

BISHOY ZAKHARY, M.D.

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EDUCATION

07/03-06/07	M.D. Medicine	Creighton University, Omaha NE
09/98-06/03	B.Sc. Math, Pharmacology	University of British Columbia, Vancouver BC

TRAINING

07/12-06/15	Pulmonary & Critical Care Fellow	NYU Hospitals, New York NY
07/09-12/11	Internal Medicine Resident	NYU Hospitals, New York NY
07/08-06/09	Radiology Resident	NYU Hospitals, New York NY
07/07-06/08	Transitional Intern	MSKCC, New York NY

ACADEMIC APPOINTMENTS

01/18-Present	Assistant Professor of Medicine	OHSU, Portland OR
05/17-01/18	Assistant Professor of Medicine	NYU School of Medicine, New York NY
07/15-04/17	Clinical Instructor of Medicine	NYU School of Medicine, New York NY

ADMINISTRATIVE APPOINTMENTS

07/20-Present	Medical Director of ECMO Program	OHSU, Portland OR
09/16-01/18	Medical Director of ECMO Program	NYULMC, New York NY

CLINICAL APPOINTMENTS

01/18-Present	Attending Physician	OHSU Medical and Cardiovascular ICU
01/18-Present	Attending Physician	OHSU Pulmonary Consult Service
07/15-01/18	Attending Physician	NYULMC Medical ICU
07/15-01/18	Attending Physician	NY Harbor VA Cardiothoracic & Surgical ICU
07/15-01/18	Attending Physician	Bellevue Hospital Special Pathogens Unit
07/15-06/16	Attending Physician	NYULMC Pulmonary Consult Service
07/13-06/15	Attending Physician	Elmhurst Hospital Neurosurgical & Trauma ICU
04/12-06/12	Attending Physician	Bellevue Hospital Inpatient Medicine Service

HOSPITAL COMMITTEE APPOINTMENTS

05/21-Present	OHSU CVICU Advisory Committee
11/20-Present	OHSU Heart & Vascular System Oversight Committee
11/20-Present	OHSU ICU Executive Committee
07/20-Present	OHSU ECMO Steering Committee – Chair
11/19-Present	OHSU ECMO M&M Organizing Committee
11/19-Present	OHSU ECMO Steering Committee
06/19-Present	OHSU All-Hill Critical Care Conference Organizing Committee
06/18-Present	OHSU Pulmonary Embolism Response Team Committee

SOCIETAL APPOINTMENTS

09/17-Present	ELSO Chair of Education	Extracorporeal Life Support Organization (ELSO)
01/17-Present	ELSO Education Committee	Extracorporeal Life Support Organization (ELSO)
07/16-Present	ATS Education Committee	American Thoracic Society

07/16-01/18	NYSIM Simulation Faculty	NYSIM Center
06/16-Present	ELSO Expert Faculty	Extracorporeal Life Support Organization (ELSO)

MEDICAL LICENSURES AND CERTIFICATIONS

10/19	WA State License Registration #60977055
12/17	OR State License Registration #185525
11/15	ABIM – BC Critical Care
11/14	ABIM – BC Pulmonary Diseases
08/12	ABIM – BC Internal Medicine
09/11	NY State License Registration #262877

ACADEMIC HONOR SOCIETIES

2005	AOA Honor Society – Chapter Co-president (2005-2006)
2005	ODK Leadership Society
2003	Golden Key Honor Society

ACADEMIC HONORS & AWARDS

2023	SCCM Young Investigator Award Recipient
2021	OHSU Holden Award – Pulmonary Critical Care Fellow Teaching Award
2017	SCCM Star Research Award Recipient
2017	SCCM Respiratory Care Section Travel Grant Recipient
2016	ACCP Alfred Soffer Award Recipient
2016	ATS Innovations in Fellowship Education Award
2015	APCCMPD Research in Medical Education Award
2009	RadiologyInfo.org Outstanding Image Contest Winner
2008	Dr Adolph Sachs Award
2008	Merck Manual Award
2007	Physician’s Mutual of Omaha Scholarship
2006	Nebraska Medical Foundation COPIC Scholarship
2005	Superior Scholastic Achievement Award

