59th ANNUAL REFRESHER COURSE LECTURES

Presented October 18-22, 2008
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These reviews have not undergone peer or editorial review.

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Refresher Course Lectures have been planned this year by 10 Scientific Content Subcommittees (SCS or learning tracks). Please see the program book for listings of the SCS members and their disclosure information.
Current Controversies in Adult Ambulatory Anesthesia

Jeffrey L. Apfelbaum, M.D.** ........................................... 136
Professor and Chair
Department of Anesthesia and Critical Care
University of Chicago
Chicago, Illinois

Lecture Objectives:
1) Provide an update on current issues in adult outpatient anesthesia, including preoperative evaluation, preparation and patient selection, laboratory screening, the dangers of interactions with herbal medicine in the outpatient surgery setting, practical discharge criteria and new techniques in the management of postoperative pain; 2) Present the possibility of resolution of these controversies.

How Will Pay for Performance Impact My Ambulatory Anesthesia Practice?

Lucinda Everett, M.D.** ........................................... 329
Chief, Pediatric Anesthesia
Massachusetts General Hospital
Associate Professor
Harvard Medical School
Boston, Massachusetts

Lecture Objectives:
1) Understand the implications of quality and safety initiatives in medicine and anesthesia, and how these interface with pay for performance programs; 2) Gain information about pay for performance initiatives and relevance to ambulatory anesthesia.

Management of Postoperative Nausea and Vomiting

Tong J. Gan, M.D.* ........................................... 320
Professor and Vice-Chair
Department of Anesthesiology
Duke University Medical Center
Durham, North Carolina

Lecture Objectives:
1) Review the risk factors for PONV; 2) Review the mechanism of PONV and pharmacological actions of the antiemetics; 3) New drugs and novel methods for the management of PONV; 4) Pharmacoeconomics of PONV; 5) Recommend a comprehensive strategy for the management of PONV.

The Adult Patient With Sleep Apnea Syndrome for Ambulatory Anesthesia

Professor of Anesthesiology and Pain Management
Director of Perioperative Medicine and Ambulatory Anesthesia
University of Texas Southwestern Medical Center
Dallas, Texas

Lecture Objectives:
1) Understand the pathophysiology of sleep apnea syndrome in adults; 2) Appreciate the importance of appropriate selection of sleep apnea patient and procedure scheduled for ambulatory surgery; 3) Discuss anesthetic techniques that minimize postoperative risks in sleep apnea patients; 4) Learn criteria for discharge of these outpatients; 5) Describe ASA practice guidelines and recognize how they impact daily clinical practice.
The Graying of America: Anesthetic Implications for Geriatric Outpatients

Kathryn E. McGoldrick, M.D.* ........................................ 413
Professor and Chair
Department of Anesthesiology
New York Medical College
Director of Anesthesiology
Westchester Medical Center
Valhalla, New York

Lecture Objectives:
1) Given current and future demographics, it is critical that the audience understands the latest information pertaining to geriatric pharmacokinetics and pharmacodynamics (with emphasis on the outpatient venue), as well as complications that are more common in the elderly, such as delirium and postoperative cognitive dysfunction.

Practical Regional Anesthesia for Outpatients

Meg A. Rosenblatt, M.D.** ........................................ 233
Associate Professor of Anesthesiology and Orthopaedics
The Mount Sinai School of Medicine
New York, New York

Lecture Objectives:
1) Understand what peripheral nerve blocks are appropriate for specific ambulatory procedures, and how to perform them.

Office Based Anesthesia: Challenges and Successes

Rebecca S. Twersky, M.D., M.P.H.** ............................ 201
Professor of Anesthesiology
Vice-Chair for Research
SUNY Downstate Medical Center
Medical Director, Ambulatory Surgery Unit
New York, New York

Lecture Objectives:
1) Discuss patient safety and outcomes in office based surgery and anesthesia; 2) Identify appropriate patient and procedure selection; 3) Discuss anesthesia management for office based anesthesia.

Cardiac Anesthesia

Perioperative Blood Pressure Control – A New Look at an Old Problem

Solomon Aronson, M.D.** ........................................ 109
Executive Vice-Chair
Department of Anesthesiology
Duke University
Raleigh, North Carolina

Lecture Objectives:
1) Understand hypertension perioperative risk by sub-classification; 2) Review mechanism of acute circulatory hypertension syndrome; 3) Present evidence based data supporting the sweet spot or target BP management during surgery.
Antiarrhythmic Therapy
Jeffrey R. Balser, M.D., Ph.D.* ........................................... 133
Associate Vice Chancellor for Research
Vanderbilt University Medical Center
Nashville, Tennessee

Lecture Objectives:
To clarify the evidence supporting clinical management decisions for perioperative arrhythmias, in the operating room, as well as the perioperative period, using molecular targets as an organizing framework.

TEE for the Occasional Cardiac Anesthesiologist
Michael K. Cahalan, M.D.** ........................................... 237
Chair, Department of Anesthesiology
University of Utah
Salt Lake City, Utah

Lecture Objectives:
1) Present a basic TEE examination that will allow the occasional cardiac anesthesiologist to use TEE effectively during cardiac surgery, and 2) Review the published evidence on the impact of TEE in improving the management and outcome of patients undergoing cardiac surgery.

New Developments in Thoracic Anesthesia
Edmond Cohen, M.D.* ........................................... 326
Professor of Anesthesiology
Director of Thoracic Anesthesia
Department of Anesthesiology
The Mount Sinai Medical Center
New York, New York

Lecture Objectives:
1) Review the indications and methods of lung separation including the patient with a difficult airway; 2) Discuss the Intraoperative management of hypoxemia during one-lung ventilation; 3) Address the current status of lung volume reduction, pulmonary valves placement and thoracoscopy; 4) Review the present and future of modulating the pulmonary circulation.

Myocardial Ischemia and Postoperative Monitoring
John E. Ellis, M.D.* ........................................... 330
Chicago, Illinois

Lecture Objectives:
1) Understand the implications of new AHA/ACC guidelines on perioperative care of patients with known or suspected coronary artery disease; 2) Manage patients receiving beta blockers, statins, and antiplatelet drugs; 3) Diagnose and risk-stratify patients with myocardial ischemia and/or infarction.

Preoperative Assessment of the Patient With Cardiac Disease
Lee A. Fleisher, M.D.** ........................................... 426
Professor and Chair of Anesthesiology and Critical Care
University of Pennsylvania
Philadelphia, Pennsylvania

Lecture Objectives:
1) Understand the current guidelines on the preoperative evaluation and preparation of the patient with cardiac disease undergoing noncardiac surgery.
Update on Cardiac Anesthesia

Glenn P. Gravlee, M.D. .............................. 218
Professor and Director of Education in Anesthesia
University of Colorado
Denver, Colorado

Lecture Objectives:
1) Understand new surgical trends for congestive heart failure and anesthetic implications; 2) Understand new trends in coagulation therapy in cardiac surgery.

Cardiovascular Pharmacology

Roberta L. Hines, M.D. .............................. 214
Nicholas M. Greene  Professor and Chair of Anesthesiology
Yale University School of Medicine
New Haven, Connecticut

Lecture Objectives:
1) Be able to describe the pharmacology and application of treatment for vasodilatory shock. The role of atrial natriuretic peptide will be discussed in the management of congestive heart failure. 2) Be able to diagnose pulmonary hypertension and identify its impact on right ventricular performance. Emphasis will be placed on the use of inhaled vasodilators in the treatment of RV failure and pulmonary hypertension.

Cerebral Protection During Cardiac Surgery

Charles W. Hogue, M.D. .............................. 226
Associate Professor of Anesthesiology and Critical Care Medicine
Johns Hopkins Medical Institutions
The Johns Hopkins Hospital
Baltimore, Maryland

Lecture Objectives:
1) To have an understanding of the spectrum of manifestations of cerebral injury after cardiac surgery, the proposed mechanisms for this disorder, and an evidence-based approach for reducing its frequency.

Anesthesia for Valvular Heart Disease

William E. Johnston, M.D. .............................. 505
Professor and Associate Chair
Vice Chair of Academic Affairs
Scott and White Hospital
Temple, Texas

Lecture Objectives:
1) Review the pathophysiology of valvular heart lesions including mitral stenosis and regurgitation; aortic stenosis and regurgitation; hypertrophic cardiomyopathy; 2) Discuss anesthetic management of patients with valvular heart disease presenting for noncardiac surgery; 3) Discuss management of perioperative hypotension and low cardiac output in the patient with valvular heart disease.
Anesthesia for Patients With Valvular Heart Disease for Non-Cardiac Surgery

*Steven N. Konstadt, M.D.*
Professor and Chair
Dept of Anesthesiology
Maimonides Medical Center
Brooklyn, New York

Lecture Objectives:
1) Use case studies to describe an approach to the patient with valvular heart disease who is undergoing non-cardiac surgery. By the end of this talk the participant will be able to understand the pathophysiology of the lesion, perform an appropriate pre-operative evaluation, and formulate the anesthetic goals and therapeutic options.

Abdominal Aortic Aneurysm Repair and Endovascular Stenting

*David A. Lubarsky, M.D., M.B.A.*
Emmanuel A. Papper Professor and Chair
Department of Anesthesiology
University of Miami Miller School of Medicine
Senior Associate Dean for Quality, Safety, and Risk Prevention
Asst Vice President for Medical Administration
University of Miami Health System

Lecture Objectives:
1) Understand the physiology of AAA surgery; 2) Appreciate latest data on beta blocker use and other pharmacologic protection strategies for AAA patients, 3) Understand Comparison of Endovascular to Open Repair

Central Venous Pressure and Pulmonary Artery Pressure Monitoring

*Jonathan B. Mark, M.D.*
Duke University Medical Center
Veterans Affairs Medical Center
Durham, North Carolina

Lecture Objectives:
1) Recognize the complications of central venous and pulmonary artery catheterization and adopt procedures that will reduce the risk of these adverse events; 2) Understand the technical considerations and physical principles that allow accurate measurement of intravascular pressures; 3) Understand the physiologic basis for central venous and pulmonary artery catheter waveforms and recognize how these are altered in patients with cardiopulmonary diseases; 4) Review current evidence for pulmonary artery catheterization and its influence on patient outcome.

Management of the Patient With Pulmonary Hypertension and Right Ventricular Failure

*George F. Rich, M.D.*
Professor and Chair
Department of Anesthesiology
University of Virginia
Charlottesville, Virginia

Lecture Objectives:
1) Understand the differences between the pulmonary circulation/right ventricle and the systemic circulation/left ventricle, 2) Identify factors that alter pulmonary vascular resistance, 3) Discuss the diagnosis and treatment of pulmonary hypertension, 4) Discuss the evaluation of treatment of right ventricular failure.
Regional Versus General Anesthesia for Vascular Surgery Patients

Peter Rock, M.D., M.B.A.** ........................................ 418

Martin Helrich Professor
Chair, Department of Anesthesiology
University of Maryland School of Medicine
Baltimore, Maryland

Lecture Objectives:
1) Understand the effects of regional and general anesthesia on the perioperative stress response; 2) Discuss advantages and disadvantages of regional and general anesthesia in vascular surgery patients; 3) Review the literature relevant to the effect of the type of anesthesia on perioperative outcomes.

