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## Contents

### President’s Comments
287  Be Positive! – Tim Ridgway, MD

### Alliance News
289  Dissolving Decades – Jacquelyn Gunnarson

### Editorial
291  Alton Ochsner, MD and Tobacco – Keith A. Hansen, MD

### The Journal
293  Cerebral Amyloid Angiopathy with Angiitis: Emerging Options for Treatment
   - Kayla Cagle, MS IV; Aaron Berg, MD; Jerome Freeman, MD, FACP
298  Case Report: Chorioamnionitis Attributed to Streptococcus thalactensis
   - Mark Vukonich, MD; Heidi Moline, MPH, MSIII; Michael Chaussee, PhD; Brian Pepito, MD; Mark K. Huntington, MD, PhD
300  Postpartum Spontaneous Coronary Artery Dissection: An Uncommon Cause of Acute Coronary Syndrome – Amol Raizada, MD; Marian Petrasko, MD
304  Comparison of Content and Format for Upper Respiratory Illness Antibiotic Prescribing Guideline Developed by Two Midwestern Organizations
   - Jayne Vanbeek, DO; Wendell W. Hoffman, MD; Mark K. Huntington, MD, PhD

### Primers in Medicine
310  Primary Care Follow-up of the NICU Graduate – Nicholas VenOsdel, MD; Laurie Hogden, MD; David Monson, MD

### Pharmacology Focus
315  Medicare Star Ratings: How Pharmacies are Impacted and What That May Mean for Prescribers – Stephanie Demers, PharmD Student; Brittney Meyer, PharmD

### Special Features
318  Excruciating Circumstances: Smoking and Mental Illness: Closely Aligned Co-Morbidities
   - E. Paul Amundson, MD
320  Excruciating Circumstances: William Osler and Stonewall Jackson: The Rest of the Story
   - Henry Travers, MD, FACP
322  DAKOTACARE Update: Fatherhood, Revisited – E. Paul Amundson, MD
323  Quality Focus: Great Plains Quality Innovation Network/South Dakota is Launching “Voices for Quality Healthcare” Advisory Board to Promote Patient and Family Engagement
   - Stephan D. Schroeder, MD
324  Patient Education: Popping-Corn Rhythm – Richard P. Holm, MD
325  SDMOE Board News: About the Board – Margaret B. Hansen, PA-C, MPAS

### Member News
327  For Your Benefit: Get Involved with the SDSMA
328  SDSMA Honors Members with Awards
329  Scholarship Recipients Recognized at Annual Banquet
330  SDSMA 2016 Member Directory – Your Updates Are Needed!

### For the Record
331  CME Events

### Advertisers In This Issue
332  Physician Directory
President’s Comments

Be Positive!

By Tim Ridgway, MD, FACP
SDSMA President

There seems to be a growing literature in regard to widespread dissatisfaction among practicing physicians. Many point to government regulation, insurance mandates, the electronic medical record, the growing pressure to see more and more patients, call schedules, decreasing reimbursement, etc. I could continue on and on. Articles on physician burnout, work-life balance, and managing stress are aimed at trying to help physicians in these troubling times. In a recent editorial, Berman described two types of complainers: the grippers and the whiners. Grippers, he states, tend to blow off steam in seemingly impossible situations, but yet have no intention of quitting. They stay the course. On the other hand, he believes the whiners whine because they believe their situation is unfair to them personally, and they want someone to blame. In essence, they feel they are the victim. His concern is more and more physicians are transitioning from being grippers to whiners.

Berman goes on to argue that (we physicians) “have been trained as leaders, as the most highly competent decision makers.” While I agree we have been rigorously trained to be competent decision makers, I am not at all convinced we have been trained as leaders. Yes, you may argue there are those physicians out there who are “natural leaders.” However, I suspect most of us are not. We have gone through years of rigorous training to take histories, perform physicals, collect appropriate data, and then treat our patients based on this information. We are very good at this, but to say that because we have a medical degree we are natural leaders is a stretch.

I would contend physicians need to reflect on the reason they entered the medical profession. After years of training and service, I think we often ignore the foundational reasons we became physicians. We need to think positively, and use that positivity to constructively look at what we can do to take back our profession and recommit to the welfare of the sick. The grippers will complain when things are not going well, but they are always committed to what they are doing.

The South Dakota State Medical Association (SDSMA) Center for Physician Resources Health Leadership Institute is a new initiative of the SDSMA. The Institute’s vision is to prepare physicians to lead the transformation of health care delivery by facilitating their development of the knowledge, skills, insights, relationships and confidence needed to bring the clinical perspective to decisions essential to the delivery of quality, efficient, and cost-effective care to patients. Yes, there are many leadership programs out there, but most may not be tailored to busy clinicians or offered at a convenient location.

So how would this program look to you, the practicing physician? We will be looking at two potential models. In the first, an individual health system, hospital, or group practice would host a cohort of 12-20 individuals (physicians or advance practice providers) using a format of six two-evening sessions convenient to where providers live and work. The small group sessions will be highly interactive. The second model would be community based, meaning a site would be chosen close to a group of interested providers, and may consist of individuals from different health care systems, independent practices, etc. The content would be the same in both models, including topics such as teamwork and collaboration, interpersonal communications, self-awareness, and other topics which are highly practical and useful to the practicing physician. The faculty would include an experienced facilitator-trainer-executive coach along with guest presenters on key topics. The length of the entire program would be approximately 10 months, and 40 Category 1 CME credits would be offered.

What, you might ask, is in it for me? I believe this is an opportunity for us to recommit to our profession, and remember the inherent reasons we went into medicine. By obtaining important leadership tools, we can work with our clinic and hospital administrations, insurance companies, and regulatory bodies to take on the real work of transforming the old fee-for-service model of health care into a patient-centered approach focused on prevention. The end result, with hard work, can be the improvement in the health and welfare of all South Dakotans. This is a great opportunity to avoid the tendency to whine, begin thinking positively about all the good we do, and redevelop a sense of personal and professional satisfaction. To quote Vaclav Havel, “I am neither an optimist nor a pessimist. I just carry hope in my heart. Hope is not a feeling of certainty that everything ends well. Hope is just a feeling that life and work have a meaning.”

REFERENCES

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Dissolving Decades

By Jacquelyn Gunnarson,
SDSMAA President, 1988-89

I was asked to write the last South Dakota State Medical Association Alliance (SDSMAA) article for publication in South Dakota Medicine and I thought it shouldn’t be a problem because there was so much data during the 105 years of our existence. But that became the problem – how does over a century of activity become condensed into about 800 words on one page? I realized it doesn’t. Because of increasing challenges in filling leadership roles, our SDSMAA organization has voted to disband at the state level, but still continue with the districts and American Medical Association Alliance (AMAA). On behalf of the SDSMAA, thankful appreciation is expressed to the SDSMA for our combined decades of service in health areas to the people of South Dakota!

In 1869, the first legislative act restricting those practicing medicine in Dakota Territory was passed. In 1889, both North and South Dakota attained statehood and in 1890, the South Dakota State Medical Association (SDSA) was formed. Physicians were dispersed throughout the state, so in 1903, district medical societies were established. Holding annual medical meetings became important exchanges of information for physicians in our state. In 1906, the South Dakota State Legislature approved funding for a two-year school of medicine at the University of South Dakota, and the first class of two students was accepted. Through the years, both the SDSA and SDSMA have provided support.

When physicians attended the annual meeting, their wives often accompanied them. It was through the far-sighted vision of 18 physician-wives at the 1910 meeting that the “Ladies Auxiliary to the South Dakota State Medical Association” was organized, and we became “the oldest continuous medical auxiliary in the United States.” South Dakota’s auxiliary has continued to meet annually when the medical association holds its convention, and the auxiliary formed the same 12 districts as the organization of physicians. Stated in the founding documents of the auxiliary have been our purpose: “...to assist the programs of the South Dakota State Medical Association that improve the health and quality of life for all people...to promote health education...to encourage participation of volunteers in activities that meet health needs...and to support health-related endeavors.” We cherish our history of members who have helped us achieve these goals in many areas of outreach with volunteerism into communities throughout South Dakota during the past 105 years.

The physician-spouse organization in South Dakota had been in existence for 12 years when, during the 1922 annual meeting of the American Medical Association (AMA), the national medical auxiliary was organized and our name was changed to “Women’s Auxiliary to the South Dakota State Medical Association.”

Because of the increasing number of female physicians, the number of male spouses also increased. So, in 1976, the word “women” in the organization’s title was eliminated and our name became “South Dakota State Medical Association Auxiliary” with the term “physician-spouse” becoming an acceptable reference. In 1993, the national organization changed one word, “Auxiliary,” to “Alliance,” continuing to use the letters AMAA, and our title changed again to “South Dakota State Medical Association Alliance.”

Personal memories come to mind from the 15 years I served as editor of SoDak Medical Auxiliary News. For decades, a wife was known as “Mrs. ________” followed by her husband’s first and last name, and that format was used on our address labels. After the initial mailing, I received a note from a physician’s wife informing me that she had her own first name and wanted it used on her mailing label. I thanked her for reminding me about the importance of an individual’s given name and it motivated me to make the changes for every physician’s spouse throughout our state. Gratitude from the SDSMAA is extended to the SDSMA for including in their budget the printing and postage expenditures of our SoDak newsletter through the years.

Another memory I recall was from 1988-89 when I served as president of the SDSMAA and had the responsibility of writing the president’s page in the SDSMA journal. During that time, I received positive responses from various physicians, including one who wrote to me shortly after his wife’s death informing they’d enjoyed that page together. Another told me he carried my articles in his billfold to share with his patients. Situations like this may have been duplicated by others during their presidential year, and it serves as another reminder of appreciation to the SDSMA for allowing us a separate page in each of their journals.

Do you realize there is a spiritual significance in the caduceus symbol used for both the SDSMAA and SDSMA? Read in the Old Testament book of Numbers, chapter 21 verses 4b-9: “The people grew impatient and spoke against God and Moses. God sent venomous snakes which bit people and many died. Moses prayed for the people and God directed him to make a bronze snake and put it on a pole. As people looked at this, they lived.” From that situation, the caduceus symbol became a reminder of healing.
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When looking at the cover of the 2015 South Dakota Medicine special edition, Preventive Medicine: The Best Medicine For All Time, one notices vaccine bottles with a needle and syringe, a stethoscope, an EKG and a picture of a distinguished looking young man. Who is this young man, what does he have to do with preventive medicine, and what does he have to do with South Dakota?

In Kimball, South Dakota, on May 4, 1896 Edward William Alton Ochsner was born to Edward Philip and Clara Leda Schontz Ochsner. Alton Ochsner excelled in his classes in grade and high schools in Kimball. He then went on to the University of South Dakota where he completed two-year undergraduate, pre-medical studies and matriculated in the two-year medical degree. He completed the two years of study in 1918 and then went on to Washington University in St. Louis, Missouri, to finish his medical training in 1920. After obtaining his medical degree, he did one year of training in internal medicine and subsequently transferred to Chicago for a surgical residency under his brother's tutelage. After Chicago, he arranged to study surgery under two of the best surgeons in the world in Zurich and Frankfurt.

After completing training, Dr. Ochsner returned to the U.S. and practiced in Chicago prior to moving to the University of Wisconsin as a faculty member. After joining the faculty in Wisconsin, the chair position at Tulane University in New Orleans became available. He applied for the position and at the age of 31 became the chair of the Department of Surgery for Tulane University.

Dr. Ochsner was known for his leadership, teaching, research, and mentorship, but mostly for his desire to treat people who needed his skill. Under his leadership, the world famous Ochsner Clinic was founded. Of interest, Dr. Ochsner wanted to name the fledgling clinic The New Orleans Clinic and Southern Clinic, but while he was out of town, his partners named it and informed him by telegram of the new clinic’s name: The Ochsner Clinic. He was also known for his teaching style and developed what was known as the “bull pen.” A senior medical student was required to evaluate a patient, return to the amphitheater and present the case, and then defend his diagnosis by answering Dr. Ochsner’s questions. Dr. Ochsner felt this method would help future physicians to be able to think under stress. Dr. Ochsner was also an accomplished surgeon and mentored a number of world famous surgeons.

