

36TH ANNUAL UCLA MULTI-CAMPUS
FAMILY MEDICINE
RESEARCH FORUM

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Research Committee
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ABOUT THE COMMITTEE

Central to family medicine training programs is developing family physicians who will embody a number of specific virtues including: excellence in clinical medicine, patient centered practice, and critical skills to enable them to maintain a practice consistent with evidence-based medicine. Scholarly activities, including research, foster a more active, individually driven element in family medicine residencies. Research reflects the knowledge derived from working with primary care, practice-based populations and increasingly is viewed as a key component of family medicine training, education, and practice. The UCLA Department of Family Medicine has a commitment to promoting research on important issues related to improving care provided to patients seen in family medicine and primary care settings.

The UCLA Family Medicine Multi-Campus Research Committee (MRC) was established over 30 years ago to help promote this commitment. Formed by the UCLA Department of Family Medicine and affiliated residency programs, the MRC has held annual research forums to facilitate the exchange of scholarly activities among the residency programs and highlight the creative work conducted by residents, fellows, faculty, and medical students. This forum fosters the understanding that the best practice of Family Medicine and pursuit of health demands an active engagement with one's community - a role of leadership with respect to a community of colleagues, of patients, and of the population at large.

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ABSTRACTS

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ABSTRACT TITLE: The Effect of a Medical Office Building Re-Design on Press Ganey Patient Satisfaction Scores

AUTHORS: Kuhlman, Chris M.D.

AFFILIATIONS: Dignity Health Medical Foundation, Northridge Family Medicine Residency

INTRODUCTION: Patient satisfaction has become an important surrogate marker for the level of quality provided by a medical office. In 2019, the DHMF Northridge FM Residency clinic moved to a medical office building whose model design was developed during a two year Care-of-the-Future project, in which the layout was specifically designed to maximize patient experience. This move provided an opportunity to evaluate what affect this C.O.T.F. re-design had on Press Ganey patient satisfaction scores.

METHODS: Using Press Ganey Improvement Portal data, survey results for 3 months pre and post move were averaged and compared. The survey questions most closely related to the goals of the COTF redesign were chosen to be followed: Overall Assessment, Recommend this Provider Office, Likelihood of Recommending Practice, Care Provider overall, Rate Provider 1-10, Likelihood of recommending CP, Nurse/Assistant Overall, Concern of nurse/assistant, How well nurse/assistant Listened, Moving Through Your Visit Overall, See provider w/in 15 Minutes, Wait Time in Clinic, Office Staff Quality, and Clerks/receptionists helpful.

RESULTS: For all measures monitored, except one, the averaged 3 month patient satisfaction score increased following the move: Overall Assessment ↑1.9, Recommend this Office ↑4.3, Likelihood of Recommending ↑1.6, Care Provider Overall ↑2.0, Rate Provider 1-10 ↑2.1, Likelihood of recommending CP ↑1.5, Nurse Overall ↑1.1, Concern of Nurse ↑0.9, How Well Nurse Listened ↑1.5, Moving Through Your Visit Overall ↑1.3, See provider w/in 15 Minutes ↑6.2, Wait Time in Clinic ↑1.8, Office Staff Quality ↔0.0, Clerks helpful ↑0.5. The number of patients seen before and after the move were similar.

CONCLUSIONS: This study suggests that look and layout of a medical office building affects how patients perceive the care they receive and influences the patient satisfaction scores they give their healthcare providers. It also suggests that the specific COTF design changes implemented in this office building and meant to improve patient experience did result in higher overall Press Ganey patient satisfaction scores.

ABSTRACT TITLE: Patient Preference for Physician Attire and its Influence on the Perception of Care

AUTHORS: Grace Woo DO, Cindy Yang MD

AFFILIATIONS: UCLA- Northridge Family Medicine Residency Program

INTRODUCTION: The traditional white coat attire for physicians is becoming less common. First impressions go a long way and many physicians strive to present themselves in a professional way, starting with attire. But what do patients prefer and does physician attire influence their perception of “good” medical care? The aim of this study is to examine patient preferences for physician attire at a community hospital to assess how it reflects patient perception of the quality of medical care provided.

METHODS: We conducted a six-question survey to patients who were hospitalized on the Family Medicine Inpatient Service Telemetry, Med/Surg units at Northridge Hospital who were over the age of 18, fluent in English with good literacy and mental capacity. The survey included photographs of both male and female physicians dressed in seven different forms of attire. Patients were asked to pick their preferred choice of attire and rank how important the physician attire was to them and if it impacted their perception of care. Preference for attire was analyzed to see if there was a variation in preference by patient characteristics (age, sex, etc).

RESULTS: Of 100 responses, nearly half agreed that physician attire was important to them. 46% reported that it influenced their satisfaction with care. Compared with all other forms of attire, scrub with white coat was most highly rated. Casual attire with white coat was ranked second highest. Nearly one-fourth of patients did not have any preference. Respondents greater than or equal to age 65 had no preference while nearly half of respondents less than or equal to age 65 preferred scrubs with a white coat. There were more respondents who preferred physicians with a white coat compared to attire without white coats. There were more respondents who preferred physicians with a white coat compared to attire without white coats.

CONCLUSIONS: Patients care about physician attire and it may influence their perception of care. The traditional white coat still plays a big role in signifying professionalism for physicians. This study highlights the changing ideal for what “professional attire” is. Hospital policies addressing physician dress code to improve patient satisfaction appear important.

ABSTRACT TITLE: Effectiveness and Best Modality in Delivering Patient Education

AUTHORS: Austin Davis MD, Christopher Kuhlman MD

AFFILIATIONS: Dignity Health Northridge Family Medicine Residency Program

INTRODUCTION: At the end of an office visit, patients are provided with a Visit Summary that includes a Patient Education Handout regarding their diagnosis. Do patients actually find educational handouts useful? Now that there are new ways in distributing patient education material we should assess how patients perceive the current material we provide and possibly change how we distribute patient education. The purpose of this study is to improve patient education delivery and reception.

METHODS: The study design is a survey provided to patients to fill out during their visit prior to being seen by their physician. The surveys will ask them questions based on their level of confidence on their understanding of their diagnosis, how often do they receive and read the patient education material we currently provide, and how they would prefer to receive patient education. A total of 107 surveys were given out. Surveys were provided to English literate patients. Percentages of patient responses to survey questions were analyzed to obtain the results.

RESULTS: Findings showed that 42% of patients felt they had a full understanding of their medical diagnosis given to them in the office, and overall 93% of patients felt generally confident in their understanding of their diagnosis. 61% of patients felt they received patient education handouts at the end of most or all their visits. 58% of patients say they always read their patient education material when provided to them. 57% of patients said they prefer a paper handout of education material over electronic. Only 6% of patients reported that they have heard of our video format of patient education.

CONCLUSIONS: Overall patients feel they understand their medical diagnosis from the information we provide to them. Most patients say they receive education materials after their visits. Also, most patient do prefer a physical hard copy of patient education material, but around half of patients would like to receive this information in an electronic format. Only a very small percentage of patients know we have this option.

ABSTRACT TITLE: Barriers to Exercise

AUTHORS: Hamid Delavar, DO

AFFILIATIONS: Dignity Health Northridge Hospital Family Medicine

INTRODUCTION: Obesity has been increasing with an estimated 66% of Americans affected. The rise in obesity is directly linked to diseases such as heart disease, stroke, hyperlipidemia, and diabetes. Exercise has been shown to decrease the mortality of these preventable diseases, however 85% of Americans do not participate in regular exercise. Many factors have been shown to contribute to the lack of exercise in our population, including psychological motivators, socioeconomic status and barriers to exercise.

METHODS: After obtaining consent, the “Barriers to Being Active Quiz,” a validated 21-question survey created by the CDC to identify reasons patients do not get enough exercise, was administered to adult patients presenting for routine medical exams. Surveys were scored using a formula to organize responses into 7 categories: time, resources, influence, energy, willpower, skill or fear of injury. Key barriers, defined as having a score of 5 or higher, were then identified and analyzed. Scores were used to identify the number of barriers identified by patients, as well as the frequency of each category reported in our patient population.

RESULTS: Key barriers were identified in all 7 categories to the “Barriers to Being Active Quiz”. 30% (19/64) of patients did not identify any key barriers, while one key barrier was identified in 25% (16/64) of patients. 45% (29/64) of participants identified 2 or more key barriers to exercise. The most frequent barrier was lack of willpower, reported in 58% (37/64) of patients, followed by lack of energy 34% (22/64), and lack of time 27% (17/64). 20% (13/64) of patients reported lack of resources, 19% (12/64) social influence, and 17% (11/64) identified fear of injury as key barriers. The least reported barrier was lack of skill at 11% (7/64).

CONCLUSIONS: The barriers identified varied among participants, with lack of willpower reported most frequently. Identifying and overcoming specific barriers to exercise is critical in addressing the increase in obesity in our population. Addressing individualized patient specific barriers, such as motivational interviewing, may provide tools to manage high-risk patients and lower mortality of preventable disease.

ABSTRACT TITLE: Mindfulness Meditation for Hospitalized Pediatric Patients: A Pilot Study

AUTHORS: Marie Lee, MD; Faysal Saab, MD

AFFILIATIONS: Marie Lee - UCLA Family Medicine Resident, Faysal Saab - UCLA Department of Medicine and Pediatrics

INTRODUCTION: Hospitalized pediatric patients often suffer from acute pain and anxiety. Medications or distraction methods are frequently the first-line therapeutics for such symptoms. Many studies have demonstrated the benefit of meditation for adult patients, however, limited data exist regarding the role of meditation in hospitalized pediatric patients. We hypothesize that providers from various professional backgrounds can be trained to lead a bedside mindfulness meditations, which can be an effective and safe modality to decrease anxiety and pain in hospitalized pediatric patients.

METHODS: One nurse and one child life specialist completed three, 75-minute training sessions led by a volunteer meditation instructor. Then, over a 6-month period, the providers identified pediatric patients suffering from pain and/or anxiety. A standard protocol was implemented. After determining that the patient did not need immediate attention from the physician, the provider then led a guided bedside mindfulness meditation. Eleven patients (ten pediatric, and one adult on the pediatric floor) were identified as suitable for an intervention. After each session, the provider completed a survey on their own experience and the patient and/or parent(s) impressions. Their responses were analyzed to assess the feasibility of this practice for future study.

RESULTS: Data was collected on 11 patients, ages 10 to 16, with one 24 year- old. Diagnoses included malignancy, anorexia, abdominal pathology, and musculoskeletal disorders. The average length of the intervention was 26 minutes and utilized in cases of pain, anxiety/panic attacks, as well as concurrent pain and anxiety. In 81% (9/11) of the cases, the provider observed that the patient's pain and/or anxiety improved as a result of the meditation. In 45% (5/11) of cases, the provider observed that medication was likely avoided due to the guided meditation. After the three training sessions, the providers felt well-trained in performing the intervention, in 91% (10/11) of the encounters. Importantly, 87.5% of parents had a favorable impression of the intervention.

CONCLUSIONS: Training providers in bedside mindfulness meditation can be easily accomplished in three, 75-minute sessions. Our limited data suggest that opiate/anxiolytic use could be significantly decreased with such an intervention. This is the first study of its kind providing qualitative information about an inpatient pediatric bedside mindfulness meditation. Training more providers and increasing the number of patients studied will yield greater insight on its possible clinical implications.

ABSTRACT TITLE: Patient Perspectives Regarding Universal Self-Administered Screening for Tobacco and Cannabis in a Large Health Care System

AUTHORS: Akabike WN¹, Gelberg L², Feller S³, Aguilar E¹, Kim J¹, Ijadi-Maghsoodi R⁴, Shoptaw S⁵

AFFILIATIONS:

1 – UCLA Department of Family Medicine; 2 - Department of Family Medicine, Department of Health Policy & Management, Fielding School of Public Health, University of California, Los Angeles, VA Greater Los Angeles Healthcare System; 3 - Department of Family Medicine, Department of Psychiatry; 4 - Department of Family Medicine, VA Greater Los Angeles Healthcare System, Department of Psychiatry; 5 – UCLA Department of Family Medicine, and Department of Psychiatry

INTRODUCTION: Tobacco and cannabis co-use is expected to increase in California with recent legalization of recreational cannabis. Studies have shown increased validity of self-reports of sensitive behaviors through self-administered computer-based assessment methods. We sought to understand patient attitudes regarding implementation of a self-administered computerized universal screener via the EMR patient portal for tobacco and cannabis use and second-hand exposure among all UCLA primary care patients.

METHODS: We conducted 3 focus groups with adult UCLA patients (N=23, 91% Female) to explore patient views and experiences in relation to tobacco and cannabis use. Participants discussed thoughts about their primary care physician asking about use and secondhand exposure, for themselves and their children; benefits and concerns of screening; how to implement screening; and neighborhood factors influencing use and exposure. Focus group sessions were audio-recorded, transcribed, and analyzed using content analysis.

RESULTS: Barriers to screening for all patients for tobacco and cannabis use included concerns about privacy of records and time spent completing the questionnaires. Some patients felt it was beneficial to screen youth for tobacco and cannabis use, including as an opportunity to educate youth about the consequences of use, while expressing concern that youth may not disclose use due to confidentiality concerns. Patients described neighborhood influences contributing to use, availability of cannabis, and for the youth, peer pressure.

CONCLUSIONS: Implementing a self-administered electronic screener for tobacco and cannabis use may be useful to guide intervention and patient education. Patients' concerns about screening include privacy and ramifications of disclosure, time spent on the screening, and youth honesty disclosing these behaviors raise key issues to be considered when implementing a screener.

ABSTRACT TITLE: Assessing Knowledge and Confidence in Musculoskeletal Medicine Among Primary Care Specialties

AUTHORS: Jessica Mofidi MD¹, Cindy Ong MD¹, Michael Fong MD¹, Marissa Vasquez MD²

AFFILIATIONS: 1. Kaiser Permanente Los Angeles Medical Center, Division of Sports Medicine; 2. UCLA Health Department of Family Medicine-Division of Sports Medicine

INTRODUCTION: Prior studies suggest primary care clinicians lack knowledge and confidence in how to diagnose and treat musculoskeletal (MSK) disorders. One showed 64% of academic primary care attendings scored <70% on an MSK knowledge exam, while another noted that primary care residents scored an average of 56% on an MSK competency exam. Few studies examine differences among Family Medicine, Internal Medicine, and Pediatrics in knowledge and confidence in diagnosing and treating MSK conditions. The purpose of the study is two-fold: to determine if a significant difference exists between primary care specialties for both residents and non-fellowship trained attendings in knowledge and confidence in diagnosing MSK conditions; and to assess whether a focused lecture series can increase resident knowledge and confidence in diagnosing MSK disorders.

METHODS: An anonymous shoulder, hip, knee, and ankle survey was emailed to Pediatric, Internal Medicine, and Family Medicine residents and attendings at a local teaching hospital. Sports Medicine Fellows lectured Internal Medicine and Pediatrics residents, focusing on exam and common conditions for each joint. Family Medicine was excluded from the lectures, as MSK education is a part of their ACGME requirement. Pre and post lecture surveys with 5 knowledge questions and two 5-point Likert scale confidence measures were administered to Pediatric and Internal Medicine residents. Two-tailed t-tests were used with a p value set at 0.05.

RESULTS: Pediatric residents showed a significant increase in shoulder knowledge scores (60% vs 72.8%, $p=0.04$), confidence scores (2.2 vs. 3.11; 2.13 vs. 2.94; $p<0.001$), and confidence in doing an appropriate knee exam post lecture (2.6 vs. 3.4, $p=0.03$). There was no significant difference between Family Medicine, Internal Medicine, or Pediatrics regarding general MSK knowledge and confidence. There was no significant difference for Internal Medicine between pre and post lecture scores for all joints. There was no significant difference for pre and post lecture scores on the hip and ankle for Pediatrics.

CONCLUSIONS: Dedicated lectures related to the MSK exam and common MSK conditions can increase the knowledge and confidence among primary care residents, but further studies with a greater number of subjects are needed. Potential implementation strategies to improve MSK education include a yearly dedicated lecture series on musculoskeletal medicine as part of the teaching curriculum for primary care residents. Rotations in Sports Medicine or Orthopaedic Clinics could also become a required part of the ACGME curriculum for Internal Medicine and Pediatrics, just as it is for Family Medicine.

ABSTRACT TITLE: Improving asthma care in a family medicine residency clinic

AUTHORS: Kathleen Dor MD, Monique George MD, Rebecca Berke MD, Shaadi Azadeh MD, Jose Garcia MD

AFFILIATIONS: Kaiser Permanente Woodland Hills Family Medicine Residency

INTRODUCTION: Asthma results in significant morbidity and mortality in the United States. An important part of the management of asthma is the use of controller medications that prevent airway inflammation and hyperreactivity. Our goals were to improve treatment of asthma in resident paneled patients by decreasing overuse of short-acting beta2-agonists (SABAs), increasing appropriate use of asthma controller medications, and improving performance on the HEDIS asthma medication measure.

METHODS: We measured the percentage of patients 5 – 64 yo who were identified as having persistent asthma and had a ratio of units of controller medications to units of total asthma medications of 0.50 or greater during the measurement year. A population manager was assigned to call those patients who were out of compliance with their controller medications and residents were sent alerts regarding patients that were out of compliance, as well as monthly reports of clinical performance with their paneled patients.

