

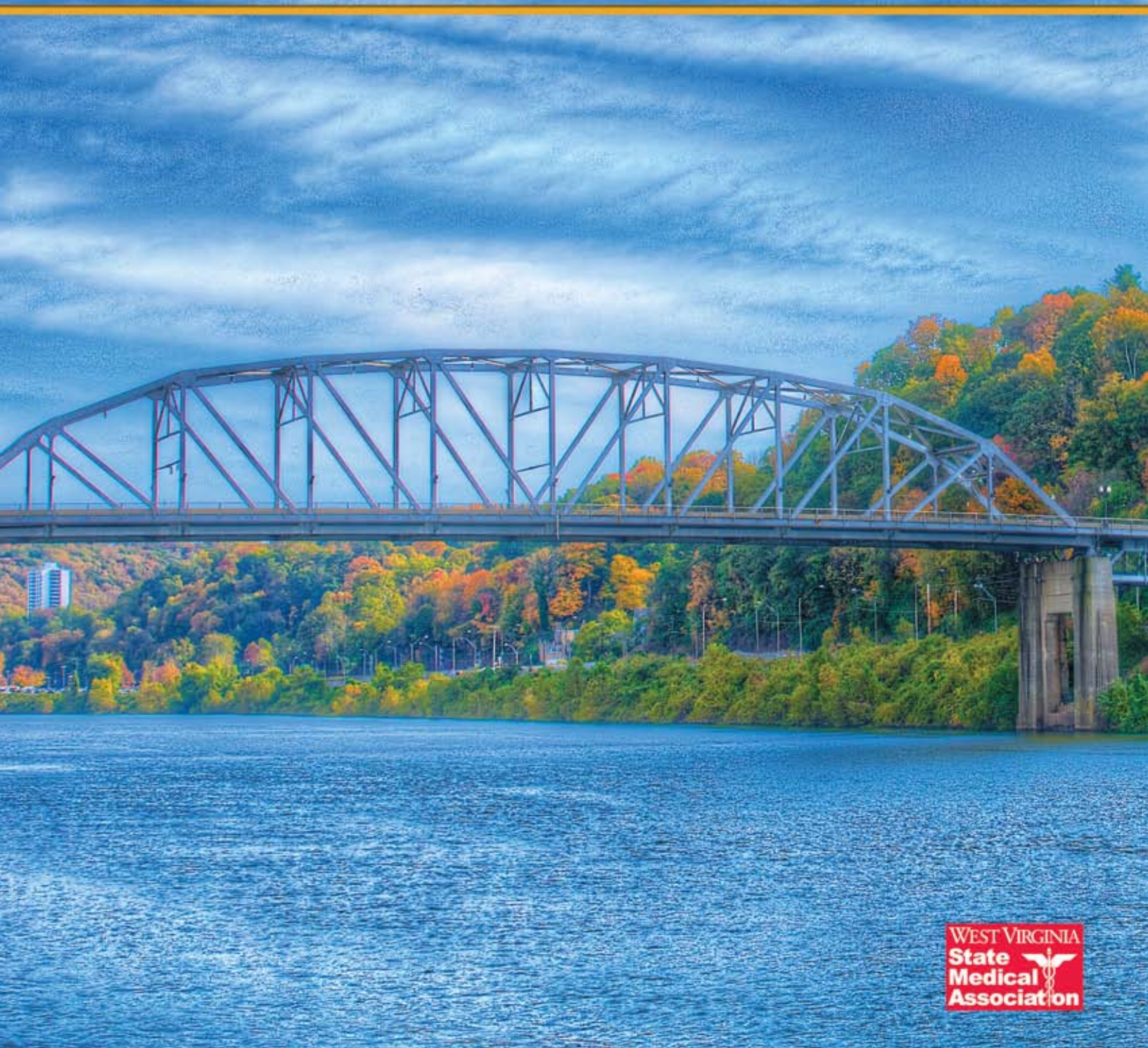
West Virginia

Medical JOURNAL

November/December 2013
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West Virginia State Medical Association

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in West Virginia

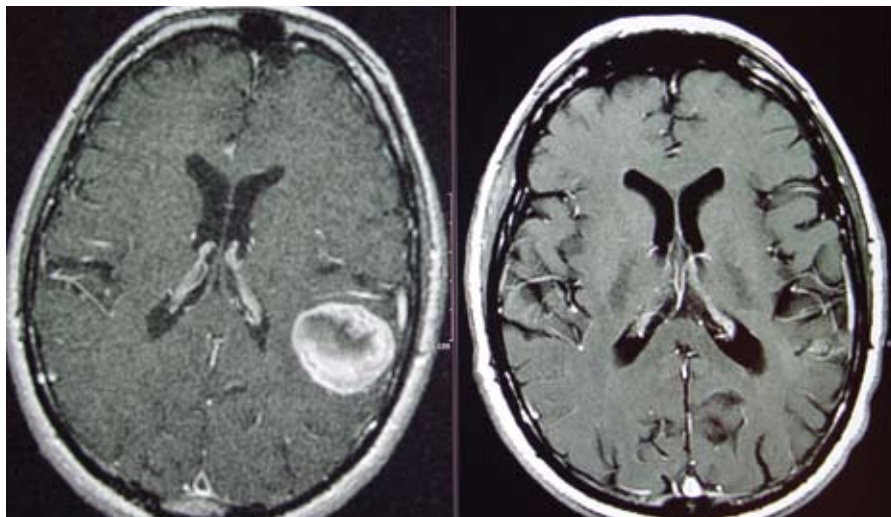


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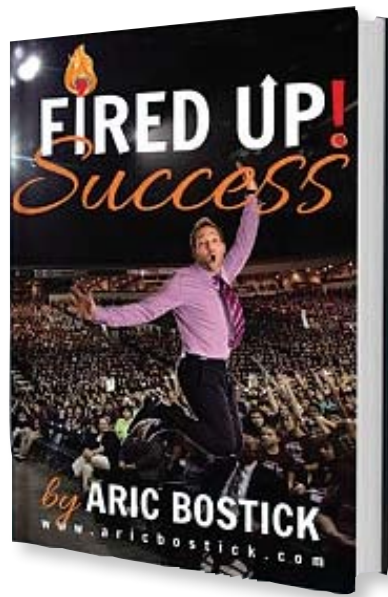
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contents

November/December 2013

West Virginia
JOURNAL
West Virginia State Medical Association

Volume 109, No. 6



About the cover: The photo, "Train Station Bridge", is courtesy of Stephen Durrenberger, MD. To view more of his photography visit pipevinestudio.imagekind.com.

Scientific Articles

- » Macerated Foot Dermatitis Related to Occlusive Footwear
- » Perceptions of Oral Health by the WV Community
- » Serum Anti-endometrial Antibodies and First Trimester Pregnancy Loss
- » Hemophagocytic Lymphohistiocytosis (HLH) in a 25 Year Old Presenting with Multisystem Organ Failure
- » Peripheral Nerve Stimulation for Treatment of Chronic Headache: A Case Report
- » The Lazy Lateral Incision: An Innovative Approach to the Skin-Sparing Mastectomy
- » Cushing's Syndrome in Pregnancy: A Diagnostic Conundrum

Upcoming Events

January 24-25
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& Physician Practice Program**
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President's Message



Leadership Has a Voice

by Reginald McClung
WVSMA President
2013-2014

At the time of this writing, the on-line insurance exchange portal or 'marketplace' under the ACA has been up for just one day and the U.S. government is shut down because of partisan differences in Washington. Early indications suggest system flaws and glitches are already causing individuals to have difficulty even accessing the exchange website.

Just as the public will have to be vigilant in the weeks and months ahead, so too will physicians need to be engaged. ObamaCare is a process, not a conclusion. While many of our colleagues remain frustrated over the lobbying position the AMA took when the ACA was enacted, I still believe the AMA plays an important role as a key vehicle for us to use in channeling our recommendations for change. I encourage you also to be proactive and express your views directly to both our state and federal policymakers. You can be assured that your WVSMA will continue to be a proactive voice for you and your patients as well.

Every year there are more policies, rules, regulations, penalties, coding changes, audits, deadlines, and forms to complete that roll out like an avalanche and take time away from our patients, not to mention the time required to obtain preauthorization and precertification of many procedures. As physicians we are also challenged by the rapid advancement of the use of technology by our patients and our practices. These changes alone bring about a whole new set of rules and expectations.

Again, we must exercise our collective voice through organized medicine to advocate against onerous overregulation and be proactive in suggesting ways in which we can improve access to high quality, affordable health care.

It is encouraging to see that most insurance companies are now embracing the role of prevention such as the Medicare Wellness Exam and coverage for annual physical examinations for most Medicare Advantage plans. For example, Humana has a Stars Reward Program where physicians can earn a significant monetary award by meeting performance standards on patients with diabetes, hypertension and other chronic illnesses.

The movement towards pay for performance continues. As patients grow older, their quality of life becomes more important not only to them but also to their families. Keeping seniors healthy and out of the hospital, maintaining their independence, and avoiding accidents and injuries will have an enormous impact on lowering healthcare costs in the future. Seniors need counseling and encouragement regarding exercises that will help keep them stronger so that they can be ambulatory as long as possible and work well past normal retirement age if they so desire. They need more group programs to promote both physical and emotional health. Implementation of these recommendations will help keep an aging population healthier.

At the other end of the age spectrum, I am distressed that fewer students are pursuing a career in medicine.

Granted, navigating through an ever-changing healthcare environment is challenging, I do hope more will be willing to pursue the opportunity we have had to experience the gratification of being a physician and using our training to aid in the healing of the sick and injured. Medicine remains the most rewarding profession for those of us who have chosen this path. It is up to us to preserve the time-honored principles of medicine that have allowed us to provide the highest possible quality of care to our patients. We have to be vocal with our opinions and recommendations.

Your WVSMA is also actively at work preparing for the upcoming 2014 West Virginia legislative session which begins in January. We will be vigilant in defending our hard-fought medical liability reform that is constantly under attack and keeping a watchful eye out to make sure legislators do not look to solve the Medicaid funding crisis on the backs of physicians through an onerous provider tax. I am also gathering data on the methamphetamine crisis and researching the encouraging approaches being taken in other states to curb this epidemic. The clouds of scope of practice expansion efforts are also gathering on the horizon from allied health professionals who plan to push for legislation that would enable them to treat patients in ways that have always been performed by a trained physician.

I sincerely appreciate your hard work and dedication to the profession of medicine and can assure you that your WVSMA is working for you.

CALL FOR PAPERS – 2014

THEME: West Virginians and Tobacco Cessation: What's Working and What's Not *and* What Now?

WEST VIRGINIA—#2 in the nation for the highest percentage of smokers per capita.

WEST VIRGINIA—#2 in the nation for the highest percentage of deaths related to tobacco use.

Billions of dollars are spent in lost productivity and treatment of tobacco-borne illnesses. Physicians and state government officials are well acquainted with these statistics. Proceeds from tobacco-related litigation have funded cessation efforts throughout the State. For this special issue, the WVMJ seeks review articles and original research papers focused on methods and programs that have produced measurable change.

The *West Virginia Medical Journal* is soliciting articles for this special CME edition to address the following issues:

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Success of current smoking bans and programs to control second hand exposure – US and WV. 2. Youth tobacco use and success of control efforts – US and WV 3. Update on current use of smoked tobacco and associated disease morbidity – US and WV 4. Update on current use of smokeless tobacco and associated disease morbidity – US and WV 5. Update on current use of tobacco in pregnancy – US and WV 6. Current controversy regarding the use of non-tobacco nicotine delivery devices, e.g., Snus, e-cigarettes - US and WV | <ol style="list-style-type: none"> 7. Impact of education, economics and other political, social and cultural factors on the addictive use of tobacco and other harmful inhaled substances, e.g., marijuana, water pipes. 8. The health care economic consequences of tobacco use in West Virginia in the last decade. Are our efforts saving money? 9. The cost-effectiveness/ comparative effectiveness of various "quit" programs at 6 months, 1 year and 2 years – especially contrasting the use or non-use of pharmacological aides. 10. Any evidence of any significant decrease in second hand exposure of children in automobiles and homes by smoking parents or relatives? Are we being aggressive enough in preventing such exposure or do we need to enact measure equivalent to mandatory child car seat use? |
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Submissions requirements

- | | |
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| <ol style="list-style-type: none"> 1) cover letter (include corresponding author's mailing and email address) 2) manuscript (double-spaced) 3) short biography <i>for each author</i> 4) three questions and answers pertaining to the manuscript (for CME Post-test Questions) 5) a paragraph stating the objectives of the paper 6) All figures and photos must be submitted separately as black and white or grayscale .jpg, or .tif files. Files placed in a Word document are <u>not acceptable</u>. | <ol style="list-style-type: none"> 7) Submissions are limited to 2500 words and five visuals (i.e., 3 tables and 2 figures). Actual figure and table size are left to the discretion of the managing editor as space is available. The word limit includes up to 10 references. Additional references may be abridged, and a notation to contact the author for a full list of references will appear at the end of the article. 8) Reference format follows the same style as <i>JAMA</i>—superscript numbers placed AFTER punctuation. 9) Editorial/commentary submissions are limited to 700 words. <p>Scientific articles should be prepared in accordance with the "<i>Uniform Requirements for Submission of Manuscripts to Biomedical Journals</i>." Please go to www.icmje.org for complete details. For additional requirements, please refer to <i>Manuscript Guidelines</i> at www.wvsmj.org/journal.</p> |
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For more information or questions about submissions, please contact Angie Lanham, Managing Editor.
angie@wvsmj.org / 304.925.0342, ext. 20

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DEADLINES:

Manuscript submission:	February 3, 2014
Reviews returned by:	April 1, 2014
Resubmissions Due by:	May 1, 2014
Publication date:	July/August 2014 issue

Guest Editorial

“There is a Reason They Call it Dope”

by James E. Brick MD, *EB Flink Professor and Chair of Medicine, West Virginia University, Morgantown* and
John F. Brick MD, *Professor and Chair, Neurology, West Virginia University, Morgantown*

Among the lists ranking various states and their attributes our beloved West Virginia is usually at the extremes of the rankings, either very good (e.g. murders) or very bad (e.g. obesity and its concomitants). For several years we have been on the “bad end” of the scale for prescription narcotic drug abuse and overdoses. These public health problems have now reached epidemic proportions all over West Virginia, perhaps particularly south of US Route 60 where US 119 is sometimes referred to with gallows humor as the “Hillbilly Heroin Highway”. We frequently have an outreach clinic down there and hardly a visit goes by without us hearing of a drug seeking home invasion or some other violence in a small town that never dreamed of such 20 years ago.

It certainly wasn't an issue 30 years ago in West Virginia when we began practice in Neurology and Rheumatology.... Two specialties with plenty of patients with chronic pain. As house officers and students we were taught and expected to treat acute pain such as postsurgical or incurable pain, usually from widespread cancer aggressively. Other chronic problems were not given significant narcotic analgesics. Such patients we were told frequently became physically dependent, and then acted on their dependency becoming addicts and their drug seeking could become the basis of a failed patient-physician relationship. Such patients would then end up with two problems... the original one and the drugs.

Certainly not all prescription drug abusers in West Virginia begin this disastrous adventure

as patients in pain but many did, and though lots of these drugs come into WV from out of state, prescriptions are certainly a major source of abused narcotics here. A recent report in the Charleston Daily Mail highlighted the fact that hydrocodone is the most commonly prescribed Medicare drug in WV.

So how did we get to this sad state of affairs? Its genesis grew from a complex interplay of multiple forces that unfolded over the last 20 years. First, regulators and accrediting bodies decided it was inappropriate for patients to experience pain, a symptom haunting mankind since the dawn of time. Originally focused on the acute pain of inpatients i.e. “pain as a vital sign” later this drifted to outpatients and more chronic problems leading to unrealistic and heightened patient and physician expectations. Along with this were supposed ways of measuring pain and drug company efforts encouraging narcotic prescribing for outpatients while deemphasizing the dependence/addiction potential of these drugs, a particularly sad development given what we have now relearned about the risks in chronic opioid users. This type of activity on the part of the one drug company in particular, has led to millions of dollars in suits and awards in areas where this occurred, including West Virginia. In addition, we now know that in some instances opioid induced hyperalgesia occurs in chronic narcotic regimens where patients experience increased senility to painful stimuli leading to dose acceleration and further risk of dependency and other side effects. And it's not just the abusers

themselves who are caught up in this. We now know many babies are born every year in West Virginia with abused drugs in their cord blood.

Let's be clear about something, these patients don't seek to become dependent and their doctors don't wish to make them dependent/addicts. Nor do they wish family members who divert these drugs to suffer the same fate. Efforts to stem this tide have taken multiple forms. In the face of the fact that narcotic drug dependency now often begins with prescriptions given for acute problems, New York has taken steps to limit the narcotic exposure patients get after a trip to the ER. Some states like West Virginia have added extra steps to the prescription process to encourage thoughtfulness and to ferret out doctor shoppers. Required CME's have been used to educate providers on the value and pitfalls of opioid prescribing.

Unfortunately, we can't stop these drugs from coming in from out of state. And diversion is a big issue too. But we can reduce the exposure WV families have to these agents. The real lesson here is the one we heard long ago on our professional parents' knees. These drugs have serious implications. Patients taking them on a chronic basis are in danger of “losing their soul” to them. Don't get your patients started on chronic narcotics for nonmalignant pain. It's as simple as that. Don't go there to begin with. Just say no. Barring that, think long and hard about it and other options and make sure your patient knows what they may be getting in for.

Guest Editorial

CME – Celebrating Achievements and Future Challenges

by James D. Felsen, MD, MPH, Great Cacapon, WV

At the 2013 West Virginia State Medical Association Summit I had the honor to be awarded the Presidential Award for Outstanding Leadership by Dr. Hoyt Burdick. When I simply said, thank you, several attendees said, "That's all". I said, I'll respond in writing.

Over 5 years ago when I became a WVSMA volunteer to assist in the accreditation of approximately 15 CME providers throughout the State, not only had there recently been a major revision of the Accreditation Council for Continuing Medical Education (ACCME) standards, criteria, processes and fees but a complete turnover of WVSMA staff and volunteers responsible for this function. Our Executive Director, Evan Jenkins, with the support of Karie Sharp, successfully completed the arduous task to extensively restructure the Association's accreditation administrative mechanism and they have commendably supported it subsequently.

Part of the restructuring involved soliciting the services of Jay Ripley, Robin Rector and others on the CAMC CME staff. Jay's incredible knowledge and tireless efforts to assist providers - and our CME Committee - to assure compliance with the copious and often complex AACME requirements has been outstanding.

However, the greatest challenge was thrust upon individual providers, who were asked to not only change the process - and adopt drastically revised compliance measures - but to essentially embrace a new CME "focus" and "concept". That concept involves meaningfully linking the planning, content, implementation and evaluation of their CME programs with efforts to improve the health care outcomes and health status of all (e.g., individual physician practice, institutional, community at large) patient populations a provider chooses to target. Improving physician knowledge, competencies

and performance were to be tied to educational and non-educational strategies to improve health status and outcomes in these targeted populations.

I had little experience or expertise in medical education when I became involved. My interest stemmed from my life-long interest in improving local health care delivery. In my opinion that requires three functions or skills on the part of physicians. The first involves "population analysis" to identify health status deficiencies and unmet needs in the respective populations served. The second involves improving the continuity, coordination, effectiveness and efficiency of the respective care system(s). The third involves improving patient education, communication, safety and adherence - as well as clinical competencies and performance - to improve health outcomes and status for individual patients.

Clinical knowledge, competencies and performance improvements can be addressed by importing experts, participating in on-line and enduring material courses, and attending courses and exercises at distant locations. Most of the other functions can best be - or only be - performed locally and "by" local physicians, with necessary assistance from expert consultants. Local CME is an essential part of any successful effort to address these functions.

When we began the "transformation" in accordance with the new 2006 criteria, it was difficult for providers to interpret the basic criteria and understand exactly what documentation was required. Existing policies and procedures required considerable revision and new ones needed to be adopted. There were many deficiencies that had to be corrected when compliance with the new criteria was first assessed 4-5 years ago. This year, reviews to date reveal over 98% compliance with the basic 2006 criteria, attesting to the outstanding efforts of local provider staff.

However, the most amazing transformation - albeit still not complete - involves the evolving conceptual framework within which CME programs and activities are being viewed. This is especially rewarding since several physicians originally had opined that CME was primarily viewed as a "physician perk" and it was unlikely it would be incorporated as part of a larger improvement effort, especially if such change required increased resources. Not only has it been incorporated, but some providers have initiated "for credit" activities conducted "by" local physician CME participants, rather than provided "to" them.

Ironically, in many settings providers are not even giving themselves credit for the expanded content and focus of CME activities integrated within their overall population outcome and status improvement strategies and functions. Within the existing "organizational" frameworks of some providers, fully and validly describing their "functional" conversions within accreditation criteria has produced a new challenge. We are planning to address this challenge in future training exercises.

The conversion has also produced resource and personnel challenges at all levels. At the State and local level, physician volunteers are essential but chronically in short supply. Physicians, who have been involved in the expansion of the use of CME to accomplish meaningful local health care improvements, realize the reward, merit and joy of participation.

Many individuals deserve to be commended for their leadership in improving local CME activities and I share this recognition with them. It is my hope that other physician volunteer will join us and experience the joy of improving CME activities and local health care outcomes.

