Free to Members

PGA/62 CME Online

NYSSA members and PGA/62 professional registrants have the opportunity to earn up to 15.5 AMA PRA Category 1 credits™ for select courses presented during this past 62nd PostGraduate Assembly in Anesthesiology.

These CME online credits are being offered at no cost.

To access the site, go to www.nyssa-pga.org.
Click on "NEW! PGA 62 CME Online Credits" on the left side bar.

After selecting a course or courses and adding them to your cart, you will be asked to register in the following manner:

* NYSSA Members via their NYSSA Membership Number.
* PGA/62 Non-NYSSA Member Registrants via their PGA/62 Registration Number.

If you require further information, please call NYSSA headquarters at 212-867-7140 and staff will assist you.
Inside This Issue:

3 President’s Message
   Working Toward Common Goals
   ALAN E. CURLE, M.D.

5 Editorial
   Learning How to Tell Our Story
   JAMES E. SZALADOS, M.D., M.B.A., ESQ.

7 Letter to the Editor
   Pride
   ERIK REIERSEN, M.D.

9 From the Executive Director
   Making the NYSSA a More
   User-Friendly Organization
   STUART A. HAYMAN, M.S.

13 Montefiore in the Bronx Grows and
   Expands Its Services
   DIVINA J. SANTOS, M.D., AND
   ALBERT SAUBERMANN, M.D.

17 Albany Report
   “Good Governance” and a Moment to
   Recognize NYSSA Officers, Directors,
   Committee Chairs, and Other
   Dedicated Members
   CHARLES J. ASSINI, JR., ESQ.

23 H. Ketcham Morrell, M.D.: 2008
   Distinguished Service Award Winner
   ALEXANDER W. GOTTA, M.D.

25 Residents Section
   Would You Fix My Car For Free?
   BROOKE ALBRIGHT, M.D.
   Anesthesiologists Anonymous:
   The Truth About Addiction
   CHRIS HINSON, M.D.

39 Case Report
   Perioperative Venous
   Thromboembolism:
   Prevention and Treatment
   MARCIN KARCZ, M.D., MSc, DIC, AND
   JAMES E. SZALADOS, M.D., M.B.A., ESQ.

62 Membership Update

On the cover:
The pendulum, hanging from the ceiling of the lobby of The Children’s Hospital at
Montefiore, reflects the building’s overall design, which was planned to encourage
curiosity and learning. Designed by renowned artist Tom Otterness, it demonstrates the
rotation of the earth as a way to incorporate scientific ideas in design.
Synergy — from the Greek “synergia,” meaning to work together — is a concept we embrace on a daily basis in our practice of anesthesiology. Whether you deliver care primarily in the operating room administering inhaled anesthetics and narcotics or on an acute pain or obstetrical service with neuraxial narcotics and local anesthetics, you count on the synergistic interaction of individuals and medications to help you do your job better. Similarly, if you have a chronic pain practice, you count on NSAIDs to enhance the effectiveness of your treatment plan. One way to define synergy is “the interaction of two or more agents or forces so that their combined effect is greater than the sum of their individual effects.” The world of advocacy in which the NYSSA operates is no exception. In fact, NYSSA has depended on, and benefited from, a number of relationships that the organization will continue to nurture in the future, with your help.

On the state level, the NYSSA has no better partner in the legislative and advocacy arenas than the Medical Society of the State of New York. MSSNY’s emphasis on such issues as tort reform, the regulatory environment, physician education, and physician reimbursement dovetails superbly with our own strategic plans. Whether it’s coordinating efforts to address out-of-network reimbursement, gaining access to key legislators and regulators, gathering data about costs of delivering care to patients in the workers’ compensation system, or advancing resolutions that address areas of concern to anesthesiologists, MSSNY has been there to augment our efforts. I thank Dr. Steve Schwalbe and his predecessor, Dr. Peter Kane, for their years of service as our MSSNY liaisons. This summer, we will grow that cooperative relationship by combining our efforts to educate the public about the importance of physician involvement at all levels of their care. At the New York State Fair in Syracuse we will be sharing the responsibilities of staffing the MSSNY booth with other physicians largely from the Onondaga County Medical Society. I want to thank Dr. Donna-Ann Thomas as well as Dr. Rich Beers and Dr. Mike Duffy, all from our District 5, for their energy, time and support of this effort in years past and in this new collaboration going forward. Another tool that will be at our disposal at the state fair will be superb materials, including a traveling display, from the American Society of Anesthesiologists (ASA). This offering was discovered by Dr. Binit Shah,
former president of our Residents Section; I thank him for bringing this to our attention.

Speaking of the ASA, our parent organization is a vibrant association led by an engaged cadre of physician officers as well as a dedicated and highly knowledgeable professional staff stationed in Chicago and Washington, D.C. The victory that resulted in the restoration of funding to anesthesiology training programs when supervising concurrent cases would not have happened were it not for the efforts of the ASA Washington office, led by Mr. Ronald Szabat, Esq., and Mr. Manuel Bonilla. Another hard-fought battle involved the increasing of work values in the Medicare system. This required countless hours of testimony and groundwork by numerous members of the ASA leadership as well as committees members. I urge you to respond each and every time that the ASA reaches out to request that you send an e-mail, complete a survey, or contribute your time or financial resources to the ASAPAC. The effectiveness of the ASAs efforts will certainly be enhanced if we are working shoulder to shoulder with them. That synergistic relationship is by no means a one-way street either. The ASA has been and continues to be the beneficiary of the time and talents of numerous NYSSA members, including Drs. Jim Cottrell, Mark Lema, Ken Freese, Scott Groudine, Bob Lagasse, Ron Gabel, Rebecca Twersky, and Andy Rosenberg, just to name a few.

Finally, I would highlight for you the efforts of the American Medical Association on our behalf. In the AMA House of Delegates, the delegation of anesthesiologists is among the most visible and influential groups of the specialty societies. This visibility pays in dividends when topics of interest or concern to anesthesiologists come before this organization or its Washington lobbying staff. Our own Dr. Mike Simon, director of District 4, has kept the lines of communication open among the NYSSA, the ASA, and the AMA and has added much to all three organizations.

I urge all of you to step up when our sister organizations ask for your time and talent. Your patients, your practices, and your profession will see benefits that can only come from working together toward a shared goal.
It is all about the story: the more colorful the story, the more interesting the life. As I get older, it seems to me that people’s stories become more interesting. In my practice of anesthesiology and critical care medicine, I have found that searching for and listening to people’s stories enriches my clinical practice. It’s my opportunity to get to know the patient beyond the disease, to understand both the solidarity and the conflict in the eyes of families, and to find those elements that I can grab onto and develop as I bond with those I have the opportunity to care for as a physician.

All too often, I see my residents lose sight of the story in their pursuit of a diagnosis. Clinical medicine is becoming increasingly protocol-driven, technology-based, and time-unit valued. Objectivity, it is frequently taught, is a virtue in medicine — objectivity in outlook, objectivity in clinical judgment, and objectivity in the medical record. What we rarely learn is to recognize that life is not fully objective; it is, in truth, very subjective, and one of our greatest challenges is to see and appreciate the other point of view.

One problem with objectivity is that it presupposes that the facts we choose to focus on are, in fact, those that are most relevant to the issue at hand. Another problem with objectivity is that each of us carries assumptions that serve as the basis for our point of view. That point of view tells us how to interpret the facts and how to argue the issues we find important. Hence, each of us can hear the same story through very different “filters” and take away a completely different message — from nothing at all to an almost infinite variety of messages.

Once we realize that the same story can be seen in many ways, it behooves those of us who tell stories to be as unambiguous and concise as possible. Reconciling potential differences in points of view and anticipating the effects of filters are two of the challenges of leadership.

When we meet with lawmakers, it may be useful to consider that we have to listen as well as speak. In addition, it is crucial that when we speak, we have a story to tell — based on simple yet enormously important themes such as competence and compassion. That same lawmaker has probably heard another point of view — perhaps in support of our position and
perhaps in opposition thereto. It seems to me that the messages we see as most important may be reinforced repeatedly by the Medical Society of the State of New York as well as other specialty societies. These common threads, and the many ways we physicians can speak collectively about the impact of these issues upon our professional practices and the lives of our patients, might just alter the filters of our lawmakers. Finally, in any good argument, it is always sound strategy to appreciate and understand the competing point of view so that, while building our case, we can anticipate and counter these opposing opinions.

So, you see, the professions of medicine and law may not be so different after all. It is all about the story.

From the NYSSA Residents Section

Publish Your Case Report in Sphere

- If you have an interesting case
- If you are ready to share your experience
- If you are interested in building your CV

You can submit your case report for publication in Sphere. All cases will be reviewed and the most interesting published.

Submit your case report via e-mail to maryann@nyssa-pga.org.
Subject: Article for Sphere

If you have questions, call MaryAnn Peck at NYSSA headquarters: 212-867-7140.
Letter to the Editor

Pride

ERIK RIESEN, M.D.

We’ve all been there. We’ve all been at the family gathering where a distant, elderly relative asks, “You have to be a doctor to do that?” We’ve all heard, during a casual conversation with a primary care physician, “Seems like a cushy job.” We’ve all anesthetized those kind-hearted, talkative patients who make the comment, “You know, you really are important,” assuming that we’re naturally insecure and in need of a confidence boost.

People say these things because, at least in this country, there is a general perception of anesthesiology that is not particularly flattering. Unbelievably, there are still many who feel that anesthesiology is a simple discipline that requires relatively little effort, attention, or skill. Many think that it can be done just as well by nurses. Many still feel that anesthesiologists play a minor role in the surgical process, merely administering a sedative before leaving and handing the reins to the surgeon. I do not mean to assert that everyone feels this way, but I think all of you would agree that this negative perception still exists.

What fuels this negative perception? If you believe that life imitates art, then look no further than your television set. When I was younger, I remember wanting to emulate one of my all-time favorite TV characters, Hawkeye Pierce from M*A*S*H. I thought it would be great to perform life-saving surgery nonchalantly and then retire to my customized tent to drink homemade whisky and trade sardonic one-liners with my best friend, B.J. Hunnicutt. Now when I watch the reruns I laugh, not only because I realize how unrealistic it is, but because I see how they depict the anesthesiologists. The anesthesiologists on M*A*S*H are always silent, mechanical, and stupid looking. They never seem to participate significantly in the care of the patients on the operating table. Of course, they never get to hang out with Hawkeye Pierce or B.J. Hunnicutt.

Another popular show that has done our profession a disservice is ER. Even though in the past month I have been called down to the emergency room twice to help out with a difficult airway, in 15 years of ER, not once did an anesthesiologist have to help one of the docs with an intubation.

We really shouldn’t worry too much about what people think of us. I don’t. I know what I do is difficult and important; and that’s all that really...
matters. Some widely held perceptions and beliefs are just impossible to change. For instance, no matter how many times I try to convince my fish-hating friends to try sushi, extolling its virtues as a sublime delicacy that will tickle the palate, they still stubbornly refuse. They’re simply unwilling to open their minds. They’re unwilling to entertain the idea that raw fish and seaweed can really taste great if prepared properly. In much the same way, people refuse to accept the idea that anesthesiologists are highly-skilled practitioners who work hard to provide a vital service under stressful, often difficult circumstances.

The problem with the negative perception comes when it’s time to pay the bill. People who hold the opinion that anesthesiologists perform an easy, simple task naturally feel they are being over-charged. That is why I support the ASA and the NYSSA — to educate the public that what we do is vital and requires many years of training to become competent. That is why I support the ASAPAC and NYSSA’s PAC (NYAPAC) — to convince the politicians and policy-makers that properly reimbursing anesthesiologists is essential to the maintenance and improvement of public health.

I guess everyone feels under-appreciated to some degree. We’re no different than anybody else. However, I honestly feel that anesthesiologists deserve more recognition than they get. Until that day arrives, I will just have to be comforted by my own satisfaction in what I do — seeing a sick patient comfortable and breathing easy after a difficult surgery, seeing the profound look of relief on an expectant mother’s face when the epidural kicks in, watching a tearful parent hug their child in the PACU. I don’t care if I’m not appreciated. I don’t care when other doctors say it’s a cushy job. It doesn’t faze me when misinformed people think it’s unnecessary for a doctor to provide anesthesia. I am an anesthesiologist … I am proud.

SUBMITTING A LETTER TO THE EDITOR

The Letter to the Editor guidelines follow those of the ASA NEWSLETTER. Letters should not exceed 300 words in length and may be edited or abridged. The editor retains the right to accept or reject a submitted letter. Letters must be signed, although names may be withheld on request. Personal correspondence to the editor by letter or e-mail must clearly state “Not for Publication.” At the discretion of the editor, the above letter was published in its entirety.
“…The great thing in this world is not so much where we stand, as in what direction we are moving.”
— Oliver Wendell Holmes

During my short tenure as executive director of the NYSSA (less than a year), I have been experiencing a steady progression of change. This comes as no surprise to me, since I was hired by your leadership to orchestrate the evolution of your organization. In fact, each of the initiatives we have undertaken is synchronized with the organization’s strategic plan.

