The Association between Asthma and Cancer Diagnoses in the National Health Interview Survey

**Rationale:** Previous studies have investigated the relationship between asthma and allergies with cancer, but the direction and magnitude of association remains unclear. The aim of this study was to examine the association between personal histories of asthma and cancer, as diagnosed by a physician, in the National Health Interview Survey (NHIS) from 2015.

**Methods:** For this retrospective cohort study, NHIS data was analyzed using bivariate analysis between demographic variables, asthma and cancer (defined as ever being told subject has asthma or cancer, by a doctor, respectively). Covariates were identified from the literature and included age, sex, race and duration of cancer. Nested multivariate logistic regression models were then conducted. All statistical analysis was done using SAS v9.4.

**Results:** Data for 33,672 adults was available from this study, most aged between 18-44 years with equal male and female participants. The Odds of cancer diagnosis with a history of ever having asthma was 0.73 (95% CI 0.67-0.81), p<.0001. After adjustment for age, sex, race and smoking status, the odds dropped to 0.64 (95%CI 0.58-0.71) p<.0001.

**Conclusions:** This study found that a personal history of asthma was a strong and significant protective factor for cancer diagnosis. These findings suggest the altered immune responses of asthma may allow for increased tumor surveillance.

No Change in Cardiac Troponin I (cTnl) Levels in Patients with End-stage Renal Disease (ESRD) Undergoing Arteriovenous (AV) Access Surgery

Recent literature has shown elevations in cTnl during high-risk surgical procedures, possibly due to surgical stress and hypoperfusion to the myocardium in the perioperative period. An increase in cTnl is associated with greater postoperative incidences of major adverse cardiac events and mortality, therefore cTnl represents a good prognostic indicator. The primary aim of our study is to evaluate if there is a significant elevation in cTnl in ESRD patients after A-V access surgery and the secondary aim is to evaluate if a difference in mean increases is associated with choice of anesthesia (general, regional, or monitored). One hundred and ten patients were enrolled over a seventeen-month period and 70 complete records were analyzed (32 male and 38 female; 30 GA, 37 MAC, 2 regional, and 1 MAC converted to GA). Mean (standard deviation) age was 58.38 (14.88); 17 patients had a history of heart disease, 67 of HTN, and 40 of Diabetes Mellitus. Consented patients provided two blood samples to evaluate cTnl prior to and three hours after surgery. Hemodynamic/demographic data were collected prior to surgery and intraoperative data were obtained from the anesthesia record. Paired samples t-test was used; mean difference (95% CI) was -0.01 (-0.026, 0.006), p = 0.22 (for general anesthesia the mean difference was -0.022 for monitored anesthesia it was -0.002). The results showed that all included types of anesthetic management (MAC, regional and GA) were not associated with significant postoperative increase in cTnl in ESRD patients undergoing A-V access surgery. Additionally, the current literature supports that hemodialysis is more stressful than surgery for A-V access.
A3: Tzivya Weiss-Lustiger  
Advisor(s): Ellen Berkowitz and Shirley Eisner

A Resident as Teacher project designed by Medical Education Pathway Medical Students: Needs Assessment Survey #1

The ACGME requires that residents “participate in the education of students, residents and other health professionals”, and directs programs to detail activities that build teaching skills. At SUNY Downstate, the GME leadership supports the creation of standardized activities that foster resident teaching skills. Furthermore, some medical students report that they are not receiving appropriate feedback, dedicated teaching, or assessment from residents during clinical rotations. Therefore, several members of our Medical Educators Pathway (MEP) are collaborating with faculty to create a targeted Resident as Teacher (RaT) curriculum that will be applicable to multiple residency programs.

We distributed our first Needs Assessment survey (on medical student teaching/feedback) to all SUNY Downstate Residents/fellows via New Innovations, in order to determine resident views regarding the need for a RaT curriculum at SUNY Downstate. 77.6% of our respondents indicated that residents in their programs would benefit from skill training sessions on how to teach medical students, and more interactive modalities were preferred. We also found that of 198 respondents, 88% felt that all residents in their program were expected to teach medical students, while 76.8% of respondents reported spending only 1-5 hours per week teaching medical students. Residents’ time limitations and lack of training in medical student education were identified as barriers to clinical teaching. The literature has demonstrated rising inclusion of RAT efforts in residency programs, but many are limited to a single residency program, rather than endorsed by an institution. Our survey may be unique in targeting multiple residencies simultaneously, and is significant in that it demonstrates the needs and preferences of the majority of Downstate Residents. Additionally, we hope to compare these results with results from surveys of medical students prior to finalizing our RaT curricular component proposals.

A4: Christian Abrahim  
Advisor(s): Adam Budzikowski

Predictors of appropriate defibrillator therapy in patients with systolic heart failure.

**Background:** The risk for Ventricular Tachycardia (VT) and ventricular fibrillation (VF) is increased in patients with heart failure and defibrillator (ICD) therapy has proven to improve survival in this population of patients. Very little data is available with regards to risk factors for ICD therapy in minority populations.

**Purpose:** The purpose of the study was to identify risk factors for appropriate ICD shock in a cohort of patients receiving ICD therapy for primary prophylaxis of sudden cardiac death.

**Methods:** A retrospective chart review was performed of patients followed at our institution. Only patients with implanted ICD for primary prevention were included in the study. Patients implanted for secondary prevention of sudden cardiac death or hereditary arrhythmias were excluded.

**Results:** We analyzed 160 patients of predominantly of Afro-Caribbean or African-American ancestry (90%). 59% male and 41% female. Average ejection fraction was 24.3%±7.8%, 48% of patients had coronary disease and 52% non-ischemic cardiomyopathy. 58% of patients received cardiac resynchronization ICD. Average follow up was 27.2±1.37 months. Appropriate therapy was defined as appropriate device shock or anti-tachycardia pacing (ATP). 29 patients (18%) received appropriate therapy, 5 (3.1%) inappropriate therapy. The average number of ATP/shock was 1.9±2.85. Logistic regression analysis that induced medications, etiology of heart failure, heart failure class, BMI and presence of non-sustained VT, and gender identified lack of β-blocker therapy (p=0.002) and male gender (p=0.049) as a significant predictors of appropriate ICD therapy.

**Conclusions:** Our patients have experienced low rates of appropriate ICD shocks and very low rates of inappropriate shocks. Male gender and absence of β-blocker therapy predicted appropriate ICD therapy highlighting importance of pharmacotherapy in this population of patients.
Annual Research Day –April 11, 2018

A5: Hymie Chera
Advisor(s): Ronald Pedalino and Haroon Kamran

Determining the pre-test and post-test probability values for obstructive coronary artery disease in patients who underwent cardiac stress tests and coronary angiography

Coronary artery disease (CAD) is one of the most frequent diseases that can be observed in our patients and causes significant morbidity and mortality worldwide. Coronary angiography (CA) is considered the gold standard method in the diagnosis. In our study, we investigated patients who had positive findings on cardiac stress tests with their cardiac angiography results. The indication for a cardiac stress test were divided into 3 groups: 76 patients (78.3%) underwent cardiac stress test for unstable angina, 14 patients (14.4%) for NSTEMI and 7 patients (7.2%) for new onset CHF. There were 3 different types of cardiac stress tests that the patients underwent. The majority was nuclear stress test; 87 patients (89.7%) underwent nuclear stress, 9 patients (9.3%) underwent stress echocardiogram and 1 patient (0.1%) underwent dobutamine stress test. The stress test results were compared to the angiographic findings.

Overall the stress test at our institution was consistent with the national values and is a useful screening test to detect significant stenosis. Overall the cardiac stress test had a sensitivity of 46.7%; specificity of 66.7%; positive predictive value (PPV) 95.5% and negative predictive value (NPV) of 7.7%.

The left anterior descending (LAD) had the highest sensitivity of 90.62%; specificity of 20.3%. The PPV was 36.3% and the NPV was 81.3%.

The right coronary artery (RCA) had a sensitivity of 57.7%, specificity of 30.0%, PPV of 30.0% and a NPV of 57.7%.

The left circumflex artery (LCx) had a sensitivity of 55.7%, specificity of 64.9%, PPV of 27.0% and a NPV of 86.2%. The lateral wall was labeled LCx.

Our study investigated and compared cardiac stress tests to cardiac angiography, which is the gold standard. Our study highlights the important clinical aspect of pre-test probability.

Annual Research Day –April 11, 2018

A6: Nicholas Cacciola-Price
Advisor(s): Shirley Giroud and Michele Solloway

The STROKE Program: Bridging Gaps between Inpatient & Outpatient Resources: An EBP Project Proposal

Introduction: The CDC reports that 140,000 Americans die of stroke every year with an average annual cost of $34 billion (CDC, 2017). Patients & informal caregivers, who at discharge do not possess the knowledge and skills nor have support, are at risk for poor outcomes. Nurses & others in the hospital setting are often unable to provide adequate transition services. The Survivor Transition & Recovery to an Outpatient Kind Environment (STROKE) program is an effort to give providers & informal caregivers knowledge, resources & support. To improve outcomes.

Methods: This project uses a longitudinal study design. 50 patients over 18 years old who have experienced their first stroke & are discharged from a large urban academic hospital will comprise the convenience sample. An intervention-the STROKE team-consists of a care coordinator/RN for patient education & to facilitate coordination of outpatient services, a social worker to provide ongoing social & emotional support for the patient & family, a director of the patient’s sub-acute care facility & the stroke victims’ family members who will be involved directly in the patient’s care. Monthly contact will be made with the survivor and informal caregiver. At discharge, a patient/caregiver survey will be used to assess baseline knowledge of disease process, medications, community resources, care expectations & outcomes. The same survey will be administered at 6 and 12 months after discharge. Descriptive statistics will be used to assess demographics, knowledge, expectations, changes in health status & stroke readmission rates. Statistical tests will be used to assess changes in knowledge, expectations, changes in health status & stroke readmission rates over the 12 month study period.

Implications: If the STROKE intervention improves knowledge, expectations, changes in health status & stroke readmission rates, it will be shared with others & efforts made to incorporate it into practice.
A7: Joanne Saint-vil  
Advisor(s): Shirley Girouard, Michele Solloway and Nellie Bailey

A Proposed Survey of Pediatric Nurses' Knowledge, Skills, and Attitudes about ACEs

**Problem:** Childhood experiences can have significant impact on the health & well-being of children with life-long ramifications. Abusive & traumatic childhood experiences have been linked to future risky behaviors, chronic health conditions, learning disabilities, decreased life potential, & even death (CDC, 2016). In nursing, although it is standard practice to assess for signs of physical abuse, there is little training done & few tools utilized to assess for other types of trauma, abuse, or household dysfunction among children. Thus, nurses typically do not assess or intervene for adverse childhood experiences (ACEs) in their practice.

