

**Ryan Dean Laterza, M.D.**

Associate Professor  
Department of Anesthesiology  
University of Colorado School of Medicine

February 12, 2023

**BIOGRAPHICAL DATA**

Current Position: Attending Critical Care Anesthesiologist  
Department of Anesthesiology  
Denver Health Medical Center  
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Place of Birth: Ogden, Utah

**EDUCATION**

Undergraduate: University of Colorado Boulder  
Boulder, Colorado  
B.S., Electrical and Computer Engineering, Biomedical Engineering  
Minor, Biochemistry Minor  
2001 - 2006

Study Abroad: Lancaster University  
Lancaster, England  
May 2004 - June 2004

Medical School: University of Colorado School of Medicine  
Aurora, Colorado  
M.D.  
2006 - 2010

Residency: Mount Sinai School of Medicine  
New York City, New York  
Anesthesiology (Categorical)  
2010 - 2014

Fellowship: Oregon Health and Science University  
Portland, Oregon  
Critical Care Medicine  
2014 - 2015

**ACADEMIC APPOINTMENTS**

July 2015 - October 2016 Clinical Instructor of Anesthesiology  
University of Colorado School of Medicine  
Aurora, Colorado

November 2016 – June 2022     Assistant Professor of Anesthesiology  
University of Colorado School of Medicine  
Aurora, Colorado

July 2022 – Present             Associate Professor of Anesthesiology  
University of Colorado School of Medicine  
Aurora, Colorado

#### HOSPITAL POSITIONS

July 2015 – Present             Critical Care Anesthesiologist  
Denver Health Medical Center  
Denver, Colorado

May 2020 – Present             Anesthesia Technician Supervisor and Director  
Denver Health Medical Center  
Denver, Colorado

#### HONORS AND AWARDS

2001                                 Utah Sterling Scholar State Finalist  
*Received full-tuition, room and board four-year scholarship applicable to every college in the State of Utah.*

2002 – 2006                     Engineering Merit Scholarship  
University of Colorado Boulder College of Engineering

2005 – 2006                     Engineering Fellows  
University of Colorado Boulder College of Engineering  
*Selected by the Dean of Engineering to serve as an adviser, role model, and teacher for engineering students. Primarily taught chemical engineering coursework.*

2006                                 Engineering Active Learning Award  
University of Colorado Boulder College of Engineering

2007 – 2008                     Achievement Rewards for College Scientists Scholar  
ARCS Foundation

2007                                 Medical Student Research Scholarship  
University of Colorado School of Medicine

2007                                 Virginia T. Schuman Scholarship  
University of Colorado School of Medicine

2008                                 Research Forum Winner  
University of Colorado School of Medicine

2008 – 2009                     Merit Scholarship  
University of Colorado School of Medicine

2010	Glaser Research Award ARVO Foundation
2011	Humanism and Excellence in Teaching Award Arnold P. Gold Foundation
2018	Outstanding Teacher of the Year University of Colorado School of Medicine Department of Anesthesiology
2019	Outstanding Teacher of the Year University of Colorado School of Medicine Department of Anesthesiology
2019	Teacher of the Year Student Registered Nurse Anesthetists Denver Health Medical Center

#### PROFESSIONAL MEMBERSHIPS

2010 – Present	American Society of Anesthesiologists
2011 – Present	Gold Humanism Honor Society
2015 – Present	Society of Critical Care Medicine
2015 – Present	Colorado Society of Anesthesiologists

#### COMMITTEES AND SERVICE

2015 – Present	EPIC Super User – Anesthesiology Denver Health Medical Center
2016 – Present	Department of Anesthesiology Public Website Denver Health Medical Center
2017 – Present	Biomed Liaison for the Anesthesia Machine and Monitors Denver Health Medical Center
September 2017	Resident Selection Committee University of Colorado School of Medicine Department of Anesthesiology
2016 – 2017	Information Technology Communication Committee Denver Health Medical Center
April 2020	COVID Critical Care Attending Volunteer at Elmhurst Hospital in NYC <i>Volunteered as a critical care attending in a COVID intensive care unit at NYC Health + Hospitals/Elmhurst in New York City from 4/13/20 to 4/19/20. Duties included teaching</i>

