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Poster – 1

Knotless Tension Band: A New Technique for Medial Malleolar Fixation

IRB Number: IRB acknowledgement

Authors: John Clyde, DPM; Victor Kosmopoulos, PhD; Brian Carpenter, MD

Name of person presenting: John Clyde, DPM Podiatry Residency Program PGY3

Keywords: medial malleolar fracture, stiffness, tension band fixation

Background: Medial malleolar fracture fixation is typically performed with partially threaded 4-mm screws or stainless steel tension band depending on fracture size and bone quality. Stainless steel tension band has been shown to have an increased incidence of hardware removal.

Purpose Statement: This study introduces a novel knotless tension band construct and compares its biomechanical behavior to that of a traditional stainless steel tension band construct.

Methods: 4th-generation composite tibial sawbones were used for this study. Twenty specimens were randomized evenly into: (1) a stainless steel tension band group (control group); or (2) a knotless tension band group. Fractures were created to mimic Orthopaedic Trauma Association (OTA) type 44-B2.2 ankle fractures. Constructs were mechanically tested. Stiffness and failure strengths were calculated. Two failure strengths were determined: (1) engineering based failure strength, defined as the highest tensile load tolerated by the construct; and (2) clinical failure strength, defined as force required to displace the fracture by 2-mm. Two-tailed independent sample t-tests were used to compare and identify significant differences.

Results: The knotless tension band construct was 7.7% stronger, 33.2% stiffer, and required a 36.7% greater force to displace the fracture by 2-mm. Independent sample t-tests confirmed that differences in mean stiffness ($p=0.003$) and clinical failure strength ($p=0.003$) were significant. Although the mean engineering strength for the knotless group was higher than the stainless steel group, this difference was not statistically significant ($p=0.170$).

Conclusion/Discussion: This novel knotless tension band construct offers both clinical and biomechanical advantages as compared to the current standard of care.

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Poster – 2

The Incidence of Femoral Neck Fractures Associated with Floating Knee Injuries

IRB Number: 100410.002ex (FWA#00011753)

Authors: Bret Beavers, MD; Robert N Reddix, MD; Terry Rives DrPH

Name of person presenting: Bret Beavers, MD Orthopaedic Residency Program PGY4

Keywords: Femur Fracture, Floating Knee, Femoral Neck Fracture

Background: The injury constellation involving fractures of the ipsilateral femoral neck and shaft was originally described by Delaney and Street¹ in 1953. The incidence of this fracture combination has been reported to range from 1% to 9%.

Purpose Statement: Our hypothesis was that patients with ipsilateral femoral shaft and tibia plateau/shaft fractures (floating knees) would have an increased incidence of femoral neck fractures, higher ISS scores, and longer hospital stays.

Methods: Utilizing our institution's trauma registry, we identified patients from April 2002 to September 2010 with femoral shaft fractures. We retrospectively reviewed these patient's medical records to identify mechanism of injury, Gustilo-Anderson grade for open injuries, fracture type & location, associated injuries, presence of a femoral neck fracture, fixation method, length of hospital stay, and the presence or absence of an ipsilateral tibia fracture.

Results: Our study group consisted of 458 femoral shaft fractures in 428 patients with an average age of 30 years (range 13-89). Of these 458 femoral shaft fractures, we identified 66 patients with 71 extremities that had a fracture of the ipsilateral tibial plateau or shaft (Group 1). Our internal control group, Group 2, consisted of 387 isolated femoral shaft in 373 patients. There were 8 of 66(12%) deaths in Group 1 versus 9 of 373 (2.7%) in Group 2. Femur fractures were treated with a retrograde approach in 68% of extremities in group 1 versus 46% in group 2. Femoral neck fractures were identified in 11 of 71 (15.5%) extremities in group 1 versus 27 of 387 (7%) extremities in group 2. There was a significant difference between the two groups when comparing the incidence of femoral neck fractures. There was also a significant difference in ISS scores (26 vs. 16) and hospital stays (21 vs. 10 days) between the two groups.

Conclusion/Discussion: We found an increased incidence of femoral neck fractures in floating knee injuries as well as higher ISS scores, and longer hospital stay. This highlights the high-energy nature of patients with this injury constellation.

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Poster – 3

Effect of Ethnicity on the Outcome of Trauma Patients with and without Orthopaedic Injuries

IRB Number: 010311.003ex

Authors: Di Lin Parks, MD; Robert N Reddix, Jr., MD; and Terry E Rives, DrPH

Person Presenting: Di Lin Parks, MD Orthopaedic Residency Program PGY4

Key Words: Ethnicity, Race, disparity

Background: There is a growing recognition of the existence of ethnic disparities in healthcare. We hypothesized that ethnic minorities would have a statistically significant increased rate of morbidity and mortality compared with non-minority groups.

Purpose Statement: Our purpose is to determine if there is a relationship between the patient's ethnic background and the incidence of in-hospital complications, discharge outcomes, discharge disposition, and mortality.

Methods: Utilizing our institution's trauma registry, all adult trauma activations, from January 1, 2008 through November 30, 2010, with an Injury Severity Score of 9 or greater, were identified. Our hospital categorizes ethnicity as: White, Black, Hispanic, Asian/Pacific Islander, and Other. Variables of interest included age, gender, ethnicity, injury mechanism, orthopaedic injuries, inpatient complications, Glasgow Outcome Scale, payer, discharge disposition, and mortality. Logistic regression was utilized for statistical analysis.

Results: The study included 3,876 patients, average age 43 years, and average Injury Severity Scale of 17. The ethnic demographics of the study population are consistent with the current demographics of Tarrant County, Texas, where our Level I trauma center is located. 9.49% patients died and 56.20% of the patients had an identified orthopaedic injury. Logistic regression analysis did not demonstrate a statistically significant relationship between ethnicity and the mortality rate, in-hospital complication rate, Glasgow Outcome Scale assessment and discharge disposition.

Conclusions: Our data are contrary to previously published studies regarding differences in outcomes for trauma patients of various ethnicities. These results are perhaps reflective of a county Level I trauma center that services patients of all ethnic and socioeconomic backgrounds.

Poster – 4

Epidemiological Summary of HIV/AIDS in Tarrant County, 2001-2010

IRB Number: 2012-076

Authors: Anita K Kurian, DrPH MBBS; Kimberly Fulda, DrPH; Kristin McElroy, MPH; Elizabeth Balyakina, MS MPH; Micky M Moerbe, MPH

Name of person presenting: Anita K Kurian, MBBS DrPH Tarrant Co. Public Health

Keywords: HIV, AIDS

Background: According to the most recent HIV/AIDS surveillance report by the Centers for Disease Control and Prevention (CDC), in 2010, there were 42,898 reported cases of HIV infection and 25,297 reported cases of AIDS in the United States. Texas ranked fourth (4,250 cases) for reported cases of HIV infection and fourth (2,315 cases) for reported cases of AIDS.¹ In order to win the battle against this deadly epidemic, there is a great need to closely monitor this disease in terms of its epidemiology.

Purpose Statement: The objective of this study is twofold:

1. To provide demographic information and information pertaining to risk characteristics of HIV/AIDS infected individuals in Tarrant County
2. To describe trends in HIV/AIDS in Tarrant County

Methods: Using 2001-2010 data from the Tarrant County unit of the HIV/AIDS Reportable System (HARS), analyses were performed to describe demographics and risk characteristics of HIV/AIDS infected individuals and track HIV/AIDS trends in Tarrant County.

Results: From 2001 to 2010, the rate of newly diagnosed HIV cases in Tarrant County was highest in 2003 and 2009 at 16.8 and 13.1 per 100,000 population. The rate of newly diagnosed AIDS cases in Tarrant County was highest in 2003 at 15 per 100,000 population. The highest rate of new HIV and AIDS cases were reported among males, blacks, and young adults aged 25 through 44 years. The predominantly reported mode of transmission for HIV and AIDS was men having sex with men. The percent of HIV cases reporting syphilis co-infection within 6 months of HIV infection has increased from 3.9 percent in 2005 to 10.7 percent in 2010.

Conclusion/Discussion: The descriptive HIV/AIDS data presented in this study should be used to improve understanding and awareness of risk factors in the Tarrant County community. The findings of this research study have immense public health implications in Tarrant County by providing HIV/AIDS data that could be used to formulate targeted interventions and prevention programs.

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Poster – 5

Caregiver Characteristics and Mental Health Status: Tarrant County - 2009

IRB Number: 2012-093

Authors: Anita K Kurian, MBBS DrPH; Micky M Moerbe, MPH; Diana Cervantes, MS MPH

Name of person presenting: Anita K Kurian, MBBS DrPH Tarrant Co. Public Health

Keywords: Caregivers, Mental Health, Health Education

Background: Since the first national profile of caregivers was presented in 1997 by the National Alliance for Caregivers, there has been a growing interest in understanding the characteristics and needs of those who provide uncompensated care to individuals with health problems or disabilities. It has been well documented that caregiving can be an arduous and debilitating experience and that it constitutes a potential threat to physical, psychological, and social health.¹⁻³ Although national and state profiles have provided valuable insight into the lives of the caregivers, few studies have had the opportunity to raise such awareness at the county level.

Purpose Statement: The objective of this study is twofold:

1. To examine the demographic characteristics of caregivers in Tarrant County, Texas.
2. To assess the association between mental health status and the caregiver status, in Tarrant County, Texas.