**Research Question:** What knowledge, skills, and attitudes (KSAs) do hospital-based pediatric nurses have about ACEs?

**Methods:** A descriptive survey study design will be used. A convenience sample of 150 pediatric nurses in an urban medical center will be surveyed electronically using a 54-question survey tool developed by the University of Massachusetts to assess the KSAs of family practice physicians. Demographic data about the nurses will also be obtained. Descriptive statistics & correlations will be used to assess the KSAs of pediatric nurses & the relationship of their demographic data to their ACEs KSAs.

**Implications:** If pediatric nurses are found to have few KSAs about ACEs, as has been found among other health professions, educational programs will be suggested to raise awareness of ACEs & ACEs KSAs with the goal of increasing screening, identification & early intervention to reduce childhood and adult impact of ACEs.

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A8: Tina Rendini  
Advisor(s): Shirley Girouard and Michelle Solloway

Painting a Picture - The "Art" of Building Resilience amongst Nursing Students with ACEs: An Evidence Based Practice Proposal

**Problem Statement:** Experiencing severe or chronic stress as a child, often referred to as adverse childhood experiences (ACEs), is a known risk-factor for poor health, social & economic outcomes, including lower work performance, as an adult (Felitti, 1998). Nurius (2016) further suggests that current stress can exacerbate existing vulnerabilities/symptoms caused by ACEs. Given the stress of nursing education & the expected incidence of ACEs among student nurses, student nurses may be at risk for diminished academic performance. Art therapy is an evidence-based intervention (EBI) known to reduce stress, mitigate ACEs symptoms & promote resilience (SAMHSA/NREPP, 2017).

**Question:** Does a peer-led paint club reduce stress & promote resilience among nursing students with ACEs?

**Methods:** This EBI will use a quasi-experimental pre-posttest study design. Nursing students at an urban academic teaching hospital interested in joining the paint club will be screened for ACEs using the CDC’s ACEs 10 question screening tool & additional ACE questions developed for urban minority populations (Pachter, 2017). Students with 2 or more ACEs will be invited to participate in the EBI which will be conducted during the academic year. Cohen’s (1994) 10-item Perceived Stress Scale will be used to assess participant stress. Resilience will be assessed using a 6 item Brief Resiliency Scale (Smith et al, 2008). Both validated tools along with demographic questions will be administered at the beginning & end of the club. Descriptive statistics will be used to describe participants; chi square will be used to identify differences in pre-post stress & resilience scores.

**Implications:** The EBI is expected to reduce nursing students’ stress & improve...
A9: Michelle Alstrom

Advisor(s): Cathryn Galanter and Michele Pato

The Impact Of Childhood Trauma In The Development Of Psychosis

**Background:** This is a comparative study, where attempts were made to highlight, analyze & bridge the 5 year gap between the meta-analysis research done by Varese et al in 2012, & the current literature. Research by Varese et al was entitled “Childhood Adversities Increase the Risk of Psychosis,” & used a patient-control, prospective, cross-sectional cohort study to analyze data up to 2012.

**Introduction:** The question this study attempts to answer is “can it be determined which trauma directly precedes psychotic symptoms in children?” We focused on 4 areas of trauma: sexual, physical, emotional / psychological and childhood neglect, all of which appear to lead to Cognitive Emotional Dysregulation (CED) in children & adolescents.

**Method:** A meta-analysis of Observational & other studies of childhood trauma / adverse events that lead to psychotic symptoms, were analyzed. The search using MeSH revealed over 200 articles, which were narrowed down to 56 articles. Of the 56 articles, 10 were chosen and compared to the meta-analytical study done by Varese et al. Those 10 articles were chosen because they best highlighted new findings, since the article by Varese et al in 2012, about the relationship between childhood trauma and psychosis that develops later in life. The other articles were not chosen because they did not examine specific links between types of trauma and psychosis, or may have included other disorders such as mood disorders like MDD and/or Bipolar Disorder with psychotic features.

**Results:** The results from the collective data analysis showed that abuse is a direct precursor of psychotic symptoms in children.

**Discussion:** This poster supports the notion that stress reactivity is a mechanism implicated in reality distortion in individuals who are exposed to childhood trauma. These findings suggest that cognitive emotional dysregulation is an important factor that influences the emergence of psychotic symptoms in patients with childhood trauma.

A10: Nayla Hariz

Advisor(s): Cathryn Galanter and Michele Pato

Transgender and Gender Nonconforming Youth: How Psychiatrists Can Help With Decisions and Transitions

**Background:** Despite recent advancements and growing public interest, information and guidelines on the assessment and treatment of transgender and gender nonconforming youth remain scarce. Similarly, most child and adolescent psychiatrists have limited experience in managing gender dysphoria. This review aims to gather the most recent studies and publications pertaining to the mental health of transgender and gender nonconforming youth.

**Methods:** A PubMed search was conducted using the MeSH terms “transgender persons” and “gender dysphoria” while filtering for age “birth to 18 years” and publication dates after 2011. Articles were then included if they pertained to mental health assessment, management and outcomes. Diagnostic classifications and criteria, as well as standard of care guidelines, were also reviewed.

**Results:** Children and adolescents may present with different degrees of gender nonconformity and/or gender dysphoria. As they grow up, they may revert to the gender assigned to them at birth or may further identify with the opposite gender. Others may reject the gender binary model altogether. Depending on the youth’s age, developmental level, and aspects in which they are gender nonconforming, alleviating gender dysphoria may require medical or surgical interventions, social or lifestyle changes, psychotherapy or counseling, or any combination of those. The psychiatrist’s role includes assessing and recognizing gender dysphoria, identifying and treating any comorbid mental health illness, and providing support, psychoeducation and psychotherapy to the child as well as the family.

**Conclusions:** Mental health professionals play an essential role in helping youth and their families accept gender nonconformity, identify how to best alleviate gender dysphoria, and live in a safe and affirming environment. Further steps should be taken to continue to destigmatize and depathologize gender nonconformity.
A Proposed Study of the Effects of Informal Caregiver's Knowledge on Asthma Control in Children

**Background:** Asthma is the leading cause of emergency room visits and hospitalizations, the leading reason for missed school days and the leading chronic condition seen in children. When asthma is triggered, the children most likely go to the clinic or emergency department. Studies show that asthmatic control can be improved by increasing knowledge and control of education and prevention. Informal caregiver’s knowledge of asthma and asthma triggers could play a role in a child’s asthmatic control. Awareness of informal asthma caregivers’ knowledge can direct healthcare providers appropriate interventions for asthma control.

**Purpose:** To examine the relationship of informal caregiver’s knowledge of asthma on asthma control in children ages 4-11 years old.

**Conceptual Framework:** Nola Pender’s Health Promotion Model will guide this proposed study.

**Question:** Do children 4-11 years old whose informal caregivers demonstrate high knowledge on the asthma knowledge questionnaires will report increased asthma control than those informal caregivers who demonstrate less knowledge on the asthma knowledge questionnaires?

**Methods:** Design/ Cross-sectional, correlational, and comparative study to examine the effects between the informal caregivers’ knowledge and asthma control in children ages 4 to 11 years in two pediatric clinics in Brooklyn, New York. Sample/Setting: Fifty informal caregivers of children 4-11 years old will be recruited for the study. Measures: Demographic survey, 11-item Parental Asthma Knowledge/11-item Asthma Triggers Knowledge Questionnaire and 7-Item Asthma Control Test for Children will be used to measure the variables. Data Analysis: Descriptive statistics will be used to analyze the data.

**Conclusion/Implication:** Findings can guide health care providers regarding increasing informal caregivers’ knowledge about asthma, asthma triggers and asthma control measures.

A Proposed Study of Stroke Survivor Perceptions about Support Group Participation & Benefits

**Introduction:** Stroke is a major health problem in the US, affecting nearly 800,000 people annually with 75% experiencing stroke for the first time. Most stroke patients have physical, functional, social & psychological effects following stroke. Although patient support groups, including stroke survivors, have been shown to improve outcomes, many patients do not participate. Reasons for lack of support group participation are not well documented. Also, little is known about perceptions of the psycho-social benefits of support groups.

**Questions:** Why do patients participate or not in support groups? What are the perceptions of patients who do & do not participate in stroke groups about the psycho-social benefits of them?

**Methods:** A qualitative study will be done to assess stroke survivor reasons for participation or not & to assess perceptions about the psycho-social benefits of support groups. A convenience sample of hospitalized stroke patients will be interviewed when first invited to participate in an academic health center based support group. Those who participate will be interviewed again after they complete 4 sessions. Open-ended interview will explore what patients perceive as the anticipated or experienced psycho-social benefits and their reasons for participation or non-participation. Data will be collected using note taking and taped interviews until saturation is reached, anticipated to be 25 patients. Data will be identified, categorizes & coded to uncover themes.

**Implications:** Understanding why stroke survivors do or do not attend support groups & their perceptions before and after participation about the psycho-social benefits will be helpful in designing support groups that better meet needs. This information will also be helpful to develop materials that address patients’ concerns & encourage support group participation.
A Stroke Care Transitional Program to Reduce Hospital Readmissions: An Evidence Based Practice Project Proposal

**Problem**: Stroke is a leading cause of hospital readmissions. Research shows that stroke patients are more likely to be readmitted to the hospital due to comorbidities & a lack of knowledge & resources. Purpose: This evidence-based pilot project will help determine if implementation of a comprehensive transitional program can decrease readmission rates among first time stroke patients.

**Research question**: Does a comprehensive transitional program reduce readmissions among stroke patients?

**Methods**: A quasi-experimental design will be used. Over a six-month period, patients aged 18+ admitted to two large urban teaching hospitals with an admitting diagnosis of a first stroke & who are being discharged to home will comprise a convenience sample of 20 patients. The stroke care transitional program is comprised of three phases & includes the following: Pre-discharge patient education, standard discharge planning, medication reconciliation & appointment reconciliation. Post-discharge activities include PCP communication, follow-up phone calls, patient hotline & home visits. Transition activities will involve the use of a transition coach. Demographic & clinical data will be collected from medical records employing full HIPAA protections & patient confidentiality protocols. The study sample will be described using descriptive statistics. Using demographic data & first-time stroke status, the study sample will be retrospectively matched to a group of 20 first-time stroke patients who have not received the intervention. Fisher’s test will be used to compare differences in readmission rates of the two groups.

**Implications**: If the comprehensive transition care model reduces readmissions, findings will be disseminated & recommendations made to other institutions to replicate the intervention. If the intervention proves unsuccessful, the study will be reexamined to identify gaps in stroke transition of care & study design.

A Proposed Case Study of the Stroke Continuum of Care in an Inner-City

**Purpose**: to describe the organization, delivery & financing of stroke prevention & treatment. Stroke, a major cause of disability in the US, annually effects more than 800,000 individuals & their families. The literature suggests that the latest & best interventions to prevent & treat stroke --such as primary prevention through coaching for managing hypertension and atrial fibrillation, coordinated care transitions for discharges and care management to support treatment adherence are not widely disseminated and that the organization, delivery & financing of stroke prevention & treatment is complex, uncoordinated & difficult for all to navigate & negotiate. Understanding the current system & comparing it to the best practices of a population health framework can help identify gaps.