RESULTS: Controller medication compliance for residents increased from 77% to 100% from Jan, 2019 to Dec, 2019. At the same time controller medication compliance for Family Medicine staff physicians stayed approximately the same: 87% to 86.8%.

CONCLUSIONS: Using a team-based multi-disciplinary approach one can improve control of chronic diseases across all populations and ages. Making residents aware of performance for their paneled patients on a regular basis helps with outcomes. Hopefully our residents, once they graduate, will take these approaches to their future practices.

ABSTRACT TITLE: Implementing CenteringPregnancy in an Academic Family Medicine Clinic

AUTHORS: Tamra Travers, MD

AFFILIATIONS: Ventura County Medical Center

INTRODUCTION: CenteringPregnancy (CP) is a group prenatal model of care that has been shown to decrease disparities in rates of preterm birth, low birth weight infants, breastfeeding, and duration of NICU stays through community building and interactive peer education. This project outlines how our residency family medicine center became a Centering Healthcare Institute (CHI) licensed site and began prenatal care group visits with minimal funding within one year.

METHODS: In August 2019, we gained approval to implement CP from clinic and residency leadership. In September, we obtained an initial \$6,500 grant from our health care agency's supporting non-profit foundation and formed a steering committee to guide planning and patient recruitment. We applied for a CHI site license and sent two medical assistants and one physician to CHI's basic facilitation training in November. We built the group schedule and curriculum, assigned continuity residents to groups, and held resident trainings. We began patient recruitment in November and held our first group visit in January.

RESULTS: Keys to success included securing early funding and support from administration. We benefited from a physician project lead with CP experience and sufficient dedicated time for CP project development. Challenges included limited financial resources, with our total budget of \$7,500. We used creativity and harnessed community support to push the project forward. We spaced group visits to start every other month based on our prenatal patient volume at our clinic. We overcame reluctance of PCPs to refer patients for concern of losing continuity by reframing CP as a supplemental service and continuing routine prenatal care PCP visits.

CONCLUSIONS: CP improves perinatal outcomes and decreases health disparities. CP enhances the resident continuity obstetric experience through management of a cohort of prenatal patients while practicing community building, patient empowerment, and active listening. By securing a modest amount of early funding and support from our leadership, we were able to quickly start CP groups at our teaching clinic.

ABSTRACT TITLE: Improving Confidentiality During Teen Well Visits in the Kaiser Permanente Woodland Hills Family Medicine Residency Clinic (KPWH FMRC)

AUTHORS: Campbell, M. MD and Rubi, C. MD MPH

AFFILIATIONS: Kaiser Permanente Woodland Hills Family Medicine Residency

INTRODUCTION: Protecting confidentiality is an essential component of high quality patient care. Unfortunately, this is a luxury not always afforded to teen patients due to the complex social and legal restrictions governing their care. The check-in and checkout processes particularly have the potential to expose sensitive medical information to their guardians.

The aim of our QI project was to implement a standardized check-in and checkout process that would protect PHI for teen patients at the KPWH FMRC.

METHODS: We designed a standardized check-in and checkout process for teen patients (age 12-18) presenting to the KPWH FMRC for annual wellness visits between 3/2018-3/2020. Patients would be brought in from the waiting room to fill out their annual questionnaire (includes information regarding substance use and sexual activity) and review their medications alone, and an after-visit summary (AVS) would not be printed. The intervention of our QI project was discussing this workflow with the clinic's department administrator and medical assistants (MAs) and hanging a printed copy in the nurse's station. A pre and post survey of the teen patients was conducted.

RESULTS: The same survey was given to teen patients presenting with a guardian for annual wellness visits from 3/2018-3/2020. 21 pre-intervention and 12 post-intervention surveys were received. Data analysis showed that 62% of patients filled out their questionnaires privately pre-intervention vs 57% post-intervention. 75% of patients had their medications reviewed privately pre-intervention vs 27% post-intervention. 10% of patients did not have an AVS printed pre-intervention vs 8% post-intervention.

CONCLUSIONS: The intervention of designing a check-in and checkout process, discussing it with MAs, and posting it on the wall was not effective in changing the way teens are checked in or out for their annual wellness visits. This conclusion, however, is severely limited by the very small number of teens who received surveys during the study time period (many who presented did not receive surveys). Future research should focus on sequential PDSA cycles making small changes and then implementing across all our clinic sites with teen populations.

ABSTRACT TITLE: Development and Implementation of Nurse Driven Protocol for Pediatric Fluoride Varnish Application

AUTHORS: JP Meckel, DO, MS, Jacqueline Regan, Zachary Zwolak, DO, FAAFP

AFFILIATIONS: Ventura County Medical Center Family Medicine Residency (UCLA affiliate)

INTRODUCTION: Fluoride is a naturally occurring inorganic mineral added to sources of drinking water, toothpastes, and mouthwashes. Fluoride serves to strengthen tooth enamel by preventing decay as well as working to remineralize the enamel after erosion caused by acid demineralizing the surface of teeth. The American Dental Association, American Academy of Family Physicians, and the American Academy of Pediatrics advocate for adequate fluoride after six months of age. For children this age and older, the recommendation is to use fluoridated toothpaste twice a day. In addition to toothpaste, children in areas with inadequate fluoridation of their drinking water (including homes that use reverse osmosis filters) should receive topical fluoride varnish treatments two to four times per year. Caries are the most common chronic childhood disease, and disproportionately affect children from poor and minority populations. Primary care providers have a unique opportunity to combat this problem by applying fluoride in the office for children that may not otherwise be receiving regular dental care. The intent of this study is to develop and validate a nurse driven protocol to increase fluoride varnish application rates in a county Family Medicine residency clinic. The protocol allows for the nurse to independently order and apply the varnish prior to the patient being seen by the physician, in hopes of more consistently treating these children in a busy practice setting.

METHODS: Electronic medical record (EMR) data was analyzed for clinical encounters of children six months to three years of age in the Family Medicine clinic for well visits in the year prior to implementation of the protocol. The number of visits of eligible children was compared to the number of fluoride application billing codes submitted during the same period. The flowchart protocol for patient eligibility was developed and shared with the clinic nursing and medical assistant staff. Copies of this flowchart were posted in the clinic, and intermittent reminder education sessions were conducted. EMR data was collected for the next nine months post-protocol implementation and compared to the data from the prior year. Periodic re-education of the staff was conducted to encourage use of the protocol.

RESULTS: Data was extracted from EMR records from June 22, 2018 to June 21, 2019 for children aged six months to three years of age seen in the clinic setting for a well child visit. 4.46% of eligible patients (n=852) received fluoride varnish treatment. A flowchart was developed to assist medical staff with identifying and treating patients independently. On June 21, 2019, a nurse-driven protocol was implemented through nurse education with a decision-making flow chart. This education was intermittently reinforced on an ad-hoc basis after implementation. EMR data was reanalyzed from June 23, 2019 – March 25, 2020, with 3.97% of eligible children receiving fluoride varnish (n=604).

CONCLUSIONS: The nurse-driven protocol intended to increase the percentage of children receiving fluoride varnish in our county Family Medicine clinic was ultimately unsuccessful in making a lasting improvement. Unfortunately, in the era of metric-driven primary care measures the flowchart developed became another background prompt that was lost in the busy shuffle of patient care. When analyzing the initial six weeks post-flowchart introduction, there was an approximately 1.1% increase in varnish administration. This trend was unsustainable as the initial education faded, and other quality measures were introduced. The process was also derailed by a mid-study change in the provision of fluoride treatment from the state Medicaid program to the clinic purchasing of the fluoride kits. The clinic was limited in adequate staffing to allow for additional performance improvement projects. In order to have lasting change, there must be both nursing and physician buy-in on the importance of an intervention. Continuous review of staffing ratios of physician to nurse and

medical assistant should be examined as well to allow for performance improvement projects. We will continue to look for new ways to provide our patients with the best care possible through meaningful changes in nursing and physician education, and protocols that help to ensure continued improvement

ABSTRACT TITLE: An Exploratory Study: The effects of impostor phenomenon among physicians of differing backgrounds

AUTHORS: Karen Fourie, MD, Shwesha Govil, DO, Jessy Tsang, DO, Shunling Tsang, MD

AFFILIATIONS: Department of Family Medicine at RUHS-UCR

INTRODUCTION: The medical profession involves making potentially life-altering decisions with limited room for error. Many physicians unsurprisingly feel inadequate in medical practice despite their academic accomplishments. Our study will investigate the effects of impostor phenomenon among physicians employed by RUHS. We will evaluate physicians' experience with impostorism, its effect on mental health, physicians' coping mechanisms, and interventions physicians feel may support those facing IP. This will help direct the focus of physician well-being programs at RUHS.

METHODS: This is a cross-sectional exploratory study consisting of individual online surveys followed by focus group discussion. Recruitment emails will be sent by GME to all resident and attending physicians employed by RUHS. Participants will complete an anonymous online survey on Google Forms comprised of demographic questions and the Clance Impostor Phenomenon Scale prior to a focus group discussion via conference call on Microsoft Teams. Demographics and CIPS scores of the participants to determine a potential relationship. Responses to group discussion questions will be used to understand effects of IP among participants and potential interventions that may be implemented at RUHS to support those experiencing IP.

RESULTS: Pending

CONCLUSIONS: (Pending results). We anticipate all participants will have some degree of impostor phenomenon. We believe the severity of IP may decrease with advancement of level of training. We will understand the effects of IP on physicians, including effects on work performance and mental health. We will determine what interventions participants feel can be implemented at RUHS to support those experiencing impostor phenomenon to aid in development of a physician wellness curriculum directed towards IP.

ABSTRACT TITLE: The Association of Android: Gynoid Fat Mass Ratio with BMD and BSI in Collegiate Distance Runners

AUTHORS: Katherine Fahy MD, Michael Fredericson MD, Kristin Sainani PhD, Andrea Kussman MD, Emily Miller MD, Emily Kraus MD, Michelle Barrack RD, PhD, Adam Tenforde MD, Brian Kim MD, MS, Megan Deakins-Roche MD, Sonal Singh BS, Sonya Meraz BS, Aurelia Nattiv MD

AFFILIATIONS: UCLA and Stanford University. The authors would like to thank the PAC-12 and AMSSM for grant funding and the UCLA Clinical Translational Research Laboratory.

INTRODUCTION: Prior studies have demonstrated a positive correlation between android to gynoid (A:G) fat mass ratio and bone mineral density (BMD) in postmenopausal women and spine BMD in adolescent runners. Here we evaluate associations between A:G ratio, BMD and bone stress injury (BSI) in collegiate runners.

METHODS: 119 collegiate runners (female n=61, male n=58) at two institutions enrolled in a 6-year, prospective cohort study of BSI incidence underwent dual-energy X-ray absorptiometry (DXA) to measure body composition including A:G ratio. Mixed effects linear regression and Poisson regression models, respectively, compared A:G ratio with total body, lumbar spine, hip and femur BMD as well as risk of BSI.

RESULTS: Lumbar spine BMD Z-score was significantly correlated with A:G ratio in female runners (BMD standardized to Z-score using age, sex and ethnicity normative values). An increase of 1-standard deviation in A:G ratio was associated with a 0.14 increase in lumbar spine Z-score ($p=0.039$). We found no relationship with lumbar spine BMD Z-score in males (β -coefficient =0.02, $p=0.80$). No association between A:G ratio and BMD was observed at the hip or total body. Higher A:G ratio was correlated with a significantly decreased risk of BSI in male runners [1 standard deviation increase in A:G ratio RR (95% CI): 0.39 (0.84, 2.00), $p=0.007$] with no significantly increased risk in female runners [RR (95%) CI): 1.30 (0.84, 2.00)]. The interaction between sex and A:G ratio on the risk of BSI was significant ($p=0.03$).

CONCLUSIONS: Increased A:G ratio was associated with increased lumbar spine BMD in female runners but not in male runners. Male runners, however, with a higher A:G ratio had lower associated risk for BSI. The correlation between A:G ratio, sex and bone health needs to be further explored. This may lead to improved screening and management of athletes at risk for low BMD and BSI.

ABSTRACT TITLE: Concussion Knowledge and Reporting in Collegiate Athletes

AUTHORS: Marissa S. Vasquez, MD, MBA, Jessica Mofidi, MD, Cindy Ong, Kenneth Choi, MD, MPH, Emily Nguyen, MD, Steven Stappaerts, MD

AFFILIATIONS: UCLA Family Medicine-Division of Sports Medicine
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INTRODUCTION: Concussion is a critical diagnosis in the evaluation of athletes. Knowledge has transformed management. Diagnosis often relies on self-reporting of symptoms. Athletes may under-report due to lack of knowledge and fear of being removed from competition. The purpose of this study is to investigate awareness and self-reporting practices at three levels of collegiate athletics. Identifying gaps in knowledge of concussion and reporting tendencies will help identify approaches to this population.

METHODS: This study is a prospective, cross-sectional study. A questionnaire was distributed to athletes at the collegiate levels (Community, Division 2 and 3) for which the study investigators provided athletic coverage. The study investigators did the recruitment, consenting and data collection. The goal was to recruit and enroll 180 athletes. The questionnaire consisted of 12 queries and was anonymous. All collegiate athletes enrolled at the selected colleges during the study year were eligible. Non-collegiate athletes and children under the age of 18 years were excluded. There was no compensation and participation was voluntary.

RESULTS: 107 questionnaires were collected in the study period. A multivariable analysis was done. The study included 42% women and 58% males. The prevailing sports include basketball (23%) and soccer (77%). A total of 76% had prior concussion education (team discussion, lecture etc.). Prior diagnosis of concussion was reported in 37%. Using a Pearson r test, the highest correlation with the reporting of symptoms was number of concussions ($p=0.0002$). Concussion education and symptoms had a lower correlation ($p=0.0006$). Athletes (51.7%) reported symptoms. The effect of media had a high correlation with reporting but was not statistically significant.

CONCLUSIONS: In spite of students reporting education, a share still lack proper reporting practices. The majority of concussions were diagnosed during collegiate athletics. Barriers to self-reporting include fear of removal and lack of understanding of potential risks. Correlation is seen with prior concussion experience. Using athlete's concussion experiences for education may be a tool to increase reporting in collegiate athletes.

ABSTRACT TITLE: Long-Acting Reversible Contraceptive (LARC) Early Discontinuation Rates and Risk Factors: A Retrospective Study at RUHS Community Health Centers

AUTHORS: Jasmin Awadeh DO, Kayla Ramsey DO, Jose Rodriguez-Garcia MD

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INTRODUCTION: Long-acting reversible contraceptives (LARCs) are quickly becoming more highly utilized in the county system as more programs are put in place to cover the cost of their placement for the patients. However, there remains a high rate of discontinuation of LARCs prior to their FDA-approved termination date. The reasons for early discontinuation in our particular system are varied. We are seeking to analyze discontinuation rates and identify associated risk factors for early discontinuation such as age. By doing this, we hope to identify patients who are at high risk of early discontinuation and provide appropriate counseling to either reduce the risk or offer safe and effective alternatives using an individualized approach. Another secondary goal would be to mitigate the costs of placement and early discontinuation to the healthcare system

METHODS: A retrospective chart review was done at the ten RUHS community health centers. The study looked at LARC insertions or removals occurring in a one-year period between January 2018 to December 2018. Inclusion criteria is women aged 15 to 45 who have had either of the above-mentioned procedures. Indication for insertion must be contraception. Exclusion criteria include pregnancy, clotting disorders, and history of gynecological disease or surgery. Charts were identified by inquiring billing and procedural codes. Data was categorized by age - 30 years or older, and under 30. This data was then further categorized into those who retained the placed LARC and those who had an early removal prior to the FDA-approved termination date. The latter were analyzed to determine the contributory factors to early discontinuation.

RESULTS: 287 patient charts were reviewed of which 6 were discounted due to exclusion criteria. Of the 281 eligible patients who had LARCs placed in the time period studied, 73 patients (25.98%) returned within the first year to have them removed, with 208 (74.02%) keeping the LARC. Of these 73 patients, 43 (58.9%) were under the age of 30. The two most common indications for early discontinuation in the under 30 age group were irregular bleeding (37.25%) and desire to conceive (23.53%). Among the age group of 30 and above, the two most common indications for early discontinuation were irregular bleeding (22.86%) and pelvic pain (14.29%). Statistical analysis revealed an odds ratio of 2.03 with women who had early discontinuation twice as likely to be under 30 years old.

CONCLUSIONS: The results supported our initial hypothesis that age is an important determining factor in early discontinuation of LARCs, with over half of early removals seen in patients under 30 years old. Contributing factors to early discontinuation were varied, with irregular bleeding being the most common factor among both age groups. While there were limitations to this study, such as small sample size and possibility that LARCs were removed at outside facilities, it provides us with valuable information with which to counsel patients seeking long term contraception. An individualized approach to counseling can help to avoid unnecessary and potentially costly medical procedures, as well as mitigate undesirable side effects of certain interventions. These findings also open the way for further investigation with regards to preferability of particular LARC methods among age groups.