TEACHING ACTIVITIES

07/19-Present	<i>OHSU ECMO Elective Rotation Director</i> Set-up and formalized the ECMO rotation
06/18-Present	<i>OHSU ECMO Course Director</i> Developed a 3-day simulation-based ECMO course for OHSU practitioners.
02/19-Present	<i>ELSO Advanced VV ECMO Workshop</i> Developed a 2-day workshop covering all aspects of VV ECMO
09/18-Present	<i>ELSO ECMO Cannulation Workshop</i> Developed a 1-day workshop teaching VV and VA ECMO cannulation
04/17-Present	<i>ELSO Adult ECMO Management Course</i> Director for 4-day intensive course covering the management of VV and VA ECMO
07/16-01/18	<i>NYSIM Procedures Course Director</i>

- Director for 2-day course covering common medical and critical care procedures.
- 07/15-01/18 *NYU ECMO Course Director*
Developed and run 2-day simulation-based ECMO course for NYU practitioners.
- 07/15-12/17 *Core Clerkship in Medicine Teaching Attending, NYU School of Medicine*
Meet with medical students on their core medicine rotation for bedside teaching.
- 07/15-01/18 *Simulation Faculty, NY Harbor VA Medical Center*
Organize, develop, and teach simulation sessions for medical residents and fellows.
- 07/15-12/17 *Pre-ICU Curriculum Faculty, NYU Hospitals*
Teach core critical care topics and skills to medical residents starting ICU rotations.
- 07/14-12/17 *CPM Pulmonary Physiology Medical Student Course, NYU Medical School*
Simulation faculty and Small group leader for physiology-based course.
- 07/14-06/15 *Simulation Fellow, NY Harbor VA Medical Center*
Dedicated fellow operating state-of-the-art simulation center.
- 04/15-06/15 *Transitions to Residency Program, NYU Medical School*
Simulation-based course to help medical students prepare for internship.
- 07/14-06/16 *Faculty, Physiology Medical Student Course, NYU Medical School.*
- 07/14-06/15 *Practice of Medicine Course Faculty, NYU Medical School*
Met biweekly with medical students for bedside teaching of clinical skills.

INVITED INSTRUCTOR

- 09/18-Present *ELSO Adult ECMO Cannulation Workshop*
Faculty for 1-day simulation-based ECMO cannulation workshop (Varied locations).
- 11/16-Present *ELSO Adult ECMO Management Course*
Course director for intensive 5-day ECMO course (Varied locations).
- 10/22 *ELSO Train-the-Trainer Workshop*
Faculty for 3-day workshop training ECMO course faculty (Barcelona Spain)
- 09/18-12/19 *ELSO Advanced VV ECMO Workshop*
Faculty for 2-day VV ECMO workshop (Varied locations).
- 03/16 *ACCP Ultrasonography: Essentials in Critical Care Course*
Faculty for intensive 3-day hands-on course (Chicago IL).
- 10/15 *FoCUS (Focused Critical Care Ultrasound) Course, NYU*
Faculty for critical care ultrasound workshop for faculty development.
- 04/15 *53rd Annual Weil Critical Care & Emergency Medicine Symposium*
Faculty for simulation-based sessions (Airway, Shock, MRT, & ACLS).
- 11/14 *Critical Care Symposium*

Annual critical care simulation course for MSKCC Critical Care Fellows.

- 10/14 *Hot Topics in Simulation Education Symposium*, NYSIM Center
Educational course on the use of simulation in critical care training.
- 07/14, 07/15 *NY CUSP (Cooperative Ultrasound Project)*, Einstein Medical School
Faculty for intensive 3-day ultrasound workshop for NYC critical care fellows.
- 07/14 *OOORAM (Out-of-Operating Room Airway Management)*, VA Hospitals
Simulation course for health care workers managing airways on the floor and ICU.