As physicians, you live with continual change in your work environment. As the staff leader of a professional association, I, too, must embrace change in my own work environment. It is essential to promote positive progress in order to foster a more energetic and productive organization.

To manage change successfully, one must first have a fundamental understanding of the current environment. While I must confess that I continue to learn about the NYSSA (and probably will throughout my tenure as your executive director), I could not afford to wait to move forward until I was an expert on the NYSSA.

One of my first priorities when I came on board with the NYSSA was to perform a SWOT analysis — an assessment of the organization’s internal strengths and weaknesses and the external opportunities and threats. As I expected, my initial focus has been on the internal workings of the organization, such as personnel, resource utilization, contracts, systems and services. However, I have also had the opportunity to begin analyzing and providing input into various areas of the organization’s external environment, such as legislation, regulation, collaborations and contracts.

I am a firm believer in transparency. I also believe that associations belong to their members. That means that I work for each and every one of you.

In the previous issue of SPHERE, I highlighted some of the diverse areas in which I have been working on your behalf. My efforts, along with those of
your volunteer physician leadership and the NYSSA staff, continue to be “in sync” with the NYSSA strategic plan. In this issue, I would like to highlight a few additional areas where we have already made significant progress.

Based on the global economic situation, a PGA Strategic Planning Task Force was convened last fall by NYSSA’s past president, Dr. Robert Lagasse, and your current president, Dr. Alan Curle. This task force is skillfully being led by your PGA general chair, Dr. Rebecca Twersky. The members of the task force include Drs. Alan Curle, Paul Goldiner, Kenneth Abrams, Andrew Rosenberg, David Wlody and Richard Beers, Ms. Pat Burdett, and myself. The task force has been scrutinizing every income and expense line item of the PGA. Our overall objective is to ensure that we are optimizing our use of organizational resources. We have also been analyzing our long-term hotel contracts to ensure that the optimum situation is in place for the PGA for many years to come. I am very proud of the diligence this group has demonstrated and the detailed work product that has been developed.

The area of communications has also been receiving a great deal of attention. I am happy to report that we’ve begun construction of the first phase of a redesigned NYSSA Web site. We put together a request for proposals (RFP) that addressed 13 goals of our Web site modernization. Included in this RFP were such important areas as content management, dues processing, and online CME certificates. This will be a long-term process that will unfold in incremental stages. The first phase, which includes a more user-friendly, modern-looking Web site, should be completed by the end of June.

Another challenge that our Communications Committee has taken on involves a new look and format for our quarterly newsletter, Sphere. Hopefully, by the time you read this article, you will have already made note of this new look, including updated colors, fonts, and a format that should be easier to read. These are just a few of the changes implemented in this issue of Sphere. I hope you find that these changes enhance the look of the publication and make it more reader-friendly.

Finally (at least for now), we are upgrading our office hardware and software. The staff and I had been working with database software that was approximately five generations out of date. This software, which was nearly 10 years old, was no longer being supported by the manufacturer. We upgraded to the latest version of the software, which, of course, meant
that our other programs (also very old) had to be upgraded as well. As with all aspects of the computer world, everything is interrelated and we were compelled to replace some old hardware technology to run the new software. This upgrade was long overdue and necessary. The conversion is taking place simultaneously with the printing of this publication; hopefully, it went as smoothly as I had hoped!

I realize that transparency can be hard to achieve when an organization’s members are geographically disbursed across the state. Please know that you can always e-mail or call me with questions, comments or concerns. The staff and I work for you; we look forward to being of service. I wish you all a happy and healthy summer.

63rd PGA
Scientific Exhibits
Poster Presentations
Medically Challenging Case Reports

If you are interested in submitting applications to exhibit your projects at the upcoming 63rd PostGraduate Assembly in Anesthesiology, December 11-15, 2009,

please visit the NYSSA Web site for instructions to submit online:

Go to www.nyssa-pga.org and click on PGA/63.

Deadline for filing is August 15, 2009.

WE DO NOT ACCEPT PAPER SUBMISSIONS.
**Third Annual New York State Conference for Anesthesia, Critical Care and Pain Management Residents and Fellows**

**Mark Your Calendars!**

**Meeting: Saturday, November 14, 2009**

**Deadline for abstract submission: September 30, 2009**

The Academic Anesthesiology Committee of the NYSSA will be holding the “Third Annual Conference for Residents and Fellows” in the Mount Sinai School Medical Center in New York.

The Organizing Committee will be preparing a high-quality educational event with lectures, workshops and the following:

1. Ultrasound Guidance for Regional Anesthesia, directed by Meg Rosenblatt, M.D., and
2. Patient Simulation, directed by Adam Levine, M.D.

The main part of the educational program will be poster presentations and discussions by residents and fellows. Posters will be accepted in two categories:

1. Basic research
2. Clinical topics, including case presentation

Residents and fellows interested in presenting their research should submit an abstract (instructions below). Faculty who completed their residency on June 30, 2009, are also eligible. The deadline for abstract submission is September 30, 2009. Abstracts should be forwarded electronically to hq@nyssa-pga.org and helen.phillips@mountsinai.org. The subject line should read: Third Resident Research Contest – MSSM. An electronic confirmation will be sent once the abstract is received.

**Each abstract should contain the following:**

- Title/Category (Basic Science or Clinical)
- Authors and their respective institutions.
  (The name of the presenting author should be underlined.)
- Financial support for the work.
- Disclosure of potential conflicts of interest.
- Introduction, methods, results, conclusions and references.
- This portion of the abstract should not exceed one page.

Blinded abstracts will be reviewed by the Subcommittee on Research. Three abstracts from both categories will be selected for six-minute oral presentations, followed by four minutes of discussion. The first six abstracts will receive a prize. All abstracts will be published in the Meeting Proceedings.

**Accommodations:**

Courtyard by Marriott Manhattan
410 East 92nd Street, New York, NY 10128
Phone: 212-410-6777
Ask for Mount Sinai discount, refer to Ms. U.M. Canto.
*Early reservations are recommended.*

**Please forward any questions to:**

George Silvay, M.D., Ph.D.
Professor, Department of Anesthesiology
1 G. Levy Place, Box 1010
New York, NY 10029
E-mail: george.silvay@mountsinai.org
Montefiore Medical Center (MMC) in the Bronx has provided 125 years of patient care, innovative “medical firsts,” pioneering clinical research, and dedicated community service. MMC is a full-service, integrated delivery system with 1,491 hospital beds in four hospitals: the Henry and Lucy Moses Division, The Children’s Hospital at Montefiore, the Jack D. Weiler Division, and the North Division. MMC also offers a large home healthcare agency, the largest U.S. school health program; a 25-site medical group practice integrated throughout the Bronx and Westchester; and a care management organization with 179,000 health plan members.

In 2008, The Children’s Hospital of Montefiore was ranked as one of “America’s Best Children’s Hospitals” in the *U.S. News & World Report*’s annual listing. Montefiore is also ranked by the Leapfrog Group among the top 1 percent of U.S. hospitals. MMC is committed to electronic medical records and is currently implementing a highly sophisticated computer program that will track a surgical patient from scheduling through post-anesthesia care.
The Henry and Lucy Moses Division of Montefiore Medical Center in the Bronx.
The 2008 acquisition by MMC of Our Lady of Mercy, now the “North Division,” added 369 inpatient beds; 2,500 new employees (now totaling more than 16,000); seven operating rooms (for a total of 46); and more than 500 physicians, bringing the total number of medical staff to nearly 2,600. A newly renovated Labor and Delivery Unit and 44 private postpartum rooms with baths were opened in 2007 to accommodate the increasing delivery rate.

Montefiore is committed to the healthcare needs of the future through medical education and manages one of the largest residency programs in the country. Montefiore is the academic medical center for the Albert Einstein College of Medicine and also has an affiliation with New York Medical College.

Montefiore Medical Center Department of Anesthesiology

The Anesthesiology Department is comprised of approximately 50 faculty and 45 residents. The department provides more than 30,000 anesthetic procedures a year, and staffs 46 operating rooms, a labor and delivery suite, and a consulting service. The department provides services at all the MMC divisions through faculty rotation, whereby each hospital has an anesthesiology “site director” who facilitates the department’s goals and maintains its standards. Faculty with specialized expertise are available for cardio-anesthesia, neuroanesthesia, pediatric anesthesia, obstetrical anesthesia, and organ transplantation.

The anesthesia curriculum for residents includes progressive procedures in various subspecialty rotations such as: cardiac, neuro, obstetric, pediatric, airway management, regional block, pain (at Beth Israel), trauma (at Jacobi), “procedures outside the OR,” and research elective rotations. Accredited fellowships are available in Pain Management and Cardio-Thoracic Anesthesia; there is also an unaccredited fellowship in Obstetrical Anesthesia.

Montefiore is at the forefront of cardiac surgery. Over the past few years, the cardiac team has been involved in clinical trials with a busy heart transplant service and implantation of left ventricular assist devices (LVAD) for the treatment of heart failure. In addition, Montefiore provides myocardial reconstruction, robotic coronary bypass grafting, and robotic placement of left ventricular leads. The Pediatric Cardiac Team recently performed a heart transplant on a 5-month-old infant and installed a Berlin heart.
Senior residents spend a month learning advanced airway management techniques while developing their own individualized airway algorithm. An electronic airway database is being designed for cataloging these procedures. An Institutional Review Board-approved study will look into the use of simulation in academic anesthesiology residency programs.

During the neurosurgery clinical rotation, residents learn total intravenous anesthesia techniques during evoked potential monitoring, fiberoptic intubation, and techniques for awake craniotomy, aneurysm repair, frameless stereotaxic procedures, minimally invasive spine surgery, cervical arthroplasty, and craniofacial surgery.

Since there are nearly 6,000 deliveries annually at MMC, residents learn, in addition to spinals and epidurals, combined spinal-epidural techniques for labor analgesia and surgical deliveries, management of intrathecal catheters following inadvertent dural puncture, and the use of intrathecal catheters for labor in morbidly obese parturients.
I have had the wonderful privilege of serving as NYSSA’s general counsel and legislative representative for almost a quarter century! Throughout my tenure I have worked for, and partnered with, dedicated officers, directors, committee chairs, and NYSSA members on a myriad of issues impacting the practice of anesthesiology. Our Society’s success is directly attributable to the tireless efforts of these dedicated NYSSA members. Their vision, dedication, and motivation allow me to represent NYSSA effectively.

My ability to advance our position on various matters is primarily due to being able to tap into, during our many discussions, the resourcefulness of the leadership and various members of NYSSA. The collective input of the viewpoints of “downstate,” “upstate,” private (small group and large group), academic, resident, and “retired” members and the background and experience of our membership helps ensure that all members’ interests are being represented. While at times, the decision-making process may take longer than some have expected (due to our existing governance structure), the care taken and dedication shown by all involved members resulted in sound decisions for NYSSA.

Equally important is the need for our governance structure to be consistent with principles for good governance and ethical practice. NYSSA is a not-for-profit corporation incorporated by New York state on March 25, 1958 (NYSSA was chartered on February 28, 1948, as a recognized component of the American Society of Anesthesiologists). NYSSA is a 501(c)(6) tax-exempt entity. By virtue of the New York State Department of State recognizing NYSSA as a not-for-profit corporation and the federal government’s granting of tax-exempt status, the operation of NYSSA is subject to a host of state and federal laws, rules, and regulations. These include, but are not limited to, the Internal Revenue Code (e.g., NYSSA must submit a Form 990 annually) and New York’s Not-for-Profit Corporation Law.

I would like to recite a few principles of good governance and highlight some of our dedicated members who, in recent years, have made (and will likely continue to make) a difference due to their extraordinary
commitment of time and energy to make NYSSA a strong society. These members have exercised their fiduciary duty in good faith. When compiling such a list, there will undoubtedly be individuals I will overlook. For that, I apologize in advance. However, I believe this is a good time to recognize individuals and send them my personal “thank you” for making my task of representing NYSSA rewarding. Our governance system, including the development of sound administrative policies, is consistent with good governance principles because of the collective efforts of our officers, directors, committee chairs, and members.

- A not-for-profit corporation must have a governing body that is responsible for reviewing and approving the organization’s mission and strategic direction, annual budget, and governance policies.

- The governing board should meet regularly enough to conduct its business and fulfill its duties.

- The governing board should include members with diverse experience and organizational and financial skills necessary to advance the organization.