*To get involved, contact Karie Sharp
304.925.0342, ext. 12 or karie@wvsma.org*

Macerated Foot Dermatitis Related to Occlusive Footwear

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Abstract

Gram-negative bacterial toe-web infections (GNBTWI's) are relatively under-recognized among physicians. Even though skin infections are usually thought to involve gram-positive bacteria, gram-negative organisms have a particular affinity for the toe-web. We present two patients with GNBTWI's who presented with maceration of the toe-webs, vesiculopustules and a hyperkeratotic rim. Treatment includes using both oral and topical antibiotics along with antifungals to treat co-existing dermatophyte infections. Awareness of this condition is particularly important for primary care physicians in West Virginia, as a few of the potential risk factors include wearing occlusive footwear, such as work boots, and type II diabetes mellitus.

Introduction

Gram-negative bacterial toe-web infections (GNBTWI's) are relatively under-recognized among physicians. GNBTWI's were first described in 1973 by Dr. Amonette and Dr. Rosenberg, upon isolation of gram-negative bacilli from patients with macerated toe-webs.¹ Risk factors for these infections include: preexisting dermatophyte infection, hyperhidrosis secondary to closed toed shoes, auto-medication, and male gender. GNBTWI's are included in the differential diagnosis of interdigital toe-web maceration along with *errosio blastomyces interdigitalis*, interdigital tinea pedis,

eczematous dermatitis and gram-positive bacterial infections such as *corynebacterium*. Even though skin infections are usually thought to involve gram-positive bacteria, gram-negative organisms have a particular affinity for the toe-web. This paper serves to increase awareness of GNBTWI's since significant morbidity can be associated with these infections when they are misdiagnosed and mistreated.

Case Presentation

Case 1:

A 39-year-old white male with a history of type II diabetes mellitus presented to the hospital with a 4-day history of rash on the feet. He complained of itchy painful blisters between his toes and peeling of the skin with associated discharge from the right heel. Examination revealed an interdigital focus of white macerated plaques (Figure 1).

Case 2:

A 53-year-old white male with type II diabetes mellitus presented to the clinic with a 6-week history of cellulitis of his right foot, which was unresponsive to antibiotics. His medical history included chronic untreated onychomycosis and tinea pedis. Examination revealed macerated erythematous to white plaques with malodorous yellow-green purulent discharge involving the toe-webs as well as the right plantar and dorsal foot, respectively (Figures 2 and 3).

Both patients wore steel-toed boots to work. They were subsequently diagnosed with gram-negative bacterial toe-web infections. *Acinetobacter baumannii* was isolated from the wound culture of Case 1. The patient was successfully treated

with trimethoprim-sulfamethoxazole (160-800 mg/q12h) for 14 days, based on culture sensitivities. Case 2 had a complicated hospital course secondary to multi-drug resistant *Pseudomonas aeruginosa* isolated from the wound culture, but finally had improvement with 7 days of IV tigecycline (50mg/q12h) and a 6 month course of oral terbinafine (250 mg/d).

Discussion

The delicately balanced colonizing polymicrobial flora of toe-webs can be disrupted by various external factors, namely hyperhidrosis secondary to closed toed shoes, antimicrobial peptides produced by dermatophytes, and auto-medication applied by the patient.² In a review of 123 cases of GNBTWI's, *Pseudomonas aeruginosa* was the most commonly isolated pathogen, representing 46.4% of infections.² Gram-negative bacteria such as *P. aeruginosa* are capable of resisting antibacterial substances produced by fungi, providing an opportunity for increased colonization of the toe-webs with concomitant dermatophyte infection. Auto-medication with antifungals, antibiotics, or cortisone proved to be a risk factor in 56% and 82% of patients with GNBTWI's in two previous studies.^{2,6} Thus, subtle changes to the milieu of toe-web colonizing bacteria can create an environment that allows pathogenic gram-negative bacteria to proliferate.

Toe-web infections are much more common in males, who are more likely to wear close-toed shoes for occupational or recreational purposes. The typical presentation of GNBTWI's involves erythematous erosions, vesiculopustules, and maceration associated with malodorous exudate.²

Figure 1. Interdigital focus of white macerated plaque.



Treatment regimens consist of a combination of oral and topical antibiotics, such as quinolones, third-generation cephalosporins, and aminoglycosides. Antifungals, including local application of Castellani's paint, are used to treat co-existing dermatophytosis.^{1,8} In severe cases, patients may require superficial debridement prior to treatment with medication.⁴

The patients presenting in Case 1 and Case 2 demonstrated similar risk factors including: male gender, jobs requiring the use of steel-toe work boots, and preceding dermatophyte infection. Both patients presented with GNBTWI's; *Acinetobacter baumannii* in Case 1, *Pseudomonas aeruginosa* in Case 2. On physical exam, both patients had maceration of the toe-webs with a hyperkeratotic rim, a finding noted in other reports of gram-negative toe-web infections.³ The hyperkeratotic rim is thought to act as a protective barrier for the gram-negative bacterium, making it more difficult to eradicate the

infection.³ Both patients also had type II diabetes mellitus, suggesting a relatively immunocompromised state may contribute to risk for GNBTWI's. Awareness of these risk factors is particularly important for patients in West Virginia, as many wear occlusive footwear and the population of patients with diabetes mellitus continues to grow. Workers who wear steel-toe boots should be educated about the importance of keeping their feet dry.

Conclusions

Awareness of GNBTWI's is essential to reduce morbidity. Proper prevention and treatment of underlying dermatophyte infections, which increases the risk of secondary bacterial infection, is key. Early recognition of secondary bacterial infection is critical. Appreciation of the affinity of gram-negative organisms for the toe-webs is important for selection of appropriate antibiotic therapy.

Figure 2. Plantar surface of foot with white macerated plaque and green exudate.



Figure 3. Dorsal surface of foot with white macerated plaque and green exudate.



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Perceptions of Oral Health by the WV Community

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IRB exempt approval was obtained from West Virginia University prior to initiating this study.

Abstract

Background: This survey was undertaken to establish baseline measurements in regards to the oral health beliefs and practices of the general public throughout West Virginia as a starting point to create an effective educational initiative fostering oral health as an integral component of health.

Methods: A population based 37 item telephonic opinion survey on a representative sample of WV state wide residents was conducted to understand practices, habits and experiences with oral health, to identify barriers to oral health, and determine the perception of its importance to other health conditions.

Results: West Virginians rank obesity as the most serious health problem and dental health a significantly less serious concern. Half admitted to less than good dental health. Cost was most commonly cited for not accessing oral care.

Conclusions: A unified health promotion message among all health care providers is vital if general health of West Virginia citizens is to be improved. The links between oral health, coronary artery disease, diabetes, and pulmonary conditions can be used as a common starting point to embrace health advancement in general with the ultimate goal of changing current attitudes and practices and develop sustainable health programs that result in positive oral health/overall health in individuals and communities.

Introduction

Throughout the Middle Ages and into the 19th century, dental procedures were performed by barbers or general physicians.¹ There was no perceived separation of oral health and overall health. A physician treated the whole body and the whole patient taking for granted that the teeth and gums were an integral part of the body. If it was inevitable that the historical parting of the great healing professions of Medicine and Dentistry would lead to an artificial separation of oral and overall health, it was perhaps just as inevitable that increased knowledge, awareness, and changing attitudes would begin to bridge the gap.

Oral health is defined as being free from dental caries, periodontal disease, oral and pharyngeal cancers, cleft lip and palate, soft tissue oral lesions as well as facial pain. This wide definition of oral health does not lessen the significance of the impact of the two leading dental diseases, caries (decay) and the periodontal diseases.² Risks for the development of caries include: low socio-economic status, low education level, cariogenic diet, diminished salivary flow, high concentrations of cariogenic microflora, race/ethnicity, poor access to health care, special health care needs, inadequate fluoride, poor oral hygiene, and previous caries.³ Although dental caries affects both adults and children, it is the most common chronic childhood disease. Unrecognized and untreated caries in people of any age can lead to multiple health problems including but not limited to pain, nutritional challenges, psychological issues, facial cellulitis, and in some cases, death. Risk factors for periodontal disease include tobacco smoking, diabetes,

pathogenic bacterial tooth deposits, genetic factors, socioeconomic status, and stress.^{4,5} Periodontal disease has been associated with pregnancy problems, coronary heart disease, and respiratory disorders.^{6,7,8} There are safe and effective measures to prevent these two most common dental diseases all of which can be promoted by the primary care physician.

In 2011, The Institute of Medicine (IOM) released two reports on oral health. The Advancing Oral Health in America report called for establishing and evaluating an oral health initiative, focusing on prevention, improving oral health literacy, enhancing the delivery of oral health care, and expanding research.⁹ Improving Access to Oral Health Care for Vulnerable and Underserved Populations report emphasized the critical need to integrate oral health care into overall health by the development of a core set of oral health competencies for non dental health care providers and to integrate these competencies into their professional training as a requirement for accreditation as well as necessary for the maintenance of certification. For example, one competency being developed advocates for Disease Prevention and Health Promotion through the use of anticipatory guidance in the form of basic oral health information as early as possible in life and as appropriate throughout the life cycle.¹⁰

Preceding the IOM reports and amid widespread oral health challenges facing West Virginia and the nation, the West Virginia University (WVU) School of Dentistry launched an oral health initiative campaign aided by a grant from the Claude Worthington Benedum Foundation. As a starting point in creating awareness around the importance of oral health to

overall health, the WV general public was surveyed. The purpose was to determine attitudes and beliefs in regards to oral health, identify barriers, and determine the significance they placed on oral health vs. other health concerns.

Materials and Methods

A telephonic survey of WV adults 18 and over was conducted by professional interviewers, experienced in conducting consumer health care research. The interview average length was 8-10 minutes. Interviewing was conducted from a central call center located in Charleston, WV using random, digit sample and computer assisted telephone interviewing which included listed and unlisted household telephone numbers in which data was weighted (where appropriate) to replicate recent census demographic profiles for the WV population. All interviewers

were closely supervised and monitored (one supervisor per 10 interviewers, with silent cut-in audio monitoring for quality assurance). The firm conducting this research is a member of the Council of American Survey Research Organizations (CASRO) and follows all CASRO quality and respondent confidentiality protocols.

Results

The survey was completed by 299 WV adults. This sample size was recommended based on budget and an acceptable overall 95% confidence interval for the total sample (+/- 5.7 percentage points). Demographics of this population are shown in Table 1. Even though 93% of respondents thought dental care was very or somewhat important, half of all respondents admitted to having less than very good dental health. Forty-five percent of respondents lived within five miles of a dental office. Six in 10 had received dental care

within the past year. Dental health and regular dental checkups were the primary reasons people sought dental care. Two of 5 people brush their teeth once a day or less. Seven in 10 do not floss. Eighty-eight reported using tobacco with the majority of these using cigarettes (77%) followed by smokeless tobacco (21%). The average annual tobacco spend per user was estimated to be \$1,456.00. One hundred sixty-eight of 299 citizens reported having some form of dental insurance with 59% of the 168 reporting private insurance and 38% Medicaid or some other program. Of those who had not received dental care in more than 2 years (n = 79), 7 in 10 said it was due to costs or lack of insurance. Perceived seriousness of health concerns in the state is illustrated in Table 2.

Discussion

Dental Disease was ranked in the lowest category of health concern. This was in spite of, or perhaps

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Table 1. Demographics of WV Community N = 299



because of, West Virginia’s dubious distinction of leading the nation in adults (18 years and older) with no teeth at 36%. The U.S. average for the loss of all natural teeth is 17%.¹¹ While this unfortunate statistic helps perpetuate inaccurate and unflattering stereotypes of West Virginia, the reality behind the number is even worse for its effect on the quality of life and overall health.

The cost of dental care was cited as a key barrier. However, survey findings in regards to tobacco expenditures and insurance coverage in and of themselves undermine the presumption that economics is

the sole factor in access to dental care but instead point to behavioral determinants. There is evidence that involving primary care providers in administering select preventive dental services such as application of fluoride varnish, caries risk assessment, anticipatory guidance, and referral to a dental home are effective measures in preventing childhood caries.¹² These measures, in addition to periodontal disease risk assessment could be utilized in medical settings for adult populations. Data from the 2002 Medicare Current Beneficiary Survey found that those older adults who

received preventive dental care had more dental visits overall, but fewer visits for expensive dental treatment resulting in lower dental costs than those who sought dental care due to dental problems.¹³

Prevention is a key element in promoting and maintaining oral health which could be advocated by the primary care provider. Motivating individuals to practice good health care behaviors is in itself a challenging undertaking. Some of the more effective strategies have utilized techniques that encourage and empower patients to believe that they actually have

Table 2. West Virginia Community Health Concerns

	T2B %	Extremely serious	Very serious	Somewhat serious	Not serious	Don't know
Community (n=299)						
Obesity	82	43	39	16	1	3
Cancer	81	31	50	16	0	2
Alcohol & drug abuse	80	38	42	16	3	1
Heart disease	77	30	47	18	3	2
Diabetes	75	25	50	23	1	2
Tobacco use	74	36	38	19	5	2
Dental disease	48	17	31	37	7	9
Depression & anxiety	47	12	35	42	5	7

control of their own health. The more they believe it, the better they become in taking actions that promote healthy lifestyle habits.¹⁴

In March 2010, a state oral health plan was developed which describes the oral health problems in the state and outlines targeted objectives, strategies, and timelines to improve and maintain oral health in West Virginia.¹⁵ A WV State Oral Health Coalition (OHC) has been formed to provide a structured approach to meeting the oral health needs of all the citizens of West Virginia and is open to all organizations and individuals interested in improving oral health. The Coalition is continuing to grow with the goal of having representation from government agencies, dental and dental hygiene schools, dental health professionals, civic organizations, minorities, armed services, non-dental health care providers, and consumer advocates. Because of the existing infrastructure created by key partners within the state, strengthened by the OHC, WV is well positioned to become a national example in inter-professional oral health efforts. Physicians and other non-dental health care providers can screen for oral disease and risk assessment, promote prevention strategies around oral health including the promotion of low

sucrose diets, evaluate and provide appropriate referrals for dental emergencies, as well as be aware of the systemic diseases that affect oral health and oral health problems that exacerbate systemic diseases.

To date, there are no reimbursement mechanisms in place in the adult population for primary care providers to address preventive dental measures, but does that make it any less vital? It may be argued that with medicine's effectiveness being shifted to health outcome monitoring and given the oral systemic connections that are continually emerging in scientific literature addressing associations between oral health and overall health, improving oral health can lead to better health outcomes.

In October of 2011, the West Virginia Children's Health Insurance Program (WV CHIP) began reimbursing primary care providers who have been certified through training offered by the WVU School of Dentistry for fluoride varnish applications for children ages six months to under 36 months who are at high risk of developing dental caries. This application of fluoride varnish also includes communication with and counseling of the child's caregiver and referral to a dental home. WV Medicaid began reimbursing for

this service in January of 2012. WV DHHR Oral Health Program is currently modifying the existing training program to make it more efficient with providers' satisfaction.

Conclusion

A sustainable and collaborative approach across the healthcare disciplines is needed to explore innovative approaches to delivery of care that will address the challenges facing our professions and ultimately improve the health of our society. Improving attitudes, beliefs and healthy lifestyle practices are critical. In addition, with the major associations between oral health and overall health that are being discovered through evidence-based research initiatives, the improvement in oral health should ultimately increase the health status of all. The most effective means of accomplishing this objective is through a multifaceted community and inter-professional approach to health. After all, while there are perhaps many legitimate reasons for the poor health of too many West Virginians, there are no good reasons.

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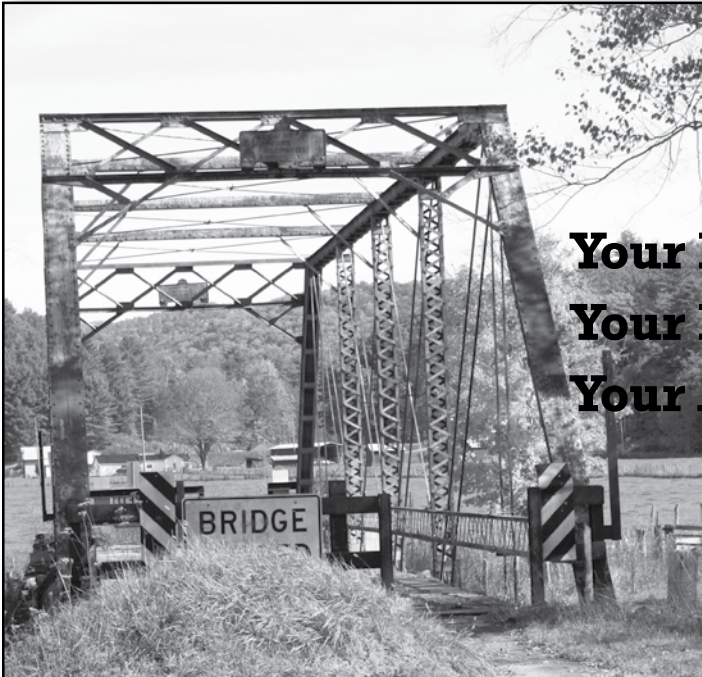
R.L. Repass & Partners, Inc. conducted the telephonic survey.

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Serum Anti-endometrial Antibodies and First Trimester Pregnancy Loss

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Abstract

Serum anti-endometrial antibodies (AEA) have been studied as a marker for endometriosis and implantation failure. We sought to determine if the presence of AEA in the serum of pregnant patients is associated with first trimester pregnancy loss including complete abortion. This is a prospective pilot case control study of 30 patients presenting with first trimester pregnancy loss compared to a control group of 30 first trimester pregnant patients with a normal course for the presence of serum AEA. The control group was selected using propensity matching of patient characteristics. AEA assays were performed by a single operator blinded to clinical status of patients. The mean maternal age in the study and control groups was not statistically significant (26.1 ± 5.7 vs 24.2 ± 4.5 years, $p < 0.155$). A history of pregnancy loss was not significantly greater in the study group (12/30=40.0%) as compared to the control group (8/30=26.7%, $p < 0.412$). In both study and

control groups, 40% of the samples tested positive for AEA; therefore, we found no evidence of an association between the presence of AEA and pregnancy loss. These findings in our pilot study suggest that presence of serum AEA does not appear to be a marker for early pregnancy loss.

Introduction

About 12-15% of clinically recognized pregnancies (CP) will end in early pregnancy loss (EPL) prior to 20 weeks gestation.¹ About 80% of EPL will occur prior to 12 weeks gestation and about 50% of the cases of spontaneous abortion are attributed to chromosomal abnormalities such as trisomy, monosomy, and other forms of aneuploidy.² The risk of loss of CP increases with maternal age.³ Identified causes of early miscarriage include environmental,^{4,5} endocrine^{6,7} anatomic defects,⁸ and infections.⁹ In addition, previous reports have indicated that immunological problems involving autoimmunity,^{10,11} alloimmunity¹² and embryotoxic factors¹³ are associated with EPL. Thus, humoral immune factors may be linked to EPL. An increased risk of EPL has been reported in infertile women with endometriosis (Endo).^{14,15} There is mounting evidence of altered humoral and cellular immunity in patients with Endo.¹⁶⁻²³

Due to the variety of clinical and anatomical presentations of Endo, researchers began searching for a noninvasive method, such as a laboratory marker as an alternative to surgery for the diagnosis of the disease.

The presence of serum and peritoneal fluid antiendometrial antibodies (AEA) in patients with

Endo has been well described and correlates with surgically verified Endo.^{21, 24-29} Elevated levels of AEA may contribute to an immunological mechanism for EPL. The exact mechanism by which AEA may be related to early miscarriage is unknown. We know AEA binds to several endometrial antigens that are suspected to be involved in the normal fertilization and implantation process of the embryo.^{24,30} Binding of AEA to endometrial secretory antigens may prevent them from functioning correctly, resulting in EPL due to failure of the embryo to survive the implantation process. Specifically, AEA binding to endometrial antigens may contribute to EPL by activation of the complement cascade in the presence of the early embryo which may result in cellular damage to the embryo and endometrium or by binding of AEA to specific antigens in the endometrium that are responsible for components in the implantation process.³⁰⁻³³

The impact of serum AEA and Endo on different forms of Assisted Reproductive Technologies (ART) was recently reported.³⁴ It was found that serum AEA and Endo did not have a statistically significant association with CP rates of the different forms of ART; however, the occurrence of serum AEA was associated with an increased frequency of miscarriages in the study patient population ($p < 0.0001$).

The purpose of the present study was to further evaluate a relationship between first trimester pregnancy loss and the presence of serum AEA. Our pilot study is the first prospective study to evaluate the presence of serum AEA in patients

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Table 1. Patient Characteristics: EPL=Early Pregnancy Loss

	EPL Group	Control	P value
Maternal age (year)	26.1 (5.7)	24.2 (4.5)	0.155
Gestational Age (weeks)	7.6 (2.5)	8.0 (2.4)	0.466
Ethnicity			0.424
White	25 (83.3%)	28 (93.3%)	
African American/Black	5 (16.7%)	2 (6.7%)	
Parity			0.552
Nulliparous	6 (20.0%)	9 (30.0%)	
Multiparous	24 (80.0%)	21 (70.0%)	
Gravidity	3.6 (3.4)	2.6 (1.6)	0.140
Diabetes	1 (3.3)	1 (3.3)	0.754
HTN	1 (3.3)	1 (3.3)	0.754
History of Pregnancy Loss	12 (40.0%)	8 (26.7%)	0.206
Drug Use	2 (6.7%)	0 (0.0%)	0.246
Alcohol Use	4 (13.3%)	3 (10.0%)	0.500
Tobacco use	14 (46.7%)	12 (40.0%)	0.795

with pregnancy loss. We hypothesize that the presence of AEA places the pregnant patient at increased risk of first trimester pregnancy loss including complete abortion.