INVITED SPEAKER

- 09/22 *The Great Debates: Bivalirudin vs Heparin for ECMO Anticoagulation*, ELSO 22 (Boston MA)
- 09/22 *The Value of Global Standardized ECMO Education*, ELSO 22 (Boston MA)
- 09/22 *VA ECMO – An In-Depth Intro*, OHSU CVICU Lecture Series (Virtual)
- 05/22 *Approach to Hypoxemia on VV ECMO*, ATS 22 (San Francisco CA)
- 04/22 *ECMO Medical & Mechanical Emergencies*, ECMO in Hawai’I – Caring for our ‘Ohana (Honolulu HI)
- 04/22 *Membrane Lung Dysfunction*, Jackson Memorial Hospital, Lung Transplant Conference (Virtual)
- 06/22 *ECMO Education*, OHSU PCCM Scholarship Conference (Virtual)
- 09/21 *The Future of Breathing*, OHSU Medicine Grand Rounds (Virtual)
- 07/21 *CoVID-19 and the Evolving Role of ECMO*, GPC-AACN (Virtual)
- 05/21 *Mechanical Circulatory Support*, ATS 21(Virtual)
- 09/20 *The Great Debates: Hypoxemia on VV ECMO - Hi-flow VV vs Medical Therapy*, ELSO 20 (Virtual)
- 09/20 *Heparin and Heparin Levels – How Do We Do It and Why?*, ELSO 20 (Virtual)
- 09/20 *Struggling RV – How to Accurately Assess VA ECMO Weaning*, ELSO 20 (Virtual)
- 07/20 *ECMO in CoVID19 – Patient Management*, Oregon SCCM and Oregon Thoracic Society (Virtual)
- 07/20 *ECMO in CoVID19 – Outcomes*, Oregon SCCM and Oregon Thoracic Society (Virtual)
- 01/20 *ECMO: The Future of Breathing*, OHSU Pulmonary Grand Rounds (Portland OR)
- 11/19 *Weaning VA ECMO*, AP ELSO 19 (Bangkok, Thailand)

- 11/19 *International ECMO Education*, AP ELSO 19 (Bangkok, Thailand)
- 09/19 *The Great Debates: Patients on VV ECMO Should Have Mechanical Ventilation Reduced to the Lowest Tolerable Settings*, ELSO 19 (Austin, TX)
- 02/19 *ECMOed: Looking to the Future*, LA MCS Course (Bucaramanga, Colombia)
- 12/19 *Best ECMO Papers of 2018*, ECMOed Symposium (Doha, Qatar)
- 06/18 *LV Non-ejection on VA ECMO*, India Cardiac ECMO Conference (Mumbai, India)
- 06/18 *Hemodynamic Monitoring on VA ECMO*, India Cardiac ECMO Conference (Mumbai, India)
- 06/18 *ECMO in Cardiogenic Shock*, India Cardiac ECMO Conference (Mumbai, India)
- 05/18 *Emergencies for ECMO in Special Populations*, Moderator, Euro-ELSO 18 (Prague, Czech)
- 05/18 *Establishing International ELSO Educational Goals and Curriculum. On behalf of ELSO ECMOed Task Force*, Euro-ELSO 18 (Prague, Czech)
- 05/18 *Update on ELSO Education Curriculum*, Euro-ELSO 18 (Prague, Czech)
- 05/18 *VV ECMO: Systemic Hypoxemia*, Euro-ELSO 18 (Prague, Czech)
- 04/18 *Best ECMO Papers of 2017*, LATAM (Santiago, Chile)
- 04/18 *ECMOed: Looking into the Future of Global ECMO Education*, LATAM (Santiago, Chile)
- 09/17 *Creative Innovations in Simulation*, Mt Sinai CAMS Regional Symposium (New York NY)
- 06/17 *ECMO: Outside the Box*, OHSU Pulmonary Grand Rounds (Portland OR)
- 02/17 *ECMO: Outside the Box*, UCLA Ronald Reagan Hospital Pulmonary Grand Rounds (Los Angeles CA)
- 01/17 *ECMO Physiologic Curiosities: Recirculation*, SCCM Meeting (Honolulu HI)
- 09/16 *Respiratory Failure and VV ECMO*, Lutheran Hospital Medicine Grand Rounds (New York NY)
- 08/16 *ECMO Education*, NYU ECMO Lecture Series (New York NY)
- 04/16 *ECMO and Simulation*, NYSIM Simulation Symposium (New York NY)
- 03/16 *The Utility of High-Fidelity Simulation for Training Critical Care Fellows in the Management of ECMO Emergencies*, APCCMPD Annual Meeting (San Antonio TX)

- 02/16 *Simulation in Medical Education*, Bellevue Hospital Pulmonary Grand Rounds (New York NY)
- 11/15 *Mobile ECMO and ECMO Referrals*, Lutheran Hospital Medicine Grand Rounds (New York NY)
- 03/15 *Simulation and ECMO*, UCSD Research Lecture (San Diego CA)
- 03/15 *Medical Simulation*, Temple University Noon Conference (Philadelphia PA)