- The governing board should establish and review regularly the organization’s mission and goals and should evaluate, no less than every five years, the organization’s programs, goals, and activities to be sure they advance its mission and make prudent use of its resources.

Adopted from *Principles for Good Governance and Ethical Practice: A Guide for Charities and Foundations* from the Panel on the Nonprofit Sector, convened by Independent Sector, which can be found at: http://www.nonprofitpanel.org/.

Dr. Alan Curle, current NYSSA president, has succeeded, with proficiency and grace, to lead our Society during a critical transition period.

Drs. Robert Lagasse and Richard Beers, former NYSSA presidents, have exhibited excellent leadership to initiate, develop, refine, and finalize the NYSSA Strategic Plan. This plan is the blueprint for the future success of the Society.

Dr. Salvatore Vitale, current treasurer, has developed and refined the budget process as well as created a PowerPoint presentation on the NYSSA budget, expenditures, and revenues for the Reference Committee that even a lawyer can understand! Dr. Vitale has also spearheaded the revision of NYSSA’s staff pension plan, resulting in a fiscally responsible outcome.
Dr. Rebecca Twersky, current general chair of the Committee on Annual Sessions (the PGA), continues to demonstrate her energy, intellect, and leadership skills in making the PGA the preeminent CME meeting in the world. Dr. Twersky’s predecessors include Drs. Alexander Gotta, Elizabeth Frost, Mark Lema, and Vinod Malhotra, all of whom devoted countless hours and effort to make the PGA a success. Dr. Andrew Rosenberg will soon be assuming this role, and we know he will be great as well.

The PGA’s current and future business managers, Drs. Paul Goldiner and Kenneth Abrams, continue to use their tremendous negotiating and business skills to create a successful business model for this year’s PGA and PGAs in the future. Prior PGA business managers include Drs. Edward Sinnott, Paul Goldiner (also current), Kenneth Freese, Phillip Fyman, and Elizabeth Frost.

The members of the executive committee (currently, Drs. Alan Curle, Paul Willoughby, Kathleen O’Leary, Robert Lagasse, Lawrence Epstein, Salvatore Vitale, and Kenneth Freese) and other officers (Drs. Rebecca Twersky, David Wlody, Alan Strobel, and Scott Groudine) are called upon each week to offer comments, insight, and opinions on a myriad of legislative, regulatory, and legal issues. Without fail, these members have responded to my communications expeditiously. The Executive Committee meets regularly each month through telephone conferences on Sunday evenings as well as meeting several times a year in person.

I appreciate the wonderful efforts of our district directors (currently, Drs. David Wlody, Jung Kim, Naixi Li, Michael Simon, Michael Duffy, Sanjeev Chhangani, Rose Berkun, and Steven Schulman). Each year, our District directors come to Albany for our annual Legislative Day to represent NYSSA, and they also convince others from their district to take a day out of their busy schedules to come to Albany to help spread our message.

Although I did not have the privilege to work with all of the Distinguished Service Award winners (Drs. Erwin Lear, Edward Sinnott, Joseph Artusio, Jr., Albert Betcher, Louis Orkin, Louis Blancato, Sarah Joffe, Mieczyslaw Finster, Gertie Mark, Paul Goldiner, James Cottrell, Jared Barlow, H. Ketcham Morrell, and Peter Kane), there are many with whom I have had the honor to work.

Dr. Scott Groudine, former president of NYSSA and currently the ASA alternate director, is a patient advocate who is second to none in advancing the message to Albany and Washington that safe anesthesia is worth preserving. Dr. Groudine’s knowledge of the issues elevates the quality of our message in Albany and Washington.
Dr. Steven Schwalbe, former president of NYSSA, and currently Economic Affairs Committee vice-chair, CAC representative, and Medical Society of the State of New York (MSSNY) representative, is an expert on all billing policy and MSSNY issues who is always willing to assist me with incredible insight and knowledge.

Dr. Paul Willoughby, current president of the New York Anesthesiologists Political Action Committee (NYAPAC), has been a most prolific NYAPAC fundraiser.

I have had the privilege of working on a regular basis with Drs. David Wlody and Alan Strobel, current chairs of the Government and Legal Affairs Committee (GLAC) and Economic Affairs Committee (EAC) respectively, who have demonstrated great skill and excellent qualities in leading two key government-related committees.

Dr. James Szalados, current editor of Sphere, has followed wonderfully in the footsteps of Dr. Margaret Pratila, a past president of NYSSA and past editor of Sphere.

Having the combined wisdom of Drs. Alexander Gotta and Michael Jakubowski, past presidents of NYSSA and current co-chairs of the Retirement Committee, is very beneficial to ensure the success of this committee.

With the great diplomacy of Dr. Audrée A. Bendo, current chair of the Academic Anesthesiology Committee, the AAC and the Residents Section have been accomplishing wonderful things for the NYSSA, including, for example, the Annual Residents Meeting.

The following officers also play critical roles in our governance structure: Dr. Vilma Joseph (1st assistant secretary), Dr. Christopher Campese (2nd assistant secretary), Dr. David Bronheim (assistant treasurer), Dr. Marilyn Resurreccion (speaker, House of Delegates), Dr. Charles Gibbs (vice-speaker, House of Delegates), Dr. Lawrence Routenberg (alternate delegate, MSSNY), Dr. Kevin Roberts (vice-chair, Academic Anesthesiology), and Dr. Brooke Albright (Residents Section president).

Joseph P. Giffin Award: Although we have not yet given out this award, anyone who had the privilege of working with Dr. Joe Giffin knows it will be a very special individual who is recognized. Dr. Giffin, as many may know, was instrumental in advancing our goal to secure an increase in the Medicaid Unit Value from $5 to $10.

Thank you for allowing me the privilege of representing The New York State Society of Anesthesiologists, Inc. My hope, in writing this thank-you
article, is to show you how the efforts of many dedicated NYSSA members represent good governance and ethical practice and how high the level is for my personal goal of trying to match the dedication and efforts of the various NYSSA members I have encountered over the years.

Charles J. Assini, Jr., Esq.
NYSSA Legal Counsel and Legislative Representative
Higgins, Roberts, Beyerl & Coan, P.C.
1430 Balltown Road
Schenectady NY 12309
Phone: 518-374-3399  Fax: 518-374-9416
E-mail: CJAssini@HRBCLaw.com
and cc: GKcarter@HRBCLaw.com

Tired of Retirement?
If you are a retired member of NYSSA and would like to return to practice, but feel you need a period of supervised clinical experience before returning, the NYSSA Committee on Retirement may be of assistance. Several anesthesia departments in different parts of the state have indicated a willingness to participate in retraining programs. If you are interested, please send us a brief outline of your past experience (not a complete curriculum vitae) and your assessment of your needs. We will forward the material to the interested departments.

Please send your information to:
Alexander W. Gotta, M.D., Co-Chair
NYSSA Committee on Retirement
The New York State Society of Anesthesiologists, Inc.
85 Fifth Avenue, 8th Floor
New York, New York 10003
Fax: 212-867-7153
e-mail: maryann@nyssa-pga.org
The New York State Society of Anesthesiologists, Inc.

Distinguished Service Award

Each year the House of Delegates of The New York State Society of Anesthesiologists bestows The Distinguished Service Award on an outstanding member of our Society. The award recognizes significant contributions to anesthesiology and the NYSSA and is the highest honor that our Society can give to any member.

As outlined in the NYSSA Bylaws:

1. The recipient must be an anesthesiologist who has been an Active member in good standing of the NYSSA for a minimum of 10 years.

2. The recipient must have provided significant service to the NYSSA by playing an active role in anesthesia education and/or an active leadership role in the NYSSA.

3. The award must not be given posthumously.

4. Serving members of the Judicial and Awards Committee and officers of the NYSSA are not eligible to receive the Distinguished Service Award.

Any member of the NYSSA may submit a nomination. There is no nomination form. We request only a letter from you indicating why you believe your candidate deserves this honor. Please stress his/her significant contributions to anesthesia education, research, or political/administrative activities. The candidate’s current curriculum vitae should also be included. Please send your nomination to Thel G. Boyette, M.D., at NYSSA headquarters before July 1, 2009.

Only by your active participation in the nominating process can we be assured that the most deserving will receive their due consideration.

Thel G. Boyette, M.D., Chair
NYSSA Judicial and Awards Committee
Dr. H. Ketcham “Ketch” Morrell established himself as one of the pioneers in anesthesiology in Upstate New York. Dr. Morrell received his B.S. in 1950 from St. Lawrence University and his M.D. from SUNY at Syracuse in 1954. Following an internship at St. Joseph’s Hospital in Syracuse, he served his residency in anesthesiology at Grasslands Hospital, Valhalla, from 1955 to 1957 with Harold Bishop. From 1957 to 1959 he was chief of the Anesthesia Section, U.S. Naval Hospital, Charleston, South Carolina. He left the service as lieutenant commander, USNRMC. Eventually, Ketch became chairman of the Department of Anesthesiology at St. Joseph’s Hospital and joined the faculty at SUNY Syracuse, becoming clinical professor.

Dr Morrell served the NYSSA as chair of the Membership and Credentials Committee, member of the Bylaws and Ethics Committee, vice speaker of the House of Delegates, and alternate director and then director of District 4 of the American Society of Anesthesiologists.

During Dr Morrell’s tenure as NYSSA president, he played a major role in the creation of the “Ethical Guidelines for the Practice of Anesthesiology.” Also during his tenure, the American Medical Association, through its Council on Medical Education, approved in full the “NYSSA Programs of Continuing Education.” Dr Morrell led NYSSA to develop the “Standards of Care in Anesthesiology.” These standards were later adopted and promulgated by the ASA. Dr. Morrell preached the gospel of continuing education.

As president of the ASA in 1985, Dr. Morrell brought his commitment, intellectual ability, and administrative skills to the national organization. He reorganized the ASA administration by creating the current form of governance, the Executive Committee. Recognizing the need to introduce the latest technology to ASA, he began the process of computerization, applicable to data processing, word processing, and continuing medical education. Dr Morrell’s commitment to medical education and patient safety were exemplified by the activities of the Committee on Patient Safety and Risk Management during his presidency; these activities culminated in the creation of six educational videotapes.
Combined with his professional activities, Dr. Morrell had a multitude of extra-curricular activities, serving as a church organist, a member of the Syracuse Symphony (favoring Bach), a farmer, and a participant in the family program of the American Field Service, which brings young people from all over the world to share the American experience by living with American families.

Alexander W. Gotta, M.D., is professor emeritus of anesthesiology, SUNY – Downstate Medical Center, Brooklyn, New York.

Editor’s note: The NYSSA Distinguished Service Award, given annually, was presented in 2008 to Dr. Ketcham Morrell at the PGA/62 Welcome Plenary Session, December 13, 2008.

Support the ASA Lifeline Campaign

In an effort to communicate the essential role that anesthesiologists play in modern medicine, the ASA has developed the Lifeline Campaign. The campaign is a response to the ASA's 2008 research findings that patients as well as many in the medical community are too often unaware of the importance of anesthesiologists in medicine today.

As an integral part of the Lifeline Campaign, the ASA will launch a Web site for the general public that will serve as the definitive source of information on anesthesiology. The Web site will be a resource for the public to learn about the role of anesthesiologists and the use of anesthesia during medical procedures. New media strategies will also be used to reach other external digital resources, including medical blogs, online forums, and Web sites.

The success of the Lifeline Campaign will depend largely on the dedication and participation of anesthesiologists across the country. By embodying and promoting the central themes of the program, anesthesiologists will validate and reinforce the Lifeline Campaign's goals and messages more than any other initiative.

Members can support the Lifeline Campaign with as much or as little time as they are willing to commit. Even a few hours a year can have a positive impact.

To learn more about the Lifeline Campaign and what you can do to help, go to www.lifelinecampaign.com. If you prefer, you may e-mail: lifeline@asahq.org.
Residents Section

Would You Fix My Car For Free?

BROOKE ALBRIGHT, M.D.

Returning from vacation, I met a gentleman, perhaps in his early 50s, while awaiting a bus back home at the airport. To pass the time, he asked from where I was traveling. In a whisper, I apologized to him, saying, “Miami, where I caught a case of laryngitis!” Despite my obvious struggle to communicate, he continued to hammer me with questions of small talk until finally he asked, “So what do you do?” When I replied, “I am a resident physician,” the pleasant conversation turned into a heated political debate. He told me that where he was from, Israel and later Canada, where healthcare was socialized, healthcare was much better and, “If the U.S. doesn’t do something, it is going to fall on its face.” I agreed that the system was flawed and needed an overhaul. That would be the only thing we agreed on for the next 20-minute bus ride.

