The FDA has approved cryoablation as a treatment for atrial fibrillation. WVU Heart Institute electrophysiologists Robert Hull, MD, and Stanley Schmidt, MD, have decades of experience with cryoablation and more than 10 years of experience in the use of radiofrequency ablation for atrial fibrillation.

The WVU Heart Institute has a full team of board-certified specialists in medical and interventional cardiology, along with state-of-the-art technology. We are committed to seeing referred patients promptly and to working in partnership with physicians who recommend us to their patients. We welcome your inquiries.

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WEEKLY TO-DO LIST

Version 5010
Deadline:
JAN 1st, 2012

ICD-10 Deadline:
OCT 1st, 2013

Prepare Now for the Version 5010
and ICD-10 Transitions

The change to Version 5010 standards takes effect on January 1, 2012. The change to ICD-10 codes takes effect on October 1, 2013.

In preparation for ICD-10, starting January 1, 2012, all practice management and other applicable software programs should feature the updated Version 5010 HIPAA transaction standards. Providers will need to use ICD-10 diagnosis and inpatient procedure codes starting on October 1, 2013.

Make sure your claims continue to get paid. Talk with your software vendor, clearinghouse, or billing service NOW, and work together to make sure you’ll have what you need to be ready. A successful transition to Version 5010 and ICD-10 will be vital to transforming our nation’s health care system.

Visit www.cms.gov/ICD10 to find out how CMS can help prepare you for a smooth transition to Version 5010 and ICD-10.
Physician Leadership in Addressing Prescription Drug Diversion
Reducing Prescription Drug Abuse, Misuse and Diversion
WVSMA Policy Recommendations

- Establish a Prescription Monitoring Program (PMP) advisory committee and case review committee to assist the WV Board of Pharmacy in operating the PMP, establish continuing education/public outreach programs and to perform database reviews based on established and recognized clinical criteria to identify and detect inappropriate and/or possible illegal activity.
- Establish a reporting process for the PMP advisory committee to inform professional licensure boards of suspected inappropriate and/or illegal activity and ensure the professional licensing boards have clear authority to fully investigate such reports.
- Require the Board of Pharmacy to provide a comprehensive annual report on the PMP as part of their annual report to the Legislature.
- Establish funding under the WV Board of Pharmacy to enable the implementation of additional programs and responsibilities of the PMP.
- Require reporting of dispensing information of controlled substances to the West Virginia Board of Pharmacy’s PMP within 24 hours.
- Require the name of the person who received the prescription from the dispenser, if other than the patient, and the source or method of payment be added to the PMP reporting criteria.
- Establish new, enhanced methadone reporting requirements to the PMP.
- Establish a process whereby the prescriber or dispenser must review the PMP information under certain circumstances.
- Enhance penalties for unlawful access and/or disclosure of PMP information.
- Expand immunity protections to prescribers and dispensers who report any individual suspected of attempting to illegally obtain a controlled substance.
- Establish a process for the State Medical Examiner to notify and provide information to the appropriate licensure boards and the PMP case review committee when the coroner determines a prescribed controlled substance contributed to an overdose death.
- Enable the WV Board of Pharmacy and/or WV Public Health Commissioner to limit the manufacture, sale, distribution or possession of newly identified substances/products deemed hazardous to the public health.
- Update the list of scheduled drugs in state code to comply with federal law.
- Encourage E-Prescribing of Controlled Substances.
- Make Tramadol (Ultram®) a schedule IV drug.
- Establish regulation of pain clinics and medical practices that specialize or have a high concentration of patients being treated for pain.
- Establish restrictions on the quantity of controlled substances that can be dispensed to a patient in-office.
- Make pseudoephedrine and other drugs considered precursors to methamphetamine schedule IV prescription drugs.
- Support the development of a Medicaid pharmacy lock-in program.
- The WV Bureau for Public Health, Department of Health and Human Resources, should initiate a public information campaign targeted at educating the public in West Virginia that there is a risk of death from prescription drug overdose and that taking a medication not prescribed for oneself is potentially fatal.
- Require all law enforcement officers permitted access to the PMP to complete recommended training/education programs.
- Authorize first responders to administer an opiate antagonist in certain emergency situations involving suspected opioid overdose.
- Promote greater use of pain treatment agreements with patients for opioid analgesic medications in appropriate circumstances.
- Codify the West Virginia Controlled Substances Advisory Board.

October 2011
A special “Thank you” to the following individuals who contributed to the development of these recommendations.

Select Committee on Prescription Drug Diversion
John H. Schmidt III, MD
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Amy N. Tolliver, MS

To view the report in its entirety, scan the code with your smart phone or go to wvsma.com
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+ WVSMA Annual Midwinter Business Meeting — February 3-4, 2012

Cover photo courtesy of Angie Lanham, Managing Editor

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WVSMA Info: PO Box 4106, Charleston, WV 25364 | 1-800-257-4747 or 304-925-0342
The fall season is upon us with the leaves of red, gold and orange, and crisp air reminding me of why this is my favorite time of the year. My travels as your President have already taken me to several component medical societies around West Virginia and the opportunity to participate in neighboring state medical society meetings. The message I am hearing is clear, physicians are very concerned about dwindling reimbursement, scope of practice infringement, OBAMA care and the looming Medicare cuts.

The silver lining of these visits has been the opportunity to report on our victory in the State Supreme Court earlier this year upholding our medical liability reform. West Virginia physicians are breathing a sigh of relief while physicians from other states are asking me how we were able to achieve the legislative successes we have accomplished these last ten years. My message has been clear: when physicians engage in the legislative and political process and are willing to work together, we truly can achieve success!

Another reality check hit me at a recent social function when I was told about the loss of a young man’s life due to a drug overdose. A 27 year old looked me in the eye and told me about losing his friend and then began counting the others he knew that had died from drugs. When is this tragedy going to end and what will it take to solve it? I am proud of the work and leadership the WVSMA is championing in the fight to curb the prescription drug abuse, misuse and diversion crisis. Under the guidance of WVSMA immediate-past president Dr. John H. Schmidt, the WVSMA recently released a 24-point action plan. Our recommendations are posted on our website (www.wvsma.com) and are being sent to every legislator and presented during Governor Tomblin’s prescription drug task force meetings that are being held throughout the state.

At one of the regional meetings I attended, it was interesting to learn how dramatically drug use and abuse vary in different parts of the state. While many non-physicians at these meetings like to point fingers at the medical community, our pro-active steps in championing common-sense solutions are well received. Work is also underway on another priority topic of the WVSMA, childhood obesity. While the causes of obesity are multifaceted, the bottom line is that calories consumed that are not used for energy turn to fat. Diet alone is not the answer. Physical activity (or lack thereof) must be part of the equation. I have been invited to represent the WVSMA in crafting a new Statewide Physical Activity Plan for West Virginia. Eloise Elliott, Ph.D., is spearheading the effort utilizing the national physical activity plan as a model. The drafting process is bringing together representatives of the community including health care, education, transportation, media, the public sector, and many other groups, both public and private. As mentioned before it takes a collaborative effort of an entire community to solve these issues. I am confident the efforts of the WVSMA and the West Virginia Medical Foundation will lead to a healthier West Virginia.

Work is also underway in preparing for the upcoming 2012 Legislative Session that will begin the second Wednesday in January. Our legislative committee is already meeting to craft our policy agenda. High on the priority list this year will be the continuing fight to limit unsafe scope of practice infringement by non-physicians into the practice of medicine. Another emerging issue we hope to champion is an effort to address the confusion our patients have in knowing exactly who is providing their care. We are seeing it more and more, by virtue of obtaining a doctorate degree, allied health care workers are being called “doctor” even though they are not physicians. West Virginia does not have any legislation regarding badge identification. Nine states—California, Georgia, Illinois, Massachusetts, Minnesota, New York, Oregon, Pennsylvania and Rhode Island—have passed legislation requiring that the professional status, licensure, certification or registration are clearly written on the badges that must be worn by all health care providers when they come in contact with patients. Patients in West Virginia health care facilities deserve to know the professional credentials of the person providing treatment at their bedside.

In closing this installment of the president’s message, I call upon the entire West Virginia physician community to take an active role in making these initiatives successful. Only through small steps of many individuals can great strides be made.

MaryAnn N. Cater, DO  
WVSMA President
EHRsolutions is expanding OnClaim services! OnClaim allows you to focus on providing better patient care using Greenway’s PrimeSUITE while we focus on your everyday billing needs.

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Contact Us Now!  ehrsg.com | 304.720.3300 | info@ehrsg.com
Charles Krauthammer, a national syndicated columnist and physician, in a brilliant October 7, 2011 Washington Post article comments that a recent discovery regarding the speed of Neutrinos might undermine the entire scientific basis of physics, astronomy and cosmology. They are based upon Einstein’s theories grounded in the alleged fact that nothing can exceed the speed of light. He notes Einstein once grumbled about the random arbitrariness of quantum mechanics stating, “God does not play dice with the universe.” Perhaps he does and the foundation of these sciences will have to be reformulated with new theologies to follow.

Although grounded in - and most respectful of – the science of medicine, physicians for years have embraced the adages of Hippocrates, “It’s far more important to know what person the disease has than what disease the person has” and Galen, “He cures most successfully in whom the people have the most confidence”. As with these medical icons, physicians advocate, embrace and defend scientific knowledge but realize its timeliness and fickleness dictates that its successful application to each unique patient and community occur in a social context of optimal observation and communication – the essence of the art of medicine.

Although cries for embracing “humanism” within medical practice have never been louder, the assault upon those sage physicians who truly have mastered the “art of medicine” have never been greater. Politicians, administrators, policy wonks and payers all believe that external bodies can best determine what is best for each unique patient at any point in time based upon scientific analysis. They are convinced they must entice or compel physicians to practice within these parameters. Some attributed “too much care” partially to the need to meet policy imposed “quality” monitoring and reimbursement measures.

If physicians do not assure those entering the profession understand, incorporate and embrace the cardinal importance of the art of medicine – and strongly advocate for its retention – it will be lost within the current hostile environment to the detriment of the profession, patients and the public. How we do this requires the input of all physicians, not just academicians. What are your thoughts?

Jim Felsen, MD, MPH

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For decades, modern scientific studies have asked the question “What constitutes the ‘art of medicine’?” However, we could not identify any studies to date that pose the question “Can the art of medicine be taught?” We explored the role of the art of medicine in undergraduate medical curricula by investigating three main questions: 1) Can the art of medicine be taught? 2) Is the art of medicine important in undergraduate medical education? 3) If so, what is the most effective method by which the art of medicine can be taught?

Why pose these questions? With ever-increasing demands on physicians’ time and the exploding growth of medical and information technology that often inadvertently separates us from our patients, the need for emphasis on humanism has never been greater. But can humanism be learned, or is it innate to certain individuals? As the president of the Western Trauma Association, orthopedic surgeon Dr. James Benjamin reminds us that “we cannot forget that good doctors are not born – they are taught…it is incumbent upon us to have a clear picture of what a good doctor should be, as well as learning how to teach our students to be that doctor.”

This ideal doctor we hope to cultivate must be nurtured early in medical training. In a recent study published in the *New England Journal of Medicine,* it was found that students who had marks for unprofessional behavior in medical school were 3-8 times more likely to receive disciplinary action by their state medical boards once in practice. The study went so far as to say “professionalism can and must be taught and modeled.” The idea that future doctors will pick up these qualities once they are “on the job” is therefore questionable at best.

This study was performed using physicians and first-year medical students at a rural medical school. At the time of survey, there were 176 clinical faculty, 20 fellows, 121 residents, and 76 first-year medical students. Surveys were distributed to the active faculty, fellows, and residents of the Family Medicine, Internal Medicine, Pediatrics, Surgery, Obstetrics & Gynecology, and Psychiatry departments.

Surveys were created with a total of thirteen questions: 8 questions on a 5-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = No Opinion, 4 = Agree, 5 = Strongly Agree), 4 multiple-choice questions, and one short-answer question. We dichotomized the Likert scale into the top 2 positive responses versus all others. The three questions concerning application of the art in daily practice were omitted from the surveys for the first-year medical students. The surveys were anonymous, but demographic information was obtained including age, gender, specialty, medical school attended, year of graduation, and professional status (i.e., attending physician, fellow, resident, student). The definition used for the “art of medicine” was clearly stated as defined in the *British Medical Journal* as “the way in which knowledge is related to advice and treatment.”

This study has two parts: initially, 202 surveys were distributed to faculty attending physicians, fellows, and residents of the medical school. The second part of the study involved a survey with 3 omitted questions as noted above distributed to 76 first-year medical students to determine the opinion of those new to the profession. Data were analyzed by demographics including age, gender, medical school attended, years in practice, and field of specialty. Chi Square was used to test the significance between categorical variables.

Out of 278 total surveys distributed, 218 were returned for a 78% response rate. Overall, approximately six of ten were male, 15% were International Medical Graduates (IMGs), and approximately one-third had been in practice for
Can the Art of Medicine Be Taught?

Eighty-one percent of respondents believed the art of medicine is something that can be taught. More males agreed than females (86% vs. 73%, p = 0.001) and more attending physicians and fellows agreed than either residents or students (92% vs. 80% and 70%, respectively; p = 0.002). Those reporting more years of experience were progressively more likely to believe it can be taught.

Further, 81% of attending physicians, 78% of residents, and 70% of medical students surveyed said they would support finding more time to teach the art of medicine in undergraduate medical curriculum.

Is the Art of Medicine Important in Undergraduate Medical Education?

Ninety-two percent of respondents believed the art is a critical part of medical education and ninety percent believed the art of medicine is as important as the basic sciences in medical education. Nearly 100% of those in practice greater than ten years agreed that the art is a critical part of medical education (p = 0.005). A trend analysis of this question also showed a significantly proportionate increase in relation to years in practice.

What is the most effective way of teaching the art of medicine?

Responses were somewhat varied. Respondents clearly favored ‘role-modeling by preceptors during clerkships’ (68% vs. 32%). Interestingly, 75% of attending physicians and residents agreed with this option, while first-year medical students were divided nearly in half (53% for vs. 47% against). The other choices respondents favored were ‘reviewing clinical experiences of doctors’ (59% vs. 41%) and ‘small group discussions/assignments’ (56% vs. 44%), the latter supported more by females (65%) than males (49%) and United States graduates (61%) over IMGs (31%). Two-thirds of first-year medical students were in favor of adding lectures during any of the four years of medical school and reviewing clinical experiences of doctors as effective methods of teaching the art of medicine.

I would support finding more time to teach the art of medicine by...

Respondents said they would support finding more time to teach the art of medicine by incorporating it into lectures during third and fourth year clerkships (68% vs. 32%), however, the results were opposite for creating clinical electives for third and fourth year students (69% against, 31% for). They were notably against extracurricular assignments, replacing parts of early basic science instruction, and lengthening the required medical school curriculum beyond four years.

We found that not only do 81% of the faculty, residents, and students think the ‘art of medicine’ can be taught, but 92% feel it is a critical part of undergraduate medical education. And if 90% of those surveyed feel it is as important as basic science training, perhaps we need to re-evaluate our curriculum to find a better balance of knowledge and application.

We also found that the longer a clinician has been in practice, the more apt they are to agree that the art can be taught. Could this be because those who have practiced longer have a better grasp of the art and its application in daily practice? Do physicians, like wine, improve with age?

Nonetheless, our study did have some limitations. It was a single-institution study with a relatively small sample size of 278. However, we had an excellent response rate from physicians with diverse background and training, enhancing the external validity of our survey results. Although the ‘art of medicine’ is a vague concept and is open to interpretation, we used a clear, well-cited definition on the survey.

It is noteworthy to mention that after an extensive literature review of the past 75 years, no studies or journal articles could be found in the international databases which posed the specific question: “Can the art of medicine be taught?” This in and of itself inspires curiosity and demands further research. Also, since the majority opinion on how best to teach it seems to be role modeling by physicians, are we holding our preceptors accountable for their actions? Who watches the watchers?

