Muhammad Raheel Qureshi, M.D.

Official Info:

Medical Director, ECMO Program Tampa General Hospital 5 Tampa General Circle HMT, Ste 510 Tampa, Florida, 33606 Office: 813-844-7137 | Fax: 813-844-5816

Assistant Professor & Associate Program Director Pulmonary and Critical Care Medicine Fellowship Associate Program Director Advance Lung Disease & Lung Transplant Fellowship Department of Pulmonary and Critical Care Medicine Division University of South Florida Morsani College of Medicine 2 Tampa General Circle, 6th Floor, Tampa, FL, 33606 Office: 813-396-2488 I Fax: 813-905-9958 email: <u>Muhammadraheelg@usf.edu</u>

Personal Info:

3551 Berry Briar Drive, Wesley Chapel, FL, 33543 Cell: 631-786-5478 Email: <u>mqraheel@gmail.com</u>

Leadership Experience & Role:

Joined a leadership position initially as Associate Director of Extracorporeal Membrane Oxygenation (VV-ECMO) Program in 2022 and subsequently as Medical Director Extracorporeal Membrane Oxygenation (ECMO – VV & VA) Program in 2023. Initiated to design a formalized structure with a curriculum, reviewing & standardize protocols, identify roles & responsibilities as well as various team members for the ECMO management. Review data sources for the ECMO program across the institute to reform accordingly for contemporaneous guidelines and data collection to reflect trends across the world. As one of the top ECMO facilities and level 1 shock trauma center; rolled-out ECMO specialist role to streamline the growth of the program and to provide educational support by organizing our institute's 1st ECMO symposium for providers as well as for our ECMO specialists/team. Transitioned to our second phase of data collection, team members were highlighted to gather information across the institute to standardize it as per the ELSO registry and created a condensed/efficient EPIC ECMO Flowsheet December 2023 and an ECMO Shift Note template by January 2024 and currently being trialed for a planned roll-out June 2024. These steps and interventions were only to yearn and aspire for the growth of the program with our functioning and improve quality benchmarks for improving outcomes; subsequently we are being reviewed for ELSO-accreditation Center of Excellence (Application submitted Feb 2024) for our ECMO Program.

Since joining 2022, have been working on utilizing EVLP to increase lung pools for our center and protocolize donor acceptance criteria to benefit our-listed patients. Collaborated with LBE for our Lung Transplant Program which has led to increased donor pool and improved outcomes reflecting our growth as a program from 2021 (EVLP utilization 2%; 1 transplanted lung of total transplanted lungs) to 2022 & 2023 when utilization of EVLP was approximately 15% - 18% of our transplanted lungs.

Being part of one of the state's busiest and leading lung transplant programs requires the high level of expertise and dedication required from a lung transplant team, specifically doing approx. 40 - 50 lung transplants and 100+ ECMO each year with just 2 Transplant Pulmonologist partners. Since joining 2022, we have managed each year to increase our volumes for ECMO and Lung Transplants reflecting our commitment as well as endorses our improved clinical outcomes of our quality of care and innovation of the program.

Board Certification (ABIM # 394209)

Critical Care Medicine	Nov 2021
Pulmonary	Nov 2020
Internal Medicine	Aug 2018
Professional Licenses	
Florida License # ME 141684	2018 – 01/2025 (Active)
DEA	2019 – 04/2025 (Active)
ACLS & BLS Certified	06/2023 – 06/2025 (Active)
ECFMG Certification (AAMC # 12725652)	12/2013
Pakistan Medical and Dental Association Membership	Mar 2005 (Inactive)
Massachusetts Limited License	Apr 2014 – May 2015 (Inactive)

Services (Academics & Administrative):

