Cancer: it takes a team

Cancer may be medicine’s greatest challenge – in finding causes and treatments and in helping individual patients.

Patients do best when they’re not battling cancer alone, and the same is often true for their physicians.

That’s why we work closely with cancer physicians throughout West Virginia – through the WV Oncology Society – to help ensure that excellence is the standard of care in every community.

At the Mary Babb Randolph Cancer Center itself, we also emphasize a team approach – the viewpoints of various specialists are weighed and sometimes debated before we offer our patient a recommendation for treatment. We believe that pooling the expertise of many specialists is the best way to fight this complex illness.

Whether West Virginians with cancer come to WVU’s Mary Babb Randolph Cancer Center or seek excellent care close to home, they should know that West Virginia’s cancer doctors are teaming up to help them win their battle.
Together, we are transforming healthcare.

Be at the forefront of today’s electronic medical record (EMR) movement. Cleveland Clinic is a recognized leader in the use of integrated EMR systems, resulting in improved efficiency and enhanced ability of physicians to deliver quality care to their patients.

Here’s one Cleveland Clinic technology solution ideal for you and your practice.

DrConnect™
You know your patients best. Stay connected to their care at Cleveland Clinic with instant secure online access to their progress.

Cleveland Clinic
Every life deserves world class care.
To learn more, visit clevelandclinic.org/ecc
EHR
Pull Your Last Paper Chart

Want to know more? Contact us NOW.

304.720.3300 Option 3 info@cprsg.com
contents
January/February 2010, Volume 106, No. 1

features

4 President's Message
8 Our Editor Speaks
32 AMA Delegation Report
34 General News
36 MPLA Suit Statistics
38 Robert C. Byrd Health Sciences Center of
West Virginia University News
39 Marshall University Joan C. Edwards School
of Medicine News
40 West Virginia School of Osteopathic
Medicine News
41 WESPEC Contributors
42 Bureau for Public Health News
43 West Virginia Medical Foundation News
45 New Members
46 West Virginia Medical Insurance Agency News
48 Obituaries
51 Classified Ads
52 Manuscript Guidelines/Advertisers

In this issue...

Scientific Articles
12 The Role of Nerve Transfers for C5-C6 Brachial
Plexus Injury in Adults
20 Traumatic Complete Urethral Disruption:
The West Virginia Experience
22 Primary Amyloidosis of the Kidney
25 Slit Fracture Through Two Adjacent Cervical
Vertebrae: Case Report and Review of the Literature
29 Blunt Aortic Injury Involving the Arch of the Aorta
with a Grade III Liver Injuries Repaired Under
Circulatory Arrest

UPCOMING EVENTS
January 29-31—2010 Annual Business Meeting &
Physician Practice Conference (see pgs. 18-19 for
information and registration form)

CALL FOR PAPERS
Substance Abuse in West Virginia—pg. 49

Cover photo courtesy of
Margaret Wilson

Editor
F. Thomas Sporck, MD, FACS
Charleston

Managing Editor/Director of Communications
Angela L. Lanham, Charleston

Executive Director
Evan H. Jenkins, Huntington

Associate Editors
James D. Felsen, MD, MPH, Charleston
Douglas L. Jones, MD, White Sulphur Springs
Steven J. Jubelirer, MD, Charleston
Roberto Kusminsky, MD, MPH, FACS, Charleston
Robert J. Marshall, MD, Huntington
David Z. Morgan, MD, Morgantown
Martha D. Mullett, MD, Morgantown
Louis C. Palmer, MD, Clarksburg

The West Virginia Medical Journal is published bimonthly by the West Virginia State Medical Association, 4307 MacCorkle Ave., SE, Charleston, WV 25304, under the direction of the Publication Committee. The views expressed in the Journal are those of the individual authors and do not necessarily reflect the policies or opinions of the Journal's editor, associate editors, the WV SMA and affiliate organizations and their staff.
WVSMA Info: PO Box 4106, Charleston, WV 25364
1-800-257-4747 or 304-925-0342
The bearded, tall, lanky, Texan, James Rohack, M.D., President of The American Medical Association, started the session reading from the opening paragraph of Charles Dickens’ — A Tale of Two Cities — It was the best of times, it was the worst of times, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of light, it was the season of darkness, it was the spring of hope, it was the winter of despair, we had everything before us, we had nothing before us, we were all going direct to heaven, we were all going direct the other way – in short, the period was so far like the present period, that some of its noisiest authorities insisted on its being received, for good or for evil, in the superlative degree of comparison only.

Indeed it set the tone and captured the mood of the AMA’s 2009 Interim Meeting of the House of Delegates in Houston, Texas. A bipartisan discussion of healthcare reform was presented and the next two days found us listening to a litany of speakers, during a contentious and divisive meeting that almost broke the unity of the AMA. In the end, the angels of the House of Delegates came out with revisions to assuage the member delegates to accept the report of the reference committee.

It is now December, and the healthcare reform bill is moving, albeit slowly. What was supposed to be the easy part, became unusually difficult. With debates lasting until midnight, the House finally approved HR 3962 on November 7, 2009. The Affordable Health Care for America Act was passed by a razor-thin margin of 220 to 215.

The Democratic caucus of 258 members, calculated that it could withstand 40 defections and still rally the necessary 218 votes. In the end, 39 Democrats voted against the bill and one Republican, Anh “Joseph” Cao of New Orleans, Louisiana (pronounced “Gow”), the first Vietnamese American elected to Congress. The key factor in the hard won House passage was the last minute compromise on preventing the use of federal health insurance subsidy dollars for abortion services, (Stupak amendment).

The House approval shifts the historic healthcare reform to the Senate, where the sweeping healthcare legislation that President Barack Obama and Senate Democrats vowed to approve and the Republicans have sworn to block is now in the throes of heated debate.

The top seven issues being discussed during the amendment process:

**Public Option:** An issue that unites Republicans and divides Democrats on ideological grounds inevitably was bound to haunt the Senate Democratic leadership. The notion of creating a government run health insurance plan to compete with private companies is seen as vital by liberal Democrats but centrists range from skeptical to deeply antagonistic, even though states could opt out. The best hope for a positive outcome for the Democrats could rest on the chances that liberal Sen. Chuck Schumer (D-NY) along with centrist public option supporter Sen. Tom Carper (D-DE) can forge yet another compromise version of the program to satisfy centrists such as Sens. Ben Nelson (D-NE) and Joe Lieberman (I-CT), who have threatened to filibuster the bill over the public option. Sen. Olympia Snowe (R-ME) is waiting in the wings with her “trigger” compromise.

**Abortion:** It wouldn’t be American politics if the forces on both sides of the abortion issue weren’t at loggerheads. The healthcare bill already includes language that is supposed to keep federal dollars away from abortion funding but the Catholic bishops, and Nelson, don’t think it goes far enough. Democratic Senators Bob Casey Jr. (PA) and Kent Conrad (ND) each voted in committee to beef-up the abortion restrictions — so their actions on the floor will be key. Sen. Orrin Hatch (R-UT) authored the failed committee
amendments and is sure to raise objections to the bill on abortion.

Health insurance excise tax: The proposed tax on high-cost health insurance plans, a key to raising revenue and reducing long term healthcare costs according to the Congressional Budget Office, may enjoy support in the White House but many Democrats and labor unions remain staunchly opposed to what they view as a middle class tax hike. Already scaled down several times—the original idea was to tax the value of all workplace health benefits—Sen. Debbie Stabenow (D-MI) and others will look to shrink it further, if not eliminate it, but will need to raise additional taxes to make up the difference.

Prescription drugs: The pharmaceutical industry struck a grand bargain this summer with the White House and Senate Finance Committee Chairman Max Baucus (D-MT) to limit its financial exposure from health care reform to $85 billion and to support the Democrats’ efforts. That deal has held uneasily since and Democrats are eyeing the chance to take a bite out of a long-time nemesis. Democrats are eager to require larger rebates from pharmaceutical firms who sell drugs to state Medicaid programs and use the additional money to sweeten the Medicare prescription drug benefit.

Affordability: Because almost everyone would be required to obtain health coverage, providing fair and adequate subsidies to low and middle income people has presented a challenge for lawmakers trying to keep the bill on budget. Liberal Democrats get more attention when they talk about the public option but they have complained about the subsidy levels almost as much, while Snowe has also been adamant that the bill does too little to ensure insurance is less expensive. Sen. Mary Landrieu (D-LA), a key swing vote, wants more help for small businesses and the self-employed. The trouble is, every dollar of assistance paid out has to come from somewhere.

Insurance exchanges: The concept of creating an online marketplace where consumers can comparison shop for healthcare hasn’t been very controversial. But what types of plans people could buy and who will be allowed to buy them has been a point of contention. Democrats will be looking to provide access to the most generous but most affordable plans they can. Meanwhile, Sen. Ron Wyden (D-OR), under an agreement with Reid and Baucus, will offer an amendment to allow more people—beyond individuals and small business employees—buy insurance on these exchanges. The exchanges wouldn’t launch until 2014, either, so Landrieu and others want to move that date closer.

Medicare cuts: Republicans have railed against cuts to Medicare, though Democrats insist they are seeking to make the program more efficient and are not cutting anyone’s benefits. Because these cuts are essential to financing the rest of the bill, however, they’re here to stay—though some could be scaled back. The deep cuts to private Medicare Advantage plans, for instance, could be mitigated to assuage senators from states with large populations. Medical interests from physicians to home healthcare providers will also be seeking concessions.

A week in the foray—the senate Democrats are preparing for hardball tactics after floor strategizing and a visit from the President to rally and bridge the divisions among them.

There are still five steps for the bill to go through to become law— 1) Passage in the Senate, 2) Merging in conference committee (where the Senate and House versions are reconciled and a final bill is produced), 3) Final passage in the House, 4) Final passage in the Senate and 5) Signing by the President.

Democratic leaders in the White House and in Congress are now working against the clock to shepherd the bill through in 2009.

But what do we have?—The House passed H.R. 3962, “The Affordable Health Care for America Act” on November 7th, which will provide the following:

- Expand health insurance coverage;
- institute meaningful insurance market reforms;
- make substantial investments in quality;
- institute prevention and wellness initiatives; and
- provide incentives to states that adopt certificate of merit and/or offer liability reforms and reduce administrative burdens.

HR 3962 did not address the deficit issue. This is an existing rather than a new obligation. Seven times in the past seven years, Congress has opted not to impose cuts, and the temporary Band-Aids have grown the problem. In 2005 the deficit was $48.6 billion, by 2009 it had ballooned to $245 billion. In 2005 it would have been a 3.3% cut, but by 2010, it will be a 21.2% cut in Medicare payments to providers.

November 19, 2009, in their wisdom, the House passed HR 3961 — Medicare Physician Payment Reform Act of 2009. It would repeal the Sustainable Growth Rate (SGR) formula and replace the 21.2% cut with a positive update equal to the Medicare Economic Index for 2010, which is 1.2%. It eliminates all SGR debt accumulated after years of temporary, unfunded fixes, and preserves access to care for seniors, baby boomers and military families. Both the House and Senate health
reform bills will create a national insurance exchange and provide an individual mandate to buy insurance and subsidies for low income people. There will be no denying coverage for pre-existing conditions, but the Senate bill does not repeal the SGR; it replaces a 21.2% cut next year with a small update. Your AMA is working with key senators toward a permanent SGR fix to protect access.

The two bills are different because the House bill will require employers to provide coverage, but the Senate bill will not. The House bill pays for the coverage expansion by raising taxes on upper income earners; the Senate bill uses a variety of taxes and fees including a levy on high-cost insurance plans. The House plan costs about $1.2 trillion over ten years and the Senate version about $850 billion.

The Medicare Physician Payment Reform (non-SGR), H.R. 3962 is far superior to Senate Finance bills. There will be no PQRI penalties, no IMAC, no outlier 5% payment cut, no budget neutrality. It provides a primary care bonus and finally, no Medicare/Medicaid enrollment fee.

With AMA urging, the White House announced $25 million in grants available for state and healthcare systems to experiment with alternatives to costly medical lawsuits. The grant provides up to $3 million each for three years. This will include programs in which the provider’s can acknowledge a mistake, offer an apology and restitution and take corrective action. Under the initial draft language, West Virginia’s strong medical liability reforms already on the books would exempt our state from participating in this largesse.

How about Medicaid? Currently there are 300,000 West Virginians on Medicaid. H.R. 3962 provides $57 billion to increase physician payments giving it to the Medicaid rates. The Federal government will pick up 90% of Medicaid expansions. Some negative elements in H.R. 3662 include the ban on physician-owned hospitals; cuts for imaging services and nebulous future of employer-sponsored HJAS and GAO study on GME. Lastly, remember H.R. 3962 is not the final bill. The bill that the President hopes to sign has yet to be written. We can be sure that the scope and costs will be scaled back since negotiations are constantly ongoing. Thus, we need to remain attentive, be engaged, and be proactive. Call, e-mail or write and let your congressman and senator know where you stand. On December 5, 2009 USA Today/Gallup surveys showed 49 percent of Americans want their members of Congress to oppose the bill while 44 percent of Americans want their lawmakers to support it.

This is the hardest message to write since I endeavor and grapple with the computer or the pen for hours, but the results were nil. It leaves me exhausted as I view the expansive, contentious, divisive, panorama of healthcare reform.

Most of us don’t like the outcome of events, most are eye openers, and a great deal are nebulous. Most of us agree in principle, but differ in the particulars. Between times, there are the patients to see and take care of and I am again walking the tight rope with the flying Wallenda’s—both juggling and balancing on the high wire. Finally, I see Dickens again, offering his timeless antidote for mankind. “But you are always a good man of business, Jacob (Marley aka Carlos)”, faltered Scrooge, who now began to apply this to himself. “Business!” cried the ghost, wringing his hands again. “Mankind was my business. The common welfare was my business, charity, mercy, forbearance, and benevolence were all my business. The dealing of my trade were but a drop of water in the comprehensive ocean of my business!” (Charles Dickens—A Christmas Carol)

As I begin my free fall—ambient air revives me and I discover the traits all physicians must have—The physician must be altruistic; the physician must be knowledgeable; the physician must be skillful; the physician must be dutiful.

I find myself, however, more confronted with the suffering of patients and bogged down in the quagmire of despair because of the inadequacy of my ability to help.

Now, you all know relationships are the bedrock of medical practice. We are not risk managers, information brokers, entrepreneurs or bureaucrats. We are nobody’s agents except the individuals who entrust us with their care and this is serious business. At the end of the day we assume another role—as husband, father, grandfather, gardener, cook, churchgoer, naturalist, friend, amateur musician or (my favorite avocation), a snobbish bore. These roles nourish and heal us. They allow me to ensure and receive honest advice, gentle reproves, words that mend, comfort and mold, all from Conchita.

Finally, I ask my readers to help me end this message with their choice ending.