It has been said, “there is no one division of medicine by which we act.” For the sake of our patients and ourselves, let us not turn a deaf ear to the art of medicine so that our students can become not just healers of disease, but healers of people.

References

Coronary Artery Bypass Grafting (CABG) in Patients with Immune Thrombocytopenia (ITP): A Community Hospital Experience and Review of the Literature

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Abstract
We reviewed the records of 51 patients with Immune Thrombocytopenia (ITP) who underwent Coronary Artery Bypass Grafting (CABG) at Charleston Area Medical Center between June 1992 and September 2005.

There were 41 males and 10 females with a median age of 68 years (range 49-87). Four patients had a previous splenectomy, one of whom had it performed concomitantly with the CABG. Three patients were on chronic corticosteroids on admission. The median pump time was 114 minutes (range: 42-244 minutes). The median cross-clamp time was 62 minutes (range: 22-192 minutes). The median total chest tube drainage postoperatively was 1,346 cc (range: 265-9875 cc). The mean preoperative and 24 hour postoperative platelet count was 126,000 (range: 58,000-323,000) and 99,000/mm³ (range: 27,000-194,000), respectively. Twenty-one (40%) patients received platelet transfusions. Platelets were given intraoperatively or postoperatively in all but two of those patients. The median number of units of platelets given was 10 (range: 6-52). Twenty-seven (53%) received packed red cells intraoperatively or postoperatively. The median number of red cells given was 2 (range: 1-34). Other hemostatic agents given intraoperatively/postoperatively included aprotinin (8 patients), aminocaproic acid (10 patients), DDAVP (5 patients), and intravenous gammaglobulin (IgG) in 3 patients. Thirteen patients were given corticosteroids preoperatively with little improvement in platelet count.

CABG may be successfully performed in ITP patients with moderate thrombocytopenia (≥50,000/mm³) using conventional therapies (eg. transfusions, IV IgG, hematinsics) without the need for preoperative splenectomy or prolongation of hospital stay. However, a prospective study on the ideal management of ITP patients undergoing CABG would be beneficial.

Introduction
Patients undergoing cardiac surgery with cardiopulmonary bypass (CPB) are at risk for microvascular bleeding. The frequency of excessive bleeding with CPB varies according to the definition used. Although a recent analysis indicated that 11% of patients have excessive bleeding after cardiac surgery, only 5 – 7% have postoperative blood loss of more than 2 liters over a 24 hour period. Excessive microvascular bleeding can result in re-exploration and prolonged hospitalization. If excessive bleeding is defined as patients who require re-exploration, two large series show that the incidence is between 3.6% and 4.2%.

Preoperative thrombocytopenia would be expected to increase the bleeding risk. A preoperative diagnosis of immune thrombocytopenia (ITP) is present in 0.2% of patients. Therefore, assessing the magnitude of surgical bleeding risk in ITP patients is a particularly important consideration in managing such cases.

Cardiac surgery requiring CPB has been safely performed in patients with a variety of hematological disorders but reports on patients with ITP are rare. The literature regarding ITP patients undergoing Coronary Artery Bypass Grafting (CABG) consists mostly of single case reports, many of which are published in Japanese with English abstracts. The paper by Mathew et al describes 11 such cases. Four additional cases were identified by performing a Medline search.

The purpose of our study was to review the outcomes of 51 ITP patients undergoing CABG at Charleston Area Medical Center (CAMC) and review the published literature. A summary of the collective experience of these 51 cases will follow.

Methods
We retrospectively reviewed both the medical records of 51 patients with ITP who underwent CABG at CAMC between June 1992 and September 2005 and the published literature. We excluded from analysis patients who 1) required a re-do CABG and 2) underwent CABG for valvular and congenital heart lesions. All patients underwent cardiac catheterization and had an indication for surgery such as 3-vessel disease or left main disease.

Immune thrombocytopenia (ITP) was defined as isolated thrombocytopenia with normal bone marrow morphology, adequate number of non dysplastic megakaryocytes, lack of splenomegaly, and the absence of any identifiable cause of secondary thrombocytopenia (e.g. drugs, infections, collagen vascular disease, lymphoproliferative disease).

The following data were collected for each patient: length of stay (days); preoperative diagnosis; age; gender;
splenectomy history; medications; preoperative and postoperative laboratory studies (complete blood count (CBC), prothrombin time (PT), partial thromboplastin time (PTT), serum fibrinogen level, serum lactate dehydrogenase (LDH), blood urea nitrogen (BUN), and serum creatinine); intraoperative and postoperative blood product use (i.e. number of units of packed red cells, platelets, fresh frozen plasma, and cryoprecipitate given); CABG clamp time (minutes); bypass time (minutes); and chest tube drainage (cc or ml).

**Results**

**A) Patient characteristics**

Of the 51 patients from the CAMC series 80% were males and 20% were females. The median age was 68 years (range: 49 - 87 years). The median CABB time was 114 minutes (range 42 - 244 minutes). The median cross-clamp time was 61.7 minutes (range 22 - 192 minutes). Four patients had a splenectomy, one of which had it performed in conjunction with the CABB. Nine patients were treated with aprotonin during the surgery. The median chest tube drainage in the postoperative period was 1,346 cc (range: 265 - 9,875 cc). In the postoperative period was described in the literature the mean postoperative length of stay was 6.6 days in the five cases in whom this information was available.

**B) Pre-surgery thrombocytopenia treatment**

A total of thirteen patients out of a total of 67 patients (both CAMC and literature series) received intravenous immunoglobulin (IV IgG) before surgery. Nine received 400 mg/kg/day for 5 days and two received 1 gram/kg/day for 2 days. For details of dose were lacking in two patients. Eleven of these patients had an increased platelet count ranging from 7,000 to 145,000. In fifteen of the 44 cases, preoperative corticosteroids were used (PO prednisone or IV solumedrol®).

**C) Platelet counts on admission and post-treatment, immediately prior to surgery:**

The mean admission platelet count was 126,098 (range: 58,101 - 323,000) in the CAMC series and 50,000 (range: 5,000 - 140,000) in those patients described in the literature. Platelet counts, immediately prior to surgery were not assessed in the CAMC patients. In patients described in the literature the mean preoperative platelet count was 97,000 (range: 57,000 – 187,000).

**D) Platelet counts intraoperatively**

Intraoperative platelet counts were assessed in only five CAMC patients (mean 83,000; range: 43,000 – 157,000) and available for only four patients in the literature. The mean intraoperative platelet count was 41,000 (range: 24,000 – 59,000).

**E) Platelet counts after surgery**

In the CAMC series, data were available for postoperative platelet counts performed within 24 hours after surgery (i.e. first postoperative day) for all 51 patients. The mean platelet count was 99,000 (range: 27,000 – 194,000). In the published literature series, postoperative platelet counts within 24 hours of surgery were available for only six patients. The 24-hour post platelet counts in those patients ranged from 35,000 to 242,000.

**F) Platelet and red cell transfusions**

Overall, 21 of 51 patients (40%) were transfused with platelets. In all except two, platelets were given either intraoperatively or postoperatively. The number of units of platelets transfused ranged from one to 52. The patient who required 52 units of platelets was an 80-year-old male who required a reoperation for excessive bleeding.

Information about red cell transfusions was available in 31 of the 51 cases. Red cell transfusions were given to 30 of these patients. The number of units transfused ranged from one to 34.

**G) Excessive bleeding complications**

Excessive bleeding complications were reported in 3 (5.9%) of the 51 patients, two of whom required re-exploration. Of those requiring surgical intervention, one patient (an 80 year old male) also received 52 units of platelets. No surgical bleeding was found in either case and both were treated medically for their coagulopathy. The third patient with excessive bleeding was an 80-year-old male who required a return trip to the operating room. All three recovered and were discharged.

Of these, three required re-exploration. One was for bleeding in the mammary artery bed that occurred on the day following surgery. Two patients required re-exploration for a large pericardial effusion. The remaining patients had prolonged postoperative bleeding from chest tubes that was eventually controlled without...
surgical intervention or by platelet transfusion. No postoperative deaths from bleeding were observed. However, two patients expired: one an 85 year old female who developed thrombotic thrombocytopenic purpura (ITP) and expired despite plasmapheresis and the other a 70 year old male who developed acute renal failure and sepsis postoperatively.

**Discussion**

Immune thrombocytopenia (ITP) is an autoimmune disorder characterized by platelet destruction caused by an antiplatelet autoantibody (usually IgG) that results in platelet phagocytosis by the reticuloendothelial system. Autoantibodies that are reactive with major platelet membrane glycoproteins (GP) are directed against epitopes on GP IIb/IIIa or GP Ib/IX complexes. Although most antibodies function as opsonins and accelerate platelet clearance by phagocytic cells, occasional antibodies bind to epitopes on crucial regions of these GPs and impair platelet function.

Patients with asymptomatic, mild or moderate thrombocytopenia (platelet counts greater than 50,000/ul) can often be followed with no treatment and can undergo surgery. When platelet counts go below 50,000/ul and especially below 30,000/ul, the conventional initial treatment is glucocorticoids (e.g., Prednisone). Approximately two-thirds of patients respond in a matter of days but refractory ITP may occur when glucocorticoids are reduced. Other treatments that can be used include intravenous immune globulin (IV IgG), intravenous anti-D (Win-Rho), Azathioprine, cyclophosphamide, and Danazol. Splenectomy is often a viable option for ITP patients refractory to corticosteroids especially if the platelet count is below 30,000. Platelet transfusions have traditionally been reserved for hemorrhaging patients or for patients being prepared for surgery. Cardiac surgery with CPB causes bleeding complications because of heparinization, destructive effects of CPB on platelets, activation of tissue factor, and fibrinolysis. Hyperthermia employed during CPB adversely affects hemostasis as well. CPB is responsible for a transient decrease in platelet count because of hemodilution from priming the pump with colloid or crystalloid solutions and mechanical platelet damage. Platelets become activated as they pass through and adhere to the fibrinogen coated artificial surfaces in the bypass circuit. Bypass-induced defects in platelet function result from such platelet activation and is associated with alpha-granule release and a decrease in levels of platelet secretory adenosine diphosphate (ADP). Hyperfibrinolysis associated with CPB likely results from thrombus formation in the pericardial cavity followed by local and subsequent systemic fibrinolysis. The hemostatic defects of CPB are more prominent in patients with ITP.

Reports of ITP patients undergoing CABG is limited to those mentioned above. However, no definitive management of such patients has been defined. Undoubtedly management of the platelet count is pivotal in these patients. Thus judicious use of platelet transfusions has frequently been used, particularly in those actively bleeding. Although it is assumed that most patients with ITP have rapid platelet destruction, clinical experience with platelet transfusions has demonstrated that many patients have platelet count increments that last for durations from 24 to 48 hours. However, the risk of allogeneic transfusions extend beyond viral transmission and include allergy, alloimmunization, bacterial sepsis, graft versus host disease (GVHD), transfusion associated lung injury (TRALI), volume overload, and immunosuppression. In a retrospective study of platelet transfusions in patients undergoing cardiac surgery, Spiess et al reported that patients receiving platelets intraproactively were more likely to have serious adverse events such as infection, respiratory failure, stroke, and death. Since the above study was not prospective or randomized, the data may simply indicate that platelet transfusions are a surrogate matter for sicker patients. However, since a direct contribution to poor outcome by platelet transfusion remains possible, a more conservative and targeted use of platelet transfusions is suggested.

The platelet count can be supported by intravenous gammaglobulin (IV IgG) and anti-D (WinRho). Both of these agents increase the platelet count in most patients within several days and for several weeks. The major effects of IV IgG are probably mediated by blockage of macrophage Fc receptors; as a result, the antibody-coated platelets do not attach to the macrophages avoiding destruction by phagocytosis. Adverse reactions are rare and occur in less than 1% of non-immunodeficient patients. Anti-D is effective only in RH-positive, unsplenectomized patients in whom the immunoglobulin binds to the erythrocyte D antigen; immune-mediated clearance of the sensitized erythrocytes occupies the Fc receptors in the reticuloendothelial system, thereby minimalizing removal of antibody-coated platelets. The response rate in one series was 70%, with the increase in the platelet count lasting more than 21 days in 50% of the responders. Both anti-D and IV IgG can cause mild alloimmune hemolysis. If a RH(D)-positive patient who received Win RHO requires a red cell transfusion. RH(D) negative red cells should be used to avoid worsening ongoing hemolysis. Caution should be exercised if the patient receives platelets from RH (D)-positive donor,
since these preparations may contain significant quantities of red cells.

A number of maneuvers have been attempted to further reduce the hemostatic abnormalities associated with CABG. These techniques include the use of heparin to coat the artificial surfaces of CPB devices using centrifugal rather than roller pumps, performing coronary artery surgery without bypass, and the use of recombinant factor VIIa in those with intractable bleeding.\textsuperscript{14,20}

Several pharmacologic agents have been used in the management of postoperative bleeding. Patients with a prolonged bleeding time and excessive blood loss postoperatively may respond to Desmopressin (DDAVP), as evidenced by shortening of the bleeding time. However, results of trials with this agent have been contradictory with some studies showing a reduced blood loss and others showing no benefit.\textsuperscript{21} Agents that preserve hemostasis through plasmin inhibition include Epsilon aminocaproic acid (EACA or Amicar\textsuperscript{\textregistered}), tranexamic acid (TA), and aprotinin. The common mechanism is inhibition of the fibrinolytic pathway. EACA and TA are synthetic agents that competitively inhibit plasmin. They adhere to the lysine-binding sites of plasminogen and plasmin to interfere with plasmins ability to digest fibrinogen, fibrin, and platelet glycoprotein receptors.\textsuperscript{21}

In contrast, aprotinin is a broad-spectrum protease inhibitor that inhibits factor XII and kallikrein-mediated conversion of plasminogen to plasmin. It has anti-inflammatory and anticoagulant properties that may preserve hemostasis by inhibiting the contact pathway and possibly the tissue factor pathway. Aprotinin may also preserve platelet integrity and function by inhibiting proteolytic alterations in the von Willebrand factor and platelet glycoprotein Ib and IIb/IIIa. Treatment with aprotinin is usually started preoperatively and continued for the duration of surgery, with reported reductions in blood loss of 50 percent. It has been applied topically to the pericardium to inhibit local fibrinolysis. Its major toxicities include allergic reactions and pancreatitis.\textsuperscript{22} However, a recent observational study involving 4,374 patients undergoing CABG indicated that the use of aprotinin was associated with a doubling in the risk of renal failure requiring dialysis, a 55 percent increase in the risk of myocardial infarction or heart failure, and a 18.1 percent increase in the risk of stroke or encephalopathy. In this study, neither EACA nor TA was associated with an increase risk of renal, cardiac, or cerebral events.\textsuperscript{23} As a result of the above study aprotinin is no longer available.

The role of preoperative corticosteroids in ITP patients...
undergoing CABG is unclear. The patients with ITP in the CAMC series received corticosteroids 3 to 4 days prior to CABG with little increase in platelet count. No randomized studies of the use of corticosteroids given prior to CABG to determine if there is an increase in platelet count and/or decrease in bleeding complications have been published.

Since our study and others in the literature are retrospective, they have the inherent weaknesses of any retrospective study. These include the inability to control other confounding variables, which may affect the results such as surgeon skill, surgeon bias (i.e. tendency to transfuse blood products in those labeled as having ITP), other underlying medical conditions (e.g. hemoglobin less than 10 grams per dl, low ejection fraction, renal insufficiency and prior therapy for ITP). Covin et al reviewed the records of 3,034 patients undergoing elective CABG to determine which combination of preoperative demographic, clinical, and laboratory factors are the best predictors of blood component usage. They found that the platelet count was a predictor of intraoperative use of fresh frozen plasma and platelets but not red cells. 24

Conclusion
Based on the 51 cases described above it appears that patients with ITP presenting with mild or moderate thrombocytopenia (i.e. platelet count ≥ 50,000) can be successfully supported to control bleeding during or after CABG with IV IgG and/or platelet transusions. The short term use of corticosteroids preoperatively was not helpful but remains to be studied further. The role of Desmopressin (DDAVP) and Epsilon aminocaproic acid (AMICAR®) in controlling post CABG bleeding is unclear.