The gentleman told me that the reason why our system is so broken is because doctors overcharge, and that in Israel, doctors are happy making the same income as a mechanic. He must have been a mechanic since he compared the two on several occasions, reasoning that one hardworking person is no better than the other, so why should one get paid more? The more I tried explaining my point of view, the angrier he seemed. I argued there is a shortage of physicians in this country, particularly primary care, and that paying them less is not going to solve the problem. “Well the reason we have a shortage of physicians is because they are all being sued for being bad doctors,” the gentlemen believed, “and the insurance companies are fed up with having to protect them all the time.” Clearly this gentleman had a bad experience with the U.S. healthcare system.

No matter how much effort I exerted to defend my profession, he was relentless in countering my argument. I decided to sit back in my seat and listen as he talked over my shoulder from the seat behind mine. For half of the bus ride, I said nothing. I listened to the worries of what seemed to be a distressed and frustrated patient. He described undergoing cardiac bypass surgery without health insurance and the financial impact of the event on him and his family. He was forced to sell his family’s home, change professions, and forgo college for his child, all to help pay off unexpected medical bills. Rather than being grateful to the physicians who helped save his life, he was bitter for the debt he now bore that displaced his family.

He continued explaining that his wife was, ironically, a radiologist licensed and working in Israel at the time of his cardiac event, and that had he
experienced a heart attack in Israel, national health insurance would have covered the bills and he would not be in the dire financial situation he is today. Since the surgery, he says his wife has returned to the U.S. from practicing medicine in Israel, a career she loved, to start a small family business, which barely pays the bills. He said that if she were licensed to practice medicine in the United States, she would open a free clinic for people without health insurance. And his daughter, who is applying for financial assistance to attend college, is considering studying medicine so she can become a “not-for-profit physician,” donating her services to the under-and uninsured.

At this point in his story, I was deeply moved, sympathizing greatly with him and his situation. Here is an example of a hardworking U.S. citizen who owns a small business (most likely as a mechanic), works long hours, pays his taxes, has struggled to build a better life for his family, and, one day, sees all of his hard work and dreams crushed because he did not have health insurance. Rather than praise the advances in medicine and the goodwill of the physicians who saved his life, he curses them. Perhaps had he held health insurance to cover his medical bills, his life would be on the same track, and his outlook on physicians and the U.S. healthcare system would be positive rather than negative?

After that bus ride home, I thought to myself, am I studying to become a doctor in vain? Do doctors expect too much in terms of reimbursement? Would I enter medicine if I were not adequately compensated, or would I choose to study a different profession? The truth is, I would love to be part of a not-for-profit hospital or clinic that provided free services for every patient who walked through the doors. But how could I afford to do so? Medical students graduate these days with more than $150,000 in education debt. With this kind of debt, and the fact that I live and work in Manhattan, where the cost of living index is 200 percent above the national average, I cannot afford to work for free. To become a physician, I have dedicated more than eight grueling years of my life to studying to be at the top of my class, passed more than five day-long exams, and am now obligated to work 80-hour weeks to fulfill an additional four years of residency training in my chosen specialty.

The truth is that my academics and hard work ethic would have qualified me to enter nearly any profession, but I chose medicine. However, I chose medicine blinded to the intrinsic problems of our broken healthcare system. How is a physician supposed to practice what he or she has learned through years of schooling and training when a patient can’t afford to pay for a prescription the doctor has written? This is an obstacle I did not learn how to deal with, nor anticipate, in medical school. Research shows that after diet
and exercise fail in a patient with high blood pressure, prescription drugs are needed. However, no research or schooling has taught me how to treat high blood pressure when the patient cannot afford the drug. So herein lies the crux of the problem: What do we, the physicians, do? Do we write a prescription for a medication despite knowing the patient will not be able to buy and take it? Do we not perform life-saving surgery on a patient because we know the patient cannot pay and that the debt may ruin his or her life? Or do we perform the surgery for free, risking our license in a potential malpractice suit, knowing ahead of time we will not be reimbursed?

After all, would this mechanic fix my car for free if I totaled it and told him I had no money to pay for it? I suppose not, nor would I expect him to. We mandate that drivers buy car insurance but we allow individuals to go without health insurance. When a driver wrecks a car without insurance, a mechanic can refuse to fix it. A doctor, on the other hand, will be sued for refusing to treat a patient without health insurance in the emergency room. In addition to this irony, our government punishes drivers without car insurance but does nothing to enforce individual health insurance coverage. Massachusetts has innovatively mandated that individuals carry health insurance; however, the state neglected to mandate that it be made affordable first. But how do we make it affordable? After all, if you cannot afford car insurance, you simply do not drive. What is the alternative to buying health insurance? I believe answers to these questions will help solve our healthcare crisis.

To be fair, I do not believe we should model healthcare around auto care. Even though I have to disagree with the statement by the bitter uninsured gentleman that doctors are to blame, I have to agree that our healthcare system needs to be fixed. In a perfect system, the physician and patient would never need to negotiate or debate costs. Care would be based solely on medical knowledge and research. As physicians, we love our profession and our patients, and want nothing more than to give them the best medical treatment. Quality, affordable healthcare should be a right of every citizen. At the same time, compensation for providing specialized care with significant liability risk should be a right of every provider.

Brooke Albright, M.D.
President, NYSSA RFS
The Department of Anesthesiology of the Mount Sinai School of Medicine, New York, NY

presents the

28th Annual Symposium:
Clinical Update in Anesthesiology,
Surgery and Perioperative Medicine
with International Faculty and Industrial Exhibits

Course Directors: George Silvay, MD, PhD & Marc Stone, MD

January 17-22, 2010
The Atlantis Resort
Paradise Island,
Bahamas

Target Audience: Physicians, CRNAs, Nurses, Physician Assistants, Perfusionists

Abstracts will be accepted for poster-discussion presentation in the following areas: new surgical, anesthetic, perfusion and perioperative techniques; monitoring; new pharmacologic agents; interesting case series; and basic science research related to anesthesia and surgery.

The deadline for abstract submission is Friday, October 16, 2009

For information and abstract forms contact:
Helen Phillips  e-mail: helen.phillips@mountsinai.org  Phone: 212-241-7630

www.clinicalupdateinanesthesiology.org
Anesthesiologists Anonymous: The Truth About Addiction

CHRIS HINSON, M.D.

Did you know that there is a disease that anesthesia professionals suffer from at a rate of 3.5 times that of other physicians? Did you know that even after successful treatment of this disease, these same anesthesia professionals are at risk of a recurrence? Did you know that often the presenting symptom of this disease is death? Maybe you have seen the videos or heard the stories, but have you ever actually known someone with the disease or, even worse, known someone whose life was taken by it? If you are an anesthesia professional, these facts should be alarming. But the most alarming fact about the disease is that most of us don’t even recognize it as such. The disease is addiction.

Now before belting out that sigh of relief and saying to yourself, “Well, thank goodness I don’t have to worry about that because I would never …,” take a look at some of the facts and research statistics about addiction and, specifically, anesthesia practitioners:

- Addicted physicians tend to be young, highly talented, very personable, and well-liked.
- Thirty-three percent of addicted anesthesia professionals have a family history of addiction (e.g., alcohol, drugs, gambling, etc.)
- Anesthesia residents are overrepresented among the anesthesia professionals who suffer from addiction.
- Current studies have already confirmed that fentanyl has been detected in an aerosolized form in the OR (thereby exposing a potentially susceptible individual to a highly addictive drug).

With this information in mind, what can anesthesia professionals do to protect colleagues, loved ones, patients, and themselves from becoming victims of this disease? Several suggested guidelines have been proposed for anesthesia departments to follow and they are broken down into four categories: Education, Recognition, Treatment, and Recovery.

**Education**

Believe it or not, education is likely the most important factor for anesthesiologists. The unfortunate truth, however, is that some departments don’t invest much time in addiction education despite the frightening statistics confronting the specialty of anesthesia. One or two videos on the
topic in Grand Rounds are a good start, but more may be required. After all, individuals’ lives are at stake.

The ASA has information on the number of cases a resident must complete, study prep for boards, and several other requirements that limit the time available during residency to study additional topics. However, one proposed curriculum model suggests including a week-long training module focused solely on the disease of addiction. By investing extra time in this area of education, anesthesia programs can help reduce the overrepresentation of anesthesiologists suffering from addiction, and, more importantly, help save lives. For more information, please visit: http://www.ASAhq.org/clinical/curriculum.pdf.

Recognition
Recognition is another component of addiction education. Anesthesiologists are taught to become aware of the signs and symptoms that often precede or coexist with active addiction. The ability to recognize and identify these signs and symptoms, as subtle as they may be, allows for early intervention. Enough emphasis cannot be placed on the need for absolute discretion and confidentiality. Approaching a suspected impaired colleague is not something to take lightly — it is not unheard of for physicians to commit suicide after being confronted. A designated “go-to” individual within each department who is knowledgeable on the subject should be assigned to undertake such tasks. That being said, the only way to treat addiction is to first recognize the illness. The addicted are not immoral, evil, crazy, stupid or weak-willed. They have a disease that requires treatment.

Treatment
For anesthesia professionals, opiate addiction (to fentanyl and sufentanil most commonly) is by far the most common. It is highly recommended that treatment be conducted at a facility that specializes in healthcare professionals. This allows for diagnosis, evaluation and development of a therapeutic plan, and reentry into medicine. Keep in mind, however, that there is no cure for addiction and no explanation for self-administration of these drugs other than one requiring treatment.

The most effective treatment requires:
1. A thorough understanding of the disease
2. Long-term care and follow-up
3. Regular participation in recovery goals

The good news is that upon successful completion of a treatment program, anesthesiologists have a lower rate of relapse than other physicians. The bad
news is that, too often, the presenting symptom for the 25 percent of those who do relapse is death.

**Recovery**

Recovery is a lifelong, life-enhancing, positive process that is based on three principles:
1. Acknowledgment of the lack of ability to control use on one's own
2. Practicing continued abstinence
3. Willingness to accept direction from other recovering persons

If these principles are strictly adhered to, any person suffering from addiction should be in very little danger of relapse. Furthermore, many addicted anesthesiologists who have successfully completed treatment and entered into recovery have returned to work and continue to have fulfilling careers. Although some choose not to reenter anesthesia, they find success in other areas of medicine.

Reentry is a controversial topic for anesthesiologists. The general rule for reentry after treatment for addiction is to decide on a case-by-case basis. Some treatment centers almost never counsel reentry into anesthesia, especially for residents. That being said, the Talbot Recovery Program has developed a classification system that has been used by several states as a guideline for determining if and when an anesthesia professional may return to practice.

**Category I**: Return to anesthesia immediately upon successful completion of a treatment program

**Category II**: Return to anesthesia after two years off

**Category III**: Redirect to another specialty

While numerous criteria exist under each category, this example serves as the basis for one particular classification system.

Hopefully, this article has shed light on a controversial subject that is too often swept into dark corners, out of sight and out of mind. Perhaps with this refreshing insight, anesthesia departments will seriously consider adopting a curriculum that incorporates education, recognition, treatment, and recovery from addiction. Fortunately, a majority of healthcare professionals will never be forced to encounter the ravages of this potentially fatal disease; however, it is the duty of all providers to be mindful and aware in order to protect our patients, our colleagues, and ourselves.

* The Committee for Physician Health (CPH) provides confidential assistance to physicians, medical students, and physician assistants suffering from substance use or other psychiatric disorders; monitors the
treatment and clinical practice of program participants; and provides advocacy, support, and outreach activities, including prevention and education. For questions or more information, call 518-436-4273.

REFERENCES


NYSSA Members:

*Do we have your e-mail address?*

The NYSSA recently sent an e-mail notice to all our members regarding 2010 committee appointments. If you did not receive this notice, most likely we do not have your current e-mail address on file.

To ensure that you are kept up-to-date about all NYSSA issues, please send your e-mail address to maryann@nyssa-pga.org.
The Academic Anesthesiology Committee of the New York State Society of Anesthesiologists presents the Third Annual New York State Conference for Anesthesiology, Critical Care and Pain Management Residents and Fellows With Regional Anesthesia and Patient Simulation Workshops

Saturday - November 14, 2009
Location: The Mount Sinai Medical Center
One Gustave L. Levy Place, New York, NY 10029

Program Chair: George Silvay, MD, PhD
Professor, Department of Anesthesiology
The Mount Sinai School of Medicine, New York, NY

Abstracts will be accepted for poster discussion and presentation. Deadline for abstract submission is September 15, 2009

Contact Information:
Ms. Helen Phillips
Mount Sinai School of Medicine
Department of Anesthesiology, Box 1010
One Gustave L. Levy Place
New York, NY 10029-6574
Tel. 212-241-7467
Fax: 212-426-2009
E-mail: helen.phillips@mountsinai.org
More than 1,100 physicians attended the Medical Society of the State of New York (MSSNY) Lobby Day in Albany on March 3. Governor Paterson, DOH Commissioner Dr. Richard Daines, and Majority Senate Leader Malcolm Smith were among the rally’s speakers.