Methods

This prospective pilot study involved enrollment of 60 patients from Charleston Area Medical Center, a large university affiliated community hospital. Serum from 30 study group patients was acquired following admission to the emergency department. These patients had confirmed CP and presented with 1st trimester bleeding. The control group consisted of 150 new obstetrical patients from the resident clinic, 30 of which were selected for the study following propensity matching. The inclusion criteria were defined as a CP characterized by a positive serum beta-human Chorionic Gonadotropin and first trimester ultrasound documentation of fetal heart motion. EPL was defined as complete or incomplete abortion

<13 weeks gestation. Patients were excluded if they were older than 34 or younger than 18 years.

Sera from all participants were tested for the presence of AEA by the indirect immunofluorescence method.³⁵ The assays were performed by one investigator blinded to group assignments, clinical information, or outcomes. Results were reported as negative or positive for the presence of serum AEA.

We used a type of balancing score called a propensity score to match the control group to the study group. This required a multivariable analysis. The following variables were analyzed: parity, gravidity, maternal age, race, tobacco abuse, alcohol use, substance abuse, pregnancy loss history, chronic hypertension, diabetes mellitus, and gestational age. Propensity matching adjusts for patient characteristic differences to verify similarity in characteristics between the two groups.³⁵ A match was made when a study group patient and control had

similar scores. An alpha of 0.05 was considered statistically significant.

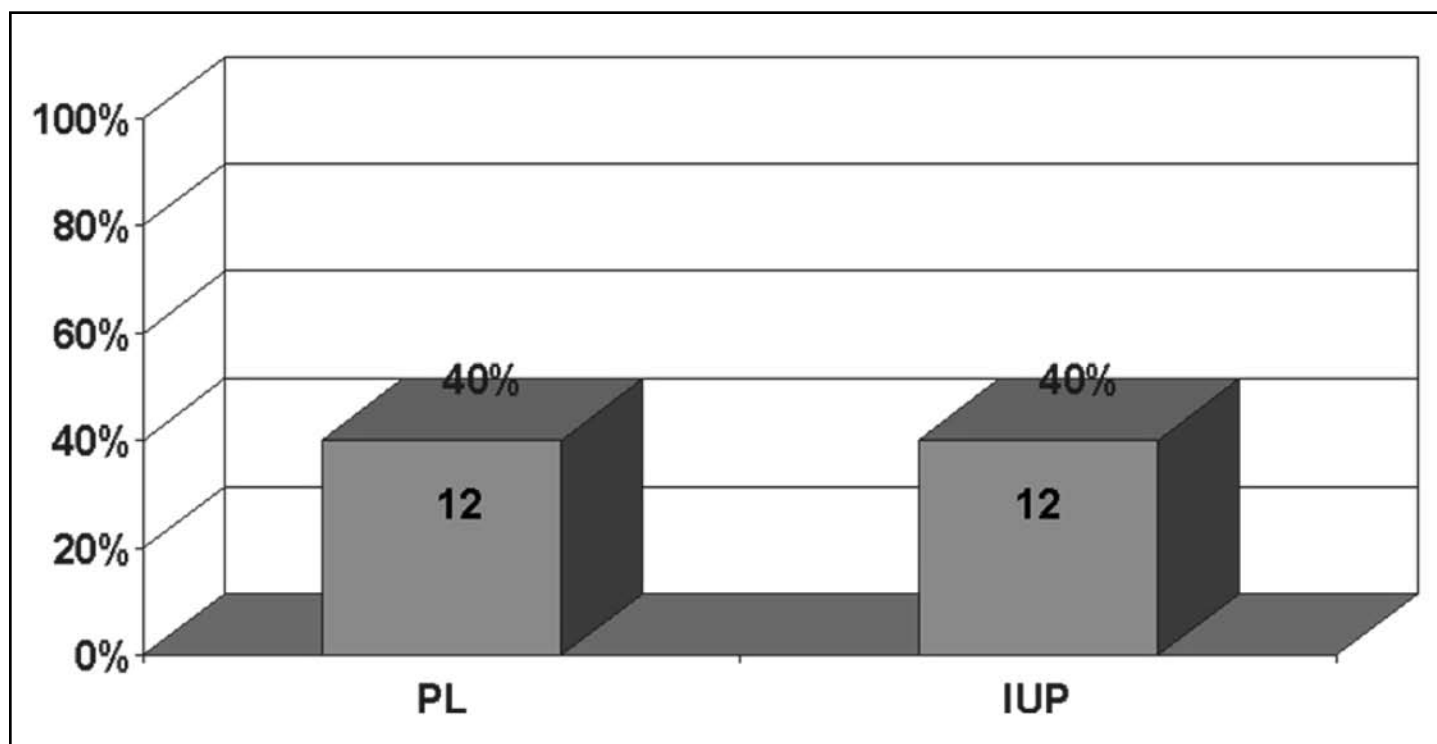
Data analysis was conducted using the statistical package SPSS (version 17; Chicago, IL). SPSS included descriptive statistics as appropriate for continuous or categorical variables. Continuous variables were presented as means and standard deviations and compared using the student t-test. Categorical variables were reported as percentages and were compared using chi-square and Fisher's exact test. Multivariate logistic regression was used to calculate propensity scores. We did not calculate a post-hoc power analysis because the pilot study did not show a trend in association.

All procedures were performed in compliance with relevant laws and institutional guidelines and our institutional review board approved the study protocol prior to commencement of the study. Informed consent was obtained from each subject and their privacy rights were observed. With no other studies published on this topic, we chose to conduct a pilot study with a sample size of 60. This sample size was based on extenuating factors such as cost, convenience, and feasibility to collect data. By using propensity matching to make sure we had a representative sample, this sample size was large enough to pick up any useful information. If there had been a trend we would have calculated a sample size and adjusted our study to that size.

Results

Following propensity matching, data analysis was conducted on 30 study group and 30 matched controls. Patient characteristics are shown in Table 1. At the time of serum acquisition, the mean age for the group of 60 patients was 25.1 ± 5.2 years, mean gestational age was 7.8 ± 2.5 weeks, mean gravidity was 3.1 ± 2.7 and parity was 1.1 ± 1.2 .

Figure 1. Presence of AEA by Study Group (PL=Pregnancy Loss; IUP=Intrauterine Pregnancy)



In both the EPL and control groups, 40% of the samples tested positive for AEA (Figure 1); therefore, we found no evidence of an association between the presence of AEA and EPL. Although not significant, AEA was more prevalent within the control group for nulliparous versus multiparous patients (44.4% vs 16.7%), while the presence of AEA was more prevalent in the study group for multiparous women (45.6% vs 38.1%), $p=0.58$.

Discussion

This prospective pilot study was the first to investigate the possible association of serum AEA and the risk of EPL. While a previous study³⁶ presented some evidence for an association between EPL and AEA in patients seeking fertility treatments, no association was found in our general obstetric population. A decreased fertility potential is evident in the population of patients who have surgically-diagnosed Endo, which is supported by the fact

that a higher incidence of fertility impairment exists in the infertility patient population than in society in general. Endo-associated infertility is effectively treated with therapies such as intrauterine insemination or in vitro fertilization. All of the patients in the present study conceived as a result of intercourse. The positivity of serum AEA in 40% of the control group raises questions about its presence in a pregnant population. Although serum AEA has been shown to be a reliable marker of Endo in infertility patients, there is insufficient evidence regarding the presence and effects of AEA in a pregnant population. Specifically, any new study should involve a much larger population of pregnant patients with documented Endo.

We are at a loss to confidently explain the findings of an increased prevalence of AEA in multiparous as compared to nulliparous women in the EPL group and in the nulliparous versus multiparous women within the control group.

We typically expect pregnancy to lower the activity of Endo by ending menses during pregnancy, thus decreasing the retrograde seeding of endometrium in the pelvis and by providing a progesterational environment which has been considered an effective treatment strategy for Endo. Progesterone is known to have anti-inflammatory effects.³⁷

The present study has shortfalls. This study did not control for the presence of chromosomal abnormalities in the specimens of pregnancy losses in the study group. Since the etiology of about 50% of first trimester pregnancy losses is chromosomal abnormalities,² it would have been advantageous to test the concepti for chromosomal abnormalities as an explanation for the EPL. A much larger patient population may need to be studied in order to reveal any association of aneuploidy with early pregnancy loss; however, this would be difficult secondary to the expense of testing

and the expected lack of sufficient embryonic specimens from many of the participants. Additionally, factors other than chromosomal or genetic may be associated with EPL and were not tested in the present study, such as certain autoimmune factors including anti-phospholipid, anti-cardiolipin antibodies and lupus anticoagulant, alloimmune factors, inherited thrombophilias, certain endocrine factors as associated with polycystic ovarian syndrome or luteal phase deficiency and certain environmental factors. Thus, exhaustive information potentially related to early pregnancy loss is difficult to acquire.

Our findings suggest that presence of a positive serum AEA is not associated with EPL. While a previous study indicated an association between EPL and AEA in patients seeking fertility treatment, this association was not present in our general obstetrical patient population.

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Hemophagocytic Lymphohistiocytosis (HLH) in a 25 Year Old Presenting with Multisystem Organ Failure

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Abstract

Hemophagocytic lymphohistiocytosis (HLH) is a rare syndrome of extreme inflammation caused by pathologic activation of the immune system.

Diagnosis of HLH is challenging as the clinical presentation is similar to common medical entities such as sepsis. When a source of the extreme inflammation is not found, HLH should be considered in the differential diagnosis. In HLH, inflammatory markers such as soluble CD25 and ferritin levels are elevated.¹ Ferritin assay is widely available at most institutions; a level greater than 10,000 is highly suggestive of HLH.² Delayed diagnosis and failure to initiate cytotoxic chemotherapy will result in a fatal outcome.

Introduction

HLH can be classified as primary or secondary. Primary HLH caused by genetic abnormalities occurs in infants and young children. Secondary HLH occurs in older children or adults, often triggered by an infection or medical condition but could also be due to genetic abnormalities. Signs and symptoms include hepatosplenomegaly, prolonged fever, cytopenias, elevated triglycerides and elevated ferritin.¹ Complete diagnosis is made by identification of the abnormal genetic mutations or when five of the

following eight diagnostic criteria are identified: fever, splenomegaly, cytopenias, hypertriglyceridemia and/or hypofibrinogenemia, hemphagocytosis, low or absent NK-cell activity, elevated ferritin, and elevated sCD25.³ While five of the eight criteria are required to make a complete diagnosis, not all of these criteria need to be present to suspect and begin treatment for HLH. The presence of hemophagocytosis in the bone marrow is helpful but not necessary for the initial diagnosis of HLH. A prompt diagnosis and subsequent treatment is imperative to avoid a fatal outcome.

Case Report

A 25-year old previously healthy Caucasian male presented to the ED complaining of severe, sharp, anteriorly located chest pain as well as dyspnea and a syncopal episode. Review of system was otherwise negative for fever, chills, night sweats. The patient had no significant past medical, surgical, family or social history. Initial physical exam was negative for fever, rash, pallor, and hepatosplenomegaly. Initial labs showed hyponatremia with a sodium of 127 mmol/L and an elevated C-reactive protein at 82.9 mg/L but otherwise not significant. Soon after presentation, he became confused and combative then developed hypotension and respiratory failure requiring intubation, large volume fluid resuscitation and hemodynamic support with multiple vasopressors. On day #2 of his hospitalization, he was febrile. He further developed cytopenia with platelets as low as 28,000/mL and hemoglobin as low

as 8.8 g/dL. He began showing signs of multisystem organ failure with respiratory failure requiring mechanical ventilation, transaminitis with alanine transaminase (ALT) >1400 and aspartate aminotransferase (AST) >2800 and renal failure requiring continuous renal replacement therapy. He developed coagulopathy with an INR as high as 2.9 as well as hypofibrinogenemia, with fibrinogen level as low as 144 mg/dL. At this time, hematology was consulted and the diagnosis of HLH was considered. A ferritin level was obtained and found to be markedly elevated at 56,248 ng/mL. Emergent bone marrow aspiration and core biopsy showed hemophagocytosis without signs of lymphoma or leukemia, confirming the diagnosis of HLH (Figure 1, Figure 2). A viral panel consisting of EBV, CMV, parvovirus B19, toxoplasma, HIV, and hepatitis was obtained and found to be negative. CT scan of the head showed sinusitis. Triglyceride levels were not elevated at 62 mg/dL. The patient was started on dexamethasone and etoposide treatment which led to marked clinical improvement allowing for extubation, resolution of organ dysfunction and eventual discharge. He subsequently underwent maintenance etoposide chemotherapy however, his ferritin levels began to increase; therefore he was referred for genetic testing as well as hematopoietic stem cell transplant.

Discussion

HLH is a potentially fatal hyper inflammatory condition with an incidence of 1.2 cases per million

Table 1. Diagnostic criteria for HLH

Diagnostic criteria for HLH used in the HLH-2004 trial.³ The diagnosis of HLH is established by:

A. Molecular diagnosis consistent with HLH: Pathological mutations of PRF1, UNC13D, Munc18-2, Rab27a, STX11, SH2D1A, or BIRC4

-OR-

B. Five out of the eight criteria listed below are fulfilled:

- 1) Fever >38.5
- 2) Splenomegaly
- 3) Cytopenias (affecting at least 2 of 3 lineages in the peripheral blood)
- 4) Hypertriglyceridemia (>265 mg/dL, fasting) and/or hypofibrinogenemia (<150 mg/dL)
- 5) Hemophagocytosis in bone marrow, spleen, lymph nodes, or liver
- 6) Low or absent NK-cell activity
- 7) Ferritin >500 ng/mL
- 8) Elevated soluble CD25 (alpha chain of soluble IL-2 receptor)

children a year. Incidence in the adult population is unknown. It is thought to be caused by over activity of antigen presenting cells and lymphocytes leading to multisystem inflammation and eventually leading to organ failure. HLH can be classified as primary or secondary. Primary HLH occurs in children typically less than 18 months of age and is caused by one of several genetic mutations. Secondary or viral-associated HLH occurs in older children or young adults. Secondary HLH is triggered by infection, malignancy, or rheumatologic abnormalities.¹ Genetic mutations in secondary HLH have been reported. (See Table 1).

Infections that may be associated with HLH include but are not limited to: Epstein-Barr virus, cytomegalovirus, herpes simplex, HIV, influenza, parvovirus B19, rubella, and varicella zoster.¹ Autoimmune disorders including

systemic lupus erythematosus and rheumatoid arthritis may trigger HLH. Certain malignancies such as lymphomas are also frequent triggers of HLH.

Although there are eight diagnostic criteria for HLH, it is not always necessary to meet 5 of the 8 criteria to diagnose and treat HLH. A review of charts of pediatric patients with elevated ferritin level at a large pediatric hospital in 2007 revealed that a ferritin level of more than 10,000 ng/mL was 90% sensitive and 96% specific for HLH.² Although the patient in this case had a ferritin level that was highly specific for HLH, he also met 5 out of 8 diagnostic criteria including cytopenia, fever, hypofibrinogenemia, hemophagocytosis as well as hypofibrinogenemia. Labs such as NK-cell activity and soluble CD25 were not readily available at our institution therefore, these labs were not obtained.

It is recommended that treatment be initiated when clinical suspicion exists, even before all diagnostic studies are available in order to prevent further organ damage. Prior to initiation of current treatment regimens, the 1-year survival rate of children with HLH was close to 0%.⁵ Induction therapy for HLH includes an 8-week course of etoposide and dexamethasone as recommended in HLH-94 trial published in 2011.⁴ At 6.2 years of median follow-up, estimated 5-year survival was 54% ± 6%. Patients with familial disease had a 5-year survival of 50% ± 13%; none survived without HSCT.⁶

Conclusion

Hemophagocytic lymphohistiocytosis is a relatively uncommon condition; however it should be considered in the differential diagnosis of a patient with sepsis and multisystem organ failure of unknown etiology. Ferritin assay, a relatively inexpensive test, may facilitate the diagnosis of HLH. Failure of prompt diagnosis and treatment will invariably lead to a fatal outcome.

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Peripheral Nerve Stimulation for Treatment of Chronic Headache: A Case Report

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Abstract

Chronic daily headaches can be debilitating. Multiple treatments have been suggested with varying degrees of success. We present a case of a 27 year old female with greater than ten years of chronic daily headaches. The patient was evaluated at the headache clinic where she was diagnosed with complex migraine with components of occipital neuralgia. Multiple medication regimens were tried without significant benefit. The patient also underwent bilateral occipital blocks along with trigger point injections of various muscles including the semispinalis capitis with significant but limited duration of benefit. After other treatments were unsuccessful, the patient was referred to the Pain Management Center and underwent a trial of peripheral nerve stimulation with significant pain relief without complications. She then proceeded with permanent implantation of the peripheral nerve stimulator with continued pain relief. This case demonstrates the utility of peripheral nerve stimulation for the treatment of refractory chronic daily headaches and should be part of our armamentarium.

Introduction

Chronic headaches are vast and varied. They describe a syndrome that includes other primary and secondary headaches such as chronic tension type headaches, chronic migraine headaches, hemicrania continua and chronic cluster headaches. These headaches can affect daily activities. There are multiple treatment strategies

with varying efficacies. Currently, limited options exist when headaches prove intractable to analgesic and conventional treatments. In this article, we describe a patient with greater than ten years of chronic headaches resistant to multiple treatment strategies who underwent a trial of peripheral nerve field stimulation. In our discussion and literature review, we discuss neuromodulation and how it is used commonly for chronic pain, intractable to analgesics and conventional treatments for various conditions.

Case Report

A 27 year old female with greater than 10 years of chronic daily headaches was referred for evaluation and treatment by the headache clinic in the Department of Neurology. The patient began experiencing regular headaches in her early teens. The patient was initially diagnosed and treated for migraines. Unfortunately, her symptoms were not well controlled. With time, the headaches increased in severity and frequency. The headaches became a daily occurrence, lasting from hours to days, debilitating her from participating in daily activities. The patient noted symptoms that began in the bilateral occipital and temporal regions, with radiation to the top of her head, which eventually lead to a global headache. She described the pain as throbbing with nausea, vomiting, photophobia and phonophobia. The headaches occurred during the day and also at night, frequently waking her from sleep. Prior to evaluation and treatment at the headache clinic, she had tried

multiple regimens including, over-the-counter medications, combination acetaminophen, butalbital, and caffeine, oral contraceptive pills, amitriptyline, propranolol, verapamil, gabapentin, sumpatriptan, frovatriptan, rizatriptan and eletriptan, without significant relief. At the time of evaluation with the headache clinic, she was on topiramate, magnesium, combination of isometheptene mucate, dichloralphenazone, and acetaminophen and as needed oxycodone, which she used 2-3 tablets per week. On multiple occasions, the patient was treated in the emergency room with intravenous morphine, toradol, fluids and anti-emetics. Neuroimaging and diagnostic work ups, including computed tomography and magnetic resonance imaging of the brain and lumbar puncture were all unremarkable.

The headache clinic initially placed the patient on almotriptan, co-enzyme Q10 and quetiapine as needed to her regimen. She was diagnosed with complex migraine with components of occipital neuralgia. Due to continued headache, she was trialed on dexamethasone and venlafexine without significant benefit. She underwent bilateral occipital blocks alone and with trigger point injections of various muscles including the semispinalis capitis with varying results, all with limited duration of benefit. She was then also tried on levetiracetam and underwent onabotulinumtoxinA injections, without benefit.

Due to her refractory response to medical therapy, the patient presented for evaluation. Based on

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her history of symptoms, exam and responses to previous treatments, we discussed several options, including cryo-analgesia for the occipital neuralgia treatment and peripheral nerve stimulation. The patient elected to try cryo-analgesia of the bilateral greater and lesser occipital nerves, unfortunately without significant benefit. Patient continued to experience pain in the bilateral temporal regions daily, with escalation to a global headache.

Subsequently, the patient underwent a 7 day trial of peripheral nerve stimulation with 3 wire leads (Medtronic Inc., Minneapolis, MN). With the patient in a prone position, the trial leads were placed with the aid of fluoroscopy, via a single needle technique per lead. A 15 gauge curved beveled tuohy needle bent to conform to the patients anatomy, was advanced after minimal subcutaneous local anesthetic infiltration at the C2 vertebral level. The needle was advanced subcutaneously, below the dermis via palpation and with the aid of fluoroscopy. After confirmation of the needle placement, the stylet was removed and the lead was advanced. Then after verification of the lead placement, the tuohy needle was removed. This was repeated at the temporal region bilaterally. Bilateral Quad electrode leads were subcutaneously placed in the posterior temporal region along with a single Octad electrode lead placed subcutaneously around the C2 vertebral level (Figure 1). At follow-up, the patient reported greater than 85% pain relief on a visual analog scale without side effects or complications. The patient continued her topiramate but did not require any additional medications or treatments during the week. As results, she proceeded with permanent implantation. The permanent implantation was performed similarly to the trial

except for an incision that is made to visualize and to anchor the lead to the fascia. Then the leads were connected to the battery, all subcutaneously. On initial follow up after the implantation, patient was found to have migration of the right temporal lead superficially requiring revision. On 12 month follow up, the patient noted improved pain relief from the trial period, stating greater than 95% pain relief. She continues to take topiramate but has not needed any breakthrough medications since the permanent implantation.