Could it be Thomas Jefferson’s vision—

“I like dreams of the future rather than the history of the past.”
or St. Paul’s message in his letter to the Romans—

“In the end everything will be alright. If it’s not alright, it is not the end.”
or the greetings of the season—

“To all of you a blessed Christmas!”

and my Dickens of a wish for all of you—

All of the above!

Carlos C. Jimenez, MD
WVSMA President
At St. Jude Children’s Research Hospital, we can’t.

That’s why we are working every day to find cures for life-threatening diseases that strike children everywhere. Diseases like cancer, pediatric AIDS and sickle cell.

And we won’t stop until every child is cured and every disease is defeated.

*Because we can’t imagine a world without children…can you?*

Call 1-800-822-6344 or log onto www.stjude.org to learn how you can help.

©2009 ALSAC/St. Jude Children's Research Hospital
As I write this, the United States Senate is debating in extended session, the 2000 page so-called healthcare reform bill. Of course, if it passes then it will go to a bicameral conference committee so the details of the ultimate product are anybody’s guess. We won’t know what it does till long after it passes.

Let’s try to get this straight again! Healthcare is the personal discipline of good diet, regular exercise, abstention from tobacco, moderate use of alcohol, adequate rest, stress reduction, regular screening for certain diseases and other common sense things. Healthcare is a personal responsibility and requires little funding.

Medical care on the other hand is when physicians become involved because “healthcare” fails and treatment by professionals becomes necessary.

The current bill, as I said, is 2000 pages and very complicated. All sorts of sweetheart deals have been struck to secure individual votes. It seems to me that this is being done backwards and is much too complicated. The Senate and House leadership seem to be operating under the assumption that medical care is a right. Whether medical care is a right or privilege in this Federal Republic, however, has never formally been debated or settled. There are strong emotions on both sides of this issue.

It seems to me that before anything else can move forward this basic question must be answered. Simply, is medical care a right or a privilege? This question must be decided. The potential impact of this decision is so great, that I believe it should probably take the form of a constitutional amendment with ratification by the states.

If it is decided that medical care is a privilege—choice will be preserved. Our patients and we will decide what test or procedure is appropriate for them.

If it is decided that medical care is a right—choice will be restricted; government panels will issue rulings of what appropriate care will be. The math is simple! If we are going to cover everyone, we can’t afford to do everything for anyone. Choices will be made but physicians or patients won’t make them. The decisions will be issued as edicts.

Another question arises; if medical care is a right, how will we penalize those individuals who do not fulfill their responsibility of personal healthcare?

Let’s hope that the Conference committee ends at loggerheads and the current proposed legislation fails. Then let’s do it right and decide once and for all if medical care is a right or a privilege. Play it forward!

F. Thomas Sporck, MD
West Virginia Medical Journal
Editor
Ears, nose and throat medical and surgical care | Audiological testing | Inhalant allergy testing and treatment | Hearing aid evaluation and placement services | Computed Tomography (CT) for sinuses and ears

Appointments
304.340.2200

Hearing Aid Center
304.340.2222

entchas.com • 500 Donnally Street • Charleston, WV • Suite 200
Hearing Aid Center • Suite 102

Complete Comprehensive Services

BOARD CERTIFIED SPECIALISTS

Michael R. Goins, MD
D. Richard Lough, MD
G. Stephen Dawson, MD
P. Todd Nichols, MD
F. Thomas Sporck, MD, FACS
Continuing Medical Education Opportunities at the CAMC Health Education and Research Institute

The CAMC Health Education and Research Institute is dedicated to improving health through research, education and community health development. The Institute’s Education Division offers live conferences, seminars, workshops, teleconferences and on-site programs to health care professionals. The CAMC Institute’s CME program is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians. The CAMC Institute designates this educational activity for a maximum of 1 AMA PRA Category 1 Credit(s)™. Physicians should only claim credit commensurate with the extent of their participation in the activity. For more information on these and future programs provided by the Institute, please call (304) 388-9960 or fax (304) 388-9966.

SEMINARS

29th Cardiovascular Conference
Sunday through Wednesday, Jan.31-Feb. 3, 2010
Mountain Lodge Conference Center
Snowshoe, WV

2010 West Virginia Trauma Symposium
Wednesday through Friday, Feb. 10-12, 2010
Stonewall Jackson Resort & Conference Center
Roanoke, WV

Pre-conference Advanced Trauma Life Support (ATLS) training for physicians only
Monday and Tuesday, Feb. 8-9, 2010
To register e-mail David.Matics@camc.org

6th Annual Advanced Geriatrics Educator Skills Certification Program (AGES)
Friday through Sunday, March 26-28, 2010
Bridgeport Conference Center
Bridgeport, WV

2010 Oncology Symposium for the Primary Care Physician
Friday, April 30, 2010
Charleston Marriott Town Center
Charleston, WV

Life Support Training
Log on to our web site to register at www.camcinstitute.org

Advanced Cardiac Life Support (ACLS) – Renewal
Jan. 6 and 11; Feb. 17, 2010

Advanced Cardiovascular Life Support (ACLS) – Renewal
Jan. 27, 2010

Pediatric Advanced Life Support (PALS) - Renewal
Jan. 22 and 29, 2010

Pre-conference Advanced Trauma Life Support (ATLS) training for physicians only
Monday and Tuesday, Feb. 8-9, 2010
Stonewall Jackson Resort & Conference Center
Roanoke, WV
To register e-mail David.Matics@camc.org

Pediatric Advanced Life Support (PALS) - Provider
Feb. 24 and 25, 2010

System Requirements
Environment: Windows 98, SE, NT, 2000 or XP
Resolution: 800 x 600
Web Browser: Microsoft’s Internet Explorer 5.0 or above or Netscape Navigator 4.7x. (Do not use Netscape 7.1)
Video Player: Windows Media Player 6.4 or better.
Dial-Up or Broadband Connection: Minimum Speed, 56k (Broadband is Recommended)

OTHER ARCHIVED CME OPPORTUNITIES:

Geriatric Series
Ethics Series
Research Series
NET Reach library

CME ONLINE PROGRAMS/ARCHIVED GUEST LECTURE PROGRAMS

Log-on to our web site at www.camcinstitute.org
Scientific Articles

The Role of Nerve Transfers for C5-C6 Brachial Plexus Injury in Adults 12

Traumatic Complete Urethral Disruption: The West Virginia Experience 20

Primary Amyloidosis of the Kidney 22

Slit Fracture Through Two Adjacent Cervical Vertebrae: Case Report and Review of the Literature 25

Blunt Aortic Injury Involving the Arch of the Aorta with a Grade III Liver Injuries Repaired Under Circulatory Arrest 29
The Role of Nerve Transfers for C5-C6 Brachial Plexus Injury in Adults

Matthew J. Schessler, MS-III
West Virginia University School of Medicine

W. Thomas McClellan, M.D.
Plastic and Upper Extremity Surgeon
Morgantown Plastic Surgery Associates

Abstract
The brachial plexus consists of nerve roots C5 – T1. Upper brachial plexus roots (C5-C6) innervate proximal muscles of the shoulder and upper arm. Injuries causing root avulsion or rupture require intensive treatment and significantly impact patients’ quality of life. Nerves regenerate extremely slowly and without treatment, patients with upper brachial plexus lesions may lose motor function distal to the injury. Upper brachial plexus reconstruction using nerve transfers is a new method to bypass damaged areas thereby allowing patients to regain critical arm functions faster. We present a review of brachial plexus cadaveric anatomy, reconstruction transfer techniques, and management.

Introduction
The upper brachial plexus roots (C5-C6) innervate proximal arm muscles controlling shoulder abduction, elbow flexion and contribute to the innervation of distal muscles controlling limb function. Upper root avulsions are devastating injuries because the patient loses the critical functions of shoulder abduction and elbow flexion. Even if distal innervation is unaffected (C7-T1), without shoulder and elbow stability the wrist and hand cannot perform daily activities. Repairing these avulsed roots presents a challenging scenario to any surgeon due to the complexities of nerve regeneration, nerve transfer, and the surgical techniques themselves. The first brachial plexus nerve transfer occurred in 1948. With the advent of improved microsurgical technique, instrumentation, coupled with further understanding of nerve anatomy, significant strides have been made to improve nerve transfer outcome.

History of Brachial Plexus Injuries and Reconstruction
Brachial plexus injuries have been a reported directly or indirectly for the last 2800 years. The first mention of a brachial plexus injury in literature occurs in Homer’s The Iliad around 800BC.1
Although sporadic mention of plexus injuries is scattered in the early literature little anatomical dissection or description took place during the next thousand years.
In 1507 Leonardo DaVinci performed a detailed dissection of a 100 year old man who had died of natural causes. This initial experience led him to sketch the now famous illustrations entitled “del Vecchio” and perform over 30 detailed human dissections.
DaVinci’s impact on modern anatomy differed from prior investigators in three ways. First, DaVinci approached the human cadaver in a methodical fashion, noting every anatomical nuance. Secondly, his mechanical prowess led him to postulate on the function of that which he was dissecting. Finally and most importantly he used his artistic talent to create a detailed and vibrant anatomical reference for future work.
In 1824 French physiologist Marie Jean Pierre Flourens was the first to theorize that an injured nerve could be bypassed, “joining the superior end of one nerve with the inferior end of the other and visa versa.”3-4
But it wasn’t until 1948 when Alexander Lurje, a Russian surgeon, performed the first brachial plexus reconstruction using nerve transfers on a 20 year old female injured by a Nazi bomb blast.5 Remarkably he was able to perform the procedure prior to the advent of microsurgical equipment, instruments, or technique.
Over the last 20 years our improved understanding of nerve...
Figure 2.
Leonardo da Vinci’s representation of the brachial plexus.²

“The nerve branches with their muscles serve the nerve chords as soldiers serve their officers, and the nerve chords serve the ‘sensus communis’ as the officers serve their captain, and the ‘sensus communis’ serves the soul as the captain serves his lord.”
- Leonardo da Vinci, c. 1508

pathophysiology, anatomy, and repair has led to advances in the treatment options for upper brachial plexus trauma.

Anatomy

Understanding the anatomy of the brachial plexus is important in order to perform a nerve transfer.

It originates from the C5-T1 spinal nerve roots (ventral rami). It is further divided into three trunks, six divisions (three anterior and three posterior), three cords, and finally into five terminal nerve branches. Medical students keep these components straight using the acronym “Robert Taylor Drinks Cold Beer.” The five terminal nerve branches are the musculocutaneous, axillary, radial, median, and ulnar nerves. Other nerves originate from various locations on the plexus.

The pertinent anatomy for this paper includes the roots, the superior trunk, the suprascapular nerve, and the terminal branch nerves. Please see figures 3 and 4 for an anatomical diagram and table summarizing nerves and function.

Brachial plexus injuries usually involve either pre-ganglionic avulsion or post-ganglionic rupture. Avulsion occurs when the nerve root is torn from the spinal cord. Rupture occurs when the nerve is damaged or transected distal to the dorsal root ganglion but its attachment to the spinal cord is intact. There are classifications of nerve injury from Sunderland and Seddon beyond the scope of the review.⁶,⁷

A West Virginia company bringing quality home infusion services to your home!

Complete Home Infusion Services

Antibiotics & Antimicrobials | Parenteral Nutrition
Enteral Nutrition | Hydration | Pain Management | Chemotherapy
Pediatric Therapy | Injectables | Inotropic Therapy
Immunoglobulin | Other Specialty Infusion Medications
Pumps & Supplies

Mountain State Vital Care
Home Infusion Services

1111A Jefferson Road
South Charleston, WV 25309
304.414.3660 telephone
800.531.2304 toll free
msvitalcare.com
Physical Exam

Supraclavicular rupture or avulsion accounts for about 70% of brachial plexus injuries and among these the upper roots are involved 70% of the time. Most of these injuries occur in motorcycle or other high speed personal transportation accidents in which the head is forcibly distracted from the ipsilateral shoulder.8 This manner of forceful separation typically results in pre-ganglionic root avulsion or post-ganglionic rupture of the upper roots (C5-C6) while sparing the lower roots (C7, C8, T1). By performing a detailed physical exam an operative plan based on what functions have been lost and what functions are most critical to regaining the highest quality of life can be established.

The physical exam is one of the best diagnostic tools to formulate the exact pattern of injury. The patient’s strength and range of motion should be observed and a Tinel’s test performed.8 Serial electromyelographs (EMG) and CT myelograms are required prior to brachial plexus exploration.

Typically the first EMG is performed three months following trauma and a second EMG is performed five months following injury. If no progress is identified on the EMG or during the physical exam then a CT myelogram is obtained and plexus exploration performed.

Post-ganglionic rupture injuries are amenable to grafting whereas pre-ganglionic avulsion injuries require nerve transfer. Pre-ganglionic root avulsion is not amenable to direct repair and nerve transfer remains the best option. Some injuries avulse or rupture 80-100% of the plexus roots. These patients are not good candidates for nerve transfer due to the loss of the lower motor roots typically used for transfer. Often these are treated with nerve grafts from the phrenic, intercostal, or contra-lateral brachial plexus.8

**Concepts of Brachial Plexus Reconstruction**

Many studies document nerve regeneration following injury; however the absolutes regarding recovery remain elusive. We know that once the nerve begins to regenerate it moves at about 1-1.5 mm daily.9 The motor endplates with which the nerve communicates will eventually cease to function in 12-18 months. If a proximal plexus injury occurs, then the regenerated nerve may not reach the motor end plate in time to be effective.

Salvage of critical motor end plates and their corresponding muscles may be facilitated with the transfer
of nerve fascicles from uninjured nerves. This nerve re-routing essentially converts a proximal nerve injury into a distal nerve injury closer to the motor endplate. By shifting the injury closer to the target muscle, regeneration of the proximal nerve stump can reach the motor endplate before degradation. This is the essence of nerve transfer.

The three important criteria for primary brachial plexus reconstruction are patient selection, timing to reconstruction, and prioritizing the restoration of function.

**Patient selection**

Multiple studies have shown that younger patients recover from nerve transfer faster and ultimately have a better outcome. Typically patients under 40 years of age have the best functional outcome following nerve transfer.10

Tobacco use and compliance should also be considered. It is critical that the patient adheres to an occupational therapy and physical therapy program before surgery. Even if function is restored, if the joints have ceased working then the reconstruction is for naught.

**Timing of reconstruction**

Just as important for optimal functional outcome is timing to surgery. Studies have shown that nerve transfers performed within 6 months post-trauma yield results superior to transfers performed after 6 months post-trauma.11 It is important to have the patient evaluated by a neurologist and upper extremity surgeon as soon as possible following trauma.

**Restoration of Function**

When contemplating brachial plexus reconstruction, one must have a specific plan since each patient’s injury pattern is inherently different. The two most important actions which need to be restored in the high plexus injury are elbow flexion and shoulder abduction.9

Elbow flexion is critical to human interaction with the environment and its restoration is the principal goal of brachial plexus reconstruction. This is particularly true in C5-C6 injuries where the musculocutaneous nerve has been compromised. The musculocutaneous nerve innervates the brachialis and biceps which are the elbow flexors.