INVITED REVIEWER

- 04/20 ASAIO, Ad Hoc Reviewer
- 03/18 *Journal of Critical Care*, Ad Hoc Reviewer
- 11/17 *American Journal of Respiratory & Critical Care Medicine*, Ad Hoc Reviewer
- 07/16 *Respiratory Care Journal*, Ad Hoc Reviewer
- 09/15 *ACCP World Congress Meeting*, Abstract Grader
- 06/15 *ACCP Annual Meeting*, Abstract Grader

EDUCATIONAL TRAINING

- 2017 *Adult E-CPR Program Development*, Euro-ELSO Meeting, Maastricht Netherlands
Two-day course describing the development of an Adult E-CPR program.
- 2015 *ECMO Percutaneous Cannulation Course*, Alfred Hospital, Melbourne
Hands-on cannulation course using greyhound dogs
- 2015 *ECMO Training Course*, Alfred Hospital, Melbourne
Two-day simulation-based course on Adult ECMO support
- 2014 *ECMO Training Course*, University of Iowa
Week long simulation-based course on all aspects of ECMO support
- 2014 *Percutaneous Tracheostomy Simulation and Workshop*, Maimonides Hospital
Course teaching technique and complications of percutaneous tracheostomy
- 2014 *Advanced Instructor Training*, CMS, Harvard Medical School
Comprehensive week long instructor workshop in medical simulation
- 2014 *Instructor Workshop*, NYSIM, Bellevue Hospital Center
Instructor workshop in simulation design and debriefing
- 2013 *Bronchoscopy Workshop*, NYULMC
Workshop in bronchial thermoplasty and argon plasma coagulation
- 2012 *Cooperative Ultrasound Project*, Greater New York Hospital Association
Intensive 3 day thoracic and critical care ultrasound workshop

ORIGINAL PUBLICATIONS

- 2023 Rabie AA, Elhazmi A, Azzam MH, Abdelbary A, Labib A, Combes A, Zakhary B, MacLaren G, Barbaro RP, Peek GJ, Antonini MV, Shekar K, Al-Fares A, Oza P, Mehta Y, Alfoudri H,

- Ramanathan K, Ogino M, Raman L, Paden M, Brodie D, Bartlett R. Expert consensus statement on venovenous extracorporeal membrane oxygenation ECMO for COVID-19 severe ARDS: an international Delphi study. *Ann Intensive Care*. 2023.
- 2023 Estoos E, Jocham K, Zhang C, Benson L, Milas A, *Zakhary B*. Optimal positive end-expiratory pressure reduces right ventricular dysfunction in COVID-19 patients on venovenous extracorporeal membrane oxygenation: A retrospective single-center study. *J Crit Care*. 2023.
- 2022 Said AS, Cooley E, Moore EA, Shekar K, Maul TM, Kollengode R, *Zakhary B*. Development of a Standardized Assessment of Simulation-based Extracorporeal Membrane Oxygenation Educational Courses. *ATS Sch*. 2022.
- 2022 Dhar AV, Morrison T, Barbaro RP, Buscher H, Conrad SA, Diaz R, Deng J, Ellis WC, Fortenberry J, Heard M, Hyslop R, Miranda DR, Ogino M, Sin WCS, *Zakhary B*, MacLaren G. Starting and Sustaining an Extracorporeal Membrane Oxygenation Program. *ASAIO J*. 2022.
- 2022 Kumar K, Coonse K, *Zakhary B*, Cigarroa J. Novel method for left ventricular unloading utilizing percutaneous pulmonary artery drainage in cardiorespiratory failure due to COVID-19 infection. *Catheter Cardiovasc Interv*. 2022.
- 2021 Swol J, Brodie D, Willers A, *Zakhary B*, Belezso J, Shinar Z, Weingart SD, Haft JW, Lorusso R, Peek GJ. Human factors in ECLS - A keystone for safety and quality - A narrative review for ECLS providers. *Artif Organs*. 2021.
- 2021 Puslecki M, Dabrowski M, Ligowski M, *Zakhary B*, Said AS, Ramanathan K, Cooley E, Puslecki L, Stefaniak S, Ziemak P, Kiel-Puslecka I, Dabrowska A, Klosiewicz T, Sip M, Zalewski R, Ladzinska M, Mrowczynski W, Ladzinski P, Szlanga L, Baumgart K, Kupidowski P, Szarpak L, Jemielity M, Perek B. Comprehensive assessment of a nationwide simulation-based course for artificial life support. *PLoS One*. 2021 Oct 7;16(10):e0257162.
- 2021 Upchurch C, Blumenberg A, Brodie D, MacLaren G, *Zakhary B*, Hendrickson RG. Extracorporeal membrane oxygenation use in poisoning: a narrative review with clinical recommendations. *Clin Toxicol (Phila)*. 2021.
- 2021 Rabie AA, Azzam MH, Al-Fares AA, Abdelbary A, Mufti HN, Hassan IF, Chakraborty A, Oza P, Elhazmi A, Alfoudri H, Pooboni SK, Alharthy A, Brodie D, *Zakhary B*, Shekar K, Antonini MV, Barrett NA, Peek G, Combes A, Arabi YM. Implementation of new ECMO centers during the COVID-19 pandemic: experience and results from the Middle East and India. *Intensive Care Med*. 2021;47(8):887-895.
- 2021 Rabie AA, Asiri A, Rajab M, Mufti HN, Alsherbiny M, Azzam MH, Abdelbary A, *Zakhary B*, Arabi Y, Alharthy A, Futaih M, Sobhy M, Alenazi I, Bafaqeeh F. Beyond Frontiers: Outcomes of Prolonged Venovenous ECMO in severe Acute Respiratory Distress Syndrome. *ASAIO J*. 2021;67(3):339-344.
- 2020 *Zakhary B*, Vercaemst L, Mason P, Antonini VM, Lorusso R, Brodie D. How I Approach Membrane Lung Dysfunction in Patients Receiving ECMO. *Crit Care*. 2020;24(1):671.
- 2020 Çoruh B, Pasnick S, Acho M, Bass GD, Baston CM, Elizabeth Card M, Gallo de Moraes A, Griffeth VEM, Kanj A, Leveno MJ, Lovin D, Maximous SI, Pearson SD, Stephens RS, Wolfe KS, *Zakhary B*, McSparron JI, Hayes MM. ATS Core Curriculum 2020. Adult Critical Care Medicine. *ATS Scholar*. 2020.