Methods: Using 2009 Tarrant County Behavioral Risk Factor Surveillance System data, analyses were performed to compare demographics and selected chronic disease risk factors of caregivers versus non-caregivers in Tarrant County. Logistic regression analyses were performed to assess the association between mental health status and caregiver status.

Results: A significantly higher proportion of caregivers compared to non-caregivers reported being disabled, current smokers, and unable to see a doctor in the past year due to cost. A significantly higher proportion of caregivers also reported feelings of depression as well as poor mental health status. Compared to non-caregivers, a lower proportion of caregivers reported receiving needed emotional support and being satisfied with their lives.

Conclusion/Discussion: The findings of the present study are especially relevant in the light of the recent movement towards community-based care. It is evident from the present findings that community-based service systems should address mental health needs of the caregivers to achieve the desired results in terms of cost-effectiveness. Future research should explore interventions to maintain and enhance the overall well-being of the caregivers.

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Poster – 6

Hospital Influences on Breastfeeding Practices: Results from a WIC Program Survey

IRB Number: 2007-136

Authors: Anita K Kurian, DrPH MBBS; Micky M Moerbe, MPH; Ann Salyer-Caldwell, MPH RD/LD; Elizabeth Balyakina, MS MPH; Kimberly Fulda, DrPH

Name of person presenting: Micky M Moerbe, MPH

Keywords: Breastfeeding, Maternal Child Health, Policy

Background: The benefits of breastfeeding are vast and well-known, including prevention of certain infectious diseases, otitis media, asthma, and diabetes.¹ This research study enabled Tarrant County Public Health (TCPH) to collect relevant information on breastfeeding practices at the individual and hospital level to provide a strong foundation for policy change and education on breastfeeding practices at local hospitals.

Purpose Statement: The purpose of this study was twofold:

1. To identify barrier(s) to breastfeeding among new mothers
2. To identify variations in breastfeeding practices among new mothers based on the hospital of birth in Tarrant County

Methods: Cross-sectional data were collected using a 26-item survey instrument designed by TCPH. A convenience sampling method was utilized in four Women, Infant, and Children (WIC) clinics across Tarrant County. Eligible participants were mothers 18 years and older, of all racial/ethnic groups who were enrolled in the Tarrant County WIC program with infants aged 6-12 months.

Results: A total of 288 surveys were included in the analyses. Among mothers who never breastfed (26.7%), the most frequent reason given was, “Baby did not want or could not breastfeed” (35.3%). Mothers who experienced positive hospital breastfeeding practices were significantly more likely to breastfeed for six months or more than mothers who did not experience positive practices (OR 2.7, 95% CI 1.2-6.2).

Conclusion/Discussion: It is imperative that continued efforts are made to formulate and implement appropriate intervention and training programs tailored towards promoting breastfeeding and increasing awareness of various potential health benefits of breastfeeding. Additional research is warranted to examine the impact of physicians and birth facilities on breastfeeding practices.

References

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Poster – 7

Acne Treatment Outcomes: a Retrospective Study

IRB Number: 120511.002ex (FWA#00011753)

Author: Nilda S Lopez, MD

Name of person presenting: Nilda Lopez, MD Family Medicine Residency PGY1

Waiver for publication not received from author.

Poster – 8

Obesity a Growing Problem!

Authors: CAPT Martha Culver, MSPH RN and CDR Madelyn Reyes

Name of person presenting: CAPT Martha Culver, MSPH RN

HRSA

Keywords: Obesity, Children, Evidence Based

Abstract: Obesity among children and adolescents is a tremendous health problem for our nation and economy. Childhood obesity rates have tripled in the past 30 years. The prevalence of obesity increased from 6% in 1980 to 20% among children ages 6 to 11 years and 5% to 18% among adolescent's ages 12 to 19 years.^{[1][2]} More than \$78 billion a year is spent to treat medical conditions including; heart disease, certain cancers, type 2 diabetes, stroke, arthritis, breathing problems, and psychological disorders as a direct result of obesity.^[3]

Background: [HRSA awarded \$5 million to the National Initiative for Children's Healthcare Quality (NICHQ) to create and manage a new Prevention Center for Healthy Weight. "The Healthy Weight Collaborative mission is to discover, develop, and disseminate evidence-based and promising community-based and clinical interventions to prevent and treat obesity for children and families."^[4] Elementary and Secondary educational institutions play a critical role in preventing childhood obesity because they are highly effective at addressing students' health issues while promoting a learning environment. The objective of this session is to introduce and share promising evidence-based clinical interventions for preventing and treating obesity in School Based Health Clinics.

Objectives :

Objective 1: Describe the prevalence of obesity and the medical effects caused by obesity.

Objective 2: Describe the economic impact obesity contributes to our society.

Objective 3: Identify three evidence-based programs effective in reducing childhood obesity.

Objective 4: Discuss strategies to implement Healthy Weight Initiatives.

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^[3] See "Overweight and Obesity: At a Glance" http://www.surgeongeneral.gov/topics/obesity/calltoaction/fact_glance.html, accessed on September 28, 2010.

^[4] See "HRSA Awards 5 million for new Prevention Center for Healthy Weight" <http://www.hrsa.gov/about/news/pressreleases/100924healthyweight.html>, accessed on September 24, 2010.

Poster – 9

Bullying is a Public Health Problem!

Authors: CAPT Martha Culver, MPSH RN and CDR Madelyn Reyes

Name of person presenting: CAPT Martha Culver, MSPH RN

HRSA

Keywords : Bullying, Public Health and Prevention

Abstract:

Bullying occurs in every community regardless of race, ethnicity, sexual orientation/identity, socioeconomic status, mental/physical ability, or religious affiliation. At one time, school bullying was viewed as a “rite of passage,” now it is viewed as a substantial public health problem. Bullying is an aggressive behavior and can affect the academic well-being of a child who is bullied. Research indicates children experience lower self-esteem, higher rates of depression and feelings of hopelessness. Increased rates of suicide in teens are directly related to the psychological and physical abuses caused by bullying and cyber bullying. The media is responsible for bringing attention to this public health problem and the devastating psychosocial affects bullying and cyber bullying induces on the victim.

Objectives:

At the conclusion of the presentation, participants will be able to:

Objective 1: Define bullying and cyber bullying

Objective 2: Identify strategies to deter-bullying,

Objective 3: Identify three evidenced based programs successful in addressing this phenomenon

Purpose Statement:

The presentation will identify evidenced based programs, which highlight tools, resources, and strategies educational stakeholders can use to reduce and deter bullying in educational settings.

References

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Poster – 10

Incidence and Severity of Cervical Spine Trauma in the Assault Victim

IRB Number: 030512.007ex (FWA 00011753)

Authors: Daniel Davignon, DO; Douglass Russell, MS3; Greg Arov, DO; Jason Savikko, DO; John Meehan, DO

Name of person presenting: Daniel Davignon, DO

Radiology Residency PGY4

Keywords: CT Cervical Spine, Assault, Acute Fracture

Background:

Helical CT has become the standard imaging modality to assess clinically occult cervical spine injuries in many centers. CT offers several advantages over plain film radiography, including improved accuracy and faster diagnosis. However, cervical spine CT is also a significantly more expensive study and exposes patients to higher radiation doses, especially to sensitive organs such as thyroid and lymph nodes.

Purpose Statement:

The objective of this study is to analyze the necessity of CT in evaluation of the cervical spine for acute fractures in a setting of “assault”.

Methods:

This is a retrospective study and analysis from January 1 to December 31 of 2010 at a community based level 1 trauma center. A database search of all cervical spine CTs with a stated history of assault on the CT requisition was performed. All CT studies with a finalized report stating the presence of or questioning an acute fracture were noted and reanalyzed by two radiologists.

Results:

0 out of 412 CT studies of the cervical spine obtained in the setting of assault showed an acute cervical spine fracture.

Conclusion/Discussion:

In an era of increased focus on cost-saving measures in healthcare, the practice of using CT imaging of the cervical spine in all instances of assault or other trauma may need to be revisited. Acute cervical spine fracture in the setting of assault is an exceedingly rare occurrence. Use of CT should be reserved for high-risk cases, cases with a previously-noted abnormal plain radiographs plus thorough clinical exam may be sufficient while exposing the patient to less radiation and ultimately costing society less in healthcare expenditure.

Poster – 11

Assessment of Employee Awareness and Implementation of a JPS Mother-Friendly Environment

IRB Number: IRB Acknowledgement

Authors: Patricia Alridge, MHA; Janet Carwile, RN; Vincent Diggs, MPH

Name of person presenting: Patricia Alridge, MHA JPS Department of OB/GYN

Keywords: Women's Health, Breastfeeding, Employee Education

Background: With the development of a newly instituted network program, the emphasis of a mother-friendly environment is of high priority for the development and advancement of prenatal care not only to employees, but the patients that they serve as well. Obtaining knowledge regarding mothers and health is vital to the development of greater quality care for the benefit of Tarrant County.

Purpose: 1) To assess knowledge of breastfeeding and overall level of health for female employees returning to their occupation; 2) To determine and evaluate potential factors that may inhibit return to occupation.