One of the medical contributions that Dr. Ochsner will always be remembered for is uncovering the link between tobacco smoke and lung cancer. In a landmark article published in 1939 and titled “Primary Pulmonary Malignancy,” Dr. Ochsner with Dr. Micheal DeBakey presented this link. As with many discoveries, this association was initially criticized, but over the years has proven to be true. Dr. DeBakey was a friend of the Ochsner family and even served as a babysitter for all four of the Ochsner children. Dr. DeBakey also trained under Dr. Ochsner before moving to Houston, Texas, and becoming a world famous cardiovascular surgeon.

Dr. Ochsner as a two-year alumnus of the University of South Dakota is known for his many outstanding contributions to medicine and society. His advice to young physicians is still important today: “Don’t forget that you’re treating people. You are not treating disease, but people.”

As a former South Dakotan and USD alumnus, we felt that his picture on the 2015 special edition of South Dakota Medicine on preventive medicine would be appropriate.
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Cerebral Amyloid Angiopathy with Angiitis: Emerging Options for Treatment

By Kayla Cagle, MD; Aaron Berg, MD; and Jerome Freeman, MD, FACP

Abstract
Two cases of cerebral amyloid angiopathy with features of angiitis are reported. The role of immunosuppressive therapy is reviewed.

Introduction
Cerebral amyloid angiopathy (CAA) is a well-known entity. Deposition of amyloid protein occurs in the media and adventitia of small and mid-sized arteries of the cerebral cortex and leptomeninges. This disorder can be associated with spontaneous intracranial hemorrhages as well as ischemic strokes. CAA has always been viewed as a difficult entity to treat. Generally clinicians are hesitant to use antiplatelet therapy for ischemic events as such treatment may make an individual more likely to sustain cerebral hemorrhages.

Infrequently, patients with CAA have an associated inflammatory component. This has been termed cerebral amyloid angiopathy with angiitis. The importance of identifying this latter entity is that focused therapies directed at the angiitis can stabilize and improve the clinical condition. In this article, we report two cases of cerebral amyloid angiopathy with angiitis followed by a discussion of important clinical features, radiologic findings and treatment possibilities.

Case 1
A 69-year-old woman presented to an emergency department (ED) complaining of spells of numbness and weakness on her right face and arm. She had experienced several of these episodes and on the day she came to the ED, she had a brief episode of right hand dysfunction, as well as transient right leg weakness. Her symptoms and condition resolved within several minutes and her neurologic examination was normal when assessed in the ED. An MRI of the brain had been done a week prior to her ED visit and was repeated on the day she was evaluated in the ED. Both MRI examinations demonstrated abnormal hyperintense FLAIR signal within the sulci of the left parietal lobe with associated leptomeningeal enhancement on post-contrast images. This involved the central sulcus along the motor and sensory gyri. On these initial MRIs, the T2* gradient echo or susceptibility weighted images were not obtained. An MR angiogram and venogram were unremarkable. A spinal fluid examination was performed and showed a mildly elevated protein of 63.9 but no abnormal cells and the spinal fluid cytology was negative for malignancy. Laboratory work revealed no evidence for vasculitis. A CT scan of the chest and abdomen/pelvis showed no major abnormalities. The patient was transferred to another tertiary institution where she again experienced an episode of transient right arm dysfunction. A brain biopsy was performed revealing cerebral amyloid angiopathy with angiitis. The patient was started on high-dose IV methylprednisolone for five days followed by oral prednisone (40 mg daily). Over the next four months, her condition stabilized. Residual numbness in the right hand abated. Azathioprine was initiated and her prednisone tapered. She has exhibited mild cognitive impairment but has clinically done well over three years.

Case 2
A 76-year-old woman was admitted to the hospital with worsening short term memory and gait unsteadiness that fluctuated over a two-week period of time. Her gait was described as “shuffling” and she was noted to “lean to the left.” Her family reported that she had demonstrated mild
cognitive impairment for about a year. On initial neurologic evaluation, her cognitive function appeared normal and no focal neurologic deficits were noted. A head CT was initially obtained which demonstrated multiple confluent areas of low attenuation involving the hemispheric white matter. An MRI was subsequently obtained demonstrating multiple confluent areas of T2 and FLAIR hyperintensity, most prominently involving the hemispheric white matter of the frontal lobes and left temporal lobe, with extension into the U-fibers. There was associated sulcal effacement with no diffusion restriction consistent with vasogenic edema. Post-contrast images demonstrated no abnormal enhancement. T2* gradient echo images revealed innumerable low signal microhemorrhages, peripherally located and predominantly involving the cerebral cortex with sparing of deep brain structures. This peripheral distribution of microhemorrhages is characteristic of cerebral amyloid angiopathy and key to making this diagnosis. Multiple tests were performed. The spinal fluid analysis showed no significant abnormalities. JC polyoma virus DNA testing was negative and a Notch 3 gene for cadasil was obtained and normal. She was treated with high-dose IV methylprednisolone followed by oral prednisone.

Case 1: Brain MRI at presentation – FLAIR images (top row) demonstrate abnormal hyperintense signal within the sulci of the left parietal lobe and central sulcus. There is associated leptomeningeal enhancement in the same location on post-contrast images (second row). Follow-up examination (bottom row, left) after brain biopsy and immunosuppressive therapy show resolution of leptomeningeal inflammatory changes (i.e., contrast enhancement). A T2* gradient echo image (bottom row, right), demonstrating numerous foci of low signal consistent with microhemorrhages, was first obtained one month after her brain biopsy. These microhemorrhages have peripheral distribution predominately involving the cortex with sparing of deep brain structures, characteristic of CAA. There is a chronic ischemic infarction in the left frontal lobe unrelated to the patient’s acute presentation, but consistent with her history of amyloid angiopathy.
On a clinical basis she was felt to most likely have amyloid angiopathy with angitis and azathioprine was initiated. After several months, she developed liver function abnormalities and was switched from azothaprine to mycophenolate. Prednisone was tapered to 20 mg a day. She has remained clinically stable for 14 months. A follow-up MRI was performed six months after hospitalization and demonstrated complete resolution of vasogenic edema with persistent areas of FLAIR hyperintensity compatible with chronic small vessel ischemic change. T2* gradient echo images again demonstrated low signal microhemorrhages with a peripheral distribution characteristic of CAA.

Discussion

Cerebral amyloid angiopathy is a notable cause of spontaneous intracranial hemorrhage, as well as occasional ischemic strokes. CAA affects small vessels in the brain with deposition of amyloid protein in the walls of small to medium sized vessels (arteries and capillaries) in the brain and leptomeninges. Amyloid angiopathy is readily identified on T2* gradient echo sequences which are now
widely obtained as part of a routine brain MRI. This imaging sequence reveals the punctate areas of low signal typical of microhemorrhages. The microhemorrhages are characteristically distributed peripherally within the cortex and leptomeninges with sparing of deep brain structures. One autopsy study suggests that the prevalence of CAA maybe as high as 21 percent in patients age 61-70 and may further increase with aging. No gender predisposition has been identified. There are no definitive therapies for CAA.

Angiitis associated with cerebral amyloid angiopathy is a much less common occurrence. No estimates for the prevalence of CAA with angiitis have been established, presumably due to the rarity of the syndrome. CAA with angiitis is suggested when the classic distribution of microhemorrhages is associated with signs of acute inflammation. Acute inflammation is suggested by signs of leptomeningeal inflammation (Case 1) and/or signs of vasogenic edema within the brain parenchyma (Case 2). The presence of partially activated CD4+ T-cells in the CSF, as well as the favorable response to steroids and immunosuppressive therapy, suggest that vasculitis may be initiated by an immune response to amyloid. Various genetic predispositions have been posited. The ApoE e4/e4 genotype is associated with an increased burden of amyloid in cerebral vessels and is also associated with the development of amyloid CAA with angiitis. The distinction between CAA and CAA with angiitis is crucial, as the later condition offers the possibility of effective therapy with immunosuppressive agents.

The two patients in this report demonstrate the utility of T2* gradient echo sequences. In Case 1, the diagnosis of amyloid angiopathy with angiitis was established by brain biopsy. The initial imaging findings in Figure 1 (first two rows) are nonspecific and could result from a broad range of infectious and non-infectious causes of leptomeningeal inflammation or even leptomeningeal spread of tumor. A gradient echo sequence was first obtained a month after her brain biopsy and demonstrated characteristic findings of microhemorrhages. On the other hand, Case 2 was judged to have MRI features very consistent with cerebral amyloid angiopathy as well as angiitis on her initial MRI. Empiric treatment for angiitis was initiated without proceeding to a biopsy.

From a clinical standpoint, persons with cerebral amyloid angiopathy with angiitis may present with encephalopathy, headaches and seizures. At times, patients also present with focal neurologic deficits. Case 1 presented with fluctuating right body weakness and numbness, while Case 2 had gait impairment as well as subacute cognitive decline.

In patients who appear to have CAA with angiitis, important clinical considerations are whether to proceed to brain biopsy or to opt for empiric immunosuppressive therapy. While a positive biopsy is definitive, patients with typical clinical and radiologic presentations have been described with negative biopsies, perhaps suggesting a patchy nature of the inflammatory response. Certainly in Case 2, the clinical presentation and response to therapy endorses the decision for empiric therapy without proceeding to brain biopsy.

Clearly, it is crucial to differentiate a static cerebral amyloid angiopathy from a patient with inflammatory angiitis who may well respond to immunosuppressive therapy. A significant number of patients with CAA with angiitis have been described as showing a good clinical response to steroid therapy. Steroid sparing modalities utilized for long term immunosuppression have included methotrexate, mycophenolate mofetil and cyclophosphamide. No data currently exists establishing the optimal duration of immunosuppressive therapy. Both of the patients in this report are currently doing well. How long to continue their therapies remains a matter of conjecture and clinical judgment.

REFERENCES


Please note: Due to limited space, we are unable to list all references. You may contact South Dakota Medicine at 605.336.1965 for a complete listing.

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Case Report: Chorioamnionitis Attributed to Streptococcus thoraltensis

By Mark Vukonich MD; Heidi Moline, MPH, MSIV; Michael Chaussee, PhD; Brian Pepito, MD; and Mark K. Huntington, MD, PhD

Abstract

Streptococcus thoraltensis is a recently described species, isolated from the intestinal and genital tracts of swine and from rabbit feces. We describe here a case of chorioamnionitis, with paternal swine exposure, potentially attributable to S. thoraltensis. To our knowledge, this is the first reported human infection by this organism.

Introduction

Streptococcus thoraltensis is a relatively recently described species that has been isolated from the intestinal and genital tracts of swine and from rabbit feces.1,2 Very little is known about the pathogenic potential of this strain to humans; to our knowledge, there has not been a previously reported human infection by this organism.3 We describe here a case of chorioamnionitis, with paternal exposure to swine, potentially attributable to S. thoraltensis.

Case Report

A 30-year-old, previously healthy, immunocompetent G5P4 pregnant female at 24 1/7 weeks gestational age presented to the emergency department of a South Dakota hospital with acute abdominal pain. Pain started 48 hours prior, with paroxysms of lower abdominal cramping coming every five minutes. She was afebrile (36.7° C), mildly tachycardic (115 BNP), had uterine tenderness, and had cervical change consistent with preterm labor. Her admission laboratory studies were significant for a leukocyte count of 13,300. There was no history or symptoms to suggest rupture of membranes, and there were no symptoms of illness prior to onset of the abdominal cramping.

Prenatal course was uncomplicated. She had received routine prenatal care from her family physician; prenatal screening was all normal. Her other four children are healthy. Her first and third pregnancies were term gestations delivered vaginally, the second pregnancy (delivered in Africa) was reported by the patient to be “early.”

Less than 24 hours after admission, spontaneous rupture of membranes occurred with foul-smelling amniotic fluid. Upon delivery moments later, the infant had a brief cry followed by no respiratory effort and the mouth was suctioned of copious secretions. Apgar scores4 were recorded as 1 at one minute, 5 at five minutes, and 7 at 10 minutes. The infant was intubated in the neonatal intensive care unit (NICU) and preemptive ampicillin and gentamycin was administered per protocol for neonatal early-onset sepsis prevention measures in chorioamnionitis.5 Peripheral blood and tracheal aspirate cultures of the neonate were collected prior to initiation of antibiotics. No samples of the amniotic fluid or maternal blood were collected.

Tracheal aspirate cultures were reported positive for S. thoraltensis. Susceptibility testing of the strain showed intermediate resistance to penicillin and erythromycin, and susceptibility to cefotaxime, ceftriaxone, and chloramphenicol. Peripheral blood culture showed no growth. The antibiotics were continued for seven days; follow-up tracheal aspirate cultures showed no growth. The neonate had a prolonged stay in the NICU with complications associated with extreme prematurity and was discharged after 3.5 months.