Restoration of elbow flexion can significantly improve the activities of daily living for the patient.

Restoration of shoulder stabilization and abduction is the second most important priority in primary reconstruction of high brachial plexus injuries.9-10 The axillary and suprascapular nerves may also be compromised in C5-C6 injuries. The axillary and suprascapular nerves innervate the deltoid and the suprascapular muscles, respectively. These muscles abduct and stabilize the shoulder, providing a solid platform for hand function.

**Nerve transfer options for C5-C6 brachial plexus injuries**

The current nerve transfer used for the restoration of elbow flexion is the Oberlin transfer which was first described by Christophe Oberlin of Paris in 1994. He described the transfer of a single redundant fascicle from the ulnar nerve directly coapted to the biceps motor fascicle.12 This transfer restores elbow flexion following loss of the musculocutaneous nerve, a branch of the lateral cord. In 2004 he reported
that 20 of 32 patients who underwent the procedure recovered active motion against gravity and resistance (M4). 12 This procedure was validated by Leechavengvongs in Thailand who reported his experience with 26 of 32 patients who had regained M4 elbow flexion following the Oberlin transfer.13 In both studies none of the patients displayed any sequelae from sacrificing an ulnar nerve fascicle as a donor.12,13

Unfortunately some patients in the French and Thai studies required further muscle origin transfers (Steindler Flexorplasty) to improve elbow flexion. Researchers found that when the brachialis muscle was re-innervated the patient achieved better elbow flexion than biceps re-innervation alone.12-15 In search of a procedure which would eliminate the need for additional muscle transfer, Oberlin along with Susan MacKinnon in St. Louis, described the Oberlin double nerve transfer in 2003.14,15 In this repair one redundant fascicle from the ulnar and median nerves are coapted directly to the motor branches of the biceps and brachialis muscles. The additional re-innervation of the brachialis, a strong elbow flexor, has improved outcome following loss of the musculocutaneous nerve. In 2005 Oberlin reported 15 of 15 patients recovered M4 strength and MacKinnon reported 6 of 6 recovering M4 strength.14,15 No patients from either study exhibited motor or sensory loss from the donor nerves. The addition of the median nerve coaptation has increased the success of the procedure without sacrificing native residual hand function.14,15

Two nerve transfers, the radial to axillary and spinal accessory to the suprascapular, are currently used to restore shoulder stabilization and abduction in upper plexus avulsions. These transfers can be used independently, but they have been shown to provide better results when performed in combination.16,17 Good outcome (≥ M3) has been reported in 86% of patients undergoing concurrent transfer to both the axillary and suprascapular nerve.16,17

Transferring the radial to axillary nerve was originally described in 1948 by Alexander Lurje from Russia.5 However his initial description was through an anterior approach which was a difficult dissection for the surgeon, not well tolerated by the patient, and required an interpositional graft. The transfer was essentially abandoned for other options until 2003 when Leechavengvongs from Thailand described the posterior approach.18

Through a single longitudinal incision the anterior branch to the axillary nerve is isolated in the quadrilateral space. Subsequently the radial nerve is dissected in the triangular interval just distal to the teres major. At this point the motor nerve to the long head of the triceps is identified and coapted to the anterior branch of the axillary nerve restoring innervation to the deltoid muscle. The posterior approach was revolutionary because the ease of dissection, no interpositional graft was required, and it places the donor close to the motor endplate of the recipient.19 Additionally the nerve transfer can improve shoulder stability and abduction because it is additive with the spinal accessory to suprascapular nerve transfer. Leechavengvongs

**Figure 6.**

*Cadaveric dissection showing the spatial relationship between the radial nerve in the triangular space and the axillary nerve in the quadrilateral space.*
reported that 7 of 7 patients achieved deltoid function against gravity (M4) with a mean of 124 degrees of shoulder abduction.19 There was no reported shoulder subluxation or loss of triceps function.19

The spinal accessory to suprascapular nerve transfer is an older yet reliable option for restoration of glenohumeral stability and shoulder abduction.8,11,20 The spinal accessory nerve is a cranial nerve which serves to innervate the trapezius muscle distal in its course. Originally this transfer required a large supraclavicular Millesi incision for access however recent advances in technique have permitted much smaller and more aesthetic incisions. This transfer has been successful largely due to its consistent anatomy, and close proximity to the donor nerve which negates the need for interpositional grafting. Terzis reported that in 118 spinal accessory transfers outcomes were good to excellent in 79% of patients.11 These results were echoed by Spinner who reported a good outcome in 74% of his 577 transfers.21

When considering brachial plexus reconstruction for C5-C6 root avulsions these three nerve transfers have been shown to be effective both individually and in combination. This “bundled” transfer when performed prior to six months following injury in patients under 40 years of age has achieved excellent results.16,17 The bundle is successful when performed prior to six months following injury in patients under 40 years of age has achieved excellent results.16,17 The series used the older single Oberlin transfer and more recent experience suggests that elbow flexion can be further improved.

Conclusion
Injury to the brachial plexus is a devastating and life altering event for the patient as well as a challenging reconstructive dilemma for the surgeon. Recent strides have been made in the diagnosis, management, and treatment of upper brachial plexus root avulsion. Nerve transfers have evolved into a valuable option; however, a thorough understanding of clinical anatomy and timing to coaptation are crucial for optimal outcome. A combined three nerve transfer consisting of the Double Oberlin, radial to the axillary, and the spinal accessory to the suprascapular has been shown to be an effective primary reconstruction for adult C5-C6 injuries.

References
2010 ANNUAL BUSINESS MEETING & PHYSICIAN PRACTICE CONFERENCE

FRIDAY, JANUARY 29 - SUNDAY, JANUARY 31

at the Charleston Marriott

Designed for physicians, office managers, coding and billing personnel.

This conference is jointly sponsored by CAMC Health Education and Research Institute, a continuing education event.

<table>
<thead>
<tr>
<th>PHYSICIAN PRACTICE CONFERENCE</th>
<th>ANNUAL BUSINESS MEETING AGENDA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>REGISTRATION FEE REQUIRED</strong></td>
<td><strong>NO REGISTRATION FEE REQUIRED</strong></td>
</tr>
<tr>
<td>Friday 8:30-4:30</td>
<td></td>
</tr>
<tr>
<td>♦ Polish Your Employees – MANAGEMENT TIPS FOR A PROFITABLE PRACTICE Enhance medical practice skills to reduce the risk and liability associated with staff and patient interactions.</td>
<td></td>
</tr>
<tr>
<td>♦ 2010 Coding Revisions – CRITICAL CHANGES FOR ALL SPECIALTIES Know the coding changes critical to steady reimbursements.</td>
<td></td>
</tr>
<tr>
<td>♦ Cultivate Office Etiquette – OFFICE PROTOCOL AND ETIQUETTE SKILLS Nurture your patients’ satisfaction.</td>
<td></td>
</tr>
<tr>
<td>♦ RAC Update – MEDICARE RECOVERY AUDIT CONTRACTOR PROGRAM Get the latest information from Connolly Healthcare to ensure that your practice is compliant with the RAC.</td>
<td></td>
</tr>
<tr>
<td>♦ 2010 Payor Update – UTILIZATION AND REIMBURSEMENT INFORMATION Join management and representatives from major payors for the latest information.</td>
<td></td>
</tr>
</tbody>
</table>

Friday Evening

♦ West Virginia Medical Foundation Board Meeting
♦ WVSMA Executive Committee and Council Meeting/Dinner

Saturday

♦ WVSMA House of Delegates - First Session
♦ 2010 State Legislative Policy & Federal Health System Reform Briefing
♦ Resolutions Committee Meeting
♦ WVU vs. Louisville Basketball Watch Party

Sunday

♦ WV Medical Insurance Agency Client Meeting
♦ WV Medical Professionals Health Program Board of Directors Meeting
♦ Special Risk Management Seminar
♦ Special Dinner Workshop
♦ WV Health Information Technology Breakfast Program
♦ WVSMA 2010-11 Officer Elections
♦ WVSMA House of Delegates - Second Session

For room reservations, contact the Charleston Marriott directly at (304) 345-6500 or go to www.marriott.com and use code ABSABSA.

For more information and to register for this informative program, contact the WVSMA at (304) 925-0342, ext. 12, RSVP to karie@wvsma.com, or visit our website at www.wvsma.com
Please print clearly

Name: ____________________________________________________________________________________________

Additional Registrant Name: __________________________________________________________________________

Street Address: _____________________________________________________________________________________

City:_________________________________________________ State:________________ Zip: ___________________

Phone: _________________________________________ E-mail Address: _____________________________________

☐ Please register the above individual(s) for the WVSMA Annual Business Meeting activities on Saturday and Sunday. No Charge.

☐ Please register the above individual(s) for Friday’s Physician Practice Management Conference. (Indicate registration amount below)

<table>
<thead>
<tr>
<th>Early Registration (On or before 1/15/10)</th>
<th>Regular Registration (After 1/15/10)</th>
<th>#Number of Registrants</th>
<th>Total Amount Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>WVSMA Member - Physician/Medical Staff</td>
<td>$145</td>
<td>$185</td>
<td>$________________</td>
</tr>
<tr>
<td>Non-Member - Physician/Medical Staff</td>
<td>$175</td>
<td>$225</td>
<td>$________________</td>
</tr>
</tbody>
</table>

*$50 OFF the registration fee for each additional registrant.

Payment Method:

☐ Check Enclosed   ☐ American Express   ☐ MasterCard   ☐ Visa

Card No: ___________________________________________ Expiration Date: ___________ V Code: ___________

(Three digit number on the back of your credit card.)

Name As It Appears On Card: ________________________________________________________________________

Signature: _____________________________________________________________________________________

For more information or additional registration forms, visit the WVSMA website at www.wvsma.com or call (304) 925-0342 Ext. 12

Please fax this form to (304) 925-0345

Or mail to: West Virginia State Medical Association

P.O. Box 4106, Charleston, WV 25364
Traumatic Complete Urethral Disruption: The West Virginia Experience

Can Talug, MD
Assistant Professor, Division of Urology, Department of Surgery, WVU, Morgantown

Elizabeth T. Brown, MD, MPH
Resident, LSU/Oshner Clinic, New Orleans, LA

Alison M. Wilson, MD
Associate Professor, Division of Trauma & Critical Care, Department of Surgery, WVU, Morgantown

Julio Davalos, MD
Clinical Assistant Professor, Division of Urology, Department of Surgery, WVU, Charleston

Stanley Zaslau, MD, MBA
Associate Professor, Division of Urology, Department of Surgery, WVU, Morgantown

Stanley J. Kandzari, MD
Professor, Division of Urology, Department of Surgery, WVU, Morgantown

Abstract

Type III complete urethral disruption is an uncommon injury that occurs primarily in male patients with pelvic trauma. Herein we present our results from management of this condition. Management should initially be conservative with a catheter placement in all cases. Full return of urinary function was noted in all patients managed endoscopically, and in 1 of 3 of patients managed with open urethroplasty. Erectile function was preserved in 2 of 3 of patients managed with endoscopic repair, and in none of the patients managed with open urethroplasty. The most common surgical urologic complication was traumatic urethral stricture.

Introduction

Urethral disruption is an uncommon injury that primarily results from pelvic trauma. The incidence ranges from 2%-25%, and can be associated with significant morbidities such as urinary incontinence and erectile dysfunction. Urethral disruption can be categorized into three classes. In type I, the urogenital diaphragm is dislocated and the membranous urethra is stretched; in type II, the membranous urethra is ruptured above the urogenital diaphragm at the apex of the prostate; and in type III, the membranous urethra is ruptured above and below the urogenital diaphragm, causing a complete disruption.

Urethral disruption should be suspected in patients with a history of trauma and gross hematuria or blood at the urethral meatus, which is present in 91%-100% of cases. Rectal palpation of a high-riding prostate is also characteristic but not diagnostic.

Traditionally, there have been several approaches to the management of urethral disruption, including aggressive intervention with immediate reconstruction. The currently established protocol advocates retrograde urethrography as the initial step, with Foley catheter placement at the presence of urethral injury. Failure of Foley catheter placement would then be an indication for a suprapubic catheter.

This retrospective review analyzes the current protocol and patient outcomes for the initial management of traumatic urethral disruption. The established protocol should be modified to minimize complications of subsequent urinary and erectile dysfunction.

Material and Methods

A retrospective chart review was performed from West Virginia University Hospital (WVUH). WVUH had 13 patients with urethral disruption from a 10 year retrospective review of approximately 17,000 patients first seen from January 1995-August 2004. Of those 13 patients determined to have urethral disruption from traumatic pelvic injuries, 6 were noted to have complete urethral disruption. Data on these 6 patients were then collected and analyzed regarding the mechanism of injury, initial management, and long-term sequelae.

Results

Pelvic trauma occurred in 845 of the total 17,000 cases reviewed. Traumatic urethral disruption occurred in 13 of those cases, which resulted in a 1.5% incidence of urethral disruption in pelvic traumas. However, two other patients in the chart review were determined to have urethral disruptions without associated pelvic trauma. Therefore, traumatic urethral disruption occurred in approximately 0.1% of all traumas.

All 13 cases of urethral disruption were in males 20-80 years of age, with a mean age of 43 years. All of the cases were due to blunt trauma. Five (39%) patients had a Type I urethral injury, 2 (15%) had a Type II, and 6 (46%) had a Type III. Initial management for patients with a Type III injury, was either placement of a Foley catheter in only 2 or a suprapubic catheter in only 4. Endoscopic realignment was performed in 3 patients, and open urethroplasty in 3 patients.

The mean follow-up time was 16 months, with a range of 6-42 months. Full return of urinary function was noted in all 3 patients managed endoscopically, and in 1 patient managed with open urethroplasty. Erectile function was preserved in 2 of patients managed with endoscopic repair, and in none of the patients managed with open urethroplasty. The most common surgical urologic complication was traumatic urethral stricture.
Discussion

Urethral disruption is a rare sequelae of pelvic trauma nationwide. The most common cause of urethral disruption is currently from motor vehicle collisions that result in blunt trauma. Historically, urethral injury was seen more commonly in falls or mining injuries (3). This may have resulted in an increased incidence of urethral disruption in WVUH before the escalation of motor vehicle use. Husmann and colleagues concluded in their study of pelvic fracture and urethral disruption that the nature of these injuries and quality of repairs were more indicative of outcome than the order of management.4

Conversely, other studies have shown that initial conservative management decreases future morbidities. Podestà and coworkers recommended a suprapubic cystostomy tube as initial management after a traumatic urethral disruption. They noted that patients in their study treated with urinary diversion and urethral realignment developed obliteratorive strictures, similar to the patients in WVUH.1

Koraitim also reported significantly higher rates of impotence among patients who underwent primary open urethroplasty compared with conservative management.5 This finding was consistent with the patients in WVUH as well, since erectile function was not maintained in the patients who underwent open repair. Although conservative management has been shown to be beneficial, several challenges do exist, including hematomas, edema, tissue friability, and overall patient instability. As a result, delayed endoscopic procedures are typically not successful because of extensive fibrosis.6

Thus, the mainstay of therapy over the past 25 years of suprapubic cystostomy, followed by delayed open urethroplasty up to 3-4 months later, has not proved to be effective. Endoscopic realignment has, however, been shown to achieve early, non-invasive realignment that decreases the risks of stricture, erectile dysfunction, and continence. Additionally, it has not been shown to later preclude the success of a delayed urethroplasty after endoscopic failure.7

Therefore, our proposed protocol would implement the placement of a suprapubic cystostomy tube initially following urethral disruption, and then attempt endoscopic realignment within 72 hours. If unsuccessful, endoscopic realignment should again be attempted within 3 months. Failure of urethral realignment within 3 months time should then be an indication for open urethroplasty.