Perioperative Pacemaker and Defibrillator Management: Why the Controversy?

Marc A. Rozner, Ph.D., M.D.** ................................. 240

Professor of Anesthesiology and Pain Medicine
Professor of Cardiology
University of Texas MD Anderson Cancer Center
Houston, Texas

Lecture Objectives:
1) Understand the operation of an implantable cardiac pulse generator; 2) Learn to distinguish a pacemaker from an ICD; 3) Examine xray codes to identify the manufacturer of a cardiac generator; 4) Discuss the care of a patient with an implanted cardiac pulse generator; 5) Discuss issues relating to manufacturer alerts and recalls for implanted cardiac generators and leads.

Utility of TEE in Valvular Heart Surgery

Robert M. Savage, M.D.** .................................. 423

Cleveland Clinic Health System
Head, Section of Perioperative Echocardiography
Department of Cardiothoracic Anesthesia
Cleveland, Ohio

Lecture Objectives:
1) Trends in population and valvular heart disease influencing the future; 2) New developments likely to influence management of patients; 3) The comprehensive and integrated management of valve surgery patients; 4) Critical issues in the intraoperative management of valve surgery patients; 5) Organization of the TEE exam in valve surgery.

Utility of TEE in Non-Cardiac Surgery

Stanton K. Shernan, M.D.* ................................. 317

Director of Cardiac Anesthesia
Associate Professor of Anesthesia
Brigham and Women's Hospital
Harvard Medical School
Boston, Massachusetts

Lecture Objectives:
1) Understand how perioperative transesophageal echocardiography can be used as a monitor of cardiac performance and a diagnostic tool in patients undergoing non-cardiac surgical procedures.
Hematologic Concerns in Cardiac Surgery

Linda J. Shore-Lesserson, M.D.** .......................... 127

Associate Professor
Albert Einstein
College of Medicine
Chief, Cardiovascular Anesthesiology
Bronx, New York

Lecture Objectives:
1) Review the hematologic disturbances that surround cardio-vascular surgery and cardiopulmonary bypass;
2) Discuss the use of antifibrinolytic therapy in cardiac surgery;
3) Review the impact of anti-platelet therapy on the practice of cardiac surgery.

Critical Care Medicine

Medications That Affect the Central Nervous System: Effects, Interactions, and Complications

Daniel H. Burkhardt, M.D.** .......................... 419

Medical Director of Inpatient Pain Services
Associate Clinical Professor
Division of Critical Care Medicine
Department of Anesthesia and Perioperative Care
University of California San Francisco
San Francisco, California

Lecture Objectives:
1) Review the growing list of medications whose primary target is the central nervous system; 2) Discuss the perioperative implications of these medications, including their medication interactions and important side effects; 3) To review Neuroleptic Malignant Syndrome and Serotonin Syndrome.

What Every Anesthesiologist Should Know About Sepsis - and Why

Clifford S. Deutschman, M.D.** .......................... 415

Professor of Anesthesiology and Critical Care
Director, Stavropoulos Sepsis Research Program
University of Pennsylvania School of Medicine
Philadelphia, Pennsylvania

Lecture Objectives:
1) Review the physiology of sepsis; 2) Highlight the commonalities between sepsis-induced changes in organ and cell function and those induced by anesthesia; 3) Review strategies for the support of septic patients as they apply to the perioperative period.

Integrating Evidence-based Medicine Into Perioperative Care

Brenda G. Fahy, M.D.** .......................... 313

Professor of Anesthesiology
Director, Division of Critical Care Medicine
University of Kentucky College of Medicine
Lexington, Kentucky

Lecture Objectives:
1) Discuss the principles of evidence-based medicine with emphasis on perioperative care; 2) Review those areas of perioperative medicine where evidence based approaches aid in making decisions; 3) Provide examples of improved outcomes associated with the application of evidence based medicine to the perioperative setting.
Mechanical Ventilatory Support: What Every Anesthesiologist Should Know
Michael A. Gropper, M.D., Ph.D.** .......................... 131
Professor and Vice Chair
Department of Anesthesia and Perioperative Care
Director, Critical Care Medicine
University of California San Francisco
San Francisco, California

Lecture Objectives:
1) Review the mechanisms of ventilator associated lung injury;
2) Review strategies for ventilating patients in the ICU and OR;
3) Review the indications for the different modes of mechanical ventilation, and discuss application in the perioperative setting;
4) Understand the limitations of OR ventilators.

Pulmonary Hypertension: Physiology and Intraoperative Management
Brian P. Kavanagh, M.B.** ................................. 315
Chair, Department of Anesthesia
University of Toronto
Professor of Anesthesia, Medicine,
and Physiology
Dr. Geoffrey Barker Chair in
Critical Care Medicine
The Hospital for Sick Children
Toronto, Ontario Canada

Lecture Objectives:
1) Review the common causes of pulmonary hypertension;
2) Describe the pathophysiology of pulmonary hypertension; 3) Discuss anesthetic strategies in these patients.

Perioperative Gas Exchange and Acid Base Management
Mark T. Keegan, M.D.** ............................... 411
Consultant, Division of Critical Care
Department of Anesthesiology
Mayo Clinic
Associate Professor of Anesthesiology
Mayo Clinic College of Medicine
Rochester, Minnesota

Lecture Objectives:
1) Review the changes in lung mechanics and gas exchange during general anesthesia and in the immediate post-operative period; 2) Discuss the management of patients who are difficult to oxygenate or ventilate in the operating room;
3) Discuss the evaluation and management of acid base abnormalities as they pertain to anesthesia.

Complex Coagulation Abnormalities
Patricia M. Murphy, M.D., F.R.C.P.C.** .................. 125
Clinical Director, Cardiac Anesthesiology
Toronto General Hospital
University Health Network
Associate Professor of Anesthesiology
University of Toronto
Toronto, Ontario, Canada

Lecture Objectives:
1) Review the growing list of complex coagulation abnormalities and their mechanisms; 2) Discuss and review an algorithm for the management of coagulopathy and hemorrhage following major surgery; 3) Discuss the appropriate use of a variety of agents used to modulate coagulation.
Lecture Objectives:
1) Review the physiology of the circulation and shock as it applies to clinical medicine; 2) Discuss the systematic assessment of patient with an unstable circulation; 3) Discuss utilization of information from clinical monitors in the management of patients with an unstable circulation.

Cardiocerebral Resuscitation and ACLS in the Perioperative Period

Lecture Objectives:
1) Discuss new innovations in cardiopulmonary resuscitation; 2) Describe cardiocerebral resuscitation; 3) Discuss adaptations of ACLS to the perioperative setting.

Basic Science Review: Respiratory Physiology and Gas Exchange

Lecture Objectives:
1) Review the physiology of normal and abnormal gas exchange in the lungs; 2) Review respiratory mechanics as they pertain to anesthesia and advanced modes of mechanical ventilation.

Perioperative Care of the Patient With Renal Dysfunction: You Can Make a Difference

Lecture Objectives:
1) Review the implications of renal dysfunction and renal failure on outcome; 2) Describe the perioperative renal physiologic response to anesthesia and surgery; 3) Discuss the pathogenesis of perioperative acute renal failure and dysfunction; 4) Review the evidence for perioperative renal protection strategies.
Brain Injury: What Do I Need to Know?

Michael J. Souter, MB., Ch.B.* ................................................. 216
Associate Professor
Department of Anesthesiology and Neurosurgery
University of Washington
Medical Co-Director, Neurocritical Care Service
Harborview Medical Center
Seattle, Washington

Lecture Objectives:
1) Review the mechanisms of brain injury; 2) Discuss the implications of brain injury on perioperative management;
3) Discuss strategies for the management of brain injured patients in the perioperative period.

Transfusion Therapy: Optimal Use of Blood Products

Stephen D. Surgenor, M.D.* ....................................................... 239
Associate Professor of Anesthesiology
Dartmouth Hitchcock Medical Center
Lebanon, New Hampshire

Lecture Objectives:
1) Review the most recent indications for the transfusion of blood products, including red cells, FFP, and platelets;
2) Review the effects of storage on these products, and their appropriate storage and timely use in the perioperative period;
3) Review the complications of blood product transfusion.

Risk, Uncertainty, and Medical Decision Making: How Can We Make Better Decisions?

Avery Tung, M.D.* ................................................................. 507
Associate Professor
Medical Director, Burn Unit
Chief, Quality Committee for Anesthesia
Department of Anesthesia and Critical Care
The University of Chicago
Chicago, Illinois

Lecture Objectives:
1) Review characteristics of human decision making under conditions of irreducible risk and uncertainty; 2) Examine how such characteristics affect decision making in medicine;
3) Explore strategies for using evidence and experience to make better decisions.

The Latest in ICU Technology: Can it Help Me in the Operating Room?

Michael H. Wall, M.D.* .......................................................... 225
Clinical Chief of Anesthesiology
Associate Professor of Anesthesiology
and Cardiothoracic Surgery
Washington University
St. Louis, Missouri

Lecture Objectives:
1) Review newer technology in the ICU, including lithium dilution cardiac output, esophageal doppler, and other new technologies; 2) Review the literature which documents the use of these devices, and to discuss their appropriate incorporation into perioperative medicine; 3) Discuss the future use of such devices, and how their use will change the practice of anesthesia.
Basic Science Review: Modulating Cell Death - The Future of Anesthesia and Critical Care?

Yoram G. Weiss, M.D.** ......................................................... 228
Senior Lecturer in Anesthesia and Critical Care Medicine
Hadassah Hebrew University Medical School,
Jerusalem, Israel
Adjunct Assistant Professor in Anesthesia and Critical Care Medicine
University of Pennsylvania Medical School
Philadelphia, Pennsyl

Lecture Objectives:
1) Understand the importance of cell death pathways in health and disease; 2) Examples demonstrating the importance of modulating these pathways in the lung and liver following inflammation will be discussed.

Fundamentals of Anesthesia

The Potential Hazards of Perioperative Herb and Dietary Supplement Use

Jessica A. Alexander, M.D.* .................................................. 332
Clinical Professor
University of Texas Health Science Center at San Antonio
San Antonio, Texas

Lecture Objectives:
1) The most recent data will be made available regarding which herbs and non-herbal dietary supplements (nutraceuticals) were most commonly used in the last year;
2) The participant will have an understanding of the potential interactions between nutraceuticals AND anesthetic agents, pain medications, other prescription and/or OTC medications, as well as other nutraceuticals that a patient may be using; nutraceuticals will be cross-referenced by their potential for untoward effects in the perioperative milieu; 3) The various forms in which nutraceuticals may be used, (e.g. teas, tinctures) will be discussed; 4) Understanding of the various regulatory mandates associated with this class of medicinals.