Prior to delivery, the mother received a single dose of IV ampicillin; no additional antibiotics were administered
following delivery. Her postpartum course was unremarkable; she remained afebrile throughout her hospital stay and was discharged home on hospital day three.

Pathological evaluation of the placenta confirmed the suspicion of acute chorioamnionitis (grade II-III). Placenta culture grew gram positive cocci identified S. thoraltensis. Cervical cultures were obtained at the six-week postpartum visit and were negative.

Discussion

To our knowledge, this is the first reported human case of S. thoraltensis infection. A PubMed search conducted using the search term “Streptococcus thoraltensis” returned only five citations with no human infections identified. Although isolated from diseased and dead pigs, the pathogenic potential of S. thoraltensis is unclear.6

Interestingly, her husband was employed by a local meat packing plant and worked with swine on a daily basis. It is tempting to speculate that occupational exposure resulted in colonization of her husband with subsequent introduction of the organism to her genital tract, leading to vaginal colonization and ultimately placental infection. Clinically apparent rupture of membranes (typically seen in chorioamnionitis due to group B streptococcus and other genital-dwelling organisms) was absent, as were preceding systemic symptoms (typically seen with hematogenously-acquired Listeria chorioamnionitis). She had not undergone any invasive procedures (also occasionally associated with chorioamnionitis). Subclinical rupture of membranes, asymptomatic bacteremia, or even direct invasion are all potential avenues by which the organism may have gained access to the placenta.

A significant limitation to this report is the method used to identify the pathogen. Conventional phenotypic bacterial identification methods, rather than the more specific 16s rRNA typing, were employed in our clinical laboratory which uses an automated system employing 43 tests of carbon source, enzymatic activities and resistance (VITEK 2 GP).7 The tests were repeated for confirmation. While identification by the former is 95 percent specific,7 the lack of 16s rRNA typing represents a potential limitation to the certainty of the organism’s identity of this case report. Nevertheless, identification of S. thoraltensis from both the maternal placenta and newborn tracheal aspirate cultures presents a strong case to implicate this organism, suggesting a novel emergence in humans resulting in clinically relevant outcomes.

REFERENCES


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Introduction

Acute coronary syndrome (ACS) almost always occurs in patients with underlying atherosclerotic heart disease who have cardiovascular risk factors. These include hypertension, diabetes, smoking, high cholesterol and a strong family history of premature coronary artery disease. Spontaneous coronary artery dissection (SCAD) is an uncommon entity that can present as ACS in young and otherwise healthy patients. We present the case of a 40-year-old female who presented with ST elevation myocardial infarction (STEMI), 12 days after delivery and was found to have SCAD of her right coronary artery (RCA) that was stented with good results.

Case

A 40-year-old female presented with crushing precordial chest pressure, 12 days after an uneventful vaginal delivery. She had no other associated symptoms. Her past history was significant for well controlled ulcerative colitis and there was no known history of cardiovascular risk factors, coronary artery disease, vasculitis or connective tissue disease. Physical exam revealed stable vitals and unremarkable cardio-pulmonary examination. Electrocardiogram revealed ST segment elevations in the inferior leads with reciprocal changes in the lateral limb leads. Her troponin-I was elevated at 6.33 nanograms/milliliter (normal range 0.01 to 0.50 nanograms/milliliter). The patient was given aspirin, started on a heparin drip and transferred for primary percutaneous coronary intervention (PCI) with a diagnosis of STEMI. Coronary angiography revealed complete occlusion of the right coronary artery (RCA) with an associated dissection flap (Figure 1). Other coronary arteries were free of atherosclerotic disease (Figure 3), consistent with a diagnosis of SCAD. The RCA was stented with good results (Figure 2).

Discussion

SCAD is an uncommon cause of ACS and occurs in younger, otherwise healthy individuals. Although the true incidence of SCAD in the general population is unknown and data is based on case registries, it is felt to be less than 1 percent of all ACS.

SCAD usually presents in the fifth or sixth decade of life, but may occur in younger patients as well. Prevalence is higher in females. Patients with SCAD may present as ST segment elevation myocardial infarction (STEMI), non ST segment elevation myocardial infarction (NSTEMI), unstable angina, ventricular arrhythmias or sudden death. Troponin-I elevation is seen with associated myocardial...
Conditions associated with SCAD include pregnancy, peripartum period, oral contraceptive use, heavy isometric exercise and connective tissue disorders (Marfan syndrome, Ehlers-Danlos syndrome and systemic lupus erythematosus). Patients with fibromuscular dysplasia (FMD) also have a high prevalence of SCAD and this has led some experts to believe that there may be a causative link. In a large registry from Mayo Clinic involving 87 patients with SCAD, only 18 percent of patients were postpartum.

Two types of SCAD pathologies have been described. The classic form described is caused by an intimal tear resulting in the formation of a false lumen in the coronary artery. Diagnosis is confirmed by a dissection flap that is seen angiographically in the absence of underlying coronary atherosclerosis. The second type of SCAD results from a primary disruption in the vasa vasorum without intimal tear. This type of SCAD does not reveal an intimal flap on coronary angiography but is characterized by diffuse smooth stenosis of the involved vessel because of bleeding within the vessel wall. In this case, diagnosis can be confirmed using intra-coronary imaging techniques such as intravascular ultrasound (IVUS) or optical coherence tomography (OCT) that provide detailed anatomical visualization of the vessel wall. Left anterior descending (LAD) coronary artery is most commonly affected, although multi-vessel involvement is not rare.

The optimal treatment for SCAD remains controversial because of lack of randomized trials comparing therapeutic strategies. Although thrombolytics have been classically contraindicated in SCAD because of the risk of intramural bleeding, propagating dissection and vessel occlusion, many patients with SCAD who present with STEMI may have received thrombolytics prior to confirmation of diagnosis. Dual antiplatelet therapy with aspirin and clopidogrel in patients who have not been
treated with stents has not been studied but is recommended by experts given the presence of a prothrombotic milieu. The role of newer P2Y12 antagonists (prasugrel and ticagrelor) and glycoprotein IIb/IIIa inhibitors is unclear, but because of their greater potency and risk of extending the dissection, these agents are not routinely used.4

PCI is recommended in patients with localized proximal large vessel dissections associated with ongoing ischemia and in cases with compromised distal coronary flow. In stable patients however, most experts recommend a conservative approach. This stems from data obtained from three large studies which showed that conservative approach in patients without active ischemia was associated with good in-hospital and long-term clinical outcomes. In such cases, PCI has a higher rate of failure and complications associated with difficulty in identifying the true lumen, propagation of the dissection/hematoma and side branch occlusion. Coronary artery bypass graft (CABG) should be considered in patients with left main or three-vessel SCAD, or in patients who have active ischemia and have failed PCI.1

While ACS is almost always seen in patients with underlying atherosclerotic heart disease, this diagnosis should be considered in younger patients who have no risk factors for coronary artery disease but are at risk for SCAD.

REFERENCES


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Marian Petrasko, MD; University of South Dakota Sanford School of Medicine; Sanford Heart Hospital, Sioux Falls.

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302  South Dakota Medicine
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Recent South Dakota QuitLine reports indicate that when you make direct referrals, it results in better outcomes. Data from 2008 to 2013 shows 39.8% of patients who signed up for our services found out about the QuitLine from a healthcare provider. Only 1.4% were direct referrals.

So what’s the difference? 45.5% of passive healthcare provider referred patients reported staying quit after 7 months. Direct-referred patient rate was over three points higher at 48.8%.

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By all means, keep talking to your patients, and then take the extra step and make a direct referral to maximize outcomes. In the long run, both you and your patients will be glad you did!
Comparison of Content and Format for Upper Respiratory Illness Antibiotic Prescribing Guideline Developed by Two Midwestern Organizations

By Jayme Vanbeek, DO; Wendell W. Hoffman, MD; and Mark K. Huntington, MD, PhD

Abstract

Antimicrobial resistance is a rapidly emerging public health problem, largely due to antibiotic prescribing which lacks an evidence base. We previously reported the results of local efforts within a single healthcare system at devising clinical guidelines to reduce unnecessary and even inappropriate antibiotic prescribing. This paper presents a comparison of the antibiotic guidelines developed by that process with those released by Institute for Clinical Systems Improvement, a national clinical quality organization. We found that the content of the guidelines are comparable, but not identical, while the formats differed, fitting separate but overlapping niches.

Introduction

Antimicrobial resistance is a rapidly emerging public health problem, largely due to antibiotic prescribing which lacks an evidence base. As part of an effort to stem the rise of resistant organisms as well as to preserve a precious resource, antibiotic stewardship programs have been implemented. A part of these programs is evidence-based clinical guidelines identifying which conditions respond — and more importantly, don’t respond — to antibiotics. In 2013, we reported the results of the Sanford Health Antibiotic Utilization Physician Collaborative (SHAUPC) effort at devising clinical guidelines to reduce unnecessary and even inappropriate antibiotic prescribing in various upper respiratory tract syndromes.

There are national organizations devoted to quality improvement which produce clinical guidelines. One such organization is the Institute for Clinical Systems Improvement (ICSI, Bloomington, Minnesota). This paper presents a comparison of the antibiotic guidelines developed by SHAUPC with those produced by ICSI.

The effectiveness of such clinical guidelines has been validated in several recent studies. Samore et al. found a 32 percent relative risk reduction in antibiotic prescriptions for situations where antibiotics were deemed not helpful by using clinical decision support tools and community education compared to only a 5 percent reduction using community education alone in 12 Idaho and Utah communities. Using single page decision support algorithms similar to SHAUPC guidelines, Jenkins et al. demonstrated an 11.2 percent relative reduction in antibiotic use for acute respiratory infections and a trend toward fewer late antibiotic prescriptions and fewer late follow-up visits in the intervention arm in Denver, Colorado based clinics. Similarly, Weiss et al. showed a 10.5 percent decrease in the total number of prescriptions per 1,000 population and a 13 percent reduction in antibiotic cost when single page clinical guidelines were instituted in Quebec, Canada.

Methods

The SHAUPC algorithms for evaluation and treatment of upper respiratory illness were compared and contrasted to the ICSI January 2013 update on Diagnosis and Treatment of Respiratory Illness in Children and Adults.

Where clinically significant differences between the content of the two organizations’ guidelines were found, we sought to identify the reasons for the incongruence. This was achieved by reviewing: 1) the original sources cited by the guidelines; 2) more recent additions to the global medical literature (accessed via PubMed search); and 3) data from local antibiograms.
The format of the guidelines were also compared with a focus on point-of-care usability, for both direction of patient care and education of health care providers, regarding the rationale behind the prescribing recommendations.

**Results**

**Guideline Content**

In general, the guidelines were very similar. Both organizations emphasized the importance of establishing a correct diagnosis, both for identifying patients for whom antibiotics are contraindicated, and for identifying patients with complicated conditions for whom the recommendations do not apply. These are summarized in Table 1.

<table>
<thead>
<tr>
<th>TABLE 1. Comparison of Recommendations Published by AUC and ICSI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Similarities</strong></td>
</tr>
<tr>
<td><strong>Sinusitis</strong></td>
</tr>
<tr>
<td>Stress importance of recognizing:</td>
</tr>
<tr>
<td>• Comorbid conditions that preclude use of</td>
</tr>
<tr>
<td>“routine” algorithms.</td>
</tr>
<tr>
<td>• Signs of complications that may require deviation</td>
</tr>
<tr>
<td>from “routine” algorithms</td>
</tr>
<tr>
<td>Diagnostic criteria</td>
</tr>
<tr>
<td>Evidence-based non-antimicrobial treatment options.</td>
</tr>
<tr>
<td><strong>Pharyngitis</strong></td>
</tr>
<tr>
<td>Clinical criteria for selecting whom to test.</td>
</tr>
<tr>
<td>Role of testing in determining whom to treat.</td>
</tr>
<tr>
<td>Antimicrobial agent of choice, most of the acceptable</td>
</tr>
<tr>
<td>alternatives, and unacceptable agents for use when</td>
</tr>
<tr>
<td>deciding to treat.</td>
</tr>
<tr>
<td>The role of non-antimicrobial treatment in patients</td>
</tr>
<tr>
<td>with pharyngitis.</td>
</tr>
<tr>
<td>Dietary supplements and vitamins are ineffective and</td>
</tr>
<tr>
<td>not encouraged.</td>
</tr>
<tr>
<td>Recognition of:</td>
</tr>
<tr>
<td>• Unique populations (e.g. personal or household</td>
</tr>
<tr>
<td>history of rheumatic fever)</td>
</tr>
<tr>
<td>• Complications and differential diagnoses</td>
</tr>
<tr>
<td>• Role of consultation in complicated cases</td>
</tr>
<tr>
<td><strong>Acute bronchitis</strong></td>
</tr>
<tr>
<td>ICSI has not published guidelines that include this diagnosis.</td>
</tr>
<tr>
<td><strong>Acute otitis media</strong></td>
</tr>
<tr>
<td>ICSI has not published guidelines that include this diagnosis.</td>
</tr>
</tbody>
</table>

While criteria for diagnosis of sinusitis and pharyngitis were essentially identical between the two guidelines, SHAUPC split these syndromes into separate pediatric and adult algorithms. Recommendations regarding laboratory or radiological testing were also the same. Once diagnosed with the specific condition, treatment options were largely similar, with some differences (Table 1). Both organizations emphasize the use of evidence-based, non-antimicrobial interventions for symptomatic treatment of these conditions.

