Scientific Features:

- Pheochromocytoma...
- Gallstone Pancreatitis...
- Characterization of Babies Discharged from Cabell Huntington Hospital...
- Cognitive Dysfunction in Normal Pressure Hydrocephalus...
- Diagnosis and Management of a Monochorionic/Monoamniotic Twin Gestation...
West Virginia University’s Department of Neurology offers comprehensive, innovative care for patients with neurological problems. Our integrated team of board-certified specialists provides a full spectrum of therapies for diseases of the brain, spinal cord, nerves, and muscles.

We welcome all physician inquiries. To speak with a physician about referring a patient, please call 1-800-WVU-MARS (1-800-988-6277).

Focus areas

Multiple Sclerosis
State-of-the-art diagnosis and treatment of multiple sclerosis and related neurological disorders

Neuro-Muscular Diseases
ALS, muscular dystrophies, peripheral neuropathies, myopathies, myasthenia gravis, diabetic neuropathy

Stroke
Stroke, TIAs, brain hemorrhage, AVMs, venous thrombosis, aneurysms, endovascular therapy

Epilepsy
Multidisciplinary management of seizures, epilepsy syndromes, epilepsy surgery, ICU monitoring, intraoperative monitoring

Movement Disorders
Parkinson’s disease, essential tremor, tics, dystonia, dyskinesias, myoclonus, multiple system atrophy

Sleep Disorders
Conducting studies six days per week in the region’s most sophisticated facility for evaluating sleep disorders in adults and children

Headaches
Care for chronic and intractable headaches provided by the only fellowship trained and certified headache specialist in West Virginia

WVU Healthcare

MARS 800 982-6277  •  health.wvu.edu
Continuing Medical Education Opportunities
at 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

5th Annual AGES Course (Advanced Geriatrics Educator Skills)
Friday and Saturday, March 20 and 21
Country Inn Suites and Conference Center
Beckley, WV

WV Association of Pathologists Meeting
Friday and Saturday, April 17 and 18
Ramada Inn
South Charleston, WV

36th Annual Newborn Day
Friday, April 24
Robert C. Byrd Health Sciences Center
WVU-Charleston Division
Charleston, WV

2009 WV Obesity Conference
Friday, May 29
Charleston Marriott Town Center
Charleston, WV

LIFE SUPPORT TRAINING

Log on to our web site at www.camcinstitute.org.

Basic Life Support – Health Care Provider
March 3, 17, 31

Advanced Cardiac Life Support – Renewal
March 17, 18
April 16, 28

Advanced Cardiovascular Life Support (ACLS) – Provider
March 11
April 14, 29

Pediatric Advanced Cardiac Life Support (PALS) - Renewal
March 10

Pediatric Advanced Cardiac Life Support - Provider
March 24

CME ONLINE PROGRAMS/ARCHIVED GUEST LECTURE PROGRAMS

Log on to our web site at www.camcinstitute.org

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)

WV Mutual Insurance Company: Enhancing the Disclosure of Unanticipated Outcomes to Patients
Thomas H. Gallagher, MD

Osteoporosis Prevention Education Program
Gayle Manchin and Jessica Wright, RN, MPH, CHES

Diabetes Education for the Primary Care Provider
Daniel J. Dickman, MD; Kristy Lucas, PharmD; Barbara D. Smith, RPh, CDE; Sara O’Conner, MD; Asif Rahman, MD; Harry L. Reahl, MD; Lori Tucker, DO; Arthur B. Rubin, DO, FACOP; Robin Bowyer, RN, BSN, CDE; Marie Gravely, RD, LD, CDE; Cassandra B. Ford, RPh, CDE

Diabetes Education 2 – Recertification for Primary Care Providers

Palliative Care, Pain Management, Decision Making and Use of the Post Form
Kim Ashcraft, MS, MSN, RN, C-FNP

Asthma Education for Primary Care Providers
Robert J. Crisalli, MD, FCCP; Robert A. Kaslovsky, MD; Michael J. Romano, MD, MBA; Michael J. Smith, PhD, RPh; Sandra E. Swisher, RN, MSN, C-FNP

Osteoporosis Prevention Education Program
Gayle Manchin and Jessica Wright, RN, MPH, CHES

Diabetes Education for the Primary Care Provider
Daniel J. Dickman, MD; Kristy Lucas, PharmD; Barbara D. Smith, RPh, CDE; Sara O’Conner, MD; Asif Rahman, MD; Harry L. Reahl, MD; Lori Tucker, DO; Arthur B. Rubin, DO, FACOP; Robin Bowyer, RN, BSN, CDE; Marie Gravely, RD, LD, CDE; Cassandra B. Ford, RPh, CDE

Diabetes Education 2 – Recertification for Primary Care Providers

Palliative Care, Pain Management, Decision Making and Use of the Post Form
Kim Ashcraft, MS, MSN, RN, C-FNP

Asthma Education for Primary Care Providers
Robert J. Crisalli, MD, FCCP; Robert A. Kaslovsky, MD; Michael J. Romano, MD, MBA; Michael J. Smith, PhD, RPh; Sandra E. Swisher, RN, MSN, C-FNP

Other archived CME opportunities:
Geriatric Series
Ethics Series
Research Series
In this issue...

<table>
<thead>
<tr>
<th>Scientific Articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>10           Pheochromocytoma: An Easily Overlooked Cause of Secondary Hypertension</td>
</tr>
<tr>
<td>13           Gallstone Pancreatitis: A Common Disease in an Uncommon Population</td>
</tr>
<tr>
<td>16           Characterization of Babies Discharged from Cabell Huntington Hospital During 2005 with the Diagnoses of Neonatal Abstinence Syndrome</td>
</tr>
<tr>
<td>22           Cognitive Dysfunction in Normal Pressure Hydrocephalus (NPH): A Case Report and Review of the Literature</td>
</tr>
<tr>
<td>27           Diagnosis and Management of a Monochorionic/ Monoamniotic Twin Gestation Discordant for Fetal Anomalies</td>
</tr>
</tbody>
</table>

Call for Papers

31 Dedicated Issue—Breast Cancer

UPCOMING EVENTS

May 14, 2009—see pg. 47
August 28-30, 2009—see pg. 7
WHAT IF a significant fine is levied, against anyone having a positive drug screen without a legitimate prescription?

WHAT IF random drug testing was done on all recipients of entitlement programs and if their drug tests were positive, they would lose a significant percentage of their benefits?

WHAT IF the cost of healthcare went down because people were not requesting services for fear of their drug abuse being discovered?

WHAT IF the demand for illegal drugs decreased so much that drug dealers went out of business because their only customers were criminals and prostitutes?

WHAT IF the ACLU protested because of this policy and it was pointed out that healthcare costs, unemployment and poor health had significantly decreased and their arguments fell on deaf ears?

WHAT IF we put as much emphasis on trying to decrease the demand for illegal drugs as we have put on trying to decrease the supply of illegal drugs?

WHAT IF instead of paying for the incarceration of drug dealers, we impose fines of 10% of net worth on anyone using drugs illegally?

WHAT IF productivity increased, employment increased and the cost of government and law enforcement decreased?

Steven L. Sebert, MD
WVSMA President
Guest Editorial

Healthcare Reform – The Real Story is Suleman, Not Daschle

Pundits are lamenting the loss of a chance for significant healthcare reform since Senator Tom Daschle withdrew as the nominee for Secretary of the Department Health and Human Services. I am pleased for two reasons. First, having just reviewed Daschle’s book, Critical - What We Can Do About The Health-Care Crisis, I believe his reform approach is way off the mark. Secondly, the controversy over his confirmation diverted attention from the real healthcare reform story before the American public, the Suleman octuplets.

Daschle’s answer to system reform rests in reinventing, repackaging, and expanding the failed central government authorities, policies, programs, and controls (e.g., health insurance, payment and financing reform) of the last 50 years. He proposes a new quasi-independent entity, e.g., national health board, to engage in expanded cost-effective research so as to assure provision of only the most cost-effective drugs and treatments, whereas the reality is that the nation (especially central government insurers) lacks the capacity, will or resolve to apply the currently available results of such research. The Suleman case is an extraordinary example.

Others, like me, believe the answer rests with the American public, mostly at the local community level, where currently folks collectively lack the authority, flexibility, mechanisms and, most importantly, incentives to set priorities, assess tradeoffs, control costs, hold individuals, practitioners and institutions accountable, promote integration and efficiency, etc. Therefore, individual patients, practitioners, and institutions continue to game the system rather than reform it.

On my website, http://localhealthcarereform.com/de-spaminator, I have posted a review and analysis of Daschle’s book. Daschle intends to convince the reader through a sophisticated media initiative that he has all the answers and they are obvious. In fact, he contributes to further polarization in lieu of solution. Moreover, he inadvertently but callously dismisses and discourages the merit of numerous State and local initiatives that hold promise for real reform.

The Suleman case has it all. From the standpoint of evidence-based medicine and cost-effectiveness research, the science is clear. Forget about the need to compare the risk of 2.6 as opposed to 4.7 implanted embryos. Based upon the number of Ms. Suleman’s previous births – and multiple births – few reputable physicians would recommend she conceive. The risks to the mother and babies are very high, increasing with the number of embryos. The likelihood of these babies having physical, behavioral and learning disabilities is very high. Several have opined that the behavior of this woman – and any healthcare practitioners and institution that abetted her – constitutes criminal negligence and child abuse. Others are not willing to go as far but believe such behavior is at least morally irresponsible. They claim situations such as this significantly contribute to lowering the nation’s health status and increasing the per capita cost of healthcare. They advocate for a spectrum of societal “carrot and stick” sanctions to discourage such behavior, adamantly that, at the very least, public funds should not support such irresponsible behavior.

Others view the situation quite differently, advocating that reproductive decisions should be solely those of the woman involved. They point out that the chances that Ms. Suleman’s offspring will suffer various disabilities are not an absolute but simply a probability (as are most research findings). They further note that the fact that she will reside in the 3-bedroom home of her bankrupt parents with 14 children with no means of financial support does not mean the babies will be abused and neglected - until it actually happens. They claim she could still be a great mom and might receive support from various commercial and media sources, some even chiding such sources for not offering such support. They further contend that being poor or not able to conceive should not preclude a woman from making her own reproductive decisions, although some would view them as irresponsible. They point out that woman of means without fertility problems are free to make such decisions – responsible and irresponsible – and society has an obligation to assure all women have this right regardless of their circumstances. Some mention the rights of couples with physical and mental disabilities to conceive.

Finally, many point out that sanctioning healthcare practitioners and institutions is not an answer since there is always somebody that will assist, perhaps in a less safe and responsible setting.

I am not sure how Daschle’s national health board would rule in the Suleman case but one should not dismiss it as an extreme outlier. In some respects, it is just the opposite. The scientific “probability” evidence and behavioral dimensions are very clear in the Suleman case but there is still broad disagreement.

Everyday there are thousands of cases where scientific evidence is much more muddled and the behavioral, and related, influences much less clear. Consider behavior and healthcare interventions related to violence, obesity, inactivity, substance abuse (drugs, alcohol, tobacco), mental illness, chronic pain (especially back disorders), and the demand for –and consumption – of inappropriate, e.g., emergency room, ineffective, and futile healthcare services.

How well individuals, families, and communities address such behavior, establish limits, and employ sanctions largely determines the health status of the American public and per capita cost of healthcare. This differs in various locations and it is highly unlikely the American public will entrust an independent central entity to make such decisions for all of us - allegedly based upon cost-effectiveness probabilities. If we are to initiate reform, i.e., improve health status and control costs, we need to get busy establishing mechanisms, authorities, and incentives locally where real health systems operate.

James D. Felsen, MD, MPH

March/April, 2009, Vol. 105 5
Guest Editorial

Dangers of Short-Term Memory Loss

All West Virginia physicians should remember our terrible situation just a few short years ago. The medical professional liability insurance companies who remained in West Virginia were increasing premiums significantly, and most chose to leave the state altogether. The situation was so dire, the state itself made the unprecedented decision to allow its Board of Risk and Insurance Management to insure private practicing physicians for medical malpractice. Those were tough times I am sure none of us want to relive.

The situation at that time threatened the stability of the healthcare delivery system, patient safety and our livelihood. Thankfully, the healthcare community, public leaders, and the Legislature banded together to create the substantive medical professional liability civil justice reforms that we enjoy today. At the same time, the Legislature enabled the creation of the West Virginia Mutual Insurance Company and provided its initial capital through a loan from the state in an effort to create a long-term solution to the recurring medical malpractice crises.

Today, the Mutual is recognized nationally and internationally as one of the most successful startup medical malpractice companies in the past thirty years, due largely to its governance by a physician-led board, its experienced management team, and its conservative approach to investments. The Mutual’s strategy is dramatically different from stock professional liability insurance companies. The Mutual is owned by its physician insureds and does not answer to venture capital fund managers or to stockholders. It is this responsibility to its policyholders that has created the Mutual’s focus on generating a safe, secure, and long-term solution for West Virginia physicians who were harmed by out-of-state insurance companies who either left our state or became insolvent because of their unhealthy philosophies.

Good things have happened in West Virginia since the Mutual began operations in 2004. West Virginia physicians now own an insurance company and have experienced unprecedented premium relief over the past four years. In addition, the Mutual has paid the state back the entire $24 million loan used for its initial operating capital. No one would have believed in 2004 that we physicians would be in this position today. We now have a stable and predictable healthcare delivery system in our state that has benefited both us and our patients.

Now that the state loan has been repaid, the Mutual can extend coverage to West Virginia physicians who have practices both here and in other states. And, of extreme importance, your Mutual can begin exploration of a dividend program that will return any excess profits to our physician owners, providing us a return on our investment as opposed to giving those profits to outside investors.

It is critical we continue on our successful path and do not make unwise decisions. Depending on your specialty, your Mutual has reduced premiums by twenty-five to forty-five percent over the past four years. The Mutual’s board and management have wisely declined to lower premiums to unsafe levels in order to chase market share. This decision has been made in order to ensure the financial stability of your company and the availability of insurance for West Virginia physicians in the future.

The Mutual’s premiums are based on exhaustive actuarial analyses utilizing the most dependable loss data available in West Virginia. Your Mutual has the knowledge and experience to make prudent decisions about sustainable premium levels and receives considerable input from the WV Insurance Commissioner’s office. We do not want to return to the uncertainties of the past where failure to charge adequate premiums caused dramatic premium increases that put every West Virginia physician’s practice at risk.

We now have insurance companies entering the state who are apparently ignoring the lessons learned in the past and appear to be chasing market share with unrealistically low premiums. These companies have stated they find West Virginia attractive because of the effect our tort reforms have had on the malpractice environment. Do not
be fooled. Your Mutual knows and understands the significance of these reforms and the seriousness of a Supreme Court challenge. We are but one bad decision away from losing our statutory protections.

I hope we all remember insurance companies who entered our state with artificially low pricing. Companies such as ICA, PIE and PHICO all wanted to increase market share in West Virginia and realized the only way to do that was to compete with low premiums. None of these companies are insuring physicians in West Virginia today because they are all insolvent. But they didn’t just leave the state.

In the wake of their departure, physicians were left with only the state guaranty fund to defend lawsuits which resulted in a liability limit of $300,000 as opposed to the $1 million or more for which they paid. They were also left with tail endorsements that were worthless and had to be replaced at additional cost and complete uncertainty about the ability to purchase malpractice insurance quickly because they had no forewarning of the insurance company insolvency. This was devastating and costly to physicians insured by these irresponsible companies.

Please do not forget what it was like when your livelihood was threatened because malpractice insurance was unavailable or completely unaffordable. Also, please inform the physicians that were not here during these past crises how terrible it actually was. The West Virginia Mutual Insurance Company you own is financially strong, is governed by a physician-led Board of Directors committed to West Virginia, and it is positioned to provide affordable medical malpractice insurance to West Virginia physicians for many years to come.

R. Austin Wallace, MD

SAVE THE DATE!

WEST VIRGINIA STATE MEDICAL ASSOCIATION

Healthcare Summit

AUGUST 28-30, 2009

The Greenbrier, White Sulphur Springs
HELPING WEST VIRGINIA PHYSICIANS

TAKE THE RIGHT PATH...

...in professional liability defense, litigation, privacy and security compliance, licensure and professional disciplinary matters, health care fraud and abuse, Stark law analysis, reimbursement issues, employment issues, certificate of need, contractual matters and business transactions.

Flaherty Sensabaugh & Bonasso PLLC
ATTORNEYS AT LAW

HEALTH CARE PRACTICE GROUP

Stephen R. Brooks  David S. Givens  Richard D. Jones
Ryan A. Brown  Phillip T. Glyptis  Edward C. Martin
Robert L. Coffield  Michele Grinberg  Mark A. Robinson
Alaina N. Crislip  John D. Hoffman  Amy L. Rothman
Peter T. DeMasters  Stacie D. Honaker  Don R. Sensabaugh, Jr.
J. Dustin Dillard  Amy R. Humphreys  Salem C. Smith
Sam Fox  Robert C. James

Edward C. Martin, Responsible Attorney
tmartin@fsblaw.com

Charleston | Morgantown | Wheeling

www.fsblaw.com | (304) 345-0200 | (800) 416-3225
Scientific Articles

Pheochromocytoma: An Easily Overlooked Cause of Secondary Hypertension p. 10


Characterization of Babies Discharged from Cabell Huntington Hospital During 2005 with the Diagnoses of Neonatal Abstinence Syndrome p. 16

Cognitive Dysfunction in Normal Pressure Hydrocephalus (NPH): A Case Report and Review of the Literature p. 22

Diagnosis and Management of a Monochorionic/Monoamniotic Twin Gestation Discordant for Fetal Anomalies p. 27
Pheochromocytoma: An Easily Overlooked Cause of Secondary Hypertension

Casey Hager, MD  
Department of Internal Medicine  
Kelly Hager, MD  
Department of Internal Medicine  
Stephen Grubb, MD  
Department of Internal Medicine  
Section of Endocrinology  
WVU, Charleston Division

Abstract

Pheochromocytoma is a rare cause of secondary hypertension. Presentation varies from asymptomatic to paroxysmal hypertension, palpitations, flushing, syncope, and even shock or death. Diagnosis is often delayed because pheochromocytoma is not considered a likely diagnosis. We present the case of a 47 year-old-male that presented with hypertensive emergency. Several diagnostic tests were performed prior to consideration of pheochromocytoma as the potential cause. Abdominal computed tomography revealed a nonspecific mass. A subsequent hormonal workup led to the diagnosis of pheochromocytoma. The patient underwent adrenalectomy seventeen days after presentation and postoperatively did well. This case demonstrates a typical presentation of pheochromocytoma and the need to consider pheochromocytoma early in the differential diagnosis of hypertensive emergency or difficult to control hypertension.