Conclusions

Type III urethral disruption is an uncommon injury that occurs primarily in male patients with pelvic trauma. Management should initially be conservative with a catheter placement in all cases. Urinary and erectile function are, subsequently, better preserved with non-surgical management. If conservative management is not feasible, endoscopic repair is the treatment of choice.

References

Primary Amyloidosis of the Kidney

Shahzad Shafique, MBBS
James Wetmore, MD
Ammar Almehmi, MD, MPH
Division of Nephrology, Department of Internal Medicine, The University of Kansas Medical Center, Kansas City, KS

Abstract
Primary (AL) amyloidosis is a lethal form of plasma cell dyscrasia characterized by monoclonal immunoglobulin light chain deposition causing organ dysfunction. The median age for AL amyloidosis incidence is 64 years, with less than 1% occurring under age 40. The kidney is frequently involved in AL amyloidosis; nephrotic syndrome and/or end stage renal disease (ESRD) occur at presentation in about two-thirds of the patients.

High-dose melphalan with autologous peripheral blood stem cell transplantation (ASCT) is an effective treatment for systemic primary amyloidosis. This procedure is, however, associated with substantial toxicity and mortality, particularly if the heart is involved.

Here we report a case of primary AL amyloidosis in a 40 year old male who presented with a single-organ involvement (e.g. kidney) that progressed rapidly to ESRD. Melphalan and ASCT resulted in a complete hematological recovery. This case highlights the possibility that single organ involvement and young age may be associated with better prognosis and improved survival.

Introduction
Systemic light-chain (AL) amyloidosis is a clonal plasma cell dyscrasia. Alteration in protein conformation results in immunoglobulin light chain fragments deposition in tissues such as heart, kidney, liver, or peripheral nerves, leading to progressive organ dysfunction and death.1 The incidence of this disease is 5-13 person per million per year,2 with a median age of onset at 64 years. The disease rarely occurs under age of 40. The clinical course is largely determined by the degree of organ involvement and the amount of amyloid deposition.

Patients with predominantly cardiac involvement have particularly poor survival of less than 5 months.2,3 Most patients have multi-system amyloid deposition, although it is not uncommon to present with evidence of only one organ being affected. The kidney is a frequent site of amyloid deposition, with clinically evident renal involvement occurring in 48% to 82% of patients.4-7 Patients with kidney amyloidosis typically present with heavy proteinuria, peripheral edema and gradual deterioration of renal function.4,8,9

Although high dose melphalan with ASCT is an effective therapy for systemic AL amyloidosis, it is associated with high mortality.

In this report, we describe a case of primary AL amyloidosis in a young patient with isolated kidney involvement and rapid progression to ESRD, treated successfully with melphalan and ASCT.

Case Report
A 41 year old previously-healthy male presented to his primary care physician with a one-month history of generalized weakness, progressive exertional dyspnea, and periorbital and peripheral edema. Laboratory assessment revealed a creatinine of 1.9 mg/dL (168 μmol/L). He was commenced on diuretics and referred to our renal clinic due to his abnormal renal function and hypertension. His initial evaluation confirmed elevated blood pressure, lower extremity edema, and elevated creatinine at 3.5 mg/dL (309 μmol/L) with 10 grams of proteinuria on a 24 hour urine collection. Renal ultrasound revealed large kidneys (right; 12.9 x 7.1 cm, left; 13.2 x 7.3 cm). Because of the acuity and severity of illness, he was hospitalized for further evaluation.

Laboratory evaluation upon admission demonstrated the following: serum creatinine of 9.5 mg/dL (840 μmol/L), blood urea nitrogen 54 mg/dL (19.3 μmol/L), and proteinuria of 22 grams on a spot protein-to-creatinine ratio. On day 1 of hospitalization he developed substernal chest pain with new ECG changes. He subsequently underwent emergent left heart catheterization, which showed a left descending artery stenotic lesion requiring stent deployment. His kidney function deteriorated rapidly necessitating hemodialysis initiation.

Additional serological work up for nephrotic syndrome revealed a free lambda band with a level of 654 mg/L on serum immunofixation, suggestive of a plasma cell disorder. The rest of the laboratory data was essentially unremarkable, including serum complement levels, anti-neutrophil cytoplasmic antibody, anti double-stranded DNA, human immunodeficiency virus, hepatitis serology, anti-phospholipid antibodies, anti-glomerular basement membrane antibody, and anti-neutrophilic cytoplasmic antibodies.

Under the presumption that the diagnosis was AL amyloid, the patient underwent a fat pad biopsy, which was negative for amyloid. Subsequently, an ultrasound-guided kidney biopsy was performed and pathologic examination on light microscopy revealed nodular, amorphous material extending from the mesangium into the capillary loops and replacing the normal glomeruli (Fig. 1). Electron micrograph showed expansion of the mesangium by amyloid fibrils measuring between 9 and 11 nanometers in diameter (Fig. 2). These pathological findings were consistent with renal amyloidosis. Subsequent bone marrow biopsy showed 1+ amyloid deposition, and flow cytometry studies revealed 5-10 % plasma cells of lambda predominance. In order to further evaluate other organ involvement, echocardiography was done, which was unremarkable;
there was no evidence for interventricular septal thickness. The patient was treated with intravenous melphalan for two consecutive days at a total dose of 140 mg/m². Stem cells were infused 48 hours after completion of melphalan administration. He had a complete hematologic response, with <5% of plasma cells on repeat bone marrow biopsy at 12 months and no evidence of persistent monoclonal gammapathy on serum immunoelectrophoresis and immunofixation at 6 and 12 months following treatment. He is currently under remission on long term hemodialysis and on the waiting list for a kidney transplant.

**Discussion**

The kidney involvement is common in AL amyloidosis, occurring in more than half of the patients. The natural history of amyloidosis-associated renal disease is progressive decline of glomerular filtration rate to ESRD requiring renal replacement therapy.²,³ Gertz et al⁴ in a series of 211 patients with AL amyloidosis reported that one-third of those with renal disease at presentation progressed to long-term dialysis dependence. The median time from diagnosis to initiation of dialysis in these patients was 13.8 months. However, this was not the case in our patient, who rapidly progressed to ESRD in less than 2 months, which would seem to indicate a more aggressive course. Moreover, median survival from the start of dialysis was quite poor in the case series above, at only 8.2 months. Our patient is alive and in remission at 24 months on chronic hemodialysis at last follow-up.

AL amyloidosis itself carries poor prognosis with a median survival of 14 months without therapy.²,³ In Mayo Clinic series, Kyle et al evaluated 810 patients with AL amyloidosis and found that the actuarial survival rates were 51%, 16%, and 5% at 1, 5 and 10 years, respectively.³ Among 30 long-term survivors (beyond 10 years), who were treated with alkylating agents, only 2% showed disappearance of the monoclonal protein in the serum or urine. The major favorable prognostic finding was younger age in this case series. High-dose melphalan followed by ASCT is currently considered the most effective treatment for AL amyloidosis. Despite its high morbidity and mortality, this treatment induces remission in a significant proportion of patients with primary amyloidosis and improves survival rate. The largest that evaluated this modality of treatment included a highly selected group of 312 patients (total evaluated patients were 701). The mean age

---

**Don’t Get Left Behind when it comes to EMR.**

Now is the time to let EMR take your practice to the next level in patient care. With our experienced support team and Centricity® EMR by GE Healthcare, we’ll help you get there in no time. Don’t get left behind. Give us a call today.

**Physician’s Business Office**

Electronic Medical Records • Practice Management

3211 Dudley Avenue, Parkersburg, WV 26104

Call Jill Redinger (304) 482-8045 or Jeff Matheny (304) 422-0578

web: physiciansbusinessoffice.com • e-mail: jill@pbo.bz
was 57 years, all were treated with high-dose melphalan (100 to 200 mg/m²) and ASCT, and they were followed up for up to 8 years. The 100-day treatment-related mortality was 13%, similar to that noted in other studies.12, 13 Median survival was 4.6 years for the entire group of transplanted patients. Patients with cardiac involvement had an especially poor survival (1.6 versus 6.4 years). Complete hematologic response, defined as no evidence of an underlying plasma cell dyscrasia one year after treatment, were reported in 40%; these responses were fairly durable, as 85% of such patients were still alive compared to a median survival of 5.2 years for patients not achieving a complete response. For the 307 patients deemed ineligible for stem cell transplantation (age >80, uncompensated heart failure, left ventricular ejection fraction <40 percent, persisting pleural effusion, systolic pressure <90 mmHg, O₂ saturation <95 percent on room air, or a performance status 3), median survival was only four months from the time of evaluation, indicating the high mortality of this disease.

Notably, renal failure has been viewed as a poor prognostic factor for survival following high-dose melphalan, so ASCT protocols often exclude patients with renal impairment. The efficacy and tolerability of such treatment in patients with AL amyloidosis-associated ESRD was investigated by Casserly et al.14 Eight of the 15 patients (53%) had a complete hematologic response at 12 months after treatment, and 6 of these 8 patients (75%) were alive at a median follow-up of 4.5 years. Two of these patients underwent successful living-related renal transplantation with functioning grafts for more than 5 years; one had successful cadaver donor transplant still functioning 6 years later. This study suggests that patients who have complete hematologic remission with melphalan and ASCT could be eligible for renal transplant with good outcomes.

In our patient, despite the rapid progression to ESRD, the younger age (41 years) and sparing of cardiac involvement were factors favoring a better outcome as he undertook an intense treatment with high dose melphalan and ASCT. He had complete hematologic response and doing well on chronic hemodialysis two years after his treatment, waiting for his kidney transplant.

In summary, this case highlights the fact that systemic primary amyloidosis can result in rapid deterioration of renal function. However, younger patients with AL amyloidosis involving the kidney alone may warrant intense treatment with high dose melphalan and ASCT in the hope of long-term survival even to the point of being eligible for receiving a kidney transplant. Moreover, single organ involvement and young age may carry a better survival and prognosis.

**Figure 1.** Accumulation of hyaline amorphous material replacing the normal glomeruli.

**Figure 2.** Randomly oriented non-branching fibrils in interstitium (diameter 9-11 nm).

**References**

Slit Fracture Through Two Adjacent Cervical Vertebrae: Case Report and Review of the Literature

Tracy L. Hendershot, DC, MSIV
Department of Family and Community Health, Joan C. Edwards School of Medicine, Marshall University, Huntington, WV

Toussaint A. Leclercq, MD
Department of Neurosciences, Joan C. Edwards School of Medicine, Marshall University, Huntington, WV

Peter Chirico, MD
Radiology Department Chair, Cabell Huntington Hospital, Huntington, WV

Abstract
We report the case of a 15 year old male who presented complaining of neck pain and upper extremity radicular symptoms one day post trampoline trauma. He was diagnosed with a nondisplaced vertical or "slit fracture" at C5 and C6. It is believed that the mechanism of injury, trampoline trauma, allowed this unusual fracture. A review of the literature provides some insight regarding speed of force and fracture displacement that may have relevance in this particular case. A review of the literature failed to find a previous report of such an event.

Introduction
Owing to the complex embryology of the upper cervical spine, multiple congenital anomalies can be discovered at C1 and C2.1 This becomes problematic when evaluating a cervical trauma patient for an often subtle fracture.2,4 This is seldom the case, however, when evaluating the lower cervical spine. We present a rare case of a vertical or slit fracture of the body of C5 and C6 which on initial plain films could have been confused with a nutrient foramen and vessel pathway or a congenital midline defect.

Case Report
A fifteen year old boy presented to the emergency department complaining of numbness in his upper extremities after playing on a trampoline. His complaint began after doing a “double flip” and landing on his neck and head. He was unsure as to whether his neck was flexed or extended during the impact. He denied feeling instant pain or hearing any popping or cracking during the landing. He denied loss of consciousness, dizziness, nausea, or vomiting. The sensation of numbness resolved and he continued his normal activities.

On awakening the next morning the numbness returned and was accompanied by weakness of his left fourth finger. He described the it as “stiff.” He had intense pain about the dorsum of the left hand and ventral aspect of the forearm extending to the palmar surface. He also perceived vague pain in the right upper extremity, neck, and low back. His left hand pain was provoked with tactile stimulation resulting in “hot and cold” sensations in the extremity. An attempt to relieve the pain with 800 mg Motrin was ineffective.

He had no relevant past medical or surgical history. He used no prescribed medications and had no known allergies. He reported a well rounded diet. His family history was significant for a father with an atrial fibrillation induced ischemic stroke at 41 years of age. He denied exposure to smoking and alcohol.

A review of systems revealed no evidence of systemic or neurological involvement, such as hoarseness, difficulty breathing, or bowel and bladder compromise. Physical exam revealed a well proportioned 60 kg child who appeared his stated age. He had a heart rate of 72 beats per minute, blood pressure of 134/86mm/Hg, and respirations at 18 per minute with O2 saturation of 100% on room air. He was awake, alert, in no distress, and cooperative throughout the exam. His exam was unremarkable but for his neurological findings. The cranial nerves were intact. He had normal strength in his neck. He had normal upper extremity reflexes, 5/5 strength in the upper extremity except for apparent weakness of the left biceps and diminished grip strength in the left hand when compared to the right. Sensory involvement was localized to the left posterior lateral antebrachium and left and the right C6 dermatome as described above. He had intact lower extremity sensation, power, and reflexes. The Babinski sign was absent on the left and neutral on the right.

Routine laboratory findings were unremarkable. A CT scan showed a fracture of the left C5 pedicle and lamina as well as longitudinal fractures of the vertebral bodies of C5-C6 with no loss of height and no subluxation. A neurosurgical consult was obtained. The diagnosis was an acute non-displaced slit fracture of the C5-6 cervical spine (Figure 1). He was stable and therefore placed in a soft collar. He was admitted to the PICU for observation with hourly neurological checks.