Methods: A grant was provided by the State to John Peter Smith Health Network to implement a Mother-Friendly program. From this, a survey was administered to employees that focused on breastfeeding criteria and employee knowledge of women's health. Demographical analysis was conducted to examine if there were any discrepancies of employee knowledge regarding breastfeeding and overall women's health.

Results: Of the sample size of 840, Ninety-six percent of the study population reported that they would support breastfeeding. However, Sixty-nine percent of the population did not have enough time while on shift to breastfeed, or utilize a pump within their unit. For female employees who have had a child within the last two years, the average unpaid leave weeks that they have accrued over their time was five weeks.

Conclusion: The preliminary information retained from the study suggests that accommodations for new mothers can be enhanced for a greater overall quality of health for female employees.

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Poster – 12

Value of Library and Information Services in Patient Care Study

IRB Number: 020711.003e(FWA#00011753)

Author: Leslie Herman, MLS MBA

Name of person presenting: Leslie Herman, MLS MBA

JPS Medical Library

Keywords: Information Services, Health Library, Librarian

Background: The JPS Health Network Medical Library was one of two libraries in the South Central Region of the National Network of Libraries of Medicine selected to participate in a study which was a partnership of the National Network of Libraries of Medicine, Middle Atlantic Region (NNLM/MAR) and the University of North Carolina at Chapel Hill (UNC). The research built on the original Rochester study.¹

Purpose Statement: The purpose of the study was to understand the value and impact of the information resources and services provided by the library and the librarian on patient care.

Methods: 56 health libraries serving 118 hospitals conducted a web-based survey of physicians, residents and nurses during March-May 2011. An invitation to participate and three reminders were sent to potential participants via email. In the survey, respondents were asked to think about an occasion in the last six months when they looked for information resources for patient care (beyond what was available in the patient record or lab results) and to answer questions regarding that occasion.

Results: Of JPS' overall response rate of 4% (n=70), physicians accounted for 6% (n=37), residents 7% (n=13) and nurses 1% (n=13). 98% (n=57) of the JPS clinicians responding said that library/information resources were important or very important. 93% (n=55) said discussion with colleagues was important or very important. 78% (n=49) said lab tests were important or very important and 76% (n=45) said diagnostic imaging was important or very important. 31% said that they accessed the information via the JPS Library web site (Intranet, and 18% asked a JPS Librarian or Library Staff.

Conclusion/Discussion: While JPS clinicians value library/information resources when seeking information for patient care, the library Intranet site and library staff may be under-utilized. Opportunities exist to better publicize the services available from the JPS Library.

¹ Marshall, JG. The impact of the hospital library on clinical decision making: the Rochester study. *Bulletin of the Medical Library Association*. 1992 Apr;80(2):169-78.

Poster – 13

Case Review Study of Correlation Between Straight Leg Raise And MRI Findings

IRB Number: 110110.006ex

Author: John Zarosky, MD

Name of person presenting: John Zarosky,MD

Sports Medicine Fellow PGY4

Background: Straight leg raise is used to determine whether a person with low back pain has an underlying lumbar disc herniation. A positive test is one which reproduces pain radiating down the leg in an established dermatomal pattern.

Methods: A retrospective chart review of 229 patients from JPS Sports Medicine Clinic was performed comparing the results of the straight leg raise and MRI findings.

Results: Only neural foraminal stenosis had a statistically significant correlation with a positive straight leg raise.

Conclusion/Discussion: Based on this study it can be concluded that a positive straight leg raise is not a reliable way to predict disc herniation in patients.

Poster – 14
Colonoscopy Quality Monitoring Program in a Rural Area

IRB Number: 2011-106

Author (s): Nadine Aldahhan, OMS-III; Monte E Troutman, DO; Ana Luz Chiapa-Scifres, MS MPH; John Bowling DO

Name of person presenting: Nadine Aldahhan, OMS-III Texas College of Osteopathic Medicine

Keywords: colon cancer screening, colonoscopy, rural areas

Purpose: Colorectal cancer screening guidelines are determined by the American Cancer Society (ACS). There is some discussion among gastroenterology specialists on who should perform endoscopic procedures. According to the American Society of Gastrointestinal Endoscopy (ASGE), there are specific standards of practice and training requirements that physicians should comply with. The goal of this project is to assess what aspects of a Quality Monitoring Program (QMP) are present in rural areas compared to an urban area.

Methods: We reviewed two Texas rural areas and compared them to the UNTHSC Gastroenterology practice. By interviewing physicians at each site, we determined quality indicators of colonoscopy procedure, polyp detection, and complications. Interview questions focused on training, number of procedures, and aspects of colonoscopy procedure. ACS guidelines for colorectal cancer screening and equipment maintenance information were discussed.

Results: We determined that each site followed ACS guidelines for colorectal cancer screening, with some physicians screening more frequently. A majority of the aspects of the QMP are documented at each site, but may not be formally reported. In addition, each site would customize follow-up care and screening for patient based on pathological findings. There were some differences in patient bowel prep among sites, model of equipment used, and training backgrounds.

Conclusions: Each site has elements of QMP required by ASGE. It is recommended that each site continue to track patient bowel prep quality, track patient satisfaction, monitor complications, document digital rectal exam findings, determine polyp detection rate, and have extraction time greater than six minutes.

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Poster – 15

Influence of Fitness and Adiposity on Melanocortin-1 and Melanocortin-3 Receptors on Monocytes

IRB Number: 050211.001ex (FWA#00011753)

Authors: Gregory Bratton, MD; Matthew Unthank, Jonathan Woodson, Jason Butler, MD; James Barbee, MD; Michael Chumley, PhD; Dennis Cheek, PhD; Joel Mitchell, PhD; Melody Phillips, PhD

Name of person presenting: Greg Bratton, MD Sports Medicine Fellow PGY4

Keywords: Metabolic syndrome, Inflammatory monocytes, Health education

Purpose: The purpose of this study was to examine potential mechanisms by which regular exercise training suppresses inflammation and ameliorates inflammatory conditions associated with metabolic syndrome and obesity.

Methods: Fifty-three subjects (35-55yr) without cardiovascular & inflammatory disorders and not taking medications that affect inflammation participated. Participants were questioned about exercise habits and medical history; then completed testing for body composition and aerobic fitness (VO_2 max). Subjects were classified as lean/fit (LF, n=18), overweight/fit (OF, n=14), lean/sedentary (LS, n=5), or overweight/sedentary (OS, n=16) based on predetermined criteria. Qualified participants returned ≥ 1 week later for a blood draw. Blood was analyzed using flow cytometry for cell surface expression of melanocortin receptors-1 & 3 (MC1R, MC3R). Four populations were differentiated based on CD14 and CD16 expression: classical monocytes (CD14⁺/CD16⁻), low inflammatory monocytes (CD14⁺/CD16⁺) and high inflammatory monocytes (CD14⁺/CD16⁺).

Results: Mean fluorescence intensity (MFI) of MC1R and MC3R was significantly different among monocyte populations ($p \leq 0.01$). Classical monocytes expressed the least MC1R (125.39 \pm 9.17 MFI) and MC3R (133.18 \pm 7.58 MFI), low inflammatory monocytes expressed the second most MC1R (180.52 \pm 20.49 MFI) and MC3R (213.07 \pm 19.73 MFI), and high inflammatory monocytes expressed the greatest MC1R (325.88 \pm 43.68 MFI) and MC3R (639.08 \pm 57.54 MFI). There was no significant difference for MC1R or MC3R based upon fitness or adiposity.

Conclusion: In our preliminary sample, MCR expression seems to be linked to CD16 (inflammation activation) rather than fitness or body composition. Cells expressing higher levels of CD16 also expressed higher levels of MC1R and MC3R. Second, there is marked variability in the expression of MC1R/MC3R in the lean/fit group as compared to the others.

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Poster – 16
Primary Care - The First Stop in Pain Management

IRB Number: 040411.005e

Authors: Josephine Fowler, MD and Kelly Bowers, MPH

Name of person presenting: Josephine Fowler, MD JPS VP of Academic Affairs

Keywords: Chronic pain, CME, Opioid Management

Background: State and federal laws are in place to abate misuse of pain medication especially narcotics. As a result of laws and the onslaught of patients seeking narcotics, primary care physicians have decreased the number of prescriptions written for chronic pain and tend to refer those patients to pain specialist. In an attempt to avoid "drug seeking" behavior and over writing of narcotics, specialists are overburdened with patients that have not seen the primary care physician or that were referred prior to full trial of both pharmacological and non-pharmacological methods of pain management.

Purpose Statement: Primary care providers will 1) Have increased awareness of evidence- based pharmacological and non-pharmacological pain management including role of narcotics. 2) Have improved understanding of the multidisciplinary approach in chronic pain management.

Methods: Practice gaps were determined through a review of specialty clinic referrals for pain management over a 12 month period. Three CME programs on Chronic Pain Management were conducted in didactic format, videotaped, and posted on the network's intranet for people to access and take the post event survey for those not attending live sessions. A follow-up survey was administered to each attendee that filled out a survey at a session; the follow-up survey contained questions inquiring about the attendee's implementation of the material presented in the session(s) they attended. Outcomes were evaluated by analyzing responses on surveys and comments provided.

Results: At the completion of the three sessions, approximately 63 percent, 70 percent, and 70 percent of the attendees felt the information increased their confidence in the diagnosis or treatment of fibromyalgia, back pain and osteoarthritis respectively. These numbers increased six weeks after the educational session indicating more confidence among the attendees in treating and diagnosing the respective medical conditions.