- 2020 Shekar K, Badulak J, Peek G, Boeken U, Dalton HJ, Arora L, *Zakhary B*, Ramanathan K, Starr J, Akkanti B, Antonini MV, Ogino MT, Raman L, Barret N, Brodie D, Combes A, Lorusso R, MacLaren G, Müller T, Paden M, Pellegrino V; ELSO Guideline Working Group. Extracorporeal Life Support Organization COVID-19 Interim Guidelines: A Consensus Document from an International Group of Interdisciplinary ECMO Providers. *ATS Sch*. 2020;1(4):436-455.
- 2020 *Zakhary B*, Sheldrake J, Pellegrino V. ECMO and V/Q Ratios: An Ex-Vivo Analysis of CO₂ Clearance within the Maquet Quadrox-iD Oxygenator. *Perfusion*. 2020;35(1_suppl):29-33.
- 2020 *Zakhary B*, Vercaemst L, Mason P, Lorusso R, Brodie D. How I Manage Drainage Insufficiency on ECMO. *Critical Care*. 2020;24(1):151.
- 2020 Ramanathan K, Antognini D, Combes A, Paden M, *Zakhary B*, Ogino M, MacLaren G, Brodie D, Shekar K. Planning and Provision of ECMO Services for Severe ARDS During the COVID-19 Pandemic and Other Outbreaks of Emerging Infectious Diseases. *Lancet Respir Med*. 2020;8(5):518-526.
- 2020 *Zakhary B*, Shekar K, Diaz R, Badulak J, Johnston L, Roeleveld PP, Alinier G, Lai PCK, Ramanathan K, Moore E, Hassan I, Agerstrand C, Ngai WC, Salazar L, Raman L, Bembea MM, Davidson M, Gomez-Gutierrez RD, Mateo-Sidrón JAR, Kukutschka J, Antonini MV, Dickstein ML, Schmidt M, Abrams D, Ogino MT; Extracorporeal Life Support Organization (ELSO) ECMOed Taskforce. Position Paper on Global ECMO Education and Educational Agenda for the Future: A Statement from the Extracorporeal Life Support Organization ECMOed Taskforce. *Crit Care Med* 2020;48:406–414.
- 2020 Patel M, Altshuler D, Lewis T, Merchan C, *Zakhary B*, Papadopoulos J. Sedation Requirements in Patients on Venovenous or Venoarterial Extracorporeal Membrane Oxygenation. *Ann Pharmacother*. 2020;54(2):122-130.
- 2020 Al-Hakim R, Li P, Nonas S, *Zakhary B*, Maughan B, Schenning R, Farsad K, Kaufman J. Evaluation and Management of Intermediate and High Risk Pulmonary Embolism. *Am J Roentgenol*. 2020;214(3):671-678.
- 2019 Cranell C, *Zakhary B*, Hamilton H, Brasel K, Zonies D. Design of an Entrustable Professional Activity for Adult Extracorporeal Membrane Oxygenation. *Surgery Open Science*. 2019.
- 2019 *Zakhary B*, Fan R, Slutsky A. Pro: Should patients with ARDS on VV ECMO have ventilatory support reduced to the lowest tolerable settings? *Crit Care Med*. 2019;47(8):1143-1146.
- 2019 Arnouk S, Altshuler D, Lewis T, Merchan C, Smith D, Toy B, *Zakhary B*, Papadopoulos J. Evaluation of Anti-Xa and aPTT Monitoring of Heparin in Adult Patients Receiving Extracorporeal Membrane Oxygenation Support. *ASAIO J*. 2019;10.1097
- 2018 *Zakhary B*, Oppenheimer B. ECMO for all? Challenging traditional ECMO contraindications. *J Crit Care*. 2018 Dec;48:451-452.
- 2018 *Zakhary B*, Nanjajya V, Pellegrino V. Predictors of Mortality Following Extracorporeal Cardiopulmonary Resuscitation. *Crit Care Resusc*. 2018;20(3):223-230.
- 2018 Musallam N, Altshuler D, Merchan C, *Zakhary B*, Aberle C, Papadopoulos J. Evaluating