ICSI specifically excludes acute otitis media and acute bronchitis from their respiratory illness guidelines. They do not publish guidelines that include these conditions.
while SHAUPC incorporates them into their upper respiratory infection recommendations. An additional difference is the absence of any differentiation between pediatric and adult sinusitis or pharyngitis in the ICSI documents.

**Guideline Format**

ICSI’s respiratory illness format is a fairly comprehensive 87 page document that guides the user, whether physician or nurse, through the triage, diagnosis, management, and patient education for respiratory illness. While the main decision algorithms are contained within four pages, their application is dependent on understanding the accompanying narrative. The SHAUPC guidelines are much more concise, built around stand-alone flow diagrams, with supporting notes affixed, in the form of clinical pearls. Perhaps the largest difference between the two is that the SHAUPC guidelines lead with an already-suspected diagnosis, or at least a more focused chief complaint, so the emphasis is more on management than triage. Table 2 compares features of the guidelines produced by SHAUPC, ICSI, and two of the groups cited above.

**Discussion**

The recommendations from the two organizations were very similar in identifying whom to treat with antibiotics, and whom to treat with other means. The most significant differences between the guidelines relate to specific antibiotic recommendations for those in whom antibiotics are indicated and the conditions included in the guidelines. ICSI’s guidelines reflect updated Infectious Disease Society of America (IDSA) guidelines which were released after the submission – but prior to publication – of the initial 2012 SHAUPC guidelines.11 The SHAUPC guidelines have undergone a 2014 update to reflect the most recent evidence. The lack of recommendations for acute otitis media or acute bronchitis by ICSI and IDSA may reflect the growing awareness that in the absence of complications, the majority of these cases, once diagnosed, do not benefit from antibiotics.12-15

### TABLE 2. Content and Format of Guidelines Referenced in This Paper

<table>
<thead>
<tr>
<th>Topics</th>
<th>SHAUPC</th>
<th>ICSI</th>
<th>Weiss et al</th>
<th>Jenkins et al</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Topics</strong></td>
<td>Pediatric rhinosinusitis</td>
<td>Streptococcal pharyngitis</td>
<td>Pharyngitis</td>
<td>Acute Bronchitis</td>
</tr>
<tr>
<td></td>
<td>Adult rhinosinusitis</td>
<td>Non-infectious rhinitis</td>
<td>Pediatric rhinosinusitis</td>
<td>Upper respiratory infection</td>
</tr>
<tr>
<td></td>
<td>Acute adult bronchitis</td>
<td>Bacterial sinusitis</td>
<td>Adult rhinosinusitis</td>
<td>Adult rhinosinusitis</td>
</tr>
<tr>
<td></td>
<td>Pediatric otitis media</td>
<td></td>
<td>Acute bronchitis and COPD</td>
<td>Pediatric rhinosinusitis</td>
</tr>
<tr>
<td></td>
<td>Pediatric pharyngitis</td>
<td>exacerbations</td>
<td></td>
<td>Acute pharyngitis</td>
</tr>
<tr>
<td></td>
<td>Adult pharyngitis</td>
<td>Otitis media</td>
<td></td>
<td>Adult UTI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clostridium difficile</td>
<td>Pediatric UTI</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Urinary tract infection (UTI)</td>
<td>Skin and soft tissue</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Community acquired</td>
<td>infections</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>pneumonia (CAP)</td>
<td>Adult CAP</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pediatric CAP</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute otitis media</td>
<td></td>
</tr>
</tbody>
</table>

| **Format** | Single page flow charts with medications, dosages, and clinical pearls. | 87 page document with 4 flow charts. | 2 pages per topic with medications and dosages. | Single page flow chart with medications, dosages, and clinical pearls. |
| **Disadvantages** | Similar in structure and content to proven tools but not yet validated in studies. | Little treatment info in algorithms. Length makes point of care use impractical. | Not as quick to use as others. | No symptomatic treatments. |
The format of the two guidelines significantly differ. While very comprehensive overall, the sparse supporting information included on the algorithm pages of ICSI's respiratory illness guidelines and the length of the narrative may limit their use for bedside decision-making to some degree. Conversely, the concise format of SHAUPC's guidelines is specifically designed to be used as point-of-care references, so the algorithms are more comprehensive in their condensed form without the need for the supporting text, though at the cost of some of the nuance presented by a more comprehensive narrative. The effectiveness of such concise, easy to use clinical decision support tools has been validated in several large, recent studies. The SHAUPC guidelines most resemble those developed by Jenkins et al. (Table 2) with the addition of more treatment and clinical pearls making them somewhat more comprehensive and therefore unique. Because they lead with an already-suspected diagnosis, the SHAUPC guidelines may be less useful for triage purposes, or for use by those with less-developed diagnostic skills, than are those of ICSI.

We have demonstrated that the process of developing antibiotic use guidelines locally and within a particular health system results in recommendations similar to those of a national guideline producing organization. The advantages of such regionally developed guidelines includes the ability to take into consideration local resistance patterns, both of the actual resistance of microbes and the “cultural resistance” of over-prescribers. This sensitivity to the regional setting permits a more evolutionary (vs. revolutionary) approach to implementing antibiotic stewardship programs, with the goal to encourage evidence-based prescribing patterns. There is a commitment to regularly update the SHAUPC guidelines to reflect the most recent national and regional data as part of a long term effort to influence antibiotic prescribing habits. For example, the changes in antibiotic recommendations of the updated IDSA document and from the American Academy of Pediatrics, are reflected in the current SHAUPC guidelines. These updates are incorporated into the Sanford electronic health record for point-of-care use and will soon be adopted beyond Sanford Sioux Falls region to all Sanford locations.

As noted, the SHAUPC guidelines have been incorporated into the Sanford Health electronic health record. Utilizing best practice alerts (BPA), a ‘pop up’ occurs when a diagnosis related to the above condition is entered and an antibiotic inconsistent with the guidelines is ordered. The BPA provides a hyperlink to clinical guidelines for each respective condition.

We are currently undertaking a study to evaluate the efficacy of the release of the SHAUPC guidelines, coupled with their incorporation into the electronic health record and accompanied by both professional and public education campaigns, in altering antibiotic usage patterns among Sanford Health providers. In addition, the South Dakota Department of Health has expressed interest in the SHAUPC guidelines for broader use within the provider community in South Dakota, under its efforts to improve antimicrobial utilization state-wide.

Conclusions

In summary, the content of the upper respiratory illness guidelines published by SHAUPC are comparable to the practice guidelines of ICSI with the only clinically relevant differences being: 1) antibiotic options for sinusitis, due to revised IDSA guidelines that were released after the development of the SHAUPC guidelines – which have been subsequently updated; 2) the inclusion of recommendations for acute otitis and acute bronchitis by SHAUPC; and 3) the differentiation of pediatric pharyngitis and sinusitis by SHAUPC as separate illnesses from their analogs in adults, thereby requiring separate guidelines. The specific format in which the respective guidelines are presented differs, and fit separate but overlapping niches. The SHAUPC guidelines format easily facilitates point-of-care use and incorporation into an electronic health record. As such they also afford the opportunity to study antibiotic prescribing going forward. Lastly, regional guidelines of this type, reflecting local expertise and promotion, hold the potential for broader adoption by public health organizations.

REFERENCES


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STD prevention is an essential primary care strategy for improving reproductive health. The cost of STDs to the U.S. health care system is estimated to be as much as $15.9 billion annually. Untreated STDs can lead to serious, often irreversible, and costly clinical complications, such as:

- Reproductive health problems
- Fetal and perinatal health problems
- Cancer
- Facilitation of the sexual transmission of HIV infection

Despite their burdens, costs, and complications, and the fact that they are largely preventable, STDs remain a significant public health problem in South Dakota.

Prevention and Control – ABC’s, PS, and EPT
The prevention and control of STDs are based on the following five major strategies:

- education and counseling of persons at risk on ways to avoid STDs through changes in sexual behaviors and use of recommended prevention services
- identification of asymptptomatically infected persons and of symptomatic persons unlikely to seek diagnostic and treatment services
- effective diagnosis, treatment, and counseling of infected persons
- evaluation, treatment, and counseling of sex partners of persons who are infected with an STD
- pre-exposure vaccination of persons at risk for vaccine-preventable STDs

ABC’s – Abstinence, Be monogamous, and use Condoms
A reliable way to avoid transmission of STDs is to abstain from oral, vaginal, and anal sex or to be in a long-term, mutually monogamous relationship with an uninfected partner. For persons who are being treated for an STD (or whose partners are undergoing treatment), counseling that encourages abstinence from sexual intercourse until completion of the entire course of medication is crucial. When used consistently and correctly, condoms are highly effective in preventing the sexual transmission of HIV infection.
PS – Partner Services

Partner services refer to a continuum of activities designed to increase the number of infected persons brought to treatment and disrupt transmission networks. Part of this continuum is partner notification — the process by which providers or public health staff learn about the sex- and needle-sharing partners of infected patients and help to arrange for partner evaluation and treatment. When partners are treated, index patients have reduced risk for reinfection. As providers you should encourage persons with STDs to notify their sex partners and urge them to seek medical evaluation and treatment. You can also ask patients to bring their partners with them when returning for treatment. Time spent with index patients to counsel them on the importance of notifying partners is associated with improved notification outcomes.

EPT – Expedited Partner Therapy

While the best way to treat STD’s is for partners to receive testing, treatment, and counseling, EPT can be a useful and effective tool for STD partner management. When patients diagnosed with chlamydia or gonorrhea providers can offer EPT, in which partners of infected persons are treated without previous medical evaluation or prevention counseling. The evidence supporting EPT is based on clinical trials that included heterosexual men and women with chlamydia or gonorrhea. The trials revealed that reductions in chlamydia prevalence at follow-up were approximately 20%; reductions in gonorrhea at follow-up were approximately 50%. Contact South Dakota’s STD program manager for a free supply of EPT packs to use at your clinics.

Patient Education and Counseling

Primary prevention of STDs begins with changing the sexual behaviors that place persons at risk for infection. Health-care providers have a unique opportunity to provide education and counseling to their patients. As part of the clinical interview, health-care providers should routinely and regularly obtain sexual histories from their patients and address management of risk reduction. Effective interviewing and counseling skills, characterized by respect, compassion, and a nonjudgmental attitude toward all patients, are essential to obtaining a thorough sexual history and to delivering prevention messages effectively.

Key techniques that can be effective in facilitating rapport with patients include the use of

- open-ended questions
- understandable language
- normalizing language

USPSTF recommends high-intensity behavioral counseling for all sexually active adolescents and for adults at increased risk for STDs and HIV. All providers should routinely obtain a sexual history from their patients and encourage risk-reduction using various strategies; effective delivery of prevention messages requires that providers communicate general risk-reduction messages relevant to the client and that providers educate the client about specific actions that can reduce the risk for STD/HIV transmission (e.g., abstinence, condom use, limiting the number of sex partners, modifying sexual practices, and vaccination).

### The Five P’s: Partners, Prevention of Pregnancy, Protection from STDs, Practices, and Past History of STDs

1. **Partners**
   - "Do you have sex with men, women, or both?"
   - "In the past 2 months, how many partners have you had sex with?"
   - "In the past 12 months, how many partners have you had sex with?"
   - "Is it possible that any of your sex partners in the past 12 months had sex with someone else while they were still in a sexual relationship with you?"