PONV: Current Thinking and New Directions

Christian C. Apfel, M.D. ....................................................... 427
Perioperative Clinical Research Core
Department of Anesthesia
Associate Professor
Univ of California at San Francisco
San Francisco, California

Lecture Objectives:
1) Understand the limitations and difficulties of risk factors for PONV; 2) Be able to assess patient risk for PONV by using a simplified risk score based on a few independent predictors;
3) Understand the differences between efficacy and effectiveness; 4) Appreciate that the effectiveness of prophylactic antiemetics is critically dependent on the patient's baseline risk;
5) Be aware that efficacy of most antiemetics is limited, and 6) Be able to apply a risk-dependent approach for a rational management for PONV.
PACU Emergencies

Maged Y. Argalious, M.D.**................................. 417
Assistant Professor of Anesthesiology
Cleveland Clinic Lerner College of Medicine
Staff, Department of General Anesthesiology
Cleveland Clinic
Cleveland, Ohio

Lecture Objectives:
1) Identify management strategies for various PACU emergencies (airway, cardiovascular and neurologic);
2) Develop precautionary measures to reduce their occurrence.

The ASA OSA Guideline

Jonathan L. Benumof, M.D.**............................  137
Professor of Anesthesiology
University of California
San Diego, California

Lecture Objectives:
1) Review the pathophysiology, diagnosis and treatment of obstructive sleep apnea (OSA); 2) Present the specifics of a new ASA Guideline on the Management of OSA.

Perioperative Management of the Diabetic Patient

Daniel R. Brown, M.D., Ph.D.**............................  119
Chair, Division of Critical Care Medicine
Department of Anesthesiology
Mayo Clinic
Rochester, Minnesota

Lecture Objectives:
1) Define diabetes mellitus and review associated end-organ pathology; 2) Discuss anesthetic implications of diabetes and management of acute glycemic complications; 3) Review the available literature addressing inpatient glycemic control and patient outcomes.

Trauma Anesthesia

Richard P. Dutton, M.D., M.B.A.*..........................  142
Associate Professor of Anesthesiology
University of Maryland School of Medicine
Director of Trauma Anesthesiology
R Adams Cowley Shock Trauma Center
University of Maryland Medical System
Baltimore, Maryland

Lecture Objectives:
1) Understand the key components of trauma anesthesiology: airway management, resuscitation from hemorrhagic shock, and management of traumatic brain injury.

Perioperative Considerations for the Morbidly Obese

Thomas J. Ebert, M.D...........................  333
Medical College of Wisconsin
Professor of Anesthesiology
Vice Chair for Education
Residency Program Director
Milwaukee, Wisconsin

Lecture Objectives:
1) Understand the preoperative care of the MO patient with multiple co-morbidities, the role of OSA in altering the perioperative management plans, and preparation for and success in airway management; 2) Understand the impact of patient positioning on lung mechanics, successful preoxygenation, and intubation; 3) An improved understanding of the use of anesthetic drugs in the intraoperative period and post operative period.
Advances in Intravenous Anesthesia
Talmage D. Egan, M.D.*........................................301
Professor of Anesthesiology
K.C. Wong Endowed Chair Professorship
Department of Anesthesiology
University of Utah
Salt Lake City, Utah

Lecture Objectives:
1) Understand how new concepts, drugs and technology are changing the practice of intravenous anesthesia and making total intravenous anesthesia a popular alternative for the provision of general anesthesia.

How Do Inhaled Anesthetics Work?
Edmond I. Eger, M.D.*........................................227
Professor
Department of Anesthesia and Perioperative Care
University of California
San Francisco, California

Lecture Objectives:
1) Distinguish among various plausible theories of how inhaled anesthetics act, including the notion that they create immobility by affecting this or that receptor, by dissolving in some lipid like phase, or by affecting an interface between polar and non-polar phases.

Hazards of the Anesthesia Workstation
James B. Eisenkraft, M.D.**.................................. 212
Professor of Anesthesiology
Mount Sinai School of Medicine
New York, New York

Lecture Objectives:
1) Review critical incidents and adverse outcomes that have been associated with the use of anesthesia workstations;
2) Discuss safety features of the newer workstations; review initiatives designed to decrease problems associated with use of anesthesia gas delivery systems.

Endocrine Emergencies
William R. Furman, M.D.**.................................141
Professor, Department of Anesthesiology
University of North Carolina School of Medicine
Chapel Hill, North Carolina

Lecture Objectives:
1) Understand the pathophysiology and treatment of patients with emergency conditions due to pheochromocytoma, hyperthyroidism, pituitary hemorrhage, and adrenal insufficiency.

Less Jolts From Your Volts: Electrical Safety in the Operating Room
Jeffrey B. Gross, M.D.**................................. 104
Professor and Chair
Department of Anesthesiology
University of Connecticut School of Medicine
Farmington, Connecticut

Lecture Objectives:
1) Understand basic electrical theory including units of measurement and basic formulas; 2) Be able to discuss basic principles of electrical power transmission and distribution;
3) Be familiar with methods for protecting patients from macro- and microshock hazards; 4) Appreciate the principles of electrocautery operation.
Current Concepts in the Management of the Difficult Airway

Carin A. Hagberg, M.D.** ............................................ 222

Professor and Interim Chair
Department of Anesthesiology
The University of Texas Medical School at Houston
Houston, Texas

Lecture Objectives:
1) Discuss the clinical applications and describe the basic operation of new airway devices;
2) Recognize the use of these devices in management of the difficult airway;
3) Apply both nonsurgical and surgical airway devices in the emergent setting with particular focus on the difficult or failed airway, emphasizing rescue strategies.

Strategies for Success in One-Lung Anesthesia

Jerome M. Klafta, M.D.** ............................................ 309

Professor and Vice-Chair for Education and Academic Affairs
Department of Anesthesia and Critical Care
University of Chicago
Chicago, Illinois

Lecture Objectives:
1) Explain common and uncommon causes of lung separation failure and present strategies for success;
2) Review evidence-based recommendations for management of one-lung ventilation;
3) Discuss approaches to lung separation in patients with difficult airways.

Drug Interactions for the Anesthesiologist

P. A. Klock, M.D.** ............................................ 308

Vice Chair for Clinical Affairs
Professor of Anesthesia and Critical Care
University of Chicago
Chicago, Illinois

Lecture Objectives:
1) Review the mechanisms leading to drug interactions;
2) Review common and important interactions between anesthetic agents and traditional or herbal medications that may be encountered in the perioperative period;
3) Discuss electronic and print resources that support clinical care with respect to drug interactions.

Hemodynamic Monitoring From CVP to Pulse Contour Analysis

Andrew B. Leibowitz, M.D.** ............................................ 103

Executive Vice-Chair of Anesthesiology
Co-Director of the Surgical Intensive Care Unit
Associate Professor of Anesthesiology and Surgery
Mount Sinai School of Medicine
The Mount Sinai Medical Center
New York, New York

Lecture Objectives:
1) Understand the indications and limitation of a range of hemodynamic monitors including central venous pressure, pulmonary artery catheter, echocardiography, pulse pressure variation and pulse contour analysis.
Anaphylaxis and Adverse Drug Reactions

Jerrold H. Levy, M.D.* ........................................ 425
Professor and Deputy Chair for Research
Emory University School of Medicine
Director of Cardiothoracic Anesthesiology
Cardiothoracic Anesthesiology and Critical Care
Emory Healthcare
Atlanta, Georgia

Lecture Objectives:
1) Review the different life threatening allergic and adverse drug reactions a clinician may encounter; 2) Understand different mechanisms of anaphylaxis and discuss agents most often responsible for reactions including drugs, blood products, and environmental agents including latex; 3) Discuss therapeutic approaches to the treatment and prevention of anaphylactic reactions

Neuromuscular Transmission: New Developments That May Change Your Practice

Cynthia A. Lien, M.D.** ................................. 138
Professor of Anesthesiology
Weill Cornell Medical College
New York Presbyterian Hospital
New York, New York

Lecture Objectives:
1) Review new findings on the anatomy of the neuromuscular junction and the physiology of neuromuscular transmission; 2) To examine the impact of these findings on our understanding of neuromuscular blockade; 3) Discuss the pharmacology of new neuromuscular blocking and reversal agents

Update on Transfusion Medicine

Ronald D. Miller, M.D.*** .............................. 231
Professor and Chair
Department of Anesthesia and Perioperative Care
University of California
San Francisco, California

Lecture Objectives:
1) Participants will current with their knowledge about complications, infectious risk, indications and the future of blood transfusions; 2) Emphasis will be placed on blood components, especially platelet concentrates and fresh frozen plasma; 3) The causes and frequency of transfusion caused deaths will be updated.

Pathophysiology of Cerebral Ischemia

Piyush M. Patel, M.D.** ................................. 316
Professor of Anesthesiology
University of California, San Diego
Attending Anesthesiologist
VA Medical Center;
San Diego, California

Lecture Objectives:
1) Develop an understanding of the vulnerability of the brain to ischemia, the mechanisms that lead to neuronal injury, the contribution of inflammation to outcome after ischemia and the physiologic parameters that impact neurologic outcome.
Perioperative Management of Patients With Pulmonary Hypertension

Ronald G. Pearl, M.D.** 306
Professor and Chair
Department of Anesthesia
Stanford University
Stanford, California

Lecture Objectives:
1) Understand the etiologies, pathophysiology and pharmacology of pulmonary hypertension, and to use this information to diagnose and manage perioperative complications in patients with pulmonary hypertension.

Approach to the Patient Who May Have a Bleeding Disorder

Charise T. Petrovitch, M.D.** 202
Chief, Anesthesia Section
VA Medical Center
Clinical Professor
George Washington University Hospital
Washington, District of Columbia

Lecture Objectives:
1) Understand the basics of the coagulation mechanism and coagulation testing; 2) The differential for common bleeding disorders will be discussed; 3) Gain an understanding as to how to approach the patient who may have a bleeding disorder in the perioperative period.

Anesthesia for Major Orthopedic Surgery

Andrew D. Rosenberg, M.D.** 130
Chair, Department of Anesthesiology
New York University Hospital for Joint Diseases
Executive Vice-Chair
NYU Department of Anesthesiology
Professor of Anesthesiology and Orthopedic Surgery
NYU School of Medicine
New York, New York

Lecture Objectives:
To gain an understanding of the issues pertaining to patients undergoing major orthopedic surgery including spine surgery with attention to hematologic, positioning, vision loss, and rheumatologic conditions noted in this patient population, concerns in patients undergoing major joint procedures, and current thoughts on regional anesthesia.

Malignant Hyperthermia and MH-Like Syndromes

Henry Rosenberg, M.D.** 203
Professor of Anesthesiology
Mount Sinai School of Medicine
Director of Medical Education
Saint Barnabas Medical Center
Livingston, New Jersey

Lecture Objectives:
1) Recognize and treat common and uncommon presentations of Malignant Hyperthermia; 2) Explain the molecular genetics and pathophysiology of Malignant Hyperthermia; 3) Develop a strategy for diagnostic testing of suspected susceptibles; 4) Find the most recent information concerning malignant hyperthermia.
Awake Intubation Made Easy!
William H. Rosenblatt, M.D.* ........................................... 114
Professor of Anesthesiology
Yale University School of Medicine
New Haven, Connecticut

Lecture Objectives:
1) Follow a rational decision tree approach to choosing awake intubation; 2) Develop a 6 point plan for achieving awake intuba-
tion; 3) Know how topical anesthesia blocks alone can be utilized for awake intubation.