- Vasopressor Discontinuation Strategies in Patients with Septic Shock on Concomitant Norepinephrine and Vasopressin Infusions. *Ann Pharmacother*. 2018;52(8):733–739.
- 2018 Root CW, Dudzinski DM, *Zakhary B*, Friedman OA, Sista AK, Horowitz JM. Multidisciplinary Approach to the Management of Pulmonary Embolism Patients: The Pulmonary Embolism Response Team (PERT). *J Multidiscip Healthc*. 2018;11:187-195.
- 2017 *Zakhary B*, Kam L, Kaufman B, Felner K. The Utility of High-Fidelity Simulation for Training Critical Care Fellows in the Management of ECMO Emergencies. *Crit Care Med*. 2017 Aug; 45(8):1367-1373.
- 2017 Mukherjee V, Guandalini G, *Zakhary B*, Dweck E. A 70-year-old Male with Worsening Dyspnea Following an Ankle Fracture. *Chest*. 2017;151(2):e25-e27.
- 2017 Fan E, *Zakhary B*, Amaral A, McCannon J, Girard TD, Morris PE, Truwit JD, Wilson KC, Thomson CC. Summary for Clinicians: Liberation from Mechanical Ventilation in Critically Ill Adults. *Ann Am Thorac Soc*. 2017;14(3):441-443.
- 2012 *Zakhary B*, Fujinaga K, Phalen J. Primary Langerhans Cell Histiocytosis of the Temporal Lobe. *Applied Radiology*. 2012.
- 2009 Amirlak B, *Zakhary B*, Weichman K, Forse A. Novel Use of Lodox Statscan in Management at a Large Level I Trauma Center. *Turkish Journal of Trauma*. 2009; 15(6):521-8.
- 2003 *Zakhary B*, Matsuo N. A Mechanistic Study of the Lipase Mediated Digestion of 1,3-Diacylglycerol. *The Journal of Oleo-Science*. 2003.

BOOK CHAPTERS

- 2022 Moore E, Ramanathan K, Sin S, Antonini MV, *Zakhary B*, Mullin D, Jones TJ, Ogino MT. Education and Training in Extracorporeal Life Support: The ELSO Red Book (6th Ed). ELSO Org, 2022.
- 2022 Hassan I, *Zakhary B*. ECMO in Middle Eastern Respiratory Syndrome (MERS-CoV) in Extracorporeal Membrane Oxygenation: An Interdisciplinary Problem-Based Learning Approach. Oxford, 2022.
- 2020 Gajkowski E, *Zakhary B*. Controversies on Certification of ECMO Practitioners Using Simulation in: *Comprehensive Healthcare Simulation: ECMO Simulation*. Springer, 2020.
- 2019 Diaz R, ... *Zakary B*. ECMO Simulation in: *ECMO Specialist Manual*. Extracorporeal Life Support Organization, 2019.
- 2018 *Zakhary B* (Faculty Reviewer). ATS Review for the Critical Care Boards. American Thoracic Society, 2018.
- 2018 *Zakhary B* (Faculty Contributor). ATS Review for the Critical Care Boards Question Book. American Thoracic Society, 2018.
- 2018 Katzman D, *Zakhary B*. Cryptogenic Organizing Pneumonia, in: *Ferri's Clinical Advisor 2019*. Elsevier, 394-395, 2018.

