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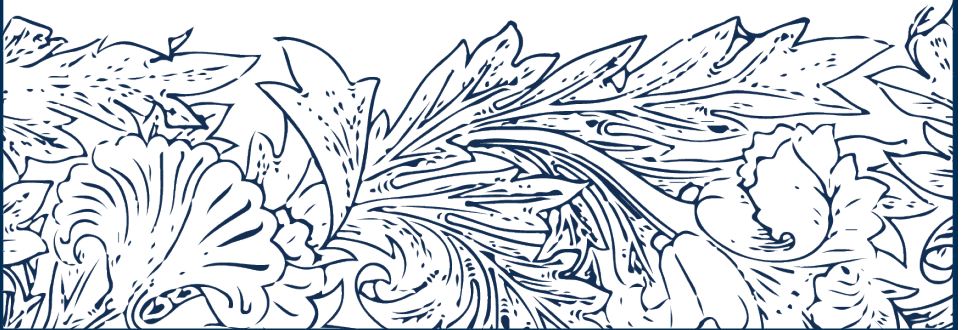
UNIVERSITY OF GEORGIA

*14th Annual
Medical Partnership
Student Research
Symposium*



October 28, 2024

UGA Center for Continuing Education
Masters Hall



*Welcome to the fourteenth annual
AU/UGA Medical Partnership
Research Symposium!*

This event is an opportunity to showcase the activities of our students during the summer between the first and second years of their medical studies. Students were encouraged to engage in a scholarly activity which could include laboratory science, clinical, or other research. Students more interested in a participatory clinical experience were encouraged to also engage in “inquisitive observation and reflection” in order to derive a more complete understanding of the health problems within the context of the greater community.

The posters represent the results of the students’ endeavors. We are grateful to all of the faculty members at AU, UGA, and other institutions, who have mentored the students, and to the community clinicians, both in Athens and elsewhere, who have shared their expertise and provided the clinical settings to learn both the art and science of doctoring.

Michelle A. Nuss MD

Michelle A. Nuss, MD
Campus Dean

Symposium Events

- 1:00 – 2:20 PM *Poster Session*
- 2:20 – 2:30 PM *Break: Move to Masters Hall*
- 2:30 – 3:00 PM *Keynote Address: Dr. Yana Zavros*
GRA Eminent Scholar in Molecular Medicine
- 3:00 – 3:15 PM *Elevator Pitch Finalists*
- 3:15 – 3:45 PM *Oral Presentations*
- 3:45 – 4:00 PM *Awards*

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The Relationship between T-Half Reoxygenation in Calf Muscles and Ankle-Brachial Index (ABI) in Peripheral Arterial Disease Using Near-Infrared Spectroscopy

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BACKGROUND: Peripheral Arterial Disease (PAD) is a circulatory condition characterized by the narrowing of arteries in the limbs, which leads to reduced blood flow and oxygen supply to the tissue, primarily affecting the lower extremities. The Ankle-Brachial Index (ABI) is a widely used diagnostic tool for PAD, with values below 0.9 typically indicating the presence of the disease. This study explores the relationship between ABI and the tissue oxygenation level at half of its maximum during the reoxygenation phase following ischemia, known as T-Half, using Near-Infrared Spectroscopy.

METHODS: PAD patients were recruited with ABI values indicative of the disease. Participates would undergo testing in which a NIRS device is placed on their calf to monitor tissue oxygenation. Blood flow is assessed using a cuff-based method. The cuff is inflated to temporarily cut off blood supply to the calf, and NIRS measurements are taken to evaluate the tissue's oxygenation levels. After the cuff is deflated, NIRS continues to monitor tissue and muscle reoxygenation. NIRS will measure oxygenation changes during both occlusion and reperfusion phases.

RESULTS: The mean T-Half NIRS value for limbs with an ABI > 0.9 was 12.61, while the mean T-Half NIRS value for limbs with an ABI ≤ 0.9 was 16.24. This represents a mean difference of -3.63, suggesting that limbs with a lower ABI tend to have higher T-Half values, indicating reduced tissue reoxygenation efficiency. Linear regression analysis was performed to assess the relationship between ABI and T-Half NIRS values across the 22 limbs. The analysis revealed a negative correlation with a regression slope of -12.18 and an intercept of 25.55. ($r=-0.38$, $p=0.13$).