**Methods**: a descriptive case study focused on providers & other stakeholders contributing to the stroke continuum of care in an inner-city community. The proposal is being prepared for IRB. Convenience & snowball sampling will be used to identify 15 people to interview. Data collection will include: 1) review of internet and public documents to identify resources for stroke prevention and care in the community; 2) semi-structured interviews about the stroke continuum of care. Interviews will be recorded via note-taking & audio-recording. Internet data will be organized & described & interview data will be analyzed for themes using Colaizzi's method.

**Significance**: In compiling data from the two methods into a case study, Robert Yin’s criterion & tactics will be used for confirmability, dependability, credibility & transferability. The study findings can identify opportunities to improve systems of care & identify gaps in knowledge that could inspire further research.
A15: Maria Rosario-Sim

Nursing Faculty are Culturally Aware of the Lesbians, Gay, Bisexual and Transgender (LGBT) Population

Introduction: The LGBT community experiences disparities in healthcare. To mitigate these disparities, one recommended strategy is to increase knowledge, improve attitudes among the healthcare workforce. The purpose of this study was to assess knowledge, attitudes and cultural competency of nursing faculty on LGBT population and to determine the relationships between these variables.

Methods: Design: Descriptive correlational study. Faculty members from two regional universities participated. Sample: Eighty surveys were distributed to both universities. The Inventory for Assessing the Process of Cultural Competence among Healthcare Professional - Revised (IAPCC-R) by Campinha-Bacote was used to assess nursing faculty cultural competency. The 15-items T/F LGBT Knowledge Questionnaire by Strong and Folse was used to measure LGBT knowledge. The Attitudes toward Lesbians, Gay Men and Bisexual (ATLGB) Scale and the Attitudes toward Transgender Individual (ATTI) scale were used to evaluate attitudes towards LGBT individuals. The latest version of the SPSS statistical software was used to perform statistical analysis.

Results: Thirty-five returned the survey (44% response rate). The cohort consisted of 91% females, mean age of 51.5 (Â±12.5) years, majority were married and heterosexuals, and with 13 Â± 12 years of teaching experience. The mean score on the IAPCC-R survey was 53 Â±8 (score ranged 36-67), indicating that nursing faculty were culturally aware of LGBT population. Of the five constructs of cultural competency, cultural desire had the lowest score. There were no significant correlations between IAPCC-R and knowledge of LGBT, and between IAPCC-R and attitudes towards LGBT individuals.

Significance: The findings showed that nursing faculty are not culturally competent in regards to the LGBT population but are knowledgeable of LGBT however tended towards negative attitudes. Desire had the lowest score among the constructs of cultural competency.

A16: Sheryl Zang

Which Diabetic Therapy Produces the Best HgbA1c Outcomes for Children and Adolescents: Multiple Daily Injections or Continuous Subcutaneous Insulin Infusion? A Retrospective Study

Purpose: The Diabetes Control and Complication Trial (2005), indicates children and adolescents with Type 1 diabetes should be treated with multiple daily insulin injections (MDI) or subcutaneous insulin infusion (CSII) to obtain glycemic control. Some studies show insulin infusion in children and adolescents improves glycemic control. This study examined HgbA1c outcomes among a cohort of children and adolescents in an urban setting after switching from MDI’s to CSII.

Methods: A convenience sample of the medical records of 58 children and adolescents (ages 1-21) who attended two outpatient clinics and who were switched from MDI’s to CSII was selected. Two to 4 Hgb A1c values over the 1 year period prior to switching to CSII, and 2 to 4 HgbA1c values during the initial year of CSII use were collected and compared. The difference in HgbA1c values during MDI and CSII therapies were tested using paired t-tests.

Results: Overall, the difference 0.29 (95% CI -0.16 to 0.73, p=0.20) between the average measurements in MDI and CSII periods was not significant, indicating no change in HgbA1c measurements after the switch. However, HgbA1c values differed between groups under and over age 13. Reduction in mean HgbA1c of 0.79 (p=0.02) in the older group was statistically significant. The change in the younger group of -0.09 (p=.75) was not significant. The results suggest that adolescents over age 13 in an urban setting in Brooklyn have improved glycemic outcomes using CSII, while MDI’s and CSII are equally effective in children under age 13. Since there is no significant difference in outcome, health care providers can recommend a choice of administration of insulin which meets the needs of the child/adolescent and family.
A17: Elina Badiner  Advisor(s): Shirley Girouard, Jacob Levy, Michele Solloway

**The Prevalence of Adverse Childhood Experiences Among Student Nurses**

**Problem Statement:** Adverse childhood experiences (ACEs) are events occurring before age 18 that result in trauma & stress. ACEs are associated with long term negative physical outcomes such as obesity, cancer, heart disease, asthma, chronic bronchitis or emphysema, and skeletal fractures. ACEs can also lead to negative health behaviors later in life including smoking, drinking alcohol, use of illicit drugs, unsafe sexual practices, and even suicide. ACEs can affect one emotionally and psychologically, causing feelings of anxiety, depression, and aggression. ACEs victims have difficulty building rapport and self esteem. Given the stress of nursing education & practice, it is likely that nurses who suffer from ACEs will have personal & professional effects.

**Research Question:** What is the prevalence of ACEs among student nurses? **Methods:** A quantitative, descriptive research design will be used with a convenience sample of 250 undergraduate & graduate nursing students in a large urban academic medical center. Demographic data will be collected. An ACEs survey developed & used by the Philadelphia ACEs Task Force that includes the 10 CDC items, with additional questions specific to urban, minority populations, will be used. Data will be analyzed using descriptive statistics.

**Implications:** If the results of our study are found to be comparable to or greater than that of the general population, it behooves the healthcare field to create resources that can help nursing students affected by ACEs such as paint clubs, music, aroma and trauma-informed therapies. This would minimize the negative effects that ACEs have on the nursing students and improve future interactions when the student nurse becomes a provider.

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A18: Olanike Olorunoje  Advisor(s): Shirley Girouard and Michele Solloway

**Utilizing Targeted Strategies to Reduce Missed Appointments among Stroke Patients: An Evidence-Based Practice Proposal**

**Background:** Stroke kills 140,000 Americans annually; every 4 minutes there is a death as the result of a stroke. Keeping appointments is necessary to prevent long term physical, mental & social limitations while also decreasing the likelihood of readmission. Major causes for preventable hospital readmissions include inadequate discharge planning, lack of communication among health care providers, lack of timely follow-up visits & lack of clarity regarding who is caring for the patient after discharge.

**Question:** Do collaborative discharge planning (CDP) & post hospital discharge reminders improve appointment adherence & reduce readmission rates among stroke survivors?

**Methods:** Using a quasi-experimental, pre-posttest design, convenience samples of 50 stroke patients discharged in 2017 and 50 stroke patients discharged in 2018 will be selected. The 2017 group will have received usual & customary care. The 2018 group will receive CDP & follow-up. CDP includes a patient visit by a nurse liaison prior to discharge, who will provide education on diagnosis, importance of appointment compliance & medication compliance. The nurse will also institute a series of appointment reminders - letters one week prior, phone calls three days prior & text message one day prior. The nurse liaison will also collaborate with hospital social workers to address social, transportation & other barriers to appointment adherence. Demographic data, missed appointments, readmission rates & other relevant clinical data will be obtained from patient medical records for 2017 & 2018 groups. Data will be analyzed using descriptive statistics. A t-test will be used to compare the 2017 & 2018 groups.

**Implications:** If results are favorable, CDP may be used as a model for others to adopt where missed appointments are prevalent among stroke survivors. If the results are negative, additional research on intervention & patient experience & needs will be undertaken.
A19: Maria Correa

Outcomes in Older Adults with Schizophrenia

The study of outcomes in schizophrenia has shifted over the years in tandem with changes in our perspectives on the disease structure, progression and management. As the number of older adults with schizophrenia has dramatically increased it has become important to appreciate the outcome of the disorder in later life. Therefore, our aim is to examine cross-sectional and longitudinal data from a community sample of older adults with schizophrenia (OAS) with respect to 4 outcome measures: clinical remission, community integration, clinical recovery, and successful aging. The sample consisted of 250 persons aged 55 and over, who developed the disorder prior to age 45. Clinical remission was measured using the PANSS scale and defined as a score of 3 or below on each of 8 symptom domains and as well as no history of hospitalization within the previous year. To assess community integration, 12 item Community Integration Scale was developed consisting of 4 components: independence, psychological integration, physical integration and social integration. Scores of 9 or higher were defined as successful community integration. Subjects who met the criteria for both clinical remission and community integration were deemed to have attained “clinical recovery”. To evaluate successful aging we developed a scale (range 0-6) comprising 3 domains: Avoiding disease and disability, High cognitive and physical function and engagement with life. Cross-sectional data revealed a prevalence rate of 46% for clinical remission, and 37% prevalence of community integration; 22% of the participants achieved criteria for clinical recovery; only 2% achieved criteria for successful aging. Longitudinally, we found 25%, 26%, and 12% maintained persistent clinical remission, community integration , and clinical recovery, respectively. There was also considerable flux between categories with 40%, 45%, and 70% for clinical remission, community integration, and clinical recovery, respectively.

A20: Ali Haidar

Do Staffing Patterns Allow Clinics to Implement a Full Range of Evidence-Based Practices in the Treatment of Schizophrenia?

Evidence-based guidelines specify psychosocial treatments, including individual psychotherapy for psychosis (PiP). For example, the UK requires that all first-episode patients be offered CBT for psychosis. However, US literature has limited investigations on staffing needs for conducting appropriate therapy. Recently, German scholars attempted to do so and found a significant gap between the calculated necessary ratios and common practice. Psychotherapy sessions (30-45 min) are a more time-intensive treatment than medication management (15-30 min/month), and accordingly would require more staff to implement. We set out to determine what patient/staff ratio would be necessary to implement evidence-based program of PiP, and whether clinics are currently adequately staffed to offer this treatment modality. We examined the existing literature linking staffing patterns to modalities of treatment, and we developed an Excel file that calculates the maximum number of patients that clinicians can carry on their clinic census given a varying mix of weekly therapy appointments and shorter contacts, plus activity like charting and administrative meetings not involving patient encounter. We surveyed staff time demand in a busy inner-city public outpatient clinic and determined that a minimum of 4 hrs/day was devoted to activities other than patient appointments leaving 4 hrs for patient visits. The maximum caseload per provider would be roughly 20 patients, as compared with the UK standard of 15. Providers in the clinic we sampled had caseloads 4 times larger than a census that would allow weekly psychotherapy. We found no evidence in the literature or in our clinic sample that administrators were using a workload calculator to tailor staffing patterns supporting evidence-based psychotherapy treatment. Despite a current emphasis on evidence-based treatment, PiP at present appears to be an unfunded mandate that has not been implemented in clinic practice.
Self-induced abscesses and repeated septicemia: care at what cost?