ABSTRACT TITLE: The Role of Pre-Morbid Anxiety and Depression on Concussion Recovery in Collegiate Student-Athletes

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INTRODUCTION: The current study examined if self-report pre-morbid anxiety and/or depression in collegiate student-athletes (1) correlate with time until asymptomatic and return to play, and (2) collegiate athletes with pre-morbid anxiety/depression have higher symptom scores and total symptoms post-injury. We hypothesized that athletes with pre-morbid anxiety/depression and mood-related symptoms have longer recovery and higher symptom scores post-concussion, compared with athletes without these conditions.

METHODS: This retrospective case-control study utilized data of 3217 collegiate athletes participating in CARE Consortium. Demographic and clinical recovery information was collected at baseline and post-injury time points, notably 24-48 hours and 6 months. Assessments include SCAT3 graded symptom checklist and BSI-18 for psychological symptoms. Athletes were categorized by 1) self-reported history of diagnosis of anxiety/depression, 2) self-reported baseline anxiety/depression symptoms on BSI-18, and 3) no history of either anxiety/depression or symptoms. Statistical analyses are linear regression and longitudinal classification and regression tree.

RESULTS: Linear regression did not find significant differences between self-reported history of diagnosis of anxiety/depression or mood-related symptoms compared to those without diagnosis or symptoms, in relation to time to asymptomatic or time to return to play. LongCART analysis demonstrated that self-reported diagnosis and mood-related symptoms groups do not have higher SCAT3 symptom severity or total symptom scores at post-injury time points, except for females with baseline BSI anxiety raw score ≥ 1 . Females with anxiety on BSI started at a higher symptom severity score and experienced a steeper decline in scores at each subsequent assessment.

CONCLUSIONS: Anxiety and depression should best be considered separately from other co-morbidities, such as prior concussion, migraine, or other psychiatric illnesses, when discussing prolonged recovery in athletes. Understanding the role these diagnoses and underlying symptoms play in post-injury concussion recovery and symptom severity is essential for healthcare professionals managing concussions in collegiate student-athletes.

ABSTRACT TITLE: PADIC: Prevalence of atherosclerotic and cardiovascular disease in individuals with coagulopathies

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AFFILIATIONS: (1) Department of Family Medicine, Kaiser Permanente Woodland Hills (2) Assistant Clinical Professor of Family Medicine, David Geffen School of Medicine at UCLA

INTRODUCTION: Optimal care to prevent atherosclerotic disease (ASCVD) in coagulopathy patients (CP) remains elusive. CP may have higher rates of hypertension due to vascular remodeling, but lower rates of ASCVD due to a lower risk of acute thrombus formation. However, both findings have conflicting evidence. Our study addresses previous limitations in design; we predict that while CP may have higher rates of hypertension, they will have lower rates ASCVD after controlling for known risk factors.

METHODS: This retrospective matched cohort study from 01/2009-06/2019 identified CP by ICD 9/10 codes (Hemophilia A/B/C or VWD) and matched 1:3 to non-CP individuals by age, gender, ethnicity, and medical center for ages >18. Outcomes were assessed by ICD 9/10 codes for ASHD, MI, angina, atherosclerosis, and ischemic stroke. Baseline data include BMI and ICD9/10 codes for HTN, HLD, COPD, DM, HIV, HepC, CKD, and hematuria. Prevalence of baseline comorbidities were compared with conditional logistic regression while risk of ASCVD outcomes was estimated with stratified Cox proportional hazards regression, both adjusted for other risk factors.

RESULTS: We identified a cohort of 737 VWD (age 36, 79% female), 419 Hemophilia (age 41, 75% male), with a total N=4,568 including matched controls. Prevalence of HLD, DM, and CKD were similar at baseline while a higher proportion of HTN was seen for VWD (17% vs 13%, P=0.03) but not for Hemophilia (22% vs 18%, P=0.25). After controlling for known ASCVD risk factors, ASCVD outcomes were similar for Hemophilia (HR=1.01, P=0.97) and VWD (HR 1.44, P=0.07).

CONCLUSIONS: Our study demonstrates that coagulopathy patients, specifically VWD, may have higher rates of hypertension and may be at equal or even higher risk of ASCVD. Mitigating risks such as hypertension through primary prevention is warranted. Further investigation into the interaction of statins and anti-hypertensives in these cohorts will be of value.

ABSTRACT TITLE: COVID-19 and Its Impact on Resident Education and Wellness

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AFFILIATIONS: Kaiser Permanente Woodland Hills Family Medicine Residency

INTRODUCTION: As the novel coronavirus (SARS-CoV-2) epidemic and its medical complications (COVID-19) profoundly changed our society, social distancing and self-quarantine has become the new normal. As part of this changing landscape, residents have encountered new obstacles in medical learning, changes in patient care, and reduced interaction with patients and social support. We conducted surveys of residents at a family residency program to assess these perceived changes on education and mental wellness.

METHODS: Family Medicine residents from KPWH (Kaiser Permanente Woodland Hills) were emailed online anonymous surveys, initially on 4/7/20, with a 3-week follow up sent on 4/29/20. Questions ranged from topics including comfort levels on COVID-19 knowledge/medical management; types of patients seen in/outpatient (confirmed COVID-19 patients and patients under investigation (PUI)); physician burnout; and perceived support and effects on training. Depending on the question, responses were made on a 10-point Likert scale, multiple choice, or free response. Averages and standard deviations were obtained for most questions and compared.

RESULTS: Of the 18 KPWH residents, we received 14 and 11 responses on each respective survey. Of the 18 KPWH residents, we received 14 and 11 responses on each respective survey. Over this time, residents felt more confident in COVID-19 diagnosis (7.0 ± 2.3 to 7.5 ± 1.6) and management (5.3 ± 2.5 to 6.0 ± 2). More residents became involved in PUI/confirmed cases (64% to 72%). More residents felt their inpatient training was negatively affected (14% to 64%). Respondents felt overall supported by their co-residents (9.2 ± 1.1 to 9.3 ± 1.0) and faculty (9.1 ± 1.0 to 9.2 ± 1.1). Residents felt more socially isolated (7.2 ± 2.3 to 7.5 ± 2.3). Burnout perception did not change (5.2 ± 2.5 to 5.2 ± 2.4), though concerns of burnout decreased (6 ± 2.5 to 5.5 ± 3.1).

CONCLUSIONS: Overall, COVID-19 has changed residency education and mental wellness in this brief 3-week time. The KPWH residents surveyed became more involved in care of COVID-19 patients and felt more confident in its diagnosis and management. Though social isolation increased, they felt supported by the residency. Medical education was negatively affected overall. Concerns of burnout decreased as perceived burnout remained the same.

ABSTRACT TITLE: Antibiotic Dosing Guidance in the Setting of Kidney Dysfunction

AUTHORS: Melissa A. Brizuela, MD

AFFILIATIONS: UCLA Family Medicine

INTRODUCTION: During a patient's hospitalization, antibiotics are used frequently to treat infections. However, a patient's history may include chronic kidney disease or develop kidney dysfunction during their treatment. This commonly requires the use of creatinine clearance to guide choices. In our current Electronic Medical Record, there is no easy way to monitor and utilize this information quickly while preparing antibiotic orders. This project aims to provide more clear guidance on recommended dosages.

METHODS: A pretest survey was completed by the FM residents and faculty along with the IM residents to determine the current level of ease and guidance provided. Collaboration then occurred with the CareConnect development team and the Infectious Diseases department to explore what changes were possible within the antibiotic inpatient ordering set, lab results review, and storyboard banner, and the level of automation that can occur. The changes that could be implemented within a several month time span were then made. A post survey was sent to the same demographic to compare for signs of improvement.

RESULTS: Survey data is still being collected and pending at this time.

CONCLUSIONS: Many clinicians do feel that improved antibiotic guidance would be beneficial. Results pending on whether the current changes are sufficient or could be expanded upon in future projects.

ABSTRACT TITLE: Effects of Pretreatment with Non-Steroidal Anti-inflammatory Drugs (NSAIDs) in Patients Undergoing Outpatient Gynecologic Procedures

AUTHORS: Eric Gama MD, Cindy Yang MD, Aubrey Tell MD

AFFILIATIONS: Dignity Health Family Medicine Residency Program

INTRODUCTION: Patients who require endometrial biopsy (EMB) for abnormal uterine bleeding and intrauterine device (IUD) for long-term contraception are common in our clinic practice. The most common concerns among these patients are the degree of pain and discomfort during and after the procedure; yet delaying these procedures can lead to adverse outcomes. The aim of the study is to assess whether premedication with NSAIDs helps to mitigate the patient's pain, anxiety, and improve their overall experience.

METHODS: We conducted a five-question survey to adult patients with good literacy and mental capacity who presented to the Northridge FM Clinic for EMB or IUD insertion. Surveys were distributed post-procedure and included a Visual Analog Scale to rate pain intensity during and after the procedure; whether pain was better, worse, or as expected. We also collected demographic information, medical history, and provider rating of the procedure technical difficulty. Data was stratified into two groups (patients who took NSAIDs and those who didn't) and analyzed to compare the effects of analgesic premedication on pain level and overall patient experience.

RESULTS: Of the total number of respondents, 38% of patients took some form of NSAIDs (i.e. Ibuprofen, Naproxen) at least 15 minutes before the procedure (EMB or IUD insertion); 62% of the patients did not take any form of oral analgesic. The level of pain during and immediately after the procedure was significantly lower in the group of patients who were premedicated with any type of NSAIDs. In regards to the patient's overall experience, 50% of the non-NSAID group reported the procedure as "worse than I expected" compared to 25% of the premedicated group.

CONCLUSIONS: NSAIDs significantly reduced the pain and discomfort during and after common in-office gynecologic procedures. OTC analgesics have several advantages, including patient-controlled administration, low cost, and no interruptions in clinic flow when taken beforehand. This study highlights the potential benefit of premedicating with NSAIDs as an effective way to improve pain management and the patient's procedural experience.

ABSTRACT TITLE: Growing Grit at the Front Lines: Its Potential Impact on Professional Quality of Life Among Family Medicine Residents

AUTHORS: Carolyn Pearce, MD; Jacob David, MD; Ron Bale, PhD

AFFILIATIONS: Ventura County Medical Center Family Medicine Residency Program

INTRODUCTION: Approximately 46% of Family Physicians report symptoms of burnout. Understanding, preventing and treating burnout is challenging. Angela Duckworth developed the concept of Grit, a combination of passion and perseverance, as a means to understand an individual's success. Small studies have shown an indirect correlation of Grit and burnout in physicians. The purpose of this project was to evaluate quality of life among Family Medicine residents and to assess a curriculum intervention designed to improve resiliency through guided, meaningful reflection based on the concept of Grit.

METHODS: A curriculum intervention was designed to help residents "grow Grit" and tested using the Professional Quality of Life Scale and Grit Scale. All resident physicians were invited to participate in the curriculum intervention. Residents completed a pre-intervention survey that included the Professional Quality of Life Scale and Grit Scale. Residents then participated in a two-part curriculum intervention that introduced residents to the concept of Grit in a workshop (part I) followed by the opportunity to discuss workshop content with their faculty mentor (part II). Residents then took post-intervention survey that included the Professional Quality of Life Scale and the Grit Scale and elicited feedback on the intervention.

RESULTS: Twenty-four residents completed the initial survey, twenty- two residents attended the Grit Workshop presentation. Twenty residents completed the post- intervention survey. 92% of respondents had moderate levels of compassion satisfaction and 96% of respondents had moderate levels of burnout. No significant correlation was found between Grit scores and burnout or secondary trauma. There was a weakly positive correlation between Grit scores and compassion satisfaction ($r = 0.36$). Pre-intervention and post-intervention Grit scores changed very little. Residents appreciated the time for reflection, but would have preferred better structure to the workshop.

CONCLUSIONS: Overall, higher Grit scores may correlate with improved quality of life in residents. Project participants appreciated time for reflection. Based on resident and faculty feedback, this curriculum may be enhanced with improved structure, better follow up and greater resident-resident engagement and resident-faculty engagement. In sum, this pilot project served as a starting point for the development of a more robust and comprehensive approach to resident wellness and resiliency.

ABSTRACT TITLE: Video-Delivered Education for Parents at a Los Angeles County Level 1 Nursery

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INTRODUCTION: Parental guidance bridges socioeconomic disparities in child development but is delivered in varied ways. Of 3.7 million US births in 2018, 33% of mothers began prenatal care after the 1st trimester and 48% of newborns were non-white race. Parents given video guidance rated higher confidence with infant care compared to those given handouts (Paradis). We aim to standardize parental guidance in the Harbor-UCLA Level 1 Nursery with videos and improve education through quality improvement methods.

METHODS: Parents will receive videos about baby's feeding, voiding, emergencies, home safety, vaccines, and appointments based on the American Academy of Pediatrics guidelines. The English and Spanish videos will be delivered on iPads, during rounds to minimize dyad disruption. Anonymous parent surveys ask for demographics and confidence level related to video content. Staff will complete surveys before and after the patient video intervention. They will ask about demographics, impact on workflow, and impression of standardization of education. We will use PDSA cycles and review progress with stakeholders to continually reevaluate the video education.

RESULTS: We will use descriptive statistics to report demographic characteristics. We hypothesize that most parents will agree or strongly agree with feeling confident in infant care skills after the video. Chi-square analysis will be used to compare agreement rates for first-time parents, lower education level, and language other than English. We will use Chi-square analysis to determine whether staff surveys show increased agreement for videos improving workflow and standardizing parental guidance. We anticipate adapting our video intervention based on feedback from stakeholders.

CONCLUSIONS: Parental education videos have been found to be useful to patients and staff. By implementing a QI project to standardize videos and making them available to first-time and Spanish-speaking parents, we expect to increase parents' confidence in infant care. Future research after this QI project may describe which parents decline video guidance, quantify the time impact on workflow, and analyze retention of video content.

ABSTRACT TITLE: Use of the Modified Female Athlete Triad Cumulative Risk Assessment Tool to Assess Risk for Bone Stress Injury Prospectively in Male Collegiate and Club Athletes of Various Sports

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Acknowledgements: Oscar Rinon, ATC, Mark Pocinich, ATC, Carl Stocklin, ATC, Janice Lee, ATC, Chris Gibson, ATC. The research described was supported by NIH

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INTRODUCTION: Prior studies have demonstrated that a Modified Female Athlete Triad Cumulative Risk Assessment (CRA) tool tailored for the male athlete is predictive for bone stress injury (BSI) in male collegiate distance runners. This study aims to prospectively identify the prevalence of male collegiate and club athletes in a variety of sports at risk for BSI using this CRA tool, and to evaluate and compare risk scores based on sport to identify those at greatest risk.

METHODS: Team physicians at a single collegiate institution prospectively screened 155 male athletes in various sports at the time of their pre-participation exam (PPE) or other settings over one year using the Modified Female Athlete Triad CRA tool. Risk factors assessed include low energy availability with or without disordered eating/eating disorder (DE/ED), low body mass index (BMI) and/or history of rapid weight loss (5 to >10% body weight within one month), prior BSI, and history of low bone mineral density (BMD). Each athlete was categorized as low, moderate or high risk for BSI based on scores from the CRA.

RESULTS: Of 155 male athletes, 125 were collegiate athletes from track and cross country (50), baseball (25), volleyball (20), basketball (11), and soccer (19), and 30 were club athletes from rowing (26) and gymnastics (4). 92.3% were categorized as low risk for BSI, 6.5% moderate risk, and 1.3% high risk. The most common risk factor among all male athletes was prior history of BSI (17.4%), followed by low energy availability with or without DE/ED (5.2%), low BMI and/or a history of rapid weight loss (3.2%), and low BMD (3.2%). There was no difference in the risk score distribution between sports among either collegiate athletes or club athletes.

CONCLUSIONS: The majority of male athletes were low risk for BSI. Of the 7.8% who were moderate or high risk, the most common risk factor was prior BSI, which has been shown to be the strongest predictor for future BSI. This study is the first step in use of a CRA for assessing BSI risk in male athletes in a variety of sports. Future studies are needed to determine the predictive value of the CRA for assessing BSI risk at the PPE.

ABSTRACT TITLE: Patient Health Education Preference Survey at Lomita Family Health Center, Harbor-UCLA

AUTHORS: Joanne Cho, MD MPH, Jeffrey Lin, MD MPH, Elberth Pineda, MD MPP, Sarah (Fathima) Nazarkhan, MD

AFFILIATIONS: Harbor-UCLA Department of Family Medicine

INTRODUCTION: Deficits in health literacy are associated with poor health outcomes. Health education is an essential tool that individuals can use to increase their knowledge and improve their health. In our primary care setting, we seek to establish a baseline understanding of our clinic population, specifically their preferences regarding modes of obtaining health education. This data could be used to change the way we educate our patients with the goal of improving their health literacy.

METHODS: A needs assessment was performed through an anonymous, voluntary survey that was provided to our patients during their scheduled clinic visits at Lomita Family Health Center. Surveys were provided in either English or Spanish to only adults over the age of 18. Information collected through the survey included demographic data such as age, ethnicity, primary language, education level and individual health conditions. In order to gauge how our clinic can best serve our patients in improving their health outcomes, we also sought information on patients' preferences on how to learn about their health.