2. **Prevention of Pregnancy**
   - "What are you doing to prevent pregnancy?"

3. **Protection from STDs**
   - "What do you do to protect yourself from STDs and HIV?"

4. **Practices**
   - "To understand your risks for STDs, I need to understand the kind of sex you have had recently."
   - "Have you had vaginal sex, meaning ‘penis in vagina’?" If yes, "Do you use condoms: never, sometimes, or always?"
   - "Have you had anal sex, meaning ‘penis in rectum/anus’?" If yes, "Do you use condoms: never, sometimes, or always?"
   - "Have you had oral sex, meaning ‘mouth on penis/vagina’?"

For condom answers:

- If "never": "Why don’t you use condoms?"
- If "sometimes": "In what situations (or with whom) do you not use condoms?"

5. **Past history of STDs**
   - "Have you ever had an STD?"
   - "Have any of your partners had an STD?"

Additional questions to identify HIV and viral hepatitis risk include:

- "Have you or any of your partners ever injected drugs?"
- "Have any of your partners exchanged money or drugs for sex?"
- "Is there anything else about your sexual practices that I need to know about?"
Introduction

Specialized care of the premature infant continues long beyond the neonatal intensive care unit (NICU). In South Dakota in 2012, 10.7 percent of live births (approximately 12,000 infants) were premature (prior to 37 completed weeks). Most of these infants spent the first days to weeks of life in a NICU. Discharge from the NICU necessitates demonstration of physiologic stability; typically defined as successful oral feedings sufficient to support growth, stable body temperatures in an open crib and mature respiratory control. Follow-up care of the former preterm infant should focus on these and other unique conditions that primary care providers may rarely encounter. This review will focus on the most common NICU follow up issues.

Growth and Nutrition

Growth and nutrition should be a primary focus at all follow-up visits. Good nutrition is linked to improved neurologic development, bone density and overall growth. Catch-up growth is a term that refers to an unusually high velocity of growth to reach a constitutional growth trajectory after a reduction in growth rate associated with illness/malnutrition. In premature infants, catch-up growth attempts to correct deficits incurred prior to regaining birth weight or due to prolonged periods of inadequate nutrition during acute illness. Catch-up growth usually occurs over the first six to 24 months of life with little potential for catch up after 3 years of age. To properly follow growth in the outpatient setting, the infant’s corrected age should be plotted on a growth chart to monitor progression in weight, length and head circumference. Corrected age is the chronologic age reduced by the number of weeks the infant is born before 40 weeks gestation and should be used for the first two years of life to account for prematurity.

The preferred feeding at NICU discharge is human milk. Human milk may not be sufficient to provide the necessary calories, protein and minerals without supplementation. Commercial human milk fortifiers routinely used in the NICU are not available for outpatient use. Therefore, for the first six months after discharge, formula powder can be used to fortify several bottles of expressed mother’s milk per day or post-discharge formula can replace two to three breast feedings per day. If the infant is formula fed, a post-discharge formula should be used. These formulas are intended to be 22 calories per ounce, but can be mixed to provide 24-26 calories per ounce, and provide additional protein, vitamins and minerals. Use of nutrient-enriched post-discharge formulas is recommended for at least six and up to 12 months after NICU discharge based on individual assessment of growth.

The third trimester of pregnancy accounts for 80 percent of iron accretion in the fetus. Infants born prematurely are therefore deficient in total body iron. After preterm delivery, red blood cell (RBC) production is limited due to suppression of erythropoietin production, decreased RBC life-span, rapid weight gain and phlebotomy losses. The preterm infant will reach a hemoglobin nadir of 7-10 g/dL at five to eight weeks of life compared to 11 g/dL at eight to 12 weeks of life in full-term infants. The American Academy of Pediatrics (AAP) recommends that all preterm infants maintain an iron intake of at least 2 mg/kg per day through the first 12 months of life. This amount is generally provided in iron fortified formulas consumed at full volume. Infants receiving human milk should be provided an iron supplement by one month of age and

---

Table 1. Growth Velocity of Preterm Infants from Term to 24 Months

<table>
<thead>
<tr>
<th>Age from Term (months)</th>
<th>Weight (g/day)</th>
<th>Length (cm/mo)</th>
<th>Head Circumference (cm/month)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>26-40</td>
<td>3.4-5</td>
<td>1.5-2.5</td>
</tr>
<tr>
<td>4</td>
<td>15-25</td>
<td>2.3-3.6</td>
<td>0.8-1.4</td>
</tr>
<tr>
<td>8</td>
<td>12-17</td>
<td>1-2</td>
<td>0.3-0.8</td>
</tr>
<tr>
<td>12</td>
<td>9-12</td>
<td>0.8-1.5</td>
<td>0.2-0.4</td>
</tr>
<tr>
<td>18</td>
<td>4-10</td>
<td>0.7-1.3</td>
<td>0.1-0.4</td>
</tr>
</tbody>
</table>
continued until they transition to an iron fortified formula or consume sufficient solids to meet their iron needs. An individual infant’s transfusion state may alter the dose of iron required. Some of the most preterm infants will have received blood transfusions in the NICU and may be more iron replete than a more mature, less critically ill preterm infant who was not transfused. Therefore, individual iron needs vary between 2-4 mg/kg per day. One approach to follow up of infants discharged with a hemoglobin less than or equal to 9.5 (hematocrit = 29 percent) is to obtain a complete blood count (CBC) two weeks after discharge and one to two months later to assess adequacy of iron supplementation and allow dose adjustment if needed.9

Apnea of Prematurity

Apnea of prematurity is a manifestation of immature respiratory control and occurs in approximately 85 percent of infants born at less than 34 weeks gestation.8 In the most premature infants, apnea can persist beyond term gestation.11

Caffeine is commonly used to treat apnea of prematurity by acting through inhibition of adenosine receptors, thereby stimulating medullary respiratory centers, increasing carbon dioxide sensitivity, inducing bronchodilation and enhancing diaphragmatic function.12 Caffeine is often discontinued in the NICU around 33-35 weeks gestation, when apnea is expected to be resolving. Mature respiratory control can be assured by allowing some interval to pass between the last documented apnea event in the NICU and discharge home. Most neonatologists recommend an apnea-free period of five to seven days prior to discharge. This is controversial and is based mostly on experience as very few studies examining this issue exist.13 In some situations, an infant may be ready for discharge based on feeding skills and growth, but may still require caffeine due to persistent apnea. In these cases, infants will need to demonstrate respiratory stability on caffeine and then may be discharged with caffeine and an apnea monitor.

The use of home apnea monitors is regional and practice specific.14 Monitors are tools to capture and identify cardiorespiratory events, but do not eliminate the need to document maturity of respiratory control prior to discharge. They may be warranted for preterm infants at increased risk of persistent apnea, bradycardia and hypoxemia after discharge. Home monitors are not indicated for prevention of sudden infant death syndrome (SIDS) in preterm infants.15 SIDS prevention strategies, including supine sleep position with the face uncovered, elimination of tobacco smoke exposure, avoidance of overheating, and a firm sleeping surface without loose bedding or crib toys are of paramount importance in this high-risk population.

Safe transportation of preterm infants requires special consideration due to their relative hypotonia and risk of airway obstruction. The AAP recommends neonates born at less than 37 weeks gestation undergo a pre-discharge infant car seat challenge to assess maturation of respiratory control and safety for discharge.16 The challenge is a 90-120 minute period of monitoring for oxygen desaturation, apnea or bradycardia while in the semi-upright position in the infant’s own car seat. Failure of the challenge may necessitate seat adjustments, longer hospitalization to allow maturation, or use of a car bed. A car bed places the infant in a fully reclined position with the bed positioned perpendicular to the direction of travel. If an infant is discharged in a car bed, a car seat challenge in the infant’s own standard car seat should be performed in the office five to eight weeks after discharge to assure readiness for transition.

Bronchopulmonary Dysplasia and Home Oxygen Use

Bronchopulmonary dysplasia (BPD) is a disorder of the premature airways and lung parenchyma following interface of the lung with oxygen and positive pressure ventilation. The incidence of BPD increases with the extent of prematurity. It is estimated that 20-35 percent of very low birth weight and extremely low birth weight infants develop BPD.17 Severity-based diagnostic criteria for BPD were developed in 2001 and necessitate the preterm infant to require greater than 21 percent oxygen for at least 28 days. The severity of BPD is stratified by the level of oxygen and/or positive pressure requirement at 36 weeks postmenstrual age.18 Infants with BPD may have significantly reduced lung function past 2 years of age and are at increased risk for significant respiratory complications, including re-hospitalization and hypoxia due to both upper and lower respiratory tract illnesses.19

Infants with BPD may require supplemental oxygen at home to maintain oxygen saturations at 95 percent or greater and to promote growth and repair of the lungs.20 This need often ranges from one-eighth to 1 liter per minute by nasal cannula and typically resolves by 2 years of age.21 Oxygen needs usually increase with acute illness or may be higher with sleep. All infants on home oxygen should be followed by a pulmonologist, as this has been shown to decrease the number of health care visits and admissions.22 Communication is key; primary care
providers should be aware of the pulmonologist’s management strategies and should inform them of significant changes. Infants that are on diuretics for severe BPD should be screened for electrolyte imbalances during acute illness. Attempts to wean oxygen should not occur until infants are medically and nutritionally stable. Infants are typically weaned completely off day time oxygen before nighttime weaning occurs due to altered lung mechanics and irregular breathing during sleep. In the clinic, pulmonologists may use spot check oximetry and observation while in room air to determine the need for day time oxygen. Pneumogram or overnight pulse oximetry is often used to document the safety of discontinuing night time oxygen.

Immunizations

A common misconception about premature infants is that their immune systems cannot mount an appropriate response to vaccination. In 2003, an AAP report concluded that the evidence demonstrates the safety and efficacy of vaccination for preterm infants. The AAP recommends that routine vaccinations be administered to all clinically stable preterm infants at the same chronologic age (not corrected for prematurity) as full-term infants (with the exception of the birth dose of hepatitis B vaccine, which may be delayed due to birth weight). Vaccine doses should not be reduced, nor should they be spread out to reduce the number of vaccines given at one time. The AAP further recommends that the influenza vaccine be administered as soon as possible after six months of age, with two doses given one month apart for the initial vaccination. Family members and care givers should be immunized to minimize exposure of the infant.

Palivizumab (trade name Synagis) is a monoclonal antibody that provides passive immunization against respiratory syncytial virus (RSV). It has significantly reduced the burden of RSV infections and hospitalization rates in preterm infants when given as monthly prophylaxis during the RSV season. In July 2014, modified recommendations for the administration of palivizumab were released by the AAP, intended to replace the AAP’s 2012 statement. Previously, RSV prophylaxis was recommended for all infants born under 32 weeks gestational age (GA) and select infants born between 32-35 weeks GA based on risk factors or medical conditions. The updated guidelines recommend prophylaxis for all infants born under 29 weeks GA who are less than 1 year of age at the start of RSV season (typically November 1st in South Dakota). Premature infants born over 29 weeks GA may qualify based on other medical conditions such as significant congenital heart disease, BPD or neuromuscular disorders leading to respiratory compromise if under 1 year of age. Prophylaxis in the second year of life is now reserved for children with significant BPD (i.e., requiring supplemental oxygen, diuretics, corticosteroids or bronchodilator therapy). Any infant qualifying for palivizumab should be given five doses, or covered until the end of RSV season (typically April through May in South Dakota). Questions about administration can be referred to a neonatologist, pulmonologist or cardiologist. Coverage should be confirmed with individual insurance companies prior to administration, as use outside of recommended indications may be declined.

Retinopathy of Prematurity

Retinopathy of prematurity (ROP) is an eye disorder exclusively of premature infants. ROP has the potential to cause severe, irreversible visual impairment, retinal detachment and blindness. The incidence is approximately 0.12 percent in all live births, but the relative risk and severity of the disease increases with the extent of prematurity. In utero, the retinal blood supply develops from the optic disk anteriorly and is driven by growth factors which are modified by oxygen levels. Complications of premature birth often expose these developing vessels to hypoxic or hyperoxic injury, which can lead to abnormal vascular proliferation and arrest of proper retinal development. Severe ROP can be prevented or curtailed by surgical intervention, therefore premature infants at risk require ophthalmologic screening beginning at four weeks of age, when the findings of ROP begin to develop. Follow-up examinations are scheduled based on the extent and severity of retinal findings, and continued until the retinas are mature. The primary care physician must ensure that premature infants have received necessary screening and follow up for ROP. More information on the classification and screening schedule of ROP is available from the AAP.