His hospital course was uneventful. On day one, he received an MRI (Figure 2) which showed mild bone marrow edema at C4 and edema corresponding to the fractures found on the CT scan. An intraspinous ligament sprain from C3-C4 to C6-C7 and a posterior longitudinal ligament sprain at C5-C6 were identified. Finally, a cord contusion was noted at the C5 level. He was transferred to the pediatric ward and a pediatric orthopedist was consulted.
By day two his right sided upper extremity dysesthesia had resolved and the left side hyperesthesia had diminished. His pain was well controlled with medication. He was placed in a hard collar. A cross table c-spine film was obtained to access proper alignment with the brace. On day three, he was discharged in good condition, with minimal left sided C6 hypoesthesia and dysesthesia.

He returned to the emergency department a month later complaining of a cough and neck pain. A four view cervical spine study revealed no significant change in alignment, nor did it reveal any foraminal encroachment. In clinic shortly thereafter, he denied significant radiculopathy including hyperesthesia, despite maintaining an active lifestyle. He had been non-compliant with his cervical collar but denied any new trauma. A three month follow-up revealed healing of the cervical fractures (Figure 3).

Discussion

He was diagnosed as having a fracture of C5-6 but the pattern was quite unusual since this was a slit fracture over the body of C5 running about half of the body and then starting again at C6 with the same pattern (Figure 1). Of note, the C5-C6 disc appeared undamaged. We obtained an MRI to clarify the situation and indeed these lines were fracture lines with edema around them. There are no vascular markings (Figure 2).

Slit fractures are usually referenced in the literature only in regards to upper cervical trauma. The literature provides multiple references of the uncommon, but expected, midline clefts and congenital variants of the upper cervical spine. Slit fractures as reported in this case could not be found after extensive review of the literature.

This case serves as a reminder of the dangers associated with trampolines. A review of the recent literature reveals that 1.5% of all summer time emergency department visits at one children’s hospital and 2.5% of all ER visits to another were for orthopedic injuries that occurred while playing on a trampoline.\textsuperscript{7,8} In the United States an estimate of 88,563 trampoline induced ER visits occurred in a five year period ending in 2005. Of concern is the fact that this represented a 113% increase over a similar time span on decade ago.\textsuperscript{9} The most common injury is of the foot and ankle, but neck sprains are second.\textsuperscript{8,10} Trampoline injuries are the fourth leading cause of sports related CNS injuries, behind football, boxing, and hockey.\textsuperscript{11}

In this case, the mechanism for the trauma to the bone may have been a result of the trampoline’s ability to slow axial loading while
the child was undergoing concurrent forced flexion. It has been shown that for the same energy and direction of impact, a high impact loading rate on calf lumbar spines produced fractures with significant posterior displacement, whereas minimal displacement was elicited for fractures produced at a low loading rates.\textsuperscript{12} It has also been found that, although endplate and vertebra body failures were increased with loading rate, the stresses only increased with regard to the vertebral body.\textsuperscript{13} Therefore, in slow loading the fracture pattern observed may be strictly related to the mechanical properties of the vertebral component in question, as opposed to high speed loading which may result in fracture patterns more consistent with load distribution.

It is likely the child was in forced flexion at the time of impact. A study has revealed that fractures were likely to occur in adolescent porcine motion segments when forced to a median angle of 17 degrees of flexion or extension.\textsuperscript{14} Usually, the fractures in flexion-compression occurred posteriorly, as in the case above. In the study, the extension fractures tended to be more extensive and had a lower ultimate compressive load.

The child’s age may have contributed to his unusual fracture pattern. A previous study, citing findings that adult vertebrae when compressed fracture through the body and adolescents through the growth plates, tested loading on adolescent porcine motion units. The results demonstrated the weakest point in an adolescent porcine unit is the growth plate and that the force usually resulted in nucleus pulposus herniation and displacement of the annulus through the fracture line.\textsuperscript{15} The damage to the nucleus was readily found on MRI. These findings are contrary to the findings in our case, but to serve to suggest a difference between aged and adolescent spines.

The fact that the C5 disc did not rupture was of interest. It is believed that the ability of the nucleus to reach constant pressure regardless of impact duration resulted in the transmission of force to the cancellous bone.\textsuperscript{16} In the above case, the cancellous bone responded to the slow dynamic load by a minimal fracture. However, the posterior elements were predictably overloaded, especially when anterior shear was considered. A study of porcine models demonstrated that anterior shear, i.e. flexion, allowed for an increase in ultimate load failure when the motion unit was dynamically loaded.\textsuperscript{17} The study also reported the disc resisted up to 70\% of the load with the pars responsible for 30\%. In this study, as in our case,
the posterior elements still incurred the majority of the mechanical failure.

References


Blunt Aortic Injury Involving the Arch of the Aorta with a Grade III Liver Injuries Repaired Under Circulatory Arrest

Muhammad Nazim, MD
Ronald Hill, MD
Syed Hashmi, MD
Alison Wilson, MD
Kevin Tvetter, MD
Kelly Gustafson, BSN, CCP
Donnie Goodwin, RN, MSN
Timothy VanHoose, MD
Robert Tallaksen, MD

Department of Surgery, Division of General and Cardiothoracic Surgery, West Virginia University, Morgantown

Introduction

Traumatic aortic injury is thought to be the second highest cause of death in blunt trauma. This is related to the patient’s rapid deceleration during high-speed motor vehicle accidents and the shearing effect of thoracic aorta. In patients who survive to reach the hospital, the most common site of injury is the proximal descending aorta (65%), followed by the ascending aorta and arch (14%), and 12% in the distal descending aorta. We report a patient who had a traumatic aortic transection with extension into the arch of aorta.

Case Report

A 20-year-old white female unrestrained backseat passenger was involved in a side impact collision. Initially, she had self extricated but later was noted to be pale and diaphoretic at the scene. She was transported to WVU Level One trauma center for evaluation. On arrival she was complaining of left sided chest pain and dyspnea. On examination she was tachycardia and had diminished breath sounds on the left side. Her initial chest x-ray showed a complete opacification of her left lung, and a chest tube was placed which initially yielded 300 ml of blood. A CT scan of the chest and abdomen with aortic reconstruction revealed an acute aortic transection distal to the left subclavian artery with multiple intraparenchymal liver lacerations without active bleeding (Figures 1 and 2). In addition, she had a non-displaced pelvic fracture. She was admitted to the ICU, started on IV beta-blockers and agents to control her blood pressure. Just prior to transfer to the operating room suite, her chest tube output was noted to be over 1000 ml of blood.

After placement of right radial and femoral arterial lines as well as venous access and intubation with a double lumen endotrachael tube, a left thoracotomy was performed. A large posterior mediastinal hematoma was identified. The left atrium and distal descending thoracic aorta were cannulated with a heparin-coated Carmeda system (Medtronic, Inc.). Dissection was done to gain control of the aorta proximal and distal to the tear as well as control of the subclavian artery. Following low dose heparinization, the aorta was clamped between the left carotid and left subclavian arteries as well as the distal descending thoracic aorta. The aorta was opened and on inspection, it was noted that the tear extended beyond the proximal aortic cross-clamp into the inferior portion of the aortic arch. At this point, it was elected to institute full bypass and circulatory arrest. Another cannula was placed into the pulmonary artery and a #20 DLP (Medtronic, Inc.) cannula was placed into the aortic arch. Upon achieving circulatory arrest, the proximal clamp was removed and a #16 Hemashield graft (Boston Scientific) was sewn into place. The graft was tailored to salvage the left subclavian artery. The patient was placed back onto bypass and rewarmed while the distal anastomosis was performed. Post operatively, the patient had a prolonged hospital course with ARDS and ventilator associated pneumonia; however, she recovered and was discharged to home without any neurological sequel. She has been seen in clinic and is without complaint.

Discussion

This case is unusual not only in the severity of the patient’s injury, which was diagnosed intraoperatively,
but it, also, highlights the fact that surgeons need to be vigilant for this problem and be able to tailor their operative plans accordingly. There has been a long debate concerning the “clamp and sew” versus partial bypass technique. While “clamp and sew” avoids the need for heparin, use of the bypass may be protective to the spinal cord. It would have been very difficult to do the “clamp and sew” technique and keep the clamp time below 30 minutes due to the extent of the proximal tear.

This case highlights the sometimes-complex nature of the associated injuries, which can be found in between 50-90% of patients. In a major study if this injury, half of the patients had brain injury and solid organ injury was found in about 15-20% of patients. The traditional paradigm of addressing the abdomen prior to operating on the aorta is changing as more solid organ injuries are being treated non-operatively in stable patients such as our patient. Santaniello and associates have shown that aortic injuries with low grade (grade 1-11) solid organ injuries can be repaired with systemic heparnization. There has been an argument made for delaying aortic repair until these injuries are controlled. This strategy could not be done in our patient because of the high output from her chest tube. A less invasive option in the future may be endoluminal stent graft placement, though long-term data on the efficacy of this is lacking.

References

Top 10 Reasons to Provide Your Email Address to the WVSMA

10. Give your fax machine a rest.
9. Impress the kids with your use of e-mail.
8. Save trees and “go green:’
7. Increase your personal comfort with technology.
6. Get information in a quick-read, timesaving format.
5. Share news with staff just by clicking Forward.
4. Help the WVSMA maximize your dues dollars.
3. Know what your colleagues know at the same time they know it.
2. Protect your patients with access to immediate updates from the CDC and other healthcare bulletins.

AND the TOP reason to ensure the WVSMA has your e-mail address:
1. Learn news of importance to physicians as soon as it is available.

To make sure you, like your colleagues, are getting e-mail news and bulletins of importance to West Virginia physicians, send an e-mail message to mona@wvsma.com. If your e-mail has changed, or whenever it changes, make sure you send your new address to the WVSMA.

Why UniCare?

For You:
- Enhanced Medicaid reimbursements
- Electronic claims submission
- Fast payments
- Electronic funds transfer

And for Them:
- Free health improvement and disease management programs
- Large referral network
- Community Resource Center offering special events and services

Call us at 1-888-611-9958 to learn more about the benefits of being a UniCare Medicaid provider.
The 2009 AMA Interim meeting was held at the George R. Brown Convention Center in Houston, Texas, November 6-10, 2009.

Drs. Joseph B. Selby, myself, James D. Felsen, and John D. Holloway attended the proceedings of the AMA House of Delegates. Dr. Carlos C. Jimenez, WVSMA President, and our Executive Director, Evan Jenkins, also attended and helped our West Virginia representation on all reference committees of the AMA.

This year we were also amply represented by students from the Joan C. Edwards School of Medicine at Marshall University and the WVU School of Medicine.

As expected, the most contentious issues of this interim meeting concerned the legislative advocacy regarding healthcare reform.

After three hours of discussion, delegates adopted a health system reform resolution that combined several measures previously discussed. The wide ranging resolution affirmed support for the AMA to continue to work with Congress on health reform and to communicate that progress to members. The House also voted that reform legislation must include the repeal of Medicare’s flawed SGR (Sustainable Growth Rate) formula. AMA leaders said the process showed that the AMA Board of Trustees made the right decisions during this historic year of national debate on health system reform legislation. “It’s an affirmation of the AMA’s position in the health system reform debate,” according to President-elect Cecil B. Wilson, MD, after the house voted.

Several state and specialty medical societies lead by the Medical Association of Georgia, offered amendments that would have specified that the AMA does not support a new public health insurance option sponsored by the federal government. Legislation recently adopted by the U.S. House of Representatives includes such a provision. However, the House rejected the amendments by a nearly two-thirds vote.

During testimony, some delegates said members should trust the AMA leaders on health reform.

Nancy H. Nielson, MD, PhD, AMA immediate past president, said some doctors see the world in black-and-white terms with no in-between. “The legislative process is different than that.”

The West Virginia delegation voted with the AMA leadership.

In addition to the health system reform debate, many other issues were discussed. On the topics of Education, Science and Public Health (Committee K), the AMA House of Delegates directed the AMA to urge the accreditation council for graduate medical education to reject a protected sleep period proposed by an institute of medicine panel. Surgeons have been especially outspoken about the effect of duty-hour rules on training. To quote Dr. Peter W. Carmel, a pediatric neurosurgeon from New Jersey and a member of the AMA Board of Trustees “our colleagues in Europe who have such restrictions on work hours could not train their residents well enough to pass the examination of the American Board of Neurological Medicine.”

On safety issues, the House voted for a ban on all hand held devices while driving.

In response to the threat of seasonal flu and H1N1, the delegates supported the use of more hand sanitizer dispensers in public places, and a thorough review of the ethical and scientific merits requiring doctors and healthcare professionals to get immunized against flu strains.

Concerning the issue of identity protection, the delegates adopted ID-theft protection for physicians.

The AMA also endorsed 15 principles for all hospitalist programs. These include involving patients, medical staff and others in designing and implementing a hospitalist program; promoting a hospitalist model that focuses on team-based inpatient care; and tracking and reporting hospitalist performance measures against goals.

Several amendments were passed to the AMA Constitution and Bylaws including ethical guidance. Discussion of a good bedside manner as a hallmark of physician professionalism led the AMA to offer advice to doctors and medical students on proper on-line etiquette.

In other action, delegates directed CEJA and the AMA Council on Science and Public Health to examine the science and ethics of kidney transplant chains and other unconventional organ donation processes that have become more prevalent in recent years.

The House of Delegates also asked the Association to work with other Federation of Medicine organizations to help physicians with disclosing sensitive health conditions, such as HIV/AIDS status to minors.

The controversial CEJA report offering ethical guidance on how to manage potential conflicts of interest associated with industry funding of continuing medical education was referred back to the council for further revisions.

The report, which says doctors should avoid industry-supported CME when possible, was referred back twice previously for changes.

Constantino Y. Amores, MD
Chair, WVSMA Delegation
Elizabeth Copenhaver, first year medical student attending the West Virginia University School of Medicine, won first place in her division for her research poster presentation, “SNR Requirements for Accurate Post-Contraction Signal Estimations.”

Members of the WVSMA Delegation to the AMA and medical students from the Joan C. Edwards School of Medicine at Marshall University and the West Virginia University School of Medicine.

Back Row L to R: Jim Felsen, MD, Joseph Selby, MD, Kevin Johnson, Dana Point, Michael Hardman and Evan Jenkins.

Middle Row L to R: Constantino Amores, MD, John Holloway, MD, Gordon Mclmore, Mrs. Jimenez, Carlos Jimenez, MD. Front Row L to R: Lisa Costello, Kristen Stattler, Alice Hensley.

Not pictured: Nathan Bexfield.
New CMS Enrollment Policy Delayed

In 2003, the Centers for Medicare & Medicaid Services (CMS) developed an internet-based Medicare provider enrollment process known as PECOS (Provider Enrollment, Chain and Ownership System). Internet-based PECOS is available to physicians, non-physician practitioners, and provider and supplier organizations in all States and the District of Columbia. Internet-based PECOS will allow physicians, non-physician practitioners, and provider and supplier organizations the option of enrolling, making a change in their Medicare enrollment information, viewing Medicare enrollment information, or tracking the status of their Medicare enrollment applications.

Even though Medicare will not process the information until they receive a signed authorization form, they are still mandating that the physician complete the web-based process.