RESULTS: 615 surveys were collected over a seven-week period. 291 participants identified English as their primary language, with 288 being Spanish-speaking. 64.2% of respondents identified as Latino, followed by Caucasian (12%). Nearly 60% of participants were over age 50, and 56.4% had a high school education level or less. 27.5% reported having three or more medical conditions--with hypertension and diabetes being the most common, followed by chronic pain. The majority of participants obtained health information at their doctors' visits, and preferred to continue receiving information from direct conversations with their provider or handouts.

CONCLUSIONS: The results from the survey can be used to change the way our clinic educates patients and improves their health literacy and outcomes. By modifying our practice to incorporate the necessary time to have these conversations with our patients, and providing educational handouts for common medical conditions that affect our clinic population, we would be better equipped to positively impact our patients' health.

ABSTRACT TITLE: Assessing the Impact of a Quality Improvement Program to Decrease Missed Opportunities for HPV Vaccination in Adolescents at UFHC

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Michelle A. Bholat, MD, MPH

AFFILIATIONS: UCLA Family Medicine Residency Program

INTRODUCTION: Human papillomavirus (HPV) is a highly prevalent infection that is associated with most genital and oropharyngeal cancers, yet only half of US adolescents have completed the vaccine series. As part of a nationwide collaboration, UCLA Family Health Center (UFHC) implemented a quality improvement program to increase HPV vaccination rates. Analysis of patient encounters and vaccination statistics was done to assess missed opportunities (MOs) at baseline and during a six-month intervention period.

METHODS: As part of the fifth cohort of the National Immunization Partnership with the American Pediatric Association (NIPA), data was collected from a population of adolescents aged 9-17 who visited UFHC for any reason (e.g., physicals, problem visits) from Nov-2018 to Jun-2019 (n=967). During the study period, physician support staff were provided access to educational materials and webinars to support project goals, including an objective to decrease rates of MOs in patients eligible to receive any dose of HPV vaccine by 20% from baseline. Patient encounters and vaccination outcomes were evaluated to assess impact of intervention measures.

RESULTS: A patient encounter was considered an MO if a patient was due for an HPV vaccination but did not receive it. Most eligible patients had problem-focused visits. Quantitative analysis showed there was no improvement in decreasing MOs during intervention period, despite early though unsustainable improvement. Baseline data showed 59% of encounters were MOs, and post-intervention data showed a 61% MO rate. There was not enough documentation to determine why a vaccine was not given, including any reason for refusal. Analysis of previous NIPA cohorts nationwide generally showed higher baseline rates of MOs, but greater reduction after intervention.

CONCLUSIONS: NIPA interventions did not reduce MOs at UFHC. Outcomes are affected by encounter length, seasonality, parental/guardian vaccine hesitancy, and physician communication. Notably, UFHC baseline HPV vaccine rates were lower than NIPA cohorts. Physicians and support staff should seek effective interventions via performance improvement rapid-cycle changes to develop communication strategies to address HPV vaccine hesitancy.

ABSTRACT TITLE: Impact of Family Medicine Resident-Run Sports Medicine Clinic as a Method for Decreasing Orthopedic Referrals

AUTHORS: Andrew Le, D.O.; Monique George, M.D.

AFFILIATIONS: Kaiser Permanente Woodland Hills

INTRODUCTION: Over 40 million Americans suffer from musculoskeletal disorders, and multiple studies have shown that additional training in MSK increases physician confidence while reducing referral rates to specialists (1-2). The resident-run Sports Medicine Clinic (SPC) was created to improve musculoskeletal training for residents while reducing the number of orthopedic referrals. The aim of this project was to analyze the clinic's utilization rate, specialty referral patterns, and resident satisfaction.

METHODS: In partnership with executive leadership, the pilot program began in November of 2018, accepting referrals exclusively within Northside Family Medicine. A manual retrospective chart review of each patient encounter was collected to determine the utilization rate at 5 months from clinic inception. In addition, we compared orthopedic referral patterns from Northside Family Medicine with 5 other sites in the San Fernando Valley between the months of November 2017 – April 2018 (Prior to SPC) compared with November 2018 and April 2019 (during SPC). Finally, a 10 question resident satisfaction survey was collected 1.5 years after clinic inception.

RESULTS: The SPC had an 80.92% utilization rate with a low 5.3% referral rate to orthopedic surgery. Regarding our referral patterns, all 5 medical centers increased referral rates to the orthopedic department from 2018 (before SPC) to 2019 (during SPC) EXCEPT for Northside Family Medicine (the only center accepting referrals to SPC). Using a paired T-test to analyze the resident satisfaction surveys (n=15), SPC was highly favorable among residents compared to other outpatient rotations, and showed a statistically significant improvement in resident's confidence level with procedures (60%, $p < 0.001$) and physical exam maneuvers (56%, $p < 0.001$).

CONCLUSIONS: Our study demonstrates that the implementation of a resident-run Sports Medicine clinic may be mutually beneficial to both a healthcare organization and residency program. The clinic not only improves resident learning through procedural training and physical exam competency, but also simultaneously reduces the number of non-surgical orthopedic referrals.

ABSTRACT TITLE: Mediation Assisted Therapy Made Easy

AUTHORS: Bernadette Pendergraph, MD; Gloria Sanchez, MD

AFFILIATIONS: Harbor-UCLA Medical Center

INTRODUCTION: Despite the rise in opioid use disorder (OUD) deaths and the number of providers obtaining a DEA X waiver, only 48% of X waived physicians are prescribing buprenorphine. It can take years for patients to obtain medication assisted therapy (MAT). At HUCLA we plan to integrate a “medication first” practice for opioid use disorder. To meet the critical demand of OUD patients we aim to create a protocol that allows initiation of MAT at any primary care visit.

METHODS: Conduct pre and post surveys of providers and clinic staff assess for knowledge and attitudes towards patients with substance use disorders. Create an EMR “MAT Visit” Work flow that all providers can use. Continue to assess and address stigma and structural barriers that effect the accessibility of MAT for OUD patients. IF OUD patient does not have appointment, offer patient a specialty appointment.

RESULTS: We were surprised to learn a few but important number of providers and staff do not define substance use disorders (SUD) as a medical condition and may have reservations providing care. Despite this barrier nearly 100% of providers and staff want to learn more about treating patients with SUD. Many providers have not used their X Waivers due to not identifying a patient with OUD. The second and third most common reasons were comfort using their waivers for the first time and time constraints. Curiously a small number of providers stated they were concerned with institutional/government regulations as a barrier to using their waivers.

CONCLUSIONS: Harbor UCLA Family Medicine has the highest number of X Waiver providers at our institution. Despite this important step in expanding MAT services only 30% of providers have used their X waiver since July 2019. We have seen a rise of patients in our MAT clinic. We plan on completing a post survey June 2020 and implement identifiable areas we can improve to facilitate MAT at any primary care visit.

ABSTRACT TITLE: Increasing Appropriate Substance Use Disorder Diagnoses and Referrals Using Electronic Health Record (EHR) Best Practice Advisories (BPAs)

AUTHORS: Vinh Lam, MD; Clara Lin, MD

AFFILIATIONS: UCLA Family Medicine Residency; UCLA Department of Internal Medicine; UCLA Health Information Technology

INTRODUCTION: Substance use disorders (SUD) are a leading cause of disability worldwide yet are largely underdiagnosed and undertreated. Screening tools like the DAST-10 and AUDIT-C can help primary care physicians assess a patient's risk of having a SUD or alcohol use disorder (AUD), respectively. This study aims to assess if utilizing these screening tools in the EHR to dynamically trigger Best Practice Advisories (BPA) will increase diagnostic rates of SUDs and referrals to appropriate specialists.

METHODS: We extracted data from the EHRs of primary care clinics within a large health care organization in Southern California. Rates of documented SUD and AUD diagnoses and referrals to behavioral health specialties based on the AUDIT-C and DAST-10 scores were evaluated over a 2-year period from 2018-2019. A BPA tool was then built in the EPIC EHR environment to increase and streamline appropriate diagnoses of SUD/AUD and referrals to behavioral health specialists. The BPA will be in production in 2020 with the intent to evaluate post-implementation rates of SUD/AUD diagnoses and referrals.

RESULTS: Of the 36,955 patients who were screened with the AUDIT-C tool, 7541 patients scored in the moderate to high alcohol use category; only 234 (3.1%) of these patients had a documented AUD or related disorder; of these patients, only 68 (29.1%) received a referral to a behavioral health specialist. 33,945 patients were screened with the DAST-10 tool; 714 of these patients scored in the moderate to severe substance use category; of these patients, 122 (17.1%) had a documented SUD or related disorder; only 37 (30.3%) of these patients received a referral to a behavioral health specialist. Results after the BPA implementation are still pending.

CONCLUSIONS: Patients at higher risk of substance and alcohol disorders are being underdiagnosed with SUD/AUD or related disorders. These higher risk patients are also being under-referred to the appropriate behavioral health specialist. Utilizing the EHR to implement BPAs that dynamically suggest diagnoses and referrals based on widely used screening tools may ultimately increase rates of appropriate treatment for high risk patients.

ABSTRACT TITLE: Starting from Scratch: The Process of Creating a Women's Health Track Within UCLA's Family Medicine Residency Program

AUTHORS: Rebecca Citron, MD; Amy Tressan, MD; Melissa Brizuela, MD; Catherine Peony Khoo, MD; Neha Chande, MD, MHS; Monica Plesa, MD

AFFILIATIONS: UCLA Family Medicine Residency Program

INTRODUCTION: Women's health care is an integral part of family medicine; after all, females have a higher mean number of primary care office visits per year than males across all age groups (1). Thus, family physicians should be trained to address the unique, multidisciplinary aspects of issues affecting women throughout the life cycle. Women's health residency tracks have been shown to be an effective way of promoting women's healthcare and scholarship (2).

METHODS: In response to perceived interest, we created a women's health track for our residency program. We began by surveying senior residents on their experience performing women's health procedures such as IUD and Nexplanon insertions or removals, colposcopies, endometrial biopsies, and obstetric ultrasounds, and their comfort performing them independently. We then looked to two other preexisting residency tracks (Sports Medicine and Global Health), as well as the AAFP's women's health curriculum guidelines to guide the creation of our own mission statement and curriculum. We tailored the didactics and track graduation requirements over time.

RESULTS: The UCLA Women's Health Track curriculum and graduations requirements were created to meet the goals of interested residents. The track was proposed to and approved by first the program director, and then the residency board, over the course of one academic year (2017-2018). The track officially began to host monthly women's health didactics, workshops, and journal clubs beginning July of 2018, which were attended by track members, but also other resident members, faculty, and residents from other specialties. At the end of 2 years, 100% of residents who responded to a poll said they believed the track benefitted the residency program.

CONCLUSIONS: We were able to craft our curriculum to meet our goals, and the track is perceived positively by resident track members and the rest of the residency program. Residents felt the track helped supplement their knowledge and skills in women's health. Track members agreed that the track provided extra support to those who wanted additional training. Overall, the creation of the track has been a success.

ABSTRACT TITLE: Assessment of Provider Knowledge of Prediabetes Guidelines at Harbor UCLA Family Medicine Residency Clinic

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AFFILIATIONS: Harbor UCLA Family Residency Program

INTRODUCTION: Prediabetes screening guidelines exist as published by the American Diabetes Association; compliance is unclear. Tseng et al surveyed 155 PCPs on knowledge/practice of ADA guidelines. Results showed 6% of providers identified all risk factors that should prompt prediabetes screening, fewer than 20% were able to correctly identify prediabetes lab parameters. We aim to replicate this study to assess knowledge and increase awareness among residents regarding prediabetes guidelines.

METHODS: Between June 1- 30, 2020, 30 residents of the Harbor UCLA family medicine program will complete pre and post prediabetes survey validated by the Tseng study. A 17 question survey will be distributed, accompanied by a cover letter describing the intent of the study. At 2 weeks the survey will be closed and results will be tallied. A 1 page information sheet about Prediabetes created by the research team will be distributed to participants. At 4 weeks, the same 17 question survey will be distributed. At 6 weeks the follow-up survey will close and data will be calculated regarding the mean test scores before and after intervention.

RESULTS: Data collection, analysis and results are pending IRB approval. IRB application is currently in its final stage of review.

CONCLUSIONS: We anticipate that this study can help us increase awareness of the estimated 86 million US adults affected by prediabetes and improve management to prevent diabetes. We hope to identify opportunities that are unique to our study population to improve provider communication about and management of prediabetes at the Harbor UCLA Family Medicine Program.

ABSTRACT TITLE: Ethnic and Gender Differences in Weight Loss and Adoption of Evidence-based Strategies in a Shared Decision-Making Intervention for Diabetes Prevention

AUTHORS: Yelba Castellon-Lopez, MD, MS^{1,3}; O. Kenrik Duru, MD, MS^{2,3}; Norman Turk, MS²; Gerardo Moreno, MD, MS^{1,3}; Amanda Vu, Pharm D²; Rintu P. Saju³; Chi Hong Tseng, PhD²; Kia Skrine-Jeffers, PhD, RN⁴; Carol M. Mangione, MD, MPH^{2,3,5}; Keith C. Norris, MD, PhD^{2,3}; Dominick Frosch, PhD⁶; Tannaz Moin, MD, MBA, MSHS^{2,3,7}

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INTRODUCTION: Approximately one-third of Americans (88 million) have prediabetes, with national trends for Hispanics and non-Hispanic Blacks showing recent increases in incidence and prevalence. To promote health equity within at-risk populations, interventions should aim to achieve equitable clinical outcomes among all patient subgroups. The goal of this study is to evaluate differences by race/ethnicity or gender in weight loss and uptake of evidence-based diabetes prevention (diabetes prevention program (DPP) and/or metformin) after delivery of a shared decision-making (SDM) intervention for diabetes prevention.

METHODS: We analyzed data from the Prediabetes Informed Decisions and Education (PRIDE) study to evaluate differences in 1) percent weight loss and 2) intervention uptake (DPP and/or metformin), stratified by gender and by race/ethnicity. We used generalized linear mixed effects models to compare (1) percent weight change at 12 months stratified by race/ethnicity and by gender and (2) DPP and/or metformin uptake at 12 months stratified by race/ethnicity and by gender. We analyzed the interaction between gender and age on uptake.

RESULTS: A total of 515 patients completed the intervention between 2015 and 2018. Participants were on average 56 years old (SD=11), 57.9% reported incomes > \$85,000 and 55.7% were female. Participants self-identified as non-Hispanic White (41.0%), non-Hispanic Asian/Pacific Islander (19.3%), Hispanic (17.4%), and non-Hispanic Black (15.0%). Compared to non-Hispanic White participants, non-Hispanic Black and Hispanic participants lost significantly less weight at 12 months (-1.0% for non-Hispanic Black, -1.2% for Hispanic, and White -3.25%, both p<.01). There were no significant differences in diabetes prevention strategy uptake by race/ethnicity. Among those who had uptake (n=169 who choose DPP and/or metformin), we found that younger (p=.009) and male participants (p=.03) were more likely to initiate metformin while older (p=.003) and female participants (p=0.01) were more likely to initiate DPP. There were no significant differences in percent weight loss by gender.

CONCLUSIONS: We found significantly lower mean weight loss among Hispanic and non-Hispanic Black participants compared to non-Hispanic White participants at 12-months follow-up. We also found increased uptake among women as they age, but decreased uptake among men as they age. Differences in weight loss by race/ethnicity and uptake of diabetes prevention strategies by gender have important implications for national diabetes prevention efforts.

ABSTRACT TITLE: Experiences with shared-decision-making and advanced care planning among older Spanish-speaking Latinos

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INTRODUCTION: Advance care planning (ACP) helps individuals clarify their values and preferences for future care, and to communicate their wishes to loved ones, surrogate decision-makers and healthcare providers in advance of when they become unable to make healthcare decisions. Older Spanish-speaking adults report having among the lowest rates of completion of advance directives, documents included in the medical record that specify care goals. Shared-decision-making (SDM) interventions have facilitates patient-centered care, which is important when supporting older Latinos in making ACP decisions. SDM has proven to be particularly beneficial in ethnic minority populations with low literacy and low socioeconomic status groups. The aim of this study was to pilot an online SDM module delivered in Spanish to better understand experiences with advanced care planning in a sample of older Spanish-speaking Latino adults.

METHODS: In 2018-2019, we recruited a sample of older community dwelling Latino adults (n=20) from Los Angeles. Participants were asked to complete a 30 minute 1:1 session with a physician to jointly review an online SDM module and discuss ACP. The online module was developed by Healthwise®, a national leader in SDM. Qualitative interviews were subsequently conducted to examine participants' experiences with SDM and ACP. All sessions and interviews were conducted in Spanish, audio recorded and coded for common themes, and analyzed using qualitative methods.

RESULTS: All participants self-identified as Latino and the mean age of participants was 69 years (range 59-81). Sixty-five percent were female. The interviews revealed that SDM improved awareness about ACP options and facilitated conversations with family members. The interviews also highlighted a four-step process for engaging patients in ACP including awareness, initial conversations, conversations with medical providers, and action. We also identified potential opportunities for developing culturally-sensitive interventions at different points in the process.

CONCLUSIONS: Disparities in ACP completion exist, particularly for low-income and low-literacy populations. This study highlights opportunities to better understand the process-based steps and targeted interventions needed to address disparities in ACP completion among Spanish-speaking low-income Latinos.