Anesthesia for Radiology Procedures
Corey S. Scher, M.D.** ........................................... 220
Department of Anesthesiology
Mount Sinai School of Medicine
New York, New York

Lecture Objectives:
1) Understand the essentials of providing safe and evidence based anesthetics in a field of medicine, including intervention-
al procedures, that is expanding at a pace faster than any field in medicine; 2) Learn how to meet those new challenges.

Awareness and Memory During Anesthesia
Peter S. Sebel, M.B., B.S., Ph.D., M.B.A.*  ................. 132
Professor and Vice-Chair
Department of Anesthesiology
Emory University School of Medicine
Professor of Psychology (adjunct)
Emory College
Atlanta, Georgia

Lecture Objectives:
1) Distinguish between awareness and implicit memory; 2) Identify the incidence of conscious recall after general anes-
thesia; 3) Summarize important variables that contribute to recall; 4) Recognize the importance of follow-up; 5) Describe preventive measures; 6) Manage treatment of awareness cases when they occur.

How to Evaluate Outcome Research
Daniel I. Sessler, M.D.* ........................................... 416
Professor and Chair
Department of Outcomes Research
The Cleveland Clinic
Cleveland, Ohio

Lecture Objectives:
1) Give participants a basis for understanding and interpreting clinical research, especially major outcome studies. 2) By understanding the strengths and limitations of studies, participants will better be able to apply evidence-based results to their practices.

Inflammatory Response Current Concepts
Edward R. Sherwood, M.D.**  .................... 401
Professor
Department of Anesthesiology
The University of Texas Medical Branch
Galveston, Texas

Lecture Objectives:
1) Review the basic biology of inflammation; 2) Discuss mecha-
nisms of inflammation-induced injury; 3) Discuss the impact of inflammation during the perioperative period and in the intensive care unit; 4) Discuss approaches for the management of perioperative inflammation.
Cognition and Delirium

Jeffrey H. Silverstein, M.D.* ........................................... 503
Professor of Anesthesiology
Vice-Chair for Research
Mount Sinai School of Medicine
New York, New York

Lecture Objectives:
1) After this panel, participants will be delirious and suffer from cognitive dysfunction.

Anesthesia for Liver Transplantation

Randolph H. Steadman, M.D.** ................................. 410
Professor and Vice-Chair of Anesthesiology
Director, UCLA Simulation Center
David Geffen School of Medicine at UCLA
Los Angeles, California

Lecture Objectives:
1) Review the pathophysiology of acute and chronic liver failure; 2) Review the anesthetic management of liver transplantation; 3) Review liver transplantation outcomes.

New Drugs New Delivery Systems

Eugene R. Viscusi, M.D.* ........................................... 106
Director, Acute Pain Management and Regional Anesthesia
Thomas Jefferson University
Associate Professor of Anesthesiology
Philadelphia, Pennsylvania

Lecture Objectives:
1) Understand the incidence of unrelieved postoperative pain and the unmet needs of currently available technologies for acute pain management; 2) Evaluate the potential risks and benefits of recently approved technologies and technologies in development as they will be applied to treat acute pain.

Perioperative Management of Patients With Respiratory Disease

David O. Warner, M.D.** ........................................... 412
Professor of Anesthesiology
Mayo Clinic College of Medicine
Rochester, Minnesota

Lecture Objectives:
1) Will use an understanding of the pathogenesis of respiratory diseases, and how anesthesia and surgery causes postoperative pulmonary complications, to apply the most recent evidence based practices that will improve outcomes in patients with respiratory disease.

Perioperative Positioning Problems: Neuropathies, Blindness and Catastrophic Events

Mark A. Warner, M.D.** ........................................... 221
Professor
Department of Anesthesiology
Mayo Clinic College of Medicine
Rochester, Minnesota

Lecture Objectives:
1) Understand the probable etiologies and typical outcomes of common as well as unusual complications associated with patient positioning problems.
Infection and the Anesthesiologists

Jeanine P. Wiener-Kronish, M.D.** .......................... 432
Henry Isaiah Dorr Professor of Anesthesia
Harvard Medical School
Anesthetist-in-Chief
Massachusetts General Hospital
Boston, Massachusetts

Lecture Objectives:
1) Inform anesthesiologists about infections they can get from patients; 2) Inform anesthesiologists about activities they can do to prevent infections in their patients.

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Neuroanesthesia

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Update on CNS Injury

Adult Head Injury Management: Are the Guidelines Improving Outcome?

Audree A. Bendo, M.D.** – Moderator ..................... 331
Professor of Anesthesiology and Vice Chair for Education
SUNY Downstate Medical Center
Brooklyn, New York

Fluids and Metabolic Management

Donald S. Prough, M.D.**
Chair, Department of Anesthesiology
Rebecca Terry White Distinguished Professor
The University of Texas Medical Branch
Galveston, Texas

Management of the Pediatric Patient

Sulpicio G. Soriano, M.D.**
Associate Professor of Anesthesia
Harvard Medical School
Senior Associate in Anesthesiology, Perioperative and Pain Medicine
Children's Hospital
Boston, Massachusetts

Lecture Objectives:
Anesthesia for Spine Surgery

Anesthetic Considerations

Susan Black, M.D.** – Moderator .......................... 236
Professor and Vice Chair for Education
Department of Anesthesiology
University of Alabama School of Medicine
Birmingham, Alabama

Spinal Cord Monitoring

Marc J. Bloom, M.D.**
Director of Neuroanesthesia Program
Clinical Associate Professor of Anesthesia
New York University School of Medicine
New York, New York

Avoiding Visual Complications

Steven Roth, M.D.*
Associate Professor
Chief of Neuroanesthesia
University of Chicago
Chicago, Illinois

Lecture Objectives:
1) Understand the anesthetic issues unique to complex spine surgery; 2) Understand the role of intraoperative neurologic monitoring in spine surgery; 3) Understand the anesthetic management for optimal intraoperative neurologic monitoring; 4) Understand the current data relative to intraoperative visual complications and their avoidance.

Anesthetic Management of the Patient With Carotid Artery Disease

Daniel J. Cole, M.D.** ................................. 311
Professor of Anesthesiology
College of Medicine, Mayo Clinic
Chair, Department of Anesthesiology
Mayo Clinic Arizona
Phoenix, Arizona

Lecture Objectives:
1) Understand the pathophysiologic principles of carotid artery disease; 2) Identify effective strategies for anesthetic evaluation and perioperative management of carotid artery surgery and its complications; 3) Be able to evaluate different methods of monitoring for cerebral ischemia.

Fragile Brains –The Young and Old

James E. Cottrell, M.D.** .............................. 122
Distinguished Service Professor and Chair
Department of Anesthesiology
SUNY Downstate Medical Center
Brooklyn, New York

Lecture Objectives:
Human neuronal ontogeny, the programmatic peculiarities of apoptosis, and recent laboratory evidence support the long-suspected hypothesis that fetal brains are jeopardized when pregnant women are anesthetized. At the other end of the age spectrum, decades of clinical evidence indicates that the elderly are at particular risk of post-operative cognitive dysfunction (POCD), but we have only recently begun to understand the relationship between anesthetics, sticky proteins and Alzheimer’s disease. This RCL will focus on the special risks that anesthesia presents to patients with fragile brains and consider precautions that might lower those risks.
Perioperative Cognitive Morbidity in Elders: Do Surgery and General Anesthesia Harm the Brain?

Gregory J. Crosby, M.D.*
Associate Professor
Harvard Medical School
Brigham and Women's Hospital
Boston, Massachusetts

Lecture Objectives:
1) Understand that cognitive morbidity is common after surgery and general anesthesia in elders; 2) Understand why the aged brain is vulnerable; 3) Know how surgery and general anesthesia may harm the brain; 4) Be able to discuss ways to improve cognitive outcomes after surgery in elders.

Misunderstandings in Neuroanesthesia: How May I Hurt Thee, Let Me Count the Ways

John C. Drummond, M.D., F.R.C.P.C.*
Professor of Anesthesiology
University of California, San Diego
Staff Anesthesiologist, VA Medical Center
San Diego, California

Lecture Objectives:
1) To have an awareness of elements of physiology and pharmacology relevant to neuroanesthesia that are commonly misunderstood and that have the potential to have adverse effects on patients undergoing neurosurgery.

Update on Anesthetic Techniques for Neuroanesthesia – TIVA Versus Volatile Anesthetics

Adrian W. Gelb, M.D.*
Professor of Anesthesia and Perioperative Care
University of California San Francisco
San Francisco, California

Lecture Objectives:
1) Learn about current advantages and disadvantages of inhaled and intravenous anesthetics when used for neurosurgery 2) Understand the issues that determine the best drug choice.

Cerebral Protection by Hypothermia and Anesthetics: New Insights Into Mechanisms and Applications

William L. Lanier, M.D.*
Professor of Anesthesiology
Mayo Clinic
Rochester, Minnesota

Lecture Objectives:
1) Gain a better appreciation of the historical and current use of induced hypothermia to protect the brain from ischemic and other forms of injury; 2) Review the mechanisms responsible for cerebral protection and the systemic consequences of induced hypothermia; 3) Results from the most recent clinical trials will be reviewed so that clinicians can better determine when induced hypothermia is, or is not, appropriate for management of patients at risk for ongoing or new-onset brain injury.
Cervical Spine Motion, Cervical Spine Surgery and the Unstable Neck

Michael M. Todd, M.D.** ........................................... 506
Professor and Head, Department of Anesthesia
University of Iowa Carver College of Medicine
Iowa City, Iowa

Lecture Objectives:
1) Individuals will have a greater understanding of cervical spine anatomy and motion and be able to apply that understanding to improve their decision-making and care of patients with abnormalities of the cervical spine, particularly patients with spinal instability.

Anesthesia for Functional Neurosurgery

Barbara M. Van de Wiele, M.D.** ............................ 211
Clinical Professor of Anesthesiology
Vice-Chair for Clinical Affairs
Director Neuroanesthesia
Department of Anesthesiology
David Geffen School of Medicine
University of California Los Angeles
Los Angeles, California

Lecture Objectives:
1) Review indications for and modalities used for perioperative functional brain mapping; 2) Understand how functional brain mapping influences choice of anesthetic technique; 3) Learn about key issues for preoperative preparation, anesthesia management strategies, and optimizing safety and satisfaction of patients undergoing intraoperative functional brain mapping.

Obstetric Anesthesia

Neonatal Resuscitation

Valerie A. Arkoosh, M.D., M.P.H.** ......................... 321
Professor of Clinical Anesthesiology and Critical Care
Professor of Clinical Obstetrics and Gynecology
University of Pennsylvania School of Medicine
Philadelphia, Pennsylvania

Lecture Objectives:
1) Be able to predict which fetuses are likely to require resuscitation; 2) Describe the physiologic transition from fetal to neonatal physiology; 3) List the steps in neonatal resuscitation; 4) Learn about recent changes in the resuscitation algorithm.