Background

Pheochromocytoma is relatively uncommon, occurring in less than 0.1% of all patients with hypertension (1). Usually, but not always, pheochromocytoma presents with severe hypertension that may be paroxysmal or sustained (2). Additional symptoms include severe headaches, sweating, and palpitations. Despite these presenting symptoms diagnosis is often delayed due to the uncommon occurrence of pheochromocytoma. Patients may or may not be successfully treated with multidrug therapy. Diagnosis is made with the combination of laboratory testing and imaging modalities, usually urine metanephrines and magnetic resonance imaging (MRI) or computed tomography (CT). To make matters even more complicated, some patients may be asymptomatic entirely. Pheochromocytoma is occasionally diagnosed only upon finding an incidental adrenal tumor. It is difficult to differentiate pheochromocytoma from incidental adrenal tumors with conventional MRI or CT. In such cases, 123I-metiodobenzylguanidine scintigraphy (MIBG) can distinguish chromaffin tissue characteristic of pheochromocytoma from other adrenal tumors (3,4). Surgical excision is typically curative for isolated adrenal pheochromocytoma and is warranted to prevent potentially lethal complications such as cardiogenic shock and hemorrhagic stroke (5).

Case Report

We report the case of a 47 year-old-male who presented with a ten day history of headache. The patient had reported being “hugged” by a friend followed by the sudden onset of a severe headache associated with nausea and vomiting. The headache waxed, waned and was exacerbated by activity. He had had no fever or chills. Past medical history included hypertension treated with propranolol 80mg once a day. Upon initial assessment in the emergency department the patient’s blood pressure was 214/100 and heart rate 74 beats per minute. White blood cell count was 26,900. The patient had signs of meningismus. Lumbar puncture was deferred due to suspected increased intracranial pressure. Vancomycin, ceftriaxone, and acyclovir were started as empiric treatment of meningitis. A labetalol intravenous infusion was started. Head CT revealed no evidence of intracranial bleeding. MRI revealed no abnormalities. The patient was admitted to the intensive care unit for hypertensive emergency. Valsartan was started upon admission and the labetalol was quickly weaned. Headache improved dramatically with modest improvement in blood pressure. Lumbar puncture was then performed. Normal opening pressure was noted with an absence of xanthochromia. Herpes simplex virus PCR and bacterial cultures were ordered. Upon transfer to the floor on hospital day two, the patient’s systolic blood pressure was noted to be 199. The patient was started on hydrochlorothiazide and metoprolol in addition to valsartan. Despite these additions, the patient continued to experience Stage III hypertension with systolic pressures above 200mm Hg. Nitroglycerin was started by intravenous infusion. The patient was transferred back to the intensive care unit for continuous hemodynamic monitoring. Secondary causes of hypertension were investigated including magnetic resonance angiography of the renal arteries, echocardiography, and 24-hour fractionated urine metanephrines and catecholamines, serum catecholamines, and vanillylmandelic acid. Renal MRA and echocardiography were unremarkable. Systolic blood pressure remained elevated above 200 mm Hg systolic despite nitroglycerin by infusion. Cerebrospinal fluid bacterial and HSV cultures were negative. All antimicrobials were discontinued. Amlodipine, transdermal clonidine, and intravenous enalaprilat were added over the next two days.
On hospital day six abdominal CT revealed a 1.9 x 1.9 cm nonspecific adrenal mass. MRI was also performed, but results were nonspecific. Surgery service was consulted for adrenal mass resection. A presumptive diagnosis of pheochromocytoma was made. 24 hour urine metanephrines were 1,303 ug (upper limit 400ug), normetanephrines 1,862 ug (upper limit 900 ug) and vanillylmandelic acid 18.3 mg/24 hours (upper limit 8mg).

Phenoxybenzamine was started six days prior to surgery to ensure adequate alpha blockade. The patient’s blood pressure remained adequately controlled on multi-drug therapy. No further paroxysms were noted prior to surgery. On hospital day seventeen a left adrenalectomy was performed without complication. A 48 gram adrenal mass was confirmed as pheochromocytoma by cytology and the presence of staining for chromagranin.

Phenoxybenzamine was discontinued on post-operative day 1, then doxazosin was begun. The patient was discharged home on post-operative day four with good control of blood pressure on amlodipine, metoprolol XL, and doxazosin. The patient had continued to do well postoperatively approximately six months later and was requiring no antihypertensive treatment.

Discussion

Pheochromocytoma is a rare cause of secondary hypertension. Patients may be asymptomatic, but usually present with typical symptoms including paroxysmal hypertension, palpitations, flushing, syncope, and rarely shock or death. This case is significant because it exemplifies the typical presentation of pheochromocytoma, yet highlights the relative ease and potential pitfalls of delayed diagnosis. Some patients have relatively few signs or symptoms to suggest its presence, but most have difficult to control or paroxysmal hypertension. Prior to diagnosis, this patient required six antihypertensives including intravenous nitroglycerin. Despite this, a hormonal workup was not initially considered. The patient required transfer back into the intensive care unit for titration of intravenous antihypertensives.

With typical signs and symptoms, elevated catecholamine levels, and abnormal findings on CT or MRI scanning the diagnosis of pheochromocytoma is confirmed. If there is uncertainty regarding the diagnosis upon CT or MRI scanning, findings on MIBG scanning confirms the diagnosis via localization of adrenergic tissue uptake of 123I-metaiodobenzyl-guanidine. In either situation, surgery is warranted.

In instances that the clinical probability of pheochromocytoma is high, laboratory testing can be especially helpful. Controversy exists as to which tests are superior. Experience from the Mayo Clinic suggests the initial diagnostic test should be 24-hour collection of urine for fractionated metanephrines and catecholamines, which is 98% sensitive and 98% specific for catecholamine-producing tumors (6,7). Urine vanillylmandelic acid (VMA) may be useful in cases where high levels of endogenous or exogenous catecholamines are suspected. VMA has been found to be very specific, albeit not as sensitive as fractionated free plasma metanephrines (8). In the instance of high clinical suspicion and negative laboratory testing, MIBG may be indicated to differentiate pheochromocytoma from other adrenal neoplasia (9,10). MIBG scanning can be especially useful for the diagnosis of extra-adrenal pheochromocytoma, which is more likely to be malignant than adrenal pheochromocytomas (11,12)

Several cases of pheochromocytoma have been reported describing patients with potentially lethal complications. Cardiac pheochromocytomas show the greatest potential for lethality. Patients may present with florid congestive heart failure or syncope secondary to catecholamine surge and may even be hypotensive upon presentation, in contrast to hypertension. Few anecdotal case reports have described such phenomena. In very rare cases cardiac transplantation may be required (13-17).

Although this patient’s typical presentation made the diagnosis less challenging, consideration of hormonal or imaging workup was delayed by several days. Fortunately, he was treated aggressively with antihypertensive medications. It should be mentioned that beta blockers can be deleterious when used in pheochromocytoma. This is caused by an unopposed alpha effect of catecholamines, which can result in congestive heart failure, shock, etc. Had this patient had a negative CT or MRI, it is very possible that further testing may not have been done. If not, he likely would have been maintained on multi-drug therapy and may have experienced continued paroxysms of hypertension. It is important to keep in mind that in the absence of findings on CT or MRI, patients with typical symptoms and elevated metanephrines or catecholamines should still be suspected of having pheochromocytoma. MIBG scanning can be extremely helpful in such cases, as smaller or extra-adrenal pheochromocytoma is more likely. In this case MIBG was not indicated. The laboratory workup was indicative and the clinical suspicion was high. If doubt had arisen concerning whether the patient had extraadrenal or metastatic pheochromocytoma, MIBG would have been indicated for localization.

Conclusion

Pheochromocytoma represents a serious, readily treatable cause for secondary hypertension. Delayed diagnosis can lead to hemodynamic...
complications. Surgery should be performed promptly after adequate alpha and beta blockade.

References

8. Lenders JW; Pacak K; Walther MM; Linehan WM; Mannelli M; Friberg P; Keiser HR; Goldstein DS; Eisenhofer G. Biochemical diagnosis of pheochromocytoma: which test is best? JAMA 2002 Mar 20;287(11):1427-34.
9. Magnano AR; Bai D; Bloomfield DM. Images in cardiovascular medicine. Cyclic tachycardia and hypotension. Department of Medicine, Division of Cardiology, Columbia University College of Physicians and Surgeons, New York, NY 10032, USA.

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

(304) 414-0400
West Virginia Medical Professionals Health Program
PO Box 40027
Charleston, WV 25364
Gallstone Pancreatitis in Pediatric Patients—A Common Disease in an Uncommon Population

Daniel C. Rossi, DO
Kokab Burbandi, MD
Richard Vaughan, MD
Tarun Kumar, MD
Division of Pediatric Surgery, Department of Surgery, School of Medicine, WVU Morgantown

Abstract
Pancreatitis remains an uncommon entity in the pediatric population. Pediatric pancreatitis generally follows an inciting traumatic event or anatomic abnormality. Unlike the adult population, choledolithiasis and alcohol are rare causes. During a five-month period in 2006, we encountered four cases of gallstone pancreatitis in pediatric patients, all of whom presented with recurrent abdominal pain and emesis. Laboratory testing revealed an elevated lipase. Imaging studies including ultrasound and computerized tomography (CT) showed choledolithiasis. Each patient underwent a normal intraoperative cholangiogram and subsequent laparoscopic cholecystectomy for choledolithiasis.

Introduction
Pediatric pancreatitis remains uncommon in comparison to the adult population. In the United States, 50-60% of adult acute pancreatitis cases in community hospitals are related to choledolithiasis. (1) Pancreatitis in children, however, is most commonly related to trauma, infection, systemic disease, drug reaction, and anatomic abnormalities of the pancreatobiliary tree. (2,3,4) Gallstone pancreatitis is an even more unusual finding occurring in only 5% of children undergoing cholecystectomy. (2) Teenage girls compromise the largest group of children with choledolithiasis, with a sharp increase seen after puberty due to the lithogenic effect of estrogen on bile. (5) Initial presentation may include abdominal pain, emesis, and jaundice; and may be associated with chronic infections, hemolytic disorders, total parenteral nutrition, furosemide administration, and previous ileal resection. (2,6) It was previously believed that actual obstruction of the pancreatic duct led to pancreatitis; however, patients presenting with pancreatitis and cholelithiasis, in the absence of choledocholithiasis, have led to the theory that the inflammatory reaction created at the ampulla by the passage of gallbladder stones may additionally induce pancreatitis.

This paper focuses on two of the four cases of gallstone pancreatitis occurring in pediatric patients over a five-month period and a review of the current literature regarding this rarity.

Case Report #1
A 16-year-old white female without significant past medical history presented to the emergency department complaining of epigastric pain and diarrhea for one month. One episode of bilious emesis was reported 24 hours prior to admission. The patient denied use of alcohol or drugs and drug allergy. Constitutional symptoms were denied. Her abdominal pain was associated with food consumption and was unrelated to menses. On presentation, the patient was afebrile (37.4˚C) and vital signs were stable. She appeared well nourished (85.1 kg) and in no acute distress. Jaundice was absent. Bowel sounds were hypoactive and peritoneal signs were absent. The patient did exhibit voluntary guarding to epigastric palpation. Admission labs included an elevated white blood cell count of 11,500 with 81% neutrophils and no bandemia. Liver enzymes were elevated with an AST of 71 U/L, ALT of 66 U/L, GGT of 60 U/L, and LDH of 204 U/L. Noted normal liver enzyme testing included: alkaline phosphatase 68 U/L, total bilirubin 0.9 mg/dL, conjugated bilirubin 0.2 mg/dL. Laboratory testing also confirmed an associated acute pancreatitis: lipase >396 U/L, amylase 1904 U/L. CT imaging of the abdomen showed fluid and stranding adjacent to the pancreas consistent with acute pancreatitis, however no pseudocyst or abscess was noted; gallstones were not evident. Magnetic Resonance Imaging (MRI) revealed signs consistent with gallstone pancreatitis including choledolithiasis, choledocholithiasis, and an edematous pancreas with peripancreatic fluid.

Pediatric surgery was subsequently consulted and the patient underwent elective laparoscopic cholecystectomy with intraoperative cholangiogram. Multiple filling defects were seen. Choledochoscopy was performed and multiple stones were visualized in the common bile duct, however extraction through the cystic duct proved unsuccessful. Intraoperative ERCP and sphincterotomy were performed successfully allowing the retrieval of sludge and multiple stones from the common duct. A repeat ERCP was performed on post-operative day number one for a retained common bile duct stone. The remainder of the hospital course was uncomplicated. The patient was discharged on post-operative day number two, her liver enzymes markedly improved with resolution of her pancreatitis by clinical exam and laboratory testing confirmation. She then tolerated regular diet.

Case Report #2
A 14-year-old male with a past medical history of asthma was transferred to our hospital with
complaints of emesis and diffuse abdominal pain of 24 hours duration. The abdominal pain had evolved from focal in the epigastrium to diffuse tenderness. The patient had no allergies, and immunizations were up to date. Sick contacts and alcohol use were denied. Vitals on admission were stable and the patient was afebrile. The patient was 142 cm tall and weighed 89.3 kg. The abdomen was soft with diffuse tenderness, most markedly increased in the left upper quadrant. Peritoneal signs were absent. Abnormal admission labs included the following: white blood cell count of 17,400 with 96% neutrophils and no bandemia; total bilirubin of 1.8, conjugated bilirubin of 0.9, AST of 281, ALT of 275, GGTT of 421, LDH of 391. Pancreatitis was confirmed with an amylase of 1818 and lipase of 1749. Alkaline phosphatase, electrolytes, and triglycerides were normal on admission. Right upper quadrant ultrasound showed hepatosteatosis and signs of acute pancreatitis. The patient was managed conservatively with intravenous fluids and was kept NPO. The patient became febrile and developed leukocytosis to 24,100. Antibiotics were initiated per Infectious Disease recommendations and were continued until the patient became afebrile—a total of seven days. On the third hospital day, clear liquids were started and were tolerated well, despite continued right upper quadrant abdominal pain. Diet was advanced to low fat by hospital day six. The patient was discharged on hospital day seven with resolution of the abdominal pain. He was tolerating the diet well. Throughout the hospital course, amylase, lipase and liver function tests improved. Blood cultures were negative.

The patient was seen for follow up at three weeks with resolution of abdominal pain, a normal WBC (7500), an amylase of 39 and a lipase of 30. The patient was subsequently scheduled for a laparoscopic cholecystectomy and intraoperative cholangiogram.

**Discussion**

High cholesterol, obesity, sedentary lifestyles, and even alcohol use are becoming more prevalent in pediatric patients. As a result, medical problems traditionally associated with adults are becoming more prevalent in children. According to the CDC, the National Health and Nutrition Examination Survey for 1999–2002 showed that 16% of children ages 6–19 are overweight. (7) In West Virginia, the prevalence of overweight high school students is 12.2% compared to the 9.9% national average for this group. (8) Lugo-Vicente came to the conclusion that contemporary diet, obesity, and abnormal liver chemistry are the main predisposing conditions of gallbladder disease in children in this decade; and that the patients most affected by this problem are adolescent females. (5)

Of the four children that were managed (either surgically or medically) at our institution, three were adolescent females. All four of these patients were overweight. In pediatrics, overweight is defined as a BMI greater than 95th percentile. We plotted our patients on a growth curve with BMI’s of 44.28, 34.2, 35.3 and 34.8. The aforementioned 14-year-old male was well above the 97th percentile for BMI, as were the other three females. With regards to height, three patients were below the 50th percentile and one (female) patient was at the 95th percentile. When weights were plotted on a growth chart it was found that all four patients were above the 97th percentile.

Technology has also become a contributing factor to the increasing prevalence of pediatric gallstone pancreatitis. According to Beauchamp, Evers et al., increased incidence of gallstones is more commonly due to improved imaging techniques for diagnosis and detection. (9) Imaging modalities such as ultrasound and MRI have given us a much better ability to diagnose gallstones pre-operatively and have helped in completing the clinical picture of these patients presenting with symptoms that are often ubiquitous in many other pathologies of childhood and adolescence.

One of the overall most common causes of adult pancreatitis is alcohol abuse. In the pediatric population, however, gallstones are the most frequent cause of pancreatitis, and the most common causes resulting in surgical intervention are pancreatitis related to trauma and gallstone disease. (10) The anatomic proximity of the bile duct and pancreatic duct to one another at the sphincter of Oddi also creates an opportunity for stones to obstruct the pancreatic duct causing obstructive pancreatitis. (1,11,12)

Depending on the patient’s symptoms, the severity of pancreatitis, and duration of the illness, the timing of surgical intervention varies. In a study by Fan et al., it was found that a ‘conservative’ approach of using ERCP selectively versus using ERCP emergently had a higher mortality rate. (13) Surgical intervention is the preferred method of management for patients with decreased functioning of the gallbladder, symptomatic gallstones, or biliary sludge. (9) In the case of our 14 year old male patient, the patient was managed conservatively with plans for cholecystectomy as an outpatient.

Decreasing the incidence of gallstone pancreatitis in children requires promotion and implementation of dietary change and active lifestyle through education. Although we may never be rid of hyperlipidemia, obesity, or other contributing risk factors; active dialogue between children, parents, and physicians will aid in combating this “adult” disease...
that is becoming more prevalent in the pediatric population.

References
8. West Virginia Department of Health and Human Resources http://www.wvdhhr.org/bhp/oehp/obesity/intake.htm#owyouth

Have you received your FREE Tamper Resistant Prescription Pads?

If you’ve not yet ordered your free tamper resistant prescription pad or laser paper, you should do so now while there are still grant funds available. An order form is available online at the WVSMA website, www.wvsma.com, or by contacting the WVSMA office.

If you have questions about the order form, you should contact Standard Register’s toll free prescription line (1-866-741-8488). If you have other questions about this grant program, please contact Barbara Good, WVSMA Physician Practice Advocate and Tamper Resistant Prescription Pad Project Manager, at (304) 925-0342, ext. 11, or via email (Barbara@wvsma.com).
Characterization of Babies Discharged from Cabell Huntington Hospital During the Calendar Year 2005 with the Diagnoses of Neonatal Abstinence Syndrome

F. Ross Baxter, MD  
Resident, Department of Obstetrics and Gynecology  
Robert Nerhood, MD  
Professor and Chair, Department of Obstetrics and Gynecology  
David Chaffin MD  
Associate Professor, Department of Obstetrics and Gynecology  
Joan C. Edwards School of Medicine  
Marshall University, Huntington

Abstract
Recent concern regarding the impact of maternal drug abuse on neonatal well being was the impetus for this retrospective cohort study of newborns diagnosed with neonatal abstinence syndrome that were discharged from Cabell Huntington Hospital during the calendar year 2005. Medical records of the neonates and their mothers were analyzed for a variety of health related outcomes and healthcare cost.