Kathleen A. O’Leary, M.D., NYSSA vice-president, enjoys dinner with Alan F. Stobel, M.D., chair of the Committee on Economic Affairs, after a long day of legislative advocacy.

Medical students attending Lobby Day helped create an impressive “Red Hat Army” on the steps of the Capitol.

Scott Groudine, M.D., past president of the NYSSA, waits to speak at the rally.
A number of NYSSA members attended the annual ASA legislative conference in Washington, D.C., in May. Pictured are (left to right) Salvatore Vitale, M.D., NYSSA treasurer; Scott Groudine, M.D., NYSSA past president; Rebecca Twersky, M.D., NYSSA PGA chair; Heather Loneck, legislative correspondent for Sen. Kirsten Gillibrand (D-N.Y.); Paul Willoughby, M.D., NYSSA president-elect; Alan Strobel, M.D., NYSSA Economic Committee chair; and Alan Curle, M.D., NYSSA president.

NYSSA President Alan Curle, M.D., talks with Nicole Fiol, legislative correspondent for Sen. Charles Schumer (D-N.Y.).

Dr. David J. Wlody (chairman of the Government and Legal Affairs Committee), New York Governor David A. Paterson, and NYSSA Executive Director Stuart Hayman were in attendance at a reception for the governor at the New York Sheraton Towers Hotel.
The Governor Nelson A. Rockefeller Empire State Plaza is home to a unique building called the “Egg.” Behind the “Egg” stands the New York State Capitol, which was completed in 1899.

Alan Curle, M.D., NYSSA president, talks with Senate Majority Leader Malcolm A. Smith.
Alan Curle, M.D., NYSSA president, meets with Assemblyman Joseph D. Morelle, chairman of the Assembly’s Committee on Insurance.

David Wlody, M.D., chair of the NYSSA Committee on Government and Legal Affairs, presents the NYSSA Public Servant of the Year plaque to Assembly member Deborah J. Glick.

James E. Szalados, M.D., M.B.A., Esq., (chair of the NYSSA Communications Committee), and Kira Geraci-Ciardullo, M.D., participate on the Public Health and Education Reference Committee at the Medical Society of the State of New York’s House of Delegates meeting.

Inderpal Chhabra, M.D. (left), Steven Schwalbe, M.D. (past president of the NYSSA), and Susan Baldassari, M.D., participate on the Socio-Medical Economics Reference Committee at the Medical Society of the State of New York’s House of Delegates meeting.
The New York State Society of Anesthesiologists, Inc.
Joseph P. Giffin
Wall of Distinction Award

The House of Delegates of The New York State Society of Anesthesiologists will bestow The Joseph P. Giffin Wall of Distinction Award on an outstanding member of our Society. The award recognizes significant contributions to anesthesiology and the NYSSA.

As outlined in the NYSSA Bylaws:

1. The recipient must be an anesthesiologist who had been an Active member in good standing of the NYSSA for a minimum of 10 years.

2. The recipient must have provided significant service to the NYSSA by playing an active role in anesthesia education and/or an active leadership role in the NYSSA.

3. The Wall of Distinction award can only be conferred posthumously and is not required to be awarded annually.

Any member of the NYSSA may submit a nomination. There is no nominating form. We request only a letter from you indicating why you believe your candidate deserves this honor. Please stress his/her significant contributions to anesthesia education, research, or political/administrative activities. If available, the candidate's current curriculum vitae should also be included. Please send your nomination to Thel G. Boyette, M.D., at NYSSA headquarters before July 1, 2009.

Only by your active participation in the nominating process can we be assured that the most deserving will receive their due consideration.

Thel G. Boyette, M.D., Chair
NYSSA Judicial and Awards Committee
Introduction

Venous thrombosis is the process of clot (thrombus) formation within veins. A pulmonary embolism results when a piece of thrombus detaches from a vein wall, travels to the lungs, and lodges within the pulmonary arteries. Deep vein thrombosis (DVT) and acute pulmonary embolism (PE) are two manifestations of the same disorder, venous thromboembolism (VTE). VTE is an important cause of perioperative morbidity and mortality.

More than 70% of all pulmonary emboli originate in the pelvic and deep veins of the lower extremities. DVT of the lower extremity can be subdivided into distal (calf vein) and proximal (popliteal, femoral, or iliac vein) thrombosis. Proximal vein thrombosis is of greater importance clinically and is more commonly associated with serious disease, with more than 90% of cases of acute PE being due to emboli emanating from the proximal, rather than the distal, veins of the lower extremities. The superior vena cava, upper extremity veins, and right chambers of the heart are less common sources.

Acute PE is responsible for approximately 150,000 to 200,000 deaths per year in the United States. It is common and often fatal, with a mortality rate of approximately 30% without treatment. Therapy with anticoagulants decreases the mortality rate to 2 to 8%, making it imperative that effective therapy be instituted as quickly as possible. Most deaths are due to recurrent PE within the first few hours of the initial event.

A thorough preoperative assessment and preparation before major surgery must therefore include prophylactic treatment of DVT and PE in an attempt to decrease the incidence of this potentially fatal complication. The most appropriate choice of therapy for each patient and initiating it at the right time are key to decreasing the incidence of perioperative VTE. Selection of the appropriate prophylactic treatment and providing it for the appropriate duration depends not only upon the knowledge of the various modalities available for the prevention of VTE but also upon the awareness of the significance of this complication among both surgeons and anesthesiologists. Despite overwhelming evidence for the effectiveness of regimens for DVT.
prophylaxis, the concern over bleeding risks often dissuades physicians from complying with guidelines.

This review article will address the prevalence, etiology, risk factors and diagnosis of perioperative DVT and PE as well as the various pharmacologic and nonpharmacologic modalities available for their prevention and treatment.

**Prevalence**

Deep venous thrombosis (DVT) is a common and highly preventable perioperative complication. It occurs in about 50% of all patients undergoing major abdominal, pelvic or lower limb orthopedic surgery, in the absence of thromboprophylaxis. About 20% of these patients will go on to develop PE, of which up to 5% will be fatal. Prophylaxis reduces the incidence of post-operative DVT to less than 5%. The risk of DVT following elective neurosurgery (24%) is comparable to that following general surgery, but the DVT risk nearly doubles after elective total hip replacement (45-57%), total knee replacement (40-84%), or hip fracture surgery (36-60%).

There is a scarcity of reliable autopsy data as to the true prevalence of perioperative pulmonary embolism (PE). It varies according to the surgical procedure. Estimates indicate that without prophylaxis, fatal PE occurs in 0.1-0.8% of patients undergoing elective general surgery, 2-3% of those undergoing elective hip replacement, and up to 4-7% of those undergoing surgery for a fractured hip. Mortality can be reduced by prompt diagnosis and therapy. Unfortunately, the clinical presentation of PE is variable and nonspecific and, thus, diagnostic testing is necessary before confirming or excluding the diagnosis of PE.

**Pathophysiology**

The pathophysiology of venous thromboembolism involves Virchow's Triad of three factors:

1. Alterations in the blood flow (stasis)
2. Damage to the vessel wall and vascular endothelium
3. Alterations in the constituents of the blood (an increase in coagulability)

Stasis is a result of the venous pooling that accompanies both the supine positioning and the effects of anesthesia. Endothelial and, consequently, intimal injury results from excessive vasodilation caused by vasoactive amines and anesthesia. An increase in coagulability occurs as a consequence of decreased clearance of the procoagulant factors, with or without underlying coagulopathies. Thrombophilia or hypercoagulopathy is a tendency to develop thrombosis. It can be inherited, acquired or both. Before 1993, a heritable cause of thrombophilia was identified in fewer than
20% of affected individuals. Since the discovery of factor V Leiden and the prothrombin gene mutation, this percentage has risen dramatically. However, the cause remains unknown in many patients with VTE.

**Risk Factors and Stratification**

Surgical patients are at increased risk for developing symptomatic or asymptomatic VTE while hospitalized. The risk of perioperative VTE depends upon a number of factors (Table 1) related to the surgical procedure itself (e.g., degree of invasiveness, type and duration of anesthesia, requirement for immobilization) as well as patient-related variables (e.g., presence of infection, dehydration, malignancy, obesity, increased age, prior VTE, estrogen use, or hypercoagulable state such as factor V Leiden or protein C deficiency).

**Table 1 Risk Factors for Venous Thromboembolic Disease**

<table>
<thead>
<tr>
<th>Stasis/Endothelial Injury</th>
<th>Hypercoagulable States</th>
<th>Medical Conditions</th>
<th>Drugs</th>
<th>Other Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indwelling venous device</td>
<td>Activated protein C resistance</td>
<td>Malignancy (solid tumor and myeloproliferative disorders)</td>
<td>Oral contraceptive use</td>
<td>Age</td>
</tr>
<tr>
<td>Surgery (most commonly, pelvic and orthopedic)</td>
<td>Factor V Leiden</td>
<td>Pregnancy, postpartum therapy</td>
<td>Hormone replacement</td>
<td></td>
</tr>
<tr>
<td>Major trauma, fracture</td>
<td>Prothrombin gene mutation G20210A</td>
<td>Myocardial infarction</td>
<td>Chemotherapy</td>
<td></td>
</tr>
<tr>
<td>Prolonged travel</td>
<td>Anticardiolipin antibodies</td>
<td>Congestive heart failure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paralysis (including anesthesia for &gt;30 min)</td>
<td>Hyperhomocysteinemia</td>
<td>Stroke</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Varicose veins</td>
<td>Lupus anticoagulant</td>
<td>Obesity</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Elevated factor VIII level</td>
<td>Inflammatory bowel disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Protein C deficiency</td>
<td>Nephrotic syndrome</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Protein S deficiency</td>
<td>History of VTE</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dysfibrinogenemia</td>
<td>Heparin-induced thrombocytopenia</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dysplasminogenemia</td>
<td>Paroxysmal nocturnal hemoglobinuria</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Antithrombin deficiency</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The type of anesthesia (general or regional) also contributes to the incidence rate and should be considered when assessing a patient's risk for postoperative DVT. Patients who receive epidural or spinal anesthesia have a more than 50% decreased incidence of postoperative VTE after total hip or
knee replacement compared to those having these surgeries under general anesthesia.\textsuperscript{6} However, the long-term outcome is not affected by the anesthetic technique.\textsuperscript{6}

The incidence of asymptomatic VTE, which is considerably higher than that of symptomatic VTE, has been reported to be 20-25\% after general surgery and 45-60\% after orthopedic surgery involving the hip or knee. Results of one study showed that neurosurgery involving entry into brain or meninges and orthopedic surgery involving the hip was associated with the highest incidence of symptomatic thromboembolism.\textsuperscript{7,8} The very high risk associated with orthopedic surgery results from a number of factors that contribute to venous stasis, including the supine position on the operating table, the anatomic positioning of the extremity, and, in patients undergoing total knee replacement, inflation of a thigh tourniquet to obtain a bloodless field.\textsuperscript{7} In addition, intimal injury may result from positioning of the extremity, and compression of the femoral vein may occur due to flexion and adduction of the hip during surgery on this joint.\textsuperscript{7}

The incidence of postoperative VTE is low in patients younger than 40 years and increases with age. Prolonged immobilization due to any reason, including stroke, surgery, trauma, and obesity, leads to an increased risk of developing postoperative DVT mainly due to venous stasis.\textsuperscript{9} Medical conditions like congestive heart failure (CHF) and chronic obstructive pulmonary disease (COPD) are associated with a higher incidence of VTE.\textsuperscript{10} Cancer is an important risk factor for postoperative VTE. The reason for this could be that neoplastic cells generate thrombin and synthesize various procoagulants.\textsuperscript{11} Oral contraceptives containing estrogen and hormone-replacement therapy increase the risk of VTE, especially at the start of therapy.\textsuperscript{12,13}

Many studies indicate that surgical patients often do not receive VTE prophylaxis. The ENDORSE study evaluated VTE risk and prophylaxis in all hospital inpatients over the age of 18 years admitted to a surgical ward in 358 hospitals across 32 different countries.\textsuperscript{14} For the 30,827 surgical patients in this study, 64.4\% were judged to be at risk for VTE according to the ACCP guidelines available at that time.\textsuperscript{14} However, only 58.5\% of the at-risk surgical patients received ACCP-recommended VTE prophylaxis.\textsuperscript{14}

Based on published data, the 7th American College of Chest Physicians (ACCP) Consensus Conference on Antithrombotic Therapy recommended that patients be classified as having low, moderate, high, and very high risks for the development of DVT or PE and that the prophylactic regimens are used according to this risk stratification. The 2004 ACCP guidelines divided patients undergoing surgical procedures into the following four risk categories.\textsuperscript{15}
Low risk — Low-risk patients are under the age of 40, have none of the adverse risk factors listed above, will require general anesthesia for less than 30 minutes, and are undergoing minor elective, abdominal, or thoracic surgery. Without prophylaxis, their risk of proximal vein thrombosis is less than 1.0%, and risk of fatal pulmonary embolism is less than 0.01%.