Beginning October 5, Medicare began implementing “soft edits” on remittance advice of physicians who listed on their claims the names of other referring or ordering physicians who are not in the Medicare Provider PECOS enrollment database. Starting January 4, 2010, the Center for Medicare and Medicaid Services (CMS) had planned to reject claims where the referring/ordering physician was not in PECOS. As a result of action by the American Medical Association, it was recently announced that the implementation date for the change has been extended until April 5, 2010. As of that date, any claims containing the name of a referring physician not listed in the PECOS system will be denied.

In order to avoid potential reimbursement issues, here’s what physicians should do:

Any physician who has not updated his/her provider enrollment since 2003 must update their application on PECOS. PECOS allows them the “option” of enrolling, and making changes/updates to their information. This may be done by going to the cms website: http://www.cms.hhs.gov/MedicareProviderSupEnroll/04_InternetbasedPECOS and following the instructions. Physicians will need their NPPES user ID and password.

Medicare Participation Options for Physicians

As of this date, implementation of the new Medicare fee schedule for 2010 has been delayed until March 1, 2010, averting a 21.2% cut on January 1, 2010. CMS has also granted an extension in the enrollment period when physicians may change their participation status from January 31, 2010 to March 17, 2010. Included below is information that you should know when considering your participation or non-participation in the program.

Typically, for 45 days at the end of each year, physicians have an opportunity to notify Medicare whether they will be a “participating” or a “non-participating” physician in the coming year. Participating physicians agree to accept assignment on all their Medicare claims. Non-participating physicians can make assignment decisions on a claim-by-claim basis. Medicare payment rates for non-participating physicians are 5 percent lower than payment rates for participating physicians, but non-participating physicians can balance bill patients for more than the Medicare rate, up to a “limiting charge” amount.

Physicians also have the ability to “opt out” of Medicare and privately contract with their patients, but neither they nor their patients can submit any claims to Medicare for their services for a two-year period.

There are three Medicare contractual options for physicians. Physicians may sign a PAR (participation) agreement and accept Medicare’s allowed charge as payment in full for all of their Medicare patients. Alternatively, they may elect to be a non-PAR physician, which permits them to make assignment decisions on a case-by-case basis and to bill patients for more than the Medicare allowance for unassigned claims.

Physicians who wish to change their status from PAR to non-PAR or vice versa will need to do so before Jan. 31, 2010. Once made, the decision will be binding throughout calendar year 2012 except where the physician’s practice situation has changed significantly, such as relocation to a different geographic area or a different group practice.

To become a private contractor, physicians must give 30 days notice before the first day of the quarter the contract takes effect. Those
considering a change in status should first determine that they are not bound by any contractual arrangements with hospitals, health plans or other entities that require them to be PAR physicians. In addition, some states have enacted laws that prohibit physicians from balance billing their patients.

**Participation**

PAR physicians agree to take assignment on all Medicare claims, which means that they must accept Medicare’s approved amount (which is the 80 percent that Medicare pays plus the 20 percent copayment) as payment in full for all covered services for the duration of the calendar year. The patient or the patient’s secondary insurer is still responsible for the 20 percent copayment but the physician cannot bill the patient for amounts in excess of the Medicare allowance. While PAR physicians must accept assignment on all Medicare claims, Medicare participation agreements do not require physician practices to accept every Medicare patient who seeks treatment from them. Medicare provides several incentives for physicians to participate:

- The Medicare approved amount for PAR physicians is 5 percent higher than the Medicare approved amount for non-PAR physicians

Directories of PAR physicians are provided to senior citizen groups and individuals who request them.

Carriers provide toll-free claims processing lines to PAR physicians and process their claims more quickly.

**Non-Participation**

Medicare approved amounts for services provided by non-PAR physicians (including the 80 percent from Medicare plus the 20 percent copayment) are set at 95 percent of Medicare approved amounts for PAR physicians, but non-PAR physicians can charge more than the Medicare approved amount. Limiting charges for non-PAR physicians are set at 115 percent of the Medicare approved amount for non-PAR physicians. However, because Medicare approved amounts for non-PAR physicians are 95 percent of the rates for PAR physicians, the 15 percent limiting charge is effectively only 9.25 percent above the PAR-approved amounts for the services.

When considering whether to be non-PAR, physicians should consider whether their total revenues from Medicare, including amounts the program pays, patient copays and balance billing, would exceed their total revenues as PAR physicians, particularly in light of collection costs, bad debts, and claims for which they do accept assignment. The 95 percent payment rate is not based on whether physicians accept assignment on the claim, but whether they are PAR physicians. When non-PAR physicians accept assignment for their low-income or other patients, their Medicare approved amounts are still 95 percent of the approved amounts paid to PAR physicians for the same service. Non-PAR physicians would need to collect the full limiting charge amount roughly 35 percent of the time they provide a given service in order for the revenues from the service to equal those of PAR physicians for the same service. If they collect the full limiting charge for more than 35 percent of the services they provide, their Medicare revenues will exceed those of PAR physicians.

Assignment acceptance, for either PAR or non-PAR physicians, also means that the Medicare carrier pays the physician the 80 percent Medicare payment. For unassigned claims, even though the physician is required to submit the claim to Medicare, the program pays the patient, and the physician must then collect the entire amount for the service from the patient.

For additional information about Medicare participation, you may go to the CMS website (www.cms.gov). You may also visit the WVSMA website for a document that describes the various Medicare participation options.

---

**Free webinars: Learn how to implement health IT in your practice**

Join the AMA for a series of free webinars that aim to help physician practices successfully implement health information technology (IT) and improve their efficiency and quality of care. The webinars will be co-hosted by TransforMED, a subsidiary of the American Academy of Family Physicians that provides consultation to physicians and practices interested in transforming their practice, and will take place at 1 p.m. Eastern time each Thursday beginning Jan. 14 until Feb. 4.

Hear from experts already working to transform physician practices through health IT, learn the basics of health IT system implementation, prepare your patients and practice for changes associated with health IT, and discover tips for tackling major milestones at each stage in the process.

**Dates and topics include:**

- Jan. 14---Meaningful use of technology to support patient-centered care
- Jan. 21---Preparing your practice for health IT
- Jan. 28---Selecting the appropriate technology for your practice (implementation guidelines)
- Feb. 4---Engaging patients in using technology to manage their personal health care

Visit www.ama-assn.org/go/hit and select “Health IT webinars” to learn more about these programs and to register for each.
Each month, the WVSMA tracks the number of MPLA suits filed in each county throughout West Virginia. Below is a chart summarizing the case filings from 2003 to November 2009. Please note the annual total for 2005 was significantly impacted by the large number of suits brought in Putnam County that year, most of which related to one physician. Excluding the 2005 filings in Putnam County, year-end total filings 2004-2008 were 130, 147, 154, 174, and 178 respectively.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Barbour</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Berkeley</td>
<td>9</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>25</td>
</tr>
<tr>
<td>Boone</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Braxton</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Brooke</td>
<td>7</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>19</td>
</tr>
<tr>
<td>Cabell</td>
<td>28</td>
<td>15</td>
<td>7</td>
<td>14</td>
<td>14</td>
<td>13</td>
<td>22</td>
<td>113</td>
</tr>
<tr>
<td>Calhoun</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Clay</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Doddridge</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Fayette</td>
<td>5</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>21</td>
</tr>
<tr>
<td>Gilmer</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Grant</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Greenbrier</td>
<td>7</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>33</td>
</tr>
<tr>
<td>Hampshire</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Hancock</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Hardy</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Harrison</td>
<td>14</td>
<td>6</td>
<td>8</td>
<td>5</td>
<td>9</td>
<td>6</td>
<td>4</td>
<td>52</td>
</tr>
<tr>
<td>Jackson</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>Jefferson</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Kanawha</td>
<td>66</td>
<td>20</td>
<td>37</td>
<td>47</td>
<td>46</td>
<td>49</td>
<td>48</td>
<td>313</td>
</tr>
<tr>
<td>Lewis</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Lincoln</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Logan</td>
<td>10</td>
<td>4</td>
<td>9</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>6</td>
<td>41</td>
</tr>
<tr>
<td>Marion</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>Marshall</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Mason</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>17</td>
</tr>
<tr>
<td>McDowell</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>Mercer</td>
<td>17</td>
<td>9</td>
<td>4</td>
<td>8</td>
<td>9</td>
<td>8</td>
<td>14</td>
<td>69</td>
</tr>
<tr>
<td>Mineral</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Mingo</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>23</td>
</tr>
<tr>
<td>Monongalia</td>
<td>31</td>
<td>7</td>
<td>10</td>
<td>15</td>
<td>15</td>
<td>14</td>
<td>17</td>
<td>109</td>
</tr>
<tr>
<td>Monroe</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Morgan</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Nicholas</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>Ohio</td>
<td>20</td>
<td>7</td>
<td>10</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>57</td>
</tr>
<tr>
<td>Pendleton</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pleasants</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pocahontas</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Preston</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Putnam</td>
<td>20</td>
<td>10</td>
<td>126</td>
<td>4</td>
<td>5</td>
<td>7</td>
<td>6</td>
<td>178</td>
</tr>
<tr>
<td>Raleigh</td>
<td>21</td>
<td>6</td>
<td>10</td>
<td>7</td>
<td>14</td>
<td>18</td>
<td>12</td>
<td>88</td>
</tr>
<tr>
<td>Randolph</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>24</td>
</tr>
<tr>
<td>Ritchie</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Roane</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Summers</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Taylor</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Tucker</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Tyler</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Upshur</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Wayne</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Webster</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Wetzel</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Wirt</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Wood</td>
<td>14</td>
<td>11</td>
<td>6</td>
<td>5</td>
<td>6</td>
<td>11</td>
<td>8</td>
<td>61</td>
</tr>
<tr>
<td>Wyoming</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

**TOTALS (BY INDIVIDUAL YEAR)**
315 130 273 154 174 178 193 1417
Why should you belong to the West Virginia State Medical Association, your component medical society and the American Medical Association?

Here are three reasons why:

The West Virginia State Medical Association champions your cause as it relates to all West Virginia doctors and patients. We are the organization responsible for representing you each and every day in front of state legislature, regulatory agencies, regional business organizations and media on state-level reforms and regulations.

Your component medical society offers a place for you to get involved locally. Nothing beats interacting with colleagues who face the same challenges you do in your community—and no organization can better represent you when local pressures are making caring for patients difficult.

Only the AMA has the strength to advocate on your behalf nationally. We’re working on such challenges as solving the problem of the uninsured and the permanent replacement of the Medicare physician payment formula. The AMA is the only organization that speaks for all doctors.

All three work together on your behalf to make medicine better for doctors and patients.

Do your part and support all three today.

Call the West Virginia State Medical Association at (304) 925-0342, ext. 16 or (800) 257-4747, ext. 16

“Our profession is under attack on many fronts, and membership in the AMA, along with my state and county societies, provides me exceptional value in assuring a strong voice in advocacy on the national, state and local levels.”

—Mitchell B. Miller, MD, physician member of the AMA and his local and state societies
National Search to Begin for New WVU School of Medicine Dean

The West Virginia University School of Medicine will conduct a national search for its new dean, said WVU Chancellor for Health Sciences Christopher Colenda, M.D., at a recent forum for faculty and staff. Dr. Colenda said that the search will begin soon for the next dean to lead the School of Medicine. The search effort will be chaired by the dean of the School of Pharmacy, Patricia Chase, Ph.D.

Jim Brick, M.D., has been serving as interim dean since April 2008. Colenda praised Brick for his service to the school.

Colenda held the forum to begin the dialogue about the academic health sciences center’s future. He said he expects to have a “living document” by June of 2010 that creates a vision for 2015. The process will encourage free and expansive thinking and will seek to engage all faculty, staff and students, Colenda said.

“We will move forward as a team – a collective body for the citizens, students and patients we serve in this great state of West Virginia,” he said. “We will drive change, not react to it.”

Colenda also announced plans to create two new advisory committees – one composed of faculty members, the other of students.

WVU Eye Institute Offering New Glaucoma Surgery

Kenneth Mitchell, M.D., glaucoma specialist at the West Virginia University Eye Institute, is the first provider in the state to offer minimally invasive Trabectome surgery for open-angle glaucoma patients.

Four types of treatments can lower pressure in the eye and prevent further damage to the optic nerve: medications, laser therapy, surgery and implants. When drug and laser treatments are not effective, surgery must be performed.

Dr. Mitchell said the two basic types of glaucoma surgery – trabeculectomy, which involves the removal of a piece of eye tissue and the implantation of a drainage tube in the eye – are safe and effective most of the time. But sometimes infection, scarring and accelerated development of cataracts occur.

The Trabectome procedure is much more effective and much safer, he said. It is done in an operating room and allows the surgeon to strip away layers of tissue that block the flow of fluid. The procedure can also be combined with cataract removal surgery, which can be done under the same anesthesia.

In addition, Trabectome patients are back to full activities the day after surgery. Patients who undergo trabeculectomy or implantation are often required to limit activity for up to two weeks.

Mitchell said patients will not notice results after the procedure because the goal of the surgery is to preserve sight not to improve it.

“It’s a sad situation because we can’t give back the vision that’s been lost,” he said. “But, we can slow it down so it doesn’t progress so quickly.”

For information on the WVU Eye Institute see health.wvu.edu/services/eye-institute.

Tse and Nguyen Join WVU Faculty

Two new specialists have joined the faculty at West Virginia University School of Medicine.

William Tse, M.D., has joined the Mary Babb Randolph Cancer Center as the co-leader of the Osborn Hematopoietic Malignancy and Transplantation Program, the state’s only source for blood and marrow transplants. Dr. Tse treats patients with acute and chronic leukemia; lymphomas, including Hodgkin’s disease; multiple myeloma and other blood cancers.

His research interests include development of new treatments for various hematologic malignancies, especially for older patients.

John Nguyen, M.D., is the newest physician at the WVU Eye Institute. An ophthalmic plastic surgeon, Dr. Nguyen treats patients with disorders of the eyelids, eye socket, midface, facial bones and tear drainage system. His areas of expertise include reconstructive and cosmetic eyelid surgery, laser surgery and the treatment of tumors, inflammation and injuries around the eye.
NIH Awards Three Grants to School of Medicine

Three National Institutes of Health grants awarded competitively to the School of Medicine through the American Recovery and Reinvestment Act will support biomedical research and workforce development programs.

The projects are associated with the West Virginia-IDeA Network of Biomedical Research Excellence (WV-INBRE).

Gary Rankin, Ph.D., WV-INBRE principal investigator, said the awards will further the network’s efforts to build biomedical research infrastructure, develop research programs at the state’s undergraduate institutions, provide student research opportunities and train the state’s high-tech work force.

The projects include:

**Prevention of Kidney Damage Caused By Cisplatin**

Monica Valentovic, Ph.D., professor of pharmacology, physiology and toxicology, will use a $651,000 award to further her lab’s efforts to evaluate methods for attenuating the irreversible nephrotoxicity sometimes caused by the widely used cancer chemotherapy drug cisplatin. Using an in-vitro model she established, her project seeks to determine whether an agent could be administered to reduce cisplatin toxicity while possibly improving tumor kill.