Advances in Obstetric Anesthesia

David J. Birnbach, M.D.** ................................. 116
Professor and Vice Provost
University of Miami
Miami, Florida

Lecture Objectives:
1) Review new advances in the field of obstetric anesthesiology.
Problems in Obstetric Anesthesia: Blood Pressure, Blood Loss, and Blood Patch

David H. Chestnut, M.D.** ........................................... 232

Director of Medical Education
Gundersen Lutheran Health System
Professor of Anesthesiology
Associate Dean for the Western Academic Campus
University of Wisconsin School of Medicine
and Public Health
La Crosse, Wisconsin

Lecture Objectives:
Review common problems in obstetric anesthesia, including:
1) Prevention and treatment of hypotension during regional anesthesia for cesarean delivery; 2) Choice and management of regional anesthesia for cesarean delivery in preclamptic women; 3) Management of parturients at risk for obstetric hemorrhage, including uterine rupture and placenta previa/accreta; and 4) Treatment of postdural puncture headache, including therapeutic and prophylactic epidural blood patch.

Management of the Parturient With Cardiovascular Disease

Lisa M. Councilman, M.D.** ......................................... 407

Co-Director, Obstetric Anesthesiology
Assistant Professor, Dept. of Anesthesia
Texas A and M Health Science Center
College of Medicine
Temple, Texas

Lecture Objectives:
1) Understand the anesthetic implications of cardiovascular disease in the pregnant patient, including congenital heart disease, ischemic heart disease, and peripartum cardiomyopathy, with emphasis on the challenges presented for the anesthesiologist in the management of these patients for labor analgesia and/or cesarean section.

Post Dural Puncture Headache: How to Keep It the Patient's Headache

Robert R. Gaiser, M.D.** ........................................... 422

Professor of Anesthesiology and Critical Care
Hospital of the University of Pennsylvania
Mount Laurel, New Jersey

Lecture Objectives:
1) Review the pathophysiology of PDPHA; 2) Identify risk factors for PDPHA; 3) Develop a plan for the prevention of PDPHA; 4) Develop a therapeutic plan for the treatment of PDPHA.

Anesthesia for the Pregnant Patient Undergoing Nonobstetric Surgery

Joy L. Hawkins, M.D.** ........................................... 234

Director of Obstetric Anesthesia
Professor of Anesthesiology
University of Colorado School of Medicine
Aurora, Colorado

Lecture Objectives:
1) Review issues related to teratogenicity; 2) Discuss the risks of occupational exposure to anesthetics; 3) Review outcome studies of parturients having surgery; 4) Develop a rational approach to anesthetic management, including special surgical situations.
Epidural Analgesia for Labor-Safety and Success

Barbara L. Leighton, M.D.*
Professor of Anesthesiology
Professor of Obstetrics and Gynecology
Chair, Section of Obstetric Anesthesiology
Department of Anesthesiology
Washington University in Saint Louis
Saint Louis, Missouri

Lecture Objectives:
1) Understand new advances in epidural placement techniques.

Obstetric Emergencies and Anesthetic Management

Craig M. Palmer, M.D.*
Professor of Clinical Anesthesiology
Department of Anesthesiology
University of Arizona Health Sciences Center
Tucson, Arizona

Lecture Objectives:
1) Review the pathophysiology of common obstetric emergencies; 2) Discuss recognition of parturients at risk for complications; 3) Review the recognition of the non-reassuring FHR trace, in-utero-resuscitation, and indications for delivery; 4) Review anesthetic considerations in urgent and emergent situations.

Update on Anesthetic Management of the Preeclamptic Parturient

Alan C. Santos, M.D.*
Chair of Anesthesiology
Ochsner Health System
New Orleans, Louisiana

Lecture Objectives:
1) Have the knowledge specific to preeclampsia in order to prepare, treat and provide anesthesia for preeclamptic parturients.

Coagulopathy and Postpartum Hemorrhage - Implications for Treatment

Barbara M. Scavone, M.D.*
Associate Professor of Anesthesiology
Northwestern University Feinberg School of Medicine
Chicago, Illinois

Lecture Objectives:
1) Gain a greater understanding of the coagulopathy that often accompanies postpartum hemorrhage; 2) Learn of recent recommendations regarding treatment of postpartum hemorrhage and its accompanying coagulopathy; 3) Increase his/her knowledge regarding the proper role of factor VIIa use in postpartum hemorrhage.

Anesthetic Effects on the Fetus and Newborn

B. Scott Segal, M.D.*
Vice Chair for Education
Department of Anesthesiology, Perioperative and Pain Medicine
Brigham and Women's Hospital
Associate Professor of Anaesthesia
Harvard Medical School
Boston, Massachusetts

Lecture Objectives:
1) Understand the possible adverse effects of maternal analgesia and anesthesia on the fetus and newborn.
Anesthesia for Cesarean Delivery

Lawrence C. Tsen, M.D.** ................................. 509
Associate Professor in Anaesthesia
Harvard Medical School
Director of Anesthesia
Center for Reproductive Medicine
Brigham and Women’s Hospital
Boston, Massachusetts

Lecture Objectives:
1) Review the trends affecting the incidence of cesarean delivery;
2) Discuss options that anesthesia providers can use to prevent cesarean delivery;
3) Discuss anesthetic technique failures immediately prior to or during operative deliveries and develop preventative and therapeutic measures;
4) Discuss optimal anesthetic cocktails for intraoperative and postoperative success;
5) Review new developments affecting cesarean delivery.

Anesthetic Management of the Pregnant Patient With Neurologic Disease

David J. Wlody, M.D.** ................................. 324
Professor of Clinical Anesthesiology
Vice-Chair for Clinical Affairs
State University of New York
Downstate Medical Center
Brooklyn, New York

Lecture Objectives:
1) Understand the clinical implications of co-existing neurologic disease in the pregnant patient;
2) Understand how such diseases influence anesthetic management of the parturient.

Pain Medicine

Update to Pharmacological Treatment of Pain

Honorio T. Benzon, M.D.* ................................. 238
Department of Anesthesiology
Northwestern University Feinberg School of Medicine
Chicago, Illinois

Lecture Objectives:
1) To have a better understanding of the rational use of medications including opioids, anticonvulsants, antidepressants, muscle relaxants, and local anesthetics. Evidence-based recommendations will be made on the pharmacological management of neuropathic pain, back pain, myofascial pain, and cancer pain.

Opioids and the Law: Towards Balanced Practice

David L. Caraway, M.D.** ................................. 113
Department of Anesthesiology
Center for Pain Relief, Tri-State
Huntington, West Virginia

Lecture Objectives:
1) To have improved appreciation of the controversies and challenges associated with dispensing of opioid analgesics for the treatment of chronic pain.
Treatment of Cancer Pain
Oscar A. De Leon-Casasola, M.D.** ......................... 107
Chief, Pain Medicine and Professor of Oncology
Roswell Park Cancer Institute
Professor and Vice-Chair of Anesthesiology
University at Buffalo, School of Medicine
Buffalo, New York

Lecture Objectives:
1) Discuss the pharmacological alternatives for the treatment of cancer related pain, the pitfalls in implementing pharmacological therapy, the indications, contraindications and limitations of spinal cord stimulation and peripheral nerve stimulation in cancer related pain, and the indications, alternative methods for a trial, and polyanalgesics options for intrathecal therapy in patients with cancer related pain.

Spinal Cord, Peripheral Nerve, and Peripheral Nerve Field Stimulation for the Treatment of Pain
Timothy R. Deer, M.D.* ................................. 208
President and CEO
The Center for Pain Relief
Clinical Professor
West Virginia University School of Medicine
Charleston, West Virginia

Lecture Objectives:
1) Understand the proper use and indications of spinal cord, peripheral nerve and novel applications of stimulating the nervous system.

Pain: Mechanism and Activity at the Spinal Cord
James C. Eisenach, M.D.* ......................... 123
Wake Forest University School of Medicine
Professor of Anesthesiology
Winston-Salem, North Carolina

Lecture Objectives:
1) Understand the central role of the spinal cord in pain transmission and how this explains the different approaches to pain treatment used in different settings.

Diagnosis and Management of Myofascial Pain
F. Michael Ferrante, M.D.* ......................... 302
Director, UCLA Pain Management Center
Professor of Anesthesiology and Medicine
David Geffen School of Medicine at UCLA
Los Angeles, California

Lecture Objectives:
1) Understand the role of history and physical diagnosis underlying the treatment of myofascial pain along with the potential role of neurotoxins as therapeutic agents.

Novel Uses of Image-Guidance in Pain Medicine
Marc A. Huntton, M.D.** ......................... 424
Associate Professor
Consultant in Anesthesiology and Pain Medicine
Mayo Clinic
Rochester, Minnesota

Lecture Objectives:
1) Understand the uses and limitations of image guidance for interventional pain procedures with fluoroscopic techniques, combined CT/Fluoroscopy and combined fluoroscopy and ultrasound guidance.
Complex Regional Pain Syndrome: Diagnosis and Management

Timothy R. Lube now, M.D.* ........................................ 112
Director, Section of Pain Medicine
Department of Anesthesiology
Professor of Anesthesiology
Rush University Medical Center
Chicago, Illinois

Lecture Objectives:
1) Understand the pathophysiology of CRPS; 2) Be able to articulate treatment options for this condition; 3) Be able to describe the indications for spinal cord stimulation in this patient population.

Evaluating Outcomes in Pain Medicine

Sean C. Mackey, M.D., Ph.D.* ......................... 118
Director, Division of Pain Management
Associate Professor
Stanford University
Stanford, California

Lecture Objectives:
1) Understand the importance and role of evaluating outcomes in pain medicine; 2) Understand the variety of different instruments available for the pain clinician and researcher to assess pain outcomes.

An Overview of CT and MRI for the Pain Physician

David P. Martin, M.D., Ph.D.** ......................... 319
Associate Professor of Anesthesiology
Department of Anesthesiology
Mayo Clinic
Rochester, Minnesota

Lecture Objectives:
1) Understand how to interpret CT and MRI imaging;
2) Explain relative advantages and disadvantages of each technique; 3) Recommend which technique is most appropriate for a variety of pain problems.

Minimally Invasive Techniques for Treating Discogenic Pain

Nagy A. Mekhail, M.D.* ........................................ 322
Chair, Department of Pain Management
Cleveland Clinic
Cleveland, Ohio

Lecture Objectives:
1) Understand the differences between acute and chronic pain and between neuropathic and nociceptive pain; 2) Realize the basis, effectiveness of neurostimulation for chronic pain; 3) Recognize the diagnostic criteria and treatment options for degenerative disc disease.