Moderate risk — Moderate-risk patients include those undergoing minor surgery who have additional risk factors or those age 40 to 60 who will require general anesthesia for more than 30 minutes and have none of the above risk factors. Without prophylaxis, their risk of proximal vein thrombosis is 2 to 4%, and their risk of fatal pulmonary embolism is 0.1 to 0.4%.

High risk — The high-risk group includes those >60 years of age undergoing surgery as well as those age 40 to 60 with additional risk factors. Without prophylaxis, the risk of proximal vein thrombosis and fatal pulmonary embolism in this group is 4 to 8% and 0.4 to 1.0%, respectively.

Highest risk — The highest-risk group includes surgery in patients with multiple risk factors, as well as those undergoing hip or knee arthroplasty or hip fracture surgery, and those with major trauma or spinal cord injury. Without prophylaxis, the risk of proximal vein thrombosis and fatal pulmonary embolism in this group is 10 to 20% and 0.2 to 5%, respectively.

The revised 2008 ACCP guidelines removed many of the descriptive terms used in the 2004 guidelines (e.g., age, duration of anesthesia, presence of thrombotic risk factors) in order to allow for individual clinician interpretation, and reduced the risk categories to three, as follows:16

Low risk — Minor surgery in mobile patients

Moderate risk — Most general, open gynecologic, or urologic surgery patients

High risk — Hip or knee arthroplasty, hip fracture surgery, spinal cord injury

The treatment recommendations outlined below will conform to these 2008 risk levels:

Initial Evaluation

The history and physical examination are typically nonspecific and insensitive for the detection of VTE. However, diagnostic methods, such as the ventilation perfusion scan, require that a clinical assessment be made before the test's performance. It is equally important to have a high index of suspicion for the presence of a DVT, PE, or both in light of the associated
mortality with this disease state. The basic laboratory evaluation includes a complete blood count, platelet count, prothrombin time, activated partial thromboplastin time (APTT), and comprehensive metabolic panel to look for electrolyte, renal, or hepatic abnormalities. If an evaluation for thrombophilias is being considered, blood should be set aside for screening tests before treatment with heparin and warfarin is initiated. Physicians should be aware that antithrombin III, protein C, and S protein assays are inaccurate once a patient has begun anticoagulation therapy. Therefore, an investigation for thrombophilias should not be conducted until at least two weeks after warfarin therapy has been discontinued. Anticoagulation does not affect tests for other common thrombophilias, such as factor V Leiden mutation, hyperhomocysteinemia, and antiphospholipid antibody.

**Signs and Symptoms**

**Deep Venous Thrombosis**

Pain, edema, erythema, and warmth in the affected limb are typical symptoms of DVT. Physical examination might also reveal distention of collateral veins and, when associated with superficial venous thrombosis, a palpable cord. Insensitive and nonspecific findings include the Homans’ sign (calf pain on sudden dorsiflexion of the foot) and Lowenberg’s sign (calf pain in response to lower pressure than expected on inflation of a sphygomanometer cuff). Phlegmasia cerulea dolens, a rare clinical manifestation of DVT, is characterized by massive edema, severe pain, and limb cyanosis. This is a limb- and life-threatening condition, requiring immediate and aggressive intervention.

**Pulmonary Embolism**

The signs and symptoms of pulmonary embolism are also generally nonspecific. The most common symptoms in individuals without preexisting cardiopulmonary disease are dyspnea, pleuritic chest pain, cough, leg edema, leg pain, hemoptysis, and palpitations. The most common findings on physical examination are tachypnea, rales/crackles, tachycardia, a fourth heart sound, accentuation of the second heart sound, diaphoresis and DVT. Almost 50% of patients with DVT have an asymptomatic pulmonary embolism at the time of diagnosis.

**Establishing the Diagnosis**

One or more tests are required to confirm the presence of a DVT, PE, or both. Objective testing should be performed on patients in whom there is a high clinical suspicion of VTE because this disease is often asymptomatic. The test(s) of choice will depend on the clinical probability of disease, test availability and local expertise, patient’s comorbidities, and cost.
Deep Venous Thrombosis

Clinical Prediction Models — There are several validated clinical prediction models available to help the clinician obtain a reliable assessment of pretest probability that a DVT is present. A well-known example is the Wells clinical model. It assigns a point system to a limited number of risk factors, signs and symptoms, which, when summed up, characterizes the patient as having a low, intermediate, or high likelihood of a DVT.18 When combined with D-dimer testing, it stratifies individuals as DVT likely or DVT unlikely, and can be used to exclude the presence of a DVT without requiring any imaging.

D-Dimers are formed when plasmin degrades cross-linked fibrin. D-dimer assays, which vary in their sensitivities and specificities, can be measured using an enzyme-linked immunosorbent assay (ELISA), a whole-blood agglutination test (SimpliRED), or a latex agglutination test. Elevated levels of D-dimers are found in almost all patients with venous thromboembolic disease as well as in patients with active cardiopulmonary disease or malignancy and in those who have experienced recent surgery or trauma. Therefore, D-dimer measurement is most useful in excluding venous thromboembolic disease. For example, in patients who are clinically suspected of having a DVT, a D-dimer level lower than 500 ng/mL on ELISA testing has a negative predictive value of 95%.19

Duplex Ultrasonography combines two modalities, B-mode imaging and color Doppler techniques. It is used to detect the presence of intraluminal echoes, which are the visual representation of a thrombus, and to assess blood flow characteristics, including its presence, direction, and variation with respiration. In a symptomatic patient, an inability to compress a vein fully and obliterate its lumen is a clear sign with more than 95% sensitivity and specificity of the presence of a proximal DVT.20 It is less sensitive for the detection of calf venous thrombosis.20 The advantages of duplex ultrasonography are its wide availability, portability, cost, and noninvasiveness. However, it is operator-dependent and can be difficult to perform on obese patients, patients with significant tenderness or edema, and patients whose limbs are in a cast or other immobilizing device. Moreover, duplex ultrasonography cannot always accurately distinguish between an acute and chronic thrombus. Despite these limitations, it remains the preferred imaging modality for the diagnosis of DVT.

Contrast Venography remains the reference standard for diagnosing DVT, but is rarely used as the initial diagnostic test because of patient discomfort, required exposure to contrast material, and limitations of availability. Impedance plethysmography uses electrodes placed around the calf to
measure changes in blood volume, where proximal venous obstruction increases blood volume and decreases electrical impedance. Although this test is highly sensitive and specific for detecting proximal DVT, it has become less popular since duplex ultrasonography has become widely available. Magnetic resonance venography (MRV) has a sensitivity and specificity approaching that of contrast venography. It has the added benefit of high sensitivity and specificity for the detection of DVTs below the knee and in the pelvis. Lack of widespread availability and cost currently limit its use. Computed tomography venography (CTV) also allows visualization of the iliac, pelvic, and inferior vena cava veins and is highly sensitive and specific for the detection of DVTs. Some centers support its use when performed in combination with CT pulmonary angiography (CTA) as a single comprehensive examination for suspected thromboembolic disease. CTV not only can be used to identify the source of a pulmonary embolism, but combined CTV-CT angiography (CTA) also has a higher diagnostic sensitivity than CTA alone for the detection of a PE.

Pulmonary Embolism

Clinical Prediction Models and D-Dimer — Just as in the case of DVT assessment, scoring systems are also available to determine the pretest probability of PE. Again, the most commonly used prediction system is the Wells model, which scores a limited number of symptoms, signs, and risk factors to calculate a pretest probability of PE. This model is especially effective when combined with the results of ventilation perfusion scanning. Similarly, it has been demonstrated that a low pretest clinical probability using the Wells model combined with a negative D-dimer can be used to exclude the presence of a PE without the need for additional diagnostic testing.

Electrocardiography — The electrocardiogram may be normal or may demonstrate sinus tachycardia. In patients with a large embolus, patterns consistent with right heart strain are often seen. These patterns include right axis deviation, right bundle branch block, P wave pulmonale, S1Q3T3 pattern (a prominence of S waves in lead I, Q waves in lead III, and T wave inversion in lead III), nonspecific ST-T wave changes, and arrhythmias.

Chest Radiography — Findings on chest radiographs are nonspecific. Pleural effusions, atelectasis, elevation of a hemidiaphragm, and pulmonary infiltrates may be detected. Hampton’s hump (a wedge-shaped opacity along the pleural surface), Westermark’s sign (decreased vascularity), and Palla’s sign (an enlarged right descending pulmonary artery) are classic radiographic findings, but are only seen occasionally.
Arterial Blood Gas Determination — The arterial blood gas analysis can be normal in patients with a small pulmonary embolism as well as in younger individuals without preexisting cardiopulmonary disease who have a larger embolus. A low Pao2 level, a normal or low Paco2 level, and an elevated alveolar-arterial oxygen gradient (higher than 20 mm Hg) are findings suggestive of a PE.

Lung Scintigraphy — Lung scintigraphy (ventilation perfusion scanning) is based on the pathophysiologic principle that a pulmonary embolism causes an area of mismatch, in which a lung segment is ventilated but not perfused. A recent chest radiograph is necessary for proper interpretation to exclude other cardiopulmonary diseases that cause ventilation or perfusion defects, or both. The presence of interstitial fibrosis, adenopathy, or a history of PE can yield a false-positive result. The location and number of mismatched areas are used to determine whether the patient has a high, intermediate, or low probability of developing a pulmonary embolism. A pretest clinical suspicion improves the diagnostic accuracy of the test and therefore should be documented.

Computed Tomography Angiography — Spiral (helical) CT angiography (CTA) is often used instead of lung scintigraphy because of its wider availability, its ease of operation and interpretation, and its capability for assessing primary pulmonary disease. On CTA, a PE will appear as a partial or complete intraluminal filling defect. If blood can flow around the thrombus, a railway track sign might be seen. This test requires contrast and should be performed with caution in patients with renal insufficiency. The presence of adenopathy can lead to a false-positive result. When compared with conventional pulmonary angiography, spiral CTA is approximately 90% sensitive and 95% specific for the detection of PE.

Echocardiography — Echocardiography, both transthoracic and transesophageal, is becoming a more important tool for evaluating patients with PE. Almost 50% of hemodynamically stable patients who present with a pulmonary embolism will have echocardiographic evidence of right ventricular dysfunction, which is associated with an increase in mortality. Echocardiographic findings may be helpful in determining whether a patient should receive thrombolytic therapy. The use of echocardiography to visualize a pulmonary embolism has been reported, but this test should still be considered an adjunct to other diagnostic modalities until further studies have been performed.

Pulmonary Angiography — Pulmonary angiography is the reference standard for diagnosing pulmonary embolism. Radiocontrast dye is injected after percutaneous catheterization of a vein. An intraluminal filling defect or
an abrupt cutoff of the vessel is diagnostic. Although pulmonary angiography is relatively safe, it is time-consuming, expensive, invasive, and carries the risks associated with contrast exposure. It is typically reserved for patients for whom confirmation of the diagnosis or intervention is required.

**Prevention of Venous Thromboembolism**

The need for preventive measures depends on a patient’s risk factors for venous thromboembolism. There are two approaches to the prevention of fatal pulmonary embolism: primary prophylaxis and secondary prevention. Primary prophylaxis is carried out using either drugs or physical methods that are effective for preventing DVT. Secondary prevention involves the early detection and treatment of subclinical venous thrombosis by screening postoperative patients with objective tests that are sensitive for venous thrombosis.

Primary prophylaxis is preferred in most clinical circumstances. It is more cost-effective than treatment of complications when they occur. Secondary prevention should never replace primary prophylaxis. It is reserved for patients in whom primary prophylaxis is either contraindicated or ineffective.

The two main strategies of primary prophylaxis are: (1) pharmacologic and (2) nonpharmacologic interventions.

**Pharmacologic Interventions**

Prophylaxis is ideally started before or shortly after surgery and continued until the patient is fully ambulatory. Absolute contraindications to antithrombotic or anticoagulant therapy include active bleeding, severe bleeding diathesis or platelet count less than 20,000/µL, neurosurgery, ocular surgery, or intracranial bleeding within the past 10 days. Relative contraindications include mild-to-moderate bleeding diathesis or platelet count 20,000-100,000/µL, brain metastases or recent major trauma, major abdominal surgery within the past two days, gastrointestinal or genitourinary bleeding within the past 14 days, infective endocarditis, or malignant hypertension.