Conclusion/Discussion: The outcomes show that attendees received useful and new information that was relevant to their patient population. The majority of the attendees indicated they planned to incorporate the information into their treatment of pain management.

Poster – 17

Accuracy of Needle Placement with Blind Plantar Fascia Injections

IRB Number: 100311.004ex (FWA#00011753)

Author: Matthew Higgs, MD

Name of person presenting: Matthew Higgs, MD Sports Medicine Fellowship PGY4

Background: Plantar fasciitis (PF) is a common cause of heel pain in adults. Corticosteroid injections are frequently used as a treatment for PF. Patients experience a variable response to corticosteroid injections when done by a palpation-guided technique. Some studies have demonstrated that ultrasound-guided corticosteroid injections reduce the number of recurrences at one year. A needle placed away from the plantar fascia may be the reason palpation guided injections are not as effective as sonographically guided injections.

Purpose Statement: To evaluate the accuracy rate for palpation-guided PF injections by sports medicine fellows using the medial approach.

Methods: This is a prospective observational study. Sports medicine fellows inserted a needle into a patient's foot using a medial plantar fascia injection approach. A diagnostic ultrasound probe was then placed on the foot to determine where the needle was placed. The images were reviewed by an independent physician to determine whether the needle placement was accurate.

Results: Four fellows performed a total of 23 plantar fascia injections. 39% of the needle placements were deemed accurate. 35% were placed directly in the PF. 22% were greater than 1 cm from the calcaneus, while 13% were > 3 mm away from the PF.

Conclusion/Discussion: Palpation guided (blind) PF injections from the medial approach are inaccurate. Ultrasound guidance provides accurate placement of the needle for PF injections. This may be a reason for variable responses to blind PF injections. Further studies are needed to determine if the accuracy of needle placement affects patient outcomes.

Poster – 18

Efficacy of Interventions to Prevent Falls in the Elderly

IRB Number: NA

Author: Kristina Higgs, MD

Name of person presenting: Kristina Higgs, MD

Geriatric Fellow PGY4

Waiver for publication not received from author.

Poster – 19

Does Symptom Severity Score on Initial SCAT2 Evaluation After Sustaining a Concussion Correlate with Length of Time until Athlete Cleared for Full Activity?

IRB Number: 060611.002ex

Author(s): Ramin Roufeh, MD

Name of person presenting: Ramin Roufeh, MD

Sports Medicine Fellow PGY4

Background: The SCAT2 represents a standardized method of evaluating injured athletes for concussion, which is an extremely important topic in today's sports medicine field.

Purpose: To determine whether symptom severity score on initial SCAT2 correlates with time until cleared for full activity.

Methods: All high school students in FWISD diagnosed with concussions in the 2011-12 school year who were given SCAT2s at concussion onset were followed and monitored until clearance for full return. Statistical analysis was performed on the data.

Results: No correlation between initial symptom severity score and time to return to full participation.

Discussion: Need for more data to examine other variables.

Poster – 20

Accuracy of Needle Placement in Blind Knee Injections

IRB Number: 120511.001ex (FWA#00011753)

Authors: Alex Autry, DO and Matt Higgs, MD

Name of person presenting: Alex Autry, DO; Matt Higgs, MD Sports Medicine Fellows PGY4

Background: Little is known of the factors that influence success in injecting medication into the knees of patients with osteoarthritis.

Purpose Statement: To determine the accuracy of primary care physicians in blind knee injections. To better understand patient and physician factors affecting the accuracy of a knee injection.

Methods: Six sports medicine fellows agreed to be a part of the study. The route of injection was randomized to one of three approaches; inferomedial to the patella, inferolateral to the patella, and lateral at midpatella. Contrast was injected prior to medication and a fluoroscopic image obtained to determine if the needle tip was intra-articular.

Results: 38 injections were analyzed. The overall rate was 81.6% (31/38). The accuracy was not affected by the approach (inferomedial, inferolateral, and midpatella 85.7%, 84.6%, and 72.7% respectively). BMI, Mogonye scale, osteoarthritis grade, and knee circumference did not affect procedural success.

Conclusion/Discussion: This study found similar success rates for primary care physician performance of blind knee injections as prior studies of orthopedic surgeons. Future research should examine if ultrasound guidance improves success rates and if so, if patient outcomes are improved.

Poster – 21

The Effect of Femoral Rotation on Native Patella Tilt and Shift

IRB Number: Exempt

Authors: Michael Yu, MD; Victor Kosmopoulos, PhD; Russell Wagner, MD; Hugo Sanchez MD

Name of person presenting: Michael Yu, MD Orthopaedic Residency PGY5

Waiver for publication not received from author.

Poster – 22

An Investigation of Electronic Health Records and the Meaningful Use Final Regulation

IRB Number: exempt

Authors: Stacie Miller, RN, BSN, Dr. Kristine Lykens, UNTHSC-Department of Health Management and Policy; Dr. Princess Jackson, Health Resources and Services Administration, Office of Regional Operations-Region VI, Dallas, TX

Name of person presenting: Stacie Miller, RN, BSN

Keywords: electronic health records, meaningful use, health information technology

Background: Historically, health information technology has proven to assist health care providers and organizations deliver the highest quality of care through the storage of health records electronically and the ability to exchange health information across institutions. The American Recovery and Reinvestment Act of 2009 designated \$19.2 billion of health care spending towards the implementation of electronic health records (EHR) and meaningful use certification. To become a meaningful user of EHR, health care organizations must achieve significant health outcomes using electronic health information systems.

Purpose Statement: To understand the value of EHR within the U.S. health care delivery system, this project will define the term meaningful use, describe the historical emergence of EHR, and explore the barriers and benefits of EHR implementation in health care settings.

Methods: A literature review was conducted to describe the meaningful use objectives mandated by legislation and determine evidence-based barriers and benefits to EHR implementation. The literature review was conducted using Medline Plus, CINAHL with Full-Text, and Google Scholar electronic databases.

Results: Findings indicate three criteria to define meaningful use: the installation and certification of EHR systems, the ability to exchange electronic health data, and the achievement of significant health outcomes through the use of clinical quality measures. The barriers to EHR implementation include the cost of implementation, interoperability, employee educational needs, perceived increased workloads, patient privacy and confidentiality concerns, and the impact on provider-patient relationships. Benefits to implementation include health care savings, reduction in medical errors, and improvements in the quality of health outcomes.

Conclusion/Discussion: The literature review was beneficial to the Health Resources and Services Administration, Office of Regional Operations, Dallas Regional Division, in its pursuit to assist safety net providers towards effective EHR implementation.

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Poster – 23

Evaluation of Cervical Spine Fracture due to Fall from Standing Height

IRB Number: 010311.002ex

Authors: James Scribner, MD; Marco Coppola, MD; Janet Rogers, MD; Terrell Caffery, MD; Rajesh Gandhi, MD; Terry Rives, DrPH; Tiffany Littleton, MA; Mandy Burton, MPH; Hao Wang, MD

Name of person presenting: James Scribner, MD

Emergency Medicine PGY1

Keywords: C-spine fracture, Geriatric, Substance abuse

Background: Falls from a standing height are usually considered “minor trauma” and are less likely to cause cervical spine (C-spine) fractures. Due to the perceived minor mechanism of injury, these patients are often overlooked which could potentially lead to significant worsening clinical outcomes.

Purpose Statement: The aim of this study is to investigate the roles of different clinical risk factors that could co-exist in C-spine fracture patients.

Methods: All sample trauma patients had sustained C-spine fracture(s) due to a fall from a standing height. Basic clinical characteristics, the distribution of C-spine fracture, age, Glasgow Coma Scale (GCS), presence of blood alcohol, and substance abuse were analyzed.

Results: From 2006-2011, 7.0% of trauma patients were admitted with c-spine fracture(s). Among all C-spine fracture patients, 5.5% were due to a fall from a standing height. 66.04% were geriatric patients. Majority of patients (64.15%) sustained a single C-spine fracture and more patients (62.26%) had upper C-spine fractures. 4% of geriatric patients with C-spine fracture(s) had a positive blood alcohol level compared with 52.94% of younger patients ($p < 0.001$). 22.22% of younger patients had multi-substance abuse compared with 8.57% of geriatric patients ($p = 0.484$). 7 patients who had associated intracranial hemorrhage were all geriatric patients ($p = 0.042$) with GCS between 14 and 15.

Conclusion/Discussion: C-spine fracture(s) uncommonly occur in trauma patients with a fall from a standing height. Geriatric patients tend to have more upper C-spine fracture(s) and could potentially be associated with intracranial hemorrhage due to this “minor trauma.” Geriatric C-spine injury tends to have little correlation with alcohol or substance abuse.

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Poster – 24

Cervical Spine Fractures in Geriatric Trauma Patients

IRB Number: 010311.002ex

Authors: Veer Vithalani, MD; Marco Coppola, MD; Janet Rogers, MD; AJ Kirk, MD; Rajesh Gandhi, MD; Terry Rives, DrPH; Tiffany Littleton, MA; Mandy Burton, MPH; Hao Wang, MD

Name of person presenting: Veer Vithalani, MD

Emergency Medicine PGY1

Keywords: Cervical Spine Fractures, Geriatric Trauma Patients, mechanism of injury

Background: Significantly different clinical outcomes occur in trauma patients with different mechanisms of injury. Regarding cervical spine (C-spine) fractures, elderly patients tend to deteriorate quickly and have worsening outcomes. Understanding the mechanism of injury and distribution of C-spine fractures in elderly trauma patients can decide the appropriate management and disposition of these patients.