ABSTRACT TITLE: Implementation of a Multi-county Sponsored Health Insurance Program to Improve Access to Primary Care Among Rural Immigrant Latinos in Northern California

AUTHORS: Yelba Castellon-Lopez, MD, MSHPM^{1,2}; Honey Tanya, MPP¹; Denise Marquez BA¹; Gerardo Moreno, MD, MSHS^{1,2}

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INTRODUCTION: Undocumented Latinos in the United States face significant barriers to accessing primary care services. For rural undocumented Latinos, these barriers are more pronounced and result in significant health disparities in health outcomes, quality of life, and access to health care. The Path to Health (PTH) program is a 35-county sponsored health coverage program that provides access to primary care, preventive care, and pharmacy services for up to 25,000 undocumented Latinos ages 21 and older living in rural Northern California. Our objective is to understand facilitators and barriers to implementation of the PTH program from key stakeholder perspectives.

METHODS: In this qualitative study we collected (n=45) open-ended semi-structured interviews with key stakeholders at high enrollment and low enrollment sites (n=8). Two independent investigators identified best practices in patient engagement strategies, and opportunities for improved implementation across participating sites. PTH is currently being piloted across 16 Federally Qualified Health Centers. This evaluation is in partnership with a state-level initiative and the first program of its kind to offer primary care, pharmacy, and laboratory services to undocumented residents in rural counties who would otherwise have no other source of primary care coverage. Key stakeholder interviews included healthcare providers, community outreach workers, clinic leadership, and front-line staff.

RESULTS: Patient engagement strategies included emphasis on “in-reach” vs outreach, scrubbing charts, enrolling patients on the same day as their scheduled visits, need for protected staff time, and development of new workflows to accommodate patient need/schedule. Clinics with leadership support and culturally adapted outreach efforts were more successful at enrolling patients. Coordination of laboratory and pharmacy benefits was most challenging due to outsourcing of services outside the health centers. Concerns about public charge greatly affected enrollment efforts at all participating community health centers. Patient’s trust of the community health center partially mitigated some of the concerns about Public Charge.

CONCLUSIONS: It is important to understand factors that contribute to implementation of this pilot program aimed at improving access to healthcare among this uniquely vulnerable population. Identifying best practices to engage undocumented persons is increasingly important particularly in rural areas.

ABSTRACT TITLE: Effects of Monthly Wellness Modules on Resident Wellness

AUTHORS: Monica Jain, MD

AFFILIATIONS: Department of Family Medicine at Kaiser Permanente Woodland Hills

INTRODUCTION: Studies reveal that US physician and resident burnout rates exceed 50%, and physician suicide rates are 1.4 to 2.3 times higher than the general population. As the realities of physician burnout have come to light, there has been a movement towards wellness programs in residencies to promote physician well-being and enhance professional fulfillment. The purpose of this study was to evaluate the efficacy of a wellness initiative, a series of mini wellness modules, in improving resident burnout.

METHODS: Seventeen family medicine residents were asked to fill out a pre- and post-intervention survey using the Professional Fulfillment Index (PFI), a previously validated index to assess physician burnout and intervention efficacy. The intervention for this study included five mini wellness modules given over the course of six months. The outcome variables were the mean professional fulfillment scores (range 0-64; higher scores indicate more fulfillment) and self-reported mistakes (0-20; higher scores indicate more mistakes) based on a Likert scale. A t-test with two-tailed distribution and unequal variances was used to analyze the data.

RESULTS: Among seventeen subjects, fourteen submitted both pre- and post-surveys and were included in the main analysis. The mean (SD) resident professional fulfillment score according to the survey was 29 (6.3) at baseline and 29 (4.9) at six months, with a mean change of 0 (0.24). Self-reported mistakes saw a mean decrease of 0.45 (0.32). None of the changes were statistically significant, with all p-values greater than 0.05.

CONCLUSIONS: No change in resident burnout was seen in response to the mini wellness modules in this analysis, however, a small decrease in the number of self-reported mistakes was noted. The data from this study is not statistically significant. Further evaluation is needed to determine the most effective way to address physician well-being.

ABSTRACT TITLE: Management of Hypertension, Diabetes, and Hyperlipidemia through video visits: A Literature Review on Health Outcomes

AUTHORS: Edward E Cardenas, MD, Derjung Tarn, MD, Ph.D

AFFILIATIONS: UCLA Family Medicine

INTRODUCTION: Patients with uncontrolled hypertension, diabetes and hyperlipidemia risk worsening morbidity without appropriate follow up. Barriers such as lack of time or easy access to transportation impede a patient's ability to follow up in clinic. Smartphones are increasingly accessible and provide the opportunity to follow up through patient to provider videoconferencing. The goal of this review is to determine the effect of video visits on health outcomes in the management of hyperlipidemia, hypertension, or diabetes.

METHODS: We searched Pubmed, Embase, Web of science, and the Cochrane Library through May 2020 for studies that utilized videoconferencing to manage hypertension, type 2 diabetes, or hyperlipidemia. Studies were excluded if the videoconference did not include the participant. MeSH terms used include "diabetes" "hyperlipidemia" "hypertension" AND MeSH terms "telemedicine" "teleconferencing" "telehealth" "video visit" "virtual visit." We examined studies that utilized objective measures of control such as trends in blood pressure, Hgb A1c, or LDL. Studies were excluded if they did not have a control group.

RESULTS: Search resulted in 7,160 studies and 17 met inclusion criteria. Most of the studies used other interventions in addition to videoconferencing, such as tele-monitoring and tele-coaching. 14 out of 15 (93%) studies assessing Hgb A1c changes found statistically significant improvements or no difference in A1C in the intervention group. The intervention group had statistically significant improvement or no difference in LDL levels in 10 out of 10 studies. There was either no difference or improved control of systolic blood pressure in 10 out of 11 (90%) studies.

CONCLUSIONS: Video visits may have similar or improved outcomes compared to in-person clinic visits. This is particularly evident in diabetes management; however, many of the studies used various different interventions in addition to video visits so a firm conclusion cannot be made. Further research is needed comparing video visits to in-person follow up with primary care physicians.

ABSTRACT TITLE: Efficacy and Safety of Empagliflozin Use in Harbor-UCLA Family Medicine Clinic Patients with Type 2 Diabetes Mellitus

AUTHORS: Dara Nguyen, PharmD Candidate 2020, Thao Nguyen, PharmD Candidate 2020, Josephine Aranda, PharmD, APh, John Cheng, MD

AFFILIATIONS: Western University of Health Sciences College of Pharmacy, Harbor-UCLA Family Medicine Clinic

INTRODUCTION: Studies have shown sodium-glucose co-transporter-2 (SGLT2) inhibitors reduce A1C up to 1% and slow the progression of cardiovascular (CV) and kidney disease. Within Harbor-UCLA (HUCLA) pharmacies, empagliflozin is available, but formulary restricted to CV patients or other limiting prior authorization criteria. In this study, we assess the efficacy and safety of empagliflozin use in HUCLA Family Medicine Clinic (FMC) patients with Type 2 Diabetes Mellitus (T2DM).

METHODS: A retrospective chart review was performed for HUCLA FMC patients with T2DM who were prescribed empagliflozin in between 11/1/14 to 12/31/19. Inclusion criteria: 18 years-old or older, diagnosis of T2DM, at least 1 clinic visit and 1 A1c level taken after starting empagliflozin. Exclusion criteria: T1DM, pregnant or nursing during trial period, ESRD, dialysis or eGFR <30 mL/min/1.73m². Primary outcome was to measure change in A1c from baseline to present or last date of drug use. Secondary outcomes assessed changes in weight, blood pressure, SCr, eGFR, and incidence of cardiovascular events, and potential adverse drug events (ADEs).

RESULTS: Forty-two subjects met inclusion criteria. At baseline, mean age (\pm SD) was 55 (\pm 10) years with mean A1C 9.6% (\pm 1.56). Additionally, 42.9% of subjects had a history of CV events. A1C change from baseline to approximate date of discontinuation or most recent labs was -0.94% (\pm 2.01), $p=0.004$ with average length of therapy of 14.7 (\pm 10.7) months. Mean change in SCr was 0.1 mg/dL (\pm 0.2), $p=0.004$, and eGFR was -6.8 mL/min (\pm 14.75 mL/min), $p=0.004$. There were no significant changes in weight and blood pressure. After empagliflozin initiation, documented ADEs included: 9.5% UTI, 9.5% yeast infections, and 7.1% hypoglycemia.

CONCLUSIONS: In our review, empagliflozin use in our HUCLA FMC patients resulted in expected average A1C reduction with relatively low percentages of ADRs. These results are consistent with findings from established studies, and also support that HUCLA pharmacy formulary criteria for empagliflozin are appropriate. Overall, this study demonstrates that empagliflozin works as expected and is well-tolerated in our patient population.

ABSTRACT TITLE: Hospice Care for Homeless Patients: A Survey of Quality, Access, and Challenges

AUTHORS: Ellie Albertson, MPH¹; Lillian Gelberg, MD²

AFFILIATIONS: 1. Policy and Management, UCLA Fielding School of Public Health; 2. UCLA Department of Family Medicine, Department of Health Policy and Management, UCLA Fielding School of Public Health.

INTRODUCTION: Hospice care is often defined as community-based, interdisciplinary care provided to patients with terminal illness. Access to high quality hospice care is especially important for people who experiencing homelessness (lacking stable or permanent housing) as this population has a higher burden of mental and physical illness, and shorter life expectancy compared to the general population. However, no study has assessed hospice care quality and access for homeless populations on a large scale.

METHODS: To address this gap in the literature, we surveyed licensed hospice facilities in California regarding hospice care quality, access, and challenges for homeless patients. The web-based survey consisted of both closed- and open-ended questions, and required approximately 10 minutes. The sampling frame consisted of licensed hospice facilities (n=1,299). Of these, we obtained an email address for 632 through web search and outreach. The final sample consisted of 111 licensed facilities across 61 organizations (some organizations had branch facilities). We conducted descriptive quantitative analysis, and identified themes in open-ended responses.

RESULTS: Approximately half of facilities reported caring for homeless patients in the past year (mean = 6.5 patients). Of facilities that cared for homeless patients, 60% reported discharging a homeless patient prior to death; over half reported that a homeless patient died without an advance directive. Of all facilities, 39% agreed their organization had capacity to provide care outdoors; 78% agreed they could provide care in shelters. Top-rated challenges for caring for homeless patients were lack of appropriate housing, patient behavioral health conditions, difficulty arranging follow-up care, and limited collaboration with homeless services.

CONCLUSIONS: Opportunities exist at the practice level and the systems level to improve hospice quality and access for patients who are homeless at end-of-life, especially those who are unsheltered. Policies that increase access to temporary and permanent housing could address challenges providers face in caring for this population. Research is needed to understand best practices in supporting the dying homeless in various hospice and housing settings.

ABSTRACT TITLE: Improving Asthma Care in a Residency Clinic

AUTHORS: Kathleen Dor MD, Monique George MD, Shaadi Azadeh MD, Rebecca Berke MD, Jose M. Garcia MD

AFFILIATIONS: Kaiser Permanente Woodland Hills Family Medicine Residency

INTRODUCTION: Asthma results in significant morbidity and mortality in the United States. An important part of the management of asthma is the use of controller medications that prevent airway inflammation and hyperreactivity. Our goals were to improve treatment of asthma in resident paneled patients by decreasing overuse of short-acting beta2-agonists (SABAs), increasing appropriate use of asthma controller medications, and improving performance on the HEDIS asthma medication measure.

METHODS: We measured the percentage of patients 5 – 64 yo who were identified as having persistent asthma and had a ratio of units of controller medications to units of total asthma medications of 0.50 or greater during the measurement year. A population manager was assigned to call those patients who were out of compliance with their controller medications and residents were sent alerts regarding patients that were out of compliance, as well as monthly reports of clinical performance with their paneled patients.

RESULTS: Controller medication compliance for residents increased from 77% to 100% from Jan, 2019 to Dec, 2019. At the same time controller medication compliance for Family Medicine staff physicians stayed approximately the same: 87% to 86.8%.

CONCLUSIONS: Using a team-based multi-disciplinary approach one can improve control of chronic diseases across all populations and ages. Making residents aware of performance for their paneled patients on a regular basis helps with outcomes. Hopefully our residents, once they graduate, will take these approaches to their future practices.

ABSTRACT TITLE: Geriatric Home Visit Curriculum and Workflows in a Safety Net Family Medicine Residency Program

AUTHORS: Sayaka Weis Tokumitsu, MD, MPH; Heather Bennett Schickedanz, MD

AFFILIATIONS: Harbor-UCLA Department of Family Medicine

INTRODUCTION: The ACGME requires that family medicine (FM) residents be able to diagnose, manage and integrate the care of patients in various outpatient settings including the home environment. Therefore, FM training includes home visits (HV). The demand for physicians to provide home-based care is anticipated to increase as our aging population grows and many older adults have challenges accessing office-based medical care. As a safety net FM residency program based in Los Angeles County serving diverse medically and socially complex patients living in poverty, older adult patients may face additional barriers accessing traditional care. It is imperative that FM trainees become competent to perform comprehensive in-home assessments.

METHODS: FM residents at the Harbor-UCLA were surveyed to gauge their experience with geriatric HVs and level of comfort performing relevant assessments. Anonymous, voluntary surveys were collected using Google Forms. This data will inform the development of a formal curriculum and streamlined workflow for geriatric HVs.

RESULTS: Survey response rate was 76% (n=26 of 34 residents). 65% of residents have done at least one HV. No residents felt “very comfortable” conducting geriatric home safety assessments, and 27% of residents felt comfortable performing HVs without supervision. Top reasons for performing or referring patients for HVs were to assess the home environment due to safety concerns (76%), cognitive impairment (42%), and to assess patient function (38%). Only 27% of residents felt that the current HV training met their educational needs. Major barriers to performing HVs were cited as lack of designated time for HVs (90%) and lack of support and coordination for HVs (85%).

CONCLUSIONS: While most residents have performed HVs, only a minority feel comfortable performing HVs independently. Residents felt least comfortable performing geriatric home safety assessments, although this was the most common reason for HV referral. The barriers cited to performing HVs highlight the need for a streamlined workflow. With only 27% of residents stating that current HVs meet their educational needs, creating an innovative HV curriculum may help to prepare FM residents to deliver competent home-based care for our vulnerable geriatric population.

ABSTRACT TITLE: A 12 year Retrospective Study to Assess Patient Preferences with Primary Care Physicians at Northridge Family Medicine Clinic

AUTHORS: Marinelle Camilon DO, Clint Mower DO, Joni Zapata MD

AFFILIATIONS: Dignity Health Medical Group Northridge Family Medicine

INTRODUCTION: With the commitment of improving safety, quality and patient-centered care in our modern medical world, patients have become an integral part in the care team. Patients' positive perceptions of their family physician leads to improved patient satisfaction, adherence to treatment and improvement in well being. This study analyzed patient preferences over a 12 year period in a 24 resident urban family medicine program with an integrated resident and faculty practice in Los Angeles, California.

METHODS: As a retrospective study, data was gathered from Northridge Family Medicine Clinic's paper request form that simply asks why the patient wants to change doctors. These requests are collected ad lib to the present date. Principle investigators processed and reviewed papers from 2006 to 2018. Analysis included timeline/dates, demographic of requester (patient/parent/spouse), gender, reason for request, and action taken. Patients not requesting a change were classified as satisfied with their physician. Trends were analyzed with collective data.

RESULTS: Total number of requests over 12 years was 635, an average of 53 requests per year or 0.7% of all patients (7000 patient total). Requests varied by year from 1-98 annually. 82% of requests were made by patient, 17% by parent and 1% by spouse. Requesting person's gender was 85% female and 15% male. Some patients gave more than one reason, thus percentages add up to > 100%. The most common reason (42%) was a "better fit" request to another physician encountered in their course of care. 22% requested specific gender (95% for female), 11% language requests (6 languages requested), 9% to unify family, and 4% based on schedule availability.

CONCLUSIONS: This study supports what family physicians already know: patients want a personal relationship with a doctor for the whole family. First and foremost, they want rapport and meaningful communication. Patients overall are highly satisfied with their family physician, even in the complex circumstances found within a FM residency. In our practice, a diverse group of providers is key to providing the care that patients want.

ABSTRACT TITLE: The Effects of Pre-Visit Planning on Clinic Workflow: Staff Perspectives and Health Outcomes

AUTHORS: Kiana Nouri DO, Christopher Kuhlman MD

AFFILIATIONS: Dignity Health Medical Group, Northridge Family Medicine

INTRODUCTION: The amount of time a physician spends on preventative measures can be low due to time constraints. Pre-visit planning (PVP) is a clinic workflow process that uses the help of non-physician staff to prepare for patient visits in order to improve office efficiency. This study assessed the ease and effectiveness of PVP by: 1) surveying staff to determine perspectives and satisfaction, and 2) using surrogate markers, specifically vaccination and screening test rates, to assess improvements.