References

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Dec. 2 - Robert C. Byrd Health Sciences Center of WVU-Charleston Division
Charleston, WV

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Urinothorax: a Rare Cause of Pleural Effusion

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Abstract

There are many benign causes of pleural effusions that can be followed expectantly. This case report will detail a rare cause of pleural effusion. The evaluation of this patient led to a diagnosis of urinothorax. This case will highlight the importance of a thorough history and physical, as well as diagnostic evaluation of effusions of unknown etiology. With the increasing number of urological procedures being performed, it will likely become a more frequent finding.

Introduction

Pleural effusions are commonly encountered on chest radiography. Many benign causes can be followed expectantly. The following is a case of urinothorax which required urgent evaluation and management in the face of increasing respiratory insufficiency. This presentation is seen in a patient after complex urologic disease and complex instrumentation of the urinary tract. An ipsilateral pleural effusion in this context may suggest a urinary tract communication. Diagnosis includes assessment of pleural fluid creatinine to serum ratio. Management generally requires decompression of the urinary tract. The following provides details of a typical presentation.

Case Presentation

A 52-year-old Caucasian female presented to the emergency department with increasing dyspnea for three weeks. The patient had a history of nephrolithiasis and three weeks prior to presentation, had undergone a right nephrolithotomy with right ureteral stent placement and percutaneous nephrostomy. Review of the procedure note revealed access was originally planned at the lower pole of the right kidney; however, the stone appeared to occupy the entire calyx and the wire could not be navigated past the stone. Therefore, upper pole access was obtained via percutaneous puncture of the upper pole of the calyx. Immediate return of urine was noted. Stone removal was complex, requiring laser, ultrasound fragmentation, suction and basket extraction. During post-procedure outpatient follow-up, she was diagnosed with pneumonia and a parapneumonic effusion. She was treated as an outpatient empirically with levofloxacin and had serial chest radiographs to assess for progression of the effusion. Despite antibiotic therapy for one week, the patient's dyspnea continued to progress. She denied having fever, cough, chest pain, nausea or vomiting.

Examination revealed a blood pressure of 152/74 mm Hg, tympanic temperature of 35.7°C, and oxygen saturation of 96% on room air. Physical examination was unremarkable except for severely diminished breath sounds over the right lung field. Laboratory evaluation revealed a normal metabolic profile, with a creatinine of 0.9 mg/dL and BUN of 18 mg/dL. Cardiac enzymes and coagulation studies were within normal value ranges. Complete blood count was essentially normal. Electrocardiogram revealed normal sinus rhythm, rate of 96, with no significant ST segment or T-wave abnormalities. PA and lateral chest radiographs were compared with previous AP portable chest x-ray done immediately post-operatively, which revealed a new large right pleural effusion and near complete opacification of the right hemithorax (Figure 1). Thoracentesis pleural fluid revealed a red blood cell count of 10,000/ cu mm; white blood cell count, 47,520/ cu mm; neutrophil count, 54%; lymphocyte count, 4%; monomacrophage count, 42%; albumin, 1.7 g/dL (serum albumin, 2.7 g/dL); glucose, <2

Figure 1.
The AP portable chest radiograph on the left was taken immediately post-urological procedure. The PA radiograph on the right was taken 3 weeks later at presentation.
mg/dL; LDH, 3475 U/L (serum LDH, 197 U/L); total protein, <0.2 g/dL; amylase, 61 U/L; pH, 7.00; and BUN of 30 mg/dL.

The patient’s presentation and recent surgical interventions led to further investigation of the pleural fluid beyond the standard analyses. A pleural fluid creatinine level was checked and revealed a value of 3.1 mg/dL. A CT of the abdomen revealed a hypodense linear area along the position of the previous ureteral stent from the proximal right ureter through the kidney and into the right posterior chest wall (Figure 2).

**Discussion**

Urinothorax is a rare cause of pleural effusion. There have been fewer than seventy cases reported in the literature.\(^1\) Urinothorax, first described in 1968,\(^2\) is a pleural effusion that results from urine entering the pleural space through either an anatomical defect in the diaphragm or through diaphragmatic lymphatics.\(^3\) Pleural effusions secondary to urine accumulation in the pleural space have been reported as a result of urinary obstruction, renal biopsy, malignancy, blunt trauma, percutaneous and endoscopic urological procedures, and extracorporeal shock wave lithotripsy (ESWL).\(^4\) The patient’s pleural fluid creatinine to serum creatinine ratio was 3.1:0.9. A ratio of greater than one has been proposed as a biochemical test for establishing a pleural effusion as a urinothorax.\(^5\) The pleural fluid usually fulfills Light’s criteria for a transudative effusion, with the exception of an elevated LDH level.\(^1\) This patient’s effusion was complicated by pleural fluid culture positivity for *Candida glabrata*, which may have contributed to the effusion fulfilling all of Light’s criteria for an exudative effusion.

Relief of the urinary obstruction is therapeutic in most cases of urinothoraces caused by obstruction.\(^6\) Our patient’s urinothorax was secondary to tract formation from nephrostomy tube placement as evidenced on CT. Given the patient’s complex exudative effusion, she underwent tube thoracostomy placement to evacuate the effusion. Based on pleural fluid cultures, caspofungin was administered for a total of 42 days. The patient required right lung decortication due to failure of the lung to fully re-expand.

She was discharged home able to ambulate without oxygen, completing her antifungal therapy as an outpatient. Follow-up chest radiograph 6 months after initial presentation, revealed scarring in the right lung secondary to previous decortication, with no pleural effusions.

**Conclusion**

We have described a rare case of pleural effusion as a complication of percutaneous renal access. By conducting a careful history and physical and performing the appropriate testing, the diagnosis was elucidated. Increasingly complex urologic procedures may lead to an increased frequency of urinothorax. A complex urologic presentation and ipsilateral pleural effusion should heighten one’s index of suspicion for this important disorder.

**References:**


**Acknowledgement**

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The Integration of Clerkships: WVU’s Innovative Approach to Curriculum Delivery at a Regional Campus

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Abstract

Purpose: The purpose of this descriptive paper is to examine the development of West Virginia University School of Medicine’s integrated medical school curriculum on a regional campus.

Background: In 2003, the West Virginia University School of Medicine created a regional campus, the WVU Eastern Division, for third- and fourth-year medical students. The campus is located in a semi-rural area served by 3 small hospitals with lower numbers of physicians than average for West Virginia. Our campus was one of the first models in the United States using an integrated curricular design.

Conclusions: Assessment data suggest that students do as well on high-stakes examinations and have acquired preferred residency placements as well as students who learn in more traditional curricular models. Graduates have also remained to practice in West Virginia’s Eastern panhandle, helping to meet the patient care demands of an expanding population. Our experience may help inform future efforts to develop new curricular models for student education.

Introduction

The American Association of American Medical Colleges has recommended a 30% increase in medical student enrollment by 2015 to address a major physician shortage within the next decade. Accordingly, many medical schools are forming regional clinical campuses to meet class size expansion goals. Regional campuses are characteristically smaller and yield relatively more community-based experiences, and are ideal places for educational innovation.

The purpose of this paper is to describe how the West Virginia University School of Medicine, in cooperation with private practice community doctors, designed an innovative curriculum on a regional campus. This is one of the first models of an integrated curriculum in the United States that took advantage of a rich learning environment at a community-based campus. The curriculum was constructed to emphasize student learning across clerkships, allowing the acquisition of medical knowledge and demonstration of clinical skills in one discipline to complement opportunities for learning in other disciplines. Much has been learned since the curriculum was first introduced in 2003. As more medical educators across the nation consider developing regional campuses, our lessons learned may help inform decisions for curricular development. Our investigation of this innovative design will also help to make deliberate curricular modifications to maximize future students’ learning and meet the robust health care needs of citizens of the state of West Virginia.

Background

The West Virginia University School of Medicine has three campuses. The original campus is in Morgantown, West Virginia, where all students complete the first two years of four-year medical school curriculum. For the clinical years, approximately 55% of the students stay on the main campus, 35% go to a clinical campus in the state capitol, Charleston, and 10% of the class is assigned to the Eastern Division. The Eastern Division was started in 2003 and currently has third- and fourth-year students from both WVU and the WV School of Osteopathic Medicine. Core student rotations occur in a 3 county area of the Eastern Panhandle served by a 25 bed critical access hospital, a Veterans Affairs hospital, a 150 bed community hospital, a Family Medicine Rural Residency program, and a Federally Qualified Health Center (FQHC). The physician preceptors in the Eastern Division who teach medical students are primarily private practice, community-based faculty.

Respected medical educators have argued that a lack of sustained relationships between students, teachers and patients is a major problem, which should encourage new models of medical education. The current training of medical students is also not aligned well with society’s health care needs. One way to promote continuity of students’ educational and patient care experiences is to organize a curriculum that is longitudinal and integrated. Rather than compartmentalizing the curriculum into specific disciplines, some educators suggest that medical education should focus on preparing
students who have broad clinical skills that are coordinated across medical disciplines. Accordingly, West Virginia University developed the Eastern Division campus in 2003 with an emphasis on educational innovation and meeting the demands of physician shortage in the Eastern panhandle.

**Curriculum Creation**

The third-year curriculum at the other 2 WVU campuses consists of 6 core clerkships of 8 weeks duration during the third year of the curriculum. In the Eastern Division, 3 or 4 clerkships are interwoven into 2 semester blocks. Several concepts that were especially important and directed curriculum development were: (1) active hands-on clinical teaching and experiences; (2) developmental approach to delivery of clinical foundation building blocks; and (3) and the importance of teaching the art of medicine in a community and essential doctoring skills with an emphasis on patient-doctor communication. These considerations led to the development of an integrated, longitudinal and developmental learning curriculum.

The third-year curriculum is integrated without separate clerkship blocks. There are two, twenty-four week modules, containing disciplines that support one another. The “Osler” module includes Pediatrics, Obstetrics/Gynecology and Family Medicine. The “Cushing” module includes Surgery, Internal Medicine and Psychiatry/Neurology. This grouping allows for the didactics that span disciplines to be taught together. It also allows a student on call to experience cross-discipline patient care scenarios (e.g., both the delivery of a baby, as well as the follow-up care of that baby).

Second, opportunities for educational continuity and integration were created, most notably the student’s weekly continuity clinic with a family doctor actively practicing in the area. The curriculum encourages clinical faculty to teach, mentor, and develop long-term relationships with students over an entire year’s time, allowing for educational continuity in a doctor’s practice. Students also receive educational continuity in areas of the curriculum, such as weekly morning reports with the same internal medicine faculty, monthly preceptor-reviewed case sessions and weekly Obstetrics/Gynecology morning reports with case presentations. These activities allow multiple opportunities for formative feedback.

Developmental learning opportunities across the disciplines are in the curriculum. Because distance traveled during the week may be significant for the students, many of the formal education
activities given to all the students are delivered on Fridays. Every Friday, all students come together for a variety of experiences, such as lectures and discussion groups. In addition, students participate in multi-disciplinary simulated learning experiences, which include standardized patient encounters, simulations using mannequins and medication workshops. This simulation targets several learning expectations of a clinical case, including content knowledge, clinical, and communication skills. The Friday learning experiences help coalesce and further what students learn in the modules.

Students also engage in regular community immersion and service activities. Students can design their own project with a community representative, or they can participate in an existing project. These projects have included activities such as high school classroom teaching, conducting athletic cognitive evaluations pre- and post- athletic injury, teaching dental health care to grade school children, and co-managing an ADHD counseling sessions with a professional counselor. These learning opportunities engage medical students in the community and focus on preventive health care.

**Evaluation of the Curriculum**

While regional campuses can expand medical student training in different settings and improve medical care in underserved areas, the challenge is to ensure students are acquiring essential clinical skills in both primary and regional campuses. Like the students in the traditional blocks, our students take mid-term quizzes, shelf exams, and an Objectively Structured Clinical Exam (OSCE). The timing of the exams differs on our campus; the students take clerkship specific shelf exams in a 2 week period at the end of each module. We used these national and internally developed assessments to determine how well our regional medical students were performing academically relative to their peers. For example, mean discipline specific shelf scores between 2008-2009 were comparable to national scores and the scores from the other campuses (Table 1). All fourth-year medical students must also pass an Observed Structured Clinical Exam (OSCE) as a graduation requirement. There were no statistically significant differences between student scores in our integrated curriculum and the traditional curriculum.

**Lessons Learned**

Medical student feedback and observations about the Eastern campus were collected since 2003, leading to several curricular changes. The current module arrangement was set up after the first year for a better balance of clerkships that share basic information, types of patients and skill sets. Still, there was an initial concern over the extent students could negotiate learning material in different disciplines. Student feedback, however, suggests that reinforcement of learning topics is possible across the clerkships. Students noted that material studied and learned for one exam often was seen on the other disciplines’ exam. Both modules have information taught and experiences encountered that were complementary. In a typical day, for example, a student may see a patient on internal medicine service who ends up in surgery or a surgical patient who gets a medicine consult.

Student feedback also indicated that there was some difficulty acclimating to the modules, which immediately fragmented clerkships within each week. In response to this concern, a “mini-week” for each clerkship was added to the beginning of the modules. Students, then, had the opportunity to orient themselves to the environment and become familiar with the preceptors’ expectations. An inpatient, and more intense mini-week was also offered for each discipline at the end of the module, allowing students to demonstrate what they have learned throughout the module. Subsequent student evaluations confirmed that this adjustment was very helpful to their learning.

Graduates of our program have become our biggest proponents. In 2009, a survey of our Eastern Division alumni was conducted. Respondents

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<th>Charleston Mean Raw Score</th>
<th>Eastern Mean Raw Score</th>
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Table 1. National and Campus Shelf Exam Raw Scores across Subjects
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ranked teaching by community preceptors, the opportunity to have more hands-on experiences and the added responsibility for self-directed learning as the strongest advantages of the integrated curriculum. When asked if they would recommend the Eastern Division curriculum to future students, 93% responded “yes.” One alumnus, for example, commented: “I found myself to be well prepared for what I was expected to do in the next stages of my medical education.”

Residency choice may be influenced by campus characteristics. Early data suggest a trend toward greater choice of primary care than national averages, but students have selected a wide range of specialties. Figure 1 provides a distribution of residency choice by Eastern Division graduates. Our students have entered competitive residencies and after completion of residency, seven graduates have already returned to practice in West Virginia’s Eastern panhandle, helping to meet the patient care demand of an expanding population. By July 1, 2012, we anticipate 5 more graduates will be returning to practice in our area.

Summary and Future Directions
Much has been learned over the past eight years. Students rate the experience very positively with special praise for the one-on-one teaching by experienced clinicians and on the many occasions of practical learning and doing. Overall, medical students at the Eastern Division have been academically successful. They have earned comparable scores on high stakes exams as students in more traditional block clerkships and have entered a variety of residency programs. Most importantly, they have made a difference in the community, through community service projects and returning to practice where they trained.

Future efforts must explore the extent that an integrated and longitudinal curriculum may have an advantage over more traditional models of medical education. For example, some research has argued that students in a longitudinal curriculum have more consistent patient-centered attitudes compared to students who learn in block clerkships. Other benefits, such as enhanced self-directed student learning, providing clinicians greater flexibility to teach while maintaining a busy practice, and the value of a year-long continuity primary care experience need to be evaluated. Our future focus, then, will be directed towards defining and assessing the potential strengths and limitations of student development in a longitudinal and integrated curriculum.