- Medical Director, ECMO Program at Tampa General Hospital University South Florida.
- Fellowship Associate Program Director, Advance Lung Disease & Lung Transplant at University South Florida.
 - ✓ Structured curriculum and rotations for our Pulmonary & Critical Care Fellows rotating to our Center for Advance Lung Disease/Lung Transplant elective rotations.
 - ✓ Standardize training curriculum for our advanced fellowship of Advance Lung Disease & Lung Transplant.
- Fellowship Associate Program Director, Pulmonary & Critical Care Medicine at University of South Florida.
 - ✓ Actively participate teaching bedside Inpatient (ICU / Floor), Outpatient and including didactics on Lung Transplant and ECMO to Fellows, Residents, Nurse Practitioners, and other staff members.
 - ✓ Academic Leadership as Associate Program Director and Site Director (TGH) for PCCM Fellowship program.
 - ✓ COVID long hauler multidisciplinary management team and ICU Lead Intensivist model initiative.

<u>Quality Improvement Projects & Manuscripts: Active</u>

- ECMO management and data standardization at leading ECMO center of Florida State "Tampa General Hospital & University of South Florida". Achieved goals for educating and training along with holding 1st ECMO Symposium of Institute. Currently in final phase, to Go Live on EPIC ECMO Flowsheet and EPIC Shift Note by ECMO Specialist as part of our Quality Improvement Project and PIP for the program.
- Outcome of 27 ECMO support ARDS in the era of COVID-19 pandemic. Reviewing early ECMO decision and other confounders being evaluated on outcomes.
- ECMO Intervention for RV Dysfunction patients in setting of severe ARDS or Advance Lung Disease as a bridge to recovery or lung transplant; "Retrospective Study".

University of South Florida & Tampa General Hospital Jul 2022 - Aug 2023 Assistant Professor & Associate Medical Director ECMO Associate Program Director Lung Transplant - Center Advance Lung Disease Fellowship Program Associate Program Director Pulmonary & Critical Care Medicine Fellowship Program Jul 2021 – Jun 2022 University of South Florida & Tampa General Hospital Instructor / Advanced Fellow for Center Advance Lung Disease & Lung Transplant Fellowship Jr Faculty Pulmonary & Critical Care Medicine University of South Florida Jul 2018 – Jun 2021 Fellowship Pulmonary & Critical Care Medicine MedStar Union Memorial / Good Samaritan Hospital – (Georgetown University Affiliate) Jul 2015 – Jun 2018 An Affiliate of Georgetown University Physician Resident; Internal Medicine Brigham and Women's Hospital / Harvard Medical School Jun 2014 – Jun 2015 Junior Clinical Fellow, Department of Cardiac Surgery > Non-ACGME accredited Fellowship training position in Cardiac Surgery ICU Responsibilities and Management of all pre-operative and post-operative cardiac patients in ICU and step-down cardiac unit. Working Collectively with Attending Physicians and Fellows to investigate and manage patients. High acuity unit with intense exposure to mechanical support devices and complex patients.

Jun 2009 - Nov 2012 Surgical Officer, Department of Surgery Karachi, Pakistan Ziauddin Medical University Hospital Mar 2005 – Feb 2006 House Officer, Department of Medicine/Surgery Karachi, Pakistan **Postgraduate Education**

Ziauddin Medical University Karachi Pakistan M.B.B.S, (Bachelor of Medicine & Surgery).

ELSO-accreditation Center of Excellence (Application submitted Feb 2024) for our ECMO Program.

Associate Program Director Lung Transplant - Center Advance Lung Disease Fellowship Program

Associate Program Director Pulmonary & Critical Care Medicine Fellowship Program

Postgraduate Employment Experience

University of South Florida & Tampa General Hospital

Medical Director ECMO Program at TGH & Assistant Professor at USF

South City Hospital

Dec 1999 - May 2005

Sep 2023 - Present

OI Projects & Away-Electives; during Residency & Fellowship Trainings

- Pulmonary & Critical Care Consult Service at *The Johns Hopkins Hospital*; under mentoring of *Prof. Gregory Diette* and *Prof David Moller; June 2016 & June 2017*
- Medical ICU Cleveland Clinic with Dr Neal Chassion in August 2017
- QI project to standardize protocols for evaluating patients at risk for aspiration; as a MedStar wide initiative. Implemented across Medstar Health Baltimore Hospitals network.
- QIP Project: Central Line access training for Internal Medicine residents, to improve quality and standard of care. Resident driven initiative led to strong residency training, positive clinical impact on program outcomes and seen to be cost effective.
- QI Project "Implications and Outcomes for Closed Unit ICU; Cardiothoracic ICU the pilot unit.