*and supervising residents in an ad-hoc ambulatory PACU intensive care unit staffed by otolaryngology residents. Elmhurst Hospital was a designated COVID hospital considered “the epicenter of the epicenter” for the COVID-19 pandemic in New York City.*

## LICENSURE AND CERTIFICATION

2011 – 2014	Training License – New York
2014 – 2015	Medical License – Oregon
2015 – Present	Medical License – Colorado
2015 – 2025	American Board of Anesthesiology Specialty Certification
2016 – 2026	American Board of Anesthesiology Critical Care Medicine Subspecialty Certification

## INVENTIONS

2005 – 2010	<p>Analytic Visual Stethoscope</p> <p><i>Designed and built a stethoscope device to improve the clinician’s objectivity in both diagnosis and documentation of heart murmurs by calculating 3D heart sound frequency spectrum plots using the Fourier transform. Obtained IRB approval and completed a pilot study correlating the device to transthoracic echocardiography.</i></p>
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## PUBLIC HEALTH

January – July 2004	<p>Public vs. Private Funded Health Care</p> <p><i>6-month independent study project conducted in Lancaster, England while studying abroad in college to gain insight into British public health care delivery and policy in comparison to that of the United States through my experiences volunteering at the National Health Service Royal Lancaster Infirmary and United Kingdom Stroke Association.</i></p>
March – May 2010	<p>International Critical Care Medicine Rotations</p> <p><i>3-month independent study project and medical school clinical rotation in the intensive care unit at Queen Alexandra Hospital in Portsmouth, England and Lariboisière Hospital in Paris, France. Explored the overlap of anesthesiology in critical care medicine and the differences in delivering end-of-life care in Europe to that of the United States. Mentored by Dr. Mathew Roberts.</i></p>

## INVITED LECTURES AND PRESENTATIONS

### National

December 2017	<p>Problem-Based Learning Discussions (PBLD) Facilitator</p> <p><i>Catastrophic Central Line Complication in a Poly-trauma Patient</i></p> <p>PostGraduate Assembly in Anesthesiology (PGA71)</p> <p>New York, New York</p>
March 2022	Trauma Panel: Volume Resuscitation and Assessment

Colorado Review of Anesthesia for SurgiCenters and Hospitals (CRASH)  
Vail, Colorado

Local

October 2016                      Emergency Airway Trauma Management  
Colorado Association of Nurse Anesthetists  
Denver, Colorado

October 2016                      Volume Status Assessment  
Colorado Association of Nurse Anesthetists  
Denver, Colorado

**TEACHING RECORD**

Attending Duties

July 2015 – Present              Direct resident physician supervision  
Inpatient and Outpatient Clinical Anesthesiology  
45 hours per week

Mentees

2015                                  Patrick Millan, MS4, Florida State University  
2017                                  Sean Glaister, High School Student  
2017 – 2018                      Thien Le, MS4, University of Colorado  
2018                                  Masha Alibekova, MD, PhD Engineering Candidate, University of  
                                                 Pennsylvania  
2018                                  William Madry, MS4, PhD University of Colorado School of Medicine  
2018 – 2019                      Olivia Britton, Junior Undergraduate Student, University of San Diego  
2021                                  Elija Christensen, MS4, PhD, University of Colorado

Mentorship Program

2020 – Present                      Resident Group Mentor  
University of Colorado  
Department of Anesthesiology

Foundations in Doctoring Preceptor

2017 – 2018                      Thien Le, MS4

Longitudinal Integrated Clerkship Preceptor

2016 – 2017                      Helen Madsen, MS3  
2016 – 2017                      Hannah Wellman, MS3  
2017 – 2018                      Catherine Ard, MS3  
2018 – 2019                      Itzam Marin, MS3  
2019 – 2020                      Maximilliam Cabrera, MS3