Self-induced infections are frequently thought to be a form of factitious disorder, associated with case reports in literature of patients creating a disease state by injecting themselves with contaminated substances to produce cutaneous infections, bacteremia, skin graft failures, and wound healing disorders. A case is reported of a 40-year-old female with a medical history of diabetes mellitus type 1, and a past psychiatric history of depression, anxiety, intravenous drug abuse, as well as chronic pain, who presents after a series of admissions for abscesses on her outer thighs requiring recurrent incision and drainage. Factitious disorder was suspected and psychiatric consultation evaluation was requested. She underwent incision and drainage of multiple bilateral abscesses of the thighs, while receiving broad-spectrum antibiotics and being monitored for septicemia and elevated blood glucose levels. The patient reported developing abscesses approximately once monthly and emphasized that she had not seen a psychiatrist in a “long time” because of a number of reasons such as insurance changes, multiple hospitalizations, and receiving refills of her medications (Paxil, Klonopin, Trazodone) from the hospital when she is discharged. She reported injecting herself at least 5 times a day with insulin, only developing infections where she injects herself (flank, arm, etc), though she reported using clean equipment. However, when the patient was placed on continuous monitoring for self-harm behaviors, both on prior admissions and during recent encounters, she threatened to leave against medical advice, and in some instances, was successful in doing so. Prior evaluation notes that she was found to be self-injecting with contaminated materials, presenting a challenge for providers. Criteria for factitious disorder and malingering are reviewed, as well as other clinical considerations related to this case such as capacity to refuse treatment and collaborative strategies.

The Role of Anti-Depressants in the treatment of agitation in the elderly: A review of literature.

**Background:** Up to 14% of the geriatric population above the age of 71 is estimated to have dementia [1] and the number of people suffering from dementia is expected to rise up to 88 million by 2050[2]. Agitation is an important part of the behavioral and psychological symptoms of Dementia (BPSD) and is present in up to 30% of the patients. Pharmacologically it is treated mainly by the use of antipsychotics(AP), both typical AP such as Haloperidol & atypical AP such as Risperidone, however, there is a clear evidence of increased mortality risk associated with antipsychotics. This leads to an increasing need for the use of alternative medication for the use of the treatment of agitation in the elderly

**Method:** A comprehensive search was carried out using Pubmed, Google scholar, CINAHL, Cochrane and EMBASE databases.

**Result:** At the end of the literature review, a total of 19 studies on the use of antidepressants(AD) for the treatment of agitation in the geriatric population were identified. Citalopram was the most commonly studied medication with a total of 8 studies. Overall, 3 RCTs with adequate power showed a very significant improvement in agitation while on Citalopram. Two studies with smaller sample sizes & another with a focus on emotional disturbances also showed the efficacy of Citalopram. Escitalopram was effective in one large RCT, however, these findings could not be replicated in another low power study. Sertraline showed positive results in 1 trial, when used in addition to Donepezil & had positive but not statistically significant results in another. Trazodone proved to be ineffective in two trials and fluoxetine was also ineffective in one study. Fluvoxamine was found fluvoxamine to be as effective as Risperidone in decreasing agitation.

**Discussion:** There is an overall dearth of literature dealing with the efficacy & tolerability of AD on agitation.. Further research is warranted given the promising results on this use of SSRIs.
### Virally Unsuppressed and Unmonitored HIV+ Ryan White Patients, Where Are They Now & What Do They Look Like

Since the establishment of the Ryan White Care Act, great strides have been made in the care and treatment of people living with HIV/AIDS. Community-based organizations, local clinics, hospitals, and state government-run programs all play a key role in the management of HIV/AIDS care in the US. Though the federally funded HIV/AIDS programs are growing rapidly and expanding access to care, the health outcomes of all people living with HIV/AIDS are not improving in a consistent manner. Pockets of health disparities have emerged in the US, and women of color, men who have sex with men, and the LGBT community have seen consistently lowered rates of viral load suppression and subsequent poor health outcomes. As a major indicator of HIV disease management, viral load suppression is a great estimate of population health. Through this analysis, we will attempt to describe the relationship between varying levels of participation in Ryan White-funded supportive counseling program and viral load suppression rates among previously unsuppressed HIV+ participants. We will also describe the characteristics of PLWH/A enrolled in Ryan White-funded supportive counseling programs who participated in our study.

### Racial Disparities For Screening Colonoscopies: Differences in the Adenoma Detection Rates (ADR) Across Three Institutions

**Background:** African-Americans (AA) continue to have a higher incidence and mortality of colon cancer. This study seeks to compare the adenoma detection rates between an urban safety-net hospital (USNH), urban university hospital (UUH), and a suburban university hospital (SUH).

**Methods:** A retrospective chart review (patients between ages 45-75) was performed on all average-risk initial screening colonoscopies performed in 2012. Adenoma detection rates (ADR) were calculated on all complete initial screening colonoscopies with at least good bowel prep. Univariate analysis was done comparing ADRs between the 3 institutions and then comparing ADRs of teaching faculty gastroenterologists with community physician gastroenterologists.

**Results:** 2225 patients met the inclusion criteria. Patients at the USNH and the UUH were more-likely to be AA compared to the SUH which was dominantly White. The majority of colonoscopies at the USNH were performed by community physicians compared with the other hospitals and ADRs were noted to be significantly lower among this group of community physicians when compared with teaching faculty (16% vs 26%, p=0.034). In 2017, a higher proportion of screening colonoscopies were performed by teaching faculty at the USNH and the ADR improved to 29% (p<0.0001).

**Discussion:** In our study, the ADR was lower in patients receiving colonoscopies at the USNH where the majority of the screening colonoscopies were performed by community physicians who had lower ADRs. This lower ADR does not appear to be due to inherent racial differences as the USNH and the UUH had similar racial profiles. Furthermore, in 2017, the adenoma detection rate was significantly higher at the USNH and was attributed to improved feedback to all endoscopists and a higher percentage of colonoscopies being performed by teaching faculty. When improving access to colon cancer screening for at-risk populations, the quality of the colonoscopy must be monitored.
Burden of BRCA1, BRCA2, and PALB2 Gene Mutations in Caribbean Women with Breast Cancer

**Purpose of Study:** Identifying mutations in breast cancer genes (BRCA1, BRCA2, PABL2) has important clinical implications on a woman's lifetime susceptibility to breast cancer development. Nearly 10% of immigrants to the United States come from the Caribbean and few studies exist that examine breast cancer gene mutations in African-Caribbean women with existing breast cancer. The purpose is to review breast cancer epidemiology statistics and prevalence of breast cancer genetic mutations in this cohort.

**Methods:** Epidemiologic data on select Caribbean countries and USA was abstracted from GLOBOCAN 2012, a database of estimated global cancer statistics produced by the International Agency for Research on Cancer and World Health Organization. A Literature Search was also conducted through PubMed database using following terms: Caribbean, (familial breast cancer), (hereditary breast cancer), and (BRCA breast cancer) that was subsequently narrowed to epidemiologic relevance resulting in five citations.

**Summary of Results:** Although Breast Cancer cumulative incidence risk of Caribbean women (5-9%) appear to be less than that of the US women (10%), the cumulative mortality risk in the Caribbean cohort (up to 2.7%) appears greater than that of the US (1.6%) with larger incidence of genetic mutations occurring in the Bahamas (27%) and Trinidad/Tabago (10.4%).

**Conclusions:** This study summarizes the estimate of breast cancer incidence and mortality in Caribbean women and known prevalence of BRCA1/2 and PALB2 breast cancer gene mutations in this cohort. This is critical as part of a formal genetic risk assessment and counseling of patients with breast cancer. Further research and understanding the contributions of inherited gene mutations will guide the optimal health policy in breast cancer screening and risk management.

An Unusual Presentation of West Nile Encephalitis in a Brooklyn woman with AIDS

In this presentation we describe a case of West Nile Virus (WNV) infection in an HIV-infected female patient who initially presented with progressively worsening headaches, weakness, falls, and inability to ambulate. Her mental and physical status continued to deteriorate during her hospital stay, and diagnosis of WNV was not made until hospital day 19. To our knowledge, there are only five previously reported cases of WNV in an HIV infected individual. In the general population, WNV presents with CNS involvement in &lt;1% of patients. CNS involvement can present in three ways: encephalitis, meningitis, and acute flaccid paralysis. Because of the multiple CNS syndromes suspected in HIV seropositive patients, WNV is underdiagnosed and underreported. This case illustrates the rare presentation of West Nile Encephalitis manifested as focal neurologic deficits with psychiatric undertones in a patient with advanced HIV/AIDS.
**Carotid- Jugular Fistula: A Diagnostic Pitfall**

**Background:** Abnormal blood flow in the jugular veins can be seen as hyper-intense signal on MR angiography (MRA). This is caused by several important cerebral vascular anomalies. Our case was due to a proximally located dialysis arterio-venous fistula (AVF). Awareness of this differential diagnostic helps prevent misdiagnosis or unnecessary invasive investigations. Case report: Our patient is a 58 year-old man with acute ischemic stroke. He received a renal transplant 5 years before. MRA of the neck showed abnormally high signal in the left jugular vein. This pattern was caused by the reversal of blood flow in the jugular vein from the residual, yet still patent arterio-venous fistula from the left arm, used for hemodialysis before the renal transplant was received.

**Discussion:** Usually, the venous blood flow is not seen on MRA. Sometimes, venous flow is visible in normal patients due to compression of the brachiophecalic vein between sternum and an elongated aorta or due to unknown technical factors which vary among scanners. However, when high signal is seen in the jugular vein, abnormal venous circulation is suspected. Causes include carotid-cavernous fistula, carotid-jugular fistula, cervical arteriovenous malformation, cervical dural venous fistula and compression or stenosis of the left brachiocephalic vein. Almost 7% of patients with long term dialysis catheters develop central venous stenosis which may redirect the flow toward the jugular vein. Only one similar case of dialysis AVF-related jugular vein blood reflux was published.

**Conclusion:** Considering the relatively high prevalence of AVF used for dialysis and associated central venous stenosis following use of dialysis catheters, awareness of this diagnostic differential helps prevent exposing the patients to unnecessary invasive and costly investigations or interventions while at the same time minimizing misdiagnosis of potentially disabling vascular anomalies.

**Interest in use of mobile technology by patients with epilepsy**

**Background:** Mobile technology such as smartphones and phone applications are commonly used by patients to assist with daily tasks. They have been shown to improve health outcomes in multiple chronic diseases such as diabetes and cardiac disease. Epilepsy patients have unique psychosocial barriers and cognitive deficits which make maintaining their treatment challenging. While there are many phone applications on the market with variety of features including medication reminders, seizure journal, and social networking, there is little data on patient’s perception regarding these tools. We hypothesize that using survey data, we can identify specific patient interests in using mobile applications to improve epilepsy care.

**Methods:** Survey data were collected over a 6 week period as part of a quality improvement project in the epilepsy specialty clinic at SUNY Downstate. Patients were asked about their access to smartphones and their perceptions regarding mobile technology.