References

Figure 1.
Number of Students from the Eastern Division Placed in Residency Programs by Specialty Choice

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Women and Children’s Hospital-CAMC

Abstract

Dog bites of the facial region are increasing in children according to the Center for Disease Control. To evaluate the epidemiology of such injuries in our medical provider region, we undertook a retrospective review of those children treated for facial, head and neck dog bite wounds at a level 1 trauma center. Most dog bites occurred in or near the home by an animal known to the child/family. Most injuries were soft tissue related, however more severe bites and injuries were observed in attacks from the pit-bull and Rottweiler breeds. Younger (under five years) children sustained more of the injuries requiring medical treatment. Injury Severity Scales were determined as well as victim and payer mix demographics, type and characteristics of injury, and complications from the attack.

Introduction

Dog bite injuries represent a serious medical and public health problem affecting 1.5% of the US population annually.1 An estimated 4.7 million people are bitten annually and of these approximately a fifth (19%) require medical attention.1,2

Most studies report that children, especially boys aged 5-9 years, have the highest incidence of suffering a dog bite.2-4 The face, head and neck areas are involved in 50 - 70% of these injuries.2-8 This is in contrast to adult victims who suffer only 5 to 15% of animal bites to the head and neck.2-9 Injury severity can range from minor lacerations to death. Moreover, many children who are attacked by dogs develop post-surgical complications and require revision procedures.

This report aims to describe the epidemiology of dog bite injuries in 40 children presenting to the Charleston Area Medical Center (CAMC, Charleston, West Virginia) over a 4-year period (January 2005 – December 2009). This data may help to raise public awareness and to develop prevention strategies to protect children who are most vulnerable to dog attacks.

Methods

Between January 2005 and December 2009, 40 children (21 boys, 19 girls) were treated at the Charleston Area Medical Center for dog bite injuries to the face, head and neck. These patients were identified based on ICD-9 codes (906.0) in the Trauma Registry records. This study was reviewed and approved by the Institutional Review Board at CAMC.

The following demographic data were collected for all patients aged 16 years and younger admitted to the ED of our institution with a dog bite: age, gender, payer source, ethnicity, and location (rural/urban). Accident details included injury location (home or other), breed of dog, dog vaccination history, dog known to victim, injury severity score (ISS), and anatomical area of injury. Injury management information included length of hospital stay, management of the injury, number of surgical revisions, and incidence of complications.

Since this is a retrospective design the data were analyzed using descriptive statistics. Data were tabulated using the Excel program.

Results

There were 21 boys and 19 girls. The average age was 5 years (range: 1 - 13 years). The payer source was Medicaid (n=21, 53%), HMO/PPO (n=6, 15%), and commercial (n=9, 22%). (See Table 1) The majority of the injuries occurred in a rural setting (n=21, 53%), urban (n=9, 22%), and unknown (n=10, 25%).

The dog attack took place in a site familiar to the child including a family member’s home (n=25, 63%) or neighbor’s home (n=7, 17%). Eight attacks took place elsewhere (20%) (see Table 2). The most common breed was a Pit bull-type dog (n=12); other breeds included Rottweiler (n=6), Collie (n=4), Bulldog (n=3), Husky (n=3), and Saint Bernard (n=2) (Table 3). Canine vaccination history was known for the majority of dogs (n=25). The remainder (n=15) were quarantined to determine infectivity; no child required rabies vaccination. In a majority of instances in which the dog was identified (n=31, 78%), it was known to the victim or to the victim’s parents. (See Table 2)

The areas of injury (see Table 4) included the cheek (n=16), lip (n=15), ear (n=8), forehead (n=7), scalp (n=5), eyelid (n=5), and nose (n=4). Bites (n=8) also were recorded on the limbs and shoulders, as well as the facial region, suggesting a more violent or aggressive attack.

Table 1. Demographic Data of Patients

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N (40)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age group (years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-4</td>
<td>18</td>
<td>45</td>
</tr>
<tr>
<td>5-9</td>
<td>15</td>
<td>38</td>
</tr>
<tr>
<td>10-14</td>
<td>7</td>
<td>17</td>
</tr>
<tr>
<td>Payer source</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicaid</td>
<td>21</td>
<td>53</td>
</tr>
<tr>
<td>HMO/PPO</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>Self-pay</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>Commercial</td>
<td>9</td>
<td>22</td>
</tr>
</tbody>
</table>
Four patients sustained facial fractures involving the skull (n=1) and midface (n=3). The skull and orbital fractures were puncture and small fragmentation type fractures from pit-bulls. Eight patients had injuries to ductal/neurovascular structures including the facial nerve (n=5), lacrimal duct (n=3) and superficial temporal artery (n=2).

All children required surgery for management of their soft tissue wounds. Other treatments included: facial fracture repair (n=1), inferior canaliculus repair (n=2), and facial nerve microneural repair (n=3). The average ISS (Injury Severity Scale; the higher the score the more severe the injury) was 3.5 (range: 1-10). Eleven children required hospitalization with an average length of stay of 2 days (range: 1-4 days). Post-surgical complications included excessive hypertrophic scarring (n=11), infection (n=3) and loss of tissue (n=1). Revision surgery was required in 11 children and included scar revision (n=9), ear reconstruction (n=3) and scalp and cheek reconstruction with local flaps (n=2).

### Discussion

This report presents data on 40 children treated at the Charleston Area Medical Center over a 4-year period for dog bite injuries to the head, face, and neck. In our patient population there was an alarmingly high incidence of injuries in the younger age groups, similar to that published elsewhere.\(^1\)\(^-\)\(^6\) We saw more children less than five years of age with dog bite injuries in contrast to national estimates from the Centers for Disease Control and Prevention (CDC), which found highest rates of ED-treated dog bites among children ages 5 to 9 years.\(^1\)\(^,\)\(^2\) Injury severity scales of children who are admitted to the hospital with dog bite injuries range from 1 to 25 with an average score of 4.\(^9\) The mean injury severity score of children in our group was slightly lower at 3.5 (range: 1-10).

In 78% of the attacks, the dog was known to the victim or to the victim’s care givers, a finding consistent with the literature.\(^10\)\(^-\)\(^12\) Our results also support previous findings that dog bite injuries more often occur

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**Table 2. Characteristics of Attack**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Relationship between dog and victim</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family member</td>
<td>19</td>
<td>47</td>
</tr>
<tr>
<td>Family friend</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>Neighbor</td>
<td>7</td>
<td>18</td>
</tr>
<tr>
<td><strong>Total (dog known to victim)</strong></td>
<td>31</td>
<td>78</td>
</tr>
<tr>
<td>No relationship</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Unknown</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td><strong>Location of attack</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family member’s home</td>
<td>25</td>
<td>63</td>
</tr>
<tr>
<td>Neighbor’s home</td>
<td>7</td>
<td>17</td>
</tr>
<tr>
<td>Unknown</td>
<td>8</td>
<td>20</td>
</tr>
</tbody>
</table>

**Table 3. Breed of Dog**

<table>
<thead>
<tr>
<th>Dog Breed</th>
<th>N=40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pit Bull</td>
<td>12</td>
</tr>
<tr>
<td>Rottweiler</td>
<td>6</td>
</tr>
<tr>
<td>Collie mix</td>
<td>4</td>
</tr>
<tr>
<td>Bull Dog</td>
<td>3</td>
</tr>
<tr>
<td>Husky</td>
<td>3</td>
</tr>
<tr>
<td>St Bernard</td>
<td>2</td>
</tr>
<tr>
<td>Unknown</td>
<td>10</td>
</tr>
<tr>
<td>Vaccinated (+, -)</td>
<td>+ 25, - 15</td>
</tr>
</tbody>
</table>

**Table 4. Description of Dog Bite Injuries**

<table>
<thead>
<tr>
<th>Anatomical area of injury</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lacerations/Avulsions</strong></td>
<td></td>
</tr>
<tr>
<td>Cheek</td>
<td>16</td>
</tr>
<tr>
<td>Lip</td>
<td>15</td>
</tr>
<tr>
<td>Ear</td>
<td>8</td>
</tr>
<tr>
<td>Forehead</td>
<td>7</td>
</tr>
<tr>
<td>Scalp</td>
<td>5</td>
</tr>
<tr>
<td>Eyelid</td>
<td>5</td>
</tr>
<tr>
<td>Nose</td>
<td>4</td>
</tr>
<tr>
<td>Neck</td>
<td>4</td>
</tr>
<tr>
<td>Other, Limbs</td>
<td>8</td>
</tr>
<tr>
<td><strong>Ductal/Neurovascular Injuries</strong></td>
<td></td>
</tr>
<tr>
<td>Facial nerve</td>
<td>5</td>
</tr>
<tr>
<td>Lacrimal duct</td>
<td>3</td>
</tr>
<tr>
<td>Superficial Temporal Artery</td>
<td>2</td>
</tr>
<tr>
<td><strong>Fractures</strong></td>
<td></td>
</tr>
<tr>
<td>Skull</td>
<td>1</td>
</tr>
<tr>
<td>Orbit</td>
<td>1</td>
</tr>
<tr>
<td>Nasal</td>
<td>2</td>
</tr>
</tbody>
</table>
at the family home or at the home of a neighbor.\textsuperscript{4,13} The association between increased tendency to attack and the dog’s home environment could be explained by the need to express protective, possessive, or fear-induced aggression.\textsuperscript{14-16} Children, in particular may not be able to discern between a dog that feels threatened and one that is playing.\textsuperscript{14}

Most of our patients (53\%) were on Medicaid, an indication of low socioeconomic status which may reflect a less controlled environment in which children are exposed to more hazards and risk. In order to avoid insurance coverage bias as it relates to ER visits, the Medicaid percentages for general trauma in children was determined through the institutional coding and data registry bank. For the study period, approximately 8.2 \% of those children presenting to the ER for trauma-related conditions had Medicaid insurance coverage. This demonstrates a disproportionate number of children from families with Medicaid coverage who suffered dog bites relative to the general pediatric trauma population at the same institution. This may beg the question as to why such a disproportionate number of Medicaid-covered children present with dog bite injury? Dog-owners in a lower income neighborhood may not have or provide the necessary training or supervision needed to minimize a high bite-risk situation.\textsuperscript{3} Moreover, another study showed that dog bite injuries occurring in low income areas were attributed to large numbers of children playing outdoors, few homes with adequate fencing, poor dog control, and a high proportion of large-breed dogs owned for protective purposes.\textsuperscript{16} Unfortunately, these social variables could not be ascertained in our study.

Similar to other reports,\textsuperscript{5,12,17} the pit bull-type dog was the breed most commonly involved in a bite injury (30 \%). Pit bull-type dogs and Rottweilers have been bred to hunt vermin, protect property, and work livestock.\textsuperscript{3} In situations where they are not controlled, these dogs could revert to instinctual behaviors.\textsuperscript{14} In addition, bites from these breeds can result in more serious injury because of their size and strength. The skull and orbital fractures were caused by a pit-bull bite which is characterized as a “vice-grip” which crushes, avulses and strangles, potentially making it a more dangerous breed. Finally, breed assessment is often subjective. Our data relied on the owner and victim (parents) to describe the breed which then was entered into the medical record. Bites from large-breed dogs, especially pit bull-type dogs and Rottweilers are more likely to result in more severe injuries, subsequent medical care and report, which may over-represent those breeds among biting dogs –

Beckley ARH
Adolescent Behavioral Science Center

Teenagers face numerous challenges today that can sometimes cause them to have serious issues.

Beckley ARH’s Behavioral Science Center can intervene to help them cope and prevent a problem from becoming worse as they enter adulthood. The Unit allows for an excellent opportunity to identify, diagnose and treat problems at an early stage so they can get back to school and what should be some of the happiest times of their lives.
in other words, creating reporting bias.\textsuperscript{11,14} However the severity of injury necessitating medical attention should not be overlooked when considering the breed of dog generating more severe injuries.

In our chart review, it was difficult to ascertain whether the dog attack was provoked or unprovoked as this relies on patient narratives. Examples of narrative comments in the medical records included: “playing with dog” or “petting dog, got close to face”. These were generally brief, vague, and often absent. Thus we did not include this variable in our report. Other studies have shown that the majority of dog attacks are documented as “unprovoked”.\textsuperscript{5,15-17}

It is our hope that this study contributes to the existing data on dog bites in children. We found that younger children (under five years) may be more at risk for dog bites in our medical provider region. We also verified that the majority of dog bites occurred in a lower socio-economic setting where burdens of care are already great. Most injuries occurred in the facial region. Our results support the findings of previous studies that dog bite injuries in children most commonly occur in or near home by a dog known to the victim. Dog bite injuries are a largely preventable cause of trauma; as such preventative strategies should be multi-directional.

References

Enhancing Community Partnerships during a Public Health Emergency: The School-Located Vaccination Clinics Model in Kanawha County, WV during the 2009 Influenza A (H1N1) Pandemic

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Clinical Assistant Professor, Department of Medicine, WVU School of Medicine, Charleston
Clinical Associate Professor, School of Pharmacy, University of Charleston, Charleston

Abstract

Broad based community support is vital in developing a comprehensive national strategy to protect the public’s health prior to, during and after a disaster such as pandemic influenza. When disaster strikes, the successful response is often dependent upon the degree of collaboration, coordination, and shared decision making occurring among a wide-ranging group of public and private stakeholders in the community. Since these preparedness and response activities must occur at a local level, the degree to which a certain community can become resilient after an event is directly dependent upon the success of the response activities.

In order to protect its citizens, the Kanawha-Charleston Health Department (KCHD) led a comprehensive community based response to the 2009 Influenza A (H1N1) pandemic. By organizing a high level strategic team consisting of major community stakeholders, KCHD was able to develop broad based community support for its mitigation and countermeasure delivery strategies. The timely enhancement of the existing community partnerships enabled us to successfully conduct several response activities with local community support including school-located vaccination (SLV) clinics. We describe the process, results and challenges faced during our SLV clinics campaign which resulted in exceptionally high vaccination rates for school aged children compared to other jurisdictions across the nation. We also discuss how such partnerships can be sustained resulting in resilient communities and mention some strategies for those contemplating such partnerships in future public health emergency.

Introduction

The first influenza pandemic of 21st century was declared by the World Health Organization on June 11, 2009 and was followed by substantial increase in influenza activity.1 During such a public health emergency, successful effort to prevent illness, death and community disruption requires a multifaceted approach.2 While a well coordinated effort by local, state and federal agencies is essential, a robust grassroots community response can result in improved health outcomes. Locally organized and sustained community partnerships outline the foundation for any successful preparedness and response efforts which eventually lead to a more resilient community.

On August 21, 2009, the U.S. Centers for Disease Control and Prevention’s (CDC) Advisory Committee on Immunization Practices (ACIP) issued recommendations on the use of Influenza A (H1N1) 2009 Monovalent vaccine as a countermeasure.3 In making its recommendations, ACIP asserted that since the initial supply of vaccine may be inadequate to meet the rising demand, certain groups at highest risk for infection or influenza-related complications should be the initial targets for vaccination. U.S. pandemic preparedness and response plans also indicate that the entire population should be vaccinated beginning with defined priority groups.4 The five initial target groups for vaccination identified included: pregnant women, persons who live with or provide care for infants aged <6 months, health care and emergency medical services personnel, children and young adults aged 6 months - 24 years, and persons aged 25 - 64 years who are at higher risk for influenza-related complications. Similar to many other jurisdictions across the nation,

Figure 1.
Conceptual framework for community-based response leading to improved health outcomes in a public health emergency
local health departments in West Virginia were expected to utilize the limited initial vaccine supply to conduct an early H1N1 influenza vaccination campaign targeting the above mentioned priority groups which accounted for approximately 50 percent of the population while continuing to perform their day to day functions in public health.