Central Nervous System Disorders

Premature infants are at risk for poor neurologic and developmental outcomes. Follow-up is a shared responsibility of the NICU follow-up clinic, primary care provider and the state’s early intervention program. The central nervous system disorders with the highest risk of poor neurologic outcomes include grade III or IV intraventricular hemorrhage (IVH), post-hemorrhagic hydrocephalus, periventricular leukomalacia (PVL), seizures and meningitis.
The germinal matrix in the premature brain is a highly vascular, poorly supported, immature region of developing neuronal cells that is the site of origin of intraventricular hemorrhage. IVH is graded by severity from 1, the mildest, to 4, the most severe, with hemorrhage destroying the germinal matrix and causing infarction of surrounding tissues. Some infants may develop post-hemorrhagic hydrocephalus secondary to IVH and require ventricular shunt placement. The head circumference of infants with a shunt should be monitored monthly for rapid increase suggesting shunt malfunction or poor growth suggesting impaired brain development. Shunts are at risk for obstruction which may present with poor feeding, emesis, irritability, lethargy, apnea or seizures. A CT scan of the brain can be performed and compared to previous imaging to assess ventricular size. Symptoms of shunt infection include fever, irritability, skin changes, or abdominal tenderness. Cerebrospinal fluid may be obtained by tapping the shunt reservoir or by lumbar puncture to identify a bacterial etiology (most commonly Staphylococcus species) and guide antibiotic therapy. Neurosurgery should be consulted urgently if obstruction or infection of a shunt is suspected.

Periventricular leukomalacia, caused by ischemic infarction of white matter, is highly associated with cerebral palsy. Over the first four to six months corrected GA, this may manifest as central hypotonia. From six to 12 months of corrected GA, increased muscle tone, especially in the lower extremities (spastic diplegia), may be noted. Parents may report stiffening of the legs with standing or slower development in motor function compared to children of similar age. Physical and occupational therapy are beneficial, while pediatric neurology or physical medicine and rehabilitation are needed in cases where splints, orthotics, or other supportive therapies are needed. Many of these infants improve significantly over the first few years with appropriate therapy.

Neonatal seizures occur in 0.1-0.5 percent of newborns and have numerous etiologies. Seizures in infants vary from subtle (eye blinking, chewing, lip smacking, or boxing/swimming limb movements), to clonic, tonic or myoclonic. Seizures may resolve over the first months of life, but some may be associated with long-term neurodevelopmental sequelae. Infants with persistent seizures are discharged primarily on Phenobarbital although Levetiracetam has recently been used. Appropriate blood levels need to be maintained (Phenobarbital: 20-40 mg/dl, Levetiracetam: 10-40 mcg/ml) as the infant grows. If seizures recur, anticonvulsant levels can be obtained and discussed with the pediatric neurologist following the infant. Outpatient electroencephalogram (EEG) follow-up typically occurs two to three months after discharge. If no clinical seizures have been reported and the EEG is reassuring, the anticonvulsant may be discontinued by the neurologist.

Social Challenges of Prematurity and Non-Accidental Trauma

Due to their medical complexity, the care of the preterm infant often comes with unique social challenges. Families may experience anxiety when discharged, financial burdens, and frequent travel for health care follow-up. These can lead to physical, mental and emotional exhaustion, increasing the risk of non-accidental harm inflicted on an infant. Nearly one-quarter of all child abuse cases in South Dakota occur in children less than 2 years of age – above the national average. Prematurity, especially delivery under 28 weeks, has been shown to be an independent risk factor for child abuse resulting in infant death. Physicians should screen for postpartum depression and provide routine education on stress management, the harms of shaken baby syndrome, and normal infant crying to help prevent neglect and abuse.

Assistance in the home can help alleviate some of the stresses of caring for medically complex infants. South Dakota participates in the federal early intervention program for infants and toddlers with disabilities (Birth to 3 Program), designed for children up to age 3 with developmental delays or disabilities. With referral, Birth to 3 staff performs an in-home child assessment and establishes a plan of care, referred to as an individual family service plan. Physicians may arrange the assessment or parents may self-refer. Information about Birth to 3 is available on its website.
### Primers in Medicine

#### REFERENCES


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In the past few years, changes in health care have aimed to improve quality of care and reduce overall costs. There has been an accompanying shift in payment models from the traditional “fee-for-service” to the “pay-for-performance” model. This new model hopes to reduce costs and improve quality by providing incentives for providers who deliver a higher quality of care. This idea is not new for prescribers and hospitals, but it is becoming more prominent in the field of pharmacy.

The Centers for Medicare and Medicaid Services (CMS) and other national organizations have established a number of quality measures to provide a “standardized, objective, and quantifiable definition of quality.” These tools measure health care processes, outcomes, consumer opinions, and organizational structures or systems relating to health care quality goals of effective, safe, efficient, patient-centered, equitable and timely care. CMS has a particular interest in improving value and lowering overall costs. For a few years now, they have been evaluating preventable hospital readmissions for certain disease states, among other standards, in hospitals. CMS is rating health plans, which in turn are applying similar quality measures to pharmacy practice.

The Medicare Star Ratings were established in 2007 to rate the quality of Medicare Advantage (Part C) and Medicare Part D prescription drug plans and reward plans providing higher quality care. The plans are rated on a 1-5 star scale (at half-star increments) with 5 stars indicating the highest quality plans. The ratings are publicly available on the Medicare Plan Finder and CMS website, and plans with higher ratings have been linked to higher patient enrollment. Plans with 5-star ratings have an added benefit of year-round open enrollment. Furthermore, Medicare Advantage plans with 4 stars or higher are eligible for quality bonus payments. Conversely, plans with low ratings are marked with a low performing icon, cannot offer online enrollment through the Medicare Plan Finder, and, starting in 2015, can be terminated by CMS after three years of low ratings. The star ratings are calculated from up to 48 different measures in potentially nine different domains and include measures such as health screenings, chronic condition management, and drug plan customer service. The star ratings for the current year are based off the data from two years prior, so ratings the public will see in the fall of this year before open enrollment will be calculated from 2013 statistics. Starting this year, approximately half of a Medicare Part D plan’s rating will come from five medication-related measures that are given more weight on star ratings than other measures.

With medication-related measures comprising such a large portion of a Medicare Part D plan’s rating, pharmacies have the potential to make a huge impact on a plan’s rating. Insurance plans have tried many approaches to improving the star ratings, but one way that many are considering now is to collaborate with health care professionals, including pharmacists. Beyond the day-to-day dispensing of medications, pharmacists can contribute by providing immunizations, medication therapy management, medication reconciliation, health screenings and adherence evaluations for patients. Not only do these efforts mean better care for patients, it also positively impacts the plan’s star ratings. In addition, pharmacies with higher performance based on the quality measures for health plans may be more likely to be included in the health plan’s preferred pharmacy network. Private insurance plans, Medicaid, and others are following suit in an attempt to collaborate with pharmacy professionals and improve care and quality measures.

Due to these changes, prescribers may expect more collaboration with pharmacists. It should be a collective goal to work as a team to improve patient care – collaboration will not be successful with reluctant or unwilling partners. Pharmacists may be contacting prescribers with recommendations regarding individual patients not meeting specific quality metrics according to the data.
measures are continuously being developed, the following or similar issues are expected to be rated: 1

• Management of high-risk medications in the elderly – Pharmacists may call to address a concern about new prescriptions for patients 65 or older that are expected to put the patient at high risk of experiencing an adverse drug-related event when there may be safer choices, or if they identify a medication being used in an elderly patient potentially causing problems. 1 Pharmacists can serve as a good resource to suggest alternatives. In order to be aware of which medications to avoid prescribing in this population, it may be helpful to view the list of high-risk medications (HRM) considered when determining star ratings. The list is adapted from the 2012 American Geriatric Society Beers Criteria for Potentially Inappropriate Medication Use in Older Adults and available on the Pharmacy Quality Alliance website. 7

• Comprehensive medication reviews (CMRs) – Currently, this is a “display measure” being tested before it’s formally included as part of the star ratings. 1 Starting in 2016, Medicare Part D plans could be rated on CMR completion rates. This may lead to a variety of medication-related recommendations from pharmacists, but it will require collaboration to implement these reviews due to the current lack of patient records in the community setting.

Ultimately, Medicare is implementing the 5-star rating system to benefit patients through improved quality and decreased costs. With greater attention to how pharmacies can impact star ratings, more opportunities for pharmacists to help optimize medication use and positively impact patient care will be made available; however, pharmacy collaboration with health plans, payers, prescribers and patients will be necessary to improve quality measures to benefit all parties involved.

**REFERENCES**


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Thank You!
for adding quality to the ‘CARE’ in DAKOTACARE

In 1986, the physicians of our state created DAKOTACARE because they believed a health care plan should be locally owned and directed. Today, DAKOTACARE continues to improve on making healthcare coverage and services provided by South Dakota physicians a seamless process.

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ACCREDITED HEALTH PLAN WITH HEALTH INSURANCE MARKETPLACE
Much to the horror and heartache to her primary care provider, a young woman commits suicide shortly after receiving a diagnosis of infertility. The well-intentioned physician never saw this coming and can’t but help to question if this could have been avoided.

Over the next few minutes, I would like to talk to you about mental illness. As we all well know, people with mental illness are seen in the primary care setting more than any other setting; however, studies show that well over half of primary care doctors are not successful in referring patients to mental health professionals in their community for a variety of reasons. In South Dakota, the lack of available services for those with mental illness would be primary.

While it is well known that 44 of South Dakota’s 65 counties (67.6 percent) are classified as health professional shortage areas for primary medical care, what is not often discussed is the fact that 92.3 percent (60 out of 65) are shortage areas for mental health care.

Mental illness causes more disability than any other class of illness. One in four people experience mental illness at some point in their lives; twice as many people live with schizophrenia than HIV/AIDS. South Dakota State Medical Association members who provide psychiatric services to those with mental illness agree there is a lack of adequate community-based services for those with mental illness and, therefore, we need to rely more heavily on the primary care providers of our state.

So what does this have to do with smoking? According to a 2013 UK report, smoking may be a key signal for psychiatric illness. According to the report, which found one-third of smokers have mental health disorders, almost one in every three cigarettes consumed in the UK are used by someone with a mental disorder. Additionally, when those with drug and alcohol problems are included, the proportion is even higher.

The report, published by the Royal College of Physicians and the Royal College of Psychiatrists, states that while smoking rates have fallen dramatically among the general public, from 56 percent in men and 43 percent in women in the early 1960s to 21 percent in both sexes today, the smoking rates have hardly changed among people with mental health disorders – the incidence of smoking among those with mental illness remains at over 40 percent. It is reasonable to assume these rates are equivalent in the U.S.

While persuading those with mental health disorders to give up smoking has always been a major challenge, so is identifying smokers who might need psychiatric treatment. Would a simple tobacco utilization screen have prevented the loss of life mentioned in the opening comments of this article? It is highly speculative; however, routinely screening for tobacco utilization and/or considering whether or not someone presenting with a chronic cough (or other smoking-related condition) may benefit from treatment for depression or a referral for mental health services may save a life.

There is a growing awareness that many health problems are negatively affected by one’s mental health. Day in and day out, primary care providers see a significant proportion of common presenting symptoms such as fatigue, abdominal pain, and back pain for which we are unable to find a specific cause. Perhaps if we better understood our patients’ psychosocial stressors, their adverse childhood experiences, and/or were better at identifying common mental and behavioral conditions such as depression, anxiety, and substance abuse/addiction, we would better understand what is driving their symptoms and how to best treat them. Smoking can cause unique issues for people with mental illness. Nicotine has mood-altering effects that put people with mental illness at higher risk for cigarette use and nicotine addiction.

Smoking has become the domain of the most disadvantaged: the poor, homeless, imprisoned and those with mental disorder. Therefore, I encourage you to ask every patient,
during every visit, about their tobacco utilization, and in doing so, keep in mind that their tobacco utilization may be a sign of a deeper psychological issue/concern. Recent research has shown that adult smokers with mental illness – like other smokers – want to quit, can quit, and benefit from proven stop-smoking treatments. These treatments need to be made available to people with mental illness and tailored as needed to address the unique issues this population faces.