- 2017 *Zakhary B, Uppal A. Mechanical Ventilation*, in: Principles and Practice of Hospital Medicine (2nd ed). McGraw-Hill, 1065-1073, 2017.

MULTIMEDIA & ONLINE PRODUCTIONS

- 2022 *ELSO Foundations: Adult ECMO Training Course. www.ELSO.org*
Designed, oversaw, and developed a comprehensive online ECMO education course
- 2020 *ELSO ECMO 101 Course. www. ELSO.org*
Oversaw development of a free international online introductory ECMO course
- 2017 *Mendelson J, Zakhary B, Toy B, Kam L, Kaufman B. Preparing for ECMO Emergencies Through Simulation*. Best of ATS Video Lecture Series. 2017.
- 2017 *Zakhary B, Froehlich C. ECMO: Circuit Components*. www.CollectedMed.com 2017.
- 2017 *Zakhary B, Priest M. ECMO Simulation*. www.CollectedMed.com 2017.
- 2006 *Zakhary B, Silberberg P. Wilson's Disease*. myPACS.net 2006.
- 2006 *Zakhary B, Silberberg P. Medulloblastoma with Drop Metastases*. myPACS.net 2006.
- 2006 *Zakhary B, Silberberg P, Shaefer G. Metopic Synostosis*. myPACS.net 2006.
- 2005 *Zakhary B. Joint Trauma and Osteoarthritis*. ArthritisMD.com. 2005.

ABSTRACTS

- 2023 *Zhang C, Zakhary B, White N, Heinsar S, Burrell A, Zaaqoq A, Jacobs J, Dalton H, Labib A, Suen J, Mariani S, Bassi GB, Fraser J, Peek G. Length of Pre-ECMO Mechanical Ventilation Is Not Associated With Mortality in Patients With COVID-19*. SCCM, San Francisco CA
- 2020 *Said A, Cooley E, Moore E, Shekar K, Maul T, Kollengode R, Zakhary B. Standardized Assessment of ECMO Educational Courses: A Pilot Study*. Euro-ELSO, London England.
- 2019 *Lehr A, Pradhan D, Zakhary B, Amdo T, Mukherjee V. Correlation Between Simplified Lung Ultrasound Score and Static Lung Compliance*. ATS, Dallas TX.
- 2018 *Toy B, Zakhary B. The Impact of a Two-Day Simulation-Based ECMO Course for ECMO Practitioners*. Euro-ELSO, Prague Czech.
- 2018 *Arnouk S, Altshuler D, Merchan C, Raco V, Zakhary B, Papadopoulos J. Evaluation of Anti-Xa and aPTT Monitoring of Heparin in Adult Patients Receiving ECMO Support*. SCCM, San Antonio TX.
- 2017 *Awan O, Aditi B, Zakhary B, Mukherjee V. Changes in Hemodynamics and Gas Exchange Parameters with use of the Rotoprone Bed in Patients with Severe ARDS*. Chest, Toronto ON.
- 2017 *Awan O, Mukherjee M, Zakhary B. Improvement in P/F Ratio as a Prognostic Marker in Patients Prone for Severe ARDS*. ATS, Washington DC.
- 2017 *Rakowski E, Smith D, Zakhary B. Successful VATS with Lobectomy on VV-ECMO for*