Influenza viruses can cause disease among persons in any age group, but rates of infection are highest among children. Influenza infections also result in frequent outpatient and emergency department visits, school absenteeism, and loss of parental work productivity. School-aged children have high influenza illness attack rates and play a key role in influenza transmission throughout the community. Additionally, sufficient research has demonstrated that mass vaccination of school-aged children may be the most efficient approach in reducing population-level influenza illness attack rates. Several modeling studies suggest that if >50 percent children were vaccinated, influenza burden could be reduced significantly. Existing data has demonstrated the direct beneficial effects of the School-Located Vaccination (SLV) clinic campaigns. Researchers have predicted that such type of expanded influenza vaccination strategy in children will likely decrease the number of influenza cases across all population groups, decrease the impact of influenza on the health care system, protect more susceptible contacts, decrease the economic impact of influenza, and increase the community capacity to deliver vaccine to general population. However, challenges remain in developing community support systems to assist in the operational complexity of carrying out such plans.

The purpose of this article is to describe how enhanced community partnerships in Kanawha County, WV resulted in a successful and sustainable vaccination campaign with high rates of pandemic influenza vaccination among children enrolled in Kanawha County Schools (KCS) leading to a more resilient community.

**Methods**

Compared with previous years, a disproportionately higher morbidity and mortality in children due to the 2009 pandemic influenza A (H1N1) was recognized early on. Based on the conceptual framework that in a public health emergency, most improved health outcomes would materialize in communities that developed broad-based partnerships consisting of key stakeholders...
and that such preparedness and response efforts were grounded in existing scientific evidence (Figure 1), the Kanawha-Charleston Health Department (KCHD) initiated organizing a county-wide H1N1 task force in June 2009. The task force consisted of over 150 various organizations and individuals who would assist in formulating a comprehensive local strategy for responding to this national emergency. Six committees that comprised the task force included: education, health care, human protection (emergency management, law enforcement, others), special population, business and community relations and government. One of the early assignments of the education committee was to develop a process to offer the 2009 pandemic H1N1 influenza vaccine to over 30,000 children enrolled in public and private schools in Kanawha County, WV.

**Population Setting**

Home to the state Capitol, Charleston, Kanawha County is the largest and most populated county in state of West Virginia. With a population of nearly 200,000, 21 percent of residents are under 18 years of age, 89 percent are White and 8 percent are Black. Per 2009 U.S. Census, median family income in Kanawha County was $41,488 ($37,528 in state) and 15.8 percent of families were below the poverty level (17.4 percent in state). There are over 30,000 children enrolled in public and private schools in Kanawha County Schools (KCS).

**School-Located Vaccination (SLV) Clinics Planning**

Planning for SLV clinics with school officials commenced in June 2009. Attitudes and perspectives of participating staff and volunteers were carefully measured. Since several schools did not have full time nurses on their staff, staff sharing from other schools was expected. The planning, including consent forms development, clinic schedule and medical screening was done on a collaborative basis between KCHD and KCS.

**Partnerships and Training**

Through the Kanawha County H1N1 task force, KCHD partnered with school nurses, county and city paramedics, a school-based health center and community volunteers/parents to conduct multiple onsite SLV clinics each day. KCHD was able to garner support from both the County Commission as well the Mayor’s administration to dedicate the resources required in order to enable these partnerships. Initially, each member on the team was trained in person. However, as the demands on the system increased, KCHD developed a ‘training DVD’ which was provided to each new member in order to enable ‘on the go’ training. Regular information and situational awareness on pandemic influenza was also provided to community providers and local hospitals. Volunteers were critical to our community mitigation efforts.

**SLV Clinic Process**

The standard process involved sending a packet home with the child that included a consent form based on CDC guidelines and templates. Parents were notified by automated phone call the day package was sent, and the day prior to vaccination. School nurses reviewed the forms for parental consent and accuracy including medical screening. Each day, several vaccination teams were dispatched to various schools with cold chain maintained vaccine. Each team would partner with school nurses, staff members and volunteers to conduct the clinic and then move to another school on the schedule. On clinic day, as young children prepared to be vaccinated, staff would place nametags/stickers and organize them into two lines based on whether they were receiving the live or inactivated vaccine. This resulted in significantly increased efficiency. During clinics, those parents who were either pregnant, or if they had other young children were also invited. All vaccine was administered free of cost. A similar process for consent was repeated for children <10 years for second dose of the vaccine.

**Media and Public Education Campaign**

An advanced schedule for SLV clinics was published thru weekly press releases as well as placed on the KCHD, KCS and other business websites. Local governments agreed to link all information and queries to KCHD website as well. KCHD actively participated in several stories run by the local media on pandemic influenza. Additionally, several town hall style meetings with concerned parents were held in county high schools.

**Vaccine Supply**

The initial supply of the 2009 pandemic H1N1 influenza vaccine was limited and unpredictable. However, we were able to schedule and maintain our timetable without having to cancel or reschedule any clinics due to supply issues.

**Data Collection, Reporting and Analysis**

All permission forms were collected prior to the vaccination day, whether consent was provided by parents or not. Each vaccinated child was provided a vaccine administration record. All vaccine administration information was reported into the state immunization registry by KCHD staff. Final analysis was conducted by an epidemiologist.

**Other Influenza Vaccine Clinics**

While SLV clinics were being conducted, KCHD continued to support its scheduled clinics at the main office for remainder of the population targeted at the time. As supply availability improved,
vaccine was also distributed to health care providers, local hospitals and colleges/universities. Population vaccinated by KCHD staff included residents from 14 other neighboring counties.

Results

KCHD initiated its SLV clinics on October 27, 2009 to target children in accordance with CDC’s guidelines. Since children aged <5 years or those with certain chronic medical conditions are at increased risk for complications and death from influenza, SLV clinics were initiated in elementary schools and day care centers and subsequently middle and high schools were included in the schedule. First round of vaccinations was completed on December 1, 2009. This was immediately followed by second round which included revisiting schools to provide second dose of the vaccine to all children aged <10 years. SLV clinic campaign concluded on January 13, 2010. Up to 14 different onsite clinics in schools were held each day and a total of 169 SLV clinics over 8 weeks (excluding holidays) were held in schools during the campaign.

Of the more than 116,000 doses of the 2009 pandemic influenza (H1N1) vaccine available in Kanawha County, excess of 21,000 doses were administered to children in KCS (Table 1). The buy-in rates ranged from approximately 57 percent in elementary schools to 31 percent in high schools. The overall buy-in rate was 49 percent. An evaluation of the SLV programs across the nation conducted during the 2009 pandemic influenza A (H1N1) by the Office of Inspector General, Department of Health and Human Services reported an average vaccination rate of 28 percent at selected SLV locations. Our vaccination rates exceeded this reporting by 21 percent. For children under 10 years of age who were recommended to obtain 2 doses, 4 weeks apart, our second dose rates were close to 62 percent (Table 2). Our rates for second dose also far exceeded the national average since the percent of children under ten who received both doses of H1N1 vaccine across the nation was estimated to be significantly lower, ranging from 17 to 33 percent.

Discussion

In December 2009, the first National Health Security Strategy (NHSS) was released by the Health and Human Services Secretary, Kathleen Sebelius, recognizing that in a public health emergency, locally organized and sustained community partnerships form the foundation for any successful preparedness and response efforts. This strategy has been structured...
Table 1: Number of Students who received the 2009 pandemic influenza A (H1N1) vaccine in Kanawha County Schools, WV via School-Located Vaccination (SLV) Clinics

<table>
<thead>
<tr>
<th></th>
<th>Total number of Students Enrolled</th>
<th>Number of Students Receiving Vaccination</th>
<th>Percent of Students Receiving Vaccination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>14,002</td>
<td>7,980</td>
<td>56.99%</td>
</tr>
<tr>
<td>Middle</td>
<td>6,515</td>
<td>2,892</td>
<td>44.39%</td>
</tr>
<tr>
<td>High</td>
<td>7,925</td>
<td>2,472</td>
<td>31.19%</td>
</tr>
<tr>
<td>Private</td>
<td>2,169</td>
<td>1,190</td>
<td>54.86%</td>
</tr>
<tr>
<td>Totals*</td>
<td>30,611</td>
<td>15,083</td>
<td>49.27%**</td>
</tr>
</tbody>
</table>

*Total doses administered in Kanawha County Schools (including 2 doses for children <10 years) via SLV clinics = 21,102
**Nationally, the corresponding average vaccination rate via selected SLV sites was 28 percent

In an effort to mobilize local communities, KCHD organized a county-wide H1N1 task force and developed broad-based community partnerships leading to fostering of informed and empowered individuals and communities in which we were able to maintain local and global situational awareness at all times. Workforce issues were addressed through assisting local businesses in developing continuity of operations planning. Several community based initiatives were organized including engaging the local healthcare community to foster integrated and scalable health delivery systems. An effective community-wide communication campaign led to diminished public anxiety and better and timely awareness of available prevention and mitigation including specific countermeasures. Remarkably, these efforts concurred with the strategic objectives outlined in NHSS which was released several months later.

The cornerstone of such community-wide partnerships was, however, sustained by early initiatives such as SLV clinics. The task force recognized our community private providers are unlikely to serve as the primary vaccinators of school-aged children during influenza pandemic since they would be unable to rapidly vaccinate large numbers of children in a short period of time. Therefore SLV clinics were among the best identified and evidence-based methods to quickly vaccinate a large number of children under safe and trusting environment by utilizing the already existing public health framework including school nurses and thus protect the community against ongoing influenza pandemic. The members also understood that the benefit also directly depends on how rapidly the vaccination campaign is commenced after identification of the first case. However, some of the typical barriers in organizing SLV clinics include lack of organizational setup, communication, planning, adequate resources, disruption in educational activities, and differences within schools as well as maintaining and transporting vaccine. Challenges also remain in developing community support systems that would address the operational complexity of carrying out such plans. Perhaps this may have been the case for lack of optimism at all levels of government (federal, state and local) that resulted in much lower vaccinations rates nationally than was expected during the 2009 H1N1 influenza pandemic (WV 24.2 percent; national median 23.9 percent). Likewise, our successful efforts were not without encountering some of these challenges including investment into the expansion of new partnerships, developing training modules, timely risk communication, delegation of specific roles and responsibilities, monitoring the clinics flow as well as entering all the data into a centralized state immunization registry. Additionally, our rates for high school students were much lower which may have been impacted by decreasing prevalence of disease during later months as well as general lax attitude in this age group towards illness. While medication administration errors were rare, there remained a potential for public resentment. However, despite the challenges, our efforts were met with wide public acceptance, no school closures and minimal disruptions in educational activities. As a result, Kanawha County was able to rapidly incorporate post-incident health recovery into future planning and response. Our community was not only able to achieve resilience but the positive momentum and partnership experience led KCHD and KCS to initiate annual seasonal influenza SLV clinics campaign for students enrolled in Kanawha County Schools.
Conclusion

By utilizing the H1N1 task force in implementing this program, we were able to expand local partnerships to achieve vaccination rates for school age children that exceeded the reported rates in local jurisdictions across the United States despite the limited and unpredictable vaccine supply. Additionally, we were able to sustain the momentum and develop annual seasonal influenza SLV clinics campaign based on this success even in the absence of state or federal funding towards such initiatives. Those contemplating such partnerships in future public health emergencies must keep the following in mind:

1. Community partnership must be broad-based and created early to include all key stakeholders with clear leadership and objectives. In addition to working with the media, it is critical that the correct community partners are identified. They must represent a full demographic range of the community. It must serve as a focal point in formulating a comprehensive community based response to the any current and future public health challenges.

2. Each member of the partnership must understand and clearly be actively engaged in timely communication of various community mitigation measures including emergency and risk communication in order to reduce public panic and cynicism. Effective education and outreach must be based in a thorough understanding of the process that individuals go through when they make decisions about modifying their personal behavior.

3. The decision taken by the partnership must be evidence based and grounded in good science. The use of clinical practice guidelines establishes a firm foundation for health care services before an incident occurs; such guidelines may need revision during health incidents that involve a sudden and large increase in patient demand. Times may arise when community concerns may be at odds with national guidelines and recommendations. The partnership should be capable of making sound, evidence based decisions such as those on counter measure distribution, administration and safety monitoring while incorporating a wide variety of perspectives. Monitoring of physical and behavioral health outcomes before, during, and after an incident is also vital to management of health systems and patient care.

4. Partnership must identify potential barriers at the individual and organizational level prior to program implementation. It would benefit to develop a plan to address the identified barriers prior to the commencement of response efforts. Involve all stakeholders in the process of identifying barriers and possible solutions.

5. Learning from experiences is an essential part of reducing mistakes and improving public health response and therefore should be incorporated. A resilient community is one that can carry out recovery activities in ways that minimize social disruption and mitigate the effects of future events and impacts. A successful public health response by enhanced community based partnerships should result in a resilient and prepared community.

Table 2: Number of Students who received the recommended two doses of the 2009 pandemic influenza A (H1N1) vaccine in Kanawha County Schools, WV

<table>
<thead>
<tr>
<th></th>
<th>Total number of Students Enrolled</th>
<th>Students who received 1st vaccine dose</th>
<th>Students receiving both vaccine doses</th>
<th>Percent student receiving both vaccine doses(^A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day Cares(^*)</td>
<td></td>
<td>549</td>
<td>510</td>
<td>92.90%</td>
</tr>
<tr>
<td>Elementary(^**)</td>
<td>14,002</td>
<td>7,980</td>
<td>4,987</td>
<td>62.49%</td>
</tr>
<tr>
<td>Private(^***)</td>
<td>2,169</td>
<td>1,190</td>
<td>522</td>
<td>43.86%</td>
</tr>
<tr>
<td>Totals</td>
<td>30,611</td>
<td>9,719</td>
<td>6,019</td>
<td>61.93%</td>
</tr>
</tbody>
</table>

\(^A\) The percent of children <10 years who received both doses of H1N1 vaccine across United States is estimated to be significantly lower, ranging from 17 to 33 percent\(^1,2\)

\(^*\) Enrollment numbers for all day care centers in Kanawha County not available

\(^**\) Only students <10 years were eligible for second dose of the vaccine

\(^***\) Some private schools included elementary, middle and high school students
References


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This is a group mission made possible for so many decades by physician spouses who are members of the West Virginia State Medical Association Alliance.

In the past, Alliance members rallied at various health centers to attend public hearings on a smoking ban. We worked with our state legislators and others to bring about the Clean Indoor Air Act in West Virginia. We can proudly say that Alliance members were instrumental in the successful passage of this Act.

Working with legislators is a major focus for WVSMA Alliance members. The Alliance has worked with lawmakers to prevent domestic violence in our State. Our involvement helped to pass a bill requiring couples applying for a marriage license to sign a disclosure related to the prevention of domestic violence. And, how can I measure the distance tracked by members who walked miles to raise funds for cancer research, in particular, breast cancer? The walk continues to this day.

I remember when news of the Columbine massacre, bullying, and other forms of school violence dominated the media. The Alliance took on a big project to promote awareness to stop school violence. I was president in 1999 when the Alliance adopted the “Stop America’s Violence Everywhere” or SAVE program of the American Medical Association Alliance for WV. A proclamation was signed by the Governor proclaiming the month of October as SAVE month in WV. Mayors in several cities in the state had similar proclamations in their respective cities. Alliance members distributed anti-bullying handbooks to elementary students, and a number of SAVE billboards became a prominent site throughout the State.

The front pages of many of our recent newspapers have contained articles related to drug abuse or misuse, many times leading to fatal results. My health focus this year for the Alliance is related to the safe disposal of prescription drugs. There are many ways to dispose of unused medications besides flushing them down the toilet, or pouring them in sinks; neither of which is environmentally-friendly. How many accidents have occurred, such as children ingesting medications within reach, or the elderly taking the wrong medication? Then there is the problem of individuals abusing, misusing, or selling medications. There is even identity theft perpetrated from information on prescription labels.