METHODS: PVP was implemented at Dignity Health Medical Group Northridge in January 2019. Assessment of PVP effectiveness was done subjectively and objectively. Subjective data were obtained via anonymous written surveys given to physicians and medical assistants. Objective data were obtained using Healthcare Partners (HCP) Clinical Measures Score Reports to assess improvements in quality measures that were components of PVP: Colorectal Cancer Screening, Breast Cancer Screening, Cervical Cancer Screening, Adult Pneumococcal Vaccination, Hemoglobin A1c < 9, and Diabetic Eye Exam. Scores from 2018 were compared to those from 2019.

RESULTS: 32 physicians and 8 medical assistants responded. The majority of the staff reported time (2-8 mins) and effort saved, improvement in daily clinic workflow, better use of professional skills, and improved patient care. 91% of physicians said that PVP should be part of daily operations. Some physicians would prefer to improve the PVP template. Some medical assistants reported needing more time to perform PVP. Clinical metric scores increased by 10.6% for Colorectal CA Screening, 1.5% for Breast CA Screening, 1.5% for Cervical CA Screening, 10.5% for Adult Pneumococcal Vaccination, 8.1% for Hemoglobin A1c < 9, and 4.3% for Diabetic Eye Exam.

CONCLUSIONS: Overall, PVP is a favorable and effective organizational change intervention for Dignity Health Medical Group Northridge. Implementing PVP over the past year has saved provider time, enhanced staff satisfaction, and correlated with improved quality measures. We will continue to collect subjective and objective data to optimize PVP in order to improve office efficiency and patient care.

ABSTRACT TITLE: Effects of Conscious Prone Positioning Among COVID-19 Patients

AUTHORS: Taisha Husbands MD; Adena Hicks MD MA; Janelle Rodriguez MD MS MPH; Nancy Vo MD; Nathaniel Yuan DO MBA; David Silberstein MD

AFFILIATIONS: Department of Family Medicine, Kaiser Permanente Los Angeles Medical Center

INTRODUCTION: Prone positioning (PP) has many known benefits in patients with acute respiratory distress syndrome (ARDS) requiring mechanical ventilation. Prior studies showed improved oxygenation evidenced by an increase in PaO₂/FiO₂ and reduced mortality in moderate to severe ARDS. The application of PP to improve oxygenation and reduce need for mechanical ventilation has acquired recent interest among various studies focused on conscious COVID-19 patients on supplemental oxygen. We conducted a quality improvement project to demonstrate the effects of conscious proning on COVID-19 patients at various stages of their disease process.

METHODS: We prospectively studied COVID-19 positive, non-intubated, ambulatory patients with mild to moderate ARDS on supplemental oxygen from 4/16/20-4/25/20 at Kaiser Los Angeles Medical Center. After verbal consent was obtained, patients underwent PP for two hours. Objective data such as SpO₂/FiO₂, hemodynamics and subjective data such as BORG scale were collected before PP, in the middle of PP, immediately after PP, and one hour after re-supination. Exclusion criteria included hemodynamic instability, altered mental status, dementia, mechanical contraindications or recent intubation.

RESULTS: Comorbidities associated with poor outcomes were present in nine patients. Eight patients were Latinx, one was Filipino and one was of Armenia descent. There was an equal number of males to females. The average age of participants was 51 (Range: 25-76) years. Prior to proning, median SpO₂/FiO₂ was 281 with six patients on nasal cannula, three on high-flow and one on a non-venturi mask. One hour post-proning, the median SpO₂/FiO₂ was 343 with two patients on room air, five on nasal cannula and three on high-flow. The median percent difference of SpO₂/FiO₂ one hour post-proning was 8.42%. Four patients reported subjective improvement in respiratory symptoms, five reported no difference in symptoms and one failed to answer.

CONCLUSIONS: This pilot study of conscious PP of COVID positive patients suggests a favorable therapeutic impact both subjectively (BORG score) and objectively (SpO₂/FiO₂). Pending IRB approval, the expansion of this project will increase sample size, consider inclusion of moderate-severe COVID disease, assess the optimal amount of proning time needed for sustained improvement of oxygenation and potentially outline a standard proning protocol in collaboration with respiratory therapists and nurses.

CASE REPORTS

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CASE REPORT TITLE: Stroke as an Initial Manifestation of Systemic Lupus Erythematosus

AUTHORS: Lina Hadj Smaine, DO; Shehzein Khan, DO; Mahtab Moshtagh Sisan, MD; Uziel Saucedo, MD

AFFILIATIONS: Riverside University Health System; University of California- Riverside; Riverside County Medical Center

ABSTRACT / INTRODUCTION: Neuropsychiatric Systemic Lupus Erythematosus is not an uncommon manifestation in Systemic Lupus Erythematosus patients, but it is rarely the initial presentation. Compared to the general population, those with SLE have an eight-fold increase of cerebrovascular diseases. NPSLE is a clinical manifestation of SLE that involves the central and the peripheral nervous system. This risk is further increased with the presence of antiphospholipid antibody, which is present in 30% to 40% of SLE patients.

CASE REPORT (METHODS / RESULTS): We present a case of a 31-year-old female with history of medically managed epilepsy disorder since the age of 24, presented with slurred speech, confusion and right sided weakness. She had history of oropharyngeal ulcers, arthralgia, and photosensitivity. Physical examination was significant for left facial paralysis, anomic aphasia, and dysmetria. Pertinent laboratory tests were significant for thrombocytopenia, low complement C3 and C4, elevated double stranded DNA of 6, positive ANA with 1:320 titer of dense speckled DNA, positive B2 glycoprotein 1 IgG Ab, and elevated cardiolipin IgG and IgM. MRI of head was significant for acute ischemic stroke of left basal ganglia and old left parietal stroke. CTA of head showed a 60% to 75% middle cerebral artery stenosis.

DISCUSSION/CLINICAL SIGNIFICANCE: This young female patient has no common predisposing factors for stroke which includes hypertension, diabetes, hyperlipidemia, atrial fibrillation or obesity. Extensive inpatient work up for her stroke revealed active SLE as the only explainable etiology. Given her active SLE, her stroke has likely been the manifestation of two mechanisms: autoimmune and inflammatory; vascular injury and occlusion. Her stroke was managed with Aspirin, Clopidogrel and Atorvastatin. Her active SLE was managed with high dose IV corticosteroids followed by oral corticosteroids, and subsequently, Rituximab. For secondary stroke prevention in SLE, she was initiated on anticoagulation. Ischemic stroke in any young patient should raise concern for NPSLE, warranting an extensive investigative workup and management.

CASE REPORT TITLE: Acute Acalculous Cholecystitis in a Child with Primary EBV infection

AUTHORS: Lina Hadj Smaine, DO; Viet Trinh, DO; Gabrielle A. Balan, DO

AFFILIATIONS: Riverside University Health System; University of California, Riverside; Riverside County Medical Center

ABSTRACT / INTRODUCTION: Acute Acalculous Cholecystitis (AAC) is rarely associated with Epstein Barr Virus (EBV) infection with the majority of cases occurring in the adult population. AAC is typically managed conservatively in the pediatric population due to AAC not being the primary problem, but the consequence of an underlying disease etiology. To date, only 12 cases of EBV-associated AAC have been reported.

CASE REPORT (METHODS / RESULTS): A 6-year-old female presented with 4-day history of gradual worsening epigastric abdominal pain associated with 1-day history of fever. She was evaluated in urgent care for sore throat, nasal congestion and itchy eyes and was prescribed antibiotics for bronchitis. She had no history of abdominal trauma, abdominal surgery, hepatitis or autoimmune conditions. On physical exam she had mild swelling of eyelids, absent scleral icterus, non-injected pharynx, negative tonsillar hypertrophy, rhinorrhea, epigastric tenderness, liver and spleen 3 and 2 fingerbreadths beneath the ribcage, respectively, negative Murphy's sign. She had lymphocytic predominant leukocytosis, thrombocytopenia, elevated liver enzymes and total bilirubin, positive Mono Test and smooth muscle antibody with 1:80 titer, elevated EBV viral capsid antigen IgM and EBV DNA. Abdominal US and CT showed abnormal gallbladder wall thickness and common bile duct size, pericholecystic fluid, absent gallstones and hepatosplenomegaly.

DISCUSSION/CLINICAL SIGNIFICANCE: ACC is a rare disease in the pediatric population. Its incidence in infancy to adolescence has been reported to be 0.15% to 0.22%. Patients with AAC often present with generalized symptoms (eg. fever, weight lost, night sweats) in addition to symptoms of cholecystitis. Physicians and allied health professionals who care for children should be aware that AAC attributable to EBV is a diagnosis of exclusion. Pediatric patients with incidental findings of AAC may benefit from additional workup to rule out other underlying causes, such as, but not limited to Kawasaki's, Hemophagocytic Lymphohistiocytosis, Macrophage Activating Syndrome, malignancy, autoimmune disease and HIV. Unlike surgical management of AAC in the adult population, AAC is managed conservatively in the pediatric population.

CASE REPORT TITLE: Super-Coombs to the Rescue

AUTHORS: Christine Choi DO (1), Nguyen Tai MD (2), Timothy Yoo MD (2), Amy Tu Wang MD (2)

AFFILIATIONS: Department of Family Medicine (1) and Internal Medicine (2), Harbor-UCLA Medical Center

ABSTRACT / INTRODUCTION: Autoimmune hemolytic anemia (AIHA) is an autoimmune disorder characterized by the premature destruction of healthy red blood cells by autoantibodies. This is a rare and heterogeneous disease that can potentially have fatal complications. Most cases are idiopathic, with no established treatment. Our a 50-year-old patient was admitted for a symptomatic hemoglobin of 5.2 from baseline 12. We herein report an unusual case of DAT negative AIHA that was only diagnosed after a super-coombs test.

CASE REPORT (METHODS / RESULTS): 50-year-old man with HIV on ART admitted for symptomatic anemia requiring 1-2 unit pRBC transfusions for a month. Initial workup demonstrated hemolytic anemia. However, the highly sensitive direct coombs test, was negative. Workup for alternate causes of hemolysis were also negative. He eventually received a splenectomy due to worsening clinical status and development of transfusion associated alloantibodies. A Super-Coombs test was then ordered and found to be positive for warm autoantibodies.

DISCUSSION/CLINICAL SIGNIFICANCE: Our patient stands out as a unique case because his AIHA was DAT negative. Warm antibodies may bind to RBCs at low levels causing hemolysis below the threshold of detection for commonly used DAT reagents. Between 2% and 10% of all AIHA patients are Coombs' negative, which is likely due to varying sensitivity of the test and other factors. The incidence of DAT-negative warm AIHA has been estimated to be 3% to 11% of all cases. This life-threatening case illustrates the potential severity of warm AIHA, in which diagnosis was delayed due to initial negative Coombs testing. Obtaining a hypersensitive/super Coombs in the setting of high clinical suspicion for warm AIHA can be critical to establishing a diagnosis and providing appropriate therapy.

CASE REPORT TITLE: Case of Subacute Combined Degeneration of Cord from Chronic Nitrous Oxide Abuse despite outpatient B12 monitoring

AUTHORS: Rebecca Cho, D.O.

AFFILIATIONS: Dignity Health - Northridge Family Medicine

ABSTRACT / INTRODUCTION: Nitrous oxide (NO) abuse causing Subacute Combined Degeneration has become increasingly prevalent however there is no formal repletion strategy. This case follows a 59 year old female presenting with ataxia and paresthesia after daily use of “Whippits” despite receiving regular B12 repletion as outpatient. Patient was given IM B12 daily for 7 days, then every other day for 7 days with near complete resolution of symptoms.

CASE REPORT (METHODS / RESULTS): 59 year old female presents with worsening ataxia and paresthesia for 3 weeks. On exam, the patient had bilateral lower extremity restlessness with abnormal proprioception and vibratory sensation.

The patient had long term recreational NO abuse, starting 10 years ago, and used up to 400 cartridges of Whippits daily for the past year. She was seeing a naturopath who monitored her B12 levels and was receiving injections regularly.

Initial labs showed an elevated MCV of 101.8. Subacute combined degeneration of cord was suspected and B12 level was found to be low at 177. She received 7 days of repletion with B12 1000 mcg IM and was discharged with additional repletion, every other day, for 1 week. At discharge, she showed marked improvement in her vibratory sense but not in proprioception.

At 20 days, ataxia was nearly resolved but continued to have paresthesia and decreased vibratory sense. 2 years later she reported ataxia completely resolved and only had mild areas of paresthesias.

DISCUSSION/CLINICAL SIGNIFICANCE: Subacute combined degeneration of cord (SCD) is a myelopathic disorder characterized by ataxia and peripheral neuropathy due to B12 deficiency. NO has become a well known agent causing B12 deficiency but there is no formal recommendation on repletion strategies. Our case is particularly interesting as our patient had been receiving B12 repletion regularly for years. What remains unclear is why she suddenly developed SCD after years of use. A possible explanation is that she had undergone laparoscopic cholecystectomy 1 week prior to presentation, in which she may have been exposed to larger amounts of NO. NO is commonly used in anesthesia however whether NO was used in her procedure is unknown. Additionally, we have outlined our repletion strategy along with short and long term outcomes.

CASE REPORT TITLE: Painful Knee Effusion in a 42-year-old Man with HIV

AUTHORS: Jessica Mofidi MD (1), Marissa Vasquez MD (2)

AFFILIATIONS: 1. Kaiser Permanente Los Angeles Medical Center, Division of Sports Medicine; 2. UCLA Health Department of Family Medicine-Division of Sports Medicine

ABSTRACT / INTRODUCTION: Gout is the most common inflammatory arthritis worldwide, affecting approximately 8 million people in the United States alone. In patients with HIV, gout has an annual incidence of 0.5%. Pseudogout, also known as Calcium Pyrophosphate Deposition Disease, is estimated to affect 4-7% of adults in Europe and the United States; however, there is little evidence showing a relationship between HIV and the development of pseudogout. This case describes the rare event of gout and pseudogout occurring simultaneously in the left knee in a 42-year-old man with HIV, gout, and recently treated syphilis.

CASE REPORT (METHODS / RESULTS): A 42-year-old man with HIV, gout, and recently treated syphilis presented to Sports Medicine Clinic ten days after a left knee injury. As he lay in bed, he turned his left leg, and felt a snap with sharp pain. Two days later, the knee swelled, and he had difficulty walking. The patient went to the Emergency Department (ED) where X-rays were unremarkable, Toradol was given, and he was referred to Sports Medicine. He was also given Colchicine for a gout flare in his left foot. In Sports Medicine Clinic, the patient reported peripatellar pain and swelling with occasional locking and instability. He was also having tactile fevers, using Norco and NSAIDs for pain. Exam of the left knee was notable for moderate effusion, peripatellar tenderness, decreased range of motion (5-110 degrees), and full strength with negative ligamentous and meniscal testing. Ultrasound showed a suprapatellar effusion, of which 4 mLs of serosanguinous fluid was aspirated with simultaneous corticosteroid injection. Aspirate results revealed the presence of both negatively and positively birefringent crystals, consistent with a diagnosis of inflammatory arthritis secondary to both gout and pseudogout. Gram stain and culture of the aspirate fluid were negative. Serum Calcium and Uric Acid were unremarkable, and serum RPR did not show evidence of new infection. Urine Gonorrhea and Chlamydia were negative. The patient's symptoms resolved initially only to recur again 4 weeks later. He was treated by the ED and his primary care physician with Toradol, Colchicine, and Allopurinol with improvement in pain.

DISCUSSION/CLINICAL SIGNIFICANCE: Gout and Calcium Pyrophosphate Deposition Disease (CPPD) occurring simultaneously in the same joint is rare. One prior case study suggests this condition may be under diagnosed due to high technical difficulty in diagnosing CPPD under polarized light microscopy. This patient also did not have risk factors for CPPD such as hypercalcemia or loop diuretic use. It is important to recognize that gout and CPPD can affect one joint concurrently, but the implications are unclear. Further studies should be done investigating whether having gout increases the risk of developing CPPD, as well as if having both conditions simultaneously affects treatment course or relapse rate.

CASE REPORT TITLE: My Middle Finger Pops

AUTHORS: Bernadette Pendergraph, MD; Jason Alvarado, MD; Shintau Lin, MD

AFFILIATIONS: Harbor-UCLA Medical Center

ABSTRACT / INTRODUCTION: Sagittal band injuries are uncommon and require early recognition to institute appropriate treatment. The sagittal band is a part of the extensor mechanism that stabilizes the extensor tendon. It can be injured with a direct blow and often associated with collateral ligament, capsular, and osteochondral injuries. Urgent surgical intervention is recommended and therefore requires a high index of suspicion to recognize it.

CASE REPORT (METHODS / RESULTS): 26 yo left-handed boxer with left middle finger pain while punching. He had swelling of his middle knuckle and popping when moving his digit. Exam showed a subluxed extensor tendon. Differential included MCP fracture, trigger digit, and sagittal band, collateral ligament, and extensor tendon injuries. Radiographs were negative. MRI showed a sagittal band injury of the middle MCP. The boxer was placed in a brace limiting flexion of his middle finger to 30 degrees for 4 wks prior to return to boxing.

