Department of Anesthesiology

Anesthesiology is a medical specialty encompassing a broad range of medical and scientific activities. The clinical practice of anesthesiology includes the following:

1. Assessment of, consultation for and preparation of patients for anesthesia and surgery;
2. Provision of insensibility to pain during surgical, obstetric, therapeutic and diagnostic procedures;
3. Monitoring and restoration of physiologic homeostasis during the perioperative period as well as homeostasis in the critically ill or seriously injured patient;
4. Diagnosis and treatment of painful syndromes; and
5. Clinical management and teaching of cardiopulmonary resuscitation (CPR).

The realm of scientific investigation in anesthesiology also spans a broad range. Scientific efforts at the cellular and molecular levels are directed toward understanding the molecular mechanisms of anesthesia and analgesia. Clinical research in anesthesiology includes broad epidemiological approaches to identifying indicators of outcome as well as prospective clinical studies examining new technologies, anesthetic agents and methods.

The Department of Anesthesiology (http://anest.wustl.edu) presents the student with the opportunity to do the following:

1. Acquire and apply pharmacologic knowledge related to anesthetic, narcotic, paralytic and sedative drugs and to drugs affecting the autonomic nervous system;
2. Understand and apply the basic principles of airway management and mechanical ventilation;
3. Understand and apply the principles of cardiopulmonary resuscitation;
4. Understand and apply the technical skills and anatomic and pharmacologic knowledge used in performing regional nerve blocks;
5. Learn and apply the fundamental principles of acute and chronic pain management; and
6. Learn and apply the basic principles of critical care medicine.

Anesthesiology bridges the gap between basic science and clinical medicine. It provides experience with the clinical evaluation and management of patients as well as with applied physiology and pharmacology. The Department of Anesthesiology offers student experiences in the operating room, the intensive care unit, the pain clinic and the laboratory.

Website: http://anest.wustl.edu

Degrees & Requirements

While the Department of Anesthesiology does not offer its own degree, some of the department's courses are open to students in the MD and MSTP (MD/PhD) programs. Further information about the MD and MSTP degrees can be found in the Degrees & Programs Offered (http://bulletin.wustl.edu/medicine/degrees) section of this Bulletin.

Research

Research Electives in Anesthesiology

Special electives in basic science research as it applies to anesthesiology can be arranged with the principal investigators in the Department of Anesthesiology (http://anest.wustl.edu); in the Anesthesiology Research Unit and the Washington University Pain Center under the direction of Rob Gereau, PhD; and in the Division of Clinical and Translational Research under the direction of Michael Avidan, MBBCCh.

These laboratories focus on various aspects of molecular neurobiology, including ion channel structure and function; G-protein molecular biology; molecular mechanisms of anesthetic action; genetics of anesthetic responsiveness; and the molecular, cellular and genetic basis of acute and chronic pain and itch. Arrangements for these special electives are made through the specific investigators: Walter A. Boyle III, MD; Zhou-Feng Chen, PhD; Alex S. Evers, MD; Narasimhan Gautam, PhD; Richard S. Hotchkiss, MD; Christopher J. Lingle, PhD; Gustav Akk, PhD; Michael Bruchas, PhD; Yu-Qing Cao, PhD; Robert W. Gereau, PhD; DP Mohapatra, PhD; or Jose Moron-Conception, PhD. In addition, opportunities exist for clinical research under the direction of Michael Avidan, MBBCCh, or Ben Palanca, MD, PhD.

Faculty

Department Chair
Michael Avidan, MBBCCh, FCA SA

Department Vice Chair
Ellen M. Lockhart, MD

Department Associate Vice Chair
Courtney Hardy, MD

Visit our website for more information about our faculty (http://anest.wustl.edu/about/faculty) and their appointments.