I am grateful that the government is doing its share with the “Drug Take Back” program. The Food and Drug Administration has a list recommendations on what to do in the community between Drug Take Back schedules. The Drug Enforcement Agency is likewise involved in carrying out regulations.

This year, the WVSMA Alliance will be promoting awareness of proper disposal of prescription drugs in ways that protect both the health and environment of West Virginia.

Our fall board meeting, held on October 28, 2011 in Beckley, featured two experts who spoke to board members about this important health issue. Michael O’Neil, Chairman of the WV Controlled Substance Advisory Board and Chris Vaught, the inventor of “Element MDS” (Medication Disposal System) which is now used in several hospices.

The Alliance faces another year; another important health issue to embrace…. to keep its mission—possible.

Rose Romero
President
President of Kanawha County Medical Society Among First To Attain Electronic Health Record Designation

Dr. Reginald J. McClung of Charleston was recognized today for his health care practice’s successful attainment of national guidelines for the use of electronic health record systems. The national “meaningful use” guidelines have been developed to serve as a standard for effectively using electronic health records and to help facilitate more Medicare and Medicaid providers to join in the “digital” transformation of the health care system. Dr. McClung currently is the President of the Kanawha County Medical Society and is a member of the West Virginia State Medical Association.

Dr. McClung successfully attested under the Medicare tract of the federal government’s electronic health record incentive program. As part of this, his practice has received federal EHR reimbursement funds to help cover the investments he has made in installing and using an electronic health record system for the care and treatment of patients.

Aiding Dr. McClung in this endeavor over the past several months was the West Virginia Medical Institute (WVMII), which is working under the West Virginia Regional HIT Extension Center (WVRHITEC). “WVMI and the WVRHITEC were happy to have worked closely with Dr. McClung to assist in the practice’s evolution of its existing electronic record system and to recognize him as one of the first primary care doctors to achieve this designation,” said Terri Bliziotes, a Project Coordinator with the WVRHITEC.

“Dr. McClung is among a growing corps of West Virginia health providers who are making our state one of the leading ones in the ongoing digital transformation of our nation’s health care system,” said Dwayne Edwards, Director for the WVRHITEC. “New government incentives and programs are helping health care providers across the country make the switch to electronic health records. It is exciting to see this switch happening in our state as more and more hospitals, rural health clinics and primary care doctors are adopting and using electronic health record systems.”

To achieve the new federal EHR “meaningful use” standards, a primary care provider must be using an certified electronic health record system and 1) capturing and storing health information in a digital manner, 2) using that information to track key clinical conditions (such as smoking, hypertension, diabetes), 3) sharing that information for improved care coordination purposes, and 4) initiating the reporting of clinical quality measures and public health information, explained Edwards.

He noted that among the benefits to primary care providers who adopt electronic health records and use them in a meaningful way are:

- They will know more about their patients. Information in electronic health records can be used to coordinate and improve the quality of patient care.
- They can make better decisions. With more comprehensive information readily and securely available, clinicians will have the information they need about treatments and conditions – even best practices for patient populations – when making treatment decisions.

- They can save money and reduce costs. Electronic health records require an initial investment of time and money. But clinicians who have implemented them have reported reductions in the amount of time spent locating paper files, transcribing and spending time on the phone with labs or pharmacies; more accurate coding; and reductions in reporting burden.

Increasing the use of electronic health records also is part of the federal government’s ultimate strategy that will facilitate the transfer and exchange of patient health information among doctors’ offices, hospitals, clinics and pharmacies.
EHRsolutions and Greenway Medical Technologies are proud to announce the donation of $2.5M in PrimeSUITE software, implementation, training, software maintenance, and support to the West Virginia School of Osteopathic Medicine (WVSOM). The donation of PrimeSUITE®—Greenway’s integrated electronic health record (EHR), practice management, and interoperability solution—will add another dimension to WVSOM’s progressive curriculum.

EHRsolutions, Greenway’s first Platinum Level Business Alliance Partner, will leverage 11 years of experience to provide PrimeSUITE implementation services and training for WVSOM’s EHR and medical informatics team. To ensure the continued success of the PrimeSUITE implementation, EHRsolutions has donated ongoing PrimeSUITE support and software maintenance.

“We have always been committed to changing health care by enhancing patient care and improving providers’ quality of life,” said EHRsolutions President Rob White. “Greenway’s PrimeSUITE has been a vital part of that mission since our inception more than a decade ago. This donation is a way to further our vision and give back to fellow West Virginians. We are proud to call West Virginia home, and we are honored to be part of WVSOM’s innovative curriculum. This project will help shape the future of medical education and health care in our state and throughout the nation.”

WVSOM will train future physicians to use PrimeSUITE’s point-of-care EHR technology to reduce errors, improve standards of care, and promote appropriate documentation in a simulated health care environment. Students will be trained on all aspects of PrimeSUITE, including CPOE and ePrescribing. Students also will learn to modify existing templates and to develop new templates tailored specifically for osteopathic medicine. A unique addition to the curriculum will be the much-needed exposure to and training with the practice management functionality of PrimeSUITE.

“Our mission has always been to educate students in all areas of osteopathic medicine,” said WVSOM President Michael Adelman, DO, JD. “WVSOM’s legacy of excellence, commitment to providing outstanding osteopathic medical education, and our cutting-edge tools continue to set us apart. The addition of PrimeSUITE to our curriculum will strengthen our emphasis on the hands-on approach of osteopathic medicine. This partnership will prepare our students for the use of health information technology post-graduation.”

Dr. Andrea Nazar, Medical Director of WVSOM’s Clinical Evaluation Center, and Jenny Patton, WVSOM EHR Coordinator, have overseen the process of integrating the use of the EHR technology into the medical student curriculum. Both agree the overall student response is very positive.

“The addition of the EHR to the student’s experience has opened new doors to teach and practice issues in patient care in a very realistic environment, using standardized patients (actors trained to portray a specific patient), human robot simulators, and virtual (electronic) patients. And the EHR affords the opportunity to teach quality assurance measures and meaningful use of this technology in a new and exciting way,” said Dr. Nazar. “The support from EHRsolutions and Greenway Medical has been extraordinary, and they enabled us to quickly deploy the software and get trained, so we can in turn train the students,” adds Patton.

Solo Primary Care

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In our ongoing effort to provide physicians and their staffs with outstanding continuing education, the WVSMA recently held another certification class. The Certified Medical Coder course was held for five days during September at our host hospital, St. Francis Hospital, in Charleston, WV. The brave and eager to learn students in the class were taught by Practice Management Institute (PMI) Consultant, Rhonda Granga. The class included many personalities with a variety of skill sets, including office managers, certified coders, billers, medical assistants, and insurance payer management.

Eight members of the class had previously attained the Certified Medical Office Manager (CMOM) certification. All were interested in furthering their knowledge of medical coding and its importance in today’s health care environment.

It is well known that the Certified Medical Coder plays an integral role in a physician’s reimbursement process. These persons ensure that proper documentation guidelines are followed and that codes are submitted to the highest degree of specificity. This not only provides for the physician to receive the entitled reimbursement; it also ensures that coding is compliant with all rules and regulations. The value of a certified coder in a medical practice cannot be over emphasized.

WVSMA is committed to offering educational opportunities to physicians and their staff. We believe education can grow your practice, your bottom-line, and the overall satisfaction physicians and their staff experience in their day-to-day work.

We commend the students who participated in this difficult course, as well as the physicians who made it possible for their staff members to attend the class.

The attendees expressed great appreciation for the course and the content offered. Many participants complimented Ms. Granga on her first hand knowledge and her enthusiasm for teaching. A twenty-year veteran biller commented that she had learned three new codes that she could have been billing. Another attendee stated that the PMI courses she has taken have always provided her with new, useful knowledge. She said she hated to say goodbye at the end of the class. To me, that is an accolade of the highest degree.

The WVSMA plans to continue to provide educational opportunities for our physicians and their staffs. Watch for the next opportunity coming to a location near you!

---

Congratulations to the Inaugural Certified Medical Coder Class!

Rachel Atkins  
Tina Carr  
Krista Charles  
Misty Clary  
Cinda Endicott  
Trudy Ferrell  
Cherie Hanna  
Ramona Harrison  
Darlene Hill  
Robin Hoblitzell  
Toni Kee  
Erica Kelly  
Tammy Kimberling  
Cross Lanes, WV  
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Martinsburg, WV  
Charleston, WV  
Nutter Fort, WV  
South Charleston, WV  
Hurricane, WV  
Charleston, WV  
Charleston, WV  
Huntington, WV  
Kokomo, IN  
South Charleston, WV  
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Judy Lafferty  
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Maggie McCabe  
Rhonda McIntyre  
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Martha Shaffer  
Kelly Smith  
Stacie Spotloe  
Gena Taylor  
Debbie Wilson  
Karen Zelenitz  
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2011 WESPAC Contributors

The WVSMA would like to thank the following physicians, residents, medical students and Alliance members for their contributions to WESPAC. These contributions were received as of October 18, 2011:

**Chairman's Club ($1000)**
M. Barry Louden Jr., MD
Friday G. Simpson, MD
Phillip R. Stevens, MD
Charles F. Whitaker III, MD

**Extra Miler ($500)**
MaryAnn Nicolas Cater, DO
James L. Comerci, MD
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Kenneth C. Nanners, MD
Frank A. Scattaregia, MD
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**Resident/Student ($20)**
Kyle T. Kutrovac, MD

**Donor**
Lynn Comerci
Pedro F. Lo, MD

WESPAC is the West Virginia State Medical Association’s bipartisan political action committee. We work throughout the year with elected officials to make sure they understand the many facets of our healthcare system.

WESPAC’s goal is to organize the physician community into a powerful voice for quality healthcare in the West Virginia Legislature. We seek to preserve the vital relationship between you and your patients by educating our legislators about issues important to our physicians.

WESPAC contributions provide critical support for our endorsed candidates. Your contribution can make the difference between a pro-physician/patient candidate winning or losing.

To make a contribution to WESPAC, please call (304) 925-0342, ext. 12

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**Kanawha County Medical Society**
Brian Yee, DO

Please direct all membership inquiries to: Mona Thevenin, WVSMA Membership Director at 304.925.0342, ext. 16 or mona@wvsma.com.
WVU Department of Family Medicine receives $948,000 HRSA grant

The West Virginia University Department of Family Medicine will use a five-year, $948,000 grant from the Health Resources and Services Administration to address three key areas in health sciences education: communication, care of the rural and underserved and inter-professional education.

The advanced communications skills curriculum will better prepare medical students to understand their patients and to better interact in teams with their colleagues. The inter-professional team-based curriculum will teach all health professions students how to effectively communicate with each other.

The goal of the primary care rural and underserved education track is to encourage medical students to go into a primary care residency program and ultimately practice in a rural primary care setting. In addition, the track will prepare students to expertly care for patients in this unique setting.

NIH awards $5.5 million to WVU for cancer research

Five-year renewal recognizes Center of Biomedical Research Excellence

The National Center for Research Resources (NCRR), part of the National Institutes of Health, has awarded a five-year, $5.5 million research grant to West Virginia University’s Mary Babb Randolph Cancer Center. The grant will support the Center of Biomedical Research Excellence (CoBRE) for Signal Transduction and Cancer, led by Laura F. Gibson, Ph.D., of the WVU School of Medicine.

WVU’s CoBRE award is the third phase of a research program originally funded a decade ago. Seventeen investigators were funded during the initial two phases. Since the establishment of the CoBRE in Signal Transduction, WVU faculty members have published approximately 300 scientific journal articles.

The third phase of the CoBRE will allow the Cancer Center to develop research collaborations with other scientists across the University and elsewhere.

Gibson, who is deputy director of the Cancer Center, was recently named the first Alexander B. Osborn Distinguished Professor in Hematological Malignancies Research.

Judie Charlton, M.D., named chief medical officer at WVU Healthcare

Judie F. Charlton, M.D., has been appointed chief medical officer (CMO) of WVU Healthcare and vice dean for clinical affairs of the WVU School of Medicine. Dr. Charlton has been serving as interim CMO since shortly after the creation of WVU Healthcare in 2010. The appointment was made jointly by Dean Arthur Ross, M.D., M.B.A., of the school and Bruce McClymonds, president and CEO of WVU Hospitals.

She graduated from the WVU School of Pharmacy in 1981, the WVU School of Medicine in 1985 and completed postgraduate training at Mercy Hospital in Pittsburgh and at WVU. She joined the faculty of the Department of Ophthalmology in 1989 and has been its chair since 2008.

New Research Vice President chosen for WVU Health Sciences

After an extensive national search, West Virginia University Chancellor for Health Sciences Christopher C. Colenda, M.D., M.P.H., has announced that Glenn Dillon, Ph.D., will become the new Vice President for Health Sciences Research and Graduate Education. Dr. Dillon is currently the vice president for research and a professor in pharmacology and neuroscience at the University of North Texas Health Science Center.

Dillon is a molecular pharmacologist and cellular scientist who has been involved in research projects funded by the National Institutes of Health. He will continue one such funded project at WVU, working with the National Institute on Drug Abuse.

Dillon earned his undergraduate degree from Missouri State University and a graduate degree from the University of Illinois, where he also earned his Ph.D. in physiology.
**Call for Papers**

**Theme:** The Art, Science and Ethics of Prevention*

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I. Consistent with the theme, one paper (addressing preventive education, screening, assessment and interventions) will be accepted on each of the following topics (Addressing unique WV genetic, cultural, environmental and demographic influences is encouraged):

- Women’s Health
- Men’s health
- Newborns/ Growth and Development (pre-teen)
- Adolescent Health
- Cardiovascular Disease and Stroke
- Mental Health (including Autism and Dementia)
- Cancer
- Genetics
- Kidney Disease
- Immunizations
- Endocrine Disorders
- Life-Style Medicine

II. One paper on the status and role of health information technology in assisting physicians to meet the expanding preventive health challenges.

III. Two papers addressing ethical issues, controversies and dilemmas involved in providing preventive care to individual patients, including balancing clinical and non-clinical benefits and risks, as well as the duties and responsibilities of all involved parties. (These could be scientific or commentary articles.)

IV. One paper addressing the interplay of the ethical obligation of the physician to both the individual patient and community, i.e., public health. (Commentary article.)

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**Submissions must include:**

1. cover letter (include corresponding author’s email address)
2. manuscript (double-spaced)
3. short biography for each author
4. three questions and answers pertaining to the manuscript (for CME Post-test Questions)
5. a paragraph stating the objectives of the paper

Send to angie@wvsma.com or mail to:

Angie Lanham
Managing Editor, WV Medical Journal
PO Box 4106, Charleston, WV 25364

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6) All figures and photos must be submitted separately as .jpg, .tif or .pdf files.

7) The word count limit is 2,500 with a limit of 5 visuals (i.e., 3 tables and 2 figures). Actual figure and table size is left to the discretion of the managing editor, as space is available.

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 Manuscript Guidelines located on the last page of every Journal or go to www.wvsma.com/journal and click on the link.

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* The exponential expansion of scientific knowledge over the last 50 years greatly expands the “proactive” challenge of physicians to fulfill their primary duty to assist each patient prevent, delay the onset of, or minimize the consequences of disease and disability through provision of timely and appropriate education, screening, assessment and interventions. Such knowledge also introduces new challenges to “do no harm.” This involves not only “clinical” harm pursuing “false positive” and “false negative” screening results but the psychological, social, economic and related consequences of “knowing” or being “labeled.” At times it also creates a new tension in the patient-physician relationship as regards the “duties” and “responsibilities” of each party.

An additional area of significant controversy involves each physician’s duty to “protect the public’s health” and the degree to which this extends to the “stewardship” of limited societal resources. Although the physician’s duty to each unique patient is viewed as sacrosanct, the duties to assist society avoid inappropriate and wasteful use of scarce resources cannot be ignored. As an example, commenting on the use of screening tests in terminally ill patients, Dr. Danielle Ofri stated “While cancer screening is critically important there is a danger that the screening engine in our society is a one track train, plowing forward, staying on message, not to be bogged down with conflicting data, nuanced reasoning, or messy statistical analyses.”