Classroom Instruction

April 2016	EMED 8007 Critical Care and Procedures Acute Coronary Syndrome – Simulation University of Colorado School of Medicine
May 2017	EMED 8007 Critical Care and Procedures Central Venous and Arterial Catheterization University of Colorado School of Medicine
April 2018	EMED 8007 Critical Care and Procedures Lumbar Puncture Technique and CSF Analysis University of Colorado School of Medicine

#### Resident CA-1 Lecture Series

September 2016	Introduction to Mechanical Ventilation University of Colorado School of Medicine
September 2017	Introduction to Mechanical Ventilation University of Colorado School of Medicine
September 2018	Introduction to Mechanical Ventilation University of Colorado School of Medicine
September 2019	Introduction to Mechanical Ventilation University of Colorado School of Medicine

#### Fellows Surgical Critical Care Lecture Series

April 2017	Volume Status Assessment University of Colorado School of Medicine
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#### Resident Morning Lectures

September 2015	Blood Pressure Physics – Denver Health
November 2015	Accidental Hypothermia – Denver Health
January 2016	Mechanical Ventilation – Denver Health
March 2016	Central Venous Catheter Complications – Denver Health
April 2016	Pseudocholinesterase Deficiency – Denver Health
May 2016	Engineering Principles of Processed EEG – Denver Health
June 2016	Aspiration – Denver Health
July 2016	Mechanical Ventilation – Denver Health
August 2016	Vasopressors and Inotropes – Denver Health
September 2016	Biophysics of Volume Homeostasis Part 1 – Denver Health
October 2016	Biophysics of Volume Homeostasis Part 2 – Denver Health
January 2017	Pulmonary Physiology “Tricks & Tips” – Denver Health
March 2017	Airway Management in the Trauma Patient – Denver Health
May 2017	Biophysics of Volume Homeostasis Part 1 – Denver Health
July 2017	Mechanical Ventilation – Denver Health
August 2017	Patient Safety in the OR – Denver Health

September 2017	Serotonin Syndrome – Denver Health
September 2017	Futile Care – Denver Health
September 2017	Pulmonary Artery Catheter – Denver Health
November 2017	Airway Management in the Trauma Patient – Denver Health
December 2017	Central Venous Catheter Complications – Denver Health
March 2018	Alveolar Time Constants and Advanced Ventilator Modes – Denver Health
May 2018	Alveolar Time Constants and Advanced Ventilator Modes – Denver Health
June 2018	Venous Physiology – Denver Health
July 2018	Mechanical Ventilation – Denver Health
August 2018	Extubation Failure M&M – Denver Health
November 2018	Physics of Rapid Volume Resuscitation – Denver Health
January 2019	Venous Physiology – Denver Health
February 2019	Airway Positioning for Laryngoscopy – Denver Health
April 2019	Airway Management in the Trauma Patient – Denver Health
May 2019	Management of Hyperkalemia – Denver Health
July 2019	Anesthesia Machine – Denver Health
August 2019	Patient Safety – Denver Health
August 2019	Managing ICP M&M – Denver Health
November 2019	Airway Management in the Trauma Patient – Denver Health
January 2020	Electrocardiogram Physics and Clinical Application – Denver Health
July 2020	Anesthesia Machine – Denver Health
July 2020	Difficult Airway Lecture – Denver Health
May 2021	Thoracic Epidural Complications M&M – Denver Health
June 2021	Airway Management in the Trauma Patient – Denver Health
July 2021	Anesthesia Machine – Denver Health
August 2021	Obesity and Anesthesia – Denver Health
September 2021	Engineering Perspectives on Hemodynamics – Denver Health
November 2021	Airway Mechanics for Laryngoscopy – Denver Health
January 2022	Volume Resuscitation in Trauma – Denver Health
February 2022	Acute LE paralysis in PACU M&M – Denver Health
April 2022	Volume Resuscitation in Trauma – Denver Health
June 2022	Volume Resuscitation in Trauma – Denver Health
July 2022	Anesthesia Machine – Denver Health
August 2022	Capnography – Denver Health
December 2022	Volume Resuscitation in Trauma – Denver Health
February 2023	Volume Resuscitation in Trauma – Denver Health