Discussion and review of literature

Neuromodulation provides a minimally invasive and reversible treatment options for various conditions. Via a trial period, the patient has the ability to access and test the effectiveness prior to permanent implantation.

Neuromodulation, including peripheral nerve field stimulation (PNFS), generally involves selective application of programmable pulse waveform through series of electrodes within a lead to stimulate nerve fibers, subsequently reducing pain.¹ Neuromodulation is commonly used as a treatment option for chronic pain, intractable to analgesics and conventional treatments for various conditions, ranging from failed back syndrome to peripheral vascular disease.²⁻⁷ In PNFS, the leads are subcutaneously placed to stimulate the region of affected nerves, cutaneous afferents or the dermatomal distributions.⁸ The combination of PNFS with SCS has been effective in select patients in relieving lower back and leg pain refractory to conventional management.

Bernstein and colleagues presented a case series of twenty patients who were treated with a combination of both SCS and PNFS

for lower back and radicular leg pain syndromes.⁸ Of the twenty patients, four underwent a trial of SCS with greater than 50% relief of pain overall, but poor buttock/lower back coverage therefore a combination approach was used at time of permanent implant. Each patient reported improved coverage and pain relief with combination compared to SCS alone.⁸ Seven patients with pre-existing SCS system were subsequently given PNFS months or years later to relieve persistent or worsening lower back pain. Each patient reported greater pain relief and improved quality of life with the combination of SCS and PNFS with continued follow-up from 7 to 21 months from time of implant.⁸ Nine patients were given a trial using a combination up front, prior to any permanent implant. Different stimulation parameters were programmed using the epidural or the PNFS contacts individually and in combination, patients were able to directly compare the coverage from each modality during the course of the five to seven day trial.⁸ Of the combination trial three patients did not proceed with permanent implantation due to dissatisfaction with sensory of stimulation or effectiveness of stimulation in controlling their pain. Two patients identified PNFS as adequate for relieving their pain and underwent permanent implantation of PNFS alone.⁸ The other four patients went ahead with permanent implants of the combination of SCS and PNFS, preferring the stimulation combination compared to either modality alone.⁸

The use of PFNS for treatment of craniofacial pain was first observed in the 1960's, when Wall and Sweet reported use of stimulation of infraorbital foramina for pain relief.⁹ Since the late 1990's, studies emerged using PNFS as a promising treatment option for various conditions.^{10, 11}

Figure 1. PA and Lateral Xray imaging of occipital and temporal electrode lead placements.



Weiner and Reed and others have reported successful use of PFNS for treatment of occipital neuralgia^{1, 2, 13} Weiner and Reed reported thirteen patients underwent 17 implant procedures for medically refractory occipital neuralgia using PNFS with follow-up ranging from 1-1/2 to 6 years. Twelve patients continue to report good to excellent response with greater than 50% pain control and requiring little or no additional medications. The 13th patient was subsequently explanted following symptom resolution.¹² Occipital neuralgia is a condition associated with paroxysmal jabbing pain in the distribution of the greater occipital nerves or the third occipital nerve, typically as a result of entrapment of a nerve along its course.¹⁴

Complex migraine, is often used interchangeably with migraine variants or complicated migraine, defined syndromes associated with episodic, transient, and reversible neurologic dysfunction.

However, the term is no longer commonly used. Nevertheless, the treatment can be difficult. Currently, various PNFS, from supraorbital to auriculotemporal nerve stimulation have been reported with successful management of epicranial headaches.¹⁵⁻¹⁸

Matharu and colleagues reported eight patients with chronic migraine that underwent 12 implant procedures with bilateral suboccipital stimulators. Three patients needed revisions after initial implantation because of lead migration; one of these patients needed two revisions.¹⁷ Of these eight patients, four had excellent response with their headaches completely suppressed with no breakthrough headaches; two patients described their response to stimulation as very good; the headaches are completely suppressed most of the time, though they have breakthrough headaches about 10 days per month, for which they either have to take analgesics or

increase the stimulation amplitude.¹⁷ The other two patients continued to have constant headaches but both reported their response to stimulation as good, with the severity of the headaches reduced by 50-75%; one of these patients had derived further benefit from implanted bilateral supraorbital stimulators.¹⁷ All patients reported that they had managed to either completely stop or considerably reduce the headache medications they were taking.¹⁷

Deshpande and Wininger reported a case report of successful use of PFNS for treatment of headache with combined epicranial temporal and occipital stimulation at the 24-month follow-up. No complications or adverse side effects were reported and more than a 50% reduction in headache onset was reported, and notably, the patient had not experienced the neurologic deficits that defined her migraines.¹⁹

It has been proposed that the clinical benefit for temporal

placement may be based on coverage of the terminal branches of the trigeminal nerves, along with the communicating branches between the auriculotemporal nerve and the lesser occipital nerve.¹⁹⁻²¹ The occipital placement at C1 through C3 for pain relief is based on coverage of the greater and lesser occipital nerves as well as pain originating from the cervical region, such as the third occipital nerve.²² In addition to the direct stimulation of the auriculotemporal nerve with the temporal lead placement, it has been hypothesized by Simopoulos et al that there may be stimulation of both the sphenotemporal and temporal-occipital sutures along with nociceptive fibers transversing the bony sutures of the calavera.¹⁸

With the growing reports, PNFS may serve as an effective treatment alternative to traditional

pain management strategies in refractory headaches for reduction of pain and analgesic use.

Conclusion

This case presentation demonstrates the potential utility of neuromodulation related to chronic daily headaches. Neuromodulation, including peripheral nerve field stimulation, is a commonly used treatment option for various chronic pain conditions when other treatments have proven ineffective. Peripheral nerve field stimulation should be included as part of our armamentarium in the treatment of chronic daily headaches.

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Abstract

The skin-sparing mastectomy has many advantages over a simple mastectomy, including preservation of the native breast skin, inframammary fold, and improved aesthetics for immediate reconstruction. The traditional transverse elliptical access incision is anterior on the breast mound, requires a second incision for previous biopsy sites, and provides restricted access to the axilla. We describe a novel mastectomy incision that improves scar appearance, improves access to the axillary contents, and reduces skin flap retraction. This incision starts at the nipple-areolar complex and extends laterally in a curvilinear fashion toward the axilla incorporating the biopsy scar along the way. This simple sinusoidal design results in an aesthetically superior alternative to the traditional linear mastectomy incision.

Introduction

Breast cancer surgery involves both the traumatic experience of managing a potentially fatal disease as well as a radical alteration of the conventional feminine body image. The patient is presented with multiple treatment and reconstructive options, and one third of women diagnosed with breast cancer elect for mastectomy. The final reconstructive appearance is influenced by the amount of skin excised at the time of the mastectomy as well as the exact location and appearance of the skin incision. Skin-sparing mastectomy (SSM) allows the surgeon to

perform a complete mastectomy while preserving adequate breast skin for immediate reconstruction. Traditionally, SSM is performed using a transverse incision at the apex of the breast mound¹⁻³ (Figure 1).

This technique increases the viable skin for breast reconstruction, preserves the inframammary fold, and facilitates immediate fluid placement into a tissue expander. However the dissection can be difficult through a standard elliptical incision which leaves an unnatural linear scar and usually requires a separate incision for sentinel lymph node biopsy. We present an alternative approach termed the "Lazy Lateral Incision" which we believe offers novel advantages in comparison with the traditional mastectomy incision.

Technique and Cases

The Lazy Lateral mastectomy incision starts at the nipple-areolar complex (NAC), and is designed by the oncologic or reconstructive surgeon to incorporate existing biopsy sites in the outer quadrants of

the breast. This is accomplished by using a sinusoidal design that allows the surgeon to utilize a superior or inferior takeoff from the NAC to incorporate the biopsy site. From there, the incision is then reflected in the opposite direction and taken toward the axilla (Figure 2).

We present four skin sparing mastectomies performed using the Lazy Lateral Incision for mastectomy with immediate reconstruction. Patient characteristics were assessed preoperatively (Table 1). Two breasts were unilateral mastectomies, and two utilized the Lazy Lateral incision on the side of the primary cancer while a traditional transverse incision was utilized on the contralateral breast (Figures 3-6). The incision was designed by a single plastic surgeon prior to the mastectomy. Previous biopsy sites in the outer quadrants were incorporated into the incision, and the tail was extended toward the axilla. Sentinel lymph node biopsy was performed in each case. Immediate reconstruction was performed on all patients utilizing an infero-lateral

Table 1. Complete medical and surgical history of each patient. Note that none of the patients included in this series were smokers.

	Patient 1	Patient 2	Patient 3	Patient 4
Past Medical History	Node Positive Invasive Ductal Carcinoma	Lobular Carcinoma, Multiple Sclerosis.	Hypertension, previous Lobular Carcinoma in-Situ. Ductal Carcinoma.	Hypertension, Diverticulitis, Gastro-Esophageal Reflux Disease.
Past Surgical History	Laparoscopic Cholecystectomy, Exploratory Laparotomy, Eye Surgery	Exploratory Laparotomy, Laparoscopic Cholecystectomy, Hysterectomy.	Cesarean Section x2, Foot Surgery.	Appendectomy, Total Abdominal Hysterectomy with bilateral Salpingo-oophorectomy, Left Thyroid Lobectomy, Tonsillectomy, bilateral Carpal Tunnel Release, Laparotomy with Colon Resection.

Figure 1. (left) Pre-operative picture, note previous biopsy scar on left breast. (right) Post-operative result for a traditional transverse incision with immediate allograft sling breast reconstruction. Note separate biopsy scar present on left breast.



Figure 2. (Left to Right) Anterior/Posterior, Oblique, and Lateral view depicting design of Lazy Lateral Incision (solid line) compared with traditional elliptical transverse mastectomy incision (dashed line) The Sinusoidal wave may originate anywhere from the 12 o'clock to the 6 o'clock NAC position and have a variety of frequencies and amplitudes. Excess tissue may be worked laterally into the curve and away from midline in order to improve aesthetics.

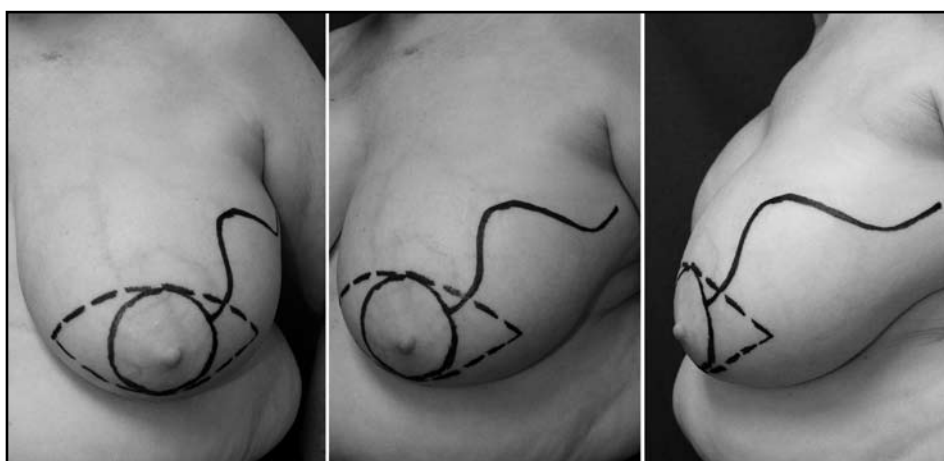
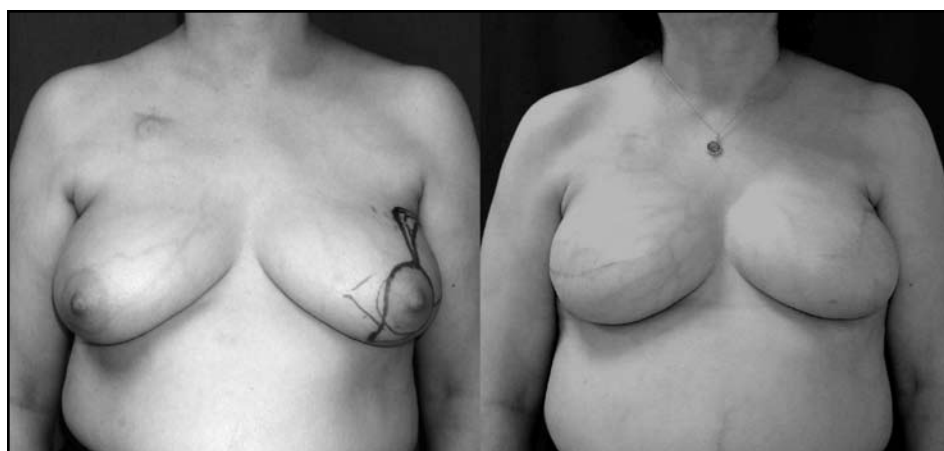


Figure 3. Patient 1. Pre-operative and post-operative photos depicting side by side comparison of traditional transverse incision (right breast) and Lazy Lateral incision (left breast) result.



allograft sling and a tissue expander. Patients were followed for one year after reconstruction, and no complications occurred.

Discussion

The cases reported above outline the advantages of the Lazy Lateral incision. One advantage evidenced by our results is the capability of the Lazy Lateral technique to include the excision of the biopsy scar in the natural flow of the primary incision. The sinusoidal shaped incision can be designed superiorly or inferiorly with a multitude of amplitudes or frequencies to encompass various prior biopsy sites in the outer breast quadrants. However, the incision design is longer and more complex than a traditional elliptical incision, which requires more time and expertise to close. Also, if a biopsy scar were present medial to the mid-breast meridian, an additional incision would be required.

The curvilinear path of the Lazy Lateral incision also serves to distract the eye during aesthetic inspection in comparison with the traditional transverse incision. Straight lines are not naturally occurring on the breast, and therefore the incision provides a more natural and aesthetically pleasing appearance. The distracting quality of a naturally curving incision coupled with the excellent camouflage by areola tattooing for the medial portion of the incision make the postoperative scar significantly less visible from the anterolateral vantage point when compared with traditional mastectomy scars.

The Lazy lateral incision allows for the elevation and manipulation of excess tissue laterally rather than having to cross the midline breast meridian to work with tissue. Furthermore, the lateral curved incision avoids the tethering effect that a straight scar produces over the convex surface of the breast. This enables lateral tailor tacking of excess skin, and preserves the natural

Figure 4. Patient 2. Pre-operative and post-operative photos depicting side by side comparison of traditional transverse incision (right breast) and Lazy Lateral incision (left breast) result. Note this patient received radiation on left breast.

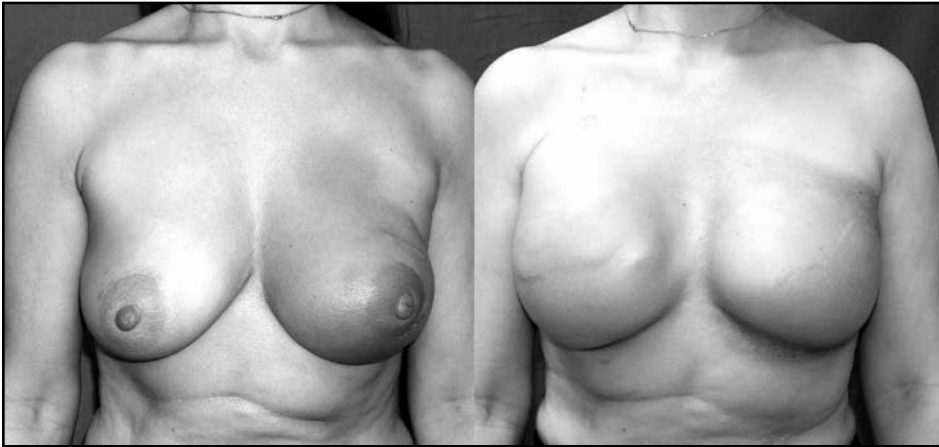


Figure 5. Patient 2. (left) Lateral view of post-operative result with traditional transverse incision. (right) Lateral view of post-operative result with Lazy Lateral incision. Note increased anterior projection and more natural tear drop contour of left breast (right)

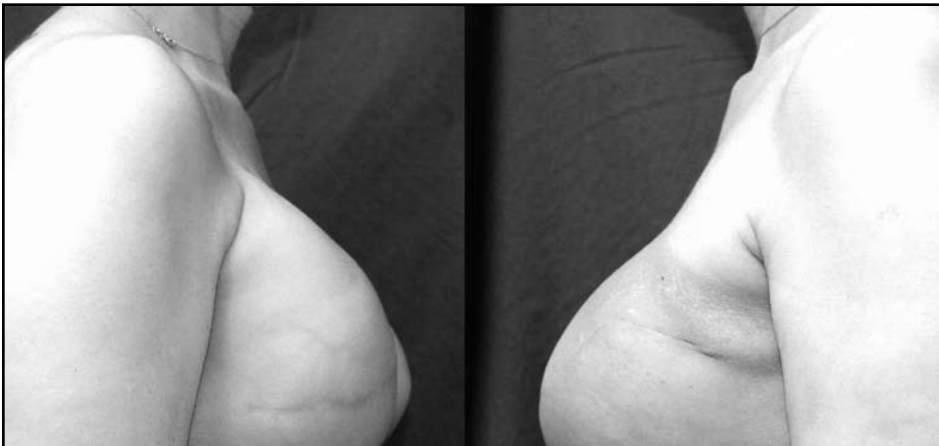
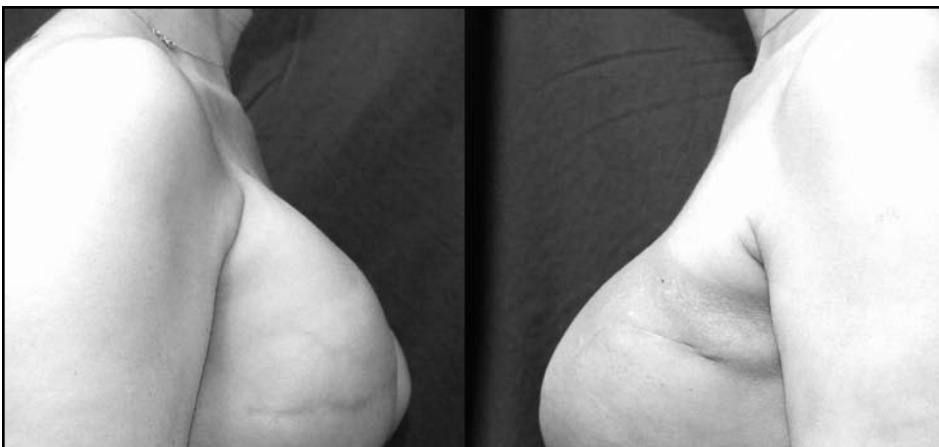


Figure 6. Patient 3. (left) Pre-operative and (right) 3 week post-operative result of the Lazy Lateral incision. Note that 2 cm of the medial scar will eventually be camouflaged by an areola tattoo even further enhancing this natural appearing immediate breast reconstruction.



contour and anterior projection of the reconstructed breast.

Another advantage of the Lazy Lateral Incision is the unparalleled access to axillary contents and the tail-of-spence for resection.⁴ Traditional transverse mastectomy incisions often necessitate separate incisions and are known to provide insufficient axillary access.

Finally, the enhanced access to the entire breast provided by the Lazy Lateral incision reduces the necessary flap retraction during the mastectomy. While the Lazy Lateral incision is longer than the traditional transverse incision, the increased access greatly decreases the mechanical stress placed on the sub-dermal plexus of the preserved native skin which may improve skin flap health and viability. The surgeon is able to manipulate the skin flaps in a gentle manner, reducing the retraction force on the native skin flap while maintaining excellent surgical access. Therefore, through the reduction of retractive force on the skin flap, the Lazy Lateral incision may decrease the rate of skin flap necrosis and reduce the risk of vascular supply complications in SSM.

To our knowledge, this is the first lateral sinusoid incision that has been described for SSM. Lateral mastectomy incisions have been described in the past, with good results.^{4,5} Specifically, Wheeler and Masters previously described a lateral S shaped incision which they applied to subcutaneous mastectomies for benign diagnoses. The Lazy Lateral technique has built upon these examples by utilizing an elongated incision which can encompass the axillary region, as well as by allowing for either a superior or inferior take-off from the NAC to incorporate previous biopsy sites.

Conclusion

Skin-sparing mastectomy with immediate reconstruction has become

a mainstream intervention for breast cancer. Alternative mastectomy incisions have been described in the past; however, the sinusoidal design of the Lazy Lateral incision is the first to encompass all of the named advantages described. The Lazy Lateral incision addresses some acknowledged weaknesses of the traditional elliptical incision by improving access to breast contents while providing superior aesthetics. This technique provides an alternative and innovative advancement for SSM.

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Figure 7. Patient 4. (left) Pre-operative and (right) 4 week post-operative result of the Lazy Lateral incision. Note how the inframammary fold and lateral breast shape can be enhanced by working the reconstructed tissue superior and lateral.



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Cushing's Syndrome in Pregnancy: A Diagnostic Conundrum

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Abstract

A 31 year old woman who was 16 weeks pregnant was admitted because of headache, blurred vision, excessive weight gain, and hirsutism. Laboratory tests showed low adrenocorticotropic hormone (ACTH) and elevated serum and urinary cortisol. Magnetic resonance imaging showed a left adrenal mass. Left adrenalectomy was done, and histopathology showed an adrenal adenoma. The patient had an uncomplicated delivery after 37 weeks of gestation. Cushing's syndrome is very rare in pregnancy. It may be difficult to diagnose because the clinical and laboratory signs of Cushing's syndrome may be similar to those of pregnancy.