This issue attempts to assist West Virginia physicians better understand, balance and meet these challenges and duties by comprehensively exploring this topic.

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**DEADLINES:**

- Manuscript submission: December 1, 2011
- Reviews returned by: February 1, 2012
- Resubmissions: March 1, 2012
- Printing: May/June 2012 issue
$2.6 Million grant to help communities fight Type 2 diabetes

The Bristol-Myers Squibb Foundation has awarded $2.6 million to Marshall’s Center for Rural Health to help diabetes coalitions in 10 Appalachian communities implement effective local solutions to the widespread problem of diabetes.

The coalitions are part of Marshall’s Appalachian Diabetes Control and Translation Project, which since 2000 has created 66 such coalitions in nine states through funding from the Appalachian Regional Commission and the Centers for Disease Control and Prevention.

The grant is part of the foundation’s “Together on Diabetes” program, which supports efforts to develop and expand effective patient self-management programs and to draw whole communities into the fight against Type 2 diabetes.

Appalachia has a higher rate of diabetes than the nation as a whole, and the problem is especially acute in the rural Appalachian counties classified as “distressed”: a recent study showed the rate of diabetes there was more than 1.6 times the national average.

“Diabetes is such a big problem in distressed Appalachian counties in part because lifestyles have changed over the last 20 years,” said Richard Crespo, Ph.D., the project coordinator. “People have become more sedentary, leading to obesity, which is a major risk factor for diabetes. Thus the solution is in the community, not the doctor’s office.”

The grant will help coalitions implement evidence-based programs that promote long-term behavior change and improve the health of people who have Type 2 diabetes.

Mammary cancer risk drops when diet includes walnuts

The risk of mammary cancer dropped significantly in transgenic mice when their regular diet included a modest amount of walnut, Marshall researchers reported in the journal Nutrition and Cancer.

The study, led by Elaine Hardman, Ph.D., compared the effects of a typical diet and a diet containing walnuts across the lifespan: through the mother from conception through weaning, and then through eating the food directly. The amount of walnut in the test diet equates to about 2 ounces a day for humans.

During the study period, the group whose diet included walnut at both stages developed breast cancer at less than half the rate of the group with the typical diet. In addition, the number of tumors and their sizes were significantly smaller.

Using genetic analysis, the Marshall study found that the walnut-containing diet changed the activity of multiple genes that are relevant to breast cancer in both mice and humans. Other testing showed that increases in omega 3 fatty acids did not fully account for the anti-cancer effect, and found that tumor growth decreased when dietary vitamin E increased.

Research institute named for longtime dean

Marshall’s new Translational Genomic Research Institute has been named in honor of Dr. Charles H. McKown Jr., who served as the medical school’s dean for more than 22 years before becoming MU’s vice president for health sciences advancement.

The Marshall University Board of Governors cited McKown’s “extraordinary service to the University” in approving the facility’s naming.

Interim Dean Robert C. Nerhood, M.D., said the facility is an outgrowth of McKown’s vision and advocacy.

“Dr. McKown foresaw the importance of the new field of translational research in the area of cancer care,” and then worked with philanthropist Joan Edwards and U.S. Sen. Robert Byrd to turn that vision into reality, he said.

The Charles H. McKown Jr. Translational Genomic Research Institute is located on the top floor of the Edwards Comprehensive Cancer Center. Completed this summer, it includes more than 10,000 square feet of research space and has advanced scientific equipment including a next-generation genetic sequencer.
Logging miles on the West Virginia School of Osteopathic Medicine’s new pink treadmill will rack up money for breast cancer research. WVSOM is the first facility in the state of West Virginia to support breast cancer research with the treadmill, which was purchased from Cybex, a leading manufacturer in exercise equipment.

WVSOM President Michael Adelman, D.O., J.D., said he is pleased that the medical school is involved in the third annual Pink Ribbon Run campaign. “WVSOM is very excited to be the first in the state to have this pink treadmill and participate in the annual Pink Ribbon Run campaign,” he said. “It is always important to support breast cancer research and work toward finding a cure.”

A Pink Ribbon Run kick-off event, including a ribbon-cutting ceremony, was held, Monday, Oct. 3 at the Founders’ Activity Center. Cybex donated 10 cents for every mile logged on the treadmill to the Breast Cancer Research Foundation during October. The school’s goal was to raise $10,000.

In order to maximize the miles logged, teams of students, faculty, staff and the Robert C. Byrd Clinic staff were formed. Teams choose various U.S. cities as destinations for motivation to reach their goals. Money was also raised for Susan G. Komen for the Cure through a raffle of a gift basket filled with breast cancer awareness items. Pink arm bracelets were also sold.

Meg McKeon, assistant vice president for student development, said she is happy about the school’s contributions to cancer research. “As a medical school it made perfect sense for us to participate and support research efforts to find a cure for breast cancer,” she said. “Combining the fundraising effort with an exercise program is a great benefit to the individuals participating as well as the fight against breast cancer.”

October is national Breast Cancer Awareness month. According to the American Cancer Society, one out of eight women, or 12 percent, develop breast cancer. It is the second leading cause of cancer death in women.

**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.

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Medical professionals are told in their residency programs they should purchase disability insurance or income replacement policies. Today, over 90% of working physicians own individual disability policies.

The most significant feature or benefit in a disability policy is the definition of disability. Historically, through the mid to late nineties, most disability policies sold to physicians had an own occupation definition of disability (also known as “own occ”) because that was the only definition available to buy. In today’s marketplace, there are primarily eight disability carriers that sell individual disability policies to medical professionals. Those eight carriers have varying definitions of disability and depending on the specific language in the policy, there can be significant differences at the time of a claim.

Physicians want to purchase the best definition available, which would be a pure own occ definition of disability. A pure own occ definition is defined in a policy as “due to a sickness or injury, you are unable to perform the substantial and material duties of your occupation.” This definition is generally defined as “due to a sickness or injury, you are unable to perform the substantial and material duties of your occupation AND you are not working or engaged in another occupation.” The “and you are not working or engaged in another occupation” wording in this definition impacts how a claim will be adjudicated and can alter the outcome of the payout of a claim.

Note these examples comparing the definitions of disability:

(A) Own Occ Definition
Dr. Jones is a 45 year old Orthopedic Surgeon with a disability policy that has a pure own occ definition of disability for the entire benefit period. He has a $15,000 monthly benefit with a to age 65 benefit period. He has been on claim for the past two and a half years as the result of a stroke. He is partially paralyzed on the right side of his body, however, he has not lost any cognitive functions and is able to speak clearly. He has been collecting $15,000 per month in benefit during his claim and has been slowly rehabbing himself with the hope of being able to return to work in the future. His physician releases him to return to work, though he is unable to return as an Orthopedic Surgeon. Instead he has been offered an opportunity to teach orthopedic surgical residents and will earn an annual income of $120,000. Since Dr. Jones was insured with an own occ definition of disability, and he will never have the ability to be an orthopedic surgeon again, he will continue to collect $15,000 per month in benefit through age 65, and he keeps 100% of his new annual income of $120,000 teaching residency.

(B) Modified Own Occ or the Own Occ and Not Working Definition
Let’s assume the circumstances are identical as described above with one exception, Dr. Jones has a disability policy with a modified own occ definition or an own occ and not working definition of disability. He is now returning to work teaching residency to orthopedic surgery candidates. In this case, since he is now working in another occupation, he will not continue to collect the entire $15,000 in monthly disability benefits as he did with the pure own occ definition. He will enter into what is known as a residual claim and will collect a lesser monthly benefit based on the specific insurance carriers residual benefit calculation. Additionally, depending on the carrier he is insured with, those residual benefits may cease entirely within
a 12 month period of time, leaving him with only his $120,000 annual income from his teaching position.

Union Central and a few other insurers have a pure own occ definition of disability as a part of their base policy. Other carriers start with the modified own occ or own occ and not working definition as part of their base policy and require the addition of a rider to get to the pure own occ definition.

Two of the eight carriers insuring physicians mentioned earlier, do not have the availability of a pure own occ definition of disability for the entire benefit period in their disability policies. At one point in time, both of these carriers sold pure own occ definitions of disability in their policies. Today, these carriers offer an own occ and not working definition for the entire benefit period, or a two year own occ version.

If it has been some time since you last reviewed your disability policy, especially to confirm what definition of disability you own, we encourage you to do so. As part of the services being offered by the West Virginia Medical Insurance Agency and its partnership with Union Central, Josh Wood can make a quick review of your disability policy and tell you what definition of disability you have in your current policy. You may reach Josh at 304-925-0342 x33 or josh@wvsma.com

(In a future issue of the WVMJ, we will discuss the Residual and Recovery benefits of a disability policy.)

Joe Noca, Union Central and Josh Wood, investment professional, WVMIA are available to talk disability insurance with you.
James E. Boggs, MD

Dr. James E. “Doc” Boggs, 84, of Ivydale entered into rest on September 20, 2011.

He was born on February 6, 1927 and was the son of Guy and Ruby Boggs. In addition to his parents, he was preceded in death by his daughter, Bambi Boggs, and his sister, Dorcas Linkinogger.

James was an Army veteran. He was a graduate of West Virginia University and the University of Maryland School of Medicine. He interned at St. Mary’s Hospital in Huntington and did his surgery residency at CAMC Memorial Division. After practicing surgery in Charleston for over 20 years, he returned to his beloved roots in Clay County, where he started a family practice in his boyhood home. He retired in 2006, having touched the lives of many.

In lieu of flowers, donations may be sent to Hubbard Hospice House, 1600 Kanawha Blvd. W., Charleston, WV 25387-2536, or the American Cancer Society.

Ann Conjura, MD

Dr. Conjura passed away at her residence on Monday, July 18, 2011. Ann was born March 25, 1958, in Norfolk, Va., the daughter of John “Jack” and Louise Britton Conjura. Ann was a graduate of the University of Virginia, the Johns Hopkins University School of Medicine and University of Maryland Medical System, where she completed her internal and Junior Assistant Resident in Internal Medicine. Ann was the Medical Director for Hospice of Huntington, and a member of the American Board of Internal Medicine, West Virginia Board of Medicine and the American Academy of Hospice and Palliative Care. She received the Zack Binkley Award for Community Service in 1999. She was a citizen member of the Editorial Board of The Herald-Dispatch; United Way of the River Cities, serving as a member of the Board of Directors and President; Huntington YMCA as a Board of Directors member and Physical Education Committee Chair; a member of the Junior League of Huntington and Huntington Museum of Art volunteer.

Contributions may be made to Hospice of Huntington.

Andrew Wirt Goodwin II, MD

Dr. Andrew “Andy” Wirt Goodwin II died on October 11, 2011, with his wife and children by his side, following a severe heart attack. He was 79.

Andy was born on February 4, 1932, in Oil City, Pa., and was the only child of the late Frank and Florence Goodwin.

Andy grew up in Grand Rapids, Mich., where he was class valedictorian. He graduated magna cum laude with a B.S. in zoology from Colgate University. He was a member of Phi Beta Kappa and Phi Kappa Tau. He was president of the Colgate Glee Club. As a member of the Colgate Thirteen, the men’s choral group, he toured war-ravaged Europe in the early 1950s. He went on to obtain his M.D. from the University of Michigan in 1957 and was a member of Alpha Omega Alpha and the Honorary Medical Scholastic Society. He completed his internship at Mary H. Hitchcock Memorial Hospital in Hanover, N.H., and his radiology residency at Mayo Clinic in Rochester, Minn. He continued his studies at Karolinski Hospital, Stockholm, Sweden, in 1970. He was a diplomat with the American Board of Radiology; a fellow of the American College of Radiology and diplomat of the American Board of Nuclear Medicine.

He held medical practice licenses for the states of West Virginia, Pennsylvania, Ohio and Kentucky.

He moved to Charleston in 1962 and joined Squire and Franccke Radiology Group and later formed Associated Radiologists Inc., the first incorporated medical practice
in the state. He was instrumental in bringing the first CAT Scanner to the state of West Virginia. He held staff positions at Charleston Area Medical Center, Stonewall Jackson Memorial Hospital, United Hospital Center, Davis Memorial Hospital, Jackson General, Logan Regional Medical Center, Greenbrier Clinic, Raleigh General Hospital and Williamson Memorial Hospital. He was chairman of the Department of Radiology - Charleston Area Medical Center (1972-1980), president of Associated Radiologists Inc. (1970-1980), clinical professor of radiology, WVU (1971-1985) and chief of radiology at Stonewall Jackson Memorial Hospital (1991-2001). He served on the Blue Shield board of directors from 1976 to 1979.

He was a member of the West Virginia State Medical Association, Kanawha County Medical Society, American Radiology Society, Society of Clinical Radiologists (Mayo Alumni) and Edgewood Country Club.

In lieu of flowers, memorial gifts may be made to the American Cancer Society, 1700 MacCorkle Ave. SE, Third Floor, Charleston, WV 25314.

Stephen To June Lee, MD

Dr. Stephen To June Lee, passed away on July 22, 2011, in Beckley. He was 82 years old. The cause of death was liver cancer.

Dr. Lee was a longtime resident of Raleigh County. He began his career as a surgeon at the Miners Memorial Hospital in Beckley, one of 10 hospitals created by the United Mine Workers of America in a three state region. It is now the Beckley Appalachian Regional Hospital. He was a founding member of the Southern West Virginia Clinic in 1964, where he had his office and worked until his retirement in 2001. He also practiced general and thoracic surgery at Raleigh General Hospital in Beckley for almost three decades.

Dr. Lee was born on February 7, 1929, in Wahiawa, Hawaii, on the island of Oahu. He was the sixth of seven children.

Dr. Lee graduated from Leilehua High School, where he was the senior class president and played football. He attended the University of Hawaii for two years, and then transferred to Marquette University in Milwaukee, Wis., where he earned a B.S. in Medicine in 1952. He received an M.D. degree from the Marquette University School of Medicine in 1955. He performed a medical internship at Charity Hospital in New Orleans, La., and then started a residency at the Miners Memorial Hospital in Man, W.Va. There he met and married Kitty Faye Ferrell, with whom he later had seven children. He left Man, W.Va., to spend two years in the U.S. Army Medical Corps in Colorado Springs, Colo., from 1957-1959 at the rank of Captain. He and Kitty and two children then returned to Beckley, W.Va., where he completed a four-year surgical residency at the Miners Memorial Hospital from 1959-1963. He was the Chief Resident in Surgery from 1962-1963. Dr. Lee became certified by the American Board of Surgery in 1964.

While he practiced medicine, Dr. Lee also trained medical students and surgical residents, some of whom chose to stay in southern West Virginia to practice medicine. He taught in the Appalachian Regional Hospital residency program and later as a faculty member in the Marshall University School of Medicine. He was a member of the American College of Surgeons, the Raleigh County Medical Society, and the West Virginia State Medical Association.

Memorial donations of sympathy may be sent to the Beckley Area Foundation in Dr. Lee’s name. The address is Beckley Area Foundation, Dr. Stephen Lee Memorial Fund, 129 Main Street, Suite 203, Beckley, WV 25801.

Kelly Renee Showalter, MD

Dr. Kelly Renee Showalter, 32, of Lewisburg, went home to be with her Lord on Sunday, Oct. 2, 2011, at the Greenbrier Valley Medical Center, Fairlea.

Born Apr. 30, 1979, in Bluefield, she was the daughter of Richard L. Showalter and the late Mary Elizabeth “Susie” Showalter.

Kelly was a devoted wife, friend and doctor. She graduated from James Madison University in Harrisonburg, VA with her brother in May 2001. She later graduated from WVU’s medical school and became a pediatrician for the West Virginia School of Osteopathic Medicine, the Greenbrier Valley Medical Center and the Robert C. Byrd Clinic in Lewisburg.