Forty-eight neonates were diagnosed with Neonatal Abstinence Syndrome in 2005, forty of which required NICU assistance. The average maternal age at delivery was 26; gravity was 3.1 and most were single, separated or divorced. The majority had poor or inconsistent prenatal care. Twenty-one delivered by cesarean section most often for fetal distress. Most delivered prematurely with an average gestation of 35.9 weeks. Half of the mothers went into preterm labor with half of those having premature ruptured membranes. Opiates were the most common maternal substance found, while neonates most often tested positive for methadone. Nearly 90% of the mothers smoked. Thirty-four of the mothers were smokers. Thirty-four of the mothers were able to continue illicit drug abuse while pregnant, while another eight were seen in a methadone clinic for a history of abuse. Most of the neonates required weaning with methadone. The majority of our study cases were funded by Medicaid, mostly by West Virginia with total hospital costs exceeding 1.7 million dollars. Direct cost attributed to detoxification was in excess of $180,000. The number of neonates diagnosed with Neonatal Abstinence Syndrome has nearly tripled from 2003 to 2007.

The problem of maternal drug abuse and addiction during pregnancy has dramatic effects on both their unborn children and our local healthcare system. Increased awareness of this growing problem is needed so that earlier interventions can be implemented. It is our opinion that all obstetrical patients at risk should be screened early and often so that those affected individuals can be managed more aggressively to improve neonatal outcomes.

Introduction
Neonatal Abstinence Syndrome (NAS) consists of a group of symptoms caused by neonatal withdrawal from maternal use of narcotics. The definition has also been expanded to include other substances (selective serotonin reuptake inhibitors, nicotine, amphetamines, marijuana, and alcohol). Incidence has been difficult to ascertain due to poor reporting of maternal drug abuse; however, estimates range from 3 to 50% depending on the patient population and area of the country studied. At birth, the neonate’s drug supply is lost, leading to withdrawal within days to weeks depending on the half-life of the substance, maternal and fetal metabolism, and hydration. As many as half of the fetuses exposed to narcotics will experience withdrawal; while long term mortality is extremely low, the risk of SIDS (sudden infant death syndrome) is increased by 3.7% in methadone users and 2.3% in cocaine users. Withdrawal causes central nervous system over stimulation as evidenced by high-pitched cry, restless sleep lasting less than 1-3 hours, hyper-reflexia, tremors, increased muscular tone, myoclonic jerks, and convulsions. The gastrointestinal system is also affected with excessive sucking, poor feeding, regurgitation, emesis (often projectile), and loose stools. Metabolic, vasomotor and respiratory effects include diaphoresis, fevers, yawning, sneezing, nasal flaring, respiratory rates often greater than 60/min. (without retractions) and apneic episodes. The rate of intraterine growth restriction, preterm rupture of membranes, preterm delivery, oligohydramnios, low APGAR scores, meconium staining and intraterine fetal demise are all increased. Infants with NAS, as well as their mothers, ultimately require greater care and often longer hospitalizations with many requiring neonatal intensive care unit (NICU) assistance. The cost impact of these interventions nationwide is largely unknown. It has been our observation that the diagnosis of NAS has been increasing in frequency in our NICU in the past five years. It is not the intent of this study to establish cause and effect but rather to bring attention to the scope and the potential impact of the problem to our healthcare system.

Materials and Methods
A retrospective cohort study of neonates discharged from Cabell Huntington Hospital (CHH) was performed during the calendar year 2005 with the diagnoses of NAS (N=48). CHH, an academic tertiary care center in Huntington, West Virginia, is the site of over 2500 live births yearly. The year 2005 was chosen so that all of the records and billing would be finalized and so that a comparison of the number of affected neonates with the two preceding and two post characterization years could be
made. Before initiating the study, The Marshall University Institutional Review Board approval was obtained.

To select the patient population, the medical records department compiled a list of all infants that were discharged from our facility during 2005 with an ICD-9 code (779.5) for NAS. These neonate’s charts were recovered and used to identify their mothers whose charts were also recovered. Information was extracted from both the neonate and mother’s charts. Fourteen of the maternal charts were not available for review since they delivered at outlying facilities and only the newborn infant was transported to our facility. The neonate’s chart, however, often contained extensive maternal information.

CHH had 2549 live births in 2005. Thirty-four (1.3%) of these neonates were diagnosed with NAS. Some required the services of the NICU (N=26), while others were able to go to the newborn nursery (N=8). Our facility also provides NICU services for the surrounding area and receives neonatal transfers from many outlying hospitals. From these, another 14 babies were identified with NAS during the time frame of our study. The resulting study population numbered 48 babies. Of the 48, five were twins; therefore, our study involved 46 mothers.

Data was extracted from the neonate’s charts (N=48) as well as the available maternal charts (N=32, since 14 delivered elsewhere). This information was recorded onto standardized data collection forms by the author. Items retrieved included drugs used during pregnancy, quality of prenatal care, insurance status, maternal age, gravity and parity, pregnancy and delivery complications as well as the mode of delivery. Other data collected included the percent of expected birth weight, gestation age at delivery, postpartum complications, and total hospital days, which were divided into NICU, newborn nursery and pediatric days. Maternal information was recorded onto the corresponding neonate’s data sheet.

To maintain confidentiality, the data collection forms were coded by numbering 1-48 corresponding to the neonates in the study. All patient identification information was listed separately with the corresponding codes and known only to the author. The data collection forms were maintained and stored confidentially in the OB/GYN office at Marshall University. The code sheet was stored separately by the author. Once the study was completed, the identification code sheet was shredded.

The drugs involved were determined by examination of both the neonate’s and their mother’s charts. Maternal drugs were identified by a positive maternal drug screen, positive neonatal urine, meconium testing, or admission by the mother of using a substance during her pregnancy. Neonatal drugs were determined only by positive testing of the infant’s urine or meconium.

The total cost of hospitalization for the 48 neonates was compiled by the billing department of CHH. The average cost of stay was calculated by dividing the total by 48. A comparison between the average cost of stay of a healthy newborn with the average cost of stay of a newborn with NAS and no other health issues was made. The difference in the cost of caring for these two neonates was the direct cost of detoxification for the treatment of NAS. This number was multiplied by 48 for the total cost of care directly attributed to detoxification.

Raw numbers of infants carrying the diagnoses of NAS were obtained (by ICD-9 code search by our medical records department) for the two years prior and two years after 2005. Neither maternal nor neonate charts were examined for this purpose.

Results

During the calendar year 2005, forty-eight neonates were discharged with the diagnosis of neonatal abstinence syndrome. Of these, 33 were delivered at our facility, 14 were transported to our facility after being delivered at outlying hospitals and 1 delivered at home. Of the 33 delivering at Cabell Huntington Hospital, 7 arrived as maternal transports for pregnancy complications. Forty three of the cohort were singletons (89.6%) and 5 were twins (10.4%) [One corresponding twin was not transported from the outlying hospital where delivered]. Interestingly, 37 were male (77.1%) while 11 were female (22.9%).

Maternal age at delivery ranged from 18 to 38 years old with an average age of 26.1 years. Most were

| Table 1. Prenatal Care Patterns |

<table>
<thead>
<tr>
<th>PRENATAL CARE</th>
<th>FIRST APPOINTMENT</th>
<th>CONSISTENCY</th>
<th>WOMEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOOD CARE</td>
<td>Starting in 1st trimester</td>
<td>No missed appointments</td>
<td>13</td>
</tr>
<tr>
<td>LATE CARE</td>
<td>Starting after 1st trimester</td>
<td>+/- missed appointments</td>
<td>4</td>
</tr>
<tr>
<td>VERY LATE CARE</td>
<td>Starting after 2nd trimester</td>
<td>+/- missed appointments</td>
<td>9</td>
</tr>
<tr>
<td>INCONSISTENT CARE</td>
<td>Starting in 1st trimester</td>
<td>Missed &gt;2 appointments</td>
<td>17</td>
</tr>
<tr>
<td>NO CARE</td>
<td>---------------------------</td>
<td>-------------------------</td>
<td>2</td>
</tr>
<tr>
<td>UNKNOWN CARE</td>
<td>---------------------------</td>
<td>-------------------------</td>
<td>1</td>
</tr>
</tbody>
</table>

March/April, 2009, Vol. 105 17
in their 20’s (N=36, 78.3%), 9 were in their 30’s (19.6%) and one was less than 20 (2.1%). Gravity ranged from 1 to 12 with an average of 3.1 pregnancies per mother. Parity ranged from zero to 6 yielding 71 children delivered to this population previously, of which 15 were preterm (21.1%) and 5 were documented fetal demises at greater than 20 weeks gestation (7.0%). Twenty-nine previous spontaneous abortions were also reported. Most mothers were single (N=20, 43.4%), 15 were married (32.6%), 10 were divorced or separated (21.7%) and one was widowed.

Twenty-one cesarean sections (45.7%) were performed and comprised of 12 primary low transverse, 1 primary classical and 8 repeat low transverse. Reasons for caesarian section included: fetal distress (8), severe preeclampsia (1), abruption (2), malpresentation (3), Hepatitis C (3), twins (3) and unknown (1). The remaining 25 mothers delivered vaginally (54.3%) with one requiring vacuum assistance and another vaginally (54.3%) with one requiring forceps. One delivery necessitating forceps. One delivery was a vaginal birth after cesarean. Why?

Reasons for caesarian section included: fetal distress (8), severe preeclampsia (1), abruption (2), malpresentation (3), Hepatitis C (3), twins (3) and unknown (1). The remaining 25 mothers delivered vaginally (54.3%) with one requiring vacuum assistance and another vaginally (54.3%) with one requiring forceps. One delivery necessitating forceps. One delivery was a vaginal birth after cesarean. Why?

The average gestational age at delivery was 35 6/7 weeks with a range of 26 0/7 to 42 0/7 weeks (Figure 1). Prenatal care was frequently either late and/ or inconsistent or no care at all (Table 1). Eleven mothers were seen by maternal fetal medicine and every obstetric practice in our area was involved in the care of some of these women.

Opiates were the most common maternal substance found, while neonates most often tested positive for methadone (Figure 2). Drug test results could not be found for 11 of the mothers and 14 of the neonates. It was unclear if these tests were ordered. Negative testing was identified in 2 mothers and 9 neonates. Seven mothers (15.2%) readily admitted to using alcohol during the reference pregnancy, with one admitting to drinking “almost every day.” Forty one mothers smoked (89.1%) while three denied smoking (6.5%) and 2 were undeterminable (4.3%).

Of the 19 mothers positive for methadone, 6 were buying the drug on the street, 2 had prescriptions from their physicians, while the remaining 11 went to methadone clinics. Eleven of the 13 were taking methadone due to a history of narcotic abuse and for the prevention of withdrawal while pregnant. The remaining two had chronic low back pain, both from motor vehicle accidents. Methadone doses ranged from 20 mg to 140mg daily (average dose 98.5mg daily).

Prescription medications other than methadone were used by 6 mothers. One took oxycodone/acetaminophen for low back pain (spinal stenosis), while another took oxycodone/acetaminophen for osteoarthritis. One mother was prescribed oxycodone CR for restless leg syndrome and another took acetaminophen with codeine for a childhood sports injury to her thoracic spine. One woman took both oxycodone and alprazolam for chronic pain caused by an automobile accident and its provocation of anxiety attacks. The last took clonazepam for her anxiety.

While none of the mothers spent excess time in the hospital postpartum, six spent time on the antepartum unit. The longest stay was for 17 days for “fetal well being” following an ethics consult. One was directly admitted from the Emergency Department after presenting in withdrawal. She stayed 9 days before having an emergent cesarean section for fetal distress. Other antepartum admissions included one for oligohydramnios, one for preeclampsia, and two for pre-term labor.

Within this cohort (N=46) there were numerous complications with both the pregnancies as well as the deliveries. Half of these women went into preterm labor (N=23). Twelve had premature rupture of membranes (26.1%) with 9 occurring preterm (19.6%). Many placental complications were seen including: abruption (N=6, 13.0%), previa (N=2), velamentous cord insertion (N=1), and accreta (N=2) with one requiring a hysterectomy. Documentation revealed 5 cases of chorioamnionitis, 14 cases of meconium stained amniotic fluid and 4 cases of oligohydramnios. Non-reassuring fetal heart tracings were noted in 15 of the pregnancies (32.6%). Five precipitous deliveries occurred—with one delivery at home. While most of the fetuses were in the vertex presentation at delivery (N=42, 91.3%), 5 were malpositioned. Of these, three were breech (two frank and one footling), one was transverse, and one was direct occiput posterior. Two had undocumented presentations, but delivered vaginally.

Neonatal complications were numerous. By design, all of the neonates had neonatal abstinence...
syndrome (N=48), most of which were directly related to current or past use of illicit substances (N=42, 91.3%) (Figure 3). Because of their dependence, twenty six (54.2%) of the neonates required weaning with methadone totaling 215 days with 23 going home on this medication for continued weaning as an outpatient. Of these: 11 necessitated outpatient apnea monitoring as well. Thirteen required respiratory assistance totaling 7 days of high frequency ventilation, 19 days regular ventilation, 83 days of continuous positive airway pressure (CPAP), and numerous days of oxygen assistance. Two neonates were lethargic at birth and one required cardiopulmonary resuscitation and administration of naloxone. One was noted to have elevated liver enzymes caused by in utero anoxic hepatic injury. Fifteen other neonates were found to have hyperbilirubinemia requiring 63 total days of light therapy. One child had culture proven septicemia with MRSA, while 21 others had suspected sepsis, but with negative cultures. These children were given IV antibiotics for a total of 127 days. Thirteen were diagnosed with anemia of which 5 needed transfusions and 4 received epoetin alfa. Two also received fresh frozen plasma.

Other serious complications included intraventricular hemorrhages (2), bilateral pneumothorax (1), pulmonary hemorrhage (1), GI bleed (1), intraterine growth restriction (9) and large for gestational age (3) (Figure 4). In addition to serious complications there were an unusual number of anomalies identified which included distal rectal atresia (1), peripheral pulmonary artery branch stenosis (1), microcephaly (1), syndactyly (2), umbilical/inguinal hernias (1) and three failed hearing examinations.

Of the 48 neonates, 40 required NICU assistance (83.3%) for a total of 650 days (range 1-55 days, average stay 16.25 days). An additional 36 days were spent in the well child nursery and 13 days on the pediatric floor. (Figure 4). In addition to serious complications there were an unusual number of anomalies identified which included distal rectal atresia (1), peripheral pulmonary artery branch stenosis (1), microcephaly (1), syndactyly (2), umbilical/inguinal hernias (1) and three failed hearing examinations.

Of the 48 neonates, 40 required NICU assistance (83.3%) for a total of 650 days (range 1-55 days, average stay 16.25 days). An additional 36 days were spent in the well child nursery and 13 days on the pediatric floor. (Figure 4).

Figure 2.
Substances involved during the reference pregnancy.

<table>
<thead>
<tr>
<th>Substance</th>
<th>Number Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amphetamines</td>
<td>5</td>
</tr>
<tr>
<td>Barbiturates</td>
<td>5</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>5</td>
</tr>
<tr>
<td>Cocaine</td>
<td>5</td>
</tr>
<tr>
<td>Marijuana</td>
<td>5</td>
</tr>
<tr>
<td>Methadone</td>
<td>5</td>
</tr>
<tr>
<td>Opiates</td>
<td>5</td>
</tr>
<tr>
<td>ETOH</td>
<td>0</td>
</tr>
</tbody>
</table>

Figure 3.

March/April, 2009, Vol. 105  19
service. Two babies were transported back to outlying hospitals prior to discharge. Most of the neonates were discharged home with their mothers (N=31, 64.6%), while 5 went with relatives (usually a grandparent), 11 went to foster care (22.9%) and one was unknown. Of interest, one child reported to the emergency department in cardiopulmonary arrest just 9 days after being discharged home with his mother and grandmother. He had severe anoxic ischemic encephalopathy and died 3 days later.

The majority of our patients had health insurance and were covered by Medicaid (N=38, 79.2%) most of which were from West Virginia (N=22) but neighboring states Ohio (N=11) and Kentucky (N=5) were also well represented. Three had no coverage at delivery, but later received Medicaid and only a few had private insurance (N=7, 14.6%). Total cost for the care of these 48 neonates while hospitalized exceeded $1,761,582 at an average of $36,700 per child. This figure represents hospitalization costs only for the neonates, not their mothers, and does not include physician costs. The hospitalization cost for a healthy newborn going to the newborn nursery was determined by averaging the cost of all such neonates in 2005. This group had an average stay of 2.3 days at a cost of $1,964.16 each. The average cost for neonates with NAS who were otherwise healthy was then calculated. This group spent an average of 5 days at a cost of $5,898.71 each. The difference between these two groups ($3,934.55) is the excess charge attributed to detoxification of one neonate. Multiplying this amount by 48, (the number of neonates in our study) produces $188,858.40 spent in 2005 for detoxification alone. It was not possible to relate the remaining NICU costs directly to maternal drug abuse but an obvious inference can be made since the rate of NICU admissions from our cohort is much greater than that of the general population.

Lastly, review of the raw numbers of neonates diagnosed with NAS in the two years prior to 2005 as well as the two years after 2005 demonstrates a clear upward trend (Figure 5).

**Discussion**

All cases of Neonatal Abstinence Syndrome caused by maternal drug abuse are preventable. Throughout history, men and women have used a wide array of substances to cause various effects within their bodies and this experimentation is very unlikely to change. Unfortunately, within our pregnant population this trend is increasing bringing with it an increase in neonatal morbidity and mortality as well as increasing strain on our healthcare system.

Most of the women in our cohort study received either late or inconsistent prenatal care with some receiving no care at all (Table #1). Forty-one neonates were either covered by Medicaid at the time of delivery or shortly thereafter. This group represents 85.4% of our study population indicating the involvement of socioeconomic factors. It is essential, however, that
the physician practicing obstetrics be mindful that the problems leading to NAS cross all socioeconomic levels.

The population characterized in this study ranged from 18 to 38 years of age, which encompasses the full age range of fertile women. It is apparent that no age group can be excluded from scrutiny when thinking about the possibility of substance abuse in pregnancy.

The greater majority of those studied were either single, separated or divorced (N=30) indicating a potential lack of stability and commitment in their lives. Practitioners need to note however, that fifteen of the women were married; once again making it difficult to determine whom to screen for potential problems with abuse.