Elaine Hardman, Ph.D., associate professor of biochemistry and microbiology, and Tim Troyer, Ph.D., of West Virginia Wesleyan College are collaborating.

**Summer Research Experiences for Students and Science Educators**

A two-year, $751,000 grant is supporting summer research interns at Marshall, West Virginia University and the state’s undergraduate institutions. In addition, faculty from the undergraduate institutions and high school science teachers are involved in biomedical research projects, including cardiovascular disease and cancer summer research programs, at Marshall and WVU.

**Research Workforce Development and Dissemination**

In a complementary effort to encourage students to choose a career in biomedical research, a $590,000 grant will fund a two-year program to pay undergraduate students and high school science teachers associated with the Health Science Technology Academy program to work on WV-INBRE-funded projects. The funds will support students working on research projects in undergraduate institution labs during the academic year and high school science teachers working in Marshall, WVU and undergraduate labs during the summer.

Wehner Named Associate Dean

Paulette S. Wehner, M.D., has been named associate dean for graduate medical education, coordinating and overseeing Marshall’s 10 residency and fellowship training programs.

“Dr. Wehner is one of our most valued faculty members,” Dean Charles H. McKown Jr., M.D., said in announcing the appointment. He said she will continue as program director for Marshall’s cardiology fellowship training program.

Wehner is director of the cardiac catheterization laboratory at Cabell Huntington Hospital and medical director of the hospital’s cardiac rehabilitation program. She also is medical director of the Women’s Heart Institute at St. Mary’s Medical Center. An active researcher, she is principal site investigator at St. Mary’s for the VIRGO trial, a study being conducted in conjunction with Yale University to evaluate heart attacks in young women.

University Heart Testing Laboratory Receives Accreditation

University Cardiovascular Services has become the community’s only nuclear cardiology laboratory to receive accreditation from the Intersocietal Commission for the Accreditation of Nuclear Medicine Laboratories. The accreditation is valid through September 2012.

Attending physicians with the department are Drs. Silvestre Cansino, Mehiar El-Hamdani, Francis Le, Rameez Sayyed, Tina Sias, Ralph Stevens II, Mark Studeny (chairman), Ellen Thompson, Paulette Wehner and Everett Wray III.

The Intersocietal Commission for the Accreditation of Nuclear Medicine Laboratories is a non-profit organization sponsored by the American College of Cardiology, the American College of Nuclear Physicians, the American Society of Nuclear Cardiology, the Academy of Molecular Imaging, the Society of Nuclear Medicine, and the Society of Nuclear Medicine Technologist Section.
Japanese Osteopathy Students Visit WVSOM

Two different cultures meshed at the West Virginia School of Osteopathic Medicine (WVSOM) this week when 10 Japanese osteopathic medical students studied Anatomy on campus.

This is the third time students from the Japan College of Osteopathy (JCO) in Tokyo have visited WVSOM. The students are participants in a unique partnership between WVSOM and JCO.

“To our knowledge, no other osteopathic medical school in the U.S. has a partnership with a school outside the country,” said program organizer Peter Ward, Ph.D., assistant professor of Anatomy.

JCO president Yoshiteru Hiratsuka said, “Students who graduate from the Japan College of Osteopathy earn a certificate that allows them to practice osteopathic manipulation. They are not physicians like D.O.s in the United States who can perform surgery or prescribe medicine.”

WVSOM Receives Clean Air Award

The West Virginia School of Osteopathic Medicine (WVSOM) received a 2009 Clean Air Award from the National Air Filtration Association (NAFA) this week.

Chris Aliff of American Filter Services in Summersville, WV presented the award to WVSOM president Richard Rafes, J.D., Ph.D., during a ceremony on campus. The award is one of 24 presented by NAFA in 2009, and the only one awarded in West Virginia.

NAFA recognized WVSOM for taking steps to significantly improve the quality of its indoor air. Aliff worked with school officials over the course of several years improving air filters, fittings, and other equipment. WVSOM also implemented a training program for its staff and established a schedule to change filters based on their type and useful life.

“The result has been significantly cleaner air and a healthier indoor environment through an improved air filtration system,” said Aliff, noting that the recyclable products used by WVSOM and the resulting energy efficiency are also good for the environment.

“I commend [facilities manager] Gary Cochran and [trades worker] Kevin Williams for their work on this project,” said President Rafes. “Being a medical school, we should have air that is as clean as possible.”
The WVMSA would like to thank the following physicians, residents, medical students and Alliance members for their recent contributions to WESPAC. These contributions were received as of Dec. 19, 2009:

**Chairman’s Club ($1000)**
MaryAnn Nicolas Cater, DO
Ahmet H. Ozturk, MD
B. Joseph Prud’homme, MD
Stephen L. Sebert, MD
Phillip R. Stevens, MD
Charles F. Whitaker, III, MD

**Extra Miler ($500)**
David A. Bowman, MD
Hoyt J. Burdick, MD
James P. Clark II, MD
James L. Comer, MD
Generoso D. Duremdes, MD
David A. Gnegy, MD
Phillip Bradley Hall, MD
David E. Hess, MD
Lucas J. Pavlovich Jr, MD
Frank A. Scattaregia, MD
Elizabeth L. Spangler, MD

**Dollar-A-Day Plus (> $365)**
Mark D. White, MD

**Dollar-A-Day ($365)**
Greenbrier D. Almond, MD
Derek H. Andreini, MD
Edward F. Arnett, MD
Joseph P. Assaley, MD
Stephen P. Cassis, MD
Samuel R. Davis, MD
Gary S. DeGuzman, MD
William L. Harris, MD
Michael A. Istan, MD
Theodore A. Jackson, MD
Michael A. Kelly, MD
M. Barry Louden Jr, MD
Teodoro G. Medina, MD
Sushil K. Mehrotra, MD

**Campaigner Plus (> $100)**
Kamalesh Patel, MD
Richard M. Fulks, MD
Diane E. Shafer, MD

**Campaigner ($100)**
Ruperto D. Dumapit, Jr MD
James D. Felsen, MD
Catherine E. Grant, MD
Judith Kemp, MD
Arturo Y. Lim, MD
Nancy N. Lohuis, MD
Harry A. Marinakis, MD

**Resident/Student ($20)**
Kyle T. Kutrovac, Res

**Donor**
Roger A. Abrahams, MD
Patsy P. Cipoletti, MD
Joseph B. Reed, MD

---

**2010 WESPAC Contributors**

**Extra Miler ($500)**
Michael A. Kelly, MD
Michael A. Stewart, MD

**Dollar-A-Day ($365)**
Edward F. Arnett, MD
Sushil K. Mehrotra, MD

**Campaigner Plus (> $100)**
Diane E. Shafer, MD

**Campaigner ($100)**
Patsy P. Cipoletti, MD
James D. Felsen, MD
Joby Joseph, MD
Ignacio H. Luna, Jr, MD
Stephen K. Milroy, MD

Wayne Spiggle, MD
Wilfredo A. Tiu, MD
Byron L. Van Pelt, MD
Ophas Vongxaiburana, MD

---

**WESPAC Board Members**

**2009-2010**

**STATE AT-LARGE - 2 SEATS**
Phlip R. Stevens, MD, Chairman
M. Tony Kelly, MD

**WVMSA COUNCIL REPRESENTATIVE - 1 SEAT**
F. Tom Sporck, MD, Secretary

**FIRST CONGRESSIONAL DISTRICT - 2 SEATS**
Ken Nanners, MD
David W. Avery, MD

**SECOND CONGRESSIONAL DISTRICT - 2 SEATS**
John Wade, MD
Other seat vacant

**THIRD CONGRESSIONAL DISTRICT - 2 SEATS**
Ahmed D. Faheem, MD
Ron Stollings, MD

**ALLIANCE REPRESENTATIVE - 1 SEAT**
Terry Waxman

**DIRECTOR**
Amy N. Tolliver, MS, Treasurer
When Your Patient Dies: Death Certificate Responsibilities Under West Virginia Law

One of the most important responsibilities that face the physician in providing expert professional services to his or her patient, their families and community, is also one of the most neglected and poorly executed of those responsibilities: completing the death certificate.

Beyond its uses as an invaluable epidemiologic tool, the completed death certificate is also a required document for obtaining crucial social services and financial benefits that accrue to family survivors, and provides closure for many family members following the death of a loved one.

Despite these facts, physicians who have strived to provide expert care to patients and their families over the years, many times at the end of a patient’s life abandon that patient’s family by refusing to complete the death certificate. Often this refusal is based on fear of perceived legal liability; other times this reluctance to complete the death certificate arises out of physicians’ state of uncertainty regarding the actual cause of death, especially in the absence of autopsy.

State Law (West Virginia State Code §16-5-19) stipulates which professionals must complete the death certificate: in most cases, it is the physician “in charge of patient’s care for the illness or condition that resulted in death” or in the absence of that physician, “an associate physician” or “the chief medical officer of the institution in which the patient died” who have a primary responsibility to complete the death certificate cause and manner of death statement, and sign the document as certifying physician.

In cases where there is reasonable suspicion of non-natural cause or injury which contributed to death, the death certificate may be completed by the Medical Examiner. Notification of a death when there is suspected contributory injury or possible toxicological cause, no matter how long the delay between initial injury and death, or whether the immediate cause of death is “natural”, i.e. pneumonia, in persistent vegetative state following head injury, must be directed to the Medical Examiner of the County in which the death occurred.

However, following an initial Medical Examiner investigation into death circumstances which subsequently determines death to be natural in manner, State Law §16-5- 19 (d) (2) provides that the Medical Examiner may direct the decedent’s attending or family physician, or the physician who pronounces death, to complete the death certificate. It is important to note that the physician who is directed by the Medical Examiner to complete the death certificate under authority provided by this law is not subject to any civil liability, unless he or she willfully and knowingly provides false information.

In order to protect the physician under these circumstances, the Medical Examiner will fax a specific order to the physician, which may be placed in the decedent’s medical chart to document the transaction, and provide proof of civil immunity.

As to the unease which surrounds professional uncertainty regarding the cause of death: the certifying physician is required to complete the cause and manner of death only to a level of assurance consistent with his knowledge of the patient, and in good faith (thus: a best professional “guess”), permitting the certifying physician a wide range of expression of certainty when completing the death certificate, to include intentionally vague cause of death statements such as “probable ischemic heart disease”, or even “undetermined natural disease”.

Finally, it is important for the clinician to know how to complete a valid death certificate, and to do so in timely fashion. Under West Virginia Code, the physician must complete the death certificate within 24 hours upon receipt of the partially filled out document; failure to do so may delay funeral arrangements, or be otherwise hurtful to a family in mourning. An incorrectly filled out death certificate, rejected as invalid by vital records, will significantly impede processing of nearly all survivor financial benefits and estate matters. The CDC website http://www.cdc.gov/nchs/data/dvs/red_form.pdf provides clear instructions on using the death certificate correctly.

Any questions or comments regarding this letter may be emailed to james.a.kaplan@wv.org or to 304-558-6920, extension 4001.

Jim Kaplan, MD
Chief Medical Examiner
Save the date for the first West Virginia Physical Activity Symposium scheduled for June 17-18, 2010 in Charleston. Hosted by West Virginia on the Move, Inc. and West Virginia University (College of Physical Activity and Sport Sciences and the CARDIAC Project), the Symposium will showcase the state’s efforts in changing the physical activity culture as well as focus on a strategic plan for West Virginia in the future. There will be addresses from nationally renowned speakers as well as presentations showcasing West Virginia best practices.

The West Virginia Medical Foundation is hosting a keynote address by Robert Sallis, MD, FACSM titled “RXercise is Medicine”. Dr. Sallis is the Co-Director of the Sports Medicine Fellowship Program at Kaiser Permanente Medical Center in Fontana, CA. He is the Past President of the American College of Sports Medicine. Continuing medical education credits will be offered.

Goals of the Symposium are:
- To educate participants about the National Physical Activity Plan and its implications for all sectors of the population,
- To build awareness and support for a statewide strategic plan for physical activity in West Virginia,
- To educate participants on current research and practice related to physical activity in each sector, and
- To showcase those physical activity programs and initiatives within the state that model best practice.

In addition, a call for abstracts for the symposium will be open soon. The West Virginia Physical Activity Symposium provides an excellent forum for community leaders, researchers, program developers, grant recipients, schools and others to share their work with others throughout West Virginia. The Posters Presentation will highlight exceptional programs and research in West Virginia, and will provide attendees an opportunity to connect with each other and engage in discussions about best practices and new findings.

The abstract submission process will be open by February 1, 2010. Both program abstracts and research abstracts will be accepted for presentation. Detailed instructions for submission and examples of each type of abstract will be available on or before February 1, 2010. All submissions will be due by 5 pm on March 19, 2010. Submissions will be reviewed by an expert committee, and notification of selection will be made by April 12, 2010. Please note that the number of oral presentations will be limited and will be assigned on a competitive basis as judged by the abstract review committee.

For more information about the symposium, visit www.wvphysicalactivity.org or www.wvmsa.com/foundation.

The West Virginia Medical Foundation is the educational and charitable foundation of the West Virginia State Medical Association. Our mission is to improve the health of all West Virginians by promoting health education, leadership and research, encouraging healthy lifestyles and enhancing access to quality healthcare.

For information about making a tax deductible contribution to the Foundation, please call (304) 925-0342, ext. 13
Mid-Winter
Physician Practice
Conference

Designed for physicians, office managers, coding and billing personnel.