CONCLUSIONS: The findings of this study suggest a moderate negative correlation between ABI and T-Half reoxygenation in the calf, suggesting a trend where lower ABI may be associated with reduced tissue oxygenation levels. These results align with previous research, which has suggested that lower ABI values may correspond with reduced tissue oxygenation efficiency in PAD patients.

Association Between Psoriasis and Vitamin B12 Lab Levels Among US Adults in the 2011-2014 National Health and Nutrition Examination Survey

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BACKGROUND: Psoriasis is a chronic skin disease with multifactorial etiology that affects approximately 6.9 million adults in the U.S. Insufficient vitamin B12 levels are implicated as a potential cause via recent studies indicating that hyperhomocysteinemia (HHcy) is more common among patients with psoriasis amongst other factors. Limited research has further explored this potential association.

METHODS: We conducted a population-based, cross-sectional study focused on patients 20 years and older with psoriasis from the 2011-2014 National Health and Nutrition Examination Survey (NHANES). Data analysis included 11,329 participants, excluding 1,147 for non-responses. Vitamin B12 levels were categorized as borderline/deficient (<299.99 mg/mL) or normal (≥ 300 mg/mL). Multivariable logistic regression models adjusted for confounders including age, gender, race, income, smoking status, obesity, diabetes status, and education level were used to examine the association between psoriasis and Vitamin B12 levels.

RESULTS: 15.2% of psoriasis patients had Vitamin B12 deficiency compared to 10.8% without psoriasis ($P = 0.0453$). After adjusting for confounders, psoriasis patients aged 40-59 showed an increased risk of Vitamin B12 deficiency (adjusted odds ratio [AOR] 0.50; 95% CI 0.30-0.83; $P = 0.009$). This risk may be attributed to decreased protein-bound Vitamin B12 absorption or systemic inflammation associated with psoriasis.

CONCLUSION: Psoriasis is significantly associated with Vitamin B12 deficiency, particularly in adults aged 40-59. Future research is needed to explore the pathophysiology of this association and the potential therapeutic role of Vitamin B12 in managing psoriasis.

Cutaneous Malignancies and Marfan's Syndrome: A Retrospective Review

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BACKGROUND: Marfan's Syndrome (MFS) is a connective tissue disorder caused by mutations in the Fibrillin-1 encoding gene (FBN1). MFS affects about 200,000 people in the United States and is characterized by an overactivation of the transforming growth factor- β (TGF- β) pathway, which has been linked to various malignancies. This study aimed to explore the relationship between MFS and cutaneous malignancies, including their subtypes (melanoma, basal cell carcinoma (BCC), and squamous cell carcinoma (SCC)).

METHODS: We conducted a retrospective chart review of MFS cases at Brigham and Women's Hospital (BWH) from December 1980 to January 2024. The cohort initially included 79 patient cases, with 39 excluded due to lack of explicit MFS diagnosis. The majority identified as White/Caucasian, with a mean age of 69.9 years. Cutaneous malignancies were recorded based on biopsy reports.

RESULTS: Our analysis revealed that 85% of patients with MFS had at least one type of cutaneous malignancy, significantly higher than the general US population's rate of 20%. The most common malignancy locations were the face, back, and neck. BCC was the most frequent malignancy type, present in 62.5% of patients, followed by melanoma (20%) and SCC (17.5%). Treatments included MOHS surgery, excision, and cryotherapy, with no recurrence of malignancies in the same area post-treatment.

CONCLUSIONS: The study suggests that the lack of healthy connective tissue in MFS patients may increase their susceptibility to UV damage, contributing to higher malignancy rates. We recommend annual skin checks for MFS patients and further studies to evaluate the relationship and pathophysiology between MFS and cutaneous malignancies to advance treatment and prevention strategies.

Identification of successful sites of ablation in atypical atrial flutter using a novel peak frequency mapping algorithm

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BACKGROUND: Atypical Atrial Flutter is a supraventricular tachyarrhythmia that is characterized by a macro-reentrant circuit within the atria that does not travel along the Cavotricuspid isthmus (CTI). These Atrial flutters are quite symptomatic and respond poorly to medical therapy. These arrhythmias are notoriously difficult to map due to the iatrogenic scarring of the atrial walls, variable conduction speed, and barriers to conduction such as linear ablation lines. A novel mapping algorithm using peak frequency analysis has been shown to identify successful sites of ablation. Here we demonstrate the utility of peak frequency mapping in complex atrial arrhythmias.