Most drug abusers will not be identified unless all obstetric patients are screened. Even then, denial is a major obstacle, especially in the pregnant population. Women may not admit to drug abuse for fear of loss of custody, legal ramifications, or guilt. Careful history taking is important. The interviewer must be respectful, attentive and understanding while asking neutral open-ended questions. It is useful to begin asking about legal substances such as cigarette smoking, alcohol consumption and prescription medication. Marijuana, while illegal, carries less social stigma and women may respond truthfully if asked about its use. Questions about clearly illegal substances such as cocaine, heroin, and methamphetamines will complete the review.

For each substance, ask the dosage, frequency and the last time used. The route of dosage is important since IV drug abuse is closely related to infectious diseases, many of which have serious consequences for both the mother and fetus. A history of sharing needles is particularly worrisome.

Risk factors include late or inconsistent prenatal care, past history of spontaneous abortions, premature birth, growth retardation, abruptions, precipitous delivery, or stillbirths. Trouble with law enforcement, child protective services involvement, and having children removed from the home should raise questions. Family history of substance abuse as well as substance abusing spouses, especially in patients with risk factors of their own, are especially worrisome since often a family member or the spouse is the initiating factor. Mothers of children with neurological or developmental problems should also raise concern.

Certain infectious diseases and illnesses are often associated with substance abuse. HIV, hepatitis, endocarditis and sexually transmitted diseases should raise questions about IV drug abuse or trading sex for drugs. Physical findings such as needle tract marks, atrophy of the nasal septum, tachycardia, and abnormalities of pupil size, diaphoresis, or behavior that is deemed as abnormal should raise concern.

Practicing physicians treating female patients must be cognizant of the possibility of drug abuse in pregnancy recognizing that the problem crosses all socioeconomic, age and race boundaries. An increase in awareness leads to opportunities for early interventions and aggressive management that in turn leads to better outcomes. Proper screening techniques, good history taking skills and thorough physical examinations are necessary to alert the clinician to potential substance abuse. Risk factors must be evaluated carefully and tactfully. Once abuse is identified, it becomes imperative to develop a treatment plan with the patient. Special consideration of the desire to quit, the substance involved, the dosage, and gestational age must be considered. With ample time, psychiatric counseling, and social services support, almost any motivated patient can be detoxified. If any of these requirements are absent, the mother can be placed on a methadone maintenance program with reasonable success, understanding that the newborn will require detoxification.

References
1. Lucile Picard Children’s Hospital, Palo Alto, California; www.lpch.org
2. www.emedicine.com
3. Creasy and Resnik; Maternal Fetal Medicine; 5th ed. Pp 301-302

Figure 5.
Neonates diagnosed with Neonatal Abstinence Syndrome by year. Dashed line shows trend increasing (binomial regression).
Cognitive Dysfunction in Normal Pressure Hydrocephalus (NPH): A Case Report and Review of the Literature

Fahd Zarrouf, MD
Resident, Medicine-Psychiatry Residency, WVU, Charleston, WV

James Griffith, MD, FACP
Medicine-Psychiatry Program Director, WVU, Charleston, WV

Jane Jesse, MD
Resident, Psychiatry Residency, WVU, Charleston, WV

Abstract
Normal Pressure Hydrocephalus (NPH) is a very rare and reversible cause of dementia, and it is often misdiagnosed as other, more common types of cognitive impairments. The classical triad of NPH includes: gait disturbances, urinary incontinence, and cognitive dysfunction. There is a wide spectrum of psychiatric symptoms that may precede or combine the triad NPH symptoms. In this paper, we report a case of 78-year-old NPH patient with puzzling presentation and his cognitive symptoms' response to ventriculoperitoneal shunt. A review of the literature about NPH pathophysiology, evaluation, its association with several psychiatric and cognitive symptoms, available treatment outlines, and suggested future research directions were evaluated.

Case Report
“He has been very confused recently”, the wife said to the emergency physician when bringing her husband to the emergency room. “He needs help with everything”.

A 78 year-old man was brought to the Emergency Department (ED), with a chief complaint that he had been having problems with dizziness for more than one year. The family described a recent episode of increased confusion, dizziness, fecal and urinary incontinence, difficulty walking which required assistance, and disorientation. At least two similar episodes had occurred in the past six months, which led his family and his primary care physician to suspect seizure activity accompanied by baseline dementia as a primary diagnosis. Because of his age and his risk factors, the dementia was suspected to be either Alzheimer dementia or vascular dementia. The patient had no history of trauma, headache, or visual changes.

The family reported a decline in the patient’s memory for the last two years. They asked him to stop driving after he got lost in a downtown area. He was no longer interested in doing word puzzles, his favorite hobby. They noted that he had been forgetting names, getting confused about time and place and requiring re-orientation on multiple occasions.

Past history is significant for diabetes mellitus for more than ten years, recently treated diabetic foot ulcer infection, coronary artery disease with previous bypass graft surgery, hypertension, sideroblastic anemia, chronic kidney disease, and benign prostatic hyperplasia which was managed with surgery four years ago. Currently, the patient lives with his wife. She manages the household finances, shopping, and driving. The patient’s wife assists him with most of his daily living activities. He quit smoking 30 years ago, and has no history of alcohol or drug abuse.

The patient was examined in his room. He was disoriented to time and place, but oriented to self and family. His speech was hesitant and sometimes incoherent; he showed extreme difficulty answering questions. He was amnesic of the incontinence incident earlier in the day. He was slow to respond to commands and was unable to perform moderately complicated commands. He exhibited confusion about his left and right side. His mood was somber; affect was blunted and non-reactive. No perceptual disturbances were noted. The patient denied hallucinations or delusions. Memory testing was performed, and the patient was not able to recall three words given to him.

Neurological testing showed normal strength in all four extremities, with a mild intermittent increase in the tone of his legs. Deep tendon reflexes were symmetric. Sensation was decreased from the feet to mid-shin. He was clumsy and had mild dysmetria in both hands. He was able to stand without assistance and walk with minimal support, but had a typical magnetic gait. The rest of the physical exam was unremarkable.

MRI of the brain showed ventriculomegaly that appeared out of proportion to the amount of atrophy and chronic ischemic changes (Figure 1).

Hospital Course
Based on his presentation and history of present illness, the patient was diagnosed with normal pressure hydrocephalus. He underwent a diagnostic large
**WHAT YOU NEED TO KNOW ABOUT MEDICAL PROFESSIONAL LIABILITY RATES**

**WV Mutual Professional Liability Premium Trend Mature Policy**

**Class 3 Family Practice**

<table>
<thead>
<tr>
<th>Class 3 Family Practice</th>
<th>Class 10 Surgeon</th>
<th>Class 13 Obstetrician</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005 WVMIC</td>
<td>$24,856</td>
<td>$82,821</td>
</tr>
<tr>
<td>2008 WVMIC *</td>
<td>$19,502</td>
<td>$55,308</td>
</tr>
</tbody>
</table>

2008 Premium with 10% Risk Management Credit Applied

- Class 3 Family Practice: $17,552
- Class 10 Surgeon: $49,777
- Class 13 Obstetrician: $69,113

Reduction

- Since 2005: 29% 40% 41%

* Includes 5% renewal credit

---

**West Virginia Mutual Insurance Company**

*Physicians Insuring Physicians*

(304) 343-3000 • (888) 998-7642

[www.wvmic.com](http://www.wvmic.com)
cerebro-spinal fluid (CSF) tap (40ml) with noticeable improvement of objective gait evaluation, mental status exam, and bowel control after six hours. He was then referred for a laparoscopic ventriculoperitoneal shunt insertion, using a Hakim-Codman programmable shunt. While awaiting surgery, Aricept was added by the patient’s neurologist for cognitive dysfunction.

Post-surgery, the family reported a very good improvement in the patient’s condition. He had regained some of his cognitive facilities, improved memory, and increased movement abilities. He was able to remember the names of his children and grandchildren. He was subsequently discharged home with his wife. One-month follow-up showed that the patient’s movement continued to improve. His mental status score improved six points (19→25). The family denied stool incontinence and a described significant decrease in his urinary incontinence.

Three years later, the patient continues to improve. For the first time in the last five years he went on a fishing trip with his family.

Literature Review

Normal Pressure Hydrocephalus

Hakim and Adams first described the syndrome of Idiopathic Normal Pressure Hydrocephalus (INPH) in 1965. (1,2) In two articles, they reported six patients with a triad of “mild impairment of the memory, slowness and paucity of thought and action, unsteadiness of gait and unwitting urinary incontinence.”

Pathophysiology of NPH

The pathophysiology of INPH is unclear. Many theories have been proposed. Fersten et al. suggested in a study of 24 NPH patients that peroxidation of free radicals may play a role. He found elevated thiobarbituric acid-reactive material (TBAR) level and decreased protein sulphydryl (SH) level in the CSF of NPH patients as compared to controls. (3) ACE gene insertion/deletion polymorphism was studied in 112 patients diagnosed with NPH vs. 124 controls and showed no differences in genetic or allele distributions between patients and healthy subjects. (4) It is still important to differentiate primary from secondary causes of NPH (After meningitis, subarachnoid hemorrhage, or head trauma).

Evaluation

The classical triad of NPH includes: gait disturbances, urinary incontinence, and cognitive dysfunction. Often, NPH presented with any combination of symptoms. Specific self evaluation forms are available to increase awareness and the possibility of early diagnoses (Table 1).

Further evaluation tests include CT scan or MRI. Predominant features include: ventricular enlargement out of proportion to sulcal atrophy, prominent periventricular hyperintensity, consistent transependymal flow of CSF, thinning and elevation of the corpus callosum, and rounding of the frontal horns.

Prominent flow void in the aqueduct and third ventricle, the so-called “jet sign” (a dark aqueduct and third ventricle on T2 weighted image whereas remainder of CSF is bright), may also be seen.

<table>
<thead>
<tr>
<th>Table 1. NPH questionnaire.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>My feet feel stuck to the floor when I walk.</strong></td>
</tr>
<tr>
<td><strong>I have trouble keeping my balance when walking or turning.</strong></td>
</tr>
<tr>
<td><strong>I have experienced sudden falls without loss of consciousness.</strong></td>
</tr>
<tr>
<td><strong>I have difficulty maintaining attention.</strong></td>
</tr>
<tr>
<td><strong>I have trouble remembering things.</strong></td>
</tr>
<tr>
<td><strong>I have experienced sudden urgency in urinating.</strong></td>
</tr>
<tr>
<td><strong>I have had urinary accidents.</strong></td>
</tr>
</tbody>
</table>

Psychiatric and Cognitive Symptoms in NPH

There is a wide spectrum of psychiatric symptoms that may precede or combine other NPH symptoms. De Mol J. described “The Mental Syndrome” associated with NPH, including an alteration of alertness and concentration, a deficiency in memory, a disorganization of graphism (writing and drawing), a dyscalculia and behavior problems (bradypsychy, apathy, indifference). Such a syndrome points to a bilateral frontal lesion. Less frequent signs are largely verbal and show different stages of aphasia. (5) Cognitive symptoms are one of the triad symptomatology of NPH. They differ from the ones in Alzheimer Disease (AD). NPH patients scored significantly higher on the orientation subtest of the Alzheimer’s disease Assessment Scale and on the general memory and delayed recall subtests of the Wechsler Memory Scale-Revised (WMS-R). AD patients scored higher on the attention/concentration subtest of the WMS-R and on the digit span, arithmetic, block design and digit symbol substitution subtests of the Wechsler Adult Intelligence Scale-Revised. (6) Golomb et al. showed that cognitive symptoms and MMSE scores correlated strongly with hippocampus size ($r = 0.75$, $p < 0.001$), and that hippocampus atrophy is associated with severe
cognitive dysfunction in many elderly patients with a diagnosis of NPH. (7) Other rare psychiatric symptoms were described in the literature including paranoid psychosis and mild cognitive impairment in a 68-year-old man who later was diagnosed with NPH and had full recovery of these symptoms after a lumboperitoneal shunt. (8)

Management of the Cognitive Symptoms in NPH

NPH is often considered one of the rare reversible causes of dementia, which is why it is so commonly discussed. However, its importance as a potential cause of reversible dementia is debatable. In a meta-analysis of 39 articles addressing reversibility in dementia, 7042 patients with cognitive impairment (5620 with dementia) were assessed. Potential reversibility was found in 9% of the patients, of whom only 0.6% of the patients actually reversed. In 2.2% of these patients, a surgically amenable condition was found, including NPH (idiopathic or secondary), subdural hematomas and cerebral tumors. According to this analysis, the estimated incidence of shunt-responsive NPH is 2.2 per million per year. (9)

Surgical Management

Treatment of cognitive dysfunction in NPH is mainly surgical. There are multiple studies evaluating the cognitive response to shunting. None of the ones that we found was a randomized control trial comparing cognitive response in shunt versus no shunt treatment. We put all the studies evaluating cognitive response to shunting as a primary outcome in (Table 2).

Many studies evaluated predictors for good cognitive response to shunting. Chen et al. (21) evaluated controlled-resistance, continuous lumbar drainage (CRCLD) effects on cognition as a predictor for response to ventriculoperitoneal (VP) or a lumboperitoneal (LP) shunt. He randomized 15 patients (both CRCLD responders and CRCLD non responders) to receive either VP or LP shunt. All the CRCLD responders continued to benefit from shunting one week and one year after the procedure, irrespective of the type of shunting they have received. Another study found a significant negative linear relationship between age and probability of good cognitive improvement. (11) The degree of cognitive improvement was found to be greater in women than men (P = 0.002). Age was found to be a better

<table>
<thead>
<tr>
<th>Publication Date</th>
<th>Author(s)</th>
<th>Subject Numbers</th>
<th>Evaluation instrument(s)</th>
<th>Cognitive improvement</th>
<th>Other important findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct 2006</td>
<td>Foss T et al 10</td>
<td>27</td>
<td>Folstein Mini-Mental State Examination (MMSE) or Dementia Rating Scale.</td>
<td>44%</td>
<td></td>
</tr>
<tr>
<td>Jan 2006</td>
<td>Chang S et al 11</td>
<td>36</td>
<td>33%</td>
<td>1- Significant negative linear relationship between age and probability of good cognitive improvement 2- The degree of cognitive improvement was greater in women than men (P = 0.002).</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>Meier U, 19</td>
<td>123</td>
<td>43%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sep 2005</td>
<td>Poca MA, 20</td>
<td>36</td>
<td>The NPH scale</td>
<td>33%</td>
<td></td>
</tr>
<tr>
<td>Jul 2005</td>
<td>Thomas G et al 12</td>
<td>42</td>
<td>MMSE</td>
<td>52.3%</td>
<td>1- Significant improvement in tests of verbal memory and psychomotor speed. 2- patients scoring more than 1 SD below mean at baseline on verbal memory immediate recall were fourfold less likely to show overall cognitive improvement, and six fold less likely if also associated with visuoconstructual deficit or executive dysfunction.</td>
</tr>
<tr>
<td>Sep 2004</td>
<td>Duinkerke A, et al 13</td>
<td>10</td>
<td>60%</td>
<td>1- Patients who show clinical improvement (in any symptom) after lumbar drainage are likely to show significant long-term improvement in memory after ventriculoperitoneal shunt.</td>
<td></td>
</tr>
<tr>
<td>May 2004</td>
<td>Poca MA, 16</td>
<td>43</td>
<td>39.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jun 2002</td>
<td>Dixon GR 14</td>
<td>36</td>
<td>(44%)</td>
<td>1- Measurement of CSF flow through the cerebral aqueduct did not reliably predict which patients would improve after shunting or the magnitude of improvement.</td>
<td></td>
</tr>
<tr>
<td>1998</td>
<td>Freter S, 15</td>
<td>4</td>
<td>Clinic’s neurologically impaired individuals or MMSE</td>
<td>25%</td>
<td></td>
</tr>
<tr>
<td>Aug 1995</td>
<td>Malm J, 17</td>
<td>Fulld object memory tests or The spatial function</td>
<td>29% - 37%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sept 1986</td>
<td>Thomsen AM, 18</td>
<td>40</td>
<td>40%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
predictor of improvement on memory tests, while sex was a better predictor of improvement on non-memory tests after shunt insertion. (11) Although no differences in ACE gene insertion/deletion polymorphism were found between patients and healthy subjects as mentioned before, carriers of D/D or D/I genotypes had less cognitive benefit following shunt surgery, especially on measures of memory and frontal functioning. (4) In 2003, Mataro M et al. examined changes in CSF galanin concentrations in eight patients with normal pressure hydrocephalus undergoing shunt surgery and the relation between these changes and cognitive functioning. The study found that CSF galanin concentration decreased after surgery, and this reduction correlated with improved clinical and cognitive functioning, specifically in the areas of attention, visual-motor speed, visuoconstructive and frontal functioning, and clinical status according to the NPH scale, including the sphincter and cognitive components. (22) One study evaluated 36 NPH patients with cognitive impairment, 16 of them (44%) improved after shunting. This study found that the CSF flow through the cerebral aqueduct did not reliably predict which patients would improve after shunting or the magnitude of improvement. (14) Boon et al. randomized 96 patients with NPH to receive a low-pressure ventriculoperitoneal shunt (LPV; 40 +/- 10 mm H2O) or medium high-pressure ventriculoperitoneal shunt (MPV; 100 +/- 10 mm H2O). Outcome was better for patients who had an LPV shunt than for those with an MPV shunt, although most differences were not statistically significant. (23)

Role of Medical Treatment for Cognitive Problems Associated with NPH

With the widespread use of dementia medications in treating cognitive impairment in elderly population, it is possible that most of the treating physicians may add one of these medications to treat cognitive symptoms in NPH patients. We found no study evaluating the treatment of cognitive symptoms in NPH patients with donepezil, tacrine, rivastigmine, memantine or galantamine (the medications approved for treating dementia in USA). We found two case reports in which the treating physician used methylphenidate for cognitive dysfunction and apathy with good response. (24,25)

Conclusion

Because NPH is a very rare diagnosis, it is often misdiagnosed as other, more common types of dementia. It is still important to proceed with the appropriate studies when one or more of its symptoms present initially. On the other side, increasing the public awareness of the manifestations of NPH and other reversible dementias is very important.

Cognitive dysfunction is considered one of the triad symptomatology of NPH and it is especially important for the caregivers. Treatment of the cognitive impairment is mainly surgical and includes different types of shunts or procedures. Larger well-organized trials are needed to determine the superiority of one procedure over the others. There is also a need for further studies to evaluate the effect of the approved dementia medications on the cognitive impairment in NPH patients. Although stimulant use was reported in two case reports, further studies are needed to evaluate their effects on cognitive impairment and apathy in NPH population before further recommendations are implemented.