**Results:** There were total of 80 patients and 67 patients completed the survey. 49 respondents had smartphones. Of those with smartphones, 34 said they are comfortable downloading applications. 24 of them stated that applications can be helpful for epilepsy care. 33 patients were willing to answer questions regarding their interest in mobile technology features. 16 patients said that they would use these apps for further education. 13 would use the app to remind themselves to take medications. 21 patients would use it to communicate with their physician. 16 would use it for journals. Only 7 were interested in social media features.

**Conclusions:** Our study found that there are significant barriers in our patient population for using smartphones to help them take care of epilepsy as chronic disease, and these include lack of access and technology fluency. Further, our patients consider improving communication with their doctor to be most desired feature of mobile technology.
Putting depression on the map: following AAN guidelines for epilepsy at SUNY-Downstate

**Introduction:** Depression is seen in a high proportion of epilepsy cohorts, estimates from 20-50%, and epilepsy is also seen at a higher rate among cohorts with depression, suggesting correlation and genetic factors. Depression is robustly underdetected and underappreciated in epilepsy clinics. Screening for depression is an AAN guideline for epilepsy, and screening with longitudinal follow-up or referral are further actionable steps to address the condition.

**Objective:** Screening was initiated at Downstate Epilepsy Clinic and private clinics of two epileptologists over a 6 week period Jan-Feb 2018, and initial data are presented highlighting areas for further work.

**Methods:** PHQ-9 screening for depression were handed out to epilepsy patients in the waiting room for their appointment (post-screening cohort), and scored by residents/fellows as well as attending epileptologists the clinic. Inclusion criterion: all epilepsy patients seen at SUNY Downstate General Epilepsy Clinic and private epilepsy clinics Jan-Feb 2018. Additional screening were “suicidal ideation/homicidal ideation” and “referral to Psychiatry if positive screening”.

**Primary outcome:** %Referral to Psychiatry

**Results:** 35/66 (53%) of participants who filled out the PHQ-9 survey scored positive for mild to severe depression, and 17/66 (26%) screened positive for moderate, moderately severe, to severe depression. Of 66 participants who filled out the PHQ-9 survey, 23% (n=15) were referred to Psychiatry vs. 4% (n=1) in pre-screening cohort. Of the subject wise comparison, 26% (n=9) who filled out the PHQ-9 survey were referred to Psychiatry vs 6% (n=2) in the pre-screening cohort.

**Conclusion:** Depression screening rates among epilepsy patients at Downstate were found to be similar to rates at other reported institutions. PHQ-9 screening led to more referrals to Psychiatry based on positive screening results.
A31: Clotilde Balucani  Advisor(s): Steven Levine

The Role of Gender in Aneurysmal Subarachnoid Hemorrhage Outcome: A Nationwide Sample Analysis.

Background: Aneurysmal subarachnoid hemorrhage (aSAH) represents a significant cause of morbidity and mortality worldwide. Although incidence of aSAH has been reported higher in women, conflicting evidence exists regarding the role of gender on aSAH outcomes.

Objectives: To report temporal trends of frequency of aSAH, and explore the role of gender in aSAH outcomes in 2009 and 2015.

Methods: Defined cases of aSAH were extracted from the Nationwide Inpatient Sample database in the years 2009 and 2015. Outcomes were (1) in-hospital death and (2) discharge disposition (home vs. other). Frequencies of in-hospital admissions, aneurysm treatment procedures and outcomes for aSAH were reported by gender. Chi-squared test was used for statistical analysis (SAS 9.4 software).

Results: Reported in-hospital admissions for aSAH were 5115 in 2009 and 5022 in 2015. Thirty-nine percent were males (M) vs. 61% females (F) in 2009, and 40% M vs. 60% F in 2015 (p <0.001). Mean age was 56.8 ± 16.4 (SD) for M vs. 59.8 ± 16.6 for F in 2009, and 57.5 ± 16.7 for M vs. 60.6 ± 16.4 for F in 2015. In the overall cohort white, black and other races were 64%, 14% and 22% in 2009 and 61%, 16% and 23% in 2015 respectively. In-hospital death occurred in 20% M (n=1971) vs. 22% F (n=3137) in 2009 and 18% M (n=2029) vs. 19% F (n=2990) in 2015. Thirty-eight percent M (n=1971) vs. 33% F (n=3137) were discharged home in 2009, and 40% M (n=2029) vs. 34% F (n=2990) in 2015 (p <0.001). A total of 16% M (n=1974) vs. 21% F (n=3141) in 2009 and 11% M (n=2030) vs. 14% F (n=2992) in 2015 underwent aneurysm treatment procedures.

Conclusions: In this contemporary nationwide database, incidence of aSAH was higher in women than men. In-hospital mortality decreased over time however remained higher in women as compared to men. Women were significantly less likely to be discharged home. Our findings support the need for further investigations to elucidate causes behind gender-related differences in aSAH outcomes.

A32: Chi Doan Huynh  Advisor(s): Ernest Garnier

Reasons for Influenza Vaccine Hesitancy in an Urban University Hospital Primary Care Practice.

Introduction: The annual influenza (flu) vaccine is considered to be one of the most effective to reduce the risk of contracting the influenza disease. However, in the 2016-2017 season, only 43.4% of adults in the US received it despite wide availability of the vaccine. Patient hesitancy which is defined by WHO as ‘the delay in acceptance or refusal of vaccines despite availability of vaccinations services’ is one of the major reasons for suboptimal rates of influenza vaccination.

Objective: To identify the reasons for flu vaccine refusal in an Urban University Hospital Primary Care Practice.

Method: This was a cross-sectional study conducted at an Urban University Hospital Primary Care Practice. It included all patients seen at this clinic who were offered the flu vaccine and declined it during the flu season from January 26th to March 15th 2018. These patients were given a self-administered questionnaire addressing possible reasons for refusal of the flu vaccine.

Results: From January 26th to March 15th 2018, 60% of patients seen in the clinic received the flu vaccine. 79 patients declined flu vaccination and completed a survey addressing reasons for their refusal. Of these 34% reported believing that the flu vaccine would make them sick, 19% did not trust vaccines, 15% believed they never got the flu so didn't need the vaccine, 6% believed the flu vaccine did not work, 5% stated the flu vaccine made someone they knew sick, and 19% declined for other reasons.

Conclusion: There appear to be multiple misperceptions within this primary practice regarding the effectiveness and safety of the flu vaccine. The second phase of this project will focus on an intervention to improve patient education specifically addressing the concerns that these patients raised regarding the flu vaccine. Patient knowledge and flu vaccine uptake rates will then be measured to assess effectiveness of the intervention.
Atypical case of Intracranial Arterial Dolichoectasia presenting with bilateral cranial neuropathy

**Introduction:** Intracranial Arterial Dolichoectasia (IADE) is a dilation and elongation of at least one intracranial artery, with 80% of the cases affecting the basilar artery (BA). IADE usually presents as a lacunar stroke, although it can present as a cranial neuropathy from compression of the brainstem and cranial nerves (CN), most commonly CN V, VII and VIII with CN VI being less frequently involved.

**Case description:** A 52 year old woman with hypertension, prior left MCA stroke, hypertensive intracerebral hemorrhage, right trigeminal neuralgia and central serous chorioretinopathy presented to the ED due to sudden-onset blurry vision for 3 weeks. She denied other symptoms. Neurological exam was notable for new mild left esotropia and right > left lateral gaze palsy in addition to chronic right-sided spastic hemiparesis. Initial laboratory tests revealed mild anemia and leucopenia. Non-contrast Head CT and CT angiogram showed IADE of the BA measuring up to 11 mm (Fig. 1-3). Patient was admitted to Neurology for further work-up. A 3D TFE MRI of brain and temporal bone demonstrated compression of left CN VI, right CN V, VI, VII, VIII by the BA and ventral medulla by the left vertebral artery (Fig. 4). Due to patient’s young age, a workup for alternative causes of stroke was completed and revealed a positive Anti-RNP, ANA, Anti-dsDNA, low C4 level, β2 glycoprotein and Cardiolipin IgM antibodies. No other vascular anomalies were noted on CT angiogram of the thoracic and abdominal aorta. Based on above findings, patient was diagnosed with Systemic Erythematous Lupus (SLE) and Antiphospholipid Syndrome.

**Discussion:** This case highlights the importance of an integrative approach in patients with bilateral cranial neuropathy and history of stroke. Additional work-up is warranted in young patients as IADE could be the initial finding of a vasculopathy from an autoimmune disease. This case raises a question of a possible causative relationship between SLE and IADE.

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** Genetic Testing has taken out Guesswork: Cases of Familial and Non-familial Benign Infantile Epilepsy Associated with PRRT2 gene mutations**

**Objective:** We report two cases of benign infantile epilepsy (one familial and one non-familial) with mutations in PRRT2. Background: PRRT2 mutations are known to be associated with both familial and non-familial benign infantile epilepsy, conditions where afflicted infants typically present with clusters of seizures that are self-limited and usually have benign neurodevelopmental outcome. Genetic studies of clinically suspected cases are useful in confirming diagnosis and aid in management of such patients.

**Case Presentations:** Case 1 is a 4 month old girl who presented with clusters of unprovoked seizures. The seizures were refractory to levetiracetam and responded to fosphenytoin. The patient had an older sister with history of self-limited infantile seizures. Birth history and development was normal. MRI of the brain was normal. Routine EEG was abnormal for focal slowing. The genetic study found pathogenic mutation in the PRRT2, confirming diagnosis of familial benign infantile epilepsy.

Case 2 is a 6 month old boy who presented with a cluster of unprovoked seizures. The seizures were refractory to levetiracetam, thus carbamazepine was added to the regimen. The patient did not have family history of seizures. Birth and developmental history was normal. MRI of the brain was normal. EEG showed focal spikes and a focal onset electrographic seizure. The genetic studies were positive for pathogenic mutation in the PRRT2, leading to diagnosis of non-familial benign infantile epilepsy.

**Conclusions:** We described two cases of benign infantile epilepsy with mutations in PRRT2. While one case had family history of self-limited infantile seizures which helped in diagnosis, the other case did not have family history. In both cases, genetic testing played a significant role in diagnosis, management and prognostication.
Should Surgical Planning for AIS Surgery Include Anatomical or Scoliosis-Driven Leg Length Discrepancies?

**Purpose:** This study compared anatomically-driven LLD (LLD-A) and scoliosis-driven LLD (LLD-S) in patients undergoing posterior spinal fusion for AIS to determine the impact of LLD on postoperative correction.