METHODS: Patients with post-ablation atypical atrial flutter were mapped with the Abbott EnSiteX 3.0 mapping system using voltage, fractionation and Local Activation Time (LAT) mapping. Individual patient electroanatomical maps were then retrospectively analyzed by overlaying the Ensite OT near field peak frequency mapping algorithm (350 Hz cutoff). Fractionation data was collected around the area of interest, and photoshop analysis was performed to analyze the overlap between the different mapping modalities.

RESULTS: 6 patients with single burn termination (<5 seconds) of their arrhythmia were identified. Peak frequency mapping at 350 Hz decreased the putative ablation area by 76.75% (n = 6). A positive correlation was demonstrated between the frequency and the proportion of total cycle length that the high frequency area spanned ($y = .001523x - .1241$, $r = 0.9234$, $r^2 = 0.8535$, $P = 0.0085$).

CONCLUSION: Abbotts Ensite X 3.0's peak frequency mapping algorithm is a novel mapping technique that can be used in conjunction with voltage, fractionation and LAT mapping to identify rapidly the successful site of ablation. PF mapping successfully identified sites of 350 Hz that led to termination of atypical atrial flutter circuits.

Coronary CT Angiograms (CCTA) as Predictors of Major Adverse Cardiac Events (MACE) in Patients with Non-obstructive CAD in a Community Setting

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BACKGROUND: AHA/ACC Chest Pain Guidelines (2021) cite that low-risk patients with chest pain who underwent CCTA with normal results have a 2-year warranty period of not experiencing MACE, with little evidence to support this claim. The goal of the project is to determine the rate of MACE, other CV events, and non-CV events in patients who underwent a coronary CT angiogram with zero calcium score versus a group of patients with non-obstructive coronary atherosclerosis. This will provide better insight on the prognostic value of CCTA in coronary artery disease assessment.

METHODS: A retrospective chart review of all patients who had a CCTA with normal results or non-obstructive result at Piedmont Atlanta Hospital during a 2-year period (2/6/2020-4/28/2021) was performed. Demographics, past medical history, CCTA data, CV and non-CV events, lipid-lowering therapy, and lipid panels were collected. Event rates, types of events, lipid therapies, and lipid panels were compared between the two subgroups.

RESULTS: The normal CCTA group included 630 scans after exclusion with 32 total events and 11 MACE. The non-obstructive result group included 649 scans after exclusion with 79 total events and 24 MACE. Event rates were 5.08% for normal and 12.17% for non-obstructive ($P < 0.0001$), and MACE rates 1.75% and 3.70% ($P = 0.008$). The mean days between CCTA and event were 712.19 days for normal and 784.4 for non-obstructive. The mean days between CCTA and MACE were 581 days for normal and 828 days for non-obstructive. The mean time for no events were 3.75 and 3.76 years respectively.

CONCLUSION: A higher likelihood to experience an event and a MACE with a non-obstructive CCTA is indicated given the statistically significant rates. Less than 5% of patients in each group experienced a MACE within 3.75 years, indicating that patients with a normal and non-obstructive result have a low chance of experiencing a MACE in a longer time frame than stated in the current guidelines.

What affects health behaviors and quality of life in patients undergoing dialysis?

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BACKGROUND: The Information-Motivation-Behavioral Skills (IMB) model has not been fully studied in patients undergoing hemodialysis. By studying these factors, patient education can be better tailored to improve health-promoting behaviors, and therefore outcomes in hemodialysis patients.

METHODS: In this cross-sectional study of 215 patients undergoing hemodialysis, we measured the relationships between the factors of IMB model using correlational analysis. The data was derived from a secondary analysis of the baseline data from a previously conducted study (PEER-HD).