Introduction

Cushing's syndrome was named after Harvey Cushing who described it in 1912. William Osler described the syndrome in 1898 but he wrongfully attributed it to myxedema.¹ Cushing's syndrome is a rare entity with an incidence of 1 case per 2 to 3 million people.² It usually poses diagnostic uncertainty because of the common prevalence of its signs and symptoms. Cushing's syndrome in pregnancy, described by Hunt and McConahey in 1953, is very rare with only 126 cases previously reported.³ Cushing's syndrome may prevent conception because the associated hypercortisolism and hyperandrogenism affect normal follicular and endometrial development.

During normal pregnancy there is increased production of corticosteroid

binding globulins by the liver and increased placental production of cortisol releasing hormone (CRH) and adrenocorticotropic hormone (ACTH); this causes elevated levels of total and free cortisol which may result in increased salivary and urinary free cortisol levels (Table-1).⁴ These physiologic and biochemical changes make the diagnosis of Cushing's syndrome in pregnancy an intriguing challenge. We present a woman who had Cushing's syndrome of pregnancy that resulted from an adrenal adenoma.

Case Presentation

A 31 year old gravida 5, para1 woman, who was 16 weeks pregnant, was admitted to the hospital because of headache, blurred vision, excessive weight gain and hirsutism. Past medical history included gestational diabetes, gestational hypertension and a left adrenal mass (2.7 cm) noted on CT

scan 6 months earlier. A low serum ACTH and normal serum cortisol levels were noted 6 months ago when the mass was first discovered. Physical examination showed facial plethora, prominent supraclavicular fat pads, wide abdominal purple striae, and multiple bruises in the lower extremities. Laboratory tests done at our facility are detailed in Table 1. Magnetic resonance imaging (MRI) showed the left adrenal mass (3.2 cm) with features suggestive of an adrenal adenoma.

She was diagnosed with Cushing's syndrome secondary to an adrenal adenoma. The patient was treated with robotic left adrenalectomy. Histopathology confirmed the diagnosis of adrenal adenoma. The patient was started on physiologic dose of corticosteroids (hydrocortisone 20 mg in the morning and 10 mg in the evening). The plasma ACTH level increased to normal by 4 months after surgery (Table 2). The patient had an

Table 1: Laboratory studies on admission to hospital.

Test	Level	Reference range
Adrenocorticotropic hormone (ACTH) (pg/ml)	<1.1	7.2 to 63.3
Cortisol, serum (µg/dL)	24.5	3.1 to 16.7
Cortisol, serum (after overnight 1 mg DXT) (µg/dL)	24	(<5)
Cortisol, urinary free (µg/24 h)	442	0 to 50
Aldosterone, serum (ng/dL)	1.2	0 to 30
Renin, plasma (ng/ml/hr)	1.6	0.15 to 2.33
Metanephrines, urinary (µg/24 h)	109	35 to 460
Metanephrines, plasma (pg/ml)	14	0 to 62
Dehydroepiandrosterone (DHEA) (ng/dl)	40	31 to 701
Vanillylmandelic acid, urinary (mg/24 h)	6	0 to 7.5
Epinephrine, urinary (µg/24 h)	12	0 to 20
Norepinephrine, urinary (µg/24 h)	124	0 to 135
Dopamine, urinary (µg/24 h)	276	0 to 510

uncomplicated delivery of a healthy boy after 37 weeks of gestation. After the delivery, the oral corticosteroids were tapered and discontinued.

Discussion

Cushing's syndrome is hypercortisolism due to any cause, most commonly from exogenous administration of glucocorticoids. Cushing's disease is hypercortisolism due to excess production of ACTH by the pituitary.⁵ Cushing's syndrome in pregnancy is rare and the etiology is different from the non-pregnant patient. Adrenal adenomas cause 40 to 50% of cases of Cushing's syndrome in pregnancy but only 15% cases of Cushing's syndrome in non-pregnant patients. Cushing's disease is also rare in pregnancy; most patients with Cushing's disease are unlikely to become pregnant because of associated hyperandrogenism.⁴

Cushing's syndrome is rarely diagnosed before 12 to 26 weeks of gestation because the typical

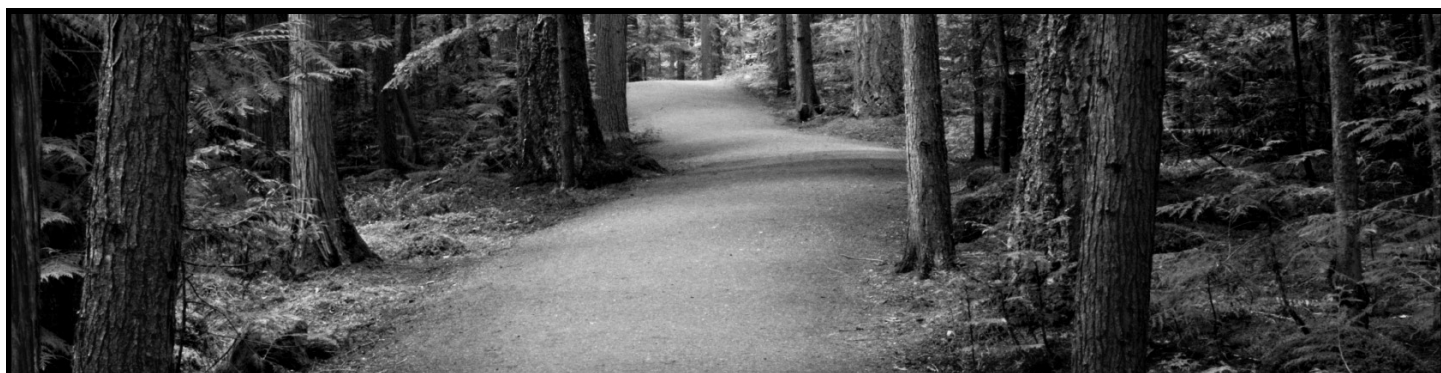
symptoms of weight gain, bruising and hirsutism are attributed to pregnancy.³ Some women may not show signs of Cushing's syndrome despite increased cortisol levels because they may have increased cortisol binding globulin (CBG) levels or decreased sensitivity to cortisol.⁶ Maternal mortality and morbidity may be associated with untreated Cushing's syndrome in pregnancy because of associated hypertension (68%), diabetes (25%), preeclampsia (14%), osteoporosis (5%) and psychiatric disorders (4%).³ Although the fetus is protected by the cortisol degrading enzyme in the placenta, complications may include prematurity (60%), IUGR (26.2%), still birth (6%) and spontaneous abortions (5%). Rare cases of cleft palate, patent ductus arteriosus, coarctation of the aorta, transient hypertrophic obstructive cardiomyopathy have been reported.⁷ Spontaneous bruising, facial plethora and wide purple abdominal striae

have the highest diagnostic predictive value for Cushing's syndrome.⁸

Physiologic changes in pregnancy include elevated ACTH, serum and urinary cortisol, CRH, and plasma and urinary aldosterone levels and blunted responses to ACTH, CRH and dexamethasone.⁴ These may alter the interpretation of tests to diagnose Cushing's syndrome as detailed in Table 3.

Urinary free cortisol levels and midnight salivary cortisol levels are recommended as the diagnostic tests for Cushing's syndrome in pregnancy. Plasma ACTH levels may help in determining the etiology. A low ACTH level suggests adrenal etiology and imaging with either ultrasonography or MRI without gadolinium is recommended.³

Cushing's syndrome resulting from an adrenal tumor in pregnancy usually is treated with adrenalectomy, optimally during the second trimester. Patients treated with adrenalectomy have a live birth rate of 87%.⁹ Medical treatment, most



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Table 2:-Laboratory studies for the patient before and after resection of the adrenal tumor

Test	Preoperative	Postoperative	Reference range
Adrenocorticotrophic hormone (ACTH) (pg/mL)	<1.1	10.8	7.2 to 63.3
Cortisol, urinary (µg/24h)	442	69	0 to 50

Table 3: Comparison of laboratory studies with adrenal Cushing's syndrome and normal pregnancy

Test	Adrenal Cushing's syndrome	Normal pregnancy
Morning serum cortisol	Increased	Increased
Diurnal rhythm of cortisol	Midnight nadir lost	Midnight nadir preserved
Salivary cortisol	Increased	Increased
Urinary free cortisol	> 4 fold increase	3 fold increase in third trimester
Low dose dexamethasone suppression test	After test cortisol > 5 (µg/dL)	Blunted response
High dose dexamethasone suppression test	< 50% suppression of cortisol	Blunted response
Adrenocorticotrophic hormone (ACTH)	Decreased	Increased because of placental cortisol releasing hormone (CRH)

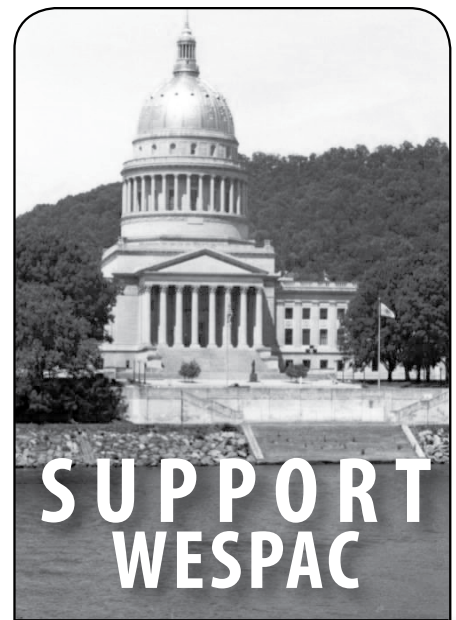
commonly with metapyrone is an alternative for women who decline surgery or who are diagnosed in the third trimester.¹⁰ Ketoconazole may be teratogenic. Cyproheptadine is not efficacious and aminoglutethimide is not recommended because it may cause fetal masculinization.³

Conclusion

Cushing's syndrome in pregnancy is a diagnostic challenge. The clinical signs and laboratory tests of Cushing's syndrome may be similar to those of pregnancy. Physicians need to have a high index of suspicion for this condition in order to initiate the appropriate work up and arrive at the diagnosis.

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Behind the Scenes at the 2013 Boy Scout Jamboree

More than two years ago, the West Virginia Department of Health and Human Resources (WVDHHR) began preparing for the 2013 Boy Scouts of America (BSA) National Jamboree. The July 15-24, 2013, event made its Mountain State debut at the new 10,600-acre Summit Bechtel Reserve in the New River Gorge region of Fayette and Raleigh counties. The WVDHHR Bureau for Public Health (BPH) had a presence both onsite and offsite. Offices for Threat Preparedness, Epidemiology, Environmental Health and the local County Health Departments worked closely with the BSA, local health departments and hospitals to ensure public health safety. The WVDHHR Public Health Command Center, located in Charleston, was coordinated by the BPH's Center for Threat Preparedness and managed under the Federal Emergency Management Agency Incident Command System. Thirty-nine employees from across WVDHHR provided 16-hour coverage when Health Command was active, and 8 hours on-call coverage.

The event drew over 35,000 boy scouts, their leaders and girl venture scouts ranging from ages 14 to 21, representing more than 20 countries, in addition to about 7,000 staff and volunteers. Each child was issued an ID bracelet, which helped to track the number of people in attendance. Additionally, thousands of visitors to southern West Virginia were bussed in, as only emergency vehicles were permitted onto the property.

The site became West Virginia's third largest city for two weeks.

The Jamboree featured activities such as whitewater rafting, zip lining, mountain climbing, rock climbing, kayaking, scuba diving, and BMX biking, to name a few. Scouts also experienced educational exhibits, learned new skills and performed 350 community service projects for ten days across nine southern West Virginia counties: Fayette, Greenbrier, McDowell, Mercer, Monroe, Nicholas, Raleigh, Summers, and Wyoming. Examples of projects included painting, clearing brush, constructing walkways and picking up litter. Approximately 30,000 youth completed more than 250,000 hours of community service, estimated to be valued in the millions of dollars.

"The 2013 National Scout Jamboree was one of the single largest mass gathering events in the history of West Virginia. When you consider the size of this event, the BPH assisted the BSA in building a new city for the scouts. For all West Virginia cities, BPH has the responsibility of drinking water and food, sanitation, public pools, and disease control. For this temporary city, it was BPH's responsibility to help ensure that attendees were safe by providing public health oversight, coordination and response," said Deputy State Health Officer, Dr. Teresa Frazer. This two-week event became West Virginia's third largest city for two weeks.

Frazer added, "The BPH supplied Epidemiology and Environmental Health teams to track and monitor

illness, injury or disease and to assist with outbreak detection and control. The teams, in coordination with the Fayette and Raleigh County Health Departments assisted with guidance on water and food safety, as well as general support, consultation, intervention and education as needed on issues related to public health."

DHHR began planning in late spring to create a new website, WVCampSafety.com, to promote tools and public health safety information for campers, camp leaders and parents. The site delivered a means to let the scouts and others traveling to West Virginia know about common camping health issues, most of which can be prevented. The website, initially designed to promote safety to the scouts coming into West Virginia, has since evolved and now targets campers year-round.

Since the Jamboree wrapped up, the DHHR as well as other partners have held After Action Review meetings of what went right and what could be improved. In so doing, they are already planning improvements for the next Jamboree in 2017. The Summit Bechtel Family Scout Reserve will serve as the permanent home for the National Scout Jamboree every four years and will host the World Scout Jamboree in 2019.

Kristi S. George
Public Information Specialist III
WV DHHR / BPH / Center for
Threat Preparedness

Customized Solutions for Your Special Concerns—Part II

by: Steve Brown, Agency Manager

In the September/October 2013 issue of the *West Virginia Medical Journal*, we provided Part I of a series entitled “Customized Solutions for Special Concerns”; this article represents a second report on the way the West Virginia Medical Insurance Agency can be of assistance to doctors throughout West Virginia.

As you will recall from Part I, our focus is on “Have You Seen Your Insurance Agent Lately”; these articles point out the importance of meeting with your agent and our assistance to you because we are willing to meet with you and discuss your issues.

A. Premium Financing (Special Terms)

We have reported repeatedly that we can provide premium financing terms that are more competitive than other agents in the State. For example, during 2012 we placed 49 accounts with premium financing options; providing finance rates between 4.75% and 2.25%, compared to the 6.5% offered by most medical professional liability insurance agents. We have continued to have favorable rates subsequent to 2012. In addition to our ability to achieve low interest rates, we have also been able to arrange for optional payment plans. For example, the primary option is 20% down payment with nine equal installments thereafter. We have been able to provide equal monthly

payments, quarterly installments, and other more “exotic” terms to meet the needs of individual policyholders. We offer our premium financing without a service fee for our efforts.

B. Quick Responses

While being non-renewed or cancelled is never an enjoyable situation, we were faced with the request to provide replacement coverage following a cancellation that involved a 48 hour deadline. This was accomplished due to our knowledge of alternative markets and our reputation with those markets. Fortunately for us, we had detailed information about our client on file and also had ready access to the additional information required by the underwriter. While we thought it possible to do, I think we surprised ourselves by being able to achieve this placement, of a complicated situation, on such short notice.

In another situation, a doctor left one group practice and wanted to start a new solo practice. This situation involved a 30 day turn around notice to effective date. We traveled 5 hours to meet with the doctor, complete applications, obtain agent-of-record letters and secure authorizations for needed information. Subsequently we provided the doctor with medical professional liability insurance, workers’ compensation, business owners’, and group employee benefits through different

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carriers. Furthermore, we handled the doctor's prior acts/ extended reporting endorsement issues as well. Issues involved in opening a new practice are significant, the service of other persons within the WVSMA in developing provider contracts was essential as well.

One of the first new business clients we obtained was a January 1, 2005 renewal of the Mutual Insurance Company. This doctor had been non-renewed by the Mutual, but subsequently requested our assistance with the appeal of the non-renewal. We met with the doctor, discussed his situation and assisted in the preparation of an appeal document. The Mutual accepted the appeal with

the offered practice changes and continues to insure this client, who is today, loss free. Although times have changed since his appeal (a formalized adversarial appeal process is now required by the WV Court system), we have frequently been successful at providing additional information to the Mutual that allows them to be responsive to the needs of West Virginia doctors. Sometimes it just takes an agent who knows what information is needed to document the record.

Quick responses also include daily requests from clients that need immediate follow-up. Recently, a major client (large group) requested a loss run from their carrier so

they could evaluate the potential of purchasing ERE should they dissolve their group. With a quickly approaching renewal date, the request was important and was provided to the account in a 24 hour turn around. Another client needed revised certificates of insurance to include with a contract bid response. The request was received at 5:00 p.m. on Monday and delivery by 10:00 a.m. on Tuesday.

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Jessica Parsons	Charleston, WV
Amber Patterson	Spencer, WV
Jennifer Pauley	Charleston, WV
Tracey Pino	Oak Hill, WV
Angela Ranson	Charleston, WV
Sherry Reeves	Huntington, WV
Amber Rowe	Williamsburg, WV
Natalie Rugel	Charleston, WV
Kelly Snodgrass	Charleston, WV
Amy Turner	Kingwood, WV
Julie Williams	Charleston, WV

Congratulations also to the newest Certified Medical Compliance Officers!

Terry Buckner	Charleston, WV
Karen Lavery, CMOM	Morgantown, WV
Rick Wilton, B.B.A., CMOM	Charleston, WV

Mark Your Calendars Now!

Don't miss the WVSMA Annual Mid-Winter Conference featuring bestselling author and motivational speaker, Aric Bostick.

Aric Bostick is the author of *Fired Up! Employees*. A leading motivational speaker and success trainer who dispenses humor, wit, and compassion from the corporate seminar stage. Aric's audiences include Fortune 500 Companies, leading healthcare and financial organizations, educational markets, and global business enterprises. Aric has inspired more than a half million people from all walks of life to believe in themselves, set higher goals, and ignite performance and potential.

West Virginia office managers and administrators who have heard him speak are looking forward to hearing his "fired up" message again.

Karen Lavery, Practice Administrator in Morgantown, who heard Aric recently at a conference out of state, says "Aric was very enthusiastic and full of energy. He never once lost my attention and I left with excellent information that I could take back to the office and put to use." Aric also spoke for the 150 physicians and staff of the Mid-Ohio Valley Medical Group, where employees expressed great appreciation to their administrators for hosting such a motivational event.

Also confirmed on the conference agenda are government and commercial payors presenting their plan updates, including the new Education and Outreach Coordinator of Palmetto GBA with a presentation on the 2014 Medicare update.

***Plan now to attend and bring your staff.
You won't want to miss this event!***

Check our website for an updated agenda.

www.wvsma.org

2013 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 11, 2013:

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Bonhomme J. Prud'homme, MD
Phillip R. Stevens, MD
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Rose Romero
Martha Tiu

Donor

Babulal Pragani, 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**

| New Members

Central West Virginia Medical Society
Padmappriya Sundaram, MD

Please direct all membership inquiries to: **Mona Thevenin, WVSMA
Membership Director at 304.925.0342, ext. 16 or mona@wvsma.org.**



Chief of WVU Surgical Oncology named



Dr. Hazard

WVU Department of Surgery Chair Don K. Nakayama, M.D., M.B.A., has appointed Hannah W. Hazard, M.D., as chief of the Division

of Surgical Oncology. Dr. Hazard has been a member of the department for six years and is board certified in general surgery.

Hazard attended Dickinson College for her undergraduate education and earned her medical degree at WVU. After a surgical

residency at WVU, she completed a fellowship in breast diseases at Northwestern University in Chicago. Hazard returned to WVU as a faculty member in the Department of Surgery, Division of Surgical Oncology.

Focusing on benign and malignant disease of the breast, Hazard is an integral part of the multidisciplinary team of physicians and healthcare providers at the Mary Babb Randolph Cancer Center. This approach allows for coordinated surgical planning with the Division

of Plastic and Reconstructive Surgery, when necessary.

In addition to her clinical practice, Hazard serves as a member of the WVU School of Medicine Admissions Committee and as the School's assistant dean for admissions.

"During her tenure as interim chief of surgical oncology this past year, she successfully helped recruit three additional surgical oncologists," Dr. Nakayama said. "Dr. Hazard brings enthusiasm, dedication and innovative professionalism to this position."

WVU School of Medicine students receive more than \$500,000 in scholarships from WVU Healthcare

WVU Healthcare has awarded 25 West Virginia University School of Medicine students \$560,000 in Mountaineer Medical Scholarships.

Since 2010, West Virginia University Hospitals and University Health Associates, managed jointly as WVU Healthcare, have provided substantial support to the WVU School of Medicine and its academic mission.

Dean Arthur J. Ross, III, M.D., M.B.A., felt the decision to use that money to provide financial aid to medical students was a logical choice.

"The funds have helped to make a significant impact upon our levels of student debt. In addition, as the current year admission statistics suggest, I believe that it has helped us in our recruitment of the best and the brightest students who choose to apply to our School," Dr. Ross said.

The 2013-2014 academic year marks the second consecutive year

the School of Medicine has awarded Mountaineer Medical Scholarships. Though 22 third- and fourth-year WVU medical students were awarded these scholarships, three additional scholarships went to entering first-year students, as well.