### Misc. Teaching Experiences

2009 – 2010	MCAT Instructor Colorado MCAT Review Course
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## **BIBLIOGRAPHY**

### Books

1. Keech B, **Laterza R.** *Anesthesia Secrets*. 6<sup>th</sup> ed. Philadelphia, PA: Elsevier; 2020.

### Book Chapters

1. **Laterza R**, Evans AS. Diagnosis and Treatment of Dysrhythmias. In: *SOCCA ICU Resident's Guide*. 2014 Edition. San Francisco, CA: Society of Critical Care Anesthesiologists; 2014.
2. **Laterza R**, Velasquez EU, Hosseinian L. Airway Management and Neuromuscular Blockers in the ICU. In: Pastores SM, ed. *Adult Multiprofessional Critical Care Review*. Mount Prospect, IL: Society of Critical Care Medicine; 2014.
3. Keech B, **Laterza R**. Top Secrets. In: Keech B, **Laterza R**. eds. *Anesthesia Secrets*. 6<sup>th</sup> ed. Philadelphia, PA: Elsevier; 2020:1-4.
4. **Laterza R**, Keech B, Chandler M, Roberts M. Introduction to Anesthesia. In: Keech B, **Laterza R**. eds. *Anesthesia Secrets*. 6<sup>th</sup> ed. Philadelphia, PA: Elsevier; 2020:5-10.
5. **Laterza R**. Pulmonary Physiology. In: Keech B, **Laterza R**. eds. *Anesthesia Secrets*. 6<sup>th</sup> ed. Philadelphia, PA: Elsevier; 2020:42-50.
6. Douin D, **Laterza R**. Volume Regulation and Fluid Replacement. In: Keech B, **Laterza R**. eds. *Anesthesia Secrets*. 6<sup>th</sup> ed. Philadelphia, PA: Elsevier; 2020:56-63.
7. Lawless R, **Laterza R**. Transfusion Therapy. In: Keech B, **Laterza R**. Eds. *Anesthesia Secrets*. 6<sup>th</sup> ed. Philadelphia, PA: Elsevier; 2020:80-86.
8. Coulson C, Moore T, **Laterza R**. Perioperative Patient Safety. In: Keech B, **Laterza R**. eds. *Anesthesia Secrets*. 6<sup>th</sup> ed. Philadelphia, PA: Elsevier; 2020:87-95.
9. **Laterza R**, Kim M, Weitzel N. Vasoactive Agents. In: Keech B, **Laterza R**. eds. *Anesthesia Secrets*. 6<sup>th</sup> ed. Philadelphia, PA: Elsevier; 2020:131-137.
10. Nelson J, Tran T, **Laterza R**. Blood Pressure Monitoring and Arterial Catheterization. In: Keech B, **Laterza R**. eds. *Anesthesia Secrets*. 6<sup>th</sup> ed. Philadelphia, PA: Elsevier; 2020:147-152.
11. **Laterza R**, Scupp T, Gilliland, S. Central Venous Catheterization. In: Keech B, **Laterza R**. eds. *Anesthesia Secrets*. 6<sup>th</sup> ed. Philadelphia, PA: Elsevier; 2020:153-160.
12. Davis J, **Laterza R**. Volume Assessment. In: Keech B, **Laterza R**. eds. *Anesthesia Secrets*. 6<sup>th</sup> ed. Philadelphia, PA: Elsevier; 2020:168-176.
13. Douin D, **Laterza R**. The Anesthesia Machine. In: Keech B, **Laterza R**. eds. *Anesthesia Secrets*. 6<sup>th</sup> ed. Philadelphia, PA: Elsevier; 2020:177-185.
14. Olsen J, **Laterza R**. Mechanical Ventilation Strategies. In: Keech B, **Laterza R**. eds. *Anesthesia Secrets*. 6<sup>th</sup> ed. Philadelphia, PA: Elsevier; 2020:186-192.
15. Vullo J, **Laterza R**. Electrocardiogram. In: Keech B, **Laterza R**. eds. *Anesthesia Secrets*. 6<sup>th</sup> ed. Philadelphia, PA: Elsevier; 2020:193-207.