Finally, I encourage you to acquaint yourself with the services of the South Dakota QuitLine (800-SD-QUIT(S)) which offers free medications and counseling for those attempting to quit tobacco products. Of note, the QuitLine has trained counselors in place to offer support for those trying to quit, and in doing so, are attempting to be better at identifying and supporting those with mental illness. These counselors receive specific training to make the necessary referrals when mental illness may be present as a co-morbidity.

As a physician, you are pivotal in ensuring the health and well-being of our neighbors, families and friends. So please:

ASK about tobacco use
ADVISE tobacco users to quit
REFER to a resource, such as the South Dakota QuitLine.
In a recent paper describing a mystery surrounding an unusual footnote in Osler’s posthumously published The Evolution of Modern Medicine,1 Travers showed that the footnote, asserting that Stonewall Jackson believed in astrology, was not factual. He suggested that Osler himself did not write it. A subsequent search of the Osler papers at McGill University produced conclusive evidence that Osler, in fact, did write the footnote, but the reason(s) why remain unknown. The present communication describes this evidence and offers a possible explanation.

Edited galley proofs of The Evolution of Modern Medicine in the McGill University Osler Library (BO7652, page 2322) contain a page where, in Osler’s handwriting, the footnote is added to the original text (Figure 1). The undated handwritten footnote differs from that in the published book: a) the location and publication date of Keel and Saddle were added; b) the date “May 2” was added prior to the year 1863; and c) the last phrase was changed from “...Revere saw Jackson’s death” to “...Revere saw Jackson mortally wounded.” These changes are typical of editors, and it is likely that they were made by one of them, either Fielding Garrison or William W. Francis.

While Osler probably had access to a copy of Keel and Saddle (hence the relative accuracy of his handwritten note), this assumption cannot be confirmed since no list of books in Osler’s personal library – that is, the household library that was not part of the Bibliotheca Osleriana – exists (Christopher Lyons, Osler Library, McGill University, personal communication).
In addition to the identity of the editor, the question of why Osler would have included the footnote remains. There is evidence that Osler was familiar with spiritualism and he referred to it through a story by his personal acquaintance, Rudyard Kipling, in his manuscript just following his Jackson footnote. His interest in the general topic of spirituality in medicine, the probable availability of Keel and Saddle and the fact that its author was kin to his wife all probably led to the footnote’s inclusion.

The historical imprecision of his original handwritten note is not in keeping with the usual care Osler had for the accuracy of his writings, suggesting that he added the footnote rather late in his editing labors. Letters between the book’s publishers and Osler over several years confirm a long delay in the manuscript’s preparation. Beginning in 1915, the first World War and his son, Revere’s, involvement in it were significant concerns for the Oslers and probably did not permit a single-minded focus on editing tasks. After Revere’s death in late August 1917, Osler lost interest in serious writing.

### REFERENCES

3. Harvey Cushing Fonds. CUS417/35.10, Osler Library, McGill University, Toronto, Canada; Letter, Kipling to Osler, November 20, 1909.
4. Letter, Osler to Stokes, 7 June 1915, Osler Library Archives, McGill University, P417, Harvey Cushing Fonds.

About the Author:
Henry Travers, MD, FACP; Clinical Professor of Pathology; University of South Dakota Sanford School of Medicine.
Given that summer is upon us and we all need/deserve a break, I have elected to take editorial liberty this month and move away from this year’s series on healthcare quality to write about something more personal. If I was better at pre-planning, this article would have shown up in last month’s June issue, arriving on your doorstep in time for Father’s Day. Realizing many of you are not fathers, but mothers, aunts, or uncles I hope my words nonetheless have equal meaning to you as well.

Eight years ago this month I made a difficult decision to leave private practice to pursue a venture that was unique and somewhat foreign to me, medical director of a health plan. I am very thankful to DAKOTACARE for giving me this opportunity and hope I have used my skills and passions in a way to not only strengthen this company, but better promote positive health behaviors while advocating for physicians in South Dakota. My role continues to evolve and my excitement for where this company is headed has not diminished.

The difficulty in leaving practice was in walking away from the honor of actively participating in people’s lives through primary care. As I look back now, the transition wasn’t overly traumatic as I have never wished to be remembered for professional accomplishments in my life, but for accomplishments of a more personal nature. As physicians we have all been given certain talents/gifts. For me the gift I have cherished the most is that of being a parent. In my case, the gift has come in the form of three sons, now unbelievably all in their 20’s. I cannot think of a more important goal in my life to pursue than doing what I can to help them find/identify and follow their passions. It has not been without challenges, all of which can be overcome with faith, supportive family and good friends.

I encourage all of you as parents to avoid the “jealous mistress” that a career in medicine can have on our lives. Allow adequate time in your schedule for your spouse and your children. Take that regular day off to re-energize. Delegate non-essential tasks to others, especially at work. Coach a sporting team, be involved in their lives – difficult as it may seem when they’re teenagers. Actions always speak louder than words as a parent; don’t think they’re not watching you constantly. I’m sure you have heard these suggestions before, but I’m hoping a new physician will read this and perhaps be enlightened. The early years of your children’s lives are essential for you to be around. Live your life more like a marathon than a sprint. You will be much happier.

I can never thank my parents enough for the family-centered values they have instilled in my brothers and me. We take for granted parents will always be around. I’m now watching many close family members deal with health issues surrounding advancing age and it’s tough to watch, especially as a physician. Mom/Dad, I love you greatly. Thanks for keeping me focused on what’s truly important in life.

Heart-felt thank you as well to those of you who have provided me with support during my journey thus far, many of you are physicians in this great state and I am grateful for your friendship. I am learning still, especially that parenting is a life-long process. Mathew, Jacob, Nicholas – thank you for putting up with me all of these years. Good luck in your journey(s), I hope I have helped lead you down the right path. Love, Dad
Patient, resident and family engagement is no longer a buzzword or fad but rather a strategy that health care systems have embraced as an integral part of improving quality and safety for residents and patients. Beyond involving patients, residents and family in their own care while receiving treatment, health care organizations that are leaders in patient and family engagement are integrating them as advisors on improvement efforts. This is the next frontier of patient, resident and family engagement—using the experience, expertise and insight of patients to improve care.

As the regional Quality Innovation Network-Quality Improvement Organization (QIN-QIO), Great Plains QIN recognizes the need to integrate patient, resident and family member perspective as a valuable “voice” in our quality improvement efforts. It is with this in mind that “Voices for Quality Healthcare” (or V4QH for short) is being established as the patient and family engagement advisory board for Great Plains QIN/South Dakota to represent patient, resident and family points of view, perspectives and experiences so that we can better understand issues that impact patient care. The first meeting of V4QH is scheduled for June with a small group of consumers.

Following are the objectives envisioned:

- Establish positive, productive and collaborative partnerships with Medicare beneficiaries and/or their family members/patient and resident advocates/representatives.
- Seek input on patient and family education outreach materials.
- Generate program implementation ideas to benefit patients, family members and caregivers.
- Promote awareness of opportunities and key resources that will help patients and family members navigate the health care system and access preventive care information and initiatives.
- Identify an effective mechanism for receiving and responding to consumer input.
- Promote respectful, effective partnerships between patients, residents, family members and health care professionals.
- Build a broader base of Medicare beneficiaries who would be willing to be engaged and participate in Learning and Action Networks.
- Through these efforts and information sharing, improve care offered to and received by individuals in our state and region.

As a health care professional you meet patients, residents and family members every day. If you know someone who might be interested in being a part of the V4QH advisory board, please let us know and we will extend them an invitation to participate. Voices for Quality Healthcare contacts are Linda Penisten (linda.penisten@area-a.hcqis.org), Sue Johannsen (susan.johannsen@area-a.hcqis.org) and Lori Hintz (lori.hintz@area-a.hcqis.org). Great Plains QIN/South Dakota is located at 2600 W. 49th St., Suite 300, Sioux Falls, SD 57105 or we can be reached by phone at 605.336.3505.
“Every once in a while, my heart seems to be jumping out of my chest, I get a weak feeling and short of breath,” the patient explained. When I listened with my stethoscope, his rhythm was different than the usual lub-dub, foot-tapping sounds, which are regular as a band marching through town on a summertime parade. Instead, his heart had the irregular rhythm of popping corn, chaotic and unpredictable, and I couldn't tap my foot to it.

As predicted, the EKG showed the rhythm of atrial fibrillation, with the atrial rate running at three to 400 beats a minute, and the ventricular rhythm chaotic, as the experts say, irregularly-irregular at about 150 beats per minute. Atrial fibrillation, or A fib, is the most common abnormal heart rhythm condition; it afflicts about 1 percent of the total population, more than 2 million people in the U.S., and 8 percent of all those older than 80 years of age.

There are many causes for A fib, including long standing high blood pressure, coronary artery blockage, sleep apnea, too tight or leaky heart valves, too much or too little thyroid hormone, blood clots to the lung, an inherited conduction system or wiring condition, excessive amounts of tobacco, coffee, alcohol, or amphetamine, a viral infection involving the heart, stress of any kind, or just an old and weak heart.

There are two main reasons we need to do something about this rhythm abnormality. Most devastating can be the clots that can form in the atria since they are not emptying effectively, resulting in something like 10 to 25 percent of all strokes to the brain. Second, the ventricles are not efficient pumps when atria are fibrillating and even worse so when the ventricles are beating at 150 beats a minute.

So with A fib we have to slow the heart down, thin the blood to prevent strokes, and sometimes even bring the rhythm back to normal when we can. While we are at it, physicians need to study why A fib happened in this particular case. It is a complex and interesting condition, and there is a lot of debate about what kind of blood thinners to prescribe, what kind of rhythm control drugs to use, and when to use surgery and pacemaker treatments.

But the bottom line about A fib is that good treatment by your general or cardiology physician can prevent problems and allow a normal life, even with the heart rhythm as irregular as popping corn.
SDBMOE Board News

By Margaret B. Hansen, PA-C, MPAS, Executive Director, South Dakota Board of Medical and Osteopathic Examiners

About the Board

The South Dakota Board of Medical and Osteopathic Examiners (SDBMOE) protects the health and welfare of the state’s citizens by ensuring that qualified medical health care professionals are licensed to practice in South Dakota.

The Board licenses and regulates over 9,000 licensees within 13 different medical professions:

- Advanced Life Support Personnel
- Athletic Trainers
- Genetic Counselors
- Dietitians/Nutritionists
- Medical Assistants
- Physician Surgeons
- Medical Corporation or Limited Liability Company
- Occupational Therapists
- Occupational Therapy Assistants
- Physical Therapists
- Physical Therapist Assistants
- Physician Assistants
- Physician Assistant Corporation or Limited Liability Company
- Respiratory Therapists

Advisory Committees to the Board represent the following professions:

- Advanced Life Support Personnel
- Athletic Trainers
- Genetic Counselors
- Dietitians/Nutritionists
- Occupational Therapists
- Physical Therapists
- Physical Therapist Assistants
- Physician Assistants
- Respiratory Therapists

The Board supports and promotes the Health Professionals Advocacy Program (HPAP) which administers a program to advocate for, and monitor, the recovery and/or rehabilitation of impaired licensees. Visit www.mwhms.com/hpap.html for more information.

The Board has been authorized by the South Dakota Legislature to establish regulations by proposing legislation or adopting administrative rules. The current proposed administrative rules can be accessed on the Board’s website at http://sdbmoe.gov/ (see screenshot).

The Board meets quarterly, or more often as needed, and the meetings are open to the public. The meeting agenda is posted to the Board website, sdbmoe.gov, and on the front door of the Board office building.

The Board has nine volunteer members: six allopathic physicians, or doctors of medicine (MD), and one osteopathic physician, or doctor of osteopathic medicine (DO), and two non-physician or lay person members (defined in statute as “…users of the services regulated by the board. One lay member may be a nonphysician health care professional licensed by the board”). All of the Board members are appointed by the governor and may serve on the Board for a three-year term with the possibility of two reappointments for a nine-year total term limit.

All final decisions are made by the full Board. The Board uses advisory committees, panels, and the Board staff to assist with recommendations for final decisions. The advisory committees are approved by, and assist, the full Board. The Board employs a professional staff comprised of an executive director and support staff to assist the Board in the regulation of its licensees.

The Board is an agency administratively assigned to the South Dakota Department of Health. The Board does not receive a general fund appropriation. It is funded solely by the fees collected.
Thank you to these organizations for their support of SDSMA’s Annual Meeting

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For Your Benefit:

Get Involved with the SDSMA

Thank you for your membership in the South Dakota State Medical Association. As a member, you have several direct opportunities to become more involved in the important work of the SDSMA:

• The SDSMA Annual Meeting – for business, continuing medical education and networking opportunities;
• Doctor of the Day – serve as the physician for the South Dakota State Legislature for one day during session;
• Physician lobbyist – serve as a volunteer lobbyist during the legislative session;
• SDSMA PAC – help friends of medicine become elected officials and lawmakers;
• SDSMA committees and task forces – serve the organization and yourself;
• SDSMA appointments to state boards, committees and commissions – the SDSMA is asked to nominate and recommend physicians to fill positions to numerous vacancies every year;
• Membership sections for medical students, residents, young physicians, and senior physicians – needs vary at different points throughout a physician’s career, and we need leaders at each stage; and
• Districts and specialty societies – for local involvement.

If you’d like to get involved, give us a call at 605.336.1965 or visit www.sdsmoa.org for more information.

“For Your Benefit” is the SDSMA’s monthly update on programs and services available to physicians through their affiliation with the SDSMA.

SDSMA Leaders Announced at Annual Meeting

President Tim Ridgway, MD, became the 134th president of the SDSMA on May 29 at the association’s annual banquet at the Hilton Garden Inn, Downtown Sioux Falls. Dr. Ridgway has been a member of the SDSMA since 1993. Other officers announced during the SDSMA Annual Meeting are:

• President-elect – H. Thomas Hermann, MD, of Sturgis
• Vice President – Robert E. Van Demark, Jr., MD, of Sioux Falls
• Secretary – Christopher T. Dietrich, MD, of Rapid City
• Treasurer – Michelle Baack, MD, of Sioux Falls
• At-Large Executive Committee Member – Benjamin Aaker, MD, of Sioux Falls
• At-Large Executive Committee member – Robert J. Summerer, DO, of Madison
• SDSMA Delegate to the American Medical Association – Mary S. Carpenter, MD, of Winner
• SDSMA Alternate Delegate to the American Medical Association – Robert L. Allison, MD, of Pierre

Congratulations to all officers elected. Read more about the officers at www.sdsmoa.org.

Source: SDSMA staff
The SDSMA honored South Dakota physicians on May 29 at the association’s annual banquet at the Hilton Garden Inn, Downtown Sioux Falls.

The SDSMA’s Distinguished Service Award recognizes a physician or lay person who has been of outstanding service to the medical profession in South Dakota. This year’s Distinguished Service Award was presented to Keith Hansen, MD, of Sioux Falls.

The Outstanding Young Physician Award was presented to Benjamin Aaker, MD, of Sioux Falls. This award is given to a young physician under 40 or within the first eight years of professional practice after residency and fellowship training. This physician is recognized for outstanding achievements, dedication and service to the community and the SDSMA at the local, state and national levels.

The SDSMA’s Community Service Award is presented each year to a physician who separates himself or herself through outstanding work in the area of community affairs. This year’s recipient is Gene Burrish, MD, of Sioux Falls.

Stephen Eckrich, MD, of Rapid City, received the SDSMA’s Media Award. The Media Award recognizes an individual who has helped promote the medical field and medical issues.

The Young at Heart Award is presented to a physician who has inspired young physicians as a mentor, role model and leader. This year’s recipient is Tom Huber, MD, of Pierre.

Dan Heinemann, MD, of Canton, received the SDSMA’s Past President’s Award. This award is presented each year to the immediate past president of the SDSMA in recognition of their many years of work and dedication to organized medicine.

Ten physicians were recognized with the SDSMA’s 50-Year Award for medical practice in South Dakota. Physicians who received that award were: John Barlow, MD, of Rapid City, Thomas Bunker, MD, of Minneapolis, Juan Chavier, MD, of Aberdeen, Allan Dewald, MD, of Rapid City, Harold Fromm, MD, of Rapid City, Warren Goliher, MD, of Spearfish, Douglas Pay, MD, of Sioux Falls, Streeter Shining, MD, of Rapid City, Jerry Walton, MD, of Sioux Falls, and James Wunder, MD, of Mobridge. These physicians have been practicing medicine for a half-century and have contributed greatly to the medical profession.

Source: SDSMA staff

**Annual Meeting Presentations Posted Online**

Were you unable to attend the SDSMA Annual Meeting on May 29, but would like to view the educational presentations? Or did you attend the speaker sessions and wish to review the slides? If so, presentations are easy to access at www.sdsm.org.

Presentation slides from the Annual Meeting have been posted online for download. The full listing of presentations available for download are the following:

- The Future Has Arrived - Medical School Update - Mary D. Nettleman, MD
- Improving the Health of the Nation: The Power of the Physician Voice in a Time of Change - Ardis Dee Hoven, MD
- Meeting the Challenges Ahead: Solutions to Preventing Stress and Burnout - Deb Wood, PhD
- Winds of Change: Emerging Issues in Payment Models - David Basel, MD
- Transforming Care Through a Better Understanding of Our Patients - Dan Heinemann, MD
- Team-based Care: Physician Leaders as Key Facilitators: Deb Wood, PhD

Source: SDSMA staff
The Issue Is...  

IPA Repeal Bill Passes in House

A bipartisan measure that would repeal the Independent Payment Advisory Board (IPAB) has passed the U.S. House of Representatives’ Ways and Means Committee.

The Affordable Care Act calls for creating the 15-member IPAB to extend Medicare solvency and reduce spending growth by using a spending target system and fast-track legislative approval process. The yet-to-be-appointed board would reduce Medicare spending only by cutting payments to physicians and other health care providers. The panel could not make changes in benefits or in patient cost sharing.

“IPAB is a flawed policy, and the AMA has been advocating for the repeal of it since the ACA was passed,” AMA Immediate Past President Robert M. Wah, MD, said in a statement. “It would put significant health care payment and policy decisions in the hands of an independent body of individuals with far too little accountability.”

The bill now moves to the Senate. AMA President Steven J. Stack, MD, said policymakers should find a funding source besides the Prevention and Public Health Fund so that program is not negatively impacted.

Source: AMA Wire

Scholarship Recipients Recognized at Annual Banquet

The SDSMA Foundation announced medical student scholarship recipients for the upcoming school year at the banquet during the SDSMA Annual Meeting on May 29, and thanked donors for making a difference by supporting the next generation of physicians.

• First-year DAKOTACARE scholarship – Ethan Pauley, Vale
• Third- and fourth-year DAKOTACARE scholarships – George Ceremuga, Rapid City; Ann Palmer, Rapid City
• SDSMA Freshman Scholarship – Emily Wynja, Sioux Falls
• J. Michael McMillin scholarship – Eric Habbe, Rapid City
• J. Michael McMillin renewal scholarships – Kathryn Kroeger, Rapid City; Ethan Young, Harrisburg
• Gov. George S. Mickelson Memorial scholarship – Collin Michels, Yankton
• SDSMA Alliance scholarships – George Ceremuga, Rapid City; Michael Frost, Rapid City; Emily Gaster, Sioux Falls; Kristin Hockhausen, Rapid City; Emily Nachtigal, Sioux Falls; Karah Odegaard, Rapid City; Veronica Radigan, Sioux Falls; Randall Waldner, Yankton
• Surgical Associates, Ltd. scholarship – Joseph Anderson, Sargent Bluff, Iowa
• T.H. Sattler scholarship – Emily Gaster, Sioux Falls
• Howard and Mary Ann Saylor scholarships – Daniel Davies, Vermillion; James Helleckson, Faith; Robert Nicholas, Huron
• Wulbers Memorial scholarship – Taylor Slingsby, Rapid City

Congratulations to all scholarship recipients.

Source: SDSMA staff
SDSM A 2016 Member Directory – Your Updates Are Needed!

The SDSMA staff is in the process of developing the 2016 Member Directory. Over 2,500 copies are produced and distributed annually and provided to all members. Directories are also purchased by health-related agencies and referral organizations across the region. This is a widely-used and often-referenced publication with continuous use throughout the year.

Your help is needed to ensure the member profile information listed for you in the directory is accurate and your photo is current. Update your information today by logging onto the SDSMA website at sdsma.org. Select “Update My Profile” and review and update your contact information for home and office and upload a current professional photo or headshot.

Those with questions about the directory or updating your information may contact Laura Olson, Director of Administrative and Member Services at 605.336.1965 or lolson@sdsm.org.

Source: SDSMA staff

SDSM A Legal Brief Highlight: Controlled Substances

The use, prescription, and disposal of controlled substances is subject to substantial regulation by both the state and the U.S. State law categorizes these controlled substances based on their characteristics and effect on the patient. The prescription of a controlled substance requires a license and compliance with all applicable state and federal laws and rules. Regulations differ depending on the category of controlled substance within which a drug falls. In addition to prescription regulations, physicians must follow record-keeping and handling requirements.

Physicians must take care to comply with state and federal law relating to the procedures for prescribing medication, including those related to use by the prescriber. South Dakota law also provides for a drug monitoring program that requires “dispensers” (the person or entity who delivers the drug to the end user) to file certain reports, and allows for access by physicians for the purpose, among others, of determining if a patient is “doctor shopping” to obtain multiple subscriptions for the same drug.

For more information, download the SDSMA legal brief Controlled Substances at www.sdsma.org. Through the SDSMA Center for Physician Resources, the SDSMA develops and delivers programs for members in the area of practice management, leadership and health and wellness.

Source: SDSMA staff

SDSM A Past President Robert L. Allison, MD, second from left, received the Richard Neubauer Advocate for Internal Medicine Award from the ACP in Washington, D.C.

SDSM A Past Presidents Receive Awards

Robert L. Allison, SDSMA president from 2012-13, received the Richard Neubauer Advocate for Internal Medicine Award for 2015. Dr. Allison received the award from the American College of Physicians (ACP) in recognition of his advocacy efforts both at the federal and state level on behalf of the ACP and patients. Richard P. Holm, MD, SDSMA president from 2001-02, became an ACP Master, distinguished by the excellence and significance of his contributions to the field of internal medicine.

Source: ACP
CME Events

Continuing Medical Education events which are being held throughout the United States (Category 1 CME credit available as listed)

July 2015

July 8
Internal Medicine Grand Rounds: EKGs in the Last Decade – Terminology, Criteria, Difficult Readings and Presentation of Patient Studies
AMA PRA Category 1Credit(s)” available
Register online: usdssom.learningexpressce.com

July 15
Internal Medicine Grand Rounds
AMA PRA Category 1Credit(s)” available
Register online: usdssom.learningexpressce.com

July 15
VA Tumor Conference
AMA PRA Category 1Credit(s)” available
Register online: usdssom.learningexpressce.com

July 16
Pediatric Grand Rounds: Early Speech & Hearing Detection
AMA PRA Category 1Credit(s)” available
Register online: usdssom.learningexpressce.com

July 2015

July 17
Surgery Grand Rounds: Rural General Surgery – Workforce, Training and Practice Issues
AMA PRA Category 1Credit(s)” available
Register online: usdssom.learningexpressce.com

July 21
Humphrey's Forum for Infectious Disease
AMA PRA Category 1Credit(s)” available
Register online: usdssom.learningexpressce.com

July 23
Pediatric Grand Rounds
AMA PRA Category 1Credit(s)” available
Register online: usdssom.learningexpressce.com

July 29
Internal Medicine Grand Rounds
AMA PRA Category 1Credit(s)” available
Register online: usdssom.learningexpressce.com

July 30
Pediatric Grand Rounds: Role of Simulation in Pediatric Medical Info
AMA PRA Category 1Credit(s)” available
Register online: usdssom.learningexpressce.com

July 31
VA Medical Center CME Activity: Intimate Partner Violence: Impact on Health Care
AMA PRA Category 1Credit(s)” available
Register online: usdssom.learningexpressce.com

DO YOU HAVE A CME EVENT COMING UP? WOULD YOU LIKE TO HAVE IT LISTED HERE?

Contact: Elizabeth Reiss, South Dakota Medicine,
2600 W. 49th Street, Suite 200, Sioux Falls, SD 57105
Phone: 605.336.1965 • Fax: 605.274.3274
Email: ereiss@sdsma.org
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