A

Joanna Abraham, PHD
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Assistant Professor of Medicine
PHD Pennsylvania State University 2010
BS SRM Easwari Engineering Colleg 2001
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Department of Anesthesiology (07/26/19)

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MBBS Liaquat Medical College 1969

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BS Moscow State University 1991
PHD State Univ of NY Buffalo 1997

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PHD University of Surrey 2009

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Instructor in Anesthesiology (primary appointment)
MD Ankara University 1993
MED Ankara University 2000

Jacob D AuBuchon, MD
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MD University of MO Kansas City 2008
BA University of MO Kansas City 2005

Michael Simon Avidan, MBBCH
Dr. Seymour and Rose T Brown Professor of Anesthesiology (primary appointment)
Head of the Department of Anesthesiology
Professor of Surgery (Cardiothoracic Surgery)
MBBCH University of the Witwatersra 1991

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BS Tirunelveli Medical College 1992
PHD College of Anesthesiology 2008
MD All-India Inst of Medical Sci 1998

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Instructor in Medicine (Pending Executive Faculty Approval) (primary appointment)
MBBS Nepal Medical College 2013

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MD Texas A&M University 2013
BA Texas A&M University 2009

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BS California Institute Technolo 1993

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MD Case Western Reserve Univ 2014
BS Washington Univ in St. Louis 2010

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PHD University of Florence 2013

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Instructor in Anesthesiology (primary appointment)
MD All-India Inst of Medical Sci 2012
MBBS GMC Miraj 2007

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Professor of Surgery (General Surgery)
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MD1 Univ Texas Health Science Ctr 2014

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Adjunct Professor of Genetics
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MBBS Dalian Medical University 1995
MS Dalian Medical University 1996
PHD Peking University 2001

Wayland W. Cheng, PHD, MD
Assistant Professor of Anesthesiology (primary appointment)
PHD Washington Univ in St. Louis 2012
MD Washington Univ in St. Louis 2012
BS Wheaton College 2005

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MD University of MO St Louis 1999

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Associate Professor of Medicine
MD Washington Univ in St. Louis 1984
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BA New York University 2008
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Thomas E Cox, MD
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BA Johns Hopkins University 1981
MD University of Virginia 1985

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Assistant Professor of Neuroscience
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BS Tufts University 1988
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BS Carleton College 2007
MD Rush University 2012

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Assistant Professor of Anesthesiology (primary appointment)
BS Pennsylvania State University 2006
MD Washington Univ in St. Louis 2009

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Assistant Professor of Anesthesiology (primary appointment)
BS St Xavier University 1995
DOST Midwestern University 2001

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Assistant Professor of Surgery (Cardiothoracic Surgery)
MD Saint Louis University 2005

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Professor of Anesthesiology (primary appointment)
Professor of Developmental Biology
Professor of Medicine
BS Yale University 1974
MD New York University 1978

Steven Edward Feit, MD
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BA Indiana State University 1978
MD University of MO Columbia 1982

Jing Feng, PHD
Instructor in Anesthesiology (primary appointment)
PHD Wuhan University 2014

Mitchell Evan Fingerman, MD
Associate Professor of Anesthesiology (primary appointment)
MD University of Connecticut 2004

Rosemary Foster, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Saint Louis University 2013

David Alan Friedman, MD
Assistant Professor of Anesthesiology (primary appointment)
Narasimhan Gautam, PHD, MS
Professor of Anesthesiology (primary appointment)
Professor of Genetics
PHD University of Bombay 1985
BS School Not Listed 1977
MS School Not Listed 1979

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(secondary appointment)
Professor of Neuroscience
PHD Emory University 1995
BS Southwest Missouri State University 1991

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BS University of North Carolina 2003
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BS University of Southern Indiana 2002
MD Southern Illinois University 2006

Thomas James Goblirsch, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Loyola University Chicago 1985
BS University of Notre Dame 1980

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Assistant Professor of Anesthesiology (primary appointment)
PHD Saint Louis University 1994
BS Hofstra University 1984
MA Hofstra University 1986

Vivian Maria Gonzalez-Perez, PHD
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PHD University of Valparaiso 2009

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Associate Professor of Surgery (Cardiothoracic Surgery)
MD Saint Louis University 2005

Stephen H Gregory, MD
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Russell J L Groener, MBCHB
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MBCHB University of Cape Town 1983