Purpose Statement: The aim of this study is to evaluate the type and distribution of C-spine fractures in elderly trauma patients and identify the association between fracture patterns and possible mechanism of injury.

Methods: All patients had sustained C-spine fracture(s). Clinical characteristics, the distribution of C-spine fracture(s), and mechanism of injury in geriatric patients (65 years or older) were compared with younger patients.

Results: Among all C-spine fracture patients, 16.5% were geriatric patients; 66.3% of geriatric patients had sustained single C-spine fractures. Geriatric patients had 9.58% and 26.85% more C1 and C2 fractures than younger patients ($p < 0.001$). Geriatric patients had 14.21% and 16.97% fewer C6 and C7 fractures than younger patients ($p < 0.001$).

50% geriatric patients sustained fractures from a fall. 80.02% young patients had fractures from a motor vehicle collision ($p < 0.001$). Geriatric patients who fell from a standing height sustained 33.79% more upper C-spine fractures than younger patients ($p = 0.012$).

Conclusion/Discussion: Upper C-spine fractures occur more in geriatric patients with falls being the most common mechanism of injury. Nearly half of those patients fell from a standing height which is currently considered to be minor trauma. Geriatric patients falling from a standing height are more prone to have upper C-spine fracture(s) than younger patients.

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Poster – 25

The Role of B-type Natriuretic Peptide in the Evaluation of Congestive Heart Failure Patients in Emergency Department

IRB Number: 020612.002ex

Authors: Ferran Ros, DO; Tiffany Littleton, MA; Kathleen Delaney, MD; Richard Robinson, MD; Mandy Burton, MPH; Hao Wang, MD

Name of person presenting: Ferran Ros, DO Emergency Medicine PGY1

Keywords: Congestive heart failure, B-type Natriuretic Peptide, Emergency Department

Background: Congestive heart failure (CHF) is a severe cardiovascular disorder seen in the Emergency Department (ED). B-type Natriuretic Peptide (BNP) is usually ordered to evaluate the CHF severity. It's difficult to interpret serum BNP level when different entities existed.

Purpose Statement: The aim of this study is to illustrate the correlation between serum BNP level and relevant variables and further determine the role of serum BNP in CHF patients.

Methods: 529 CHF patients were divided into different groups by 26 variables. Univariate comparisons between 26 variables and serum BNP level were analyzed. Potential independent variables were analyzed using multivariate regression to avoid confounding.

Results: Serum BNP levels were significantly different by univariate comparison between groups divided by 8 variables that included history of dementia and cerebrovascular accident, obesity, diastolic/systolic heart failure (HF), serum blood urea nitrogen (BUN), serum creatinine (Cr) , and serum sodium levels along with patients taking loop diuretics. Obesity, serum BUN, Cr level, and diastolic/systolic HF had weak-to-moderate correlation with serum BNP level by correlation coefficient analysis. Obesity and diastolic/systolic HF were moderately stronger variables that can affect the serum BNP levels by multivariate regression. Analyzing by obesity and diastolic/systolic HF subsets showed longer hospitalization in diastolic HF patients with relatively higher serum Cr level. Poor correlation was found between serum BNP level and length of hospitalization.

Conclusion/Discussion: High variability of serum BNP levels exists in CHF patients with weak-to-moderate correlation effects particularly on obesity and diastolic/systolic HF. It is recommended that physicians should be cautious on interpreting BNP in different CHF populations.

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Poster – 26
Concussion Outcome in Young Athletes

IRB Number: 060611.002ex

Author: Heather Autry, DO

Name of person presenting: Heather Autry, DO Sports Medicine Fellow PGY4

Background: Much of the current research on concussions is in adult populations or has focused on the epidemiology and mechanics of the concussion itself. There is still a paucity of information regarding the clinical course in adolescents.

Purpose Statement: To evaluate the short-term clinical outcomes of high school football players who suffer concussions as a function of their playing position.

Methods: This was a retrospective analysis of progress notes and SCAT-2 assessment forms of high school football players. Data were collected by trainers at local high schools and in follow up visits to the Sports Medicine clinic. The primary outcome measure was the SCAT-2 score, its sub-components, and recovery time.

Results: 35 concussions were identified. Only initial symptom scores on SCAT-2 assessments were worse in skill players compared to lineman (12.4 versus 17.1, $p = 0.038$). There were no other differences between skill players and linemen for initial SCAT-2 score, final SCAT-2 score, or recovery time. There were no differences between offensive and defensive players.

Conclusion/Discussion: There seems to be little correlation between the position played at the time of concussion and short-term clinical concussion outcomes. This study was limited by a small sample size.

Poster – 27

The Accuracy of Interqual Acute Care Criteria in Determining Observation versus Hospitalization need in Congestive Heart Failure Patients in Emergency Department

IRB Number: 020612.003ex

Authors: David Fernandez, DO; Kathleen Delaney, MD; Richard Robinson, MD; Julie Gorchynski, MD; Tiffany Littleton, MA; Mandy Burton, MPH; Hao Wang, MD

Name of person presenting: David Fernandez, DO Emergency Medicine PGY1

Keywords: Interqual criteria, Congestive Heart Failure, Hospitalization

Background: There are concerns about the necessity of inpatient hospital admission versus the short observational hospital stay due to the penalty of inappropriate admission. Interqual acute care criteria is a medical screening criteria used in Emergency Departments (ED) to determine if a patient qualifies for observation or an inpatient admission. Congestive heart failure (CHF) is a common yet severe cardiovascular disease seen in the ED with a higher admission rate. The accuracy of these criteria for hospital admission versus observation in CHF patients is unknown.

Purpose Statement: This study evaluates the accuracy of interqual acute care criteria in determining observation versus hospitalization in CHF patients.

Methods: Clinical variables that determined the need for observation versus inpatient admission from interqual criteria were analyzed using multivariate logistic regression. Other variables such as medications and patient clinical characteristics were analyzed to avoid confounding. Adjusted odds ratio of each clinical variable was calculated; their sensitivity and specificity were measured.

Results: 94 patients were considered observational and 222 patients were admitted. Adjusted odds ratios for pulse oxymetry less than 91% were 0.70, less than 89% were 4.35, tachycardia with heart rate (HR) above 100 beats/min were 0.79, with HR above 120 beats/min were 1.14, these variables weren't considered independent risk factors. Other variables didn't predict the length of hospitalization. Poor sensitivity and specificity of tachycardia and hypoxia for in hospital admission were found.

Conclusion/Discussion: Interqual acute care criteria may not predict the level of care accurately in CHF patients. It might be appropriate to combine with the ED physicians' clinical judgment.

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Poster – 28

Efficacy of Preoperative Skin Preparation in Eradicating Organisms before Total Knee Arthroplasty

IRB Number: 2011-103

Authors: Wagner, Russell MD ; Sanchez, Hugo MD, Ph.D; Perkins, Kimberly; Behl, Ankur Rishi MD; Kazenske, Faustino MD; Boe, Eric MS

Name of person presenting: Ankur Behl, MD Orthopaedic Residency Program PGY5

Keywords: Chloraprep, Infection, Arthroplasty

Background: Infection in total knee arthroplasty is a serious complication. There have been numerous techniques studied that look at infection prevention including antibiotic prophylaxis, rooms with laminar flow, use of double gloving, and different types of skin preparation. This study focuses on preoperative skin preparation and to determine its efficacy in total knee arthroplasty.

Purpose Statement: The purpose of this study is to determine what organisms are present before and after the skin prep and to correlate these organisms with any organisms cultured in the case of postoperative infection.

Methods: Fifty-eight subjects who are undergoing total knee arthroplasty with standard skin preparation with Chloraprep, underwent a pre-prep swab and a post-prep swab from the popliteal fossa. The swabs were cultured and organisms were recorded comparing pre-prep and post-prep cultures. Any postoperative and infecting organisms were ascertained. Patient data regarding gender, age, BMI, ASA, and presence of diabetes were analyzed.

Results: 58 subjects were obtained with a total of 60 knees. 15/60 had a positive culture on pre or post prep swab, 13/60 on pre-prep swab, 5/60 on post-prep swab, 3/60 on both pre and post prep swab. The average BMI of the subjects was 35.8, but the average BMI of positive pre-prep subjects was 39.5, and the average BMI of positive post-prep subjects was 40.1. 24% of all subjects were diabetic, but 31% of subjects with positive pre-prep had DM, 60% of subjects with positive post-prep had DM. 8.6% of all subjects had positive post-prep, but 20% of subjects with DM has positive post-prep. Only 1/60 had a positive culture, *Serratia Odorifera*, that was not associated with normal skin flora. No clinical periprosthetic infections were diagnosed in the study period.

Discussion: The back of the knee is an area that can be considered difficult to adequately surgically prep. There was a high number of organisms cultured both pre and post prep with the majority of the organisms being a part of normal skin flora. There was one positive culture not routinely a component of normal skin flora. Gathering of more subjects will be important in determining statistical significance and to determine if these positive cultures are truly a valid concern and allow us to assess the efficacy of Chloraprep.