#### Peer-Reviewed Journals

1. Ashraf A, Cheema M, Tambawala M, **Laterza R**, Zhou E, Rathnabharathi K, Barnes F. Effects of 900-MHz Radio Frequencies on the Chemotaxis of Human Neutrophils in Vitro. *IEEE Transactions on Biomedical Engineering* 2008 Feb; 55(2):795-7.

#### Posters



1. **Laterza R**, Weinberger H. Analytic Visual Stethoscope: Heart Sound Quantification Stethoscope. Poster presentation at the University of Colorado School of Medicine, Campus Student Research Forum, Aurora, Colorado, January 16, 2008.  
*-Best Poster Award*
2. **Laterza R**, Weinberger H. Analytic Visual Stethoscope: Pilot Study Correlation to Transesophageal Echocardiogram. Poster presentation at the University of Colorado School of Medicine, Capstone Presentations. Aurora, Colorado, March 11, 2010.
3. **Laterza R**, Sim A, Iloreta A, Lawson W, Levine A. Successful Perioperative Management with Remifentanyl and Infraorbital Nerve Block for a Patient on Buprenorphine (Suboxone) Maintenance Therapy Undergoing Repair of an Orbital Floor (Blowout) Fracture. Poster presentation at the American Society of Anesthesiology Annual Meeting, Chicago, Illinois, October 16, 2011.
4. **Laterza R**, Nair A. Successful Management of a Patient with Severe Upper Airway Trauma in the Emergency Department. Poster presentation at the American Society of Anesthesiologists Annual Meeting, San Francisco, California, October 15, 2013.
5. **Laterza R**, Mincer J. One-Lung Ventilation for a Thoracotomy in a High Cardiac Risk Patient Immediately Following a Myocardial Infarction. Poster presentation at the 32<sup>nd</sup> Annual Symposium: Clinical Update in Anesthesiology, Surgery and Perioperative Medicine, Paradise Island, Bahamas, January 21-23, 2014.
6. Karlk J, **Laterza R**, Brambrink A. Diffuse Cerebral Edema and Central Herniation Following Status Asthmaticus. Poster presentation at the American Society of Anesthesiologists Annual Meeting, San Diego, California, October 25, 2015.
7. Heringer D, **Laterza R**. Serotonin Syndrome from SNRI Overdose in a Patient Requiring Emergent Surgery. Poster presentation at the Society for Ambulatory Anesthesia 33<sup>rd</sup> annual meeting, Miami, FL, May 4, 2018.
8. Tawfik B, Dong J, Wu J, **Laterza R**. Perioperative ARDS during a Thoracotomy. Poster presentation at the 2021 Anesthesiology Research Conference, Aurora, CO, September 29, 2021.

#### Hospital Guidelines

1. **Laterza R**. Bariatric Surgery Guideline for Anesthesiology. Policy Stat ID: 9101780. Denver Health Medical Center. V1 March 10, 2017; V2 January 22, 2021.
2. **Laterza R**. Preoperative Care Standing Orders. Policy Stat ID: 7727371. Denver Health Medical Center. V1 October 31, 2019; V2 October 28, 2020; V3 February 03, 2022.

#### Media

1. Denver Health Department of Anesthesiology Website

<https://www.denverhealth.org/services/anesthesiology-perioperative>