DISCUSSION/CLINICAL SIGNIFICANCE: This boxer had a type II sagittal band injury according to the Ryan and Murray Classification of a closed sagittal band injury. The sagittal band is dorsal to the extensor tendon hood and is the primary lateral stabilizer to the extensor tendon overlying the metacarpophalangeal joint. This case was challenging in that we had a boxer coming for an evaluation of what would be considered a chronic injury (more than one week old). Because our boxer saw two providers prior to the diagnosis of a sagittal band injury, he did not understand the importance of appropriate splinting and was started late on continuous splinting. Ideally, he would have been immobilized in a flexion splint of 30 degrees for his middle MCP to allow healing of the sagittal band injury. Fortunate for him, he had a good functional outcome.

CASE REPORT TITLE: Between A Rock and A Hard Place: The Dangers of Indoor Bouldering

AUTHORS: Authors: Ashika P. Sharma, MD (1,2), Evan S. Bass, MD (1,2)

AFFILIATIONS: (1)Harbor-UCLA/Team to Win Sports Medicine Fellowship, Harbor City, CA
(2) Kaiser Permanente- South Bay Medical Center, Harbor City, CA

ABSTRACT / INTRODUCTION: Bouldering is indoor rock-climbing on lower walls without ropes or safety harness. It takes skill and climbers must learn techniques to fall safely. The only safety measures in place are thickly padded landing areas and spotters. Bouldering has a risk of injury.

CASE REPORT (METHODS / RESULTS): 24 year female presented to ED with right elbow pain after a fall of 10-11 feet from an indoor bouldering wall. She landed on an outstretched hand onto a padded floor with immediate severe pain in her right elbow. She is an experienced climber and no prior elbow injury. Exam was significant for severe pain, tenderness, deformity, ecchymosis, swelling of elbow joint. Elbow range of motion was severely limited. Sensation was decreased in fifth digit. Radial pulse was strong. Differential included olecranon bursitis, elbow fracture, elbow dislocation. Diagnosis was made by x-ray and consistent for lateral right elbow dislocation. Elbow reduced in ED with x-ray confirmation. Sensation returned to fifth digit, and pain improved. She was placed in a posterior splint and referred to Occupational Therapy. Pain and strength continued to improve, and range of motion improved to near normal at 4 weeks post-injury. She had a full recovery after 12 weeks and has already resumed bouldering.

DISCUSSION/CLINICAL SIGNIFICANCE: Elbow dislocations account for 10-25% of injuries to the elbow. Posterolateral is the most common type(80%).Mechanism for posterolateral dislocation is usually a combination of: axial loading, supination/external rotation of the forearm and valgus posterolateral force.Treatment is usually nonoperative; closed reduction and splinting at least 90° for 5-10 days and early therapy. Recurrent instability after simple dislocations is rare (<1-2% of dislocations).As shown in our case report, even an experienced climber can have significant injury after a fall while bouldering.OSHA safety regulations for indoor bouldering only require padded landing mats, and instruction on landing technique to minimize injury.Future studies should focus on bouldering techniques and novel prevention strategies.

CASE REPORT TITLE: An Uncommon Bug of Right Sided Infective Endocarditis in a Patient with Pacemaker

AUTHORS: Gulraiz Matlub, MD; Heidi Pang, DO; Bruce Weng, DO

AFFILIATIONS: Riverside County Medical Center

ABSTRACT / INTRODUCTION: Isolated right-sided infective endocarditis (IE) accounts for approximately 10 percent of all IE cases; concomitant left-sided and right-sided IE account for 13 percent.¹⁻² Risk factors for right-sided IE include injection drug use, presence of a cardiac implantable electronic device (CIED), immunosuppression, advance age and underlying cardiac anomaly. Empiric therapy for IE should target staphylococci, streptococci, and enterococci. While uncomplicated right side IE is traditionally treated with beta lactams for 2 weeks, complicated right sided IE duration is same as of left sided IE. *Gemella* species (sp) are facultatively anaerobic Gram positive cocci found in our oral cavity. Endocarditis cases by *Gemella* sp have been recorded but rare, and generally are left sided. Patients also often are immunocompromised and have prior valvular pathology.³⁻⁶ Here we describe a rare case of right sided bacterial endocarditis caused by *G. haemolysans* with concurrent permanent pacemaker infection.

CASE REPORT (METHODS / RESULTS): 54 year old male with past medical history of permanent pacemaker, heart failure with reduced ejection fraction, seizure disorder, chronic kidney disease, illicit drug use, homelessness and previous incarceration presented with persistent cough and hemoptysis. He also had abdominal and diaphragmatic pain from constant coughing. On arrival, only pertinent physical finding was coarse bibasilar breath sounds. Labs were significant for leukocytosis, positive hepatitis C. Computed tomography of chest showed right lower lobe cavitary lesion along with left lower lobe consolidation. Differentials included tuberculosis, endocarditis, lung abscess. Broad spectrum antibiotics including vancomycin, cefepime, and azithromycin were started. His blood cultures repeatedly grew *Gemella haemolysans*. Transthoracic echocardiogram was significant for multiple vegetations on the right ventricular pacemaker leads and anterior tricuspid valve leaflet. TEE⁷ showed similar findings of large vegetation on ventricular lead and septal leaflet with severe tricuspid regurgitation. His pacemaker was subsequently removed. He was discharged with 6 weeks of IV ceftriaxone and ampicillin. Unfortunately he was lost to follow up.

DISCUSSION/CLINICAL SIGNIFICANCE: Historically, penicillin susceptible therapy combined with gentamicin are prescribed for this condition and treated like *Enterococcus* species infection. Patient presented with a more severe case of right sided IE along with septic vegetations and infected pacemaker; a longer antibiotic duration of 6 weeks instead of 2 weeks for classic right IE infection deemed more appropriate. We opted for combination beta lactam based regimen due to the risk of renal toxicity of gentamicin. There is no literature to support specifically ampicillin with ceftriaxone for treating *Gemella* sp. Further regimen evaluation is required.

CASE REPORT TITLE: A Series of Weakness, Dizziness, and Cramps in a Baseball Player

AUTHORS: Cindy Ong MD; Marissa S. Vasquez MD, MBA

AFFILIATIONS: Kaiser Permanente Sports Medicine Fellowship Los Angeles Medical Center
UCLA Family Medicine and Division of Sports Medicine

ABSTRACT / INTRODUCTION: A 19-year-old healthy male and collegiate baseball player presents with recurrent severe cramping and fatigue. Symptoms started during a summer conditioning session at an increased intensity. Additional symptoms developed including abdominal cramps, myalgias, nausea, dizziness, headaches and an episode of central lip cyanosis. He denied any urinary changes or syncope. All episodes improved with rest and fluids (intravenous and oral). There is no past medical history or relevant family history.

CASE REPORT (METHODS / RESULTS): Patient had a complete renal and hemodynamic evaluation. Renal ultrasound was normal. Urine analysis had 2+ Hgb, 1+ protein, 0-3 RBCs/HPF, 3-5 granular cast/LPF. Urine cultures were normal. Creatinine was 1.2. Electrolytes and blood counts were normal. Cardiac testing including electrocardiogram, echo, stress echo and treadmill were normal for an athlete. Cardiopulmonary exercise testing demonstrated a mild-moderate reduction in exercise capacity and possible peripheral vascular abnormality.

DISCUSSION/CLINICAL SIGNIFICANCE: A final diagnosis of heat exhaustion with secondary volume depletion and mild reduced exercise capacity was determined. Heat exhaustion is a common cause of muscle fatigue and heat-related illness. Recurrent and severe episodes warrant further investigation including cardiopulmonary testing to rule out intrinsic causes (structural, genetics) for these exercise-related symptoms to determine appropriate and safe sports participation. Preventing dehydration is essential to creating ideal exercise conditions. Maintaining central volume and venous return thereby improves stroke volume and cardiac output. Dehydration can decrease cardiovascular endurance. However, having cardiovascular fitness/endurance may not prevent exhaustion at high heat intensity exercise.

CASE REPORT TITLE: Flood syndrome in a 53 years old male with Alcoholic Cirrhosis.

AUTHORS: (1) Gladys Valdez, MD (2) Denise Sur, MD

AFFILIATIONS: (1) Department of Family Medicine at UCLA; (2) Department of Family Medicine at UCLA

ABSTRACT / INTRODUCTION: Flood syndrome or spontaneous umbilical hernia rupture is a rare condition. Flood syndrome can be life threatening. Literature is limited and medical management can be challenging due often present co-morbidities 1. Surgical repair is often not possible due to high risk of complications 2. We present a 53 years-old male with Alcoholic cirrhosis and refractory ascites who developed flood syndrome.

CASE REPORT (METHODS / RESULTS): Patient has chronic ascites requiring weekly paracentesis. He had Multiple co-morbidities including umbilical hernia. Patient was admitted for Pulmonary embolism. Paracentesis were initially held due to risk of bleeding on anti coagulation. This led to abdominal distention. His umbilical hernia was large and difficult to reduce. Patient developed pain and small eschar on the umbilical hernia. Rupture was then noted at the site of the umbilical hernia. On exam he had thinning of the skin overlying the hernia, 2 cm eschar on the apex, and punctuate communication leaking straw-colored ascites fluid. Conservative management was preferred. Pressure dressing and abdominal binder was applied over the scab. Patient did not undergo any surgical intervention due to high risk for complications. Patient had 2 paracenteses during admission. The leakage resolved within 24 hours. There was no leukocytosis or electrolyte changes. No antibiotics were given since leakage resolved quickly. Patient remained stable until discharge.

DISCUSSION/CLINICAL SIGNIFICANCE: Flood syndrome or Spontaneous umbilical hernia rupture is characterized by rupture of umbilical hernia secondary to chronic distension due to ascites. It is called flood syndrome due to the sudden leakage of ascites. Given the direct communication with the peritoneum, can cause bacterial peritonitis and be life threatening. Patients with symptomatic hernias or marked thinning of the skin overlying the hernia sac, especially if there is weeping of fluid or an eschar on the apex of the hernia, are referred for elective repair 3. Our patient had very advanced liver failure and complications. These patients are at very high risk for bad surgical outcomes, recurrence and complications. Therefore, surgical intervention is often not pursued.

CASE REPORT TITLE: Spontaneous Coronary Artery Dissection in the Postpartum Period

AUTHORS: Mary Canders, M.D., Jesse Cheung, M.D., Maria Christina Tolentino, D.O., Lynne Diamond, M.D.

AFFILIATIONS: Pomona Valley Hospital Medical Center Family Medicine Residency Program, UCLA-Affiliated Program

ABSTRACT / INTRODUCTION: Spontaneous coronary artery dissection (SCAD) is a rare and potentially fatal emergency. Pregnancy-related SCAD (P-SCAD) is the most common cause of pregnancy-associated MI, with a higher incidence of severe features at presentation compared with non-pregnancy-related SCAD (NP-SCAD). We present the case of a 33yo multigravida female postpartum found to have a proximal RCA dissection.

CASE REPORT (METHODS / RESULTS): 33yo obese G5P3023 presented to ED 5 days after NSVD with acute chest pressure and dyspnea on exertion. BP was 140/90, troponin <0.03, BNP 359, nonspecific EKG, CTA chest negative, and was sent home. 5 days later, patient had severe preeclampsia and symptoms at rest. In the CICU, troponin peaked at 6.81, BNP to 713, and EKG with T wave inversions II, III, aVF. Angiogram showed 100% proximal RCA occlusion with SCAD requiring stent. Patient discharged on ASA, ticagrelor, and carvedilol on day #4.

DISCUSSION/CLINICAL SIGNIFICANCE: P-SCAD is rare, but the most common cause of MI in pregnancy and the postpartum period. It typically presents at 35+/-4 years in the first 30 days postpartum, and more acutely than NP-SCAD with severe features including STEMI, L main and multivessel disease, and EF<35%. Risk factors include multiparity, history of fertility treatments, and preeclampsia. Preferred management is conservative, with PCI reserved for hemodynamic instability, evidence of ischemia, or sizable myocardial jeopardy. In evaluation of gravid and postpartum patients presenting with potentially cardiac-related symptoms, SCAD is a differential not to be missed. Given the hypothesis that hormonally-mediated changes weaken the vessels, consideration of local or hormone-free contraception should be made for these patients.

CASE REPORT TITLE: Treatment of Acute Myeloid Leukemia: Was It Worth It?

AUTHORS: Elaine Roh, MD, Jesse Cheung, MD, Lynne Diamond, MD

AFFILIATIONS: Pomona Valley Hospital Medical Center Family Medicine Residency Program, UCLA-Affiliated Program

ABSTRACT / INTRODUCTION: Acute myeloid leukemia (AML) is more common in older adults and has a poor survival rate in people aged 65 years and older. Chemotherapy does not have much meaningful impact for older adults and increases healthcare costs. Despite this, hospice is infrequently used. This case describes an older adult with several key features of AML and his prolonged and unfortunate hospital course.

CASE REPORT (METHODS / RESULTS): A 67 year old male with recurrent infections presented to ED for left leg pain with erythema, dyspnea, chest pain, and fever. Workup showed WBC 54×10^3 (74% blasts), AKI due to tumor lysis syndrome (TLS), left leg DVT, and AML-M5 on bone marrow biopsy. After leukapheresis for leukostasis, symptoms initially improved. Induction chemotherapy was followed by respiratory failure and intubation. After extubation, code status was changed to DNR/DNI. Shortly after, the patient passed away.

DISCUSSION/CLINICAL SIGNIFICANCE: AML-M5 has higher incidence of TLS, leukostasis, respiratory and renal failure, with higher rates of complication and death within 30 days of induction chemotherapy. In older adults, AML has an aggressive course with poor prognosis. This patient had induction chemotherapy but later chose no further aggressive interventions. This case not only describes one hospitalization course of an older adult with AML, but also reveals how aggressive treatment is often overvalued and hospice is underutilized for elderly patients. Early discussion of realistic expectations and goals of care with the patient and family may have led to a plan with less healthcare costs and suffering that strongly weighs the risks and harms over the benefits of treatment.

CASE REPORT TITLE: Atraumatic Knee Effusion, A Missed Case of Pigmented Villonodular Synovitis

AUTHORS: Bernadette Pendergraph, MD; Jason Alvarado, MD; Bret Namihas, MD

AFFILIATIONS: Harbor-UCLA Medical Center

ABSTRACT / INTRODUCTION: Knee pain and swelling are very common musculoskeletal complaints encountered by Family physicians. A key to the diagnosis is the aspiration and analysis of synovial fluid. This is a 38 y/o runner with an atraumatic hemarthrosis subsequently diagnosed as pigmented villonodular synovitis (PVNS). Atraumatic hemarthrosis is unusual, and should lead one to consider bleeding disorders, vascular disorders, and synovial based tumors.

CASE REPORT (METHODS / RESULTS): 38 y/o male runner with 4 months of left knee pain and swelling, worse after running. The patient denied any inciting trauma, systemic symptoms, night pain, or additional joint issues. Initial MRI was notable for a medial meniscal tear. Non-traumatic aspiration showed a bloody effusion, but no inflammatory cells or crystals. Repeat MRI with contrast suggested PVNS. Orthopedic consultation and arthroscopic debridement were performed with synovial biopsy confirming the diagnosis of PVNS.

DISCUSSION/CLINICAL SIGNIFICANCE: PVNS is often a monoarticular process affecting large joints, with knees being the most common. Typical course is a slow, insidious onset of pain, swelling, and stiffness. A delay in diagnosis is common. Since our patient was athletic, he got an early MRI and was diagnosed with a medial meniscal tear. It was only after his effusion persisted that an aspiration was performed, and the differential broadened. His arthroscopy showed PVNS in the anterior compartment, medial and lateral gutters, and the notch, which can explain his symptoms mimicking a meniscal tear. Most hemarthroses are related to injuries such as ACL tears, peripheral meniscal tears, and fractures. This case reinforces the need for a broad differential and the value of diagnostic testing.

CASE REPORT TITLE: The Ferritin Factor: A Case of Recurrent Fevers

AUTHORS: Renee El-Khoury, DO; Nahid Molaie, MD

AFFILIATIONS: Harbor-UCLA Medical Center, Department of Family Medicine

ABSTRACT / INTRODUCTION: Adult onset Still's Disease (AOSD) is an inflammatory disorder that involves daily fevers, rash, and arthritis. Although the etiology is unknown and the incidence is not common, there is an association between those with a history of Juvenile Rheumatoid Arthritis and Still's disease. Notable exam findings include an evanescent rash in association with a fever, and arthralgias. Several lab findings are also evident, particularly an extremely elevated serum ferritin. The differential diagnosis is extensive, including infections, systemic autoimmune and inflammatory rheumatologic diseases, malignancy, and medication adverse reactions.

CASE REPORT (METHODS / RESULTS): 51F with history polymyositis, Grave's disease s/p RAI, history juvenile RA, and recent legionella pneumonia presents to ED with pleuritic chest pain and dyspnea for 3 days. Returned from trip to China and hospitalized with pneumonia while traveling, treated with Moxifloxacin and Cefixime. Developed chest pain, weakness, and dyspnea 1 day after returning from China. Also having fevers, chills, myalgias, and decreased oral intake. Hypotensive, tachycardic in ED, concerning for recurrent pneumonia. Although initially started on antibiotics, discontinued given no obvious source on imaging or cultures and persistent cyclical fevers and myalgias. Workup of anemia showing ferritin 18,000. Given previous Rheum history, concerning for Adult Still's disease. Started on high-dose prednisone therapy, naproxen/NSAIDs for chest pain and myalgias. All symptoms began resolving by 3rd day of treatment. Discharged on steroid course with plans to initiate IL-1 inhibitor therapy (Anakinra) at Rheum appointment.