Workshops & Seminars

- Attended 2023 ATS, CHEST and ISHLT National Conferences
- Attended 2022 ATS, CHEST and ISHLT National Conferences.
- Attended 2019 ATS, CHEST and Interventional Pulmonology National Conferences
- Attended workshop on Endoscopy for Colorectal and Upper G.I, during 28th Annual Congress of the Pakistan society of Gastroenterology and G.I endoscopy (Mar 2012)
- Attended interactive session with Dr. Tim Tollens from Belgium at Hernia Roadshow, Karachi, PK (Nov 2011)
- Attended seminar on Colorectal Cancer at JPMC Karachi Pakistan (Mar 2011)
- Attended Workshop on Advanced Cardiac Life Support (ACLS) at Professional Development Centre by Dow University of Health Sciences (Jan 2008)
- Attended Essential Burn Care Course designed by Welsh Burn Centre, United Kingdom, Burn Centre, Dow University of Health Sciences, Pakistan & Burn Centre, Indore, India at Dow University of Health Science (Nov 2006)
- Attended Surgical Skills Workshop Organized by The Aga Khan University Hospital (Dec 2005)
- Attended 1st International Critical Care Symposium at The Aga Khan University Hospital (Nov 2005)
- Attended Interactive Session of Clinical Communication Skills at Ziauddin Hospital (Sept 2005)
- Attended International Oncology and Nuclear Medicine Conference & 1st International Conference on Pediatric Oncology (July 2005)
- Attended Training Session on Interpretation of ECG conducted by the Departments of Internal Medicine and Cardiology, Ziauddin University Hospital (June 2005)
- Attended workshop; Advanced Cardiac Life Support, at Ziauddin Medical University Clinical Skills Lab (May 2005).
- Attended workshop; Neonatal Resuscitation at ZMUH by Pakistan Pediatric Association (Jan 2004).

ECMO Symposium (3 day) Organized; 6th – 8th October 2022:

 One of key Initiative as Associate Director for ECMO Program at a leading ECMO center within Florida state was to build a curriculum and organize its own "1st ECMO Training Symposium for ECMO Specialists and Healthcare providers at Tampa General Hospital & University of South Florida; collaborated with well-known ECMO faculty leadership from other ECMO centers.

Active / In-process: Clinical Trials, Submissions, ECMO Program structure & QIP

♦ <u>Clinical Trails</u>

- > <u>Principal Investigator</u>
 - "All Comers Registry for Normothermic Ex Vivo Lung Perfusion (EVLP) as Assessment of Donor Lungs for Transplant" *XVIVO study; activated & enrolling.*
 - "Phase 3 Open-Label, Randomized, Standard of Care-controlled Parallel Arm Study to Demonstrate Efficacy and Safety of ARINA-1 in the Prevention of Bronchiolitis Obliterans Syndrome (BOS) Progression in Participants with Bilateral Lung Transplant" *RVN-001 study; activated & enrolling.*
 - "ALAMO Lung Assessment and Metagenomics Outcomes study" ALAMO study; contract finalization.
- > <u>Co Principal Investigator or Sub Principal Investigator</u>
 - 1. Interstitial Lung Disease / Pulmonary Hypertension (ILD / PH)
 - "Third Pole iNO Pilot Device Study" for PH with ILD; participant goal enrolled.
 ✓ Study data being analyzed.
 - 2. Interstitial Lung Disease
 - "Non-IPF / PPF study IM027-1015"; drug study
 - "IPF study IM027-068"; drug study
 - 3. PUERTA (ALT-100) Phase 2: Multicenter, randomized, double-blinded, placebo controlled to assess efficacy and safety of ALT-100 IV Drug Study in patients with Moderate to Severe ARDS