Ryan C Guffey, MD
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MD Wayne State University 2007

Katharine Nicole Gurba, PHD
Instructor in Anesthesiology (primary appointment)
PHD Vanderbilt University 2013

Charles B Hantler, MD, MA
Professor of Anesthesiology (primary appointment)
MD Davenport University 1977
BS Davenport University 1971
MA Davenport University 1973

Courtney Alan Hardy, MD
Associate Professor of Anesthesiology (primary appointment)
MD Loyola University Chicago 2000

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MA Hebrew University 2005
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BS University of Ibadan 1984
MBBS University of Ilorin 1990

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BS Truman State University 2004
MD A T Still University 2007

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BA Princeton University 1968
MD Hahnemann University 1972

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Professor of Developmental Biology
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MD University of Virginia 1976

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Assistant Professor of Anesthesiology (primary appointment)
MD Taipei Medical University 1983
MS Emory University 1993
BA Georgia State University 1991

Hongzhen Hu, PHD
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PHD Ohio State University 2004

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MD Martin-Luther-University 1996
I

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Associate Professor of Anesthesiology (primary appointment)
BS California Institute Technolo 1985
PHD Washington Univ in St. Louis 1990
MD Washington Univ in St. Louis 1997

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Assistant Professor of Anesthesiology (primary appointment)
MD University of Florida 2013
BS University of Miami 2009

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Associate Professor of Anesthesiology (primary appointment)
MD University of Khartoum 1987
PHD University of Khartoum 1996

J

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MD University of Connecticut 2013
BS Washington Univ in St. Louis 2009

Jessica Justmann, MD
Instructor in Anesthesiology (primary appointment)
MD American Univ of the Caribbean 2012
BS University of CA Davis 2005

K

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PHD Iowa State University 1991

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PHD University of Illinois 2018
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MD1 School Not Listed 1998
MD Athens University Med School 1988

Jan Kasal, MD
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Associate Professor of Medicine
MD Charles University 1993

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MD Saint Louis University 2010
BA Tulane University 2006

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Associate Professor of Emergency Medicine in Medicine
MD Loyola University Chicago 2006

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MBBS King's College London 2004
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BA School Not Listed 1993
MD1 University of Kansas 1997

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Instructor in Anesthesiology (primary appointment)
MD University of Zagreb 1996

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MD Hahnemann University 1991
DDENT Loyola University Chicago 1982
BS Loyola University Chicago 1977

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MD U Medical-Dental Of New Jersey 1986
BA Rutgers University 1982

Anand Lakshminarasimhachar, MBBS
Associate Professor of Anesthesiology (primary appointment)
MBBS Bangalore University 1994

Chakrapol Lattanand, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Hahnemann University 2000
Chris Cheng-Fu Lee, PHD, MD  
Associate Professor of Anesthesiology (primary appointment)  
PHD Beijing Medical University 1991  
MD Hubel Medical University 1985  

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Professor of Neuroscience  
BS University of Oregon 1972  
PHD University of Oregon 1979  

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Associate Professor of Anesthesiology (primary appointment)  
PHD Saint Louis University 1997  
MD Nanjing Medical University 1983  

Qin Liu, PHD  
Associate Professor of Anesthesiology (primary appointment)  
Associate Professor of Neuroscience  
Associate Professor of Ophthalmology and Visual Sciences  
BS Wuhan University 1998  
PHD Chinese Academy of Sciences 2004  

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Instructor in Clinical Anesthesiology (primary appointment)  
MD Univ Autonoma de Guadalajara 1987  

George Alan Lodoly, MD  
Instructor in Clinical Anesthesiology (primary appointment)  
BS Saint Louis University 1980  
MD Saint Louis University 1984  

Thomas Lynch V, MD  
Assistant Professor of Anesthesiology (primary appointment)  
Assistant Professor of Emergency Medicine in Medicine  
MD St. George's University 2011  

Susruta Majumdar, MS, PHD  
Adjunct Associate Professor of Anesthesiology (primary appointment)  
MS Delhi University 2000  
BS Delhi University 1998  
PHD University of Florida 2006  