References


Please contact authors for additional references.
Diagnosis and Management of a Monochorionic/Monoamniotic Twin Gestation Discordant for Fetal Anomalies

Courtney D. Cuppett, MD
Resident
Michael L. Stitely, MD
Associate Professor, Department of Obstetrics and Gynecology, WVU School of Medicine, Morgantown

Abstract
Monoamniotic twinning is rare and associated with fetal mortality as high as 13-32% (1). In pregnancies discordant for fetal anomalies, mortality is as high as 43% (2,3). Currently, the optimal management and timing of delivery is not clearly defined.

A 28-year-old presented with a monochorionic/monoamniotic twin gestation with unexplained ascites, ventriculomegaly, and pericardial effusion of Twin B. She was admitted at 24 weeks for intensive fetal surveillance and sulindac therapy. Planned Cesarean delivery was performed at 32 weeks gestation. A favorable neonatal outcome was achieved. Aggressive inpatient surveillance and intentional preterm delivery may result in favorable outcomes in monochorionic/monoamniotic twin gestations.

Introduction
Monochorionic/monoamniotic (Mono/Mono) twinning is rare and accounts for approximately 1% of all monozygotic twins (4). These are high risk pregnancies and mortality rates are estimated to be between 13-32% (1). In monochorionic/monoamniotic twin pregnancies with associated fetal anomalies, mortality increases to 43% (2,3).

Current management goals focus on prevention of antepartum death; however, given the rarity of these pregnancies, optimal management strategies and timing of delivery remain controversial and are not clearly defined. Here we report a case in which a monochorionic/monoamniotic twin gestation was successfully diagnosed and managed with intensive inpatient surveillance, therapeutic sulindac treatment, and intentional preterm delivery.

Case Report
A 28-year-old G3P2002 was referred to our perinatal high risk clinic at 12 2/7 weeks gestation for management recommendations concerning her twin pregnancy with a vanishing triplet. The patient’s past medical history was significant for rheumatic fever, but a recent maternal echo was normal. Her past obstetrical history was unremarkable. The patient returned to clinic at 18 weeks gestation for genetic counseling and further evaluation secondary to abnormal maternal serum marker screening with an elevated MSAFP of 4.72 MoM. Ultrasound revealed placentomegaly (4.2 cm) and massive abdominal ascites (Figure 1), ventriculomegaly, and pericardial effusion of Twin B. Also, there was no intertwin membrane noted suggesting a monoamniotic pregnancy.

The patient then underwent amniocentesis for karyotyping and TORCH PCR; paracentesis of twin B was performed during the amniocentesis and 20 milliliters of ascitic fluid was collected and sent for karyotyping and TORCH PCR. Ultrasound at the time of amniocentesis again suggested a Monoamniotic pregnancy. Indigocarmine was instilled and fluid free of dye was not able to be withdrawn suggesting monoamnioncity. Both fetuses were noted to be 46 XX. Maternal serum, amniotic fluid, and ascitic fluid were all negative for the TORCH titers and/or PCR. There was also concern for possible twin-twin transfusion syndrome (TTTS).

Given the degree of Twin B’s ascites, the prognosis for the pregnancy outcome was poor. Treatment options were discussed including: pregnancy termination, expectant management, intensive antenatal surveillance followed by

Figure 1.
Illustration of extent of massive abdominal ascites of twin B.
by intervention on twin A’s behalf before spontaneous demise of twin B, continuous drainage of twin B’s ascites by placement of a pigtail catheter, and selective cord occlusion of the anomalous twin B. After much discussion, the patient and her family chose expectant management with intensive fetal surveillance.

Inpatient admission was instituted at 24 weeks gestation with intensive fetal surveillance. Non-stress tests were done three times daily with extended monitoring and biophysical profiles for concerning fetal heart rate tracings. One course of betamethasone (12 mg Q24 hours by 2 doses) was given for fetal lung maturation. Prophylactic sulindac (200mg BID) therapy was initiated to decrease the amniotic fluid volume. Growth ultrasounds were performed every two weeks, and discordance remained consistent at approximately 35%; AFI and cord dopplers were evaluated twice weekly. Cord dopplers remained normal with occasional slight elevations. No cord entanglement was detected. Fetal echocardiograms were done and revealed structurally normal hearts with no evidence of ductal arch narrowing. An intentional, preterm c-section was performed at 32 weeks gestation, and the patient delivered two preterm, viable female infants who were transported to the NICU. At the time of delivery, the umbilical cords were noted to have two true knots and to be twisted four additional times (Figures 2 & 3). This finding confirmed monoamnionicity.

Twin B’s ascites and pericardial effusion have completely resolved, however, her future neurological development remains a question as she has little brain parenchyma (Figure 4). Given this finding, she most likely underwent a vascular insult in-utero. Thus far, twin B’s development has paralleled her sister’s, who was unaffected in-utero.

Comment

This case reviews the successful diagnosis and management of a Mono/Mono twin pregnancy discordant for fetal anomalies. Monoamniotic pregnancies are rare and poor outcomes are common. They have been associated with mortality rates as high as 28-70% in publications prior to 2001 (5). More recent publications suggest that prenatally diagnosed cases may be associated with mortality rates as low as 13-32% (1). These estimates are still high when compared to the perinatal mortality rate of 10-12% in dichorionic/diamniotic twins, or to the overall perinatal mortality rate of 0.6% (6.23 deaths/1000 births in 2003) (4,6). Mono/Mono twin pregnancies also have a 26% risk of having associated fetal anomalies in one or both fetuses (2). In pregnancies complicated by fetal anomalies, mortality rates are even higher at 43% (2,3).

Mono/Mono twin pregnancies are subject to all of the complications of a monochorionic twin pregnancy (i.e. preterm labor/delivery, preeclampsia, fetal anomalies, discordance, twin-twin transfusion syndrome) in addition to a unique and potentially lethal complication, cord entanglement. This complication occurs in 40-66% of all Mono/Mono pregnancies and is responsible for upwards of 50% of all monoamniotic fetal losses (3).

Given the nature of these pregnancies, early, accurate diagnosis is crucial for a successful outcome. In this case, early ultrasound findings did not definitely diagnose monoamnionicity. Thus, the instillation of indigo carmine at the time of amniocentesis was used to help confirm the diagnosis.

The ideal method of monitoring these pregnancies is debatable. The ACOG Technical Bulletin on Antepartum Fetal Surveillance recommends inpatient hospitalization with bedrest and close fetal surveillance for any Mono/Mono twin pregnancy complicated by intrauterine growth restriction, abnormal fluid volumes, growth discordance, pregnancy-induced hypertension, fetal anomalies, or other obstetric complications (7). However, intensive inpatient surveillance is not recommended.

Figures 2 & 3.

Illustrations of cord entanglement.
Cord entanglement is typically noted as early as 10 weeks gestation and is thought to occur in two-thirds of all Mono/Mono twin pregnancies. There are two recent articles comparing inpatient versus outpatient management of Mono/Mono twin pregnancies. In 2005, Heyborne et al. looked at 87 monoamniotic twin gestations. Forty-three were managed as inpatients and forty-four as outpatients. There were no fetal deaths in the inpatient group and thirteen in the outpatient group for a fetal loss rate of 14.8%. DeFalco et al., in 2006, looked at twenty-three sets of Mono/Mono twin pregnancies. Eleven were managed as inpatients, and twelve were managed on an outpatient basis. Again, the inpatient group has no fetal losses, and the outpatient group had three, for a 12.5% fetal loss rate. These studies were limited in that they were retrospective; however, given the rarity of Mono/Mono twin pregnancies a randomized, prospective investigation would be nearly impossible.

Cord entanglement is present in up to two-thirds of all Mono/Mono twin pregnancies and is thought to occur as early as 10 weeks gestation (2,3). Cord entanglement is typically noted at the time of delivery; however, it can be diagnosed antenatally via ultrasound. Typically, erratic branching of the umbilical arteries indicates entanglement. Also, a notch in the umbilical artery waveform, high velocity flow in the umbilical vein, and/or persistent absent end diastolic flow are suggestive of cord entanglement (3). In this case, treatment with sulindac (200mg BID), a prostaglandin synthase inhibitor, was employed to prevent further cord entanglement. The theory in using this medication is to keep the AFI at borderline oligohydramnios (AFI = 5-8 cm) in order to stabilize the fetal lie and prevent any further cord entanglement and increased mortality (1). If sulindac therapy is used, ductus arteriosis patency should be monitored via fetal echocardiogram. A recent study by Pasquini et al. showed a 100% survival rate (40/40 fetuses) by using the combined strategy of medical amnioreduction with sulindac, weekly ultrasound surveillance, and elective abdominal delivery at 32 weeks gestation (1).

The timing of delivery for Mono/Mono twin pregnancies is also very controversial. In 1990 and 1991, two single-center reviews reported no perinatal mortality in Mono/Mono twin pregnancies continuing beyond 32 weeks gestation (10,11). However, these studies were limited by the small population size. More recently, Roque et al. have shown by 10% for pregnancies continuing beyond 32 weeks gestation, and to greater than 20% for pregnancies continuing to/beyond 36 weeks gestation (2). When comparing this increased mortality in Mono/Mono twin pregnancies continuing beyond 32 weeks gestation to the incidence of significant respiratory distress syndrome at 32 weeks gestation, which is estimated to be 5% with surfactant use (12) with a <1% mortality rate in nonanomalous fetuses (13), it is obvious that the risks of continuing the pregnancy far outweigh any risk of prematurity. Our patient received betamethasone for fetal lung maturity and was intentionally delivered prematurely at 32 weeks gestation.

This case employed a multidisciplinary team approach between the obstetricians, geneticists, nursing staff, neonotologists, radiologists, and anesthesiologists. Careful planning and coordination between these services helped to optimize patient care and ultimately the pregnancy outcome. This pregnancy was most significant for its growth discordance secondary to fetal anomalies of twin B. This resulted in the implementation of several management strategies including early intensive inpatient fetal surveillance, prophylactic sulindac therapy, and planned preterm delivery at 32 weeks gestation. Ultimately, early fetal demise of twin B was avoided in order to offer the best outcome for both fetuses.

References


Please contact authors for additional references.
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 2002 to 2008. 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 Dr. King. 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>COUNTY</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>TOTAL 2002 - 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barbour</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Berkeley</td>
<td>6</td>
<td>9</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>29</td>
</tr>
<tr>
<td>Boone</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Braxton</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Brooke</td>
<td>5</td>
<td>7</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>22</td>
</tr>
<tr>
<td>Cabell</td>
<td>29</td>
<td>28</td>
<td>15</td>
<td>7</td>
<td>14</td>
<td>14</td>
<td>13</td>
<td>120</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></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></td>
</tr>
<tr>
<td>Doddridge</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>Fayette</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>17</td>
</tr>
<tr>
<td>Gilmer</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>Grant</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Greenbrier</td>
<td>5</td>
<td>7</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>32</td>
</tr>
<tr>
<td>Hampshire</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Hancock</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Hardy</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Harrison</td>
<td>2</td>
<td>14</td>
<td>6</td>
<td>8</td>
<td>5</td>
<td>9</td>
<td>6</td>
<td>30</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>1</td>
<td>12</td>
</tr>
<tr>
<td>Jefferson</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Kanawha</td>
<td>70</td>
<td>66</td>
<td>20</td>
<td>37</td>
<td>47</td>
<td>46</td>
<td>49</td>
<td>335</td>
</tr>
<tr>
<td>Lewis</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>Lincoln</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>Logan</td>
<td>15</td>
<td>10</td>
<td>4</td>
<td>9</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>50</td>
</tr>
<tr>
<td>Marion</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Marshall</td>
<td>4</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td>Mason</td>
<td>8</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>22</td>
</tr>
<tr>
<td>McDowell</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>Mercer</td>
<td>8</td>
<td>17</td>
<td>9</td>
<td>4</td>
<td>8</td>
<td>0</td>
<td>8</td>
<td>63</td>
</tr>
<tr>
<td>Mineral</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Mingo</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>23</td>
</tr>
<tr>
<td>Monongalia</td>
<td>17</td>
<td>31</td>
<td>7</td>
<td>10</td>
<td>15</td>
<td>15</td>
<td>14</td>
<td>109</td>
</tr>
<tr>
<td>Monroe</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Morgan</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Nicholas</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Ohio</td>
<td>15</td>
<td>20</td>
<td>7</td>
<td>10</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>68</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>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Preston</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Putnam</td>
<td>4</td>
<td>20</td>
<td>10</td>
<td>126</td>
<td>4</td>
<td>5</td>
<td>7</td>
<td>176</td>
</tr>
<tr>
<td>Raleigh</td>
<td>13</td>
<td>21</td>
<td>6</td>
<td>10</td>
<td>7</td>
<td>14</td>
<td>18</td>
<td>89</td>
</tr>
<tr>
<td>Randolph</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>22</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>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Summers</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Taylor</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Tucker</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Tyler</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>Upshur</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Wayne</td>
<td>0</td>
<td>1</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>0</td>
</tr>
<tr>
<td>Wetzel</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Wirt</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>Wood</td>
<td>9</td>
<td>14</td>
<td>11</td>
<td>6</td>
<td>5</td>
<td>6</td>
<td>11</td>
<td>62</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>3</td>
<td>3</td>
</tr>
</tbody>
</table>

| TOTALS (BY INDIVIDUAL YEAR) | 239 | 315 | 130 | 273 | 154 | 174 | 178 | 1463 |

West Virginia Medical Journal
CALL FOR PAPERS

THEME: Breast Cancer

TOPICS: Detection • Historical Perspectives
• Incidence Statistics • Biology • Screening • Prevention • Treatment
• Statewide Programs and Partnerships

DEADLINE: May 1, 2009

Please send your manuscripts, double-spaced to Angie Lanham, Managing Editor, WV Medical Journal, PO Box 4106, Charleston, WV 25364 or email to: angie@wvsma.com. Please keep in mind that all figures, photos, tables, etc. need to be separate .jpg, .tif or .pdf files or presented camera-ready for scanning and placement.

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.

For additional requirements, please refer to page 56, Manuscript Guidelines.

How healthy is your practice?

A FREE, no-obligation Practice Analysis from Physician’s Business Office is the perfect checkup to determine the health of your medical practice. We will look at your current financial position, compare it to regional and national data, and provide you with solutions to get you paid faster with fewer denials. Call today or go to physiciansbusinessoffice.com to get started.

Physician’s BUSINESS OFFICE

3211 Dudley Avenue, Parkersburg, WV 26104
Call Nicole Needs (304) 834-4977 or Jeff Matheny (304) 422-0578
web: physiciansbusinessoffice.com • e-mail: info@pbo.bz
West Virginia State Medical Association Proposes 2009 Legislative Policies

Each year the West Virginia State Medical Association (WVSMA) shares with the Legislature and the Administration our legislative policies. These policies are designed to be an educational tool for legislators and for our members to use when talking with lawmakers about policy concerns. These policies are developed over months of discussion by the WVSMA Legislative Committee and then are approved by the Executive Committee and presented to the WVSMA House of Delegates.

The WVSMA Legislative Committee is an active committee of member physicians and alliance leaders. Any WVSMA member interested in legislative policy development is welcome and encouraged to join the committee. Please contact Amy N. Tolliver, MS, Government Relations Specialist for more information at Amy@wvsma.com.

The following are briefs of the 2009 Legislative Policy Positions of the WVSMA. To obtain a copy of the full document please go to www.wvsma.com.

Medical Practice Issues

Protecting Medical Liability Reform Legislation

POSITION: The WVSMA strongly supports the need to preserve the integrity of the Medical Professional Liability Act and to protect against any threats to erode the current statute.

ISSUE: In recent years West Virginia’s healthcare system has been in severe crisis. The lack of affordable and/or available medical liability insurance forced many physicians to either restrict the services they offer, move their medical practice out of state or quit practicing altogether. The Legislature has made great strides in passing new laws designed to stabilize the medical liability system and preserve patient access to care.

Due to these significant reforms a stabilization of West Virginia’s medical liability market is occurring. Premium rates have stabilized and West Virginia’s largest carriers recently filed for and received approval from the Insurance Commission for premium rate reductions. Data also reflects a significant reduction in new claims being filed. It is critical that the achievements that have been made in recent years are kept in place. West Virginia has a long way to go. Reforms of this magnitude take years to be fully realized. We must stay the course.

Protecting the Healthcare Provider Tax Phase-Out

POSITION: The WVSMA strongly supports the continued phase-out of the healthcare provider tax with no interruption or slowdown.

ISSUE: The healthcare provider tax was imposed in 1993 as the Legislature’s solution to generate additional funding for Medicaid. It was considered an unfair burden by physicians and other healthcare providers and repeal of the law has been fervently sought since its inception.

Physicians (MD’s and DO’s) were taxed at a rate of 2%. All the following individual healthcare practitioners were taxed at the rate of 1.75% of their gross revenue: Chiropractors, Dentists, Nurses, Opticians, Optometrists, Podiatrists, Psychologists, and Therapists.

In 2001 the Legislature passed a bill initiating the eventual repeal of the tax through a ten-year phase out. As a result, on July 1, 2009 the tax on physicians will be reduced to 0.2 percent. Under the current plan set out in code, the tax is to be eliminated on July 1, 2010. The WVSMA strongly supports the continued phase out of the provider tax.

Eliminating the Medicaid Cost Shift

POSITION: The WVSMA strongly supports fully funding the West Virginia Medicaid program to ensure appropriate reimbursement to healthcare providers for the services they provide and to lessen the cost shifting that occurs to the private healthcare market.

ISSUE: Medicaid is the largest public health insurance program in the State. The program has become the healthcare safety net for approximately 300,000 low-income people. Roughly 1 out of every 6 West Virginians, our most vulnerable population – the poor, children, disabled adults and the elderly – are enrolled in Medicaid.
Why is employer-based health insurance eroding? Government payers like Medicaid account for a large segment of the patient population in West Virginia. When Medicaid does not pay its full share of costs, healthcare providers must shift the non-reimbursed cost of serving government covered patients to private sector payers. Simply put, through this cost shift the private sector businesses subsidize public program beneficiaries. Under-funding government programs creates a hidden tax that inflates prices and forces employers to pay more than their fair share for healthcare.

To help reduce cost-shifting to the private sector and the growth in the number of uninsured and underinsured in the State, the WVSMA supports responsible initiatives that help secure funding to sustain the Medicaid budget. Initiatives that are reflective of the state’s fiscal health but also provide the required level of healthcare services for the State’s most at-risk population.

Healthcare Reform

Supporting Healthcare Reform Efforts

**POSITION:** The WVSMA supports efforts to bring about healthcare reform in West Virginia.

**ISSUE:** West Virginia, like the rest of the nation is faced with the serious threat of rising costs in health insurance, lessening availability of insurance and concerns with chronically ill patients and a progressively unhealthy population.

West Virginia lawmakers, healthcare providers, business men and women came together over the past year to develop a working plan to move West Virginia forward and out of this healthcare crisis. A plan was developed which is a good first step toward addressing some of the largest problems facing our state. The plan aims to open doors to new opportunities and more efficient ways of providing care to our patients.

