, Ostrowski DS. Catheter having imperforate protective barrier and method for making and using the same
- Patent 07/866,734: Meduri; G. Umberto Method of protected bronchial sampling using a translaryngoscopic catheter

Research Support

Principal Investigator

- Richard P. Ettinger Senior Fellowship in Cancer Research (1987): \$3,000
- General Clinical Research Center University of Tennessee-Memphis Grants:
 - Role of inflammatory cytokines in ARDS (1991, 92, 93): \$20,000
 - Von Willebrand factor in ARDS (1993): \$6,000
 - Relationship between inflammation and fibrosis in ARDS (1994)
 - Prospective double-blind randomized study on the effects of corticosteroid therapy in the late phase of ARDS (1994-97): \$10,000
 - Prospective double-blind randomized study on the effects of hydrocortisone infusion in patients with severe sepsis (1996–98)
- Mill-Rose Laboratory Grant (1991)
 - Bronchoscopic Diagnosis of Pneumonia. (\$45,000)
- Puritan-Bennett Grant (1992-94):
 - Noninvasive ventilation in acute respiratory failure (\$45,000/year x 3 years)
- Baptist Memorial Health Care Foundation (1995-97)
 - Prospective double-blind randomized study on the effects of corticosteroid therapy in the late phase of ARDS. (\$98,000/year x 2 years)
- Schering-Plough Research Institute Grant (1995)
 - Role of IL-10 in patients with ARDS (\$82,000)
- Baptist Memorial Health Care Foundation (1996-99)
 - Prospective randomized study on noninvasive ventilation to accelerate weaning from mechanical ventilation. (\$45,000/year x 2 years)
- Baptist Memorial Health Care Foundation (1996-98)
 - Prospective double-blind randomized study on the effects of hydrocortisone infusion in patients with severe sepsis. (\$100,000/year x 3 years)
- Baptist Memorial Health Care Foundation (1997-98)
 - Prospective double-blind randomized study on the effects of corticosteroid therapy in the early phase of ARDS. (\$100,000/year x 2 years)
- The Assisi Foundation of Memphis (1997-2000)
 - Center for Acute Respiratory Distress Syndrome Research (\$175,000/year x 3 years)
- The Assisi Foundation of Memphis. (1998-2000)
 - Long-term evaluation of survivors of ARDS and sepsis. (\$50,000/year x 2 years)
- Baptist Memorial Health Care Foundation (1998-2001)
 - Memphis Lung Research Program. (\$580,000/year x 3 years)

- The Assisi Foundation of Memphis. (2000-2002)
Acute Respiratory Distress Syndrome Research. (\$175,000/year x 2 years)
- UTHSC Center for Genomic and Bioinformatics Catalyst Grant (\$10,000)
Gene expression profiling in patients with ARDS
- The Assisi Foundation of Memphis. (2002-2003)
Acute Respiratory Distress Syndrome Research. (\$100,000)
- Cooperative Study Program No. 574 (2010-2018) – Chair
ESCAPE [Extended Steroid (in) CAP(e)] A Randomized, Placebo-Controlled, Double-Blind Clinical Trial to Evaluate the Safety and Efficacy of Low-Dose Methylprednisolone in Hospitalized Veterans with Severe Community-Acquired Pneumonia (\$26,000,000)

Co-Investigator

- The UTMG Physicians Research Program (1997)
Role of inflammatory cytokines on bacterial growth. (\$13,000)
- The UTMG Physicians Research Program (1998)
Bacterial adherence in cytokine enriched fluids. (\$9,500)

Consultant

NHLBI: 1R01 HL123540-01 (2014) - CXCR4 signaling in lung epithelial repair

Awards – Recognition

- 1999 Memphis Business Journal – Health Care Heroes, Health Care Innovations Finalist
- 2002 Wall Street Journal May 17, 2002. *Left on the shelf*. Why cheap drugs that appear to halt fatal sepsis go unused. Steroids need big human trial, but pharmaceutical makers lack incentive to fund one. Dr. Meduri's 15-year quest. By Thomas Burton.
- 2003 Adams and Simonson. Publications, citations, and impact factors of leading investigators in critical care medicine. *Respiratory Care* 2004; 49: 276-281. Highest individual impact factor among twenty leading investigators between 1997 and August 2003.
- 2006 Society of Critical Care Medicine Annual Scientific Award.
- 2008 Trudeau Lecture Award – The New York State Thoracic Society
- 2009 American College of Chest Physicians, in the 75th anniversary of its foundation, published a special commemorative edition that included the 2007 *Chest* publication on methylprednisolone treatment of early ARDS as one of top 75 seminal studies published from 1934 to 2009. The selection – made among 36,250 scientific publications - was based on the “number of citations received since publication” and “its significant impact on the practice of medicine”.
- 2018 CHEST annual meeting, San Antonio Texas. Roger C. Bone Memorial Lecture in Critical Care: Methylprednisolone in ARDS: A Highly Effective Treatment. How it Works, How to Use it.