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Adjunct Professor of Anesthesiology (primary appointment)  
BA Howard University 1976  
MBA John Hopkins University 2010  
MD Meharry Med College 1984  
MA Meharry Med College 1980  

Paolo Masetti, MD  
Instructor in Clinical Anesthesiology (primary appointment)  
MD University of Bologna 1985  

Nicolas Massaly, PHD  
Instructor in Anesthesiology (primary appointment)  
PHD Universite Paul Sabatier 2012  

John D McAllister, MD  
Professor of Anesthesiology (primary appointment)  
Professor of Pediatrics  
MD University of Manitoba 1980  
BS University of Manitoba 1982  

Jordan Gary McCall, PHD  
Assistant Professor of Anesthesiology (primary appointment)  
PHD Washington Univ in St. Louis 2014  

Molly Ann McCormick, MD  
Assistant Professor of Anesthesiology (primary appointment)  
MD University of MO Columbia 1987  

Kathleen Williams Meacham, MD, PHD  
Assistant Professor of Anesthesiology (primary appointment)  
BS Carnegie Mellon University 2001  
MD Emory University 2008  
PHD Georgia Tech 2008  

Jesse L Meacham, MD  
Assistant Professor of Anesthesiology (PEFA) (primary appointment)  
Assistant Professor of Emergency Medicine in Medicine (PEFA)  
MD University of Cincinnati 2010  

Allison Denise Mitchell, MD  
Instructor in Anesthesiology (primary appointment)  
BS Howard University 2008  
MD Univ Texas Health Sci San Anto 2012  

David Thomas Monks, MD  
Assistant Professor of Anesthesiology (primary appointment)  
MD Birmingham Medical School 2018  

Michael C. Montana, MD  
Assistant Professor of Anesthesiology (primary appointment)  
BA University of Virginia 2003  
MD Washington Univ in St. Louis 2012  

Robert Paul Moore, MD  
Associate Professor of Anesthesiology (primary appointment)  
MD Washington Univ in St. Louis 2004  

Jose Moron-Concepcion, PHD  
Professor of Anesthesiology (primary appointment)  
Professor of Neuroscience  
Professor of Psychiatry  
PHD University of Barcelona 1998  

Jeremiah J Morrissey, PHD  
Professor of Anesthesiology (primary appointment)  
BA Macmurray College 1969  
PHD Saint Louis University 1974  

Jimmy Lewis Moss, MD  
Instructor in Clinical Anesthesiology (primary appointment)  
BS Florida State University 2010  
MD Florida State University 2015  

Amjad Issam Musleh, MD
Jessica Lauren Nelson, MD  
Assistant Professor of Anesthesiology (primary appointment)  
BS University of Wisconsin 2018  
MD University of Michigan 2012

Joan M Niehoff, MD  
Associate Professor of Anesthesiology (primary appointment)  
MD University of MO Columbia 1982  
BA University of MO Kansas City 1982

Daniel C Nieva, MD  
Associate Professor of Anesthesiology (primary appointment)  
BS University of Iowa 1998  
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BS Saint Louis University 2001  
MD University of MO Kansas City 2005

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Assistant Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)  
MS Pennsylvania State University 2010  
MD University of Nigeria 1998

Folasade Oladapo, MD  
Assistant Professor of Anesthesiology (primary appointment)  
MD U Medical-Dental Of New Jersey 2008

Lawrence Osei, MD, MS  
Instructor in Clinical Anesthesiology (primary appointment)  
MD Unversity of Science & Techn 1996  
MS University of Science & Techn 1996  
BS University of Science & Techn 1994

Ben Julian Palanca, MD  
Assistant Professor of Anesthesiology (primary appointment)  
BS University of Washington 1997  
MD Washington Univ in St. Louis 2005

Chris M Palmer, MD  
Assistant Professor of Anesthesiology (primary appointment)  
Assistant Professor of Emergency Medicine in Medicine  
BS Virginia Tech 2004  
MD SUNY - Empire State College 2008