The WVSMA was a partner in developing this plan and supports the following recommendations outlined in the proposal:

- Encouraging the establishment of Patient-Centered Medical Home through pilot projects.
- Establishment of a Central Verification Organization (CVO) for more efficient credentialing of physicians.
- Initiating wellness and prevention programs.
- Supporting and funding the development of Health Information Technology infrastructure.
- Expanding access to care through tax credits to small businesses.

In addition to the official proposals made in the Roadmap to Health recommendations, the WVSMA proposes and encourages the establishment of Health Savings Accounts (HSA) including adding them as an option to the traditional PEIA program.

Now is the time for West Virginia to step up and be a leader in healthcare reform. The recommendations outlined above will lead our state toward a healthier population while controlling the rising expenditures in healthcare spending.

Legal Reform

Implementing Asbestos/Silicosis Reform Act

**POSITION:** The WVSMA joins with the West Virginians for Fairness Coalition in support of legislation that would establish (1) minimum medical criteria and procedures for asbestos and silica claims; and (2) require a physician with a physician-patient relationship with the exposed worker to diagnose and establish the presence of these criteria in the exposed worker.

**ISSUE:** Mass litigation involving asbestos (and potentially silica) has had and likely will continue to have a significant impact on our courts, employees and businesses. West Virginia needs to establish standards and medical criteria for an individual who wants to file a claim related to an injury or impairment from asbestos or silica exposure. Several other states have enacted legislation establishing medical criteria and standards as a way to help improve an injured persons’ ability to adjudicate a claim and to receive appropriate compensation. These
standards and medical criteria will help combat claims for non-impaired individuals which only clog the court system to the detriment of truly injured individuals and families. The WVSMA joins with the West Virginians for Fairness Coalition to support legislation that would establish (1) minimum medical criteria and procedures for asbestos and silica claims; and (2) require a physician with a physician-patient relationship with the exposed worker to diagnose and establish the presence of these criteria in the exposed worker. This legislation will not prohibit those individuals who are not presently impaired as a result of exposure to asbestos or silica from having their day in court. It will only restrict those individuals who are not impaired from going forward until such time as they meet certain minimum medical criteria.

Public Health

Strengthening Tobacco Control Efforts - Secondhand Smoke

POSITION: The WVSMA supports policies that protect the public from secondhand smoke.

ISSUE: More than 100 scientific studies demonstrate that secondhand cigarette smoke is a hazardous, cancer-causing air pollutant that causes disease and death in healthy nonsmokers and elevates risk for disease for people exposed to secondhand smoke.

Local boards of health, municipalities, various public agencies and private establishments in West Virginia have acted to protect the public health from secondhand smoke by restricting smoking in enclosed places. Countywide regulations have been adopted in 54 counties and have won widespread support from the majority of the public.

The WVSMA joins with the Coalition for a Tobacco-Free WV in support of policies that provide the maximum possible protection from secondhand smoke in all places open to the public and in places of employment.

Strengthening Tobacco Control Efforts -Cigarette and Smokeless Tobacco Excise Taxes

POSITION: The WVSMA supports a significant increase in West Virginia’s tobacco excise tax. Increasing tobacco excise taxes is the single most effective strategy in reducing tobacco use, particularly among children. It is a key component in a comprehensive tobacco-use prevention program.

ISSUE: The WVSMA seeks to reduce or eliminate tobacco use by West Virginia citizens, especially children, and to eliminate the exposure to secondhand tobacco smoke, which is the third leading cause of preventable death among nonsmokers. The economic toll tobacco takes on human lives in WV is enormous. The state spends over $900 million a year on the direct healthcare costs of smoking, according to the West Virginia Bureau for Public Health.

It is well documented that increasing the price of tobacco products is the single most effective strategy in reducing tobacco use, especially among youth. One way to increase the price is through excise taxes. The current West Virginia excise tax on cigarettes is 55 cents per pack. This tax was increased in 2003, yet remains well below the national average of 96.1 cents per pack (as of Jan. 1, 2005). With the current tax on cigarettes West Virginia is ranked 36th among 50 states and the District of Columbia (as of September 1, 2006).

The WVSMA joins with the Coalition for a Tobacco-Free WV in supporting a significant increase in the excise tax on cigarettes and an equivalent increase in the excise tax on the wholesale price of all other tobacco products. This will provide not only one of the best mechanisms for reducing youth tobacco use, but also has the potential to bring in substantial revenue to the State.

Strengthening Tobacco Control Efforts -Tobacco Prevention Funding

POSITION: The WVSMA supports legislation to allocate adequate funding to tobacco use prevention, cessation, and education programs designed to reduce or eliminate tobacco use and exposure to secondhand tobacco smoke. In addition, we support state efforts to fully enforce all tobacco settlement provisions and maximize its benefit for healthcare and health related programs for West Virginia.
During the 2000 Legislature, $5.85 million was allocated to begin ramping up to a comprehensive tobacco control program for West Virginia. While at the time this was a significant first step, these funds have not met the funding level needed to fully implement an effective and comprehensive statewide approach to tobacco control.

In each subsequent year, the Legislature appropriated the same amount of settlement funds for tobacco use prevention. While this has demonstrated a commitment to continue investing some funding for tobacco prevention, this is far below what is needed to implement a statewide, comprehensive tobacco prevention program in West Virginia. In 2006, the first cut in the amount of tobacco prevention funding was made, with $250,000 being directed to drug enforcement efforts by the State Police.

An increase to at least the Centers for Disease Control and Prevention minimum recommended funding level of $14.1 million is needed for FY 2009-2010. The Coalition supports funding in subsequent years at the level of $28 million as recommended in Saving Lives and Saving Money: Blueprint for a Comprehensive Tobacco Prevention Program for West Virginia.

The WVSMA joins with the Coalition for a Tobacco-Free WV in strongly recommending increasing the tobacco prevention funding and implementing a statewide, comprehensive approach to tobacco use prevention.

**Reversing West Virginia’s Poor Perinatal Health**

**Position:** The WVSMA supports initiatives to improve the health of pregnant women and children in West Virginia.

**Issue:** The health of West Virginia’s babies has a tremendous impact on the state’s economy, workforce development and family well-being. Twelve years ago, West Virginia birth statistics were much brighter than today. The State’s rates for pre-term birth, primary C-sections, vaginal births after cesarean section (VBAC), and low birth weight infants were all more positive for healthy outcomes. While there are solutions to our child health problems, West Virginia has made little progress over the past decade in improving infant mortality. The Partnership is supporting the following initiatives in 2009:

- Passage of legislation to create a uniform maternal risk screening tool.
- Continuation of funding in state budget for lactation consultant trainings.
- Assure adequate funding for smoking cessation education.
- Passage of a study resolution on school health.
- Seek changes in HIV statute to conform with CDC’s recommendations for routine testing of pregnant women.

Better health for our children will be the result of better health for pregnant women and infants. About 21,000 new babies are born in West Virginia each year. This is a relatively small number - a workable number. The WVSMA supports the recommendations of the Perinatal Partnership to address this need.

**Combating Poor Oral Health**

**Position:** The WVSMA supports efforts to make policy changes which foster improved oral health for West Virginia’s children and families.

**Issue:** West Virginia is a leader nationwide in the percentage of our citizens with tooth loss and decay. By the time of high school graduation, over 80 percent of West Virginia youth have had dental caries (infectious disease which damages the tooth leading to cavities); over 60 percent have had dental caries by age 8 and over 30 percent of West Virginia children suffer from untreated decay. Over 45 percent of West Virginia adults, aged 65 and older, have lost all their natural teeth.

Dental disease is the single most prevalent chronic childhood disease and correlates directly to other health concerns. With today’s tools and technologies, oral disease is almost 100% preventable. Prevention is cost effective, with the potential to save millions of dollars.

Ensuring good oral health is a blend of community responsibility and personal action. Much more needs to be done for oral health education in West Virginia. To promote the health of West Virginians, save healthcare dollars, improve learning and worker productivity, West Virginia should pursue policies that will address and improve oral health. The WVSMA supports efforts to make policy changes that foster improved oral health for West Virginia’s children and families.
Encouraging Routine Voluntary Screening for HIV

**Position:** The WVSMA recommends the West Virginia HIV testing laws be updated and modified to require simple consent for routine voluntary HIV testing.

**Issue:** Human immunodeficiency virus (HIV) testing is entering a new era in this country as lawmakers, healthcare and insurance executives, and public health officials are making changes in their respective fields to ensure that more people will know their HIV status. Knowing their status is an important consideration for maintaining health and reducing the spread of the virus.

HIV infection and acquired immunodeficiency syndrome (AIDS) remain leading causes of illness and death in the United States. In its most recent report, the CDC estimates that over 1 million Americans are living with HIV and at least one quarter do not know they are infected with HIV.

In 2006, the CDC revised their recommendations for HIV testing of adults, adolescents and pregnant women in healthcare settings. The objectives of these recommendations are to increase HIV screening of patients, by urging routine voluntary screening of all persons in the healthcare setting; foster earlier detection of HIV infection; identify and counsel persons with unrecognized HIV infection and link them to clinical and prevention services; and further reduce transmission of HIV from pregnant women to their babies.

West Virginia’s law, enacted early in the epidemic, required informed or written consent before a test could be conducted; this was supported at the time by physicians and other healthcare providers because there were concerns for confidentiality and there were no available treatments for the disease.

Now, in today’s age, there are strong HIPAA protections and there are excellent antiretroviral drugs which can prolong a person’s life expectancy and quality of life for many years. Our law inadvertently places barriers to routine voluntary testing and is unwieldy and out of realm in today’s treatment of this chronic infectious disease.

A change in West Virginia law will trigger a cultural shift among physicians and other providers and the general population that will ensure that HIV screening becomes truly routine. The essence of this important law change is to give priority to identifying West Virginians who are unaware of their HIV status and get them into care and treatment and prevention while sustaining the fundamental voluntary nature of HIV screening.

Updating the Management of Intractable Pain Act

**Position:** The WVSMA recommends updating the statutory definition of pain to conform with current state, national and international uses of the term.

**Issue:** The West Virginia Legislature passed the Management of Intractable Pain Act in 1998. At that time, West Virginia was ahead of most states in recognizing the importance of treating severe pain, especially for patients at the end of life. The definition used in the Intractable Pain Act was the one that was prevalent at the time. Nine years have passed, and this once favored definition is no longer preferred. The definition of intractable pain in the West Virginia Management of Intractable Pain Act is ambiguous. It has unclear intent leading to possible misinterpretation. The current definition is not likely to relieve physicians’ concerns about regulatory scrutiny for prescribing opioids as a treatment of first choice for patients in severe pain.

The WVSMA recommends the definition be modified to conform with the new definition of pain developed by the International Association for the Study of Pain which is the most widely used definition of pain throughout the world. The definition reads as follows: “Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms as such damage.”

This proposed new definition has already been adopted by the West Virginia Board of Medicine and the West Virginia Board of Osteopathy in their “Policy for the Use of Controlled Substances for the Treatment of Pain” and is used by the Federation of State Medical Boards in their recommended policies on pain management.

Protecting Against Non-physician Practitioner Scope of Practice Expansion

**Position:** The WVSMA opposes the scope of practice expansion of non-physician practitioners without the appropriate education, training and supervision. Safety and protection of the patient is of utmost importance.
Every year, in nearly every state, non-physician practitioners lobby for expansion of scope of practice to gain prescriptive and independent practice rights that were once the sole domain of physicians. The WVSMA recognizes the inevitability of scope of practice overlap. While some scope expansions are appropriate and beneficial to patients, many are unwarranted intrusions into the physician practice of medicine. The health and safety of patients are threatened when non-physician practitioners are permitted to perform services that are not commensurate with their education, training and experience.

Undoubtedly, there is a place for non-physician practitioners in the delivery of healthcare. With appropriate education, training, and licensing, non-physician practitioners can and do provide extremely beneficial healthcare services. However, problems arise when such non-physician practitioners seek practice expansions which are not commensurate to their education and training, and may adversely affect a patient’s health or safety. Determining whether a specific healthcare profession is capable of providing the proposed care in a safe and effective manner is of paramount interest and should be done in a deliberate manner not under political pressure.

The West Virginia State Medical Association does support collaborative arrangements with nurse practitioners, physician assistants, and pharmacists. Through such collaboration, patient access and quality care can be achieved without threatening patient safety. However, protection of the patient is of the utmost importance. Expanding the scope of practice without adequate medical training and appropriate supervision is unacceptable.

**Strengthening the All-Terrain Vehicle Safety Law**

**Position:** The WVSMA strongly supports strengthening West Virginia’s All-Terrain Vehicle safety law.

**Issue:** Though the Legislature passed All-Terrain Vehicle (ATV) Child Safety law in 2004, much more needs to be done to protect the health and safety of our citizens. In 2004 the West Virginia Legislature passed legislation that requires ATV riders under the age of eighteen (18) to wear helmets. This is significant. The law forbids underage riders from carrying guest passengers. Additionally, the law mandated a training course be established for child ATV users and provided law enforcement with the ability to hold adults responsible, under certain circumstances, for their negligence in empowering underage children to unlawfully operate an ATV.

The West Virginia Legislature has clearly taken a step toward ATV safety, but much more needs to be done to improve the state’s ATV safety laws.

The WVSMA strongly supports legislation with the following components: Removing these non road-worthy vehicles from our public roadways; expanding the mandatory helmet law to cover persons of all ages; strengthening the requirement for ATV safety instruction to require hands-on safety courses; and Prohibition of all passengers except on those machines which manufacturers allow for passengers.

**Protecting the Motorcycle Helmet Law**

**Position:** The WVSMA strongly supports maintaining West Virginia’s motorcycle helmet law.

**Issue:** In recent years, efforts have been made by various groups to repeal our critically important motorcycle helmet law. Such an action by the Legislature would be highly irresponsible. Helmets are the best-evaluated way to reduce motorcycle accident deaths and injuries. Helmets are 29-35 percent effective in preventing motorcycle deaths and substantially more effective against deaths from traumatic brain injury. A study conducted at the University of Southern California, which analyzed 3,600 motorcycle traffic crash reports, concluded that wearing helmets was the single most important factor in surviving motorcycle crashes.

The National Highway Safety Administration (NHTSA) estimates that helmets saved 1,316 motorcyclist’s lives nationally in 2004 and that 670 more could have been saved if all motorcyclists had worn helmets. (Motorcycle Safety Facts, 2004 data)

The WVSMA strongly supports the retention of our State’s current mandated helmet use law for all motorcycle operators and riders of all ages.
Annual Business Meeting Highlights
Your Committee on Resolutions has carefully considered the Resolutions offered in the First Session of the House of Delegates on Saturday, February 7, 2009.

We are happy to report that a number of interested physicians appeared at the meeting of the Committee on Saturday and discussed in detail the Resolutions pending before the Committee.

The cooperation of those physicians present was most helpful to the committee in reaching decisions and we express appreciation to those who took the time to attend the opening hearing.

Mr. Speaker, your Committee assures the members of the Association that the one and only consideration that has guided the Committee in its deliberations has been the criteria as to whether each of the resolutions was or would be in the best interest of the entire medical profession in West Virginia in giving its patients the best of care.

Mr. Speaker, your Committee considered Resolution No. 1, pertaining to Encouraging Collaboration between WV Board of Medicine and WV Board of Registered Nurses.

Mr. Speaker, your Committee recommends that Resolution No. 1 be adopted:

RESOLVED, that the West Virginia State Medical Association encourage the West Virginia Board of Medicine and the West Virginia Board of Registered Nurses to develop a process for better coordination between the two boards around the regulation and administration of the collaborative agreements.

Mr. Speaker, your Committee moves the adoption of Resolution No. 1. ADOPTED.

Mr. Speaker, your Committee considered Resolution No. 2, pertaining to WVSMA Opposition to Optometrists Gaining Surgical Privileges.

Mr. Speaker, your Committee recommends that Resolution No. 2 be amended and the following adopted:

RESOLVED that the West Virginia State Medical Association supports the Definition of Surgery rule promulgated in 2008 by the West Virginia Board of Medicine, and RESOLVED that the WVSMA opposes the expansion of the scope of practice of optometrists into surgical procedures, including the use of injectable medications, and be it further

RESOLVED that the WVSMA opposes the Board of Optometry promulgating rules that allow Optometrists to perform surgery.

Mr. Speaker, your Committee moves the adoption of Resolution No. 2 as amended. ADOPTED.

Mr. Speaker, your Committee considered Resolution No. 3, pertaining to Removing Barriers to HIV Testing in West Virginia State Code. Mr. Speaker, your Committee recommends that Resolution No. 3 be amended and the following be adopted:

RESOLVED that the West Virginia State Medical Association recommends that the West Virginia HIV testing laws be updated and modified pursuant to CDC recommendations such that; separate written consent or prevention counseling should not be required for HIV testing.

Mr. Speaker, your Committee moves the adoption of Resolution No. 3 as amended. ADOPTED.

Mr. Speaker, we wish to thank the members of the WVSMA who appeared before the Committee for their participation, patience, enthusiasm, wisdom, endurance, and time devoted to the study of the resolutions.

In addition to me, as Chairman, the appointed members of the Committee who participated in these deliberations were:

David W. Avery, MD
James D. Felsen, MD
James D. Helsley, MD
John D. Holloway, MD
Joseph B. Reed, MD
Joseph B. Selby, MD
Wayne Spiggle, MD
Ron D. Stollings, MD
R. Austin Wallace, MD
Charles F. Whitaker, III, MD

Respectfully submitted,
Carlos Jimenez, MD, Chairman
Thick paper-filled medical charts are a thing of the past at West Virginia University Hospitals and University Health Associates clinics. Wave 2 of the massive electronic medical records project, nicknamed Merlin, began at midnight on January 17.

The change, which has been almost three years in the making – at a cost of $90 million for custom Epic Systems medical software, training and implementation – applies to all WVU Healthcare sites.

The new Merlin electronic health record will save patients and healthcare providers time and money and will increase patient safety and convenience.

All healthcare provider orders and patient information is automated in an online system that can be accessed by about 5,000 licensed users including approximately 500 doctors. The system contains built-in privacy guarantees, with only individuals involved in the patient’s treatment allowed to access the electronic record.

Some benefits of the WVU electronic health record are that it:

- allows medical professionals to better manage and track a patient’s healthcare delivery
- ensures that everyone involved in providing patient care can view or access the same information at the same time, including immediate updates
- allows pharmacists to better manage and prioritize as they fill prescriptions and advise patients on possible drug interactions
- reduces confusing and repetitive information entry
- eliminates delays caused by missing or incomplete records
- enables medical teams to easily reach out to patients when their records show they are in need of follow-up care or annual testing

“We are proud of the hard work our employees have done to create this significant, positive change for our patients,” said Ann Chinnis, M.D., executive director of the Epic project.