RESULTS: There was no correlation between information and behavioral skills (PDialSMS) nor health behavior (KDBI). There was a correlation between personal motivation and PDialSMS ($p=0.00559$). Multidimensional social support (MSPSS) correlated with PDialSMS ($p=0.00128$) and KDBI ($p=0.00408$). In those > 75th percentile of depressive symptoms (CESD-10), there was no correlation with KDBI. Dialysis-specific social support correlated with KDBI ($p=0.032$) but this was not present for those with annual income <\$20,000. MSPSS negatively correlated with CESD-10 ($p=0.00028$), which itself negatively correlated with PDialSMS ($p=1.73e-11$) and KDBI ($p=0.0206$). PDialSMS correlated with all quality-of-life measures: general health($p=4.93e-07$), physical functioning($p=0.0021$), energy/fatigue($p=2.08e-05$), pain($p=0.0128$), and emotional well-being($p=1.57e-07$) which itself correlated with KDBI ($p=0.0184$).

CONCLUSIONS: The factors of IMB model most associated with health behaviors are personal and social motivation. The relationship between social motivation and health behaviors may be affected by depressive symptoms and annual income. Behavioral skills and health behaviors may play a role in improving quality of life. These observations should be considered in patient education for the hemodialysis population.

Evaluating Access and Identifying Challenges & Best Practices for Community Gardens in Athens-Clarke County

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BACKGROUND: Community gardens (CGs) are linked to higher fruit and vegetable intake, as well as positive psychosocial and community outcomes. In Athens-Clarke County (ACC), where 13.5% of the population experiences food insecurity, CGs may help address this issue. While there are 17 non-school affiliated CGs in ACC, it is unclear if these gardens are optimally located relative to food-insecure areas. Evaluating the accessibility, best practices, and challenges of current CGs could guide future efforts to better serve the community.

METHODS: Semi-structured interviews were conducted with CG leaders in ACC, focusing on challenges and best practices related to land tenure, funding, supplies, and garden maintenance. Out of 17 gardens, 7 leaders were interviewed. Ten declined to participate, were unreachable, or the gardens had closed. Key themes were identified using qualitative analysis software, Delve. To evaluate accessibility, a map of ACC's CGs was overlaid with food desert maps to identify potential disparities.

RESULTS: CGs consistently faced challenges in each category, though the root causes varied. Workforce consistency was the most cited challenge, with building community support as the top best practice. Frequently mentioned best practices included leveraging local resources. Although 9 of the 17 CGs are in food-insecure areas, interviews revealed that organizational affiliations often limit local residents' participation and benefits.

CONCLUSIONS: Although one aim of this project was to summarize a list of best practices, it became evident that best practices are context specific. The purpose of a garden influences its funding needs, community support, supplies, and workforce. These factors are interrelated, impacting the garden's overall success. Moving forward, we plan to collaborate with community partners to create a guide on best practices and local resources that accounts for these relationships and then evaluate its efficacy during establishment of a new CG.

Mini Med Camp: Development & Implementation of Holistic Camp Curriculum and Culture to Promote Adolescent Self-efficacy and Professional Identity Formation

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Tahisha Sherman^{1,2}, Dr. Bryson Greenwood¹

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BACKGROUND: Professional Identity Formation (PIF) integrates professional values with personal identity through an active process, crucial for developing compassionate physicians. PIF-interest has grown in medical education, as mentoring, feedback, and experiential learning enhance resilience, self-efficacy, and reduce burnout. In its third year, the Mini Med Camp at Augusta University/UGA Medical Partnership restructured its curriculum to emphasize PIF and promote self-efficacy, offering a more authentic medical experience.

METHODS: Campers aged 10-17 gained medical knowledge and skills through lessons, electives, standardized patient encounters, and simulations. The curriculum expanded to include discussions on respect, professionalism, ethics, mental health, and health insurance, along with a hospital tour highlighting interprofessional collaboration. Daily feedback was encouraged and integrated into lessons.

RESULTS: 178 campers participated, with 8 scholarships for campers from low-income Athens families. All engaged in a medical simulation, a standardized patient encounter, daily group professionalism discussions, and a Piedmont Hospital tour. Relevant electives—Medicaid Maze, Medical Ethics, Mental Health Matters, and Medical Improv—were full each week offered, totaling 120 campers. We received and implemented 149 feedback responses. 157 campers participated in the Swag Shop, an incentive system for respectful behavior. 64 high-school campers joined a GroupMe for ongoing mentorship.

CONCLUSIONS: Mini Med Camp's curricular changes, centered on respect, professionalism, and ethics, introduced adolescents to key medical values by promoting the PIF process and self-efficacy. To assess the camp's impact on these outcomes, we will conduct a survey; pre- and