In lieu of flowers, honorary donations may be made to the American Liver Foundation, 39 Broadway, Suite 2700, New York, NY 10006 or by visiting www.liverfoundation.org/howtohelp.
Ahmad, Sharjeel, MD; Arif R. Sarwari, MD – Leptospirosis
Induced Pulmonary Alveolar Hemorrhage
Nov/Dec 20

Alberico, Anthony M., MD; Beatrice L. Grasu, MD – Colloid Cyst: A Case Report
Sept/Oct 18

Alkon, Daniel L., MD – New Developments in the Search for a Cure
May/June 10

Arzt, Steven A., MD; Christopher C. Trotter, MD; Alfred K. Pfister, MD; Brant A. Whited, MSIII; Todd H. Goldberg, MD – A Controversy: Linking Atypical Femoral Fractures to Bisphosphonate Therapy
Mar/Apr 8

Bafakih, Fahad, F., MD; Yara M. Daous, MD; Kybermost A. Gyure, MD – Pathologic Diagnosis of Alzheimer Disease
May/June 30

Bardes, James; Thomas Caranasos, MD; Mohannad Kusti, MD; Luke Martin, MD; Alison Wilson, MD – Transection of the Thoracic Aorta: Current Treatment Obstacles
Sept/Oct 39

Boone, Laura, JD; Mark A. Newbrough, MD – “Training” A Workforce to Care for People in West Virginia with Alzheimer’s Disease and Related Dementias
May/June 40

Brown, Bartley, DO; Christopher Trotter, MD; Phillip Cox, DO; Charin Hanlon, MD – Urinothorax: a Rare Cause of Pleural Effusion
Nov/Dec 16

Brown, James, MD; Rosemarie Cannarella Lorenzetti, MD, MPh; Scott Cottrell, EdD; Sarah Moerschel, MD; Paul Welch, MD; Mitch Jacques, MD, PhD – The Integration of Clerkships: WVU’s Innovative Approach to Curriculum Delivery at a Regional Campus
Nov/Dec 18

Caranasos, Thomas, MD; James Bardes; Mohannad Kusti, MD; Luke Martin, MD; Alison Wilson, MD – Transection of the Thoracic Aorta: Current Treatment Obstacles
Sept/Oct 39

Chahine, Carol J., DMD, FRCD (c); Bruce B. Horswell, MD, DDS, MS, FACS – Dog Bites of the Face, Head and Neck in Children
Nov/Dec 24

Choudhry, Muhammad I., MD; Abid Yaqub, MD, FACP; Jennifer Wheaton, DO; Todd Gress, MD, MPh – Post-ablative Hypothyroidism
Mar/Apr 37

Cipoletti, Nancy – Caregivers, Take Care of Yourselves – Resources for Family Caregivers
May/June 72

Clark, Karen, MD; Janelle Shaw, RN, FNP; Gerry Hobbs, PhD – Testicular Torsion: A Case Study and Evaluation of Young Men’s Knowledge About Testicular Pain
Sept/Oct 35

Conjeski, Jacob, MD; Franklin D. Shuler, MD, PhD – Defining Bone Health and Fracture Risk in West Virginia: The World Health Organization FRAX Assessment Tool
Sept/Oct 12

Cottrell, Scott, EdD; Rosemarie Cannarella Lorenzetti, MD, MPh; Sarah Moerschel, MD; Paul Welch, MD; James Brown, MD; Mitch Jacques, MD, PhD – The Integration of Clerkships: WVU’s Innovative Approach to Curriculum Delivery at a Regional Campus
Nov/Dec 18

Cox, Phillip, DO; Barley Brown, DO; Christopher Trotter, MD; Charin Hanlon, MD – Urinothorax: a Rare Cause of Pleural Effusion
Nov/Dec 16

Coyner, John, MD; Brett Jarrell, MD; Stephen M. Davis, MPA, MSW; Todd Crocco, MD; Charles Whiteman, MD – Primary Care Office Responses to a Stroke Scenario
Mar/Apr 24

Crocco, Todd, MD; Brett Jarrell, MD; Stephen M. Davis, MPA, MSW; John Coyner, MD; Charles Whiteman, MD – Primary Care Office Responses to a Stroke Scenario
Mar/Apr 24

Cuppell, Courtenay, D., MD; Michael L. Stitely, MD; Roger C. Toffle, MD – Unruptured 32-week Rudimentary Horn Pregnancy Presenting as Right Upper Quadrant Pain
July/Aug 8

Daous, Yara M., MD; Fahad F. Bafakih, MD; Kybermost A. Gyure, MD – Pathologic Diagnosis of Alzheimer Disease
May/June 30

Davis, Stephen M., MPA, MSW; Brett Jarrell, MD; John Coyner, MD; Todd Crocco, MD; Charles Whiteman, MD – Primary Care Office Responses to a Stroke Scenario
Mar/Apr 24

Davis, Stephen, MPA, MSW; Charles Whiteman, MD; Roger Tillotson, MD; Nicolas Denne, MD – Major Trauma in West Virginia Dementia Patients: Injury Patterns, Discharge Dispositions and Implications for Treatment and Injury Prevention
May/June 48

Davissin, Laura, MD, MPH, FACP – Rational Care or Rationing Care? Updates and Controversies in Women’s Prevention
Jan/Feb 26

Dawley, Brenda, MD; Adam Ritchie, MD – Carotid and Vertebral Arterial Fibromuscular Dysplasia Masquerading as Severe Preeclampsia: a Case Report
July/Aug 12

Denne, Nicolas, MD; Charles Whiteman, MD; Roger Tillotson, MD; Stephen Davis, MPA, MSW – Major Trauma in West Virginia Dementia Patients: Injury Patterns, Discharge Dispositions and Implications for Treatment and Injury Prevention
May/June 48

Dodson, Sean C., BS; Ryan C. Turner, BS; Charles L. Rosen, MD, PhD – Medical Management of Cerebellar Abscess: A Case Report and Review of the Literature
Mar/Apr 21

Faulknier, Brett A., DO; Christopher C. Trotter, MD; Keron B. Navarengom, MD – Clinical Cardiac Electrophysiology in West Virginia: 2010
Mar/Apr 30
Madero, Guillermo, MD; Shirley M. Neitch, MD; Shawn Maynard, MD — Driving Assessment Results in Patients with a Diagnosis of Dementia  May/June 54

Marks, Jane — Caregiver Stress: an Important and Overlooked Health Issue  May/June 60

Martin, Luke, MD; Thomas Caranasos, MD; James Barde; Mohammad Kusti, MD; Alison Wilson, MD — Transsection of the Thoracic Aorta: Current Treatment Obstacles  Sept/Oct 39

Maynard, Shawn, MD; Shirley M. Neitch, MD; Guillermo Madero, MD — Driving Assessment Results in Patients with a Diagnosis of Dementia  May/June 54

Millan, Lina, MD; Sheli Garrett-Albaugh, DO; Michael L. Stitely, MD; Charles Hochberg, MD — Chronic Postpartum Uterine Inversion Treated by Abdominal Replacement and Cerclage  Sept/Oct 43

Mir, Mohsin, MD; Steven J. Jubelirer, MD; Luay Mousa, MD; Usha Reddy, MD; Christine A. Welch, MS — Coronary Artery Bypass Grafting (CABG) in Patients with Immune Thrombocytopenia (ITP): A Community Hospital Experience and Review of the Literature  Nov/Dec 10

Moerschel, Sarah, MD; Rosemarie Cannarella Lorenzetti, MD, MPH; Scott Cottrell, EdD; Paul Welch, MD; James Brown, MD; Mitch Jacques, MD, PhD — The Integration of Clerkships: WVU’s Innovative Approach to Curriculum Delivery at a Regional Campus  Nov/Dec 18

Moffett, Kathryn, MD; Ann-Marie Tantoco, MD — Report of Increased Number of Children with Parapneumonic Empyema as a Complication of Bacterial Pneumonia in West Virginia in 2005  Mar/Apr 14

Mooney, Roger P., MA, EdD; M. Khalid Hasan, MD, FAPA — The Predisposing Factors, Biological Markers, Neuroimaging Techniques and Medical Complications Associated with Alzheimer’s Disease  May/June 26

Moss, Alvin H., MD, FAAHPM — Completing the Continuum of Quality Dementia Care: End-of-Life Care  May/June 34

Mousa, Luay, MD; Steven J. Jubelirer, MD; Usha Reddy, MD; Mohsin Mir, MD; Christine A. Welch, MS — Coronary Artery Bypass Grafting (CABG) in Patients with Immune Thrombocytopenia (ITP): A Community Hospital Experience and Review of the Literature  Nov/Dec 10

Navarengom, Keron B., MD; Brett A. Faulknier, DO; Christopher C. Trotter, MD — Clinical Cardiac Electrophysiology in West Virginia: 2010  Mar/Apr 30

Neitch, Shirley M., MD, FACP — Standing in the Gap: The Primary Care Physician and Alzheimer’s Disease  May/June 14

Neitch, Shirley M., MD; Guillermo Madero, MD; Shawn Maynard, MD — Driving Assessment Results in Patients with a Diagnosis of Dementia  May/June 54

Newbrough, Mark A., MD; Laura Boone, JD — “Training” A Workforce to Care for People in West Virginia With Alzheimer’s Disease and Related Dementias  May/June 40

Pfister, Alfred K., MD; Christopher c. Trotter, MD; Brant A. Whited, MSIII; Todd H. Goldberg, MD; Steven A. Arzt, MD — A Controversy: Linking Atypical Femoral Fractures to Bisphosphonate Therapy  Mar/Apr 8

Rasmussen, D. Kade, DO; Larry W. Segars, PharmD, DrPH, FCCP, BCPS — Case of Ischemic Colitis in a Young Adolescent Associated with Triphasic Hormonal Contraceptive Therapy: A Case Report and Review of the Literature  Sept/Oct 22

Reddy, Usha, MD; Steven J. Jubelirer, MD; Luay Mousa, MD; Mohsin Mir, MD; Christine A. Welch, MS — Coronary Artery Bypass Grafting (CABG) in Patients with Immune Thrombocytopenia (ITP): A Community Hospital Experience and Review of the Literature  Nov/Dec 10

Reese, Carla M., MD; Rahul Gupta, MD, MPH, FACP; Mobin Shah, MD — Steroid Induced Spinal Epidural Lipomatosis — Case Report and Review of the Literature  July/Aug 20

Ritchie, Adam, MD; Brenda Dawley, MD — Carotid and Vertebral Arterial Fibromuscular Dysplasia Masquerading as Severe Preeclampsia: a Case Report  July/Aug 12

Roorda, Andrew K., MD; Justin T. Kupec, MD; H. James Williams, MD; Stephan U. Goebel, MD — Recurrent Hematochezia Secondary to Gastrointestinal Stromal Tumors (GISTs) in Neurofibromatosis Type One  July/Aug 16

Rosen, Charles L., MD, PhD; Ryan C. Turner, BS; Sean C. Dodson, BS — Medical Management of Cerebellar Abscess: A Case Report and Review of the Literature  Mar/Apr 21

Segars, Larry W., PharmD, DrPH, D’FCCP, BCPS — Case of Ischemic Colitis in a Young Adolescent Associated with Triphasic Hormonal Contraceptive Therapy: A Case Report and Review of the Literature  Sept/Oct 22

Shah, Mobin, MD; Rahul Gupta, MD, MPH, FACP; Carla M. Reese, MD — Steroid induced spinal epidural lipomatosis — case report and review of the literature  July/Aug 20

Shaw, JaNeille, RN, FNP; Karen Clark, MD; Gerry Hobbs, PhD — Testicular Torsion: A Case Study and Evaluation of Young Men’s Knowledge About Testicular Pain  Sept/Oct 35

Shuler, Franklin D., MD, PhD; Jacob Conjeski, MD — Defining Bone Health and Fracture Risk in West Virginia: The World Health Organization FRAX® Assessment Tool  Sept/Oct 12

Stitely, Michael L., MD; Courtney D. Cuppelt, MD; Roger C. Toffle, MD — Unruptured 32-week Rudimentary Horn Pregnancy Presenting as Right Upper Quadrant Pain  July/Aug 8

Stitely, Michael, L., MD; Sheli Garrett-Albaugh, DO; Lina Millan, MD; Charles Hochberg, MD — Chronic Postpartum Uterine Inversion Treated by Abdominal Replacement and Cerclage  Sept/Oct 43
Tantoco, Ann-Marie, MD; Kathryn Moffett, MD – Report of Increased Number of Children with Parapneumonic Empyema as a Complication of Bacterial Pneumonia in West Virginia in 2005

Thompson, Gary L. – Completion of a Death Certificate – A Physician’s Responsibility to Medical Science and Public Health

Tillotson, Roger, MD; Charles Whiteman, MD; Nicolas Denne, MD; Stephen Davis, MPA, MSW – Major Trauma in West Virginia Dementia Patients: Injury Patterns, Discharge Dispositions and Implications for Treatment and Injury Prevention

Toffle, Roger C., MD – “There they go again” – hCG and Weight Loss

Tofle, Roger C., MD; Courtney D. Cuppett, MD; Michael L. Stitely, MD – Unruptured 32-week Rudimentary Horn Pregnancy Presenting as Right Upper Quadrant Pain

Torres-Trejo, Alejandro, MD; David B. Watson, MD; Ludwig Gutmann, MD – Altitude Induced Migraine

Trotter, Christopher C., MD; Alfred K. Pfister, MD; Brant A. Whited, MSIII; Todd H. Goldberg, MD; Steven A. Artz, MD – A Controversy: Linking Atypical Femoral Fractures to Bisphosphonate Therapy

Trotter, Christopher C., MD; Brett A. Faulkner, DO; Keron B. Navarengom, MD – Clinical Cardiac Electrophysiology in West Virginia: 2010

Trotter, Christopher MD; Bartley Brown, DO; Phillip Cox, DO; Charin Hanlon, MD – Urinothorax: a Rare Cause of Pleural Effusion

Turner, Ryan C., BS; Sean C. Dodson, BS; Charles L. Rosen, MD, PhD – Medical Management of Cerebellar Abscess: A Case Report and Review of the Literature

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Watson, David B., MD; Alejandro Torres-Trejo, MD; Ludwig Gutman, MD – Altitude Induced Migraine

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Wheaton, Jennifer, DO; Abid Yaqub, MD, FACP; Muhammad I. Choudhry, MD; Todd Gress, MD, MPH – Post-ablative Hypothyroidism

Whited, Brant A., MSIII; Christopher C. Trotter, MD; Alfred K. Pfister, MD; Todd H. Goldberg, MD; Steven A. Artz, MD – A Controversy: Linking Atypical Femoral Fractures to Bisphosphonate Therapy

Whiteman, Charles, MD; Brett Jarrell, MD; Stephen M. Davis, MPA, MSW; John Coyner, MD; Todd Crocco, MD – Primary Care Office Responses to a Stroke Scenario

Whiteman, Charles, MD; Roger Tillotson, MD; Nicolas Denne, MD; Stephen Davis, MPA, MSW – Major Trauma in West Virginia Dementia Patients: Injury Patterns, Discharge Dispositions and Implications for Treatment and Injury Prevention

Williams, H. James, MD; Justic T. Kupec, MD; Andrew K. Roorda, MD; Stephan U. Goebel, MD – Recurrent Hematochezia Secondary to Gastrointestinal Stromal Tumors (GISTs) in Neurofibromatosis Type One

Wilson, Alison, MD; Thomas Caranasos, MD; James Bardes; Mohannad Kusti, MD; Luke Martin, MD – Transection of the Thoracic Aorta: Current Treatment Obstacles

Yaqub, Abid, MD, FACP; Muhammad I. Choudhry, MD; Jennifer Wheaton, DO; Todd Gress, MD, MPH – Post-ablative Hypothyroidism
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