DISCUSSION/CLINICAL SIGNIFICANCE: The evaluation and work-up for recurrent fevers without a clear source is broad, and the differential should consider rheumatologic processes. Consider AOSD in patients with recurrent fevers, myalgias, and dyspnea, even when infectious etiology is the primary concern. In this specific case, there were significant concerns for infectious etiology given recurrent pneumonia presentations within the last few months with the presence urine Legionella (which may linger for weeks to months upon repeat testing), but her diagnostic testing did not initially correlate to an infectious picture. In situations such as this, ferritin may play a larger diagnostic role than expected. Ferritin can be an important tool in the setting of inflammation as an acute phase reactant, and significantly elevated serum ferritin levels (usually $> 1000 \text{ } \mu\text{g/L}$) are useful in distinguishing between diagnoses. Markedly elevated ferritin levels are commonly associated with liver disease, malignancy, infection (ie HIV), and autoimmune disease. Utilizing the Yamaguchi criteria is important for identifying AOSD to guide diagnosis in association with an elevated serum ferritin (though ferritin is not a formal part of this criteria). Treatment is dependent upon severity of disease, ranging from NSAIDs to steroid use to IL1 or IL6 inhibitor therapy. Closer monitoring in the outpatient setting is important given pericarditis has been reported in up to one-third of patients and myocarditis in about ten percent. When evaluating for fevers, don't forget the ferritin!

CASE REPORT TITLE: Postpartum Autoimmune Hemolytic Anemia Following Cesarean Delivery

AUTHORS: Abdul Kublan, MD, Jesse Cheung, MD, Mohamed Elsharkawy, MD, Maria Christina Tolentino, DO

AFFILIATIONS: Pomona Valley Hospital Medical Center Family Medicine Residency Program, UCLA-Affiliated Program

ABSTRACT / INTRODUCTION: Autoimmune hemolytic anemia (AIHA) is an acquired hemolysis caused by host immune system acting against its own red cell antigens. AIHA may be primary or secondary, depending on presence of an underlying condition promoting immune dysregulation. In pregnancy, prior case reports show delivery usually leads to resolution of this often idiopathic hemolysis. We describe a postpartum case of AIHA after cesarean delivery.

CASE REPORT (METHODS / RESULTS): 40-year-old G4P1213 with gestational hypertension and diabetes presented with worsening headaches 6 days after emergency cesarean delivery, complicated by preterm premature rupture of membranes (PPROM) requiring steroids and antibiotics. Patient had fever and scleral icterus, with hemoglobin 6.5 down from 9.3, direct hyperbilirubinemia, and direct Coombs positive, indicating warm agglutinin AIHA. Hemoglobin dropped after pRBC transfusion. After IV corticosteroids, labs and symptoms improved.

DISCUSSION/CLINICAL SIGNIFICANCE: Warm agglutinin autoimmune hemolytic anemia (WAHA) is due to IgG antibody reaction with RBC protein antigens and can be life-threatening if not recognized. Most cases are idiopathic with further workup, as in our rare postpartum case and other cases during pregnancy that resolve after delivery. Secondary causes include drug-induced, infectious, autoimmune, and myeloproliferative disorders and malignancies. This patient had no source of infection but received penicillins during this course. The WAHA was unlikely drug-induced given patient had tolerated penicillins before. Immediate blood transfusion is indicated with severe anemia, while initiating glucocorticoids as first line treatment. Splenectomy, immunotherapy, and cytotoxic agents are reserved for refractory cases.

CASE REPORT TITLE: A Brain Arteriovenous Malformation (bAVM) Presenting as a Generalized Tonic-Clonic Seizure in an NFL Player

AUTHORS: Jeremy Ng MD (1), Rick Burkholder ATC, (2), Peter DeLuca MD (3), Gary Dorshimer MD (4)

AFFILIATIONS: (1) Division of Sports Medicine, University of California Los Angeles (UCLA), Los Angeles, CA; (2) Sports Medicine and Performance, Kansas City Chiefs (NFL), Kansas City, MO; (3) Department of Orthopaedic Surgery, Rothman Institute, Thomas Jefferson University

ABSTRACT / INTRODUCTION: Brain arteriovenous malformation (bAVM) is an uncommon vascular lesion with potentially catastrophic sequelae. There are no established definitive treatment guidelines for return to sport. We present a 27-year old NFL player with a bAVM presenting as a first-time seizure. To our knowledge, this is the only known case of successful return to professional contact sports after treatment for bAVM.

CASE REPORT (METHODS / RESULTS): A 27-yr old healthy NFL defensive tackle suffered a first-time generalized tonic-clonic seizure which spontaneously resolved. Neurologic exam was normal. Cerebral angiography confirmed a 16x22x24mm right frontal AVM with dominant feeder from anterior cerebral artery and superficial and deep venous drainage. He was evaluated by 4 neurosurgeons. Given the presentation, small size, superficial location, and mixed drainage pattern, an annual risk of bleeding was estimated between <1% to 2-4% with a lifetime risk of 75-80%. All recommended intervention at some point. 3 recommended radiosurgery. None restricted physical activity. His 5-yr risk of epilepsy was 58%. Keppra was initiated. He returned to activity 10 days after the episode, and was cleared for unrestricted activity 10 days later. He returned to football that season, playing in 15 games without incident. He underwent post-season surgical resection and successfully returned to play 10 months post-op. He completed 2 additional seasons.

DISCUSSION/CLINICAL SIGNIFICANCE: The prevalence of bAVM is 0.05% with common presentations including hemorrhage (58%), seizure (34%), and progressive neurologic deficit (8%). Hemorrhage has a 10-30% mortality and 30-45% morbidity. Annual hemorrhage risk in untreated bAVM ranges from 1-33% depending on age, prior hemorrhage, location, and venous drainage. No consensus exists regarding treatment (surgical resection, stereotactic radiosurgery, endovascular embolization, conservative management). Our patient had a low 1-yr risk but high lifetime risk of hemorrhage and an elevated 5yr risk of epilepsy. There were no restrictions on physical activity. He delayed surgery until the offseason. This report represents the first described case of successful return to contact sports after surgery for bAVM for a professional athlete.

CASE REPORT TITLE: Integrative East-West Approach to Management of Chemotherapy-induced Nausea and Cancer-related Fatigue

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ABSTRACT / INTRODUCTION: Adjuvant chemotherapy has been shown to improve both disease-free and overall survival in many types of cancer. However, the therapy in itself is cytotoxic and can lead to a myriad of side effects, including nausea, fatigue, and immunosuppression. We describe a patient with chemotherapy-induced symptoms who was successfully treated with an integrative East-West approach. Many patients use other modalities but do not disclose them. In one survey, over 80% of cancer patients used at least one complementary or alternative approach, over 60% used vitamin and herbs, and about 60% used movement and physical therapies (Richardson 2000). However, only 14% may communicate with their providers regarding their use of these therapies (Mao 2011). We will focus on the role of acupuncture in chemotherapy-induced nausea and cancer-related fatigue in the discussion. However, we will briefly mention other treatments, such as an anti-inflammatory diet and QiGong, in the case presentation to highlight our multi-modal approach and to more completely describe how different modalities are practically combined to treat chemotherapy-induced symptoms.

CASE REPORT (METHODS / RESULTS): A 66 year-old female with history of hyperlipidemia, vitamin D deficiency, osteoporosis, pseudolymphoma, and recently-diagnosed invasive ductal carcinoma of the right breast presented to our clinic a couple weeks after starting neoadjuvant chemotherapy. At our initial visit (5/02/2018), the patient reported having significant nausea and fatigue, worst during the weekend after her first chemotherapy session. She also endorsed an increased frequency of hot flashes, night sweats, and worsening of her chronic neck and shoulder pain associated with headaches. On review of symptoms, patient endorsed mild constipation and heat intolerance. Her medication list included pravastatin, cholecalciferol, omeprazole, glucosamine-chondroitin, prochlorperazine, aprepitant, and turmeric. She also took dexamethasone before and after each chemotherapy session. The patient's past surgical history included surgery to correct her strabismus as a child and to remove her cataracts as an adult. Briefly, her family history included diabetes, hypertension, coronary artery disease and heart failure. Patient's vitals revealed mild tachycardia with heart rate of 99, but otherwise normal temperature and blood pressure. Her BMI was 21.8. Pertinent physical exam findings revealed tenderness to palpation of the neck with trigger points identified in the bilateral trapezius muscles. Patient otherwise had a normal cardiac, respiratory, abdominal, skin, neurologic exam, and musculoskeletal exam. At this visit, patient had a leukocytosis and mild elevation of her liver transaminases. There were no imaging findings pertinent to her chief complaint; however, we note here that she had no evidence of metastasis on imaging.

The patient was interested in therapies to support her through chemotherapy. Thus, a holistic treatment was initiated at her first consultation visit to address her chemotherapy-induced nausea and cancer-related fatigue, as well as her acute on chronic neck pain. The patient received acupuncture at points specific for nausea and fatigue including the following: Large intestine 4 and 10, Liver 3, Spleen 4 and 6, Stomach 36, Pericardium 6, San Jiao 5, and gallbladder 41. She also received injections with 1% lidocaine at multiple trigger points identified on her bilateral trapezius muscles. The patient tolerated both therapies well. Going forward, the plan was to see the patient in our clinic every 2 to 3 weeks to provide treatment sessions consistent of acupuncture and trigger point injections. On the second session, our patient reported persistent symptoms, noting that her nausea was worse in the days immediately after administration of chemotherapy. Thus we planned to have her integrative treatment sessions ideally within the week after her cycles of chemotherapy. We treated her with acupuncture and trigger point injections again, and we discussed dietary recommendations as well. In traditional Chinese medicine, excessive nausea is considered to be a symptom of excess heat. Under this framework, it is reasonable to implicate the chemotherapy as the cause of this excess heat. Thus we discussed including cooling foods to her diet, including fish, cruciferous vegetables, flax seed, nuts, and avocado. In addition to these anti-inflammatory foods, we recommended her to avoid sugary sweets or barbecued foods that tend to cause more inflammation.

DISCUSSION/CLINICAL SIGNIFICANCE: By the third and fourth sessions, patient reported improved nausea and decreased neck pain; patient also started taking turmeric given its anti-inflammatory effects. Additionally, we recommended community QiGong as a stress reliever and natural muscle relaxer. The patient reported worsening fatigue on her fifth session, and we focused more on her adherence to an anti-inflammatory diet during this visit. By the ninth treatment session, patient's nausea and neck pain continued to be well controlled. Although her periods of fatigue persisted, she reported that it was better overall and shorter in duration.

Prior to the tenth session, patient underwent a right breast lumpectomy with sentinel lymph node biopsy without evidence of metastatic disease; thus, her oncologists did not plan for any further chemotherapy. Again, she still reported present nausea and fatigue; however, she was able to manage these symptoms well. She started eating more cooked, whole foods as well. Her liver function tests remained elevated and her atorvastatin was discontinued by her primary physician. On the eleventh session, patient reported feeling great overall, although still having fatigue with prolonged activity. She was eating better and enjoyed life more. Her liver function tests improved as well. Between the twelfth and fourteenth sessions, patient was receiving radiation therapy. She reported burning pain and inflammation as a result of the radiation, as well as worsening of her chronic neck and back pain given the pronged posturing required during these radiation sessions. We continued her acupuncture and trigger point injections during each of these sessions. We also recommend more cooling foods such as mushrooms, watermelon, mung bean soup, chamomile and chrysanthemum teas. Patient was also using aloe topical therapy for the burning pain. On the fifteenth session, the patient endorsed feelings of sadness and feeling low. We emphasized self-care and patient started going to community QiGong sessions twice weekly as well. Patient felt improved by the seventeenth session, sleeping well and being active daily. Her DEXA scan demonstrated osteoporosis, and we recommended light resistance training, calcium-rich foods, and bone broth. After this session, patient was on surveillance for her breast cancer and did not need active integrative treatment sessions any longer and only returned for social and follow-up visits.

There is good evidence that acupuncture helps treat chemotherapy-induced nausea in lung cancer (Wang 2019). In addition, several complementary therapies have been helpful in supporting the overall care of those with lung cancer, including treating anxiety, mood disturbance, pain, quality of life, and treatment-related side effects (Deng 2013).

Recently, the Society of Integrative-Oncology developed an evidence-based guideline on use of integrative therapies before and after breast cancer treatment (Lyman 2018). Their key recommendations include the following: acupressure and acupuncture for reducing chemotherapy-induced nausea and vomiting; music therapy, mediation, stress management and yoga for anxiety/stress reduction and depression/ mood disorders; meditation and yoga to improve quality of life. Additionally, there was no strong evidence to support dietary supplements in managing breast cancer treatment-related adverse effects.

As mentioned above, acupuncture seems to be specifically effective for chemotherapy-induced nausea in breast cancer as well, something that conventional medicine has limited treatments for. One small study even demonstrated the potential effectiveness of auricular acupressure for chemotherapy-induced nausea in breast cancer patients (Eghbali 2016). A Cochrane Review demonstrated overall efficacy of acupuncture-point stimulation in treating chemotherapy-induced nausea, but the authors did note that certain studies did not have a placebo control and combined electroacupuncture with novel anti-emetic medications (Ezzo 2006).

There is also possibly a role in using acupuncture/acupressure to treat cancer-related fatigue. One systematic review noted that although the results are inconclusive, acupuncture and acupressure appear effective in treating cancer-related fatigue, with acupuncture possibly being more effective (Ling 2014). A similar meta-analysis demonstrated the efficacy of acupuncture in this regard as well (Zhang 2018). One randomized control trial demonstrated that both relaxing and stimulating acupressure reduced persistent cancer-related fatigue combined with usual care. On systematic review and meta-analysis of acupuncture and moxibustion, it appears that they are effective for cancer-related fatigue, but that higher-quality and more randomized-controlled trials need to be done, particularly for moxibustion (He 2013).

Thus, there is great promise and potential for acupuncture/acupressure in treating cancer-related and chemotherapy-related side effects, as well as CAM therapies in general. However, higher quality and more randomized-controlled trials are needed to better define its effectiveness and usefulness when applied in a practical setting. There are studies being planned to study which specific points are useful to treat chemotherapy-induced nausea (Gao 2016) and more systematic reviews regarding its role in preventing chemotherapy-induced nausea (Ma 2020) and treating it as well (Hu 2019), including a randomized controlled trial (Li 2017).

CASE REPORT TITLE: Mesenchymal Stem Cell Use For ACL Repair

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ABSTRACT / INTRODUCTION: The ACL is a frequently injured stabilizing ligament in the knee. The ACL's function is to provide stability against anterior tibial translation and internal tibial rotation.^{1,2} Currently, surgery is indicated for both partial and complete ligament ruptures causing instability or if the patient has a desire to return to a pivoting sport.³ However, ACL reconstruction can be associated with loss of range of motion, anterior knee pain, patellar tendonitis, impaired proprioception, weakness, and residual laxity.^{2,4} Here, we have a case of a 41-year-old male stuntman with an ACL injury who wanted to avoid surgical treatment and instead was treated with mesenchymal stem cell injection.

CASE REPORT (METHODS / RESULTS): The patient first verified that he had not taken any NSAIDs within the previous 2 weeks and wouldn't take any for the next 12 weeks. He received a centrifuged PRP intra-articular knee injection. The patient returned 2 days later for a mesenchymal stem cell (MSC) injection. Bone marrow aspirate was collected from the posterior iliac crest bilaterally and then processed, centrifuged and separated using the Regenxx technique which resulted in MSC, platelet lysate (PL), and a superconcentrated platelet solution (SCP). The PL and SCP was injected intra-articularly. The MSC were injected into the course of the ACL remnant under fluoroscopy. The patient was placed in a knee immobilizer and then received an intra-articular injection of SCP and PL 5 days later. He was evaluated twice over the next two weeks, being advanced to an ACL brace and PT. His ACL brace became prn 8 weeks later. At 6 months he had 90% improvement of his pain with discomfort during backwards running and deceleration but had no instability. He was cleared to return to his occupation as a stuntman. At 9 months he had an intact ACL on MRI (Figure 1B) and complete resolution of his pain.

DISCUSSION/CLINICAL SIGNIFICANCE: The ACL receives its blood supply from branches of the middle genicular artery that give rise to terminal branches which prevents healing of an injured ACL making reconstruction the gold standard surgical treatment.⁵ Currently, surgery is indicated for both partial and complete ligament ruptures causing instability or if the patient has a desire to return to a pivoting sport. ³ Reconstruction of the ACL is typically performed with an autograft, usually from the patellar tendon or the hamstring tendon. Often times, return to sport can occur 9-12 months postoperative but evidence suggests athletes do not regain baseline knee joint biological function until 2 years after reconstruction. Our patient was aware of the timeline associated with surgery along with the possible complications which guided his decision to seek nonsurgical management. Regenerative therapy with mesenchymal stem cells is a promising new approach to healing injured ACL with the potential of preserving proprioceptive nerve fibers thus preserving the biomechanics of the knee.⁸ In our opinion, MSC stem cell treatment is a promising treatment and especially impactful for patient's that want to avoid surgery.

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