**Low-Dose Unfractionated Heparin**

Low-dose subcutaneous unfractionated heparin (LDUH) for perioperative prophylaxis of VTE is usually given in a dose of 5,000 units two hours preoperatively and then every eight or 12 hours postoperatively (either BID or TID). A prospective randomized study of more than 4,000 patients found that LDUH reduced the incidence of fatal PE in patients undergoing major surgical procedures from 0.7 to 0.1% compared to controls. In addition to
the relatively low side-effect profile, LDUH has the advantage that it is relatively inexpensive and easily administered. Anticoagulant monitoring is not required. The incidence of major bleeding complications following use of LDUH has been estimated, depending upon the definitions used, to be 0.3 to 2 cases/1,000 patient days for both surgical and medical patients.\textsuperscript{26,27} The platelet count should be monitored regularly in all patients on low-dose heparin to detect the rare but significant development of heparin-induced thrombocytopenia (HIT).

**Low-Molecular-Weight Heparin**

The introduction of low-molecular-weight heparin has advanced antithrombotic therapy by providing effective anticoagulation without the need for routine monitoring or adjustments, although it can be monitored through an anti-Xa effect. Three LMW heparins have been approved for clinical use in the United States: enoxaparin, dalteparin, and tinzaparin. Additional LMW heparin products either are commercially available in Europe and other countries or are in phase III clinical trials.\textsuperscript{28} These include fraxiparin, reviparin, nadroparin, bemiparin, and certoparin.\textsuperscript{29} Many trials and meta-analyses have confirmed their superior efficacy, safer profile, and cost effectiveness over unfractionated heparin.\textsuperscript{30-34} This is partly due to more targeted action. Unfractionated heparin acts on both thrombin and factor Xa about equally, whereas low-molecular-weight heparin is more active against factor Xa. Low-molecular-weight heparin has been shown to be more effective than vitamin K antagonists such as warfarin in preventing deep vein thrombosis after major orthopaedic surgery, with no significant difference in rates of bleeding.\textsuperscript{35}

**Oral Anticoagulation**

Oral anticoagulation with warfarin can be commenced preoperatively, at the time of surgery, or in the early postoperative period for prophylaxis of DVT. However, therapy started at the time of surgery or in the early postoperative period may not prevent small venous thrombi from forming during or soon after surgery because the anticoagulant effect is not achieved until the third or fourth postoperative day.\textsuperscript{36} Nonetheless, warfarin appears to effectively inhibit extension of such thrombi, if present, thereby preventing clinically important VTE. Warfarin has been compared with LMW heparin in patients undergoing total hip replacement surgery.\textsuperscript{37} Most studies showed superior benefit with LMWH, with two of the studies having a statistically significant difference favoring LMWH.\textsuperscript{37,38} In a comparison of warfarin to external pneumatic compression after total hip replacement, warfarin was significantly more effective.\textsuperscript{39} In a study of patients with hip fractures, warfarin was superior to aspirin or placebo for the prevention of DVT.\textsuperscript{40}
Aspirin
Several meta-analyses indicate that aspirin decreases the frequency of venous thrombosis following general or orthopedic surgery. This reduction, however, is significantly less than that obtained using other agents. While aspirin may have some activity in preventing VTE, its efficacy and safety profile are inferior to other available measures, precluding its use as monotherapy in most cases. Its therapeutic index when used alone or in conjunction with other anticoagulants has not been well defined. Therefore, aspirin cannot be recommended at present for the prophylaxis of VTE.

Fondaparinux
Fondaparinux sodium (Arixtra) is a synthetic heparin pentasaccharide. When used once per day at 2.5 mg SC qd six hours postoperatively, it significantly improves the risk-to-benefit ratio for the prevention of postoperative venous thromboembolism.

Nonpharmacologic Interventions
Nonpharmacologic prophylaxis is recommended for low-risk patients throughout the perioperative period until they are ambulatory. These measures are especially useful when heparin therapy is contraindicated.

Intermittent pneumatic leg compression prevents venous thrombosis by enhancing blood flow in the deep veins of the legs, thereby preventing venous stasis. Pneumatic compression also reduces plasminogen activator inhibitor-1 (PAI-1) levels via an unknown mechanism and consequently increases endogenous fibrinolytic activity. Thus, it has both local and systemic effects. Intermittent pneumatic compression is virtually free of clinically important side effects and offers a valuable alternative in the early postoperative period in patients who have a high risk of bleeding or are otherwise not eligible for the use of anticoagulants, such as following intracranial surgery or for patients who have epidural catheters for extended analgesia. It may produce discomfort in some patients and should not be used in those with overt evidence of leg ischemia caused by peripheral vascular disease. It is also contraindicated if a patient has been at bed rest or immobilized for more than 72 hours without any form of prophylaxis, since it may cause a newly formed clot to dislodge.

Graduated compression stockings reduce venous stasis in the limb by applying a graded degree of compression to the ankle and calf, with greater pressure being applied distally. They reduce the incidence of postoperative venous thrombosis only in low-risk general surgical patients and in selected moderate-risk patients (e.g., neurosurgical). As with intermittent leg
compression, graduated compression stockings can be employed in patients at high risk for bleeding following the use of anticoagulants and should be used with caution in patients with arterial insufficiency.

**Early ambulation** remains the most important nonpharmacologic approach to prevention of perioperative DVT and PE. Early ambulation should be strongly encouraged in all post-surgical patients. It has proved to be associated with a lower incidence of both symptomatic and ultrasonically diagnosed thromboembolism after hip surgery. Early ambulation is associated with fewer complications and a shorter hospital stay in older patients. In low-risk general, urologic and gynecologic surgeries, early ambulation along with elastic stockings can be used for prophylaxis of VTE without the addition of pharmacologic prophylactic agents.

**Treatment of Venous Thromboembolism**

The goals of venous thromboembolism (VTE) treatment are the prevention of clot propagation, prevention of pulmonary embolism, and prevention of recurrent thrombosis as well as the development of late complications, such as the postphlebitic syndrome and chronic thromboembolic pulmonary hypertension. The mainstay of therapy is anticoagulation. The following recommendations for the treatment of acute venous thromboembolic disease are in accordance with the 2008 ACCP evidence-based clinical practice guidelines for antithrombotic and thrombolytic therapy.

Patients with DVT or pulmonary embolism should be treated acutely with LMW heparin, fondaparinux, unfractionated intravenous heparin, or adjusted-dose subcutaneous heparin. When unfractionated heparin is used, the dose should be sufficient to prolong the activated partial thromboplastin time (aPTT) to 1.5 to 2.5 times the mean of the control value, or the upper limit of the normal aPTT range. Treatment with LMW heparin, fondaparinux, or unfractionated heparin should be continued for at least five days and oral anticoagulation should be overlapped with LMW heparin, fondaparinux, or unfractionated heparin for at least four to five days.

For most patients, warfarin should be initiated simultaneously with the heparin, at an initial oral dose of approximately 5 mg per day. In elderly patients and in those at high risk of bleeding or who are undernourished, debilitated, or have heart failure or liver disease, the starting dose should be reduced. The heparin product can be discontinued on day five or six if the INR has been therapeutic for two consecutive days.

For patients receiving unfractionated heparin (UFH), ACCP guidelines suggest that platelet counts be obtained regularly to monitor for the development of thrombocytopenia. The frequency and timing of such
counts depends upon the clinical situation. The heparin product should be stopped if any one of the following occurs: a precipitous or sustained fall in the platelet count, or a platelet count <100,000/microL.

The use of thrombolytic agents, surgical thrombectomy, or percutaneous mechanical thrombectomy in the treatment of venous thromboembolism must be individualized.

Patients with hemodynamically unstable PE or massive iliofemoral thrombosis (i.e., phlegmasia cerulea dolens), and who are also at low risk to bleed, are the most appropriate candidates for such treatment. Inferior vena caval filter placement is recommended when there is a contraindication to, or a failure of, anticoagulant therapy in an individual with, or at high risk for, proximal vein thrombosis or PE. It is also recommended in patients with recurrent thromboembolism despite adequate anticoagulation, for chronic recurrent embolism with pulmonary hypertension, and with the concurrent performance of surgical pulmonary embolectomy or pulmonary thromboendarterectomy.

Oral anticoagulation with warfarin should prolong the INR to a target of 2.5 (range: 2.0 to 3.0). If oral anticoagulants are contraindicated or inconvenient, long-term therapy can be undertaken with either adjusted-dose unfractionated heparin, low-molecular-weight heparin, or fondaparinux. Because of ease of use, especially in the outpatient setting, LMW heparin or fondaparinux is preferred to unfractionated heparin.

The general medical management of the acute attack of DVT is individualized. Once warfarin/heparin have been started and symptoms (e.g., pain, swelling) are under control, early ambulation is recommended in preference to bed rest. During initial ambulation, and for the first two years following an episode of VTE, for those who place a higher priority on prevention of postphlebitic syndrome than the discomfort attendant to their use, an elastic graduated compression stocking with a pressure of 30 to 40 mmHg at the ankle is advised.

The duration of anticoagulation therapy varies with the clinical setting as well as with patient values and preferences. Patients with a first thromboembolic event in the context of a reversible or time-limited risk factor (e.g., trauma, surgery) should be treated for at least three months. Patients with a first idiopathic thromboembolic event should be treated for a minimum of three months. Following this, all patients should be evaluated for the risk/benefit ratio of long-term therapy. Indefinite therapy is preferred in patients with a first unprovoked episode of proximal DVT who have a greater concern about recurrent VTE and a relatively lower concern about the burdens of long-term
anticoagulant therapy. In patients with a first isolated unprovoked episode of distal DVT, three months of anticoagulant therapy, rather than indefinite therapy, appears to be sufficient. Most patients with advanced malignancy should be treated indefinitely or until the cancer resolves.

**Unfractionated Heparin**

Heparin can be administered by intravenous infusion or subcutaneous injection. A baseline complete blood count with platelets and an activated partial thromboplastin time (aPTT) should be documented before initiating therapy. Treatment with unfractionated heparin is based on body weight, and the dosage is titrated based on the APTT. An APTT of 1.5 to 2.3 times control is desirable. Weight-based dosing (an 80-U/kg bolus followed by 18 U/kg/hr) is associated with a lower risk of recurrent thromboembolism. The appropriate dose is determined by the aPTT. The target value is laboratory-specific and calculated for the aPTT reagent and coagulometer used, correlating the target range with an amidolytic antifactor Xa assay level of 0.3 to 0.7 IU/mL. An aPTT should be checked six hours after any dose adjustment. Heparin is usually given simultaneously with warfarin and is overlapped with warfarin for a minimum of four to five days until the International Normalized Ratio (INR) has been within the therapeutic range (2.0 to 3.0) for two consecutive days. This overlap is required because, during the first few days of warfarin therapy, prolongation of the INR mainly reflects depression of factor VII, which has a half-life of only five to seven hours. Thus, although the extrinsic coagulation pathway is suppressed, the intrinsic coagulation pathway that does not require factor VII remains intact during this early period.

**Low-Molecular-Weight Heparin**

Compared with unfractionated heparin, low-molecular-weight (LMW) heparin offers distinct advantages: it has a longer biologic half-life, it can be administered subcutaneously once or twice daily, dosing is fixed, and laboratory monitoring is not required. In addition, some adverse effects of unfractionated heparin, such as thrombocytopenia and bleeding, appear to be less likely. In patients with DVT, subcutaneous administration of heparin is at least as effective as continuous infusion of unfractionated heparin in preventing complications and reducing the risk of recurrence. Two drugs approved by the U.S. Food and Drug Administration (FDA) for the treatment of venous thromboembolism are enoxaparin sodium (Lovenox) and tinzaparin sodium (Innohep). The dose of enoxaparin sodium is 1 mg/kg twice daily or 1.5 mg/kg once daily, and the dose of tinzaparin sodium is 175 anti-Xa U/kg daily; both are administered subcutaneously. Dalteparin sodium (Fragmin) is FDA-approved only for DVT prophylaxis.
**Heparin Reversal** — If urgent reversal of heparin effect is required, protamine sulfate can be administered by slow intravenous infusion not greater than 20 mg/minute and no more than 50 mg over any 10-minute period. The appropriate dose of protamine sulfate is dependent upon the dose of heparin given and the time of that dose. Full neutralization of heparin effect is achieved with a dose of 1 mg protamine sulfate/100 units heparin. Because of the relatively short half-life of intravenously administered heparin (approximately 30 to 60 min.), the protamine sulfate dose used must be calculated by estimating the amount of heparin remaining in the plasma at the time that reversal is required.