Kyle Edward Parker, PHD  
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Patricia A. Penkoske, MD  
Instructor in Anesthesiology (primary appointment)  
MD Washington Univ in St. Louis 1974  
BS Lindenwood University 1969

Mitchell R Platin, MD  
Assistant Professor of Anesthesiology (primary appointment)  
MD Kent St University 1987

Debra D Pulley, MME, MD  
Professor of Anesthesiology (primary appointment)  
MME University of MO Columbia 1982  
BS Vanderbilt University 1978  
MD Saint Louis University 1987

Lesley Kathryn Rao, MD  
Assistant Professor of Anesthesiology (primary appointment)  
MD Saint Louis University 2006

Rashmi R Rathor, MD  
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MD University of Illinois 2007

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MD1 Northrhein Westfalen Medical 1985  
MD Madurai Kamaraj University 1979

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BS Illinois Wesleyan University 2005  
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Eduardo Reina, MD  
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MD University of Illinois Chicago 2011

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Associate Professor of Anesthesiology  
Associate Professor of Psychiatry  
BA University of Minnesota 1981  
MA University of Pennsylvania 1983  
PHD University of Pennsylvania 1989

Evan Ward Roller, MD  
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MD University of Cincinnati 2010

Isabella T Rossi, MD  
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MD Loyola University Chicago 2014

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Assistant Professor of Surgery (Cardiothoracic Surgery)
Angela K Saettele, MD  
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BS Simpson College 2004  
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Instructor in Anesthesiology (primary appointment)  
Instructor in Cell Biology and Physiology  
BS University of Barcelona 1997  
PHD University of Barcelona 2003

Vijaya K Samineni, PHD  
Instructor in Anesthesiology (primary appointment)  
PHD Southern Illinois University 2013

Charles R Schrock, MD  
Associate Professor of Anesthesiology (primary appointment)  
BS University of Notre Dame 1986  
MD University of MO Columbia 1991

Karen Seibert, PHD, MA  
Professor of Anesthesiology (primary appointment)  
Professor of Genetics  
Professor of Pathology and Immunology  
BS Northwestern University 1981  
PHD Vanderbilt University 1987  
MA University of Toledo 1983

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Assistant Professor of Anesthesiology (primary appointment)  
MD University of Rochester 2010

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Instructor in Anesthesiology (primary appointment)  
MD Nataal Medical School 1997

Preet Mohinder Singh, MBBS, MD  
Assistant Professor of Anesthesiology (primary appointment)  
MBBS Dayanand Medical College 2007  
MD All-India Inst of Medical Sci 2010

Sarah Kendall Smith, MD, PHD  
Instructor in Anesthesiology (primary appointment)  
MD University of Kansas Medical 2013  
BS University of Kansas 2004  
PHD University of Kansas Medical 2011

John Charles Spitter, MD  
Assistant Professor of Anesthesiology (primary appointment)  
MD University of MO Columbia 2003  
BS University of MO Columbia 1998

Tracey Wagner Stevens, MD  
Assistant Professor of Anesthesiology (primary appointment)  
MD Washington Univ in St. Louis 2008

Sanjay Subramanian, MD  
Associate Professor of Anesthesiology (primary appointment)  
Associate Professor of Medicine  
MD Christian Medical College 1994

Robert A Swarm, MD  
Professor of Anesthesiology (primary appointment)  
BA Oberlin College 1978  
MD Washington Univ in St. Louis 1983

Martha Zorko Szabo, MD  
Assistant Professor of Anesthesiology (primary appointment)  
MD Medical College of Ohio 1990

Rene Tempelhoff, MD  
Professor of Anesthesiology (primary appointment)  
Professor of Neurological Surgery  
MD University of Lyon 1974

Raghu P Terkonda, MD  
Assistant Professor of Anesthesiology (primary appointment)  
BS University of MO Columbia 1983  
MD University of MO Columbia 1987

Douglas Royce Thompson, MD  
Associate Professor of Anesthesiology (primary appointment)  
BS University of CA San Diego 1998  
MD University of CA San Diego 2003