**Methods:** 52 AIS primary patients were evaluated for baseline LLD from Jan 2010 to Dec 2015 from one institution. Each patient underwent scanogram imaging of both lower extremities. LLD-A was defined as >1 cm difference between both limbs lengths (length between proximal femoral head and center of tibial plafond). LLD-S was defined as >1 cm difference between the apices of the iliac crests. Sagittal and coronal radiographic analysis was obtained at baseline, with mean 2-year follow-up. Magnitude of correction and 2-year alignment was compared between patients with and without LLD-A and –S. A classification of 4 categories based LLD-A and LLD-S of <1cm or >1cm was suggested: No LLD (LLD-A and S <1cm), Pure LLD-A (Only LLD-A >1cm), Pure LLD-S (Only LLD-S >1cm), LLD-A,S (Both LLD-A and S >1cm).

Results: 52 patients with mean age of 18.6 years and 71% of females. Mean LLD-A was 10.2±2.4mm and mean LLD-S was 9.2±7.9mm. 10 (19.2%) had LLD-A, and 20 (38.5%) had LLD-S. 29 (55.8%) had No LLD, 3 had Pure LLD-A (5.8%), 13 had Pure LLD-S (25%), and 7 had concomitant LLD-A,S (13.5%). Patients with and without LLD, as well as those with LLD-S vs LLD-A, had comparable prevalence of Lenke Types.

All 4 groups had similar baseline coronal deformity and magnitude of correction at 2-year follow up. Those with and without LLD-A and LLD-S had comparable baseline and 2-year sagittal profile including PI, PT, SS, PI-LL, TK and SVA.

**Conclusion:** Scoliosis-driven LLD patients achieved similar radiographic outcomes at mean of two years following posterior spinal fusion for AIS, suggesting LLD-S as a compensatory mechanism to the coronal deformity. LLD-A patients (>1cm) had comparable outcomes to those without LLD. There is no apparent benefit to incorporation of LLD into surgical planning for AIS.

Predictive Patient Factors For Developing Postoperative Dysphagia following Anterior Cervical Discectomy and Fusion

**Background Context:** Dysphagia is a known potential complication of anterior cervical discectomy and fusion (ACDF). However, there is little data analyzing what preoperative factors may predispose patients to developing dysphagia following ACDF. By discovering potential predictive factors for postoperative dysphagia, surgeons may be able to preoperatively optimize and risk-stratify their patients.

**Methods:** The New York Statewide Planning and Research Cooperative System (SPARCS) database was used to identify all patients who underwent ACDF from 2009-2013. This cohort was divided into two groups if they were diagnosed with dysphagia postoperatively or not. Patients with dysphagia preoperatively were also identified. Demographics were compared between these groups. Logistic regression was used to identify predictive factors for developing dysphagia.

**Results:** 34,975 ACDF patients were included in this study. 34,060 patients did not develop dysphagia postoperatively and 795 did. 140 patients who had preoperative dysphagia and only 20 (14.3%) of them had dysphagia postoperatively. Patients with preoperative dysphagia and diagnosis of postoperative dysphagia represented 2.5% of individuals who were diagnosed with dysphagia postoperatively. Those who developed dysphagia were often older (59.7 vs 50.9 yrs, p&lt;0.001), male (59.2 vs 49.7%, p&lt;0.001), black (17.4 vs 12.3%, p&lt;0.001), and had Medicare or Medicaid when compared to patients who did not develop dysphagia (all p&lt;0.001). Regression analysis showed that preoperative dysphagia was a significant predictor for postoperative dysphagia, increasing a patient’s odds by 285% (OR=3.85; 95%CI, 3.26-4.54, p&lt;0.001). Female gender (OR=0.761; 95%CI 0.714-0.811, p=0.004) was the only protective factor to reach statistical significance.

**Conclusion:** This study found that patients who developed dysphagia were often older, male and black, but preoperative dysphagia was the most significant predictor of postoperative dysphagia after ACDF.
Antibiotic-Loaded Calcium Sulfate Cement Use in Orthopaedic Surgery: A Systematic Review

Introduction: Infections in orthopaedic surgery are costly debilitating complications. The search for new treatments and prevention strategies has led to the use of antibiotic filled calcium sulfate (CaS) as a bone void filler that is both safe and effective. The purpose of this study is to examine the available data on the efficacy of this technology.

Methods: A literature search was performed for studies that evaluated the use of antibiotic-loaded CaS cement in orthopaedics published between inception of the databases to 2017. Selected studies included randomized controlled trials (RCTs) and observational studies published in the English language, and met the following criteria: 1) patients underwent an orthopaedic procedure; 2) CaS cement with an antibiotic was used; and 3) at least one of our outcomes were mentioned. Outcomes included resolution of infections, complications related to treatment, subsequent surgeries, overall infection rate, fracture union rates, clinical outcomes, and wound complications. A total of 17 studies were included

Results: Ten studies examined the use of CaS eluting antibiotics with surgical debridement for treating osteomyelitis with resolution rates ranging from 80-100%. Two studies examined CaS for prophylaxis of open fractures with infection rates ranging from 0-22%. Two studies examined infected non-unions with CaS used as an adjunct to surgery with an 87.5% infection clearance. Three studies examined the use of local antibiotic release from CaS in the repair of infected TKAs or THAs, with success rates ranging from 52-93.3%.

Conclusion: Initial results support the use of CaS with surgical debridement for osteomyelitis and infected non-unions. Results are mixed for CaS use in the prophylaxis of open fractures and for PJIs, thereby, necessitating further research. Overall the studies were small, retrospective, and lacked controls. Further research should focus on RCT’s to eliminate any bias and provide non-inferiority results.

Epidemiology and Trends of 39,296 Fractures of the Lumbar Spine from 2007 to 2016 in the United States

Fractures of the lumbar spine are often associated with bone insufficiency or high-energy traumatic mechanisms. However, studies reporting lumbar spinal fracture epidemiology often lack power or are not recent. This study sought to explore the epidemiology over a 10-year period in the United States including fractures by level as well as trends in number of fractures, fractures by gender, and disposition. The National Electronic Injury Surveillance System (NEISS) was used to identify patients who visited the emergency department from January 1, 2007 to December 31, 2016 and were diagnosed with a lumbar spine fracture. Frequency and incidence rates were determined using NEISS weight calculations and US Census data. Trends were analyzed using descriptive statistics and linear regression. A total of 36,296 lumbar spine fractures were identified. 82.5% were single-level fractures. The estimated number of fractures increased from 2,148 in 2007 to 4,301 in 2016 (β=0.83, p=0.003). The mean age was 60.9, and 22.6% occurred between ages 80 and 89. 59.3% of injuries occurred in females, and 40.7% occurred in males. Trends showed increases in number of fractures for males (β=0.37, p=0.29) and females (β=0.82, p=0.004). 69.2% of injuries occurred in whites (incidence rate, 0.103 of per 10,000 person-years) and 2.7% occurred in blacks (0.024 per 10,000 person-years). The percentage admitted for lumbar spine injuries decreased slightly, but this was not significant (β=0.16, p = 0.67). 82.1% of injuries were due to falls. Over the last decade, the incidence of lumbar spine fractures has doubled in the US. Most were single-level fractures. Fractures occurred most often between ages 80-89 and more often in females. Moreover, there was a significant increase of lumbar spine fractures for females. Hospital admissions remained constant and falls were the most common cause of lumbar fractures. Understanding these patterns can help improve recognition of lumbar spine fractures.
Comparing 30-Day Outcomes after Anterior Cervical Discectomy and Fusion between Orthopaedic Surgeons and Neurosurgeons: An 8-Year Analysis

Orthopaedic surgeons and neurosurgeons both perform anterior cervical discectomy and fusions (ACDF), but there is little evidence comparing their outcomes. This study evaluated demographics and 30-day postoperative outcomes of patients following ACDF. We hypothesized that orthopaedic surgeons and neurosurgeons achieve similar outcomes following ACDF surgery. 77,701 ACDF patients from 2008 to 2016 were identified in the NSQIP database and grouped by surgeon specialty. Demographics, comorbidities, labs, perioperative factors, 30-day postoperative complication, reoperation, and readmission rates were collected. The groups were compared with univariate analysis and regression models were developed to identify potential predictive factors for postoperative outcomes. 33.1% of patients were treated by orthopaedic surgeons and 66.9% by neurosurgeons. Orthopaedic patients had longer operative time (170.3 vs 159.3 min, \(p<0.001\)), longer length of stay (2.7 vs 2.4 day, \(p=0.048\)) and higher postoperative blood transfusion rates (7.5 vs 4.4%, \(p<0.001\)), but had comparable 30-day complication rates (4.2 vs 3.9%, \(p=0.051\)) and reoperation (2.2 vs 2.2%, \(p=0.570\)) and readmission (4.2 vs 4.2%, \(p=0.754\)) rates. Patient age was found to be a significant predictor for 30-day complication (OR 1.037, \(p<0.010\)), reoperation (OR 1.021, \(p<0.010\)) and readmission (OR 1.018, \(p<0.010\)) rates. Orthopaedic surgeon specialty was a predictor for lower readmission rate (OR 0.766, \(p=0.032\)). This study compared outcomes between orthopaedic surgeons and neurosurgeons in ACDF patients. Neurosurgeons performed more ACDF surgeries than orthopaedic surgeons, but had comparable 30-day complications, reoperations and readmissions. Orthopaedic patients had longer length of stay, but also had a lower 30-day readmission rate. Orthopaedic surgeons may be under-performing ACDF surgeries despite largely comparable outcomes to neurosurgeons.

The Demographic Trends in Carpal Tunnel Release: A Nationwide Study Analysis from 2005 to 2013

**Hypothesis:** The literature has flourished on investigation into carpal tunnel release. However, little is known about the patient demographics and their trends over time. This study sought to study the temporal trends in demographics of patients who underwent carpal tunnel release; we suspect that this analysis would yield identifiable changes in trends of these procedures.

**Methods:** This was a retrospective review using the National Inpatient Sample (NIS) from 2005-2013. Patients with CTR were identified via ICD-9-CM codes. Patients who received CTR as the only procedure during their visit were included; patients with multiple procedures in addition to CTR were excluded. Patient demographics, including age, sex, race, and insurance were collected, and temporal trends were evaluated utilizing linear regression analysis.

**Results:** 13,084 cases of carpal tunnel release were performed between 2005 and 2013. The mean patient age was 49.5 years, with 56.9% of patients being male. Regarding race, 72.8% of patients who underwent these procedures were White, while only 1.3% of these patients were Asian. The majority of patients had private insurance (37.7%), while only 1.4% of patients underwent the procedure at no charge (Table 1).

Considering trends over the study period, the number of Black patients increased over the study period (8.6% to 10.6%, \(p=0.017\)) (Figure 1). The number of patients who held private insurance decreased over the study period (\(\beta=0.81, p=0.009\)), while the number of patients with Medicare (\(\beta=0.74, p=0.024\)) and Medicaid (\(\beta=0.84, p=0.005\)) increased significantly over time.
Predictors for Neck and Back Injuries in National Football League Athletes

**Background Context:** Injuries involving the cervical, thoracic, and lumbar spine represent common debilitating and career-altering injuries in many NFL athletes. With recent reports exposing the increased incidence of such injuries, the NFL Head, Neck, and Spine Committee continues to amend player safety protocols. However, limited data exists that analyzes predictive factors for these injuries.