Poster – 29

Shear Strength Analysis: Partial vs. Full Thread Screw Fixation

IRB Number: IRB Acknowledgement

Authors: Dallas Patterson, DPM; Victor Kosmopoulos, PhD; Brian Carpenter, DPM

Name of person presenting: Dallas Patterson, DPM Podiatry Residency Program PGY3

Keywords: Bone Fixation, Biomechanics, Screw

Abstract: The most common method of bone fixation in today's literature is that of "AO Technique." In 1958 a group of Swiss surgeons formed the Association for the Study of Internal Fixation (ASIF), which is responsible for developing such principles as compression plates and lag screws. The lag screw method is a technique that is taught to the vast majority of surgeons responsible for repair of bony abnormalities. The literature is full of studies that compare screw composition, strength, modulus to bone, three-point bending, and even design. One of the designs that are commonly found in all small/large fragment sets is that of a partial thread screw. The screw design in a partial-thread screw allows for compression of the fragments, while the lag screw relies on a technique that allows for compression utilizing a full-thread screw. In our literature searches we were able to find several studies comparing the pull out strength of the two different screws, however no studies examined the effects of shear force. By using biomechanical blocks that simulate healthy adult cancellous bone, we were able to compare the two constructs and how they were affected when a shear force was applied to them. If our hypothesis proves true, it would greatly question the future need and use of partial- thread screws in bone fixation.

Background: The orthopedic literature is littered with studies that compare screws and different fixation types. Partial and full-thread screws have been researched in terms of their pull out strength and 3 point bending, no one has examined the shear strength between the two groups.

Purpose Statement: No research in the orthopedic literature has studied the effects of shear forces on the partial or full- thread screw fixation.

Methods: We compared 4.0mm stainless steel partial thread and full thread screws. Sawbone biomechanical blocks that simulated normal cancellous bone was the medium used for the test. Two blocks were then attached together using "lag technique" for the full-thread screws and manufacturer recommended method for inserting the partial-thread screws. Once the blocks were constructed, a shear force was then applied using the MTS machine. Force was then measured until maximal load failure. Once a maximal value was established, the same constructs were then subjected to multiple load cycles to simulate fatigue of the construct.

Results: Preliminary test results show that the full-thread screw group had a higher mean max load to failure when compared to the partial-thread group.

Poster – 30

Integrative Treatment of Symptomatic Gallstones, a Successful Alternative to Cholecystectomy

IRB Number: 2012-44, UNTHSC

Authors: Amy Thorne, MS-III; Bela Toth, MS-II; Kari Rollins, DO; Minghui Lai, MD LAC

Name of person presenting: Amy Thorne, MS-III Texas College of Osteopathic Medicine

Keywords: cholelithiasis, integrative treatment, cholecystectomy

Purpose Statement: A 32-year-old Caucasian male was treated with an integrative approach for symptomatic gallstones, with treatment modalities including diet and lifestyle modifications, the prescription drug ursodiol, Traditional Chinese Medicine including acupuncture and herbs, and osteopathic manipulative treatment. Serial gallbladder and liver ultrasounds, as well as blood laboratory tests showed objective evidence of improvement in the patient's condition. The patient was able to avoid a surgery, post-operative downtime and potential complications, such as biliary tract injuries and postcholecystectomy syndrome. For symptomatic, uncomplicated gallstones, we demonstrate that the status quo should be changed to an integrated approach rather than an immediate surgical approach to this disease state. Such an integrated, individualized plan for the treatment of cholelithiasis can be tailored to the patient's comorbidities, such as advanced age or pregnancy.

Methods: We used a one-time retrospective chart review for this case report.

Results: Final ultrasound performed 14 months after the initial symptoms of cholelithiasis showed no abnormalities. The gallstones identified on prior sonogram as well as the gallbladder wall thickening and fatty liver were no longer present. A comprehensive metabolic panel and complete blood count were also within normal ranges. The patient no longer suffered from attacks of biliary colic.

Conclusions: Cholecystectomy is not a guaranteed solution to the pain of acute and chronic cholelithiasis. Patients can present with postcholecystectomy syndrome when a remnant stone remains in the cystic duct stump and in some cases patients have continued pain despite no remnant stones. After assuring that a patient does not have an acute abdomen, a physician may choose several integrated techniques, to allow a patient to avoid surgery with careful monitoring for duct obstructions or other medical emergencies via serial ultrasounds, physical exams, and laboratory testing. An integrative approach was the best solution for this patient and should be considered for patients who refuse or are unable to undergo surgery. For symptomatic, uncomplicated gallstones, we conclude that patients should be educated that an integrated, individualized treatment plan is a safe option to consider.

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Poster – 31

Lost Kids: Discovering the Barriers and Bridging the Gap behind a Missing Demographic

IRB Number: pending

Authors: Zaiba Jetpuri, DO and Jessica Nguyen, DO

Name of person presenting: Zaiba Jetpuri, DO and Jessica Nguyen, DO
Family Medicine Residency Program, Parkland Health and Hospital System

Keywords: Pediatric Curriculum, Patient Satisfaction, Barriers to Care

Background: There has been increasing attention towards the importance of establishing a medical home and increasing access to primary care medicine for all ages, specifically children. Family practice physicians are becoming major providers of well childcare; therefore, it is becoming more apparent that they be equipped with adequate pediatric training. Recent statistics in the Family Medicine Resident Clinic (FMRC) at Parkland Health and Hospital System, Dallas, Texas. (PHHS) Parkland/UTSW Family Medicine Residency clinic show that only 5% of patients are pediatric. Barriers have not been examined to determine the cause.

Purpose Statement: To identify the perceptions towards the pediatric clinical services increase patient awareness of services offered at the FMRC Parkland/UTSW Family Medicine Residency Clinic, to enhance pediatric curriculum training and pediatric population at the Family Medicine (FM) residency program.

Methods: Patients seen during a chosen 4 week time period will be included in a follow up phone interview survey at 2 weeks, 3, and 6 months. We will identify the patient (parents') preferences, quality indicators, patient satisfaction, and demographics. FM residents will also undergo a web-based survey to assess pediatric competency training.

Results: We expect that 70% of patients will be satisfied with the FMRC visits. The main barriers to clinic visits described by patients would include transportation, insurance coverage, and appointment availability. We expect that most of our FM residents will request more exposure to pediatric visits of age 2-17.

Conclusion/Discussion: Results will be used to implement practices that will increase and maintain the pediatric population at the FMRC as well as changes needed in FM residents' pediatric curriculum.

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Posters – 32

Successful Treatment of Pulmonary Arteriovenous Malformation Using Azur Hydrocoil and Azur Framing Coils

IRB Number: IRB Acknowledgment

Authors: Ramadass Satya, MD; Ranjit Kapil, DO; Arya Bagherpour, DO; Sri Pooja Satya, BS

Name of person presenting: Ranjit Kapil, DO Radiology Residency Program PGY3

Keywords: Pulmonary arteriovenous malformation, Azur hydro and framing coils, embolization.

Purpose Statement: Successful Treatment of Pulmonary Arteriovenous Malformation using Azur Hydrocoil and Azur Framing Coils is a new approach that hasn't been implemented widely. This may decrease the recanalization rate of PAVM using traditional method.

Methods: After evaluation of the patient's AVM and informed consent was obtained, treatment with the Azur Framing Coil and Azur Hydrocoil embolization was pursued. The right common femoral artery was accessed, and a 9 French angio-sheath catheter was placed. Utilizing the multi-purpose catheters and glide wires, the main pulmonary artery was cannulated and an angiogram was performed. An argon plasma catheter (APC) was then used to access the right main pulmonary artery, followed by imaging using digital subtracted angiography (DSA). The 2 cm AVM was seen to arise from a medial segmental branch of the middle lobe pulmonary artery of the right lung. Subsequently, the AVM was embolized with a 14 mm x 34 cm Azur framing coil and a 6 mm x 20 cm Azur hydrocoil, and follow-up angiogram revealed successful total exclusion of the AVM.

Results: This is a single case report on a new technique. Please see discussion below.

Conclusion/Discussion: Endovascular coil packing methods only partially fill the lumen. A thrombus then fills the remaining volume, thereby occluding the vessel. Recanalization occurs when natural thrombolytic processes act upon the original thrombus and lead to reperfusion of the AVM. By employing the hydrocoil, a considerably larger volume of the arterial lumen is filled by the device. The hydrocoil then decreases blood flow through the defect and acts as the primary occluding device in contrast to the thrombus acting as the main mechanism of vessel occlusion. This, theoretically, may decrease the risk of recanalization. A potential area of future research may investigate the recanalization rates of traditional PAVM embolization devices to the Azur hydrocoil and Azur framing Coils.

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Poster – 33

Individual Factors of an Incarceration History Contributing to Frequent Psychiatric Emergency Center Utilization

IRB Number: 042407.005ex

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Name of person presenting: Douglas Segars, DO

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Waiver for publication not received from author.