“The system is ‘paper light’ in many areas and paperless in others, such as lab test results,” explained Claudia Wilhelm, R.N., director of clinical operations for the Epic project. “Before the doctor and other healthcare providers got lab test results on a piece of paper. Now providers get test results in their Merlin InBaskets.”

Cities and towns where hardware and software to support Merlin have been installed include Buckhannon, Charles Town, Clarksburg, Gilbert, Harper’s Ferry, Kingwood, Martinsburg, Moorefield, Morgantown, Reedsville and Wheeling.

The Wave 2 Merlin rollout comes less than a year after Wave 1. Merlin Wave 1 implementation focused on the use of Merlin for most of the business operations—registration and appointment scheduling, for example. Merlin Wave 2 focuses on clinical care.

Implementation of additional Merlin features continues in 2009. For example, patients soon will be able to access their records electronically via WVUMyChart, which will be unveiled later this year.
Marshall University Scientist Receives Award

A Marshall University medical scientist studying nicotine’s effect on lung cancer has won a national award of $30,000 to continue research that could help both smokers and people exposed to nicotine through second-hand smoke or products such as nicotine patches and gums.

The researcher, Dr. Piyali Dasgupta, is one of only three nationwide to receive the 2009 ASPET-Astellas Award in Translational Pharmacology from The American Society for Pharmacology and Experimental Therapeutics. She and the other recipients will be recognized in April at the Experimental Biology 2009 meeting in New Orleans.

“Dr. Dasgupta’s work reflects our school’s cutting-edge contributions to the accelerated pace of biomedical discovery,” said Dr. Charles H. McKown Jr., dean of Marshall’s Joan C. Edwards School of Medicine. “She is very deserving of the recognition that she has brought to herself and Marshall by virtue of her scientific efforts.”

Dasgupta’s team studies how components of tobacco facilitate the growth of small cell lung cancer cells. She said that although nicotine doesn’t cause cancer, her studies show it can promote the ability of lung cancer cells to grow, arrange blood supply for themselves, and spread to other parts of the body. Nicotine also can protect the cancer cells from chemotherapy drugs.

Nicotine binds to specific receptors on the lung cancer cells, and Dasgupta’s research tries to decipher the signaling pathways that allow nicotine to promote the growth and survival of the tumors. She also is trying to identify and test novel small molecules that could disrupt those pathways.

Dasgupta is an assistant professor of pharmacology. Originally from India, she came to Marshall after completing postdoctoral fellowships at the College of Physicians and Surgeons at Columbia University and the H. Lee Moffitt Cancer Center in Tampa, FL.

School-Community Partnerships for Children’s Oral Health

The Appalachian Regional Commission and the Claude Worthington Benedum Foundation have collaborated to fund a $500,000 grant for children’s oral health in West Virginia. The grant will increase access to preventive dental services for youth in West Virginia through school–community partnerships. Funding from these agencies will be used to support schools and their local communities to provide preventive services for needy children. Led by Richard Crespo, Ph.D., it will be managed by Marshall’s Robert C. Byrd Center for Rural Health.

Poor oral health among children and teens is a large problem in West Virginia. In most rural areas, access to dental care is limited by distance, the lack of public transportation and the isolation of mountainous terrain.

The target population is school-age youth without dental insurance in distressed, at-risk and transitional counties of West Virginia, with one priority being sealants for children in 2nd and 6th grades (8- and 14-year-olds).

The grant will fund the purchase of portable equipment that can be easily transported and set up at school. Additionally, parents and community members at large will have the opportunity to avail themselves of the preventive services.

The project will be implemented by offering small community grants in the range of $15,000 to $25,000 to schools and community groups that want to implement preventive services. The grant application will require collaboration between the school, local dentists and other healthcare organizations such as primary care centers and health departments. These organizations will apply for a one-time grant that will fund portable equipment, support planning and coordinating activities, and implement a database for monitoring and outcome measurement.

The outcomes of this project will be increased preventive services for children and adolescents, increased number of counties with sealant programs, reduced caries and dental decay, increased number of students with a dental home and the establishment of a dental health surveillance system.

Crespo’s team will manage the community grant application process, provide technical assistance, and manage the surveillance system. An oversight committee will review and approve the grants and monitor the overall progress of the grant. It consists of representatives from the ARC, Benedum, the Dental Director West Virginia Bureau for Public Health, the Chair of the Department of Dental Practice and Rural Health at the West Virginia University School of Dentistry, and the Center for Rural Health at Marshall University.
AACOM President Speaks at WVSOM

The president of the American Association of Colleges of Osteopathic Medicine (AACOM) recently visited the campus of WVSOM to wrap up “Celebrate Osteopathic Medicine” week on the school campus.

Steve Shannon, D.O., MPH, gave the keynote presentation during a luncheon at the Alumni Center on Monday, January 26. Dr. Shannon’s presentation was entitled “Osteopathic Medical Education: Growth & Change in the New Century.”

“By 2023, it is predicted the U.S. will have a shortage of 160,000 physicians due to the retirement of current physicians, and the growth of the elderly population in this country,” said Dr. Shannon. “Because of this, I believe osteopathic medicine will continue to grow both in the number of students and the number of osteopathic medical colleges.”

There are 25 private and public osteopathic medical colleges operating in the United States today. But Shannon said that number will increase. “There are three new schools set to open within the next few years in Mississippi, Missouri, and Oregon. Plus, others have been discussed as well.”

According to Shannon, “The physician produced by the osteopathic medical education model is the type of physician the country needs.” He predicts that MD medical colleges will begin to adopt many of the DO models. “How much are MDs going to change to look more like osteopaths?” he asked. “That will be an interesting thing to follow in the coming years.”

Prior to taking the helm of AACOM, Dr. Shannon served as dean at the New England College of Osteopathic Medicine in Maine. As president of AACOM, Shannon interacts with all the colleges and his peers in the American Osteopathic Association to advance the profession.

Dr. Andrea Nazar Among 2008 Professor of Year Finalists

WVSOM Professor Andrea Nazar, D.O., is one of five finalists for the 2008 “Professor of the Year” in West Virginia. Each year the Faculty Merit Foundation of West Virginia honors an outstanding faculty member at a West Virginia college or university. Dr. Nazar was selected as a finalist along with professors from Bethany College, West Virginia Wesleyan College, and two from West Virginia University.

All five finalists will be honored at a reception at the Governor’s Mansion on Tuesday, March 17. The reception will be followed by a dinner at the Cultural Center in Charleston, where the 2008 Professor of the Year will be announced.

The Faculty Merit Foundation was established to provide a means to recognize and reward innovation and creativity among the faculties of West Virginia’s public and private colleges and universities. Through the Professor of the Year program, the outstanding achievements of those individuals are brought to the attention of the general public. A $10,000 cash award is given to the candidate selected as Professor of the Year, with smaller awards to the other finalists. The Professor of the Year award is presented with financial support from United Bank.

WVSOM Students Awarded Scholarships

Five fourth year West Virginia School of Osteopathic Medicine students have been awarded scholarships that reward medical students for remaining in West Virginia to practice rural primary care medicine after graduation.

The scholarships were awarded to WVSOM students Jennifer Beverage of Marlinton, WV; Katherine Buddenberg of Fayetteville, WV; Lisa Kessler of Charmco, WV; Ashley Toler of Hanover; and Caleb Workman of Crawley, WV. All five students are on schedule to graduate from WVSOM in May 2009.

The Health Sciences Scholarships were awarded by the WV Higher Education Policy Commission. According to Alicia Tyler with HEPC, the Health Sciences Scholarship Program was created by the WV Legislature in 1995 to increase the number of primary care providers in the state’s medically underserved areas.

“Scholarship recipients make a commitment to practice primary care in rural West Virginia for a minimum of two years after completing their training and receiving their diploma to practice medicine,” said Tyler.
Eighteen Months and Going Strong!

The West Virginia Medical Professionals Health Program (WVMPHP), incorporated August 17, 2007 continues on its mission to “To protect the healthcare consumers through seeking the early identification and rehabilitation of physicians, surgeons, and other healthcare professionals with potentially impairing concerns...”. Agreements with the WV Board of Osteopathy and the WV Board of Medicine have been executed allowing for the voluntary and confidential participation contingent upon complete compliance with the requirements of the WVMPHP. After eighteen months of operation, the WVMPHP currently provides assistance and guidance to an excess of 20 participants. The working relationships being established by and between the WVMPHP and licensure boards, hospitals, malpractice carriers, treatment professionals, organized medicine, physicians, podiatrists, physician assistants and others are reflective of the unity of purpose; i.e.....the twin goals of protecting the public and providing assistance to the “sick physician”.

On behalf of the West Virginia Medical Professionals Health Program Participants, Board of Directors and staff, we would like to thank the healthcare community at large for their support as we continue to develop one of the premiere Physician Health Programs in the nation to the benefit of the healthcare community and the public we serve. Specifically, we would like to recognize those individuals and entities which have contributed to our program with a monetary, tax-deductible contribution.

Our sincere thank you and appreciation goes out to:

Bruce Martin, CIC
Charleston Area Medical Center
Connie Anderson, D.O.
Dr. Mickey & Betsy Neal
Family Medicine Foundation of WV
John Manchin, II, M.D.
John Metcalf, Jr., M.D.
Joseph Selby, M.D.
Kanawha County Medical Society
M. Khalid Hasan, M.D.

Monongalia General Hospital
P. Bradley Hall M.D.
Physician Services, LC dba 4-Most Health Network
Princeton Community Hospital
R. Curtis Arnold, DPM
Scottish Heritage Society of North Central WV
St. Joseph’s Hospital
St. Mary’s Medical Center
Thomas Clark M.D.
Weirton Medical Center Medical Staff
Wetzel County Hospital
WV Association of Physician Assistants
WV Mutual Insurance Company
WV Podiatric Medical Association
WV Society of Addiction Medicine
WV State Medical Association
WV United Health System
City Hospital
Jefferson Memorial Hospital
United Hospital Center
WV University Hospital (Ruby)

P. Bradley Hall, MD
Medical Director

Joseph Selby, MD
Chairman, Board of Directors

MAKE A DIFFERENCE

MAKE A DONATION

While ongoing funding sources are considered and implemented, please help us make the WVMPHP the success we know it can be. The WVMPHP is a 501(c) 3 qualifying charity, making all contributions tax deductible. You will be provided appropriate documentation for your tax records.
The Staphylococcus—Past is Present

_Those who cannot remember the past are condemned to repeat it._ – George Santayana

_Staphylococcus aureus_ is a gram positive coccus uniquely adapted to its human host. More than a third of us are colonized with _S. aureus_ at any given time (Klutymans, VanBelkum and Berbrugh 1997). The _Staphylococcus_ is well-known to practitioners as a cause of benign skin infections such as folliculitis and impetigo. It may also cause more serious infections, including abscesses, osteomyelitis, endocarditis, pneumonia and sepsis. Toxin-mediated disease includes toxic shock syndrome, staphylococcal food poisoning and staphylococcal scalded skin syndrome (Moreillon, Que and Glauser 2005). It is difficult to think of a more versatile human pathogen.

At the time that penicillin was introduced in the early 1940s, the organism was susceptible (Maranan, et al. 1997). By 1942, the first reports of penicillin-resistant _Staphylococcus aureus_ had been reported with prevalence of resistance initially greatest among hospitalized patients. Semsynthetic penicillins became available in the early 1960s; however resistance was recognized almost immediately. Again, methicillin-resistant _Staphylococcus aureus_ (MRSA) infections were initially limited to high risk patients in larger referral hospitals (Maranan, et al. 1997); but over several decades, the infection spread to nursing homes (Bonomo 2000), and mid-sized hospitals (Klevens, et al. 2006). With the introduction of widespread use of vancomycin, resistance to that antibiotic has also been reported (Smith, et al. 1999).

Given this context, it should not have been surprising when MRSA was identified in healthy persons living in the community, but practitioners were thrown off-guard. Some of the first children to die from invasive community-associated MRSA (CA-MRSA) were initially treated with cephalosporins (CDC 1999). Public health officials soon reported outbreaks in sports participants (CDC 2003), men who have sex with men (CDC 2003), inmates in correctional facilities (CDC 2003), military recruits (Zinderman, et al. 2004), family groups (Jones, et al. 2006), and the homeless (Gilbert, et al. 2006), among others. In the brief years since CA-MRSA has been identified, this organism has now become the most common cause of skin infections in many communities in the United States (King, et al. 2006) (Groom, et al. 2001) (Moran, et al. 2006) (Jacobus, et al. 2007).

Epidemiologists studied the differences between healthcare associated MRSA (HA-MRSA) and the new strain. HA-MRSA has generally been defined as infection with MRSA two or more days after hospitalization, or occurring in a patient with a history of hospitalization, surgery, dialysis, or residence in a long-term care facility within one year before the MRSA culture date (Fridkin, et al. 2005). CA-MRSA, by definition occurs in a person without these risk factors and within the first 48 hours of hospitalization. In contrast to HA-MRSA, patients with CA-MRSA are more likely to be younger and have skin or soft-tissue infections (Miller, et al. 2007). CA-MRSA isolates are more likely to be susceptible to antibiotics such as clindamycin, erythromycin and ciprofloxacin and more likely to carry the Panton-Valentine toxin (Naimi, et al. 2003). Most CA-MRSA isolates belong to the USA-300 genotype (Miller, et al. 2007).

In West Virginia, we received our first reports of CA-MRSA in 2003 simultaneously from multiple correctional facilities in the state, suggesting that multiple unrelated individuals introduced the disease at about the same time. That same year, we had reports of three small outbreaks in close-knit families and friends living in Marshall, Calhoun, and Mercer Counties. By the following year, some hospitals in the Charleston area reported outpatient skin infections were predominately caused by MRSA.

What is the practitioner to do? The strategies that got us into this situation are not likely to get us out of it. Warm soaks and incision and drainage are the mainstay of therapy. Purulent lesions should always be cultured if antibiotics are needed for treatment. Susceptibility results from the current infection will guide subsequent therapy, if needed; and antibiotic susceptibility data from the local laboratory is necessary to guide empiric therapy when needed for future infections. Antibiotics may not be necessary in previously healthy patients with cutaneous abscesses and no signs of systemic infection (Gorwitz, et al. 2006) (Korownyk and Allan n.d.) (Fergie and Purcell 2008) (Bamberger and Boyd 2005). Guidelines for appropriate use of antibiotics are available from the Centers for Disease Control and Prevention (Gorwitz, et al. 2006).

What guidance should MRSA patients receive about returning to school or daycare? We recommend a system of “universal skin precautions,” because school nurses and daycare staff need simple guidelines they can apply to every situation, with or without an available laboratory result. The basic principles are: a)
Children with skin infections may return to school or daycare when drainage is contained securely with a bandage; b) children and staff should be instructed not to touch another person’s wound or sore, and not to share towels, clothing or other personal items; and c) Children and staff should wash hands regularly.


In the midst of all the controversy about CA-MRSA, some surprising lessons about HA-MRSA have also been generated. While CA-MRSA is the most common cause of skin infections, HA-MRSA is the more common cause of serious invasive infections (Klevins, et al. 2007), with a substantial mortality rate. Prevention of these more serious infections requires increased attention to infection control in hospitals and healthcare facilities. Nonetheless, committed healthcare facilities have been able to reduce MRSA infections with a combination of increased attention to hand hygiene, active surveillance and isolation, and other interventions (Siegel, et al. 2006).

As humans have evolved more advanced antibiotics, *Staphylococcus aureus* has kept pace. Recently published reports of multidrug-resistant CA-MRSA in San Francisco (Diep, et al. 2008) are an ominous portent of the future for West Virginia. The answers to this problem are complex and likely involve a combination of conservative use of antibiotics; attention to basic infection control; patient, physician, and community education; and high level leadership from healthcare facilities and community physicians. Current circumstances demand a lot from us. Let us rise to the occasion.

References

Please contact the authors for additional references.

Danae Bixler, MD, MPH, Director
Infectious Disease Epidemiology Program
WV Bureau for Public Health

---

**Providing professional services to Physician Practices for over 25 years:**

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

www.suttlecpas.com

---

Two Locations
Charleston, WV
800-788-3844

Parkersburg, WV
304-485-6584

---

March/April, 2009, Vol. 105  45
Knowledge is Power

The WVSMA is committed to providing physicians and staff with the most up to date information for your medical practices. One way of assisting physicians is to offer conferences where physicians, office managers and staff may come together and learn about changes that impact their practices. Conference attendees not only have the opportunity to hear speakers give practice management tips using educational resources and tools; but they also have a wonderful opportunity to network and learn how other practices are dealing with similar issues.

Conferences offer “face time” – the opportunity to converse with other professionals in the healthcare field. Conversations between like minded people often lead to the recognition and solution of many common office problems. The person sitting next to you may have a great amount of expertise and experience dealing with the situation(s) you are facing.

Our conferences encourage group interaction. An individual can read books about how the office should work, but real learning occurs when you listen to or speak with someone who can provide additional knowledge on the subject.

In order to better assist both physicians and staffs in their medical education, several Physician Practice Management Conferences are planned for 2009. These meetings will feature various speakers and topics, and include practice management tips as well as payor updates. The major goal of meetings such as these is to provide practical information that can be utilized every day in the medical office as practices strive for the ultimate goal – that of providing the best patient care possible.

The WVSMA is making an attempt to bring the knowledge to you as we host conferences in various locations throughout West Virginia. A spring conference is scheduled in Charleston and a summer conference in Lewisburg. Check your mail and email for more detailed information about these meetings. We are aware that it requires some intense planning in order to free up office staff to travel to meetings, so we have reserved our venues and speakers well in advance and will offer early registration.

If you’ve ever attended a Physician Practice Management Conference, you know that the sessions are planned to give the maximum amount of information possible in a day’s time. Past conferences have included speakers from various professional organizations and many health insurance payors. Presenters have also come from the American Medical Association and other state associations. We have had several physician speakers, including the chief medical officer for CMS Region III. The WVSMA has always requested that our presenters be available after their sessions in order to address individual issues that offices may be experiencing. Presenters have often stayed long after most of the attendees have departed.

Our next conference will be held Thursday, May 14th, 2009, at the Marriott Hotel in Charleston, West Virginia. This program will provide the informational tools to increase physician reimbursements, improve office personnel management, and obtain free tamper resistant prescription pads and/or paper.

In conjunction with these informative sessions, we will also be hosting a special Government Payors Workshop which will feature speakers from Medicaid, PEIA and Medicare. Attendees will be able to meet with officials from these payors and receive the most current information on policies and procedures regarding enrollment, billing, medical utilization and payment.