Payment and Regulation in Pain Medicine

Douglas G. Merrill, M.D.** .......................... 206
Medical Director, Ambulatory Surgery
Professor, Anesthesiology
The University of Iowa
Iowa City, Iowa

Lecture Objectives:
1) Learn about the federal, state and payer regulation of the economics and clinical practice of pain medicine, ever-changing and immutable.
Complications in Pain Medicine

James P. Rathmell, M.D.*

Director, MGH Center for Pain Medicine
Department of Anesthesia and Critical Care
Massachusetts General Hospital
Associate Professor of Anesthesia
Harvard Medical School
Boston, Massachusetts

Lecture Objectives:
1) Discuss complications associated with image-guided intervention in pain medicine and incorporate strategies to avoid these complications.

An Algorythmic Approach to Neuropathic Pain

Richard L. Rauk, M.D.*

Clinical Associate Professor of Anesthesiology
Medical Director of Carolina Pain Institute
Wake Forest University Baptist Medical Center
Winston-Salem, North Carolina

Lecture Objectives:
1) Understand the algorythmic approach to neuropathic pain.

Spinal Injections for the Diagnosis and Treatment of Chronic Pain

B. T. Sitzman, M.D., M.P.H.*

Director, Advanced Pain Therapy
Forrest General Cancer Center
Hattiesburg, Mississippi

Lecture Objectives:
1) Understand accepted techniques and indications for common spinal injections utilized in pain medicine for both diagnostic and therapeutic purposes; 2) Appreciate complications associated with spinal injections and identify preventive strategies to minimize their occurrence.

Pediatric Anesthesia

Child With a Difficult Airway: Recognition and Management

Carolyn F. Bannister, M.D.*

Associate Professor of Anesthesiology
Emory University School of Medicine
Atlanta, Georgia

Lecture Objectives:
1) Discuss the evaluation of a child with a potentially difficult airway; 2) List pertinent physical finding that may be found in a child with a potentially difficult airway 3) Discuss pediatric syndromes that may be associated with a difficult airway; 4) Discuss the management of a child with a known difficult airway; 5) Discuss management of a child with an unexpected difficult airway.
The Child With an Injured Brain: Common Errors in Neuroanesthesia

Bruno Bissonnette, M.D.** ........................................... 334
Professor of Anesthesia
Department of Anesthesia
University of Toronto
President and Founder
Children of the World Anesthesia Foundation
Toronto, Ontario, Canada

Lecture Objectives:
1) Review the mechanism and physical forces involved in the development of an injured brain in children; 2) Discuss secondary brain injury and its clinical impact on outcome; 3) Review potential common errors in the management of a child affected with an injured brain; 4) Give recommendations on the neuroanesthesia management.

Anesthetic Management of Adults With Pediatric Diseases

Joseph P. Cravero, M.D.** ........................................... 229
Director of Pediatric Anesthesiology
Professor of Pediatrics and Anesthesiology
Dartmouth Medical School
Lebanon, New Hampshire

Lecture Objectives:
1) Understand the magnitude of the problem involved in providing care for the growing population of adults with pediatric disease; 2) Understand the nature of pediatric care at Children's Hospitals and the expectations for care for that accompany these patients and their families into the adult environment; 3) Come away with an understanding of the primary disease entities that characterize these patients and evolving management strategies.

Pediatric Advanced Cardiac Life Support - 2008 Update

Jayant K. Deshpande, M.D.** ................................. 213
Professor of Anesthesiology and Pediatrics
Anesthesiologist-in-Chief
Monroe Carell Jr Children's Hospital at Vanderbilt
Vanderbilt Medical Center
Nashville, Tennessee

Lecture Objectives:
1) Introduce to the participants the current guidelines for pediatric resuscitation and the evidence that supports the recommendations in these guidelines.
Myths in Pediatric Anesthesia

Zeev N. Kain, M.D.** ........................................... 135
Chair, Department of Anesthesiology
and Perioperative Medicine
Associate Dean for Clinical Research
Professor of Anesthesiology and Psychiatry and Human Behavior
and Pediatrics
University of California Irvine
Irvine, California

Lecture Objectives:
1) Understand the current NPO guidelines for children and adults before surgery; 2) Discuss issues related to aspiration pneumonia as a function of residual gastric volume; 3) Discuss the data that are available at the current time to choose a rationale NPO time before surgery for clear liquids, formula, milk, light meal and solids; 4) Understand the current data available regarding complications associated with a child with cold undergoing anesthesia and surgery; 5) Describe the various risk factors and perioperative morbidity in children with a cold who undergo anesthesia and surgery; 6) Rationalize a decision to cancel or proceed with a case of a child who has a cold before surgery; 7) Understand the limitations of the current data available dealing with postoperative apnea in children; 8) Rationalize the decision whether to provide or cancel an anesthetic to a child with a history of prematurity; 9) Recognize the issue of extreme anxiety before surgery that is associated with children before surgery; 10) Describe the various issues and complexities regarding allowing parents into the operating room during induction of anesthesia.

Sedation/Analgesia for Diagnostic and Therapeutic Procedures in Children Outside the Operating Room

Richard F. Kaplan, M.D.** ........................................... 219
Chief, Division of Anesthesiology and Pain Medicine
Children's National Medical Center
Professor of Anesthesiology and Pediatrics
George Washington University
Washington, District of Columbia

Lecture Objectives:
1) Review Joint Commission, ASA and AAP guidelines for sedation of pediatric patients for diagnostic/therapeutic procedures outside the operating room; 2) Discuss appropriate monitors, equipment, personnel and drugs used by anesthesiologists and nonanesthesiologists for sedation/analgesia; 3) Discuss the appropriate use and training of personnel administering protocol for deep sedation/anesthesia.

Anesthetizing Children: Little People, Big Problems

Jerrold Lerman, M.D., F.R.C.P.C.*, .......................... 310
Clinical Professor of Anesthesia
Women and Children's Hospital of Buffalo
SUNY at Buffalo
Buffalo, New York
Strong Memorial Hospital
University of Rochester
Rochester, New York

Lecture Objectives:
1) Gain an appreciation of the causes of perioperative cardiac arrest in children and preoperative preparation of the child; 2) Tricks to manage the normal and difficult pediatric airway including both facemask and tracheal intubation; 3) Understand the pharmacology of sevoflurane during induction and starting IVs in difficult situations.
Anesthetizing the Pediatric Patient With Coexisting Disease

Linda J. Mason, M.D.*
Professor of Anesthesiology and Pediatrics
Loma Linda University School of Medicine
Loma Linda, California

Lecture Objectives:
1) Review the pathophysiology of pediatric patients with asthma, obstructive sleep apnea and sickle cell disease;
2) Review the current medical management of these disease states; 3) Develop an approach to the anesthetic management for pediatric patients with these coexisting diseases.

Anesthetic Management of a Neonate With a Surgical Emergency

Lynne G. Maxwell, M.D.*
Children's Anesthesiology Association
Children's Hospital of Philadelphia
Philadelphia, Pennsylvania

Lecture Objectives:
1) Review physiologic, pharmacokinetic and pharmacodynamic differences between the newborn and older infant; 2) Identify common perioperative issues that must be addressed when caring for the newborn, including considerations important in preoperative evaluation/preparation; 3) Review the application of these elements in formulating anesthetic management strategies for common newborn surgical emergencies.

Anesthesia for the Patient With Congenital Heart Disease for Noncardiac Surgery

Francis X. McGowan, M.D.*
Professor of Anesthesia
Harvard Medical School
Chief, Division of Cardiac Anesthesia
Children's Hospital
Boston, Massachusetts

Lecture Objectives:
1) Discuss the outcomes of common forms of congenital heart disease; 2) Design effective perioperative assessment and treatment strategies based upon a sound understanding of the underlying pathophysiology.

Anesthetic Management of Common Pediatric Emergencies

Allison Kinder Ross, M.D.*
Chief, Division of Pediatric Anesthesia
Associate Professor of Anesthesiology and Pediatrics
Duke University Medical Center
Durham, North Carolina

Lecture Objectives:
1) Understand the more common pediatric emergencies including preoperative workup, intraoperative management and potential complications.
Practical Pediatric Regional Anesthesia

Santhanam Suresh, M.D.* .................................................. 126
Director of Research
Children’s Memorial Hospital
Associate Professor of Anesthesiology
and Pediatrics
Northwestern University
Feinberg School of Medicine
Chicago, Illinois

Lecture Objectives:
1) Learn variety of techniques for providing regional anesthesia in children including head and neck blocks, upper and lower extremity blocks, truncal blocks as well as central neuraxial blocks; 2) Newer techniques including the use of ultrasonography for performance of these blocks will be highlighted during this lecture.

Pediatric Pain Management

Steven J. Weisman, M.D.** ............................................ 110
Professor of Anesthesiology and Pediatrics
Medical College of Wisconsin
Jane B. Pettit Pain and Palliative Care Center
Children’s Hospital of Wisconsin
Milwaukee, Wisconsin

Lecture Objectives:
1) Discuss barriers to pain management in pediatrics;
2) Discuss challenges of pain assessment in pediatrics;
3) Review pertinent aspects of analgesic pharmacology in infants and children; 4) Highlight common challenges in pediatric analgesia including appropriate use of patient-controlled analgesia.

Professional Issues

PI

Responding to: “You Are Inefficient, Work Faster”

Amr E. Abouleish, M.D., M.B.A.* ..................................... 121
Professor of Anesthesiology
University of Texas Medical Branch
Galveston, Texas

Lecture Objectives:
1) Have a basic understanding on how anesthesia care is billed and paid; 2) Understand how surgical duration effects clinical productivity of anesthesiologists; 3) Understand the difference between turnover time and OR throughput; 4) Understand what determines staffing requirements for anesthesiology departments.

Chemical Dependency in Anesthesiologists

Arnold J. Berry, M.D., M.P.H.** ................................. 215
Professor of Anesthesiology
Emory University School of Medicine
Atlanta, Georgia

Lecture Objectives:
1) Understand the biologic and behavioral basis of the disease of addiction; 2) Understand the prevalence of substance abuse among anesthesiologists; 3) Recognize the signs and symptoms of chemical dependence; 4) Understand the need for treatment for chemical dependence; 5) Understand the issues regarding treated anesthesiologists returning to practice.
What to Do After an Adverse Outcome

Frederic A. Berry, M.D.** .................................................................. 117
Emeritus Professor
Departments of Anesthesiology and Pediatrics
University of Virginia Health Sciences Center
Charlottesville, Virginia

Lecture Objectives:
1) Understand some of the major cases for malpractice cases;
2) Emphasis will be placed on charting, monitoring and communication with the surgical team after an adverse outcome; 3)
Communication with the family will be emphasized.

ASA Closed Claims Project and its Registries:
Value to Patients and Pocketbook

Anesthesia Awareness Registry
Karen B. Domino, M.D., M.P.H.** – Moderator. ............ 433
Professor, Department of Anesthesiology
University of Washington
Seattle, Washington

The ASA Closed Claims Project
Robert A. Caplan, M.D.**
Clinical Professor of Anesthesiology
University of Washington
Staff Anesthesiologist
Virginia Mason Medical Center
Seattle, Washington

Pediatric Cardiac Arrest Registry
Jeffrey P. Morray, M.D.**
Medical Director of Perioperative Services
Phoenix Children’s Hospital
Valley Anesthesiology Consultants, Ltd.
Phoenix, Arizona

Postoperative Visual Loss
Lorri A. Lee, M.D.**
Associate Professor
Department of Anesthesiology and Neurological Surgery
University of Washington
Seattle, Washington

Lecture Objectives:
1) Understand the current areas of liability for anesthesiologists; 2) Understand causes of cardiac arrest in pediatric patients; 3) Understand factors associated with ischemic optic neuropathy in prone spine surgery;
4) Understand patient experiences with anesthesia awareness.