"The mission of WVU Healthcare is to improve the health of West Virginians," Bruce McClymonds, WVU Hospitals president and CEO, said. "A critical element in enabling us to achieve that goal is to ensure that West Virginia has enough highly qualified physicians. Having scholarship funds available for medical students will ultimately help address the undersupply of physicians in many parts of the state."

The level of debt facing new medical graduates nationwide is greater than ever before and can prevent bright and talented young physicians from

practicing in underserved areas, such as rural West Virginia.

"Our students want to make a difference, and many of them want to practice in rural areas," said Norman Ferrari, III, M.D., vice dean for education and academic affairs and chair of the WVU Department of Medical Education. "But the burden of debt, combined with the cost of starting a practice, makes it nearly impossible for a young doctor. So what do you do? You specialize. You join a larger practice. You go work in a more urban setting."

In their first year of disbursement, the merit-based Mountaineer Medical scholarships alone brought down the total amount of educational loans borrowed by the WVU School of Medicine Class of 2013 by nearly 5 percent.

Each of the 25 scholarships was need-based, averaging \$24,593 per student.

World-renown obesity researcher visits Marshall for inaugural childhood conference

Marshall University Joan C. Edwards School of Medicine hosted its first childhood obesity conference Oct. 2 in Huntington featuring keynote speaker Jeffrey M. Friedman, M.D., Ph.D., discoverer of the obesity gene, leptin.

Friedman is the 2010 recipient of the Albert Lasker Basic Medical Research Award, which honors scientists whose fundamental investigations have provided techniques, information, or concepts contributing to the elimination of major causes of disability and death. He is a professor at The Rockefeller University and an investigator with the Howard Hughes Medical Institute.

"Statistics show that our state leads the nation in the number of children who are obese and we are pleased that

Dr. Friedman and our other guests could join us for this meeting," said Dr. Joseph I. Shapiro, dean of the School of Medicine. "These numbers are staggering and we must develop collaborative partnerships to tackle what is truly an epidemic in West Virginia."

Shapiro went on to explain the goal of the conference was to explore the synergy between research and community programs already in place, as well as to establish the framework for an obesity prevention institute at the school.

He commended Dr. Nader G. Abraham, vice-dean for research, for developing the conference.

"Dr. Abraham's vision for creating a conference that brings together professionals from the research, clinical,



Jeffrey M. Friedman, M.D., Ph.D., delivers keynote address during Marshall's inaugural Childhood Obesity Conference Oct. 2.

community and public policy areas is far-reaching in that it gives us a solid foundation on which we can build future programs geared toward achieving better health outcomes for all."

The conference also included speakers from Marshall's School of Medicine, University of Connecticut Health Center, West Virginia University School of Medicine and Cabell Huntington Hospital, as well as remarks by West Virginia Cabinet Secretary for Health and Human Resources, Karen Bowling. The day's events concluded with a panel discussion with leaders from the scientific, public policy and community sectors.

Marshall cardiologist named American Heart Association fellow



Dr. Wehner

Paulette S. Wehner, M.D., FAHA, senior associate dean for graduate medical education and a professor in the department of cardiovascular service in the Joan C. Edwards School of Medicine, was

named a fellow of the American Heart Association at its September meeting in New Orleans.

The fellowship distinction is

conferred for outstanding and sustained scientific contributions in cardiovascular diseases and stroke; and volunteer leadership and service to the American Heart Association.

Wehner, a Kingwood, W.Va., native, is a graduate of the University of Notre Dame and earned her medical degree at Marshall, where she also did her residency and fellowship training.

Wehner, an active researcher involved in several projects, is the principal site investigator at St. Mary's Medical Center

for Yale University's research study of older persons who are admitted to the hospital with heart attacks.

She also is one of two West Virginia physicians honored in the Local Legends project of the National Library of Medicine in 2005. A member of the Marshall faculty since 1995, she has repeatedly been honored by medical students through awards such as "Outstanding Attending of the Year" and "Outstanding Program Director."

'Opening Doors,' celebrating contributions of African-American academic surgeons hosted by School of Medicine

The Marshall University Joan C. Edwards School of Medicine hosted the traveling art exhibit, "Opening Doors: Contemporary African American Academic Surgeons," in October and November.

The exhibit tells the stories of four

pioneering African American surgeons and educators who exemplified excellence in their fields and believed in the importance of mentoring younger physicians and surgeons. Other academic surgeons from around the country also are featured in the exhibit.

The Opening Doors exhibit was developed and produced by the National Library of Medicine and the Reginald F. Lewis Museum of Maryland African American History and Culture, Baltimore, Md.



Steele becomes first registered U.S. osteopathic physician in South Africa



For years, Karen Steele, D.O., has traveled the world blazing trails for the osteopathic profession. Recently the retired WVSOM professor emerita and former associate dean of osteopathic medical education set a milestone by becoming the first registered osteopathic physician in South Africa.

Steele's registration opens the door for American Trained Osteopathic Physicians (ATOPs) to initiate registration, if they wish to move to South Africa to practice medicine full-time.

"I was delighted," Steele said upon learning the official news. "The process has taken two years, five trips and many presentations in South Africa by Ms. Adrienne Belafonte Biesemeyer and myself, the endorsement of WVSOM, the encouragement of the AOA and the support of the Anir Foundation. Since others had tried before us without success, I believe that to get this accomplished in two years is pretty amazing."

In South Africa, osteopaths are limited in practice and considered part of the allied health group classification, not physicians. Until now, they could not practice as medical doctors – even on a volunteer basis. During Steele's trips to South Africa, she educated the local medical community about ATOPs and osteopathic manipulative techniques.

She and Ms. Biesemeyer met with officials in the Western Cape, where the majority of the population is medically underserved. In the two capitol provinces, Western Cape and Gauteng, they met with government leaders, including the National Minister of Health, who were supportive of the idea of a fully-licensed American osteopathic physician providing care.

The decision rested in the hands of the Health Professions Council of South Africa (HPCSA), the licensing board for all medical practitioners in the country. South Africa is an area rich with local culture and values. It was understood that persuading the HPCSA to allow a U.S. osteopathic physician full practice rights would not happen instantly.

"It took 80 years for osteopathic physicians to be recognized in every state in the U.S. and we were trying to convince the South African government to recognize the American-trained osteopathic physician model in just two years," said Biesemeyer, a Licensed Professional Counselor (LPC), one of WVSOM's learning specialists and coordinator for WVSOM's International Studies program.

Some of that convincing came with the help of the Anir Foundation, a nonprofit organization founded by Biesemeyer and her daughter that

promotes cultural understanding between people in the Americas, the United Kingdom and Southern and Central African nations through volunteer opportunities.

For Steele, receiving registration in South Africa isn't just another milestone in her osteopathic career – its real value is in being able to help the underserved, whether providing education to caregivers or providing medical care to the orphaned children she has come to know over the years.

"My goal is to be able to go into the orphanages and into the cities and teach caregivers to do simple manipulative techniques in order to have better outcomes," she said. "Access to medical care is difficult for a huge part of the community there, especially in townships where the very poor live. For me to be able to teach caregivers simple techniques could make a huge difference in the health of the people."

During visits to South Africa, she spent a majority of her time working with children in the Baphumelele Orphanage. There she saw neglected and orphaned children affected by HIV/AIDS/TB and with a variety of autoimmune diseases.

The American Osteopathic Association has stated that international medicine is an important part of physician training. Thanks to Steele's accomplishment, WVSOM is ahead of the curve, Biesemeyer added.

How did Steele achieve what others could not?

"I've been called a gentle bulldozer and that's how I worked all my life," she said. "The world I lived in when I was going to medical school in the early '70s is not the one students experience now. There are many differences (for the better) and I'm glad for that."

Joan C. Edwards School of Medicine gets nod of approval from LCME Probation lifted; school moves forward under approved plan

The Liaison Committee on Medical Education (LCME), the nationally recognized accrediting authority for medical education programs leading to the M.D. degree in United States and Canada, has removed probationary status for the Marshall University Joan C. Edwards School of Medicine, University President Stephen J. Kopp announced today.

"This milestone has not been easily achieved and has involved a systemic culture change within the medical school," Kopp said. "Dean Joseph Shapiro addressed the issues with precision and tenacity and has created a vision for an even better medical school. I sincerely thank our faculty, staff, students, Governor Tomblin, Senator Plymale, our legislators and everyone involved throughout the Medical School and our Marshall University community for their incredible hard work."

A LCME site team visited the school in June for a limited survey with administrators, faculty

and students and then reported its findings to the entire LCME Board of Directors. The Board voted to lift the probation at its meeting this past week and Dean Shapiro was notified during a telephone call Friday morning.

"We will have more details when we receive the formal letter from the LCME, but I did not want to wait to share this fantastic news with our friends and the folks who have worked so diligently to make this happen," Shapiro said. "With our accreditation status now solid, we can move forward. I want to thank everyone for their incredible efforts and am encouraged that our future is bright."

Shapiro emphasized that the review process gathered information from all constituencies.

"We've worked to create a culture of innovation and creativity in response to the LCME's review," he said. "Our students, residents, faculty and staff have been

encouraged to provide input and their ideas have helped us shape what we think is an excellent model for medical education."

Kopp commended the Board of Governors for its support of the university's plan to address the LCME concerns. He extended special thanks to Dr. Robert Nerhood, who served a crucial leadership role as interim dean of the School of Medicine, laying the foundation for Dr. Shapiro and the resultant success.

He said Marshall and the medical school will remain vigilant and continue to set the bar for improvement higher. "Accreditation compliance work is ongoing and an incumbent responsibility of all concerned."

The School of Medicine was placed on probation in June 2011 after the LCME cited nine standards in noncompliance, one standard in compliance with a need for monitoring and three standards in transition. The entire time the school remained fully accredited.

Drug or Alcohol Problem? Mental Illness?

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

ALL CALLS ARE CONFIDENTIAL

(304) 414-0400
www.wvmpHP.org

**West Virginia Medical
Professionals Health Program**
PO Box 40027, Charleston, WV 25364



The WVSMA remembers our esteemed colleagues...

Capt. Robert Carter Cochran MD

Capt. Robert Carter "Bob" Cochran, M.D. (Ret.), U.S. Navy Medical Corps, 80, of Charleston, passed away on Monday, September 2, after an extended illness.

Bob joined the U.S. Navy Medical Corps at the end of his second year of medical school. While serving at Bethesda National Naval Medical Center as chief of surgery, Bob was the physician to Presidents Ford, Carter and Reagan. He often credited Senator Robert C. Byrd and Governor Bob Wise as being the people who told him of their love of West Virginia while Bob cared for them at Bethesda National Naval Medical Center, which caused him to explore a job opportunity in West Virginia.

Bob was a fellow of American College of Surgeons, lifetime member of the AMA and West Virginia State Medical Association.

After he retired from the Navy in October 1983, he moved to Charleston to work with HYGELA Medical Corporation until 1985. He was then appointed professor of surgery at the WVU School of Medicine, Charleston Division, serving in that capacity until his death. Bob received the Vincent Von Kern Award twice for the surgeon making the greatest contribution to resident education. In 2011 he was the first recipient of the James P. Boland, M.D. award for the greatest contribution to medical education.

Bob is survived by the love of his life, Beckey Fain Cochran; children, Barbara Daniszewski (Jerome), Gwendolen Flynn (Phillip) and Williams "Bill" Cochran (Connie); 14 grandchildren; twin brother, James B. Cochran (Pat); sister, Ann Hunt (Jim); sister-in-law, Carol Cochran; many nieces and nephews; and their beloved Westies, Mollie, Abby and Maddy.

The family would like to thank the WVU Physicians of Charleston Department of Surgery, Bob's partners for

all of the love and support - especially Dr. Bryan Richmond and Dr. John DeLuca. A special thanks to Dr. Ed Grey and Dr. Greg Rosencrance for all of the care provided to Bob in his final journey. Special thanks goes to Erin Carter, Ashley West, Kelly Bryan and the Rev. Monty Brown, who guided Bob and Beckey through this journey. A special thanks to the staff of West Virginia Medical Institute, who supported us through the journey. Bob and Beckey will be eternally grateful to Janet Anderson, who moved into their home for 12 weeks to care for the house and their three beloved Westies so they could move to Houston for treatment at MD Anderson. Many thanks to Jill Aliff, Patty DeLuca, Lisa Sutton, Sarah Clevenger, Paula Clark, Patti Connelly, Jean Matthews and Patty Ruddick, who provided moral support to the family during Bob's illness. A special thanks for Lyle Collins, who helped Beckey care for Bob in the final 10 days of his life so he could stay at home with his beloved family and dogs. Finally, thanks to the staff of CCU and 2 East at CAMC Memorial for all of the wonderful care given to Bob during his hospitalization in August.

In lieu of flowers, the family wishes for donations to be made to either The Robert C. Cochran Award, WVU Foundation, Charleston Division, c/o Jackie Rosencrance, 3110 MacCorkle Ave. SE, Charleston, WV 25304 or St. Marks United Methodist Church, 900 Washington St. E., Charleston, WV 25301.

Condolences may be sent to the family by visiting www.hardingfamilygroup.com.

Harakh Vasanji Dedhia, MD

Dr. Harakh Vasanji Dedhia departed this world on Sept. 1, 2013, at the age of 66 from Adeno cancer of the lung. He was a non-smoker.

He was born in India in 1947. He was dignosed on Dec. 30, 2010, and survived for nearly three years. He was treated by Dr. John Rogers, Dr. Jeff Neely, Dr. Olusola Oduntan and others at the WV Cancer Center.

Dr. Dedhia pursued his medical and academic career in the evaluation and management of acute shock, acute respiratory failure and other significant medical problems in the ICU. He joined the WVU Health Sciences Center in 1979.

He is survived by his loving wife Anjua, sisters Pushpa, Bharti and Shobha, and brothers, Shant Shad, Mulchand, Pravin, and Hitendra, as well as Anjana Shah, his niece.

He was preceded in death by his parents, Vasanji Shah and Sakarba, his sister Prabha, and brother Morarji Shah. In lieu of flowers, consider a donation to Sarkaba V. Dedhia Fund, (Pulmonary CC Fund) WVU Foundation, PO Box 1650, Morgantown, WV 26507-1650.

Please send condolences to anuja6@hotmail.com.

William E. "Bill" Lawton Jr., MD

William E. "Bill" Lawton Jr., M.D., of Charleston, passed away Tuesday, September 10, 2013, at home.

He was born January 5, 1922, to the late William E. and Gladys Groves Lawton at Laurel Creek, Fayette County.

Bill practiced general and vascular surgery in Charleston for 45 years.

He was a graduate of Mount Hope High School, received his B.S. from West Virginia University and was a 1949 graduate of the University of Virginia School of Medicine.

While in medical school, Bill served four years as class president and, in his last year, was the president of the School of Medicine student body. He also served on the Honor Committee while at the University of Virginia. He

was honored to have been able to live on “the Lawn” at UVA, which was built by Thomas Jefferson and was a privilege accorded only to honor students.

After medical school Bill did a residency at Presbyterian St. Luke’s, Chicago, Ill., before coming back to West Virginia. He started his medical career in Holden, Logan County, as a general practitioner. He then moved to Charleston and completed a residency in general and vascular surgery at Charleston Memorial Hospital.

He was a member of the clinical faculty for West Virginia University Medical School, Charleston Division, where he participated in training of surgical residents. He also served as chief of surgery at various hospitals, including CAMC, Kanawha Valley and St. Francis Hospital.

Bill was also past president of the West Virginia Chapter of American College of Surgeons.

In addition to his parents, he was preceded in death by three sisters, Mary Ella, Virginia and Ann.

He is survived by his wife, Elizabeth “Betsy” Lawton; daughters, Debbie (Robert) Dent of Kingwood, Texas, and Diane Donahoe of Charleston; stepson, Larry Boggess of Charleston; grandchildren, Brian (Lee Ann) Dent, Will (Heather) Dent, Mike (Courtney) Dent, Jason Rowsey, Adam Rowsey, Elizabeth Rowsey and Brooke Donahoe; and eight great-grandchildren.

In lieu of flowers, the family suggests donations may be made to Kanawha Hospice Care, 1606 Kanawha Blvd. W., Charleston, WV 25387-2536.

Condolences may be sent to the family at www.barlowbonsall.com.

George Eastman Pickett MD

George Eastman Pickett, M.D., M.P.H., 78, of Charleston, passed away Saturday, September 14, 2013, at CAMC Memorial Hospital, Charleston.

Pickett was a medical doctor whose many accomplishments and positions held during his career led him to be known as “Mr. Public Health.”

Highlighting his positions held over his career: director of the Detroit and Wayne County health departments, Michigan; director of the San Mateo County Department of Public Health and Welfare, San Mateo, Calif.; director

of the West Virginia Department of Health during Governor Jay Rockefeller’s first term; chair of the Department of Health Care Organization and Policy, School of Public Health, University of Alabama at Birmingham; chair of the Department of Public Health Policy and Administration at the University of Michigan School of Public Health; commissioner of the Nassau County Health Department, New York; senior lecturer of the College of Medicine at the University of Wales; and medical director of the West Virginia Medical Institute.

After Pickett’s retirement in 2000, he worked with West Virginia University and the State of West Virginia’s Workers Compensation Division.

In addition to his parents, he was preceded in death by his son, Leonard Pickett.

He is survived by his wife, Terry Winston Pickett; sons, Alan Francis Pickett (Heidi Shierholz) of Silver Spring, Md., and Vince Stephen Pickett (Sarah Myles) of Chico, Calif.; daughter, Rachel Winston Pickett of Denver, Colo.; former wife, Anne Ferrante Pickett of Carmel Valley, Calif.; brother, J.C. Pickett of St. Helena, Calif.; and sister, Molly Pickett Harner (Dr. Jim Harner) of Morgantown.

The family would like to extend a special thanks to Dr. Steven Jubelirer and the Oncology staff at CAMC Memorial Hospital.

In lieu of flowers, the family suggests donations may be sent to West Virginians for Affordable Health Care, 1544 Lee St., Charleston, WV 25311, Women’s Health Care Center of West Virginia, 510 Washington St. W., Charleston, WV 25302 and/or B’nai Jacob Synagogue, 1599 Virginia St. E., Charleston, WV 25311.

Condolences may be sent to the family at www.barlowbonsall.com.

Roland P. Sharp, Sr., DO

Dr. Roland P. Sharp, Sr., a rural practitioner in West Virginia for nearly six decades and founding president of the West Virginia School of Osteopathic Medicine, died peacefully on Thursday, July 18, 2013, at the age of 105. Dr. Sharp was born in 1907 to Odessa Jordan Sharp and Aaron Sharp on a small farm in Frost in Pocahontas County, where four generations of Sharps were raised. He completed his college degree in 1936 at what is now Concord University.

Thereafter he earned his master’s in biology at West Virginia University and graduated in 1943 from Kirksville College of Osteopathic Medicine (Missouri), now A.T. Still University. He worked throughout the time he earned his degrees, initially as a school teacher and later as a professor of pathology and anatomy. His first 17 years in practice were spent serving miners and their families in Mullens. In 1962 he returned to serve the residents of Pocahontas County from his office in Green Bank until his retirement in 2001 at the age of 94. From 1972 to 1978 he worked to establish WVSOM in order to train primary care physicians and served as its first president. His many accolades include Practitioner of the Year, the Distinguished Service Certificate and Outstanding Medical Educator, awarded by state and national osteopathic societies, as well as an honorary Doctorate of Humanitarian Service conferred by Concord.

His family and community are grateful for his wisdom, love and service and celebrate his remarkable life.

Dr. Sharp is survived by his wife, Thelma “Kit” Neal Sharp, who resides in Oak Hill, and her children, Charles Lee Neal and Holly Burley; Lee’s wife, Francine (Davey); their son, Charlie, and daughter, Morgan and her husband, Jeremy Church, and their sons, Warren and Conrad; Holly’s husband, John, and their sons, Paul Keith Gilkeson and his wife, Jessie, and J.W. Gilkeson, along with his daughters, Kendall and McKenna; Dr. Sharp’s five grandchildren and their families: Sherry Weleski, her son, Christopher, his wife, Melissa, and their sons, Hunter and Peyton; Paula Sharp Jones, her husband, Ken, son, Alexander, and daughter, Hannah; Melanie Sharp and her son, Andrew; Suzanne Sharp Townsend, husband, John, and sons, Jeffrey and Richard; and Roland P. Sharp III, wife, Tammy, daughter, Megan, and son, Roland Paul Sharp IV; his grandchildren’s parents, Melva (Lilly) and John “Jack” Sheehand; numerous nieces, nephews and cousins; and his beloved assistant, Barbara McCarty.

Dr. Sharp was preceded in death by his son, Roland Paul Sharp Jr., an osteopathic physician who practiced in Green Bank and Mullens before his death in 1963; and his first wife, Opal Price Sharp, who died in 1978.