Bibliography

- Graduating Research Thesis: Thiazides and Calcium Metabolism (1977)

Original Peer – Reviewed Publications

Citations – Google Scholars (December 2019) = **24,390**

https://scholar.google.com/scholar?hl=en&as_sdt=0%2C43&q=meduri%2C+gu&btnG=

[https://www.ncbi.nlm.nih.gov/pubmed/?term=meduri+gu\[author\]](https://www.ncbi.nlm.nih.gov/pubmed/?term=meduri+gu[author])

1. **Meduri GU**, Stover DE, Lee M, Myskowski P, Caravelli J, Zaman MB. Pulmonary Kaposi Sarcoma in the acquired immunodeficiency syndrome: Clinical, radiographic and pathologic manifestations. *Amer J Med* 1986; 81: 11-20. [Link to PubMed.](#)
2. **Meduri GU**, Conoscenti CS, Rienzi J, McGarry G, Den M. Negative gallium scintigraphy in AIDS associated pneumocystis carinii pneumonia. *Connecticut Medicine* 1988; 52: 451-453. [Link to PubMed.](#)
3. Stover DE, **Meduri GU**. Pulmonary Function Testing (Pulmonary Effects of AIDS). *Clinics in Chest Medicine* 1988; 9: 473-479. [Link to Pub Med.](#)
4. **Meduri GU**, Conoscenti CS, Menashe P, Nair S. Non invasive face mask mechanical ventilation in acute respiratory failure. *Chest* 1989; 95: 865-870. [Link to Pub Med.](#)
5. **Meduri GU**. Diagnosis of ventilator-associated pneumonia in patients with respiratory failure: A diagnostic <https://www.ncbi.nlm.nih.gov/pubmed/9770141> approach. *Chest* 1990; 97: 1208-1219. (with editorial) [Link to Pub Med.](#)
6. **Meduri GU**, Beals DH, Maijib AG, Baselski V. Protected bronchoalveolar lavage: A new bronchoscopic technique to retrieve uncontaminated distal airway secretions. *Am Rev Respir Dis* 1991; 143: 855-864. [Link to Pub Med.](#)
7. **Meduri GU**, Baselski V. The role of bronchoalveolar lavage in diagnosing non-opportunistic bacterial pneumonia. *Chest* 1991; 100: 179-190. (with editorial) [Link to Pub Med.](#)
8. **Meduri GU**, Abou-Shala N, Fox RC, Jones CB, Leeper KV, Wunderink RG. Noninvasive face mask mechanical ventilation in patients with acute hypercapnic respiratory failure. *Chest* 1991; 100: 445-454. [Link to Pub Med.](#)
9. **Meduri GU**, Belenchia JM, Estes RJ, Leeper KV, Wunderink RG, Eltorky M. Fibroproliferative phase of ARDS. Clinical findings and effects of corticosteroids. *Chest* 1991; 100: 943-952. (with editorial) [Link to Pub Med.](#)
10. **Meduri GU**, Stover DE, Greeno R, Nash T, Zaman MB. Bilateral bronchoalveolar lavage in the diagnosis of opportunistic pulmonary infections. *Chest* 1991; 100: 1272-1276. [Link to Pub Med.](#)
11. **Meduri GU**, Stein D. Pulmonary manifestations of Acquired Immuno Deficiency Syndrome. *Clin Infect Dis* 1992; 14: 98-113. [Link to Pub Med.](#)
12. **Meduri GU**, Wunderink RG, Leeper KV, Beals DH. Management of bacterial pneumonia in ventilated patients. The role of protected bronchoalveolar lavage. *Chest* 1992; 101: 500-508. [Link to Pub Med.](#)

13. **Meduri GU**, Johanson W. Introduction to the First International Conference on the Clinical Investigation of Ventilator-Associated Pneumonia. *Chest* 1992; 102: 551-552S. [Link to PubMed.](#)
14. **Meduri GU**, Johanson W. Introduction to the First International Conference on the Clinical Investigation of Ventilator-Associated Pneumonia. *Infection Control and Hospital Epidemiology* 1992; 13: 633-635.
15. **Meduri GU**, Chastre J. The standardization of bronchoscopic techniques for ventilator-associated pneumonia. *Infection Control and Hospital Epidemiology* 1992; 13: 640-649
16. **Meduri GU**, Chastre J. The standardization of bronchoscopic techniques for ventilator-associated pneumonia. *Chest* 1992; 102: 557-564S. [Link to PubMed.](#)
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22. **Meduri GU**, Chinn AJ. Fibroproliferation in late ARDS: pathophysiology, clinical and laboratory manifestations and response to corticosteroid rescue treatment. *Chest* 1994; 105: 127S-129S. [Link to PubMed.](#)
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35. **Meduri GU**, Turner R, Tolley E, Wunderink R, Abou-Shala N. Noninvasive positive pressure ventilation via face mask. First line intervention in patients with acute hypercapnic and hypoxemic acute respiratory failure. *Chest* 1996; 109: 179-193. [Link to PubMed.](#)
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Educational Video

1. **Meduri GU**, Baselski V, Muram H, Eltorky M. Endoscopic diagnosis of nonopportunistic pneumonia. (Videocassette RT 40,00). 1993
2. Turner RE, **Meduri GU**, Abou-Shala N. Face mask mechanical ventilation (Videocassette RT 40,00). 1993
3. **Meduri GU**, Turner RE. Methodology of noninvasive mechanical ventilation in acute respiratory failure (Videocassette RT 10,00). 1993
4. **Meduri GU**, Turner RE. Noninvasive mechanical ventilation in acute respiratory failure (Videocassette RT 25,00). 1995

Abstracts and Posters

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