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MD University of Virginia 2015

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MBBS Andhra University 1989

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Instructor in Clinical Anesthesiology (primary appointment)  
MBBS Siriramachandra Medical College 2000  
MD St. Lukes 2007

Gershon Ram Volotzky, MD  
Associate Professor of Anesthesiology (primary appointment)  
MD Tel-Aviv University 1979

Coridalia Wald Chen, MD  
Instructor in Anesthesiology (primary appointment)  
MD University of Panama 2006

Ashley Brooke Weinhold, MD  
Assistant Professor of Anesthesiology (primary appointment)  
MD University of Arkansas 2011

Brian T Wessman, MD  
Associate Professor of Anesthesiology (primary appointment)  
Associate Professor of Emergency Medicine in Medicine
This clinical elective offers practical experience in the periproductive assessment and management of surgical patients undergoing cardiothoracic procedures. The student, as an integral part of the cardiothoracic anesthesia team that is composed of faculty members, fellows and residents, will learn basic principles of airway management and lung ventilation, essential aspects of pharmacologic treatment of hemodynamic abnormalities and cardiac dysrhythmias, and management of intraoperative coagulation disturbances. Emphasis will be placed on the interpretation of intraoperative hemodynamic data, echocardiographic finding (TEE), and laboratory results. During this rotation, the student will also gain practical experience in endotracheal intubation as well as the placement of intravenous lines and invasive monitoring lines, including radial artery and pulmonary artery catheters. Students will learn how to use these parameters in clinical decision making during anesthesia. By the end of the rotation, the student will have a better understanding of invasive monitoring and data interpretation, as well as a more systematic approach to the management of intra- and postoperative hemodynamic, pulmonary and coagulation abnormalities. The students are expected to attend the didactic sessions of CTA and the Department of Anesthesiology. A presentation will be assigned.

M10 Anesth 812 Pediatric Anesthesiology
Subinternship
This clinical elective is designed to teach the theory and practice of pediatric anesthesiology and pain management. It features individualized instruction with faculty who specialize in the periproductive care of pediatric patients. The elective consists of active participation with pediatric anesthesiologists at St. Louis Children's Hospital and St. Louis Shriners Hospital. By the end of the rotation, the student will also gain practical experience in venous line placement and the management of post-anesthesia care and pain therapies. The final week may be tailored to meet the student's individual interests, needs and career goals. Possibilities include exposure to sedation and anesthesia for procedures outside of the operating rooms, and to subspecialties including cardiovascular anesthesia, neurosurgical anesthesia, and acute and chronic pediatric pain management. Students also will have an opportunity to learn the management of some common medical emergencies in the Clinical Simulation Center.