**Warfarin**

Treatment with heparin is usually followed by at least a three- to six-month period of anticoagulation to prevent recurrent disease. Warfarin therapy is highly effective for this purpose and is preferred in most patients. In patients with a proximal DVT, long-term therapy with warfarin reduces the frequency of objectively documented recurrent venous thromboembolism from 47 to 2%. Prolonged high-dose subcutaneous unfractionated heparin or LMW heparin may be an equally effective alternative, especially in patients who are unable to take warfarin therapy. The anticoagulant effect of warfarin, which is mediated by inhibition of the vitamin K-dependent gamma-carboxylation of coagulation factors II, VII, IX, and X, is delayed until the normal clotting factors are cleared from the circulation; the peak effect does not occur until 36 to 72 hours after drug administration. Warfarin is generally administered in an initial oral dose of 5 mg/day for the first two days, with the daily dose then adjusted according to the INR. Heparin is discontinued on the fourth or fifth day following initiation of warfarin therapy, provided the INR has been in the recommended therapeutic range for VTE (INR 2.0 to 3.0) for two consecutive days.

**Warfarin Reversal** — There is a close relationship between the INR and risk of bleeding. The risk of bleeding increases noticeably once the INR exceeds 4, and the risk rises sharply with values greater than 5. The management options for warfarin reversal depend on the INR level and whether or not bleeding is present. In addition to stopping warfarin when the effect is excessive, vitamin K1 can be given, and coagulation factors replaced by infusing a prothrombin complex concentrate (PCC) and fresh frozen plasma (FFP). The choice of approach is based largely on clinical judgment because no randomized trials have compared these strategies in terms of clinical outcomes.
Factor Xa Inhibitors

Fondaparinux sodium (Arixtra), the sole FDA-approved factor Xa inhibitor, is a synthetic highly sulfated pentasaccharide, which has a sequence derived from the minimal antithrombin (AT) binding region of heparin.\textsuperscript{53} It appears to be as safe and effective as unfractionated heparin and LMWH for the treatment of venous thromboembolism.\textsuperscript{53} The dose of fondaparinux sodium is 7.5 mg for patients weighing 50 to 100 kg, 5 mg for patients less than 50 kg, and 10 mg for patients more than 100 kg, all administered subcutaneously once daily. Fondaparinux is not inactivated by protamine and no antidote is known.\textsuperscript{53}

Treatment of Pulmonary Embolism

When a patient presents with suspected PE, the initial focus is on stabilizing the patient. Because of the risks of hypoxemia and hemodynamic instability associated with PE, close monitoring and supportive therapy are necessary. Concomitantly, anticoagulation is the mainstay of treatment for PE. Unfractionated heparin is most commonly used to treat patients with PE, although LMW heparin also is safe and effective.\textsuperscript{9} Only enoxaparin and tinzaparin have received formal FDA approval for use in the treatment of PE. Anticoagulation with warfarin should follow heparin therapy. These regimens were discussed above. This section will address the use of thrombolytic therapy, inferior vena caval filters, and pulmonary embolectomy.

Thrombolytic Treatment

Thrombolysis clearly is indicated in patients with massive PE and associated hemodynamic instability. However, the role of thrombolysis in patients with submassive PE remains controversial. In the largest study to date,\textsuperscript{54} improved survival was observed in patients treated with alteplase plus heparin compared with heparin alone. Using death and major complications as the end point, the number needed to treat was 7.3. One fewer death was observed for every 82 patients treated with the combination therapy.\textsuperscript{55} In patients with PE, the usual dose of alteplase (Activase) is 100 mg given by intravenous infusion over a period of two hours. Streptokinase (Streptase) is given in a 250,000-IU loading dose, followed by 100,000 IU per hour for 24 hours. Delivery of thrombolytics directly into the thrombus by catheter has been described but has not been shown to be superior to peripheral infusion.

Inferior Vena Cava Filters

Inferior vena cava filters are used to prevent the pulmonary embolization of a thrombus. Several FDA-approved filters are available: TrapEase, Greenfield
stainless steel, Greenfield titanium, Vena Tech, Bird’s Nest, and Simon Nitinol.\textsuperscript{56,57} Despite a paucity of controlled clinical trials demonstrating the effectiveness of these filters, they are indicated for use in patients with or at high risk for venous thromboembolism, in whom anticoagulation drug therapy is contraindicated, and in patients who experience recurrent thromboembolism despite adequate anticoagulation.\textsuperscript{56,57} Although inferior vena cava filter placement decreases morbidity and mortality at 12 days, it is associated with an increased risk of recurrent DVT at two years.\textsuperscript{56} As a result, several optional vena cava filters (retrievable and convertible) have been approved by the FDA and may be favored for use when the contraindication to anticoagulation is temporary.\textsuperscript{57}

**Pulmonary Embolectomy**

Surgical embolectomy is rarely performed. It should be reserved for patients who have a massive pulmonary embolism and hemodynamic instability despite heparin and cardiopulmonary support, who either fail thrombolytic therapy or have a contraindication to it.\textsuperscript{58} Even in the hands of an experienced surgical team, postoperative mortality is high.\textsuperscript{58}

**Conclusion**

Many patients recover completely after a VTE event. Death occurs in approximately 6% of DVT cases and 12% of PE cases within one month of diagnosis.\textsuperscript{59} Venous thromboembolism is therefore a major preventable cause of postoperative morbidity and mortality. When prescribing thromboprophylaxis for any patient, proper risk stratification should be implemented so that the risk of bleeding and thromboembolism should be balanced. Local practice guidelines should be developed with a combined effort of surgeons, anesthesiologists and physicians, keeping in mind the availability and cost effectiveness of the various preventive and treatment modalities. Pharmacological and nonpharmacological interventions should be used in appropriate combinations to achieve effective thromboprophylaxis and treatment for each patient.

**REFERENCES**


Membership Update

New or Reinstated Members
January 1 – March 31, 2009

Active Members

**DISTRICT 1**
Muhammad Iqbal, M.B., B.S.
Ariel Isaac Jurmann, M.D.
Narayan Lakshman, M.D.
Sharon Bell Mackey, M.D.
Avraham Eliezer Markowitz, M.D.
Sherif Mishriky, M.D.
Vadim Pustovoytov, D.O.
Amr A. Sanduby, M.D.
Marzanna Iwona Vasington, D.O.

**DISTRICT 2**
Sukhjeewan Kaur Basran, M.D.
Kenneth B. Chapman, M.D.
Brian Joseph Egan, M.D.
Pik Ki Lee, M.D.
Audrey R. Leverich, M.D.
Patrick L. Linton, M.D.
Alan C. Santos, M.D., M.P.H.
Peter M. C. Savard, M.D.
David Skinner, M.D.
Eric Villafane, M.D.
Joseph S. Yeh, M.D.
Cindy B. Yeoh, M.D.

**DISTRICT 3**
Mihai Olteanu, M.D.
Dajun Song, M.D.
Sheldon Harvey Steinbach, M.D.

**DISTRICT 4**
Stephan R. Curry, M.D.
Arup De, M.D.
Kody Assad El-Mohtar, M.D.
Geraldine M. Mazza-Garrity, M.D.

**DISTRICT 5**
Vipin Kumar Bansal, M.D.
Reet Ivand, M.D.
Cynthia R. Silfer, M.D.

**DISTRICT 6**
Jennifer Ann Gargano, M.D.
Bruce Metcalf Kleene, M.D.
Rajbala Thakur, M.D.

**DISTRICT 7**
Sarah Stuart, M.D.
Bernardino Rene Velasquez, M.D.
Anthony John Winkowski, M.D.

**DISTRICT 8**
Kenneth J. Abrams, M.D., M.B.A.
Shaji P. Poovathoor, M.D.
Christine M. Ruggiero, M.D.
Lisa Marie Taitt-Wynter, M.D.
Suzanne Geraldine Norton Wurstle, M.D.
Affiliate Members

**DISTRICT 4**
Intikhab Mohsin, M.D.

Resident Members

**DISTRICT 1**
Ofer Menachem Wellisch, M.D.

**DISTRICT 2**
Margaret Wu, M.D.

**DISTRICT 3**
Marija Zhukov, M.D.

**DISTRICT 5**
Russell Lawrence Bell, M.D.
David K. Chou, M.D.
Robert G. Davis, M.D.
Charles R. Dodds, M.D.
Sara Lynn Giorgi, D.O.
Logan Harding, M.D.
G. David Hoeft, M.D.
Rickey T. Kim, D.O.
Robert H. Lunn, D.O.
Mark Vadney, M.D.

Recently Retired Members

**DISTRICT 2**
Jacob S. Israel, M.D.
Henry N. Sasso, M.D.

**DISTRICT 3**
Mary Alice Becker, M.D.
Olga Zimlin, M.D.

**DISTRICT 8**
Jong Jin Choi, M.D.
The New York State Society of Anesthesiologists, Inc.

2009 OFFICERS

PRESIDENT Alan E. Curle, M.D., Rochester, NY
PRESIDENT ELECT Paul H. Willoughby, M.D., Setauket, NY
VICE-PRESIDENT Kathleen A. O’Leary, M.D., Buffalo, NY
IMMEDIATE PAST PRESIDENT Robert S. Lagasse, M.D., Stamford, CT
SECRETARY Lawrence J. Epstein, M.D., White Plains, NY
TREASURER Salvatore G. Vitale, M.D., Niskayuna, NY
FIRST ASSISTANT SECRETARY Vilma A. Joseph, M.D., M.P.H., Elmont, NY
SECOND ASSISTANT SECRETARY Christopher L. Campese, M.D., Douglaston, NY
ASSISTANT TREASURER David S. Bronheim, M.D., Kings Point, NY
ASA DIRECTOR Kenneth J. Freese, M.D., East Meadow, NY
ASA ALTERNATE DIRECTOR Scott B. Groudine, M.D., Latham, NY
SPEAKER Marilyn A. Resurreccion, M.D., Belle Harbor, NY
VICE SPEAKER Charles C. Gibbs, M.D., Saranac Lake, NY
DIRECTOR, DIST. NO. 1 David J. Wlody, M.D., Brooklyn, NY
DIRECTOR, DIST. NO. 2 Jung T. Kim, M.D., New York, NY
DIRECTOR, DIST. NO. 3 Naixi Li, M.D., Ph.D., Scarsdale, NY
DIRECTOR, DIST. NO. 4 Michael B. Simon, M.D., Wappingers Falls, NY
DIRECTOR, DIST. NO. 5 Michael P. Duffy, M.D., Syracuse, NY
DIRECTOR, DIST. NO. 6 Sanjeev V. Chhangani, M.D., M.B.A., FCCM, Pittsford, NY
DIRECTOR, DIST. NO. 7 Rose Berkun, M.D., Williamsville, NY
DIRECTOR, DIST. NO. 8 Steven B. Schulman, M.D., Roslyn, NY
DELEGATE, MSSNY Steven S. Schwalbe, M.D., Leonia, NJ
ALTERNATE DELEGATE, MSSNY Lawrence J. Routenberg, M.D., Schenectady, NY
EDITOR, NYSSA SPHERE James E. Szalados, M.D., M.B.A., Esq., Rochester, NY
CHAIR, ACADEMIC ANESTHESIOLOGY Audrée A. Bendo, M.D., Neponsit, NY
CHAIR, ANNUAL SESSIONS Rebecca S. Twersky, M.D., M.P.H., Brooklyn, NY
Trust MLMIC. Make the critical choice for liability insurance.

Don’t rush into the wrong liability coverage. No insurer in New York State provides the protection and dependability of MLMIC. A mutual company owned and operated by its policyholders, MLMIC is fighting hard for you on all your important issues. Our dedicated underwriters, claims personnel, risk management consultants, and defense attorneys are always available and responsive to your needs. For information about MLMIC coverage, call (800) 275-6564 (NYC), (800) 356-4056 (Syracuse), (877) 777-3560 (Long Island), or (800) 635-0666 (Albany area).

Endorsed by MSSNY and NYSSA

Our defense never rests.
PostGraduate Assembly in Anesthesiology

The New York State Society of Anesthesiologists, Inc.

63rd Annual PGA

FRIDAY, DECEMBER 11 - TUESDAY, DECEMBER 15, 2009
MARRIOTT MARQUIS, NEW YORK

PROGRAM AND REGISTRATION MATERIALS

• Internationally Renowned Speakers
• Scientific Panel & Focus Sessions
• Hands-on & Interactive Workshops
• Mini-Workshops • Case Discussions
• Medically Challenging Case Reports
• Problem-Based Learning Discussions
• Scientific Exhibits • Poster Presentations
• Technical Exhibits • Residents Research Contest
• Pre-PGA Hospital Visits
• 3,500 Anesthesiologists in Attendance
• More than 6,000 Registrants
• Broadway Shows • Opera • Jazz Clubs
• New York City Tours • Holiday Shopping

ONLINE REGISTRATION: WWW.NYSSA-PGA.ORG

SPONSORED BY:
The New York State Society of Anesthesiologists, Inc.

UP TO 40 CATEGORY 1 CREDITS