Submissions: Publications / Manuscripts for review

- Manuscript: ""Reverse Bernheim Phenomenon Always A Conundrum"". Submitted to Pulmonary Circulation Manuscript ID # PUL-22-0360. Wulff, Luis; Bandyopadhyay, Debabrata; Qureshi, Muhammad; Restrepo-Jaramillo, Ricardo.
- Manuscript to Frontier Journal Pulmonary Medicine, "Evolution of Pulmonary Hypertension in Interstitial Lung Disease: A Journey through Past, Present and Future". Manuscript ID # 1306032; Jorden Smith, Muhammad Raheel Qureshi, Askin Uysal, Jose D Herazo-Maya
- Manuscript Submitted European Respiratory Journal (ERJ-01813-2023) entitled "A 50-gene high-risk profile predictive
 of COVID-19 and Idiopathic Pulmonary Fibrosis mortality originates from a genomic imbalance in monocyte and Tcell subsets that reverses in survivors with post-COVID-19 Interstitial Lung Disease."

Active Projects of ECMO program at TGH:

- ECMO management and data standardization at leading ECMO center of Florida State "Tampa General Hospital & University of South Florida". Achieved goals for educating and training along with holding 1st ECMO Symposium of Institute. Currently in second phase to Go Live on ECMO note template and data collection for Institute. Aim and Foresight plans to achieve "Center of Excellence in 2023 for the institute.
- ECMO Intervention for RV Dysfunction patients in setting of severe ARDS or Advance Lung Disease; <u>Bridge to Recovery or Lung Transplant; "Retrospective Study".</u>
- ELSO-accreditation Center of Excellence (Application submitted Feb 2024) for our ECMO Program.

National Conference Poster Presentations & Symposiums

- American Thoracic Society (ATS) conference Dallas 2019; <u>"Granulomatous and Lymphocytic ILD (GLILD):</u> <u>Revelation in ILD World.</u>
- American Association Bronchology & Interventional Pulmonology Conference Aug 2019; "<u>Unusual case of</u> <u>needle retention during Endobronchial Ultrasound guided Biopsy".</u>
- American Association Bronchology & Interventional Pulmonology Conference Aug 2019; "<u>ENDOBRONCHIAL Stent as a bridge to Aortic Aneurysm Repair".</u>
- American Thoracic Society (ATS) conference San Francisco 2022; <u>Not-So-Common Cause of Chest Pain</u> and Shortness of Breath; Drug-Induced Eosinophilic Pneumonia leading to parenchymal damage and pneumomediastinum."
- International Society of Heart & Lung Transplantation (ISHLT) conference Denver 2023; <u>"Evaluation of Immunosuppressant Drug Tolerability and Infections in Lung Transplant Recipients with Short Telomere Syndrome"</u>. A. T. Logan, E. Heiman, M. Qureshi, et al.
- International Society of Heart & Lung Transplantation (ISHLT) conference Denver 2023; <u>"The Influence of Age On Risk Of Infection And Malignancy Post Lung Transplant</u>. E. Heiman, O. Huber, M. Qureshi, A. Logan.
- American Thoracic Society (ATS) conference Washington D.C May 2023; <u>"Breathing in All the Wrong</u> <u>Places: Therapeutic Misadventures - Procedural Complications encountered in Interventional Pulmonary &</u> <u>Pleural Disease"</u>. Israel C. Ugalde, M R Qureshi, K.V Nostrand.
- The Journal of Clinical and Translational Research Clinical Transplantation May 2023; "<u>Assessment of</u> <u>Infection and Malignancy in Elderly Lung Transplant Recipients to Guide Age-Adjusted</u> <u>Immunosuppression</u>". E. Heiman, Muhammad. Qureshi, A. Logan.
- International Society of Heart & Lung Transplantation (ISHLT) conference Prague 2024 Research Abstract 24-RA-5841-ISHLT, "A Comparative Study Between Single vs Standard Two Doses of Basiliximab in Lung Transplantation."
- International Society of Heart & Lung Transplantation (ISHLT) conference Prague 2024 Research Abstract 24-RA-5229-ISHLT, "De Novo Donor Specific Antibodies is Associated with Death from Graft Failure in Lung Transplantation."
- International Society of Heart & Lung Transplantation (ISHLT) conference Prague 2024 Research Abstract 24-RA-5962-ISHLT, "Decoding T Cell Clonal Dynamics in Lung Acute Lung Rejection."
- International Society of Heart & Lung Transplantation (ISHLT) conference Prague 2024 Research Abstract 24-RA-5772-ISHLT, "Thoracic Organ Perfusion (TOP) Registry Annual Report - More than 350 OCS Lung Transplants in the US."
- International Society of Heart & Lung Transplantation (ISHLT) conference Prague 2024 Clinical Abstract 24-ECCCR-5433-ISHLT, "Colonic Perforation After Left Ventricular Assist Device Implantation."
- International Society of Heart & Lung Transplantation (ISHLT) conference Prague 2024 Clinical Abstract 24-ECCCR-5454-ISHLT, "ECMO In Patients with Carnitine Deficiency."
- International Society of Heart & Lung Transplantation (ISHLT) conference Prague 2024 Clinical Abstract 24-ECCCR-5463-ISHLT, "Hyperammonemia in A Patient with Recent Lung Transplantation."