Courses

M10 Anesth 805 Anesthesiology
This clinical elective is designed to familiarize the student with basic aspects of anesthesiology practice. The primary teaching method is patient care in a clinical setting (one-on-one). The student will learn the basics of the preoperative evaluation of surgical patients, the use of intraoperative monitoring in patient management, and postoperative care. In addition to perioperative care, the student will be exposed to other clinical areas, which include our pain management clinic, regional anesthesia/acute pain management, cardiothoracic intensive care unit, labor and delivery, pediatric anesthesia, and the Center for Preoperative Assessment and Planning. During the four-week rotation, the student will learn airway management skills, practical periproductive fluid, and electrolyte therapy, along with general and regional anesthetic techniques. As an integral part of the anesthesia care team, the student will participate actively in the anesthetic management of surgical patients. The student's specific requests to be assigned to certain types of cases will be honored as time and availability dictate. The rotation will include three clinical simulator sessions using a simulator mannequin for the practical management of airway problems, resuscitation, and trauma emergencies. By the end of the rotation, the student should be able to independently (under supervision) provide anesthesia for uncomplicated surgical procedures.
M10 Anesth 819 Cardiothoracic Critical Care Subinternship
This clinical elective offers practical experience in the postoperative management of cardiothoracic patients. The student will be fully integrated into one of the intensive care teams and have the opportunity to contribute to the management of critically ill patients. Students will have the opportunity to follow specific patients over the course of their stay in the ICU, during which time they will gain insight into the holistic management of patients with multi-organ dysfunction. The CTICU environment is both challenging and exciting. Students will gain unique insight into cardiorespiratory physiology and pharmacology, which will be demonstrated at the patients’ bedside, an invaluable and unforgettable learning experience. Students will have opportunities to learn and sometimes assist with procedures, such as central lines, chest tubes, bronchoscopy, and pulmonary artery catheter insertion as well as bedside ultrasound, including TTE and TEE. Principles of management and resuscitation of hemodynamically unstable patients following surgery will be emphasized, as will ventilator management. Students will also see and help manage patients with unique physiology, such as patients on ventricular assist devices and patients on ECMO. We also have a very busy and heart and lung transplantation program at the hospital, and all of these patients are cared for in the CTICU. At the conclusion of the rotation, the student will have a better understanding of shock, sepsis, multi-organ failure, organ system support, and the compassionate withdrawal of life support. In addition to bedside teaching, there will be informal teaching sessions on a wide variety of topics as well as teaching on interpreting hemodynamic data and waveforms and cardiac echo exams. Students will be encouraged to present on their patient at morning rounds, during which constructive feedback and interactive teaching will occur. Medical students will be asked to present a short discussion on a topic of their choice. This should be a 20- to 30-minute presentation followed by a discussion of the topic, which will be moderated by the attending. The time and topic of choice will be discussed with the attending of service.

M10 Anesth 820 Critical Care Subinternship
Students on this rotation are integral members of the multidisciplinary intensivist-led critical care team in the Surgical Intensive Care Unit (SICU). Students learn an organ systems-based approach for evaluation and management of critically ill and injured patients, and application of evidence-based principles in delivery of state-of-the-art critical care. Emphasis is placed on critical care knowledge and techniques used at the bedside in the clinical management of serious traumatic and surgical conditions. Students become familiar with resuscitation and cardiopulmonary support, including methods for non-invasive and invasive hemodynamic monitoring, and techniques for airway management and pulmonary support in respiratory failure. Basic knowledge and skills in the management of blunt and penetrating trauma, neurologic injuries, multi-system organ failure, and life-threatening infections in the surgical patient are also taught, as is the importance of treatments to alleviate anxiety and pain, maintain fluid and electrolyte balance, and providing adequate nutrition. Practical experience is gained in placement of vascular access devices, airway equipment, ultrasonography and its applications, interpretation of imaging and laboratory data, and use of guidelines, protocols and quality assurance tools in the management of critically ill patients.

M10 Anesth 821 Pain Management
Acute pain is the most common symptom of medical illness and is ubiquitous after major surgery. Chronic pain is the leading cause of worker disability. Severe pain afflicts most people with advanced cancer. Learning the fundamentals of pharmacologic, interventional, and multidisciplinary pain management is important for all areas of clinical medicine. Rotation is based at Barnes-Jewish Hospital with focus adjusted to meet student’s interest and career plans.

M10 Anesth 822 Anesthesiology for Neurosurgery Subinternship
Students will help care for patients having challenging neurosurgical procedures. Students will become familiar with complex procedures, brain monitoring, cardiovascular support and airway management and will be exposed to all kinds of neurosurgical pathology. Student must be prepared to participate in the intricate anesthetic management of patients undergoing surgery in our novel intraoperative MRI rooms. For those interested, clinical research projects are ongoing and student participation is encouraged.

M10 Anesth 823 Obstetrical Anesthesiology Subinternship
The medical students will learn the different analgesia/anesthetic options for the labor patient. They will also learn how the physiological adaptations of pregnancy influence anesthetic management. They will be actively involved in the parturient’s management, i.e., starting an IV, placement of spinal, epidural or CSE (combined spinal epidural) anesthetics. They will also attend the OB anesthesia conferences and interview patients in labor (with an OB anesthesia attending).

M10 Anesth 900 Research Elective — Anesthesiology
Research opportunities may be available. If interested, please contact the Department of Anesthesiology.