Barbara Good
Physician Practice Advocate

Rose Moore
CPC, CCP

Tim Allman
Palmetto GBA

Pam Harvit
Protocol Consultant

Providing professional services to physician practices for over 35 years:

- Practice Analysis & Benchmarking
- Tax Planning & Preparation
- Core Accounting Services
- Practice Operation Improvement
- Regulatory Compliance

www.suttlecpas.com
We would like to welcome the following physicians and medical students to the WVSMA:

**Cabell County Medical Society**
Ashraf Ahmad, FYMS
Mark Akers, MD
Ayah Arafa, FYMS
Jeffrey Armstrong, FYMS
Megan Bartley, FYMS
Christopher Bates, FYMS
Supria Batra, FYMS
Rebecca Bell, FYMS
Amanda Bennett, MD
Kathyne Blair, FYMS
Matthew Christiansen, FYMS
Cherish Crawford, FYMS
Samantha Creel, FYMS
Matthew Curry, FYMS
Christopher Daugherty, FYMS
Steven Davis, FYMS
Rachel Edwards, FYMS
Amanda Estep, FYMS
Elizabeth Fortney, FYMS
Sarah Frazier, FYMS
Joanie Garratt, FYMS
Marvyn Grayson, FYMS
Regina Guzzo, FYMS
Adam Hackney, FYMS
Michael Hardman, FYMS
Brian Heaberlin, MD
Joshua Hess, FYMS
Hilary Hott, FYMS
Caleb Huff, FYMS
Shannon James, FYMS
Charles Justice, FYMS
Wendell Kelsey, FYMS
Arifa Khokar, FYMS
Brent Kidd, FYMS
Jacob Kilgore, FYMS

**Mercer County Medical Society**
Telitha Glasscock, DO

**Monongalia County Medical Society**
Justin Arner, FYMS
Sanjay Bharti, MD
Jeffrey Brown, FYMS
Kristen Burton, FYMS
Mark Johnson, MD
Ravdeep Kaur, FYMS
Melissa Lambert, MD
Sylwia Mrowka, FYMS
Loren Mueller, FYMS
Ward Paine, MD
Michael Parmley, FYMS
David Phang, FYMS
Jonathan Smith, FYMS
Hilary Steele, FYMS
Sheldon Steiner, FYMS
Katherine Sterner, FYMS
Jennifer Turner, FYMS
Jonah Womack, FYMS

**Ohio County Medical Society**
Umer Sayeed-Shah, MD
Victor Maevsky, MD

**Parkersburg Academy of Medicine**
Barry Lifson, MD

**Raleigh County Medical Society**
Anna Corbin, MD

**Tug Valley Medical Society**
Leo Pajarillo, MD

**Tygart Valley Medical Society**
Donald Fleming, MD

Please direct all membership inquiries to: Mona Thevenin, WVSMA Membership Director
2010 marks the 200th anniversary of The Hartford and with that in mind, we want our clients and prospective clients to realize the value of the West Virginia Medical Insurance Agency’s relationship with The Hartford. After two years, the WVMIA ranks in the top 20 Hartford small business production insurance agencies in West Virginia.

In May 2008, the Agency announced its initial relationship with The Hartford. The Agency had been searching for a property-casualty partner to assist it in expanding its business products. Since the Agency’s only clients are physicians, The Hartford became a very logical partner due to the fact that several of their products are designed specifically for the health care clients.

The Hartford, founded in 1810, is recognized for its financial strength and stability, operational excellence, and superior customer service. The Hartford is a Fortune 100 Company ranking 95th, having 31,000 employees and $9.2 billion in revenues in 2008. The Hartford is A rated by A.M. Best.

When the relationship was announced, Anne Schlecht, Senior Sales Representative for The Hartford stated “we are thrilled to partner with the professionals at the West Virginia Medical Insurance Agency. It is great to have an agency that specializes in medical practices, which is one of our strongest classes of business.”

The initial phase of the Agency relationship with The Hartford was to allow the Agency to offer its clients Hartford’s business owners policy (BOP) which can be modified specifically for medical practices. Now the relationship extends to workers’ compensation insurance, with the expansion of the West Virginia marketplace beyond a monopolistic program. This has justified our relationship with The Hartford and proven their commitment to the health care community.

Examples of recent product additions for the medical community include the following: (a) needle stick injury coverage as an addition to workers’ compensation insurance and (b) coverage for lost patient records due to computer viruses included in business owners insurance. Note the specifics of each:

- Needle sticks & Workers’ Compensation – The Hartford provides payment for the initial cost of testing your employee and reimbursement for the initial cost of testing the patient (not all workers’ compensation insurance reimburses for patient testing).

- Lost Patient Records & Businessowners Insurance – if your network is damaged by a computer virus and patient records are lost, The Hartford offers optional insurance coverage that may cover:
  - Expenses to remove the virus from your network.
  - Expenses to restore lost or damaged data unless licensed, leased, or rented to others.
The Hartford helps take care of healthcare businesses insurance needs.

- Loss of business income at your covered location if included in your practice.
- Extra expense incurred to resume or continue operations.

These are just two of the unique ways The Hartford helps take care of healthcare businesses insurance needs.

In other areas of workers’ compensation insurance and business owners insurance, The Hartford is a leader also. XactPAY Web is a free pay-as-you-go workers’ compensation premium payment plan for QuickBooks customers and The Hartford Identity Theft insurance is an additional coverage in the core of their business owners insurance.

The benefits of each are as follows:

- **XactPAY Web** integrates fully with a business QuickBooks Payroll software and automatically calculates the premiums for Hartford-issued workers’ compensation policies each time payroll is run using QuickBooks Payroll. The new system helps improve business cash flow by eliminating the need for large down payments and minimizing the potential for year-end audit adjustments.

  This free solution can help small businesses where it matters most - keeping more cash in hand.

- **Identity Theft coverage** includes the following important identity theft benefits:
  - **Identity Recovery Help Line** - staffed by professional who can answer initial questions, provide information about identity theft, and send a guidebook designed to advise you about the next steps to take. Those confirmed as identity theft victims are referred to as Identity Theft Case Manager.
  - **Identity Recovery Case Manager Service** - Identity Recovery Case Managers can speed the recovery process by gaining the cooperation of the right individuals at credit bureaus, creditors, and financial institutions. Case Managers will also guide victims through all the steps to correct personal credit history and identity records.
  - **Expense Reimbursement Insurance** - reimbursement insurance up to $15,000 above the policy deductible for covered expenses arising from a defined identity theft event, including the cost of obtaining credit bureau reports; fees when reapplying for loans initially declined due to falsified credit information; postage; phone and shipping fees; and more.

We have found The Hartford’s products to be competitively priced broad coverages, with enhancements available and delivered with excellent service (claims handling, underwriting, etc.). We believe The Hartford to be an excellent partner, not only for the Agency, but also for the clients we serve, which are exclusively medical practices. The Hartford is proven; 200 years of service and commitment have created quality products for the medical profession.

For more information about The Hartford and how the West Virginia Medical Insurance Agency can prescribe business insurance coverage that will keep your operation healthy, call Steve Brown, Agency Manager, at 1-800-257-4747 ext 22 or locally at 304-925-0342 ext 22 or by email at steve@wvsma.com.

---

**Congratulations to The Hartford. Celebrating 200 Years in 2010.**

**For information on The Hartford’s customized insurance for medical offices, including workers’ compensation insurance, call Steve Brown (x22) or Megan Joseph (x29) at 1-800-257-4747 or locally at 304-925-0342.**
The WVSMA remembers our esteemed colleagues...

Thomas Charles Wallace Sr., MD

Dr. Thomas Charles Wallace Sr., formerly of Charleston and born in Stroudsburg, Pennsylvania, on December 20, 1922, went home to be with the Lord while he resided with Scott and Joanne Carpenter (daughter) for over two years.

He was preceded in death by his parents, Joseph and Edith Eckert Wallace; his brother, Dr. Joseph Wallace; his loving wife and mother to his children, Mary Louise Nelson Wallace; and his second wife, Clotielde Estep Wallace.

He is survived by his four children, Thomas C. Wallace Jr. of Michigan, Edie Wallace of Delaware, Priscilla Krikorian of Virginia, and Joanne Carpenter of St. Albans. He is also survived by 17 grandchildren and two great-grandchildren; and three nephews.

We want to thank Mrs. Daisy Hudson Jones for her love and loyal friendship to Dr. Wallace’s household by caring for his children and keeping the house running smoothly for 37 years.

Dr. Wallace attended Stroudsburg Teacher’s College, Temple University and Philadelphia College of Osteopathic Medicine. He was in private practice for 44 years in Chesapeake, having retired from practice in 1995. He was a member of Bible Center Church, Charleston, where he served as organist for 38 years, from 1956 to 1994. He was a member of the West Virginia Society of Osteopathic Medicine and the American Osteopathic Association. He was selected as West Virginia Practitioner of the Year in 1991. In November of 2004, the West Virginia Society of Osteopathic Medicine Inc. awarded him honorary life membership.

Music was always a part of his life and he liked to share this love of music with others. In the ‘60s and ‘70s, he played the organ, piano and celesta on the Jackie Oblinger Show on WCHS-TV Channel 8. He also performed on other TV stations in surrounding states doing something he truly loved. After retiring from medical practice, he taught piano to keep in touch with music.

In lieu of flowers, his family requests donations to Union Mission for needy families during Christmas. Their address is 700 S. Park Road, Charleston, WV 25304.
**CALL FOR PAPERS**

**THEME:** Substance Abuse in West Virginia

**TOPICS OF INTEREST MAY INCLUDE:**
- Prescription Drug Abuse/Misuse
- ‘Doctor Shopping’
- Pain Management
- Prescription Drug Diversion
- Evidence-based Practices
- Epidemiological/Evaluation/Research
- Prevention, Early Intervention, Treatment, and Recovery
- End-of-Life Care
- Prescriber Training and Education

**DEADLINE:** April 5, 2010

Submissions must include 1) cover letter (include corresponding author’s email address), 2) manuscript (double-spaced), 3) short biography for each author, 4) three questions and answers pertaining to the manuscript and, 5) a paragraph stating the objectives of the paper to Angie Lanham, Managing Editor, WV Medical Journal, PO Box 4106, Charleston, WV 25364 or email to: angie@wvsma.com. All figures, photos, and tables must be submitted separately as .jpg, .tif or .pdf files.

Scientific articles should be prepared in accordance with the “Uniform Requirements for Submission of Manuscripts to Biomedical Journals.” Please go to www.icmje.org for complete details. For additional requirements, please refer to page 52, Manuscript Guidelines.

---

**HIMG**

I’m Dr. John Eastone and I choose HIMG because I wanted to work alongside some of the best physicians and health care providers in the area. At HIMG, we are a collection of talented and experienced individuals working together to deliver the absolute best in quality patient care. We like to say “I’m HIMG” because every member of our team is proud to carry the strong reputation of our operation in all that we do.

We’d like you to consider becoming part of our team.

Headquartered in Huntington, West Virginia, HIMG is the largest privately held multi-specialty group in the state. Our 150,000 square-foot facility and our business practices have been a model for many operations throughout the nation. We are currently recruiting physicians and mid-level providers in many areas and encourage you to contact us for a confidential review of the opportunities available.

**5170 U.S. Route 60 East
Huntington, WV 25705**

**www.himgwv.com**

(304) 528-4657
Drug or Alcohol Problem? Mental Illness?

If you have a drug or alcohol problem, or are suffering from a mental illness you can get help by contacting the West Virginia Medical Professionals Health Program. Information about a practitioner’s participation in the program is confidential. Practitioners entering the program as self-referrals without a complaint filed against them are not reported to their licensing board.

ALL CALLS ARE CONFIDENTIAL

West Virginia Medical Professionals Health Program
PO Box 40027
Charleston, WV 25364
(304) 414-0400 | www.wvmphp.org
BUSY PRACTICE in West Virginia is recruiting nephrologists. Practice consists of busy CKD clinic, ESRD patients, home dialysis, and post-transplant care. Applicant must be BC/BE and prepared to be busy immediately. Salary awarded proportionate to productivity. J-1 Visas welcomed.

E-mail resume to: kcarper@gcdkidney.com

OFFICE MANAGERS ASSOCIATION OF HEALTHCARE PROVIDERS, INC.

We invite you to join our organization which consists of members who manage the daily business of healthcare providers. Our objectives are to promote educational opportunities, professional knowledge and to provide channels of communication to office managers in all areas of healthcare.

We currently have eleven chapters in West Virginia.

Visit us on our website for more information or contact: Toni Charlton – President at 304-670-7197 or Donna Lee - State VP Membership at 276-322-5732.
Manuscript Guidelines

Originality: All scientific and special topic manuscripts for the West Virginia Medical Journal will not be considered for publication if they have already been published or are described in a manuscript submitted or accepted for publication elsewhere. All scientific articles should be prepared in accordance with the “Uniform Requirements for Submission of Manuscripts to Biomedical Journals.” Please go to www.icmje.org for complete details.

Authors: A cover letter from the corresponding author should be submitted with the manuscript. All persons listed as authors should have participated sufficiently in the work to take public responsibility for the concept.

Format: All articles may be submitted by email or on CD. Microsoft Word is preferred, but other programs are acceptable. All tables or figures should be created separately from the body of the manuscript as .tif, .jpg or .pdf files in a high resolution format with corresponding file names such as, Table 1, Figure 1, etc. Legends should be included for all tables and figures.

References: References should be prepared in accordance to the “American Medical Association Manual of Style.” These instructions for authors are available online at www.jama.com.

Photographs: Please submit digital files either from a digital camera or scan at 300 dpi at 100%. All original photos should have a label on the back indicating the number of the photo, the author’s name and an indication of “top.” Do not write on the back of photos or scratch them with paper clips.

Note to authors: The WV Medical Journal inside pages traditionally print in black and white. If authors wish to have photos and figures printed in color, there is a $1,000 charge per article to help defray the printing costs to the Association. Please indicate your preference when submitting an article. If your article is accepted for publication, you will be invoiced for the charges in advance of publication.

Please address articles and cover letter to the editor at this address only:

F. Thomas Sporck, M.D., F.A.C.S.
West Virginia Medical Journal
P.O. Box 4106
Charleston, WV 25364

or email your article with cover letter to:

Angela L. Lanham, Managing Editor
angie@wvsma.com

Advertising Policy

The WVSMA reserves the right to deny advertising space to any individual, company, group or association whose products or services interfere with the mission, objectives, endorsement agreement(s) and/or any contractual obligations of the WVSMA. The WVSMA, in its sole discretion, retains the right to decline any submitted advertisement or to discontinue publishing any advertisement previously accepted. The Journal does not accept paid political advertisements.

The fact that an advertisement for a product, service, or company appears in the Journal is not a guarantee by the WVSMA of the product, service or company or the claims made for the product in such advertising. The WVSMA reserves the right to enter into endorsements, sponsorship and/or marketing agreements that may limit the placement of advertisements for certain products or services.

Subscription Rates:

- $60 a year in the United States
- $100 a year in foreign countries
- $10 per single copy

POSTMASTER: Send address changes to the West Virginia Medical Journal, P.O. Box 4106, Charleston, WV 25364.

Periodical postage paid at Charleston, WV.

USPS 676 740 ISSN 0043 - 3284

Claims for back issues should be made within six months after publication. Microfilm editions beginning with the 1972 volume are available from University Microfilms International, 300 N. Zeeb Rd., Ann Arbor, MI 48106.

©2009, West Virginia State Medical Association
Build A Strong Marketing Strategy With Us

Champion Industries, Inc.
YOUR COMPLETE MARKETING FULFILLMENT SOLUTION

PRINTING, MAIL SERVICE, OFFICE FURNITURE, OFFICE SUPPLIES AND PROMOTIONAL PRODUCTS
CALL A REPRESENTATIVE TODAY!
800.824.6620

AD DESIGN: CINDY COLLIER

The Mutual provides you access to a successful, local claims management team with a thorough understanding of the fragile West Virginia malpractice market.

During our five years of operations, your Mutual has a ninety-one percent success ratio when cases are taken to trial.

We win cases on behalf of our physician owners.

We are your advocate.
We are your company.
We are your Mutual.

500 Virginia Street, East Suite 1200
Charleston, WV 25301
(304) 343-3000
(304) 342-0985 fax
(888) 998-7642
www.wvimc.com