We hope that you’ll take advantage of the opportunity to participate in an intense but enjoyable day of learning and networking with other physician practices. The time spent in a conference setting, learning from presenters and interacting with other attendees, can prove of extreme value to your office.

If you have questions about this conference or any other upcoming Physician Practice Management Conference, please feel free to contact me at Barbara@wvsma.com.

Barbara Good
WVSMA Physician Practice Advocate

West Virginia Medical Journal
Is your staff positioned for success?

Physician Practice Management Conference

Give your team the tools to succeed!

Thursday—May 14, 2009

Charleston Marriott

For more information and to register for this informative program, contact Barbara Good, WVSMA Physician Practice Advocate at (304) 925-0342, ext. 11 or visit our website at www.wvsma.com

Our last conference received rave reviews...

Very informative conference. I would recommend this to all physicians, billers, and office managers.
Michelle Burdette, MD

Extremely educational...Terrific incentives for doctors to provide quality care.
Jill Aliff
WVMI

Very educational, fast-paced, extremely beneficial and timely.
Elizabeth Doran
Office Manager
ENT Associates
Medical Professional Liability Insurance Frequently Asked Questions/Points of Concern (Part 2)

This is the second part of a two part article on frequently asked questions by physicians about their medical professional liability insurance. The first article in the January/February 2009, Vol. 105 of the West Virginia Medical Journal covered the topics of: tail insurance, part-time coverage, locum tenens and collaborative agreements. This information is not intended to bind any insurance company to the views expressed. If you have a question with a specific set of facts that apply to your practice, we suggest you submit that information to us for presentation to your insurance company to receive a specific response.

(1) Administrative Defense Coverage

In 2007, the West Virginia Mutual Insurance Company introduced an add-on coverage to its insureds. This coverage is called Broad Form Administrative Expense Coverage and provides an additional limit of liability ($25,000) for the insured to allow the Mutual to provide legal counsel for its insureds on regulatory or administrative-type legal proceedings involving the insured. Some of the administrative-type legal proceedings involving the insured.

Also covered are legal expenses for assistance in depositions when you are not the focus of the deposition, but are giving testimony about the treatment you rendered. Since this coverage is provided at no additional cost (no premium), physicians should take advantage of the coverage provided, but frequently do not. Because these legal proceedings are not allegations of medical professional negligence, physicians frequently are unaware they have this coverage, as they expect their Mutual policy to cover them in the event of claims and suits for alleged medical negligence only.

This $25,000 legal defense limit will save you money in the event of Board of Medicine complaints in the form of the cost of legal representation. But note it will not cover fines or penalties resulting from such proceedings.

(2) Ancillary Employees

What are my options for coverage for my ancillary employees?

Ancillary employees include: nurse practitioners, physician assistants, nurse midwives, and CRNAs.

Generally, the availability of coverage for ancillary employees comes in three forms, all subject to one question: “what limit of liability is needed for my ancillary employee?”

The first option is to have the ancillary employee share the limit of the insured physician. This is generally the selected option by our clients. While a premium is charged, it is reduced because of the limit being shared with the physician(s). The insurance is controlled by the policyholder, which is generally the physician or his/her corporation.

The second option is to purchase a separate limit applicable only to the ancillary employee. This option increases the premium of the physician/policyholder, and adds an additional limit for the ancillary employee to the policy. Since the limit is an additional limit scheduled on the policy, the policyholder still maintains control of the insurance.

The third option is to allow the ancillary employee to purchase an individual policy separate from the insured physician’s policy. Why would this option be chosen? It allows the ancillary employee to have a limit that can be used anywhere they perform professional services. This works well if the ancillary employee is a part-timer in your practice and works elsewhere; but is a negative because the limit of liability maintained by the ancillary employee is subject to exhaustion outside of your practice. In addition, if the ancillary employee purchases a separate policy, you are charged a vicarious liability premium because you are responsible for the employee while in your practice, and this charge covers the cost of the exposure borne by the responsible physician for the ancillary employee.

(3) Vicarious Liability

Vicarious liability charges can occur on medical professional liability policies even when the insured party’s (employee) individual professional acts are insured elsewhere. The reasoning is: a physician is responsible for the acts of others performed under his/her direction in connection with the treatment of a patient. Those acts may consist of treatment rendered by the physician’s own office personnel or his/her professional staff members such as physician assistants or nurse practitioners. The physician has the obligation to select competent
personnel for this purpose and the additional obligation of properly instructing them as to the treatment to be rendered, the duration of the treatment, and the methods and means to be employed in connection with a particular patient. Should any of these individuals fail in their duties as a consequence of the physician’s failure to properly instruct them, there is liability on the part of the physician.

On this basis, if an ancillary employee is covered under his/her own policy, a premium is charged for this responsibility of the physician. If the ancillary employee is covered outside of the physician’s policy, the physician is not covered under the ancillary’s policy; therefore, the resulting vicarious liability premium under the physician’s policy provides coverage for this exposure.

A Personal Observation: Great News

Last week my son called me at the office (which he normally does not do) and said the following words to me “I just wanted to say thanks, as a West Virginia taxpayer, for what you all have done.” I asked him what he meant and he said he had just seen the news that the West Virginia Mutual Insurance Company had paid off its loan from the State of West Virginia and had done so well in advance of its due date.

After telling him that I was not responsible for this activity; he continued to compliment the Mutual for what they had done.

Well, it is great news! The Mutual did something that few have done and to the credit of its board of directors and management personnel, we West Virginia taxpayers should be appreciative, but West Virginia taxpayers should not be the only ones to be thankful. Policyholders, or should I say the doctors who are the owners of the company (who are the policyholders), should be appreciative as well. This huge step of responsibility by the Mutual gives each policyholder something in which to be very proud.

In addition to paying off its loan and assisting the State economically in a trying economic time, the Mutual has also positioned itself to be of greater service to its policyholders than ever before.

The Mutual now has the ability to declare a policyholder dividend (subject to the approval of the WV Insurance Commissioner) as well as considering optional methods of policyholders assistance that were restricted because of the control maintained by the State until the loan was repaid.

When the Mutual was formed it was the first step for doctors of the State to take control of their professional liability insurance future. But the State initially had control because of the outstanding loan. Now the Mutual can truly become a company of its policyholders/owners.

Congratulations to the Mutual for taking this initiative and congratulations to the doctors of West Virginia who participate in the Mutual and who are actually controlling their professional liability insurance future.

Steve Brown
Agency Manager, WVMIA

A specialized insurance agency dedicated to meeting the medical professional liability insurance needs of physicians.

Formed by physicians for physicians

We will evaluate your professional liability insurance needs and provide a specialized source of information and data for your insurance buying decisions.

West Virginia Medical Insurance Agency
4307 MacCorkle Avenue, SE, Charleston, WV 25304
1-800-257-4747 • 304-925-0342 • 304-925-3166 (fax)

Extensions: Steve – 22; Megan – 29; Robin – 17
WES PAC Contributors \\

2009 WES PAC Contributors \\

The WVSMA would like to thank the following physicians, residents, medical students and Alliance members for their recent contributions to WES PAC. These contributions were received as of February 3, 2009:

**Chairman’s Club ($1000)**
Stephen L. Sebert, MD

**Extra Miler ($500)**
David A. Bowman, MD
Hoyt J. Burdick, MD
James P. Clark II, 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

**Dollar-A-Day ($365)**
Derek H. Andreini, MD
Joseph P. Assaley, MD
Stephen P. Cassis, MD
Samuel R. Davis, MD
Gary S. DeGuzman, MD
Michael A. Istfan, MD
Michael A. Kelly, MD
M. Barry Louden, Jr., MD
Teodoro G. Medina, MD
Sushil K. Mehrotra, MD
John G. Tellers, MD
John A. Wade, Jr., MD
James D. Walker, 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
Judith Kemp, MD
Arturo Y. Lim, MD
Harry A. Marinakis, MD
Nimish K. Mehta, MD
Stephen K. Milroy, MD
Joseph Momen, MD
Lydia P. Obleada, MD

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

Michael C. Shockley, MD
Adnan Silk, MD
Stephen M. Smith, MD
Sasidharan Taravath, MD
Ganpat G. Thakker, MD
Ophas Vongxaiburana, MD

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

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

---

**WES PAC Board Members 2009-2010**

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

**WVSMA 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
Dr. Rosendo Y. Dy

Dr. Rosendo Dy, 69, of Charleston, went home peacefully to be with the Lord on Dec. 28, 2008. He was surrounded by family members.

He was preceded in death by his parents, a brother, and two sisters. He is survived by his wife, Filomena “Lena”; his daughter, Roslyn June; three brothers; two sisters and nieces and nephews.

Dr. Dy received his Medical Degree at the University of Santo Tomas in the Philippines and trained in Connecticut, Massachusetts, and Pennsylvania. He came to Charleston in 1977 and worked as a hospitalist at Staats Hospital, then Thomas Memorial Hospital. In 1992, he started working at Boone Memorial Hospital’s E.R. and simultaneously ran his own family practice office in Chapmanville for 13 years. In addition Dr. Dy held many other medically related positions throughout his career, including serving as ringside physician in various boxing competitions.

Dr. Dy was always full of life and energy. He was a devoted and loving husband, father, and brother, as well as kindhearted doctor whose patients became his friends. His constant smile and outgoing personality will be missed by all who knew him.

His wife and daughter wish to thank all those who visited, called, or sent cards/letters during his illness.

Condolences may be mailed to 3501 MacCorkle Ave. SE, #112, Charleston WV, 25304.

In lieu of flowers, donations may be sent to Bible Center Church, 1111 Oakhurst Dr., Charleston, WV 25314, or Hubbard Hospice House, 1001 Kennawa Dr., Charleston, WV 25311.

Geza Z. Gaal, MD


After graduating from the Medical University of Budapest, Hungary, Dr. Gaal came to the United States and began practicing general medicine in West Virginia at Charleston General Hospital and the Bluefield Sanitarium and Clinic. After completing a residency at Thomas Memorial Hospital, South Charleston, Dr. Gaal practiced family and internal medicine in South Charleston during the 1960s. After completing additional training and receiving a fellowship in cardiology at the Cleveland Clinic, Cleveland, Ohio, Dr. Gaal returned to West Virginia in 1974, where he practiced cardiology for just over 25 years before finally retiring in 1999. Dr. Gaal maintained offices in Charleston and Hurricane. He also served as a medical consultant to the West Virginia Vocational Rehabilitation Disability Determination Section for several years. He was a member of the medical staff at CAMC, St. Francis Hospital and Thomas Memorial Hospital at one time. He was also a fellow of the Academy of Psychosomatic Medicine and secretary of the West Virginia Chapter of the American College of International Physicians for several years.

Dr. Gaal’s professional memberships and affiliations included the American Medical Association, the West Virginia State Medical Association, the Kanawha Medical Society, the National Association of Disability Examiners, the American Society of Echocardiography and the Cleveland Clinic Alumni Association. While in practice, Dr. Gaal had several medical articles published in the Southern Medical and West Virginia Medical journals at various times, and one article that was published in the World Medical Digest.

Dr. Gaal was an accomplished pianist and accordionist and had won first prize in a nationwide accordionist competition while in Hungary. He occasionally contributed his music to church worship services as well.

He attended Bible Center Church, Charleston, before retiring to Folly Beach, S.C., and then later to Carrboro, N.C.

Dr. Gaal is survived by his wife, Annie; his sons and their wives, Dr. James and Paula Gaal of Ripley and Dr. Stephen and Martha Gaal of Hurricane; his four grandchildren, Jordan, Dillon, Austin and Lauren Gaal; and his extended family, which includes Natacha Cone, Tyler and Hannah Honeycutt, Frank, Vicki, Annika and Margaux Herlant, and Miss Ellen Herlant.
The use of physician prescribing information by the pharmaceutical industry is a complex issue. As the debate continues, physicians and opinion leaders are voicing broadly disparate opinions.

Proponents of restricting access to physician prescribing information argue that pharmaceutical sales representatives use the data to persuade physicians to prescribe brand-name drugs. They contend that brand-name drugs are often more costly and that generic versions may be available at a lower price.

Opponents argue that physicians will prescribe the most appropriate medication for their patients regardless of pharmaceutical sales pitches. They contend that releasing prescribing data minimizes irrelevant sales calls because the data allow the reps to better understand physician needs and to deliver pertinent materials and samples.

In consideration of the diverse opinions surrounding physician prescribing data, the American Medical Association (AMA) commissioned a Gallup study to determine the best solution. As a result of the survey, the AMA created the Physician Data Restriction Program (PDRP). This unique AMA program offers physicians control over their prescribing data and whether it can be shared with pharmaceutical representatives. Although the AMA does not collect physician prescribing data, PDRP allows the AMA to communicate and enforce physician preferences to healthcare information organizations (HIOs) that do collect this data. Without AMA involvement, HIOs would still collect the data, but physicians would have no control over how it is used.

“The AMA believes it is better to give physicians a choice as to what is done with their prescribing data rather than adopt legislative restrictions eliminating physician choice,” says Jeremy A. Lazarus, MD, AMA Board of Trustees member. “We understand that physicians have different personal experiences and perspectives. We want to give everyone a choice.”

I chose to restrict my prescribing data

Douglas S. Kaplan, MD, an ophthalmologist in private practice in Highland Park, Illinois

I started thinking about the AMA’s opt-out program after I read about the PDRP in AM News. I thought opting out might make my interactions with the drug reps less personal and confrontational.

Then one day I had a conversation with a drug rep who looked me in the eye and said with an earnest, concerned voice: “Do you know, Dr. Kaplan, that you prescribe my drug less frequently than the other ophthalmologists in this region?” I registered for the PDRP the next day.

I have noticed a change since I signed up for the PDRP. The reps demand less of my time. They still talk to me and tell me about their new products, but their questions and discussions are more broad-based and generic. They don’t ask
AMA Therapeutic Insights delivers. The new online continuing medical education (CME) newsletter from the American Medical Association offers:

- State and national prescribing trends on major diseases such as dyslipidemia, depression, osteoporosis and asthma
- Evidence-based treatment guidelines
- A compelling case-study format
- Opportunity to gain CME credit

Now, for the first time, physicians have access to state and national prescribing data* for selected diseases along with the most up-to-date information on disease demographics, comorbidities and evidence-based guidelines for treatment. Visit [www.ama-assn.org/go/therapeuticinsights](http://www.ama-assn.org/go/therapeuticinsights) to gain insight on the most recent therapeutic topics.

*All prescribing data are provided by IMS Health. The AMA does not collect, compile, license, sell or have access to physician prescribing data. The American Medical Association is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

West Virginia physicians can now access personal prescribing reports for all four newsletter topics.
We would like to welcome the following physicians and medical students to the WVSMA:

**Boone County Medical Society**
Marilou Tyner, MD

**Cabell County Medical Society**
Ahmad Nusair, MD

**Central West Virginia Medical Society**
John Wyllie III, MD

**Eastern Panhandle Medical Society**
Geoffrey Bowman, MD
Vineet Sood, MD

**Greenbrier Valley Medical Society**
Robert Petrarca, DO

**Harrison County Medical Society**
Devika Hanumara, MD

**Kanawha County Medical Society**
Christopher Dewese, MD
Michaela Kessler, DO

**Monongalia County Medical Society**
Ehab Akkary, MD
Gregory Allen, MD
Patrick Bacaj, MD
David Blass, MD
John Casuccio, MD
Joshua Dower, MD
Melina Flanagan, MD
Henry Fooks Jr., MD
Shekhar Ghamande, MD
W. Harry Horner, MD
Mayada Issa, MD

**Raleigh County Medical Society**
Edgar Cornett, MD

Joseph Jordan, MD
Eric Lirio, MD
Michele Maouad, MD
Muhammad Mustafa, MD
Kurt Rodney, MD
Janna Scott, MD
Jeffrey Vos, MD
John Ward, MD

Please direct all membership inquiries to: Mona Thevenin, WVSMA Membership Director.

---

**entchas.com**

500 Donnally Street
Charleston, WV

**Physician’s Office:** Suite 200

**Hearing Aid Center:** Suite 102

**304.340.2200** FOR APPOINTMENTS

**HEARING AID CENTER:** 304.340.2222

---

**Complete comprehensive services including:**

- 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

**Board Certified Specialists:**

F. Thomas Sporck, MD, FACS ★ D. Richard Lough, MD ★
P. Todd Nichols, MD ★ G. Stephen Dawson, MD ★
Michael R. Goins, MD ★
MEDICAL EQUIPMENT & SUPPLIES
Since 1858
Equipment Leasing
Also Available
(New & Used)
McLAIN SURGICAL SUPPLY
A West Virginia Company
205 Leon Sullivan Way
Charleston, WV 25301-2408
Phone: 304-343-4384
800-729-3195
FAX: 304-343-4385

Don’t Worry about your office supply problems, call
Stationers
1-800-862-7200
for solutions.
We Have It All!
• Value-priced office supplies
• Office Furniture
• Design Service
• Computer Supplies
• Standard Forms
Ask for our sales flyer!
STATIONERS
1945 5th Avenue
Huntington, WV
304-528-2780

THE CHAPMAN PRINTING CO., Inc.
A Division of Champion Industries, Inc.
THE COMPETITIVENESS OF TODAY’S BUSINESS WORLD DEMANDS TOP QUALITY PRINTING. THE BEST IN TECHNOLOGY, CRAFTSMANSHIP AND QUALITY IS YOURS WHEN YOU CHOOSE CHAPMAN PRINTING

CHARLESTON
CHARLESTON, WV
3000 Washington St. West
(304) 341-0676
HUNTINGTON
HUNTINGTON, WV
2450-90 1st Avenue
(304) 528-2791
PARKERSBURG
PARKERSBURG, WV
405 Ann Street
(304) 485-8596
LEXINGTON
LEXINGTON, KY
890 Russell Cave Road
(859) 252-2661

SUPPORT YOUR WVSMA
Please patronize our advertisers and consider advertising in the West Virginia Medical Journal
Contact Angie Lanham at 925-0342, ext. 20 or email: angie@wvsma.com

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.
HAVING AN INCOMPLETE MARKETING STRATEGY DOESN’T MAKE MUCH SENSE EITHER.

PRINTING, MAIL SERVICE, OFFICE FURNITURE, OFFICE SUPPLIES, and PROMOTIONAL PRODUCTS
We have you fully covered. From conception to the mail stream for your customer. Call a representative today!

304.528.2791 Huntington 800.624.3431 Toll Free

CHAMPION INDUSTRIES, INC.
Your Complete Marketing Fulfillment Solution
When the journey is just as important as the destination

We understand that managing your money is not the most important thing in life, but believe that proper money management can help you to take better care of the things that are.