**Purpose:** The purpose of the present study was to determine if age, position, previous injury, or participation in other sports at the high school level were predictors of neck and back injuries sustained in the NFL.

**Methods:** A retrospective database was constructed, and data from 506 first and second round NFL draft picks between 2008 and 2015 was collected. Primary data points included player age, player position, total neck injuries, total back injuries, and the number of high school sports played other than football. Neck injuries included herniated cervical discs, cervical stenosis, neck strains, and unspecified neck injuries. Back injuries included herniated lumbar and thoracic discs, back strains, fractured lumbar or thoracic vertebrae, and unspecified back injuries.

**Results:** Sixty-nine players sustained 32 neck injuries and 57 back injuries collectively, with 16 players having had multiple documented injuries. Regression analysis found that linemen who were multi-sport athletes had a 268% greater odds of sustaining a neck injury in the NFL (OR=3.68; 95%CI: 1.0-12.98; p=0.043).

**Conclusion:** Neck and back injuries represent a significant cause of morbidity in NFL players. The present study found that NFL lineman were at a 268% increased odds of sustaining neck injuries in the NFL if they played multiple sports while in high school.

**Introduction:** This study investigated the epidemiology of cervical and thoracic spine fractures (CTSF) over a 10-year period in the United States (US). Specifically, we evaluated these fractures by location, levels injured, and mechanism of injury and temporal trends in demographics and disposition.

**Methods:** The National Electronic Injury Surveillance System database was used to identify all emergency department visits from 2007-2016 for diagnosis of cervical and/or thoracic spine fractures. Data were stratified by demographics and injury mechanisms. Estimation of frequency and incidence rates (IR) by age, sex, and race were determined using NEISS weighted calculations and US Census data. Injury trends were analyzed using descriptive statistics and linear regression, (IR) reported as per 10,000 person-years.

**Results:** An estimated total of 131,176 fractures were identified, with approximately 95.4% thoracic, 4.7% cervical, and 1.2% both. 91.1% were single-level and 8.86% were multi-level fractures. The annual estimated number of CTSF increased from 10,020 in 2007 to 18,168 in 2016 ($\beta=0.89$, $p<0.001$). CTSF incidence was estimated to be 0.419 per 10,000 person-years. The most common injury mechanisms were falls (77.4%), lifting (2.9%), twists/bends (2.0%), trauma (7.1%), and other (10.5%). CTSF occurred most often in patients between 20-29 years (IR=0.219). Patients $\geq$80 years had an IR=3.63, the highest among age groups. 57% were in women (IR=0.48), while 43% in men (IR=0.36). Race data was available for 71%, and IR’s of these injuries were 0.33 whites, 0.08 in blacks, and 0.20 in all others. Hospital admission rates of CTSF increased from 37% in 2007 to 43.8% in 2016, but this was not significant ($\beta=0.56$, $p=0.09$).

**Conclusion:** The incidence of CTSF has increased, and the most common injury mechanism was falls. Most CTSF occurred in those aged 80-89 and in women. The IR was highest in whites. Hospital admissions tended to increase, but was not statistically significant..

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A4: Ankle Fracture Epidemiology in the United States

**Introduction:** This study looked at the epidemiology of ankle fractures that occurred over a 5-year period. Specifically, we evaluated: age, sex, race, mechanism of injury, and disposition in patients who had ankle fractures and presented to an emergency department (ED) in the United States.

**Methods:** The National Electronic Injury Surveillance System was used to extract all ankle fractures that presented to United States hospital EDs between 2012 and 2016. The US census data was used to determine the incidence rates of ankle fractures in terms of age, sex, and race.

**Results:** There were an estimated total of 673,214 ankle fractures that occurred during this period, which yielded an estimated incidence of ankle fractures to be 4.22 per 10,000 person-years. The mean age of ankle fracture patients was 37 years (SD, 22.86). The majority of ankle fractures occurred in those who were between the age of 10 and 19 years. For sex, 44% of ankle fractures occurred in men while 56% occurred in women. Based on race, the incidence rates of ankle fractures were 2.85 per 10,000 person-years in whites, 3.01 per 10,000 person-years in blacks, and 4.08 per 10,000 person-years in others. The most common mechanism of injury resulted from falls (35.68%), followed by sports (35.26%), exercise (19.29%), jumping (5.38%), trauma (4.06%), and other (0.33%). For disposition, 81.84% of patients were treated and released, 1.43% were transferred, 16.01% were admitted, 0.59% were held for observation, and 0.13% left against medical advice.

**Conclusion:** Ankle fractures were most common in those age 10 to 19 years, of which men had the highest incidence rate; however, women were more commonly affected in all other age groups. White individuals had the highest rate of ankle fractures compared to others. Falls were the most common injury mechanism, and while most ankle fracture patients were treated and discharged, 16% were admitted to the hospital.
**Epidemiology and Trends of Nursemaid's Elbow in the United States 2006-2016**

**Introduction:** The aim of this study is to examine the epidemiology and secular trends of nursemaid’s elbow cases presenting to hospital emergency departments in the US that occurred over a 11-year period.

**Methods:** The National Electronic Injury Surveillance System (NEISS) database was queried for all nursemaid’s elbow injuries between 2006 and 2016. The data were stratified by demographic variables and injury mechanism. The nationwide estimation of frequency and incidence rates were determined using NEISS weight calculations and US census data. Secular trends of injuries were analyzed using descriptive statistics and a linear regression.

**Results:** From 2006 to 2016, there were an estimated 109,963 children <9 years of age treated for nursemaid’s elbow. The annual estimated weights of these fractures increased from 8,337 in 2006 to 12,714 in 2016 (slope = 467.42, p = 0.014). The mean age was 2.65 years, and 94.3% of injuries occurred in children 2-4 years of age with an incidence rate of 4.73 per 10,000 person-years (95% CI, 4.57 to 4.89). The majority of the dislocations occurred in females (55.9%, N = 61,574) compared to males (44.1%, N = 48,388). Males and females had overall incidence rates of 1.17 (95% CI, 1.11 to 1.23) and 1.55 (95% CI 1.48 to 1.62) per 10,000 person-years, respectively. When sorted by mechanism of injury, the majority of nursemaid’s elbow dislocations (54.0%, N = 59,980) occurred due to falls, followed by pulling/grabbing (27.6%, N = 30,891).

**Conclusion:** During the study period, the rate of nursemaid’s elbow injuries increased significantly. It was also shown that this injury is more common in females than males, which is consistent with results of previous studies. The injury mechanism for nursemaid’s elbow has been conventionally accepted to be due to a sudden pull of a child’s arm by a caregiver. However, this study demonstrated that falls were a more common injury mechanism and highlighted their importance in causing nursemaid’s elbow.

**Malnutrition Increases the Thirty-Day Postoperative Complications after Distal Radius Fracture Surgical Fixation**

**Introduction:** The purpose of this study was to evaluate patients who had malnutrition and underwent open reduction internal fixation for a distal radius fracture to determine if they were at a greater risk for worse 30-day postoperative outcomes.

**Methods:** The America College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) database was utilized to identify all patients who underwent open reduction internal fixation (ORIF) for distal radius fractures between 2008 and 2016. Only patients who had preoperative serum albumin levels were included. Those who had preoperative hypoalbuminemia (malnutrition), defined as a level ≤3.5 g/dL (n=500), were compared to those who had albumin levels ≥3.5 g/dL (n=2,669) in terms of demographics and perioperative data. Multivariate regression models were developed to control for variables that had p-values ≤0.05 in the univariate testing to evaluate the effect of individual risk factors, including hypoalbuminemia, on the 30-day major and minor postoperative complications, re-operations, and readmissions.

**Results:** Patients in the hypoalbuminemia group were older (67 vs. 62 years, p<0.001) and more likely female (83.8 vs. 77.6%, p=0.004), but there were no significant differences in terms of BMI, race, or modified Charlson scores. The hypoalbuminemia group also had a longer mean lengths of stay (LOS) (3.2 vs. 0.75 days, p<0.001). Regression analysis found that compared to the normal albumin group, the hypoalbuminemia group had a 625% greater odds for developing a major complication (OR=7.25; 95% CI, 1.91-27.49; p=0.004) and a 162% higher odds for being readmitted to the hospital (OR=2.62; 95% CI, 1.57-4.37; p<0.0001) during the 30-day postoperative period.

**Conclusions:** Malnutrition, defined in the present study as hypoalbuminemia, is frequently seen in elderly distal radius fracture patients, and can be associated with more postoperative complications and readmissions.
Comparing 30-Day Outcomes between Orthopaedic Surgeons and Neurosurgeons in Lumbar Total Disc Replacement

Orthopaedic surgeons and neurosurgeons both perform lumbar total disc replacements (LTDR). However, there is little evidence comparing outcomes between these two specialties for LTDR. This study evaluated the: demographics; complications; operative time; length of stay; reoperations; and readmissions of patients following LTDR. The National Surgical Quality Improvement Program (NSQIP) database was utilized to identify all elective lumbar total disc replacements performed from 2008 to 2016 by ICD-9-CM code. This cohort was grouped by surgeon specialty (orthopaedic surgeon and neurosurgeon). Demographics comorbidities, labs, perioperative factors, and 30-day postoperative complication, reoperation, and readmission rates were collected for all patients. The groups were then compared with univariate analysis. Regression models were developed and attempted to identify potential predictive factors for 30-day postoperative complication. A total of 581 LTDR patients were included. 42.9% of patients were treated by orthopaedic surgeons and 57.1% were treated by neurosurgeons. Orthopaedic patients were younger (p=0.008) and had lower rates of hypertension (p=0.010). Otherwise, the groups were largely comparable in comorbidities and lab values. Orthopaedic patients had comparable operative time but slightly longer length of stay (p=0.044) compared to neurosurgery patients. The orthopaedic patient group had comparable 30-day complication, readmission and reoperation rates compared to neurosurgery patients. Regression analysis revealed patient age was the lone significant predictor for higher overall complication rate (p<0.001). On the other hand, surgeon specialty was not a predictor for any 30-day complication rates (p≥0.352). This study compared 30-day outcomes between orthopaedic surgeons and neurosurgeons in lumbar total disc replacement patients. Orthopaedic surgeons may be under-performing lumbar total disc replacement surgeries despite similar outcomes to neurosurgeons.

Incidence of Postoperative Stroke after Anterior Cervical Discectomy and Fusion in Patients who have Carotid Stenosis

Background: Anterior cervical discectomy and fusion (ACDF) is a procedure used to treat cervical myelopathy and radiculopathy. During surgery, the sternocleidomastoid muscle and the carotid sheath are retracted laterally. To our knowledge there have been no studies that have evaluated carotid artery retraction and the development of a postoperative stroke in patients who have carotid artery stenosis.