- Hypoxemic Respiratory Failure. ATS, Washington DC.
- 2017 Mitchell O, *Zakhary B*. Transfusion Related Acute Lung Injury Successfully Managed with ECMO. ATS, Washington DC.
- 2017 Pradhan P, Mukherjee V, *Zakhary B*, Sauthoff H. A Novel Blended Learning Course on Ultrasound for Rapid Assessment of Acute Respiratory Failure. ATS, Washington DC.
- 2017 *Zakhary B*, Nanjayya V, Pellegrino V. Predictors of Mortality Following Extra-corporeal Cardiopulmonary Resuscitation. Euro-ELSO, Maastricht Netherlands.
- 2017 *Zakhary B*, Pelligrino V. ECMO and V/Q Ratios: An Ex-Vivo Analysis of CO2 Clearance within the Maquet Quadrox-i Oxygenator. SCCM, Honolulu HI.
- 2016 Deepak P, *Zakhary B*, Vikramjit M, Harald S. Teaching Old Dogs New Tricks: A Course for Faculty Learners on Fundamentals of Critical Care Ultrasonography (FoCUS). ACCP, Los Angeles CA.
- 2016 *Zakhary B*, Kam L, Kaufman B, Felner K. The Utility of High-Fidelity Simulation for Training Critical Care Fellows in the Management of ECMO Emergencies. ATS, San Francisco CA.
- 2016 Haberman R, *Zakhary B*. 5BX: A Novel Precipitant of Severe Ketoacidosis. ATS, San Francisco CA.
- 2016 Pillai R, Mukherjee V, *Zakhary B*. Management of Respiratory Depression from Tianeptine Overdose with Naloxone. ATS, San Francisco CA.
- 2016 Pillai R, Mukherjee V, *Zakhary B*. Using Velocity Time Integral to Non-Invasively Evaluate the Response to Dobutamine in Cardiogenic Shock. ATS, San Francisco CA.
- 2015 Murphy V, Lesko M, *Zakhary B*, Patrawalla P. Evaluation of Diaphragmatic Paralysis Using Sniff Testing with M-mode Ultrasonography. ACCP, Montreal Canada.
- 2015 *Zakhary B*, Dweck E, Steiger D. Acute Pulmonary Emboli After Bleomycin Sclerotherapy For A Congenital Venous Malformation. ACCP, Montreal Canada.
- 2015 *Zakhary B*. Into Fat Air: A Case of Pneumothorax Complicating Liposuction. ACCP, Montreal Canada.
- 2015 *Zakhary B*, Coritsidis G. Cardiovascular Collapse During Spinal Anesthesia. ATS, Denver CO.
- 2015 Soghier I, *Zakhary B*, Mukherjee V, Rajmane R. Not All That is Negative is Clinically Worthless: A New Approach to Electromagnetic Navigational Bronchoscopy in The Diagnostic Algorithm of Lung Pathology. ATS, Denver CO.
- 2014 Burke D, *Zakhary B*, Pinelis E. Acute Hemolysis Following an Overdose of Miracle Mineral Solution in a Patient With Normal G6PD Levels. ACCP, Austin TX.
- 2014 *Zakhary B*, Seides B, Fridman D. Successful Liver Transplantation in Isoniazid Induced Liver Failure. ATS, San Diego CA.
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- 2014 Burke D, *Zakhary B*, Pinelis Y. Hepatotoxicity Associated With Baikal Skullcap (*Scutellaria Baicalensis*). ATS, San Diego CA.
- 2014 Wu B, Mukherjee V, Kim H, *Zakhary B*, Schwartz D. Disseminated Bacillus Calmette–Guerin From Bladder Carcinoma Immunotherapy. ATS, San Diego CA.
- 2005 *Zakhary B*, Rust D, Hoff C. Project C.U.R.A. - Chimbote, Peru - A Service Project for First Year Medical Students. International Health & Medical Education Conference.
- 2005 *Zakhary B*, Rust D, Hoff C. Project C.U.R.A.: Chimbote, Peru - A Service Project for First Year Medical Students. Abstract, Global Health Education Consortium.

LOCAL & INTERNATIONAL SERVICE

2007-2017	Homeless Sandwich Drive – Leader	Coptic Church, Manhattan NY
2011	Zambia Medical Mission Trip	Coptic Church, Lusaka Zambia
2009	Kenya Medical Mission Trip	Coptic Church, Nairobi Kenya
2005-2007	Homeless Clinic Volunteer – Officer	Magis Clinic, Omaha NE
2004	Peru Medical Mission Trip – Leader	Project CURA, Omaha NE

ORGANIZATIONAL MEMBERSHIP

2015-Present	Extracorporeal Life Support Organization
2015-Present	Society of Critical Care Medicine
2013-Present	American Thoracic Society
2012-Present	American College of Chest Physicians

INTERESTS

International travel, Road cycling, Tennis, SCUBA Diving, Movies