- Ahmed**, Rezwan, MD; Stephen Petrany, MD; Russell Fry, MD; Michael Krasnow, DO, PhD – *Screening Diabetic and Hypertensive Patients for Ocular Pathology using Telemedicine Technology in Rural West Virginia: A Retrospective Chart Review* **Jan/Feb 6**
- Adkins**, Bruce, MS, PA; Cindy Tworek, PhD, MPH; Kimberly A. Horn, EdD; Robert H. Anderson, MA, CHES; Ilana Chertok, PhD; Robin L. Danek, MPH; Alan Holmes, MBA – *Encouraging Smoking Cessation during Pregnancy in West Virginia: Using Fax-to-Quit as a Cessation Strategy* **Mar/Apr 16**
- Ali**, Ehab Haj, MD; Brittain McLunkin, MD; Steven Jubelirer, MD; William Hood, DO – *Niacin Induced Coagulopathy as a Manifestation of Occult Liver Injury* **Jan/Feb 12**
- Alkhateeb**, Fadi M., BSPHarm, MBA, PhD; Rahul Gupta, MD, MPH; David A. Latif, MBA, PhD; Krista N. Farley, MS – *Parental Attitudes Affecting Compliance with the Recommendation for Two Doses of 2009 Pandemic Influenza A (H1N1) Vaccine in Children Less than 10 Years of Age in West Virginia* **Mar/Apr 10**
- Anderson**, Robert H., MA, CHES; Cindy Tworek, PhD, MPH; Kimberly A. Horn, EdD; Ilana Chertok, PhD; Robin L. Danek, MPH; Alan Holmes, MBA; Bruce Adkins, MS, PA – *Encouraging Smoking Cessation during Pregnancy in West Virginia: Using Fax-to-Quit as a Cessation Strategy* **Mar/Apr 16**
- Andrist**, Christina, MSIV; Samantha Lane, DO, PGY2; Arun Nagarajan, MD – *Hemophagocytic Lymphohistiocytosis (HLH) in a 25 Year Old Presenting with Multisystem Organ Failure* **Nov/Dec 22**
- Avtgis**, Theodore, PhD; Laura Buchanan, MD; Dana Gray; Jane Channel, RN; Alison Wilson, MD – *WR U TXTING B4 U CRASHED?* **Jan/Feb 18**
- Bailey**, Nathanael G., MD; Lubna N. Chaudhary, MD; Jeffrey A. Vos, MD; Christy J. Stotler, DO – *Unique Association of Myeloid Neoplasm with Eosinophilia and Abnormalities of PDGFRA with TTP* **Mar/Apr 6**
- Beto**, Robert J. MD; Deepak Hooda, MD, MPH; Karthik Penumetsa, MD; Timothy Jackson, MD; Wissam Gharib, MD; Bradford E. Warden, MD – *Congenital Absence of Inferior Vena Cava with Idiopathic Deep Vein Thrombosis in an Adult* **Mar/Apr 28**
- Bors**, Kathleen, MD; Erika Thompson, MD; Scott A. Fields, PhD – *Appalachian Women and Heart Health: Current Prevention Strategies and Future Directions* **July/Aug 76**
- Bradlyn**, Andrew S., PhD; Molly R. Matthews-Ewald, PhD; Lucas C. Moore, EdD; Carole V. Harris, PhD; Stephanie S. Frost, PhD – *Assessing Moderate to Vigorous Physical Activity in Rural West Virginia Elementary School Physical Education Classes* **July/Aug 12**
- Broce**, Mike, BA; Aaron R. Parry, MD; Byron C. Calhoun, MD; Pickens Gantt, MD; Dara J. Seybold, MAA; Gary W. Randall, PhD – *Serum Anti-endometrial Antibodies and First Trimester Pregnancy Loss* **Nov/Dec 16**
- Buchanan**, Laura, MD; Theodore Avtgis, PhD; Dana Gray, Jane Channel, RN; Alison Wilson, MD – *WR U TXTING B4 U CRASHED?* **Jan/Feb 18**
- Calhoun**, Byron C., MD; Aaron R. Parry, MD; Pickens Gantt, MD; Dara J. Seybold, MAA; Mike Broce, BA; Gary W. Randall, PhD – *Serum Anti-endometrial Antibodies and First Trimester Pregnancy Loss* **Nov/Dec 16**
- Cassim**, Riaz, MD; FACS; Santosh Shenoy, MD, FACS – *Metastatic Melanoma to the Gastrointestinal Tract: Role of Surgery as Palliative Treatment* **Jan/Feb 30**
- Channel**, Jane, RN; Laura Buchanan, MD; Theodore Avtgis, PhD; Dana Gray; Alison Wilson, MD – *WR U TXTING B4 U CRASHED?* **Jan/Feb 18**
- Chaudhary**, Lubna N., MD; Nathanael G. Bailey, MD; Jeffrey A. Vos, MD; Christy J. Stotler, DO – *Unique Association of Myeloid Neoplasm with Eosinophilia and Abnormalities of PDGFRA with TTP* **Mar/Apr 6**
- Chehval**, Micheal J., MD; Pankaj P Dangle, MD; Mitesh B. Patel, MSIII; Marcos Teran, MS, MSIII – *Obstructive Uropathy Secondary to Rectus Sheath Hematoma* **Mar/Apr 32**
- Chen**, Bruce, MD; Sumesh Jain, MD; Jason A. Moreland, MD – *A Rare Cause of Postpartum Chest Pain* **Sept/Oct 14**
- Chertok**, Ilana, PhD; Cindy Tworek, PhD, MPH; Kimberly A. Horn, EdD; Robert H. Anderson, MA, CHES; Robin L. Danek, MPH; Alan Holmes, MBA; Bruce Adkins, MS, PA – *Encouraging Smoking Cessation during Pregnancy in West Virginia: Using Fax-to-Quit as a Cessation Strategy* **Mar/Apr 16**
- Clark**, Karen, MD, FACP; Christine Weir, MA – *Behavioral Change in Rural Practice: Improving Patient Motivation in Primary Care* **July/Aug 8**
- Close**, Jessica, DO; Michael L. Stitely, MD; Aaron Ferda, MD; Suwan Mehra, MD; Brian Malson; Wanda Hembree, MD – *Glove Perforations with Blunt Versus Sharp Surgical Needles in Caesarean Delivery: A Randomized Trial* **Sept/Oct 32**
- Coombs**, Tabatha, RN; Dorothy A. Knutsen, BS, MHS; Nasira Roidad, MD; Arif R. Sarwari, MD, MSC, MBA; Melanie A. Fisher, MD, FACP, MSC – *HIV/AIDS Patient Migration in North-Central West Virginia* **July/Aug 18**
- Costello**, Kevin, MD; George Ranier, MD – *Fractured OG Tip: A Case Report* **Sept/Oct 38**
- Cunningham**, Micheal, MD; Jabin Janoo, MD, FACOG; Gerald R. Hobbs, PhD; Angela O'Bringer, PhD; Maria Merzouk, DO, FACOG – *Can Antenatal Ultrasounds Help Predict Postnatal Outcomes in Babies Born with Gastrochisis? The West Virginia Experience* **Mar/Apr 22**
- Danek**, Robin L., MPH; Cindy Tworek, PhD, MPH; Kimberly A. Horn, EdD; Robert H. Anderson, MA, CHES; Ilana Chertok, PhD; Alan Holmes, MBA; Bruce Adkins, MS, PA – *Encouraging Smoking Cessation during Pregnancy in West Virginia: Using Fax-to-Quit as a Cessation Strategy* **Mar/Apr 16**
- Dangle**, Pankaj P., MD; Mitesh B. Patel, MSIII; Marcos Teran, MS, MSIII; Micheal J. Chehval, MD – *Obstructive Uropathy Secondary to Rectus Sheath Hematoma* **Mar/Apr 32**
- Davidov**, Danielle, PhD; Joseph Minardi, MD; Nicolas Denne, MD; Treah Haggerty, MD; Christopher Kiefer, MD; Rogert Tillotson, MD; Charles Whiteman, MD, FACEP; Debra Williams, MS; Dorian Williams, MD – *Bedside Ultrasound: Advanced Technology to Improve Rural Healthcare* **July/Aug 28**
- Denne**, Nick, MD; Joseph Minardi, MD; Miryam Miller, MD; Hollynn Larrabee, MD; Owen Lander, MD – *Acute Arthritis of the Hip – Case Series Describing Emergency Physician Performed Ultrasound Guided Hip Arthrocentesis* **Sept/Oct 22**
- Denne**, Nicolas, MD; Joseph Minardi, MD; Danielle Davidov, PhD; Treah Haggerty, MD; Christopher Kiefer, MD; Roger Tillotson, MD; Charles Whiteman, MD, FACEP; Debra Williams, MS; Dorian Williams, MD – *Bedside Ultrasound: Advanced Technology to Improve Rural Healthcare* **July/Aug 28**
- Donato**, Louise, MS; Cindy Fitch, PhD, RD; Paula Strawder, MA – *Extending the University into the Community to Address Healthcare Disparities* **July/Aug 72**
- Dutton**, Walter, MSII; Paul A. Ghareeb, MD; W. Thomas McClellan, MD, FACS – *The Lazy Lateral Incision: An Innovative Approach to the Skin-Sparing Mastectomy* **Nov/Dec 30**
- Emmett**, Mary K., PhD; Alfred K. Pfister, MD; Christine A. Welch, MS; Nicholas W. Sheets, MD, MPH – *Risk Factors Predicting Fractures in Early Postmenopausal Women* **May/June 8**
- Farley**, Krista N., MS; Rahul Gupta, MD, MPH; Fadi M. Alkhateeb, BSPHarm, MBA, PhD; David A. Latif, MBA, PhD – *Parental Attitudes Affecting Compliance with the Recommendation for Two Doses of 2009 Pandemic Influenza A (H1N1) Vaccine in Children Less than 10 Years of Age in West Virginia* **Mar/Apr 10**
- Ferda**, Aaron, MD; Michael L. Stitely, MD; Jessica Close, DO; Suwan Mehra, MD; Brian Malson; Wanda Hembree, MD – *Glove Perforations with Blunt Versus Sharp Surgical Needles in Caesarean Delivery: A Randomized Trial* **Sept/Oct 32**
- Fields**, Scott A., PhD; Erika Thompson, MD; Kathleen Bors, MD – *Appalachian Women and Heart Health: Current Prevention Strategies and Future Directions* **July/Aug 76**
- Fisher**, Melanie A., MD, FACP, MSC; Dorothy A. Knutsen, BS, MHS; Nasira Roidad, MD; Arif R. Sarwari, MD, MSC, MBA; Tabatha Coombs, RN – *HIV/AIDS Patient Migration in North-Central West Virginia* **July/Aug 18**
- Fitch**, Cindy, PhD, RD; Louise Donato, MS; Paula Strawder, MA – *Extending the University into the Community to Address Healthcare Disparities* **July/Aug 72**
- Fooks**, Henry, MD; Robert Jansen, MD; Stanley Zaslau, MD, MBA, FACS – *An Atypical Presentation of Testicular Torsion: A Case Report* **Sept/Oct 30**
- Ford**, Dolly, MSW, LICSW; Laura R. Lander, MSW, LICSW; Patrick Marshalek, MD; Miheret Yitayew, MD; Carl R. Sullivan, MD, FACP; Kelly K. Gurka, MPH, PhD – *Rural Healthcare Disparities: Challenges and Solutions for the Pregnant Opioid-dependent Population* **July/Aug 22**

- Frost**, Stephanie S., PhD; Molly R. Matthews-Ewald, PhD; Lucas C. Moore, EdD; Carole V. Harris, PhD; Andrew S. Bradlyn, PhD – *Assessing Moderate to Vigorous Physical Activity in Rural West Virginia Elementary School Physical Education Classes* **July/Aug 12**
- Fry**, Russell, MD; D. Russell Richardson, MSIV; Michael Krosnow, DO/PhD – *Cost-Savings Analysis of Telemedicine Use for Ophthalmic Screening in a Rural Appalachian Health Clinic* **July/Aug 52**
- Fry**, Russell, MD; Rezwan Ahmed, MD; Stephen Petran, MD; Michael Krasnow, DO, PhD – *Screening Diabetic and Hypertensive Patients for Ocular Pathology using Telemedicine Technology in Rural West Virginia: A Retrospective Chart Review* **Jan/Feb 6**
- Gantt**, Pickens, MD; Aaron R. Parry, MD; Byron C. Calhoun, MD; Dara J. Seybold, MAA; Mike Broce, BA; Gary W. Randall, PhD – *Serum Anti-endometrial Antibodies and First Trimester Pregnancy Loss* **Nov/Dec 16**
- Garla**, Vishnu, MD; Reem Kheetan, MD; Tipu Saleem, MD – *Cushing's Syndrome in Pregnancy: A Diagnostic Conundrum* **Nov/Dec 34**
- Ghani**, Noreen, PharmD; Gerald M. Higa; Michelle Gianni, PharmD; Thomas Hogan – *Audit of the Current Drug Shortage* **Sept/Oct 18**
- Ghareeb**, Paul A., MD; Walter Dutton, MSII; W. Thomas McClellan, MD, FACS – *The Lazy Lateral Incision: An Innovative Approach to the Skin-Sparing Mastectomy* **Nov/Dec 30**
- Gharib**, Wissam, MD; Deepak Hooda, MD; MPH; Karthik Penumetsa, MD; Timothy Jackson, MD; Robert J. Beto, MD; Bradford E. Warden, MD – *Congenital Absence of Inferior Vena Cava with Idiopathic Deep Vein Thrombosis in an Adult* **Mar/Apr 28**
- Gianni**, Michelle, PharmD; Gerald M. Higa; Noreen Ghani, PharmD; Thomas Hogan – *Audit of the Current Drug Shortage* **Sept/Oct 18**
- Gibbs**, Mary M., FNP-C, RN, MSN; Dilip Nair, MD – *Inter-Hospital Transfers from Rural Hospitals to an Academic Medical Center* **July/Aug 44**
- Gill**, Thomas, MD; Franklin D. Shuler, MD, PhD; Dana Lycans, MD; Ali Oliashirazi, MD – *Physical Education in West Virginia Schools: Are We Doing Enough to Generate Peak Bone Mass and Promote Skeletal Health?* **July/Aug 66**
- Gray**, Dana; Laura Buchanan, MD; Theodore Avtgis, PhD; Jane Channel, RN; Alison Wilson, MD – *WR U TXTING B4 U CRASHED?* **Jan/Feb 18**
- Green**, Aadam, MD; Mohammed A. Issa, MD; Chong H. Kim, MD MD – *Peripheral Nerve Stimulation for Treatment of Chronic Headache: A Case Report* **Nov/Dec 24**
- Gupta**, Rahul, MD, MPH; Fadi M. Alkhateeb, BSPHarm, MBA, PhD; David A. Latif, MBA, PhD; Krista N. Farley, MS – *Parental Attitudes Affecting Compliance with the Recommendation for Two Doses of 2009 Pandemic Influenza A (H1N1) Vaccine in Children Less than 10 Years of Age in West Virginia* **Mar/Apr 10**
- Gurka**, Kelly K., MPH, PhD; Laura R. Lander, MSW, LICSW; Patrick Marshalek, MD; Miheret Yitayew, MD; Dolly Ford, MSW, LICSW; Carl R. Sullivan, MD, FACP – *Rural Healthcare Disparities: Challenges and Solutions for the Pregnant Opioid-dependent Population* **July/Aug 22**
- Haggerty**, Treah, MD; Joseph Minardi, MD; Danielle Davidov, PhD; Nicolas Denne, MD; Christopher Kiefer, MD; Roger Tillotson, MD; Charles Whiteman, MD, FACEP; Debra Williams, MS; Dorian Williams, MD – *Bedside Ultrasound: Advanced Technology to Improve Rural Healthcare* **July/Aug 28**
- Harris**, Carole V., PhD; Molly R. Matthews-Ewald, PhD; Lucas C. Moore, EdD; Andrew S. Bradlyn, PhD; Stephanie S. Frost, PhD – *Assessing Moderate to Vigorous Physical Activity in Rural West Virginia Elementary School Physical Education Classes* **July/Aug 12**
- Hembree**, Wanda, MD; Michael L. Stitely, MD; Jessica Close, DO; Aaron Ferda, MD; Suwan Mehra, M; Brian Malson; Wanda Hembree, MD – *Glove Perforations with Blunt Versus Sharp Surgical Needles in Caesarean Delivery: A Randomized Trial* **Sept/Oct 32**
- Hendrix**, Josh, MSII; Franklin D. Shuler, MD, PhD; Sammy Hodroge, MSII; Adam Short, MSIV – *Antibiotic-Like Actions of Vitamin D* **Jan/Feb 22**
- Higa**, Gerald M.; Noreen Ghani, PharmD; Michaele Gianni, PharmD; Thomas Hogan – *Audit of the Current Drug Shortage* **Sept/Oct 18**
- Hobbs**, Gerald R., PhD; Jabin Janoo, MD, FACOG; Micheal Cunningham, MD; Angela O'Bringer, PhD; Maria Merzouk, DO, FACOG – *Can Antenatal Ultrasounds Help Predict Postnatal Outcomes in Babies Born with Gastrochisis? The West Virginia Experience* **Mar/Apr 22**
- Hodroge**, Sammy, MSII; Franklin D. Shuler, MD, PhD; Josh Hendrix, MSII; Adam Short, MSIV – *Antibiotic-Like Actions of Vitamin D* **Jan/Feb 22**
- Hogan**, Thomas; Gerald M. Higa; Noreen Ghani, PharmD; Michelle Gianni, PharmD – *Audit of the Current Drug Shortage* **Sept/Oct 18**
- Holloway**, Lew, MS, CHES; Dana E. King, MD, MS; Robert Walker, MD – *Expanding Models for Rural Primary Care in West Virginia* **July/Aug 38**
- Holmes**, Alan, MBA; Cindy Tworek, PhD, MPH; Kimberly A. Horn, EdD; Robert H. Anderson, MA, CHES; Ilana Chertok, PhD; Robin L. Danek, MPH; Bruce Adkins, MS, PA – *Encouraging Smoking Cessation during Pregnancy in West Virginia: Using Fax-to-Quit as a Cessation Strategy* **Mar/Apr 16**
- Hood**, William, DO; Ehab Haj Ali, MD; Brittain McJunkin, MD; Steven Jubelirer, MD – *Niacin Induced Coagulopathy as a Manifestation of Occult Liver Injury* **Jan/Feb 12**
- Hooda**, Deepak, MD, MPH; Karthik Penumetsa, MD; Timothy Jackson, MD; Wissam Gharib, MD; Robert J. Beto, MD; Bradford E. Warden, MD – *Congenital Absence of Inferior Vena Cava with Idiopathic Deep Vein Thrombosis in an Adult* **Mar/Apr 28**
- Horn**, Kimberly A., EdD; Cindy Tworek, PhD, MPH; Robert H. Anderson, MA, CHES; Ilana Chertok, PhD; Robin L. Danek, MPH; Alan Holmes, MBA; Bruce Adkins, MS, PA – *Encouraging Smoking Cessation during Pregnancy in West Virginia: Using Fax-to-Quit as a Cessation Strategy* **Mar/Apr 16**
- Hudson**, Alana G., PhD, MPH; Kristen J. Mertz, MD, MPH; Steven J. Jubelirer, MD; John W. Wilson, PhD – *Cancer Incidence in Elderly West Virginians* **Sept/Oct 8**
- Issa**, Mohammed A., MD; Adam Green, MD; Chong H. Kim, MD – *Peripheral Nerve Stimulation for Treatment of Chronic Headache: A Case Report* **Nov/Dec 24**
- Jackson**, Timothy, MD; Deepak Hooda, MD, MPH; Karthik Penumetsa, MD; Wissam Gharib, MD; Robert J. Beto, MD; Bradford E. Warden, MD – *Congenital Absence of Inferior Vena Cava with Idiopathic Deep Vein Thrombosis in an Adult* **Mar/Apr 28**
- Jackson**, Timothy, MD; Sarah Sofka, MD – *Bronchopulmonary Carcinoid Presenting as Dexamethasone Suppressible Cushing's Syndrome* **Jan/Feb 26**
- Jain**, Sumesh, MD; Bruce Chen, MD; Jason A. Moreland, MD – *A Rare Cause of Postpartum Chest Pain* **Sept/Oct 14**
- Janoo**, Jabin, MD, FACOG; Micheal Cunningham, MD; Gerald R. Hobbs, PhD; Angela O'Bringer, PhD; Maria Merzouk, DO, FACOG – *Can Antenatal Ultrasounds Help Predict Postnatal Outcomes in Babies Born with Gastrochisis? The West Virginia Experience* **Mar/Apr 22**
- Jansen**, Robert, MD; Henry Fooks, MD; Stanley Zaslau, MD, MBA, FACS – *An Atypical Presentation of Testicular Torsion: A Case Report* **Sept/Oct 30**
- Jubelirer**, Steven J., MD; Alana G. Hudson, PhD, MPH; Kristen J. Mertz, MD, MPH; John W. Wilson, PhD – *Cancer Incidence in Elderly West Virginians* **Sept/Oct 8**
- Jubelirer**, Steven, MD; Ehab Haj Ali, MD; Brittain McJunkin, MD; William Hood, DO – *Niacin Induced Coagulopathy as a Manifestation of Occult Liver Injury* **Jan/Feb 12**
- Khan**, Rizwan, DO; Bairava S. Kuppaswamy, MD, FACP – *Cetacaine Induced Methemoglobinemia: Overview of Analysis and Treatment Strategies* **May/June 24**
- Kheetan**, Reem, MD; Vishnu Garla, MD; Tipu Saleem, MD – *Cushing's Syndrome in Pregnancy: A Diagnostic Conundrum* **Nov/Dec 34**
- Kiefer**, Christopher, MD; Joseph Minardi, MD; Danielle Davidov, PhD; Nicolas Denne, MD; Treah Haggerty, MD; Roger Tillotson, MD; Charles Whiteman, MD, FACEP; Debra Williams, MS; Dorian Williams, MD – *Bedside Ultrasound: Advanced Technology to Improve Rural Healthcare* **July/Aug 28**
- Kim**, Chong H., MD; Adam Green, MD; Mohammed A. Issa, MD – *Peripheral Nerve Stimulation for Treatment of Chronic Headache: A Case Report* **Nov/Dec 24**
- King**, Dana E., MD, MS; Lew Holloway, MS, CHES; Robert Walker, MD – *Expanding Models for Rural Primary Care in West Virginia* **July/Aug 38**
- Knutsen**, Dorothy A., BS, MHS; Nasira Roidad, MD; Arif R. Sarwari, MD, MSC, MBA; Tabatha Coombs, RN; Melanie A. Fisher, MD, FACP, MSC – *HIV/AIDS Patient Migration in North-Central West Virginia* **July/Aug 18**
- Krasnow**, Michael, DO, PhD; Rezwan Ahmed, MD; Stephen Petran, MD