Poster – 34

Morphology of Focal Lumbar Spine Lesions on Lumbar MRI Examination as Predictor of Malignancy

IRB Number: 040212.003ex

Authors: Anatoliy Nekoz, DO; R Kedzierski, MD PhD; Mandy Burton, MPH; S Stuart;
A Liguori

Name of person presenting: Anatoliy Nekoz, DO Radiology Residency Program PGY4

Keywords: Morphology of lumbar metastatic lesions

Background: Multiple studies are ordered yearly for evaluation of spinal lesions. Quite often metastatic lesions that are suggested on the imaging studies require further workup, including biopsies or additional imaging, incurring considerable cost to the patient and healthcare system. It is known that metastasis to the spine is best visualized with MRI. However, few studies describe the morphology of these metastatic lesions.

Purpose Statement: By describing the appearance of focal lumbar metastasis, this study aims to reduce the morbidity and cost of spinal biopsies and additional imaging by using MRI as a tool in the diagnosis and evaluation of spinal metastasis.

Methods: Radiology reports for lumbar spine MRI dictated at a large hospital were retrospectively analyzed for several keywords related to possible malignancy. Cervical and thoracic spine MRIs were not utilized in this evaluation as protocol for MRI evaluation of these regions did not contain axial images. Anteroposterior, cephalocaudal, and transverse dimensions of focal lesions in patients with known metastatic process were measured. Anteroposterior dimension was measured on both axial and sagittal images as internal control of measurement reliability. Lesions that resulted in diffuse involvement, cortical breakthrough or vertebral body compression were excluded.

Results: The ratios of the smallest to largest diameters of the lesions ranged from 0.52 to 1.0, with a mean of 0.75 and a standard deviation of 0.1. The anteroposterior dimensions in the sagittal and axial images had a correlation coefficient of 0.9; therefore, the internal control of measurement reliability was valid.

Conclusion/Discussion: This study, utilizing retrospective analysis, demonstrates that focal metastatic lesions that do not extend to the vertebral cortex have significant morphologic appearance – oval or round shape – with high correlation of their three dimensional measurements. Our study indicates that spinal MRI lesions with size ratios greater than 0.5 have a high probability of being malignant. This suggests that metastatic bone marrow involvement is more specific in appearance, and with broader acceptance and understanding of its appearance, less effort and money could be spent on its identification. However, larger studies need to be performed to confirm conclusions of this study.

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Oral – 1

Developing a Fairer Primary Care Payment System: Perspectives of Family Physicians

IRB Number: 030711.002e

Author: Richard Young, MD

Name of Person Presenting: Richard Young, MD Department of Family Medicine

Background: Medical student interest in primary care remains sub-optimal in part because of the income differential between family physicians and other physicians. Observations that the current payment rules created by the Center for Medicare and Medicaid Services (CMS) only allow family physicians to bill for only 50%-80% of the work they do may explain much of this income gap.

Purpose Statement: To ask family physicians what components of the existing CMS documentation, coding, and billing rules they would keep or eliminate, and more broadly to ask what changes are necessary to create a fairer physician payment system.

Methods: This study employed in-depth, qualitative interviewing of family physicians in both urban and rural, academic, and private practices. Interviews were initiated with a series of grand tour questions and follow up probe questions. Data analysis of transcripts used an iterative editing approach to search for unifying themes and sub-themes until consensus among investigators was achieved.

Results: Broad themes included professional activities that were underpaid or fairly paid; complex documentation requirements; the role of incentives for physicians, patients and the overall system; and recommendations to improve the system. Respondents felt procedures were fairly paid, but not the time to care for complex patients. Few billed with the CMS documentation details in mind, but rather by patterns established by heuristics or prior billing denials.

Conclusions: Family physicians report that the existing CMS rules and fees are unnecessarily complex and undervalue much of their cognitive work. Efforts to increase the supply of family physicians should include reforming the CMS payment rules and fee schedules.

Oral – 2

iPhone and iPad Technology as a Novel Curricular Adjunct for Obstetrical and Gynecological Ultrasound Teaching

IRB Number: IRB Acknowledged

Authors: John R Rodney, MD; Kelly Arnold, MD; William Rodney, MD, Robert K Sigman, MD

Name of person presenting: John R. Rodney, MD Family Medicine Program PGY3

Purpose Statement: To create an obstetrical and gynecological ultrasound teaching curriculum by creating an iPhone and iPad application as well as a textbook and lecture series.

Methods: Using the AIUM guidelines for obstetrical and gynecological ultrasound, we solicited the services of a proprietary software company to construct a novel educational application for use by students, residents, and practicing physicians. While the application was developed, we created a textbook and lecture series. In creating this curriculum, we established a unique system of record keeping and education to teach and document obstetrical and gynecological ultrasound.

Results: We successfully created a novel curricular approach to ultrasound education using iPhone and iPad technology.

Conclusions: Creating novel iPhone and iPad applications is a feasible means of enhancing traditional methods for teaching obstetrical and gynecological ultrasound to students, residents, and practicing physicians.

Oral – 3

Randomized Comparison of Organized FIT or colonoscopy Invitation, and Usual Care for Colorectal Cancer Screening among the Underserved

IRB Number: CPRIT 100039

Authors: Samir Gupta, Marcia Hammons, Luisa Valdez, Elizabeth Carter, Mark Koch, Liyue Tong, Chul Ahn , Don Rockey, Jasmin Tiro, Ethan Halm, Celette Sugg Skinner

Name of person presenting: Samir Gupta, MD MSCS
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Key words: colorectal neoplasms, screening, uninsured

Background: Screening may prevent colorectal cancer (CRC) mortality, but participation remains suboptimal, particularly among the underserved. Optimal approaches to boost screening among the underserved, including best test(s) to offer, are unknown.

Purpose Statement: We conducted a 3-arm randomized controlled trial with the following aims: 1) Compare organized mailed invitation to use/return a one-sample fecal immunochemical test (FIT), versus organized mailed invitation to colonoscopy, and 2) Compare organized invitations versus usual care.

Methods: John Peter Smith Health System (JPS, the safety net system for Tarrant Co., TX) patients age 55-64 years, not up-to-date with screening, who were uninsured except for participation in the JPS medical assistance program for the underserved were eligible. Patients were randomly assigned to 1)Mailed FIT invitation, with a FIT kit included, 2)Mailed colonoscopy invitation, or 3)Usual Care. We used phone calls to promote screening and abnormal test follow up. Primary outcome was screening participation at 1 year.

Results: 5,994 eligible patients were assigned to organized FIT (n=1600), organized colonoscopy (n=480), or usual care (n=3914). Sex/race across groups were similar; overall 64% were female; 41% Caucasian, 24% African American, 29% Hispanic, and 7% other race/ethnicity. Interim analysis for the 2,080 patients assigned to organized invitation demonstrated a screening rate of 33% for the FIT group (532/1600) and 14% for the colonoscopy group (69/480). Organized invitation identified 4 patients with CRC, 21 with advanced adenoma, and 39 with non-advanced adenoma.

Conclusions: An organized FIT approach lead to substantially higher CRC screening participation than organized colonoscopy in a safety net population.

Oral – 4

Environmental Toxicants and Reproduction: Elevated Lead Levels in Pregnant Women and their Newborns

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Background: While no level of lead exposure has been considered to be safe, the current level of concern for lead exposure in pregnant woman and children is ≥ 5 $\mu\text{g}/\text{dL}$. Chronic exposure to low levels of lead (2.5 $\mu\text{g}/\text{dL}$ - 5 $\mu\text{g}/\text{dL}$) remain a public health issue, particularly among minorities, economically disadvantaged groups, pregnant women, infants and fetuses. Lead testing in children is frequently delayed until 12-18 months old; consequently the lead levels detected at this age may not accurately reflect the adverse transplacental or breast milk contribution of the lead to the infant bone.

Purpose Statement: To determine the prevalence of elevated blood lead levels in a cohort of mother-newborn pairs living in Tarrant County, Texas.

Methods: A total of 524 mothers and 527 newborns were included in the study. Venous samples were collected from the mother and newborn at the time of delivery. Blood lead level measurements were performed on the blood samples using the Lead Care I device. The women completed a questionnaire that assessed their risk to lead exposure.

Results: A subsample was identified where the newborn's blood lead level was on average 1.02 $\mu\text{g}/\text{dL}$ significantly higher than their mother's. Another subsample was identified in which both the newborn's and the mother's blood lead level was above 2.5 $\mu\text{g}/\text{dL}$; the average blood lead level of the mothers in this subsample was 10.1 $\mu\text{g}/\text{dL}$ and the newborns' 8.1 $\mu\text{g}/\text{dL}$.

Conclusion/Discussion: The data from the study show that the prevalence of low to moderate levels of lead exposure is fairly high in Tarrant County, Texas; thus suggesting that earlier lead screening may be warranted. Further research should be conducted to investigate reasons for discordant maternal-infant lead levels at birth. The LeadCare I device utilized in this study yielded a fast and economical method to immediately screen mothers and newborns at the time of delivery.

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Humanitarian – 1

Susie Amezquita, RHIA, MPA

JPS Language Services

Yin and Yang

My body, my spirit in perfect balance
A constant flow of two energies
Interacting as one
Forces of light and darkness dancing together
Maintaining peace and harmony
Keeping me healthy, giving me everything
Guiding my destiny, my happiness
Waiting for a misstep, an imbalance
A disturbance of emotions, heat, cold, or ancestors
Swiftly bringing on illness, a need for accurate diagnosis.
A clash of western and eastern medicine prevails.
Noted, family members attempted to “catch bad spirits”;
Signs of coining, cupping, steaming or pinching.
Now a need to understand related hot
or cold food abstinence arises.