A Fire in the Operating Room! It Could Happen to You.

Jan Ehrenwerth, M.D.** ..................................................... 115
Professor of Anesthesiology
Yale University School of Medicine
New Haven, Connecticut

Lecture Objectives:
1) Become familiar with the risks of fires in the operating room; 2) Know the strategies on how to decrease the risk of an operating room fire; 3) Have a framework of how to care for a patient if a fire should occur; 4) Be familiar with the various types of medical lasers and their implications for the anesthesiologist.
Changing Physician Behavior

Nancy L. Glass, M.D., M.B.A.** ........................................... 204
Professor, Departments of Pediatrics and Anesthesiology
Baylor College of Medicine
Houston, Texas

Lecture Objectives:
1) Understand motivators factors underlying individuals’ professional behaviors, and will understand how to use those motivations to achieve physician compliance and cooperation; 2) Understand that changing the underlying systems will also help mold physician behavior.

Professionalism, Ethics and Law in Anesthesiology and Critical Care

Carl C. Hug, M.D., Ph.D.** ........................................... 325
Professor of Anesthesiologist, Emeritus
Faculty Associate
The Center for Ethics
Emory University School of Medicine
Atlanta, Georgia

Lecture Objectives:
1) Know the characteristics and obligations of a profession; 2) Recognize ethical and legal dilemmas; 3) Understand the development and implementation of the Guidelines for the Ethical Practice of Anesthesiology; 4) Identify resources to assist in the resolution of dilemmas.

Practice Management: Appreciative Inquiry Methodology for Strategic Planning

Colleen G. Koch, M.D.** ........................................... 105
Department of Cardiothoracic Anesthesia and Outcomes Research
Cleveland Clinic
Cleveland, Ohio

Lecture Objectives:
1) Understand the theory and methods used to implement appreciative inquiry as part of departmental strategic planning initiatives.

Staffing and Case Scheduling for Out of the OR Cases

Alex Macario, M.D.** ........................................... 224
Department of Anesthesiology
Stanford University School of Medicine
Stanford, California

Lecture Objectives:
1) Review the definition of OR efficiency and reinforce that case scheduling should aim to reduce overutilized time; 2) Identify challenges of scheduling cases and staff in geographically dispersed locations outside of the surgical suite; 3) Explain that accurately scheduling providers’ time for out of the OR cases is difficult because CPT codes are not predictive of anesthesia times as they are for surgery; 4) Recommend that staffing be planned based on allocating enough open access anesthesia time within a reasonable number of days (e.g., 2 weeks) so that each specialty can accommodate most of its out of the OR cases; 5) Encourage use of enterprise-wide scheduling so that control of scheduling of cases outside the OR is distributed to each out of the OR service.
**Nuts and Bolts of Operating Room Management: Efficiency, Quality and Safety**

Vinod Malhotra, M.D.** ........................................ 303
Professor and Vice Chair for Clinical Affairs
Department of Anesthesiology
Weill Medical College of Cornell University
Clinical Director of the Operating rooms
New York Presbyterian Hospital
Weill Cornell Medical Center
New York, New York

Lecture Objectives:
1) Discuss essentials of effective OR management and anesthesiologists administrative role in this. Systems approach to quality and patient safety while aiming to gain efficiency and fiscal responsibility.

**Awareness During General Anesthesia? Will It Ever Be Safe to Go Back in the Water?**

Beverley A. Orser, M.D., Ph.D.*, ........................................ 502
Professor of Anesthesia and Physiology
University of Toronto
Canada Research Chair in Anesthesia
Toronto, Ontario, Canada

Lecture Objectives:
1) The current theory of the mechanisms of anesthesia will be presented with a focus on the receptors that underlie the memory-blocking properties of anesthetics; 2) Participants will be provided with information that allows them to identify and manage patients at risk for intraoperative awareness.

**Communication and Information Technology: Tools to Improve Patient Care**

Keith J. Ruskin, M.D.**, ........................................ 318
Department of Anesthesia
Yale University School of Medicine
New Haven, Connecticut

Lecture Objectives:
1) Understand how communication tools such as mobile telephones, handheld computers, and voice over IP telephones can be used to improve patient care and to provide rapid access to clinical information at the point of care; 2) Learn about how to implement this technology as part of their practice; 3) Learn about information security.

**The Anesthesia Workforce: Past-Present-Future**

Armin Schubert, M.D., M.B.A.**, ........................................ 508
Chair, Department of General Anesthesiology
Professor, Cleveland Clinic Lerner
College of Medicine
Cleveland, Ohio

Lecture Objectives:
1) Be able to recite the important developments in the anesthesia workforce during the past two decades; 2) Describe the factors shaping our present workforce and analyze the latter to understand better what the future might hold.
Health Law Update for the Anesthesiologist

Christopher Spevak, M.D., M.P.H., J.D.** .......................... 402
Associate Professor of Anesthesiology
Georgetown University Medical Center
Washington, District of Columbia

Lecture Objectives:
1) Understand the scope of state and federal regulation of the practice of medicine; 2) Describe current trends in medical negligence; 3) List fraud and abuse statutes; 4) Describe employment/labor laws and regulations affecting anesthesiologists; 5) Develop a strategy to comply with the laws regulating the practice of medicine.

Implementing PQRI for Anesthesiology - Practical Aspects and Future Directions

Stanley W. Stead, M.D., M.B.A.* ................................. 304
CEO, Stead Health Group, Inc.
Clinical Professor of Anesthesiology
and Pain Medicine
UC Davis
Encino, California

Lecture Objectives:
The Physician Quality Reporting System (PQRI) represents potentially the largest change in the professional payment system of Medicare. This course will review Anesthesiology’s role in current PQRI performance measures, measure development, selection of performance measures to report, a step-by-step implementation process, an economic analysis of participation. Future directions of PQRI with particular relevance to Anesthesiology will be discussed.

Assessment of Competency in Anesthesiology

John E. Tetzlaff, M.D.** .............................. 409
Vice Chair for Education
Anesthesiology Institute
Cleveland Clinic
Cleveland, Ohio

Lecture Objectives:
1) Characteristics of assessment tools; 2) Approaches to competency assessment; 3) Portfolio-based assessment; 4) Role of life-long learning.

Anesthesia Information Management Systems - 2008 Update

Michael M. Vigoda, M.D., M.B.A.** .......................... 305
Director, Center for Informatics
Department of Anesthesia
University of Miami
Miami, Florida

Lecture Objectives:
1) Identify two functions of an AIMA beyond automated recordkeeping; 2) List two patient safety initiatives that can be incorporated using an AIMS; 3) List two examples of operational efficiency which are achievable using an AIMS; 4) Describe two recent AIMS-mediated studies published in 2008.
Regional Anesthesia

Local Anesthetics: Basic Mechanisms and Clinical Implications

Charles B. Berde, M.D. ........................................ 124
Sara Page Mayo Chair in Pediatric Pain Medicine
Chief, Division of Pain Medicine, Department of Anesthesiology,
Perioperative and Pain Medicine,
Children’s Hospital, Boston
Professor of Anesthesia (Pediatrics),
Harvard Medical School
Boston, Massach

Lecture Objectives:
1) Improved understanding of recent research on local anesthetic mechanisms and sodium channels in normal functioning and in disease states involving excessive pain or insensitivity to pain; 2) Review clinical factors that influence drug entry into nerves, and differentiate among technical and biological causes of local anesthetic failure. We will use this information to provide recommendations on how to avoid failures of regional anesthesia; 3) Progress on development of new local anesthetic formulations will also be reviewed.

Clinical Relevance of Drug Distribution Within and Between the Epidural and Intrathecal Spaces

Christopher M. Bernard, M.D. ............................ 205
Anesthesiology Faculty
Virginia Mason Medical Center
Seattle, Washington

Lecture Objectives:
1) Understand the processes by which drugs distribute between the epidural space, intrathecal space and spinal cord and how these processes impact clinical use of drugs in the epidural and intrathecal spaces.

Acute Postoperative Pain: Pathophysiology and Clinical Correlation

Timothy J. Brennan, Ph.D., M.D. ......................... 314
Professor, Department of Anesthesia
University of Iowa Hospitals and Clinics
Iowa City, Iowa

Lecture Objectives:
1) Understand the mechanisms causing surgical pain and factors affecting its severity; 2) Examine how mechanistic studies will lead to future treatment options.

Local Anesthetics and Additives: Dogma Versus Data

John F. Butterworth, M.D. .............................. 428
Robert K. Stoelting Professor and Chair
Department of Anesthesia
Indiana University School of Medicine
Indianapolis, Indiana

Lecture Objectives:
1) Review local anesthetic and additive mechanisms from a clinical perspective; 2) Review the data supporting common beliefs about the clinical application of local anesthetics and additives.
Multimodal Analgesia: An Essential Component of Acute Pain Medicine
May L. Chin, M.D.** .............................................. 420
Professor of Anesthesiology
and Critical Care Medicine
Director, Division of Pain Medicine
George Washington University Medical Center
Washington, District of Columbia

Lecture Objectives:
1) Discuss a mechanisms-based approach to acute pain management, with emphasis on the clinical use of non opioid analgesics in a multimodal approach to perioperative pain control.

Lower Extremity Nerve Blocks: Update on Nerve Stimulator and Ultrasound Techniques
Admir Hadzic, M.D.** .............................................. 139
Professor of Anesthesiology
Columbia University
Director of Regional Anesthesia
St. Luke’s-Roosevelt Hospital
Director, New York School of Regional Anesthesia (NYSORA)
New York, New York

Lecture Objectives:
1) Review common lower extremity regional anesthetic techniques; 2) Discuss the nerve stimulation and ultrasound localization techniques and how they relate; 3) Discuss complications associated and means of prevention; 4) Discuss indications and perioperative management.

Infectious Complications Associated With Regional Anesthesia
James R. Hebl, M.D.** .............................................. 312
Associate Professor of Anesthesiology
Vice-Chair, Clinical Practice
Mayo Clinic College of Medicine
Rochester, Minnesota

Lecture Objectives:
1) Understand the role of aseptic techniques in preventing infectious complications; 2) Describe the differences between antiseptic solutions with regard to efficacy and prevention of colonization; 3) Describe the risk of meningitis after dural puncture; 4) Understand the infectious risks of performing neuraxial or peripheral nerve blockade in infected (bacteremic) or immune-compromised patients.