Research/Publications

- Krimsky W, Muganlinskaya N, Sarkar S, Qureshi M R, et al. The changing anatomic position of squamous cell carcinoma of the lung – a new conundrum. Journal of Community Hospital Internal Medicine Perspectives. 2016;6(6):10.3402/jchimp.v6.33299. doi:10.3402/jchimp.v6.33299.
- Avasarala, Sameer K, Muhammad R Qureshi, Madeline Waldron, Anita J Reddy. "Initiation of Veno-Venous Extracorporeal Membrane Oxygenation in a Patient Receiving Induction Chemotherapy for Acute Myelogenous Leukemia." *Journal of Oncology Pharmacy Practice*, (July 2018). doi:10.1177/1078155218788735.
- Weisman DS, Pineada S, **Qureshi MR**, et al. ACE inhibitor angioedema: characterization and treatment versus non-ACE angioedema in acute hospitalized patients. J Community Hosp Intern Med Perspect. 2020 Feb 10;10(1):16-18. doi:10.1080/20009666.2020.1711641. PMID: 32128053; PMCID: PMC7034465.
- Shah P, **Qureshi M R**, et al. Short-term outcomes of pulmonary embolism: A National Perspective. Clin Cardiol. 2018 Sep;41(9):1214-1224. doi: 10.1002/clc.23048. Epub 2018 Sep 24. PMID: 30117162; PMCID: PMC6490021.
- Sethi J, Bugajski A, Wille KM, Qureshi MR, Emani V, Weill D, Jr, Sharma NS. Recipient Age Impacts Long-Term Survival in Adult Subjects with Cystic Fibrosis after Lung Transplantation. Ann Am Thorac Soc. 2021 Jan;18(1):44-50. doi: 10.1513/AnnalsATS.201908-637OC. PMID: 32795188.

Society Membership

- Member, American College of Physician (ACP), USA
- Member, American College of Chest Physician (CHEST), USA
- Member, American Thoracic Society (ATS), USA
- Member, International Society for Heart & Lung Transplantation (ISHLT), USA.
- Member, ELSO (The Extracorporeal Life Support Organization)

Volunteer Work

"Aga Khan Foundation	" earthquake relief program in Gilgit, Pakistan	Oct & Nov 2008
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Jan & Mar 2008

Assistant Editor for "Monthly Digest Medical Update"

"Mercy Relief Singapore"

 Collaborated with international organization Nov 2010 -- National Disaster Management during catastrophic floods in Pakistan.

<u>Interest/Hobbies</u>

Cricket / Food; is true love / Movies.

<u>References</u>

LORs and other references furnished upon request.