- MD; Russell Fry, MD – *Screening Diabetic and Hypertensive Patients for Ocular Pathology using Telemedicine Technology in Rural West Virginia: A Retrospective Chart Review* **Jan/Feb 6**
- Krasnow**, Michael, DO/PhD; D. Russell Richardson, MSIV; Russell L. Fry, MD – *Cost-Savings Analysis of Telemedicine Use for Ophthalmic Screening in a Rural Appalachian Health Clinic* **July/Aug 52**
- Kuppaswamy**, Bairava S., MD, FACP; Rizwan Khan, DO – *Cetacaine Induced Methemoglobinemia: Overview of Analysis and Treatment Strategies* **May/June 24**
- Lander**, Laura R., MSW, LICSW; Patrick Marshalek, MD; Miheret Yitayew, MD; Dolly Ford, MSW, LICSW; Carl R. Sullivan, MD, FACP; Kelly K. Gurka, MPH, PhD – *Rural Healthcare Disparities: Challenges and Solutions for the Pregnant Opioid-dependent Population* **July/Aug 22**
- Lander**, Owen, MD; Joseph Minardi, MD; Nick Denne, MD; Miryam Miller, MD; Hollynn Larrabee, MD – *Acute Arthritis of the Hip – Case Series Describing Emergency Physician Performed Ultrasound Guided Hip Arthrocentesis* **Sept/Oct 22**
- Lane**, Samantha, DO, PGY2; Christina Andrist, MSIV; Arun Nagarajan, MD – *Hemophagocytic Lymphohistiocytosis (HLH) in a 25 Year Old Presenting with Multisystem Organ Failure* **Nov/Dec 22**
- Larrabee**, Hollynn, MD; Joseph Minardi, MD; Nick Denne, MD; Miryam Miller, MD; Owen Lander, MD – *Acute Arthritis of the Hip – Case Series Describing Emergency Physician Performed Ultrasound Guided Hip Arthrocentesis* **Sept/Oct 22**
- Latif**, David A., MBA, PhD; Rahul Gupta, MD, MPH; Fadi M. Alkhateeb, BSPHarm, MBA, PhD; Krista N. Farley, MS – *Parental Attitudes Affecting Compliance with the Recommendation for Two Doses of 2009 Pandemic Influenza A (H1N1) Vaccine in Children Less than 10 Years of Age in West Virginia* **Mar/Apr 10**
- Lerfald**, Nathan, MD; Sarah Sofka, MD – *Cannabinoid Hyperemesis Syndrome: A Case Series* **May/June 20**
- Luzier**, Jessica L., PhD; Emily M. Pisetsky, MA; Angela N. R. Miller, MA, MPH PhD – *Thinking Outside the City: Treating Patients with Disordered Eating in Rural West Virginia* **July/Aug 56**
- Lycans**, Dana, MD; Franklin D. Shuler, MD, PhD; Thomas Gill, MD; Ali Oliashirazi, MD – *Physical Education in West Virginia Schools: Are We Doing Enough to Generate Peak Bone Mass and Promote Skeletal Health?* **July/Aug 66**
- Malson**, Brian; Michael L. Stitely, MD; Jessica Close, DO; Aaron Ferda, MD; Wanda Hembree, MD – *Glove Perforations with Blunt Versus Sharp Surgical Needles in Cesarean Delivery: A Randomized Trial* **Sept/Oct 32**
- Marks**, E. Robert, MD, FFAFP; Ester H. See-Sebastian, MD – *Spinal Cord Intramedullary Cavernoma: A Case Report* **May/June 28**
- Marshalek**, Patrick, MD; Laura R. Lander, MSW, LICSW; Miheret Yitayew, MD; Dolly Ford, MSW, LICSW; Carl R. Sullivan, MD, FACP; Kelly K. Gurka, MPH, PhD – *Rural Healthcare Disparities: Challenges and Solutions for the Pregnant Opioid-dependent Population* **July/Aug 22**
- Masannat**, Yanal, MD; Eyad Nazer, MD – *Pepto Bismuth Associated Neurotoxicity: A Rare Side Effect of a Commonly Used Medication* **May/June 32**
- Matthews-Ewald**, Molly R., PhD; Lucas C. Moore, EdD; Carole V. Harris, PhD; Andrew S. Bradlyn, PhD; Stephanie S. Frost, PhD – *Assessing Moderate to Vigorous Physical Activity in Rural West Virginia Elementary School Physical Education Classes* **July/Aug 12**
- McClellan**, W. Thomas, MD, FACS; Walter Dutton, MSII; Paul A. Ghareeb, MD – *The Lazy Lateral Incision: An Innovative Approach to the Skin-Sparing Mastectomy* **Nov/Dec 30**
- McJunkin**, Brittain, MD; Ehab Haj Ali, MD; Steven Jubelirer, MD; William Hood, DO – *Niacin Induced Coagulopathy as a Manifestation of Occult Liver Injury* **Jan/Feb 12**
- Mehra**, Suwan, MD; Michael L Stitely, MD; Jessica Close, DO; Aaron Ferda, MD; Suwan Mehra, MD; Brian Malson; Wanda Hembree, MD – *Glove Perforations with Blunt Versus Sharp Surgical Needles in Cesarean Delivery: A Randomized Trial* **Sept/Oct 32**
- Mertz**, Kristen J., MD, MPH; Alana G. Hudson, PhD, MPH; Steven J. Jubelirer, MD; John W. Wilson, PhD – *Cancer Incidence in Elderly West Virginians* **Sept/Oct 8**
- Merzouk**, Maria, DO, FACOG; Jabin Janoo, MD, FACOG; Micheal Cunningham, MD; Gerald R. Hobbs, PhD; Angela O'Bringer, PhD – *Can Antenatal Ultrasounds Help Predict Postnatal Outcomes in Babies Born with Gastrochisis? The West Virginia Experience* **Mar/Apr 22**
- Miller**, Angela N. R., MA, MPH; Jessica L. Luzier, PhD; Emily M. Pisetsky, MA PhD – *Thinking Outside the City: Treating Patients with Disordered Eating in Rural West Virginia* **July/Aug 56**
- Miller**, Miryam, MD; Joseph Minardi, MD; Nick Denne, MD; Hollynn Larrabee, MD; Owen Lander, MD – *Acute Arthritis of the Hip – Case Series Describing Emergency Physician Performed Ultrasound Guided Hip Arthrocentesis* **Sept/Oct 22**
- Minardi**, Joseph, MD; Nick Denne, MD; Miryam Miller, MD; Hollynn Larrabee, MD; Owen Lander, MD – *Acute Arthritis of the Hip – Case Series Describing Emergency Physician Performed Ultrasound Guided Hip Arthrocentesis* **Sept/Oct 22**
- Mindari**, Joseph, MD; Danielle Davidov, PhD; Nicolas Denne, MD; Treah Haggerty, MD; Christopher Kiefer, MD; Roger Tillotson, MD; Charles Whiteman, MD, FACEP; Debra Williams, MS; Dorian Williams, MD – *Bedside Ultrasound: Advanced Technology to Improve Rural Healthcare* **July/Aug 28**
- Moore**, Lucas C., EdD; Molly R. Matthews-Ewald, PhD; Carole V. Harris, PhD; Andrew S. Bradlyn, PhD; Stephanie S. Frost, PhD – *Assessing Moderate to Vigorous Physical Activity in Rural West Virginia Elementary School Physical Education Classes* **July/Aug 12**
- Moreland**, Jason A., MD; Sumesh Jain, MD; Bruce Chen, MD – *A Rare Cause of Postpartum Chest Pain* **Sept/Oct 14**
- Nagarajan**, Arun, MD; Samatha Lane, DO, PGY2; Christina Andrist, MSIV MD – *Hemophagocytic Lymphohistiocytosis (HLH) in a 25 Year Old Presenting with Multisystem Organ Failure* **Nov/Dec 22**
- Nair**, Dilip, MD; Mary M. Gibbs, FNP-C, RN, MSN – *Inter-Hospital Transfers from Rural Hospitals to an Academic Medical Center* **July/Aug 44**
- Nance**, Christopher, MD; Tracy Weimer, MD, PhD; David Watson, MD – *Neuropathy Following Laparoscopic Adjustable Gastric Banding: Treatment with Plasmapheresis* **Jan/Feb 16**
- Nazer**, Eyad, MD; Yanal Masannat, MD – *Pepto Bismuth Associated Neurotoxicity: A Rare Side Effect of a Commonly Used Medication* **May/June 32**
- O'Bringer**, Angela, PhD; Jabin Janoo, MD, FACOG; Micheal Cunningham, MD; Gerald R. Hobbs, PhD; Maria Merzouk, DO, FACOG – *Can Antenatal Ultrasounds Help Predict Postnatal Outcomes in Babies Born with Gastrochisis? The West Virginia Experience* **Mar/Apr 22**
- Oliashirazi**, Ali, MD; Franklin D. Shuler, MD, PhD; Dana Lycans, MD; Thomas Gill, MD – *Physical Education in West Virginia Schools: Are We Doing Enough to Generate Peak Bone Mass and Promote Skeletal Health?* **July/Aug 66**
- Parry**, Aaron R., MD; Byron C. Calhoun, MD; Rickens Gantt, MD; Dara J. Seybold, MAA; Mike Broce, BA; Gary W. Randall, PhD – *Serum Anti-endometrial Antibodies and First Trimester Pregnancy Loss* **Nov/Dec 16**
- Patel**, Kanj G. MSIV; VK Raju, MD, FRCS – *Ocular Demodicosis* **May/June 16**
- Patel**, Mitesh B., MSIII; Pankaj P. Dangle, MD; Marcos Teran, MS, MSIII; Micheal J. Chehval, MD – *Obstructive Uropathy Secondary to Rectus Sheath Hematoma* **Mar/Apr 32**
- Penumetsa**, Karthik, MD; Deepak Hooda, MD, MPH; Timothy Jackson, MD; Wissam Gharib, MD; Robert J. Beto, MD; Bradford E. Warden, MD – *Congenital Absence of Inferior Vena Cava with Idiopathic Deep Vein Thrombosis in an Adult* **Mar/Apr 28**
- Petrany**, Stephen, MD; Rezwan Ahmed, MD; Russell Fry, MD; Michael Krasnow, DO, PhD – *Screening Diabetic and Hypertensive patients for Ocular Pathology using Telemedicine Technology in Rural West Virginia: A Retrospective Chart Review* **Jan/Feb 6**
- Pfister**, Alfred K., MD; Christine A. Welch, MS; Mary K. Emmett, PhD; Nicholas W. Sheets, MD, MPH – *Risk Factors Predicting Fractures in Early Postmenopausal Women* **May/June 8**
- Pisetsky**, Emily M., MA; Jessica L. Luzier, PhD; Angela N. R. Miller, MA, MPH – *Thinking Outside the City: Treating Patients with Disordered Eating in Rural West Virginia* **July/Aug 56**
- Powers**, Roxann, MD; Kaitlin Vaughan, MD; Zachary Zinn, MD – *Macerated Foot Dermatitis Related to Occlusive Footwear* **Nov/Dec 8**

- Raju, VK, MD, FRCS; Kunj G. Patel, MSIV – Ocular Demodicosis** **May/June 16**
- Randall, Gary W., PhD; Aaron R. Parry, MD; Byron C. Calhoun MD; Pickens Gantt, MD; Dara J. Seybold, MA; Mike Broce, BA – Serum Anti-endometrial Antibodies and First Trimester Pregnancy Loss** **Nov/Dec 16**
- Ranier, George, MD; Kevin Costello, MD – Fractured OG Tip: A Case Report** **Sept/Oct 38**
- Richardson, D. Russell, MSIV; Russell L. Fry, MD; Michael Krasnow, DO/PhD – Cost-Savings Analysis of Telemedicine Use for Ophthalmic Screening in a Rural Appalachian Health Clinic** **July/Aug 52**
- Roidad, Nasira, MD; Dorothy A. Knutsen, BS, MHS; Arif R. Sarwari, MD, MSC, MBA; Tabatha Coombs, RN; Melanie A. Fisher, MD, FACP, MSC – HIV/AIDS Patient Migration in North-Central West Virginia** **July/Aug 18**
- Saleem, Tipu, MD; Vishnu Garla, MD; Reem Kheetan, MD – Cushing's Syndrome in Pregnancy: A Diagnostic Conundrum** **Nov/Dec 34**
- Sarwari, Arif R., MD, MSC, MBA; Dorothy A. Knutsen, BS, MHS; Nasira Roidad, MD; Tabatha Coombs, RN; Melanie A. Fisher, MD, FACP, MSC – HIV/AIDS Patient Migration in North-Central West Virginia** **July/Aug 18**
- See-Sebastian, Ester H., MD; E. Robert Marks, MD, FFAFP – Spinal Cord Intramedullary Cavernoma: A Case Report** **May/June 28**
- Seybold, Dara J., MAA; Aaron R. Parry, MD; Byron C. Calhoun, MD; Pickens Gantt, MD; Mike Broce, BA; Gary W. Randall, PhD – Serum Anti-endometrial Antibodies and First Trimester Pregnancy Loss** **Nov/Dec 16**
- Sharps, Gina, MPH, RDH; Louise T. Veselicky, DDS, MDS, MEd; Kenneth A. Veselicky, MD, DDS – Perceptions of Oral Health by the WV Community** **Nov/Dec 10**
- Sheets, Nicholas W., MD, MPH; Alfred K. Pfister, MD; Christine A. Welch, MS; Mary K. Emmett, PhD; Nicholas W. Sheets, MD, MPH – Risk Factors Predicting Fractures in Early Postmenopausal Women** **May/June 8**
- Shenoy, Santosh, MD, FACS; Riaz Cassim, MD, FACS MD – Metastatic Melanoma to the Gastrointestinal Tract: Role of Surgery as Palliative Treatment** **Jan/Feb 30**
- Short, Adam, MSIV; Franklin D. Shuler, MD, PhD; Josh Hendrix, MSII; Sammy Hodroge, MSII – Antibiotic-Like Actions of Vitamin D** **Jan/Feb 22**
- Shuler, Franklin D., MD, PhD; Dana Lycans, MD; Thomas Gill, MD; Ali Oliashirazi, MD – Physical Education in West Virginia Schools: Are We Doing Enough to Generate Peak Bone Mass and Promote Skeletal Health?** **July/Aug 66**
- Shuler, Franklin D., MD, PhD; Joseph Hendrix, MSII; Sammy Hodroge, MSII; Adam Short, MSIV – Antibiotic-Like Actions of Vitamin D** **Jan/Feb 22**
- Sofka, Sarah, MD; Nathan Lerfeld, MD – Cannabinoid Hyperemesis Syndrome: A Case Series** **May/June 20**
- Sofka, Sarah, MD; Timothy Jackson, MD – Bronchopulmonary Carcinoid Presenting as Dexamethasone Suppressible Cushing's Syndrome** **Jan/Feb 26**
- Stitely, Michael L., MD; Jessica Close, DO; Aaron Ferda, MD; Suwan Mehra, MD; Brian Malson; Wanda Hembree, MD – Glove Perforations with Blunt Versus Sharp Surgical Needles in Cesarean Delivery: A Randomized Trial** **Sept/Oct 32**
- Stotler, Christy J., DO; Lubna N. Chaudhary, MD; Nathanael G. Bailey, MD; Jeffrey A. Vos, MD – Unique Association of Myeloid Neoplasm with Eosinophilia and Abnormalities of PDGFRA with TTP** **Mar/Apr 6**
- Strawder, Paula, MA; Cindy Fitch, PhD, RD; Louise Donato, MS – Extending the University into the Community to Address Healthcare Disparities** **July/Aug 72**
- Sullivan, Carl R., MD, FACP; Laura R. Lander, MSW, LICSW; Patrick Marshalek, MD; Miheret Yitayew, MD; Dolly Ford, MSW, LICSW; Kelly K. Gurka, MPH, PhD – Rural Healthcare Disparities: Challenges and Solutions for the Pregnant Opioid-dependent Population** **July/Aug 22**
- Teran, Marcos, MS, MSIII; Pankaj P. Dangle, MD; Mitesh B. Patel, MSIII; Micheal J. Cheval, MD – Obstructive Uropathy Secondary to Rectus Sheath Hematoma** **Mar/Apr 32**
- Thompson, Erika, MD; Scott A. Fields, PhD; Kathleen Bors, MD – Appalachian Women and Heart Health: Current Prevention Strategies and Future Directions** **July/Aug 76**
- Tillotson, Roger, MD; Joseph Minardi, MD; Danielle Davidov, PhD; Nicolas Denne, MD; Treah Haggerty, MD; Christopher Kiefer, MD; Charles Whiteman, MD, FACEP; Debra Williams, MS; Dorian Williams, MD – Bedside Ultrasound: Advanced Technology to Improve Rural Healthcare** **July/Aug 28**
- Tworek, Cindy, PhD, MPH; Kimberly A. Horn, EdD; Robert H. Anderson, MA, CHES; Ilana Chertok, PhD; Robin L. Danek, MPH; Alan Holmes, MBA; Bruce Adkins, MS, PA – Encouraging Smoking Cessation during Pregnancy in West Virginia: Using Fax-to-Quit as a Cessation Strategy** **Mar/Apr 16**
- Vaughan, Kaitlin, MD; Zachary Zinn, MD; Roxann Powers, MD – Macerated Foot Dermatitis Related to Occlusive Footwear** **Nov/Dec 8**
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- Walker, Robert, MD; Dana E. King, MD, MS; Lew Holloway, MS, CHES – Expanding Models for Rural Primary Care in West Virginia** **July/Aug 38**
- Warden, Bradford E., MD; Deepak Hooda, MD, MPH; Karthik Penumetsa, MD; Timothy Jackson, MD; Wissam Gharib, MD; Robert J. Beto, MD – Congenital Absence of Inferior Vena Cava with Idiopathic Deep Vein Thrombosis in an Adult** **Mar/Apr 28**
- Watson, David, MD; Tracy Weimer, MD, PhD; Christopher Nance, MD – Neuropathy Following Laparoscopic Adjustable Gastric Banding: Treatment with Plasmapheresis** **Jan/Feb 16**
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- Yitayew, Miheret, MD; Laura R. Lander, MSW, LICSW; Patrick marshalek, MD; Dolly Ford, MSW, LICSW; Carl R. Sullivan, MD, FACP; Kelly K. Gurka, MPH, PhD – Rural Healthcare Disparities: Challenges and Solutions for the Pregnant Opioid-dependent Population** **July/Aug 22**
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Aric Bostick — FIRED UP!	2
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EN&T Associates.....	29
Flaherty Sensabaugh & Bonasso.....	35
Gianola, Harmon & Associates, PLLC.....	53
Highmark West Virginia	17
HIMG	33
Medical Practice FOR SALE	53
Medicare Learning Network (CMS)	15
Morgantown Printing & Binding	21, 53
National Kidney Foundation	53
Physician's Business Office.....	28
Renal Consultants	53
Suttle & Stalnaker.....	11
West Virginia e-Directive Registry	1
West Virginia Medical Insurance Agency	14, 38
West Virginia Mutual Insurance Company	56
West Virginia Medical Professionals Health Program	45
West Virginia REDI.....	Back Cover
West Virginia University HSC	Inside Front Cover
West Virginia Division of Rural Health & Recruitment	55

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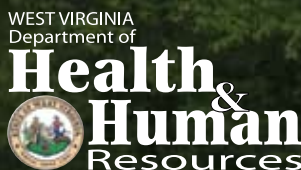
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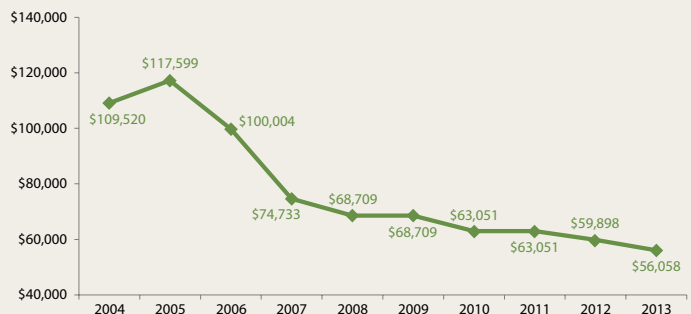
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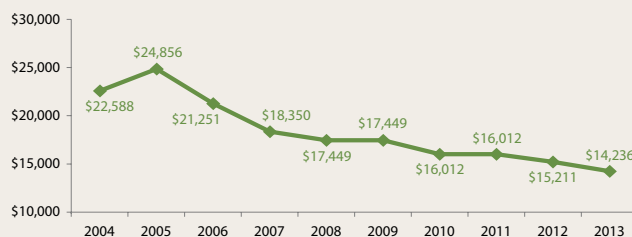
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