Analgesia Without Paraplegia: Regional Anesthesia and Anticoagulation
Terese T. Horlocker, M.D.** ...................................... 230
Mayo Clinic College of Medicine
Department of Anesthesia
Rochester, Minnesota

Lecture Objectives:
1) Understand the implications of needle placement and catheter removal in the patient undergoing neuraxial and deep peripheral regional blockade.
Continuous Peripheral Nerve Blocks: Past, Present, and Future

Brian M. Ilfeld, M.D.* ................................. 431
Associate Professor
Department of Anesthesiology
University of California at San Diego
San Diego, California

Lecture Objectives:
1) Have up-to-date knowledge regarding techniques to optimize perineural catheter placement and infusion management; perineural infusion benefits; possible complications and ways to minimize their frequency; ambulatory continuous peripheral nerve blocks; and probable future trends. Topics are included for those unfamiliar with continuous peripheral nerve blocks as well as cutting-edge techniques and recently-published data for experienced practitioners.

Practical Regional Anesthesia: Making It Work in The Real World

Michael F. Mulroy, M.D.** ............................. 102
Faculty Anesthesiologist
Virginia Mason Medical Center
Seattle, Washington

Lecture Objectives:
1) To acquire knowledge and understanding of practical tips to improve their efficiency and effectiveness in employing regional techniques in the “production-pressured” real world.

Upper Extremity Regional Anesthesia: Essentials of Our Current Understanding

Joseph M. Neal, M.D.** ................................. 235
Anesthesiology Faculty
Virginia Mason Medical Center
Seattle, Washington

Lecture Objectives:
1) Review anatomy relevant to upper extremity regional anesthesia; 2) Compare those techniques that most affect block success; 3) Review brachial plexus pharmacology; 4) Understand major complications related to upper extremity regional anesthesia.

Decisions. Decisions: When to Choose Regional Anesthesia, When to Just Say No

Julia E. Pollock, M.D.** ................................. 429
Staff Anesthesiologist
Virginia-Mason Medical Center
Seattle, Washington

Lecture Objectives:
1) Review the advantages, disadvantages, indications and contraindications to the performance of neuraxial and peripheral regional anesthesia techniques.
Acute Pain Management: The Role of Regional Techniques

Richard W. Rosenquist, M.D.* ........................................ 134
Professor of Anesthesia
Director, Pain Medicine Division
University of Iowa
Iowa City, Iowa

Lecture Objectives:
1) Describe application of regional anesthesia techniques (nerve-axial and peripheral) to acute pain management;
2) Describe outcomes related to the use of regional anesthesia techniques for acute pain management; 3) Understand complications related to regional anesthesia techniques for acute pain management and methods to avoid their occurrence.

Ultrasound-Guided Regional Anesthesia: Let Vision Guide You

Brian D. Sites, M.D.* .................................................. 101
Assistant Professor of Anesthesiology
Dartmouth Medical School
Hanover, New Hampshire
Director, Regional and Orthopedic Anesthesiology
Dartmouth-Hitchcock Medical Center
Lebanon, New Hampshire

Lecture Objectives:
1) Participants will be introduced to the novel practice of ultrasound guided regional anesthesia; 2) Learn several techniques for upper and lower extremity blocks; 3) Learn important limitations of ultrasound.

Outcomes Good and Bad: The Benefits and Complications of Acute Pain Medicine

Christopher L. Wu, M.D.** .......................................... 404
Associate Professor
Department of Anesthesiology and Critical Care Medicine
The Johns Hopkins University
Baltimore, Maryland

Lecture Objectives:
1) Understand the benefits and complications of acute postoperative pain management.
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<td>A.M. 8:00 - 8:50</td>
<td>Ultrasound-Guided Regional Anesthesia: Let Vision Guide You B. Sites, M.D.*</td>
<td>Anesthetizing the Pediatric Patient With Coexisting Disease L. Mason, M.D.**</td>
<td>A Fire in the Operating Room! It Could Happen to You J. Ehrenwerth, M.D.**</td>
<td>Fragile Brains -The Young and Old J. Cottrell, M.D.**</td>
<td>Cardiocerebral Resuscitation and ACLS in the Perioperative Period C. Otto, M.D.**</td>
<td>Current Controversies in Adult Ambulatory Anesthesia J. Apfelbaum, M.D.**</td>
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<td>A.M. 10:00 - 10:50</td>
<td>Hemodynamic Monitoring from CVP to Pulse Contour Analysis A. Leibowitz, M.D.**</td>
<td>Pediatric Pain Management S. Weisman, M.D.**</td>
<td>What to Do After an Adverse Outcome F. Berry, M.D.**</td>
<td>Local Anesthetics: Basic Mechanisms and Clinical Implications C. Berde, M.D.*</td>
<td>Mechanical Ventilatory Support: What Every Anesthesiologist Should Know M. Gropper, M.D., Ph.D.**</td>
<td>Neuromuscular Transmission: New Developments that may Change Your Practice C. Lien, M.D.**</td>
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<tr>
<td>P.M. 1:00 - 1:50</td>
<td>Practice Management: Appreciative Inquiry Methodology for Strategic Planning C. Koch, M.D.**</td>
<td>Complex Regional Pain Syndrome: Diagnosis and Management T. Lubeiow, M.D.*</td>
<td>Perioperative Management of the Diabetic Patient D. Brown, M.D., Ph.D.**</td>
<td>Practical Pediatric Regional Anesthesia S. Suresh, M.D.*</td>
<td>Antiarrhythmic Therapy J. Balser, M.D., Ph.D.*</td>
<td>Obstetric Emergencies and Anesthetic Management C. Palmer, M.D.**</td>
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<td>P.M. 3:00 - 3:50</td>
<td>Treatment of Cancer Pain O. De Leon-Caracasa, M.D.**</td>
<td>Awake Intubation Made Easy! W. Rosenblatt, M.D.*</td>
<td>Responding to “You Are Inefficient, Work Faster” A. Abouelish, M.D., M.B.A.*</td>
<td>Update on Anesthetic Management of the Preeclamptic Parturient A. Santos, M.D.**</td>
<td>Myths in Pediatric Anesthesia Z. Kain, M.D.**</td>
<td>Trauma Anesthesia R. Dutton, M.D., M.B.A.*</td>
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<td>A.M. 9:10-10:00</td>
<td>Approach to the Patient Who May Have a Bleeding Disorder C. Petrovitch, M.D.**</td>
<td>Complications in Pain Medicine J. Rathmell, M.D.**</td>
<td>Brain Injury: What Do I Need to Know? M. Soutier, MB., Ch.B.**</td>
<td>Epidural Analgesia for Labor-Safety and Success B. Leighton, M.D.**</td>
<td>Analgesia Without Paraplegia: Regional Anesthesia and Anticoagulation T. Horlocker, M.D.**</td>
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<td>A.M. 10:20-11:10</td>
<td>Malignant Hyperthermia and MH-Like Syndromes H. Rosenberg, M.D.**</td>
<td>Coagulopathy and Postpartum Hemorrhage - Implications for Treatment B. Scavone, M.D.**</td>
<td>Anesthetic Management of Common Pediatric Emergencies A. Ross, M.D.**</td>
<td>Staffing and Case Scheduling for Out of the OR Cases A. Macario, M.D.**</td>
<td>Update on Transfusion Medicine R. Miller, M.D.**</td>
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<td>P.M. 1:00-1:50</td>
<td>Clinical Relevance of Drug Distribution Within and Between the Epidural and Intrathecal Spaces C. Bernards, M.D.*</td>
<td>Hazards of the Anesthesia Workstation J. Eisenkraft, M.D.**</td>
<td>Sedation/Analgesia for Diagnostic and Therapeutic Procedures in Children Outside the Operating Room R. Kaplan, M.D.**</td>
<td>Cerebral Protection During Cardiac Surgery C. Hogue, M.D.*</td>
<td>Practical Regional Anesthesia for Outpatients M. Rosenblatt, M.D.**</td>
<td>Transfusion Therapy: Optimal Use of Blood Products S. Surgenor, M.D.**</td>
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<td>A.M. 8:00 - 8:50</td>
<td>Advances in Intravenous Anesthesia T. Egun, M.D.*</td>
<td>Anesthesia for Patients with Valvular Heart Disease for Non-Cardiac Surgery S. Konstadli, M.D.**</td>
<td>Integrating Evidence based Medicine into Perioperative Care B. Fahy, M.D.**</td>
<td>An Overview of CT and MRI for the Pain Physician D. Martin, M.D., Ph.D.**</td>
<td>Professionalism, Ethics and Law in Anesthesiology and Critical Care C. Hug, M.D., Ph.D.**</td>
<td>Update on CNS Injury Adult Head Injury Management: Are Guidelines Improving Outcomes? A. Bendo, M.D.** – Moderator Fluids and Metabolic Management D. Prough, M.D.** Management of the Pediatric Patient S. Soriano, M.D.**</td>
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<td>P.M. 1:00-1:50</td>
<td>Implementing PQRI for Anesthesiology - Practical Aspects and Future Directions S. Stead, M.D., M.B.A.*</td>
<td>Anesthetizing Children: Little People, Big Problems J. Lerman, M.D., F.R.C.P.C.*</td>
<td>Pathophysiology of Cerebral Ischemia P. Patel, M.D.**</td>
<td>Minimally Invasive Techniques for Treating Discogenic Pain N. Mekhall, M.D.*</td>
<td>Abdominal Aortic Aneurysm Repair and Endovascular Stenting D. Lubarsky, M.D., M.B.A.**</td>
<td>Perioperative Considerations for the Morbidly Obese T. Ebert, M.D.*</td>
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<td>P.M. 3:20-4:10</td>
<td>Perioperative Management of Patients with Pulmonary Hypertension R. Pearl, M.D.**</td>
<td>Infectious Complications Associated with Regional Anesthesia J. Hehl, M.D.**</td>
<td>Communication and Information Technology: Tools to Improve Patient Care K. Ruskin, M.D.**</td>
<td>Anesthetic Management of the Pregnant Patient With Neurologic Disease D. Wlody, M.D.**</td>
<td>Myocardial Ischemia and Postoperative Monitoring J. Ellis, M.D.*</td>
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<td>The Adult Patient with Sleep Apnea Syndrome for Ambulatory Anesthesia  G. Joshi, M.B. B.S., M.D.*,</td>
<td>Anesthesia for Valvular Heart Disease  W. Johnston, M.D.**</td>
<td>Anesthesia for Cesarean Delivery  L. Tsen, M.D.**</td>
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<td>A.M. 9:10-10:00</td>
<td>Awareness During General Anesthesia? Will It Ever Be Safe to Go Back in the Water?  B. Orser, M.D., Ph.D.*</td>
<td>Cervical Spine Motion, Cervical Spine Surgery and the Unstable Neck  M. Todd, M.D.**</td>
<td>Child With a Difficult Airway: Recognition and Management  C. Bannister, M.D.*</td>
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<td>A.M. 11:30-12:20 P.M.</td>
<td>Anesthetic Effects on the Fetus and Newborn  B. Segal, M.D.**</td>
<td>The Anesthesia Workforce: Past-Present-Future  A. Schubert, M.D., M.B.A.**</td>
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