Purpose: The purpose of this study was to determine the incidence of postoperative strokes after ACDF in patients with carotid artery stenosis. Methods: Patients with a preoperative diagnosis of carotid stenosis were identified, and were propensity score matched in a 1:1 ratio to those without carotid stenosis based on age, sex, and Charlson/Deyo scores. We evaluated postoperative complications. There were 61 patients in the carotid stenosis cohort and 61 patients without carotid stenosis. In terms of the demographics, the carotid stenosis cohort was older (68 vs. 60 years, p<0.001); none of the other demographics were significantly different.

Results: The incidence of postoperative stroke in the carotid artery stenosis cohort was significantly higher than those without carotid artery stenosis (6.6 vs. 0%, p<0.042). In terms of the other postoperative complications, those with carotid artery stenosis had a higher rate of acute renal failure (27.9 vs. 4.9%, p=0.01), sepsis (18 vs. 4.9%, p=0.023), and blood transfusion (39.3 vs. 13.1%, p=0.001). Furthermore, the carotid artery stenosis patients had a slightly shorter LOS (4.8 vs. 5.8 days, p=0.736) and higher total charges (58,568 vs. 50,025 USD, p=0.561), but these were not statistically significant.

Conclusion: Patients with carotid artery stenosis who underwent ACDF had a significantly greater incidence of developing a postoperative stroke compared to patients without carotid stenosis. These patients could potentially benefit from medical or surgical optimization of their carotid stenosis prior to undergoing ACDF.
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Advisor(s): Jared Newman

**From Theory to Data: Characterizing Imbalance Patients Using the CDC National Health and Nutrition Examination Survey**

**Introduction:** Understanding global body balance is expected to be the next step in approaching and preoperatively optimizing spinal deformity patients. This study sought to characterize patients with reported imbalance and identify predictors of imbalance.

**Methods:** The National Health and Nutrition Examination Survey database from 1999-2004 was queried to identify all patients who responded to questions regarding balance (n=9,964). Patients with imbalance were compared to those without imbalance for demographics, comorbidities, nutritional parameters, physical assessment and performance measures, and laboratory tests. Logistic regression was utilized to determine predictors of imbalance.

**Results:** A total of 2,638 (26.5%) had imbalance. Imbalance patients were older (65.4 vs 60.6 years), more females (60 vs 48%), had more with osteoporosis (14.4 vs 6.6%), arthritis (51.6 vs 31.9%), low back (54.4 vs 32.7%) and neck pain (10.8 vs 4.3%), depression/anxiety (1.5 vs 0.6%), had more difficulty walking up 10 steps (43.8 vs 21%), stooping/crouching/kneeling (74.3 vs 45.7%), standing-up from armless chair (49.6 vs 21%), inability to stand-up on their own (4.0 vs 0.9%), greater time-to-walk 20 feet (9.5 vs 7.1 sec). Imbalance group had significantly lower dietary caloric intake. Regression revealed that grasping small objects (OR=1.73), females (OR=1.43), difficulties standing for long periods (OR=1.29), difficulties stooping/crouching/kneeling (OR=1.28), and increased time-to-walk 20 feet (OR=1.06) were significant predictors of imbalance.

**Conclusion:** Imbalance patients were frail, undernourished, had identifiable comorbidities and most importantly were detectable using simple functional tests. Preoperative evaluation with medical, nutritional, and structural timed tests are important to optimize and stratify patients undergoing spinal deformity surgeries.

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**Factors Associated with Non-adherence to Clinic Visits in Inner City CKD Patients**

Non-adherence with scheduled clinic visits can disrupt care and is especially concerning in CKD pts. We studied prevalence and factors associated with clinic visit non-adherence in a population of inner-City pts. 28 pts were randomly chosen from the outpatient CKD clinic in East Brooklyn. Pts were interviewed by a person previously unknown to them. Laboratory data and clinic attendance records for the preceding 6 months were extracted from the EHR.

Mean age was 70.46 ± 11.1 years, with 11 women (39%), 17 men (61%), 23 Afro- or Caribbean American (82%), 54% CKD Stage 3 (15), with 24% Stage 4 or higher and 11% Stage 2 (3). 85.2% reported incomes <40,000 with 46% <20,000/yr. 36% had Medicaid Insurance (10) with 43% having Medicare as primary (12). 64% of patients had missed at least 1 clinic visit (14), with 10% (3) missing 3 visits. Number of missed clinic visits were associated with total number of visits scheduled (r=0.5, p<0.005), creatinine (r=0.5, p<0.05), and systolic BP (r=0.5, p<0.05). By t-test only # meds prescribed was sig (7.65 ± 0.8 for pts who missed visits vs. 13.1 ± 2.0 for those who didn’t, p<0.05), but disease duration, Stage of CKD, cost of meds, BP, creatinine, cholesterol, hgb and Vit D levels did not differ between the 2 groups.

In our population 1. More than half of the pts miss at least one visit within a 6 month period, 2. Pts with more advanced CKD missed more clinic visits than pts with earlier stages, which is of concern as follow up needs to be more frequent as kidneys fail. 3. Higher number of missed visits was associated with higher systolic blood pressure suggesting that care may be affected. 4. Pts who missed any visit had fewer medications prescribed, but laboratory values did not vary between the two groups. 5. In view of the potential implications of missed clinic visits on overall plan of care, the reasons for missed clinic visits should be further evaluated in order to avoid potential adverse health outcomes and wasted provider time.
**Food Security, Stress and Nutritional Choices in Kidney Transplant Recipients (KTRs)**

**Introduction:** Many factors contribute to the food choice and total caloric intake of KTRs, including counseling, income, and ability to access healthy food.

**Methods:** 16 long-term KTRs were randomly chosen in the Transplant Clinic. Patients were interviewed by face-to-face technique. Macronutrient intake was measured from 24-hour diet recall interview and analyzed using the USDA Supertracker. Pts were asked questions about influence of food cost on diet choices, who prepared their food and how often they ate fast food. Perceived stress was measured by the PSS Survey.

**Results:** Mean age of the population was 50.5±0.3 yrs. There were 11 men (69%) and 5 women (31%). Mean months since transplant was 136.4±31.2, creatinine 2.02±0.26 mg/dl. 70% had completed high school, 40% had income <$20K/yr. Patients who lived further from grocery stores had lower intake of phosphorus (r=-0.57 p=.021) protein (r=-0.57 p=.021) and sodium (r=-0.57, p=0.21) and less fast food intake (r=-0.592, p=0.016) but higher % carbs (r=0.56, p=0.025). There was no relationship between distance and total caloric intake, use of SNAP or BMI. Pts who lived farther were more likely to have others prepare meals for them (r=0.501, p<0.05). Pts who reported food cost influenced food choice ate more prepared foods (r=0.68, p=0.004) and less Vit D (r=0.56, p=0.023) and reported more stress (r=0.75, p=0.001).

**Conclusion:** In our population, 1. KTRs living farther from the grocery store were more likely to have someone else prepare meals for them, had lower sodium, protein & phosphorous consumption but higher % carbs and ate less fast food. 2. Pts who reported food cost influenced food choices were more stressed, ate less Vitamin D and ate more prepared or frozen foods. 3. Food security is important in achieving adequate nutritional status in KTRs and approaches to improve access to affordable healthy food should be investigated.

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**Dietary Comparison of Long-term Stable Inner-City Kidney Transplant Recipients and People Attending the General Medical Clinic**

**Objective:** In a previous study we noted that stable, long-term kidney transplant recipients (KTRs) in our inner-City clinic had low intake of phosphorous, protein and calories, but it was unclear whether this reflected dietary habits of the local population or was related to habits acquired during CKD and dialysis, as many patients reported difficulty in "unlearning" the dialysis diet.

**Methods:** Patients were randomly chosen at the Transplant Clinic and a general medical clinic in the same area. They were interviewed by face-to-face technique. A previous study revealed equivalence between 3 day diet history and 24 hour recall so Macronutrient intake was measured by the latter technique and analyzed using USDA Supertracker.

**Results:** There were 16 pts in the transplant group and 23 in the general medicine (GMED) group. Mean time since transplant was 11.4±0.11 yrs. The groups differed for age (50.5±0.3 yrs vs 65.4±2.3, p<0.05), but not for gender, marital status, insurance type (90% of pts were Medicaid primary) or BMI (28.5±1.5 vs 29.9±1.1). All pts were Afro- American or Caribbean descent. All KTRs and 83% of the GENMED had a history of hypertension. Only 31% of GENMED and 50% of KTRs pts ate &lt;2gm sodium. Lab values revealed no difference in Hgb, albumin, potassium, sodium or magnesium. Creat was higher in the KTR group (2.02±0.3 vs 1.25±0.08, p<0.05). KTRs ate fewer calories (1376.3±116.4 vs 2165.9±252.0, p<0.05), less potassium (1837.3±211.7 vs 3153.9±463.9, p<0.05), sodium (2256.1±337.8 vs 3432.6±463.4, p<0.05), phosphorous (920.1±17.8 vs 1432.8±169.7, p<0.05), and carbohydrates (161.8±13.8 vs 257.5±26.5, p<0.05), but not calcium, protein (gms) or fat (gms).

**Conclusions:** In our population, 1. KTRs ate significantly fewer calories although BMI was similar to GMED, suggesting that they require fewer calories to maintain their weight. 2. Protein and fat intake was similar, with the difference accounted for by lower carbohydrate intake. 3. KTRs ate less sodium.
The impact of the 2015 American Thyroid Association (ATA) guidelines on thyroid cancer management was evaluated in an urban, minority thyroid clinic as a quality improvement project. Minorities have an increased annual rates of thyroid cancer in contrast to whites whose rates decreased after 2009 (Endo Soc abstract: SH04-6) and have with more advanced disease and higher mortality. Our aim was to optimize care practices and resource utilization. The majority of the 92 cases of diagnosed thyroid cancer were women (88%) and African American (86%). The median (SD) duration of disease was 10.6 (7) years, range 1-31 years. Their initial risk stratification showed that 48% were low risk, 27% were intermediate and 15% high risk and 10% were not known. 28% were NIFTP (Non invasive follicular thyroid neoplasm with papillary-like nuclear features). The most recent clinic visit 2 years after the ATA guidelines were published were used for dynamic risk stratification. Overall, dynamic risk stratification analysis showed that 56% had an excellent response, 27% indeterminate, 6% had biochemically incomplete and 11% had structurally incomplete response. Over half the patients were at TSH goals as determined by application of the guidelines or the clinician. Resource utilization was assessed by the number of annual clinic visits each year since 2014. The number of visits per year was 3.25 (1.66) in 2014 and was significantly lower in 2017 at 2.53 (1.31), p=0.003 on the paired t-test. In summary, in our minority, urban clinic, overall 56% had an excellent response on dynamic risk stratification which is associated with favorable outcomes. TSH levels were not uniformly at goal, the cause of which is unclear and may have resulted in the need for additional clinic visits. There was a reduction in resource utilization in terms of number of clinic visits per year. This project has yielded actionable results and the possibility of improving health care disparities among minorities.