Family members know
Rebellious spirits are at play
Delighted in controlling fevers and chills
Heat factors cause the burning pain
Or cold factors cause the edema.
Knowing air nourishes spirits
And our senses nourish our body,
Elders call upon a shaman,
Whose mystical healing chants,
And medicinal incense burning or smudging,
Will lure away the controlling spirits.
Restoring an emotional and natural bond.
The silence after the storm appreciated.
My body, my spirit in perfect balance.
Yin and Yang in harmony.

Humanitarian – 2

Joane Baumer, MD

Department of Family Medicine

“It’s Russia” (Reflections of an American Doc in Russia)

“One does not know Russia
with your mind,
But with your heart “,
so be kind.

Blended like a vodka cocktail
Ancient-Tech, West and East
Orthodox Christian
And atheist beast

Golden fluttering birch and grass
Cement Canyons, Steaming plants
Crowded subways, congested roads
Overflowing ---- human ants

High end vendors under French facades
Devout women and chic strippers
Gilded museums from ancient churches
With autoguides and worshipers

Putin greeting the “Virgin’s” belt
And so our guide comes very late
But then shared tears /reminiscent joy
of ‘60’s bomb shelters and fueled hate

White wedding shots on every site
With locks for superstitious luck
On old gray bridges,... then the
Keys thrown in the muck

Catherine the Great
An army whore
Rose to power
And now adored

Then the revolutionary rise
Of each new leader on fire
To make the “peoples”
Apartment complexes higher

The midnight train
For thrill and look
Of how to know

The Russian crook

Targets disabled traveler
For moment to act
Then steals your heart
Behind your back

So you report to official
Who values the crook
“Its Russia” you know
More than what’s took

Even request from the
Embassy end
“It’s Russia”
My traveling friend

Still, a small price to pay
When one sees the local docs
Value the “hearts and minds”
Of their neighbors’ knocks

And at every turn we take
Beauty of human action
That seems to rise from depths of
years of socialist interaction

Our doctors’ groups meet and share
Knowledge from all perspective
With time to eat, imbibe and talk
And toasts, more toasts reflective

So what is challenge
For Russian health?
Dr Boris says ...
Not lack of wealth.

Russia needs a change of heart
Each Russian needs to know
How to provide self-care
So ‘the people’ can grow

When he asks me the same
I respond humbly and say
We are not that different
We need that change yesterday

“One does not know Russia
with your mind,
But with your heart “,
so be kind.

Humanitarian – 3
Amy Thorne

MS-III, Texas College of Osteopathic Medicine

In February of 2005, I was dying in a Colombian hospital of dengue hemorrhagic fever, a secondary pneumonia, and hypovolemic shock. Even though I considered myself bicultural, treatment for my condition was delayed because of my nationality and race. As always, the alabaster color of my skin confused those that heard my Spanish with its ephemeral accents—sometimes Chilean, sometimes Mexican, sometimes unidentifiable. So that at the first hospital where I presented for care, I was asked "What are you?" Right then in Colombia, I was a pale-skinned American journalist working in a country long offended by U.S. hubris.

The U.S. Department of State awarded me a Fulbright Scholarship to work alongside Colombian investigative journalists. Arkansas Senator Fulbright, a once segregationist, established the exchange program shortly after World War II to promote U.S. foreign relations by sending good-willed ambassadors to distant lands, putting equivalent professionals—in my case a writer of nonfiction—in contact with their colleagues abroad. Approximately 111,000 "Fulbrighters" have traveled under the auspices of improving communication with over 155 countries since the program's inception in 1946.

The Colombian author Gabriel Garcia Marquez, the Nobel laureate best known for his colorful novels of magical realism, was the father of literary nonfiction, sometimes dubbed "historical fiction" or "literary journalism", and decades before the American writer Truman Capote wrote his famed *In Cold Blood*, Garcia Marquez and his fellow reporters had mastered the craft of literary journalism. And so I had traveled to Colombia to practice this art with its inventors and to avoid another overcast Ohio winter where I attended graduate school.

Two weeks prior to my illness I had been on assignment with the national daily newspaper EL TIEMPO. My editor often sent me to places where my unbiased eye found new details in a decades old Colombian narrative. He called me *la berraca*, which meant "hardcore", referring to my uncanny ability to dig up confessions and my naivety which manifested as fearlessness. What he didn't know was that people liked to tell me secrets because I listened to them; I analyzed their word choice and reconstructed the metaphors that their unconscious minds unearthed.

Stationed in Barranquilla, a city on the Caribbean coast, I was present during consecutive afternoon of *aguaceros*, or the heaviest torrents of rainfall possible. During an *aguacero*, the streets became rivers, paralyzing the city, carrying along food vendors' carts, whole packs of vagabond dogs, taxis old and new, household trash, and even pieces of sidewalk. Once, I saw a 900-pound steer, escaped from the slaughterhouse, swimming down the central thoroughfare. After the rain, with no gutters and few drains, the water and debris lumbered laboriously into the Magdalena River, which put the Mississippi to shame. Mosquitos, which hitched the slow ride to the Magdalena, bit me at dusk. Unknowingly I traveled to Bogotá headquarters to cover a new story as the dengue incubated.

Dengue fever was my initiation into the painful incongruence of the places I had known, a strange elixir I sampled that forever divided me into parts. The retro orbital pain, arthralgias, and fever had set in when I called the safe house where an informant—an excombatant, as Danny was labeled in Colombia—lived and with whom I had held several taped interviews regarding U.S. Marine involvement in training of rogue paramilitary groups. I cancelled our interview due to illness. I then

tried and failed to be admitted to a small Red Cross clinic and a hospital near the newspaper offices. In trying to explain that something deadly was brewing in my blood, I was judged a typical American: demanding and entitled. I was sent away though my vomiting quickly became intractable. At the door step of my apartment, 24-hours later where I was prostrate due to volume loss, Danny, a once street child turned soldier, threw me over his shoulder and whistled for a cab. Having suffered from the illness and recognizing that I had a severe case of “break bone fever” as dengue was called in his original home near Panama, he strategically took me to the wealthiest sector of Bogotá. Upon entering a private emergency department, I recall him telling the clerk, “If you don’t treat her, I will come back with my men.”

Danny was an Afro-Colombian mixed with *mestizo* ancestry. An oblique, faint scar ran across his forehead and ended in a pit between his brows. The alternate contractions of his pectoral muscles under ill-fitting clothes once reminded me of a galloping horse, whose chest slacked and tightened in rhythm. Never had I seen such potential energy strength in a man’s body, not the appearance of a body builder or a college football player, but the sheer wild capacity of the human form hardened to natural excellence by years of carrying a heavy pack and trekking the jungle in states sometimes close to starvation. His presence was formidable evidence of his recent past.

I was admitted and resuscitated because this man judged to be a murderer demanded from his countryman that I be cared for and provided healthcare. He saved my life. Time had passed too violently leaving me too weak to advocate for my own treatment in a foreign healthcare system. I spent 10 precarious days in that Bogotá hospital.

Before my illness, as a volunteer interpreter in clinics which served migrants, I had listened to not so different stories of major disease or injustice, as the patient’s memories percolated to the surface. But only when I felt my body meet its physiological limit, coupled with the bitter taste of intolerance, did I become a person truly familiar with the incongruence of the world’s different realities. My difficulty in accessing adequate healthcare emboldened me; it reaffirmed my dedication to the marginalized, especially persons with limited access to education. Because my grandmother was a Mexican immigrant to Texas, and because in my time of greatest need I was an immigrant working in a foreign land, I have a special interest in serving immigrant and refugee populations, as well as uninsured patients. I know what it is like to be so desperate for healthcare and to be unable to get it.

After a long convalescence, I tried and failed to help Danny, as he suffered from post traumatic stress and spent several months in a mental institution due to a failed suicide attempt. Two years later I would learn that after being shot twice in the head, Danny was still alive in Medellín. His story was not uncommon. I met so many characters which often flit into my stream of conscious thought and then disappear again as I smash medical knowledge into my long term memory, preparing to enter the fourth year of medical school.

As a journalist, I journeyed from the family farm in Oklahoma to the center of Mexico to an orphanage in Chile, to the mountains of Peru, to the jungles of Colombia, and back again to the farm. I knew murderers better than I know my own brother. I cleaned the purulent wounds of a sidewalk beggar. I witnessed women wait in line for two days to receive birth control and well-child check-ups. And so I quickly became ready to do more than just write the stories of suffering I witnessed, or to be the translator of the story, and so I decided to become a physician.

I most enjoy the practice of medicine when I serve as a bridge between the Texas westernized healthcare culture and the Spanish-speaking immigrant patient. Therefore, I am taking great pride and pleasure in my third-year rotations at John Peter Smith, the county hospital in Fort Worth. And I plan to pursue residency in a heavily Latino-populated area, so that more people can benefit from my skills.

The narrative of my illness only strengthens what I learned as a child on a farm. With several family accidents involving big equipment and unruly animals, I know that tragedy is nondiscriminatory. By harnessing my experiences, I am now dedicated to life-time learning and brazen, but calculated, risk-taking. While some might call it an illusory love or a maniacal sense of duty, I will feel my best battling intolerance through the compassionate practice of medicine and health education no matter the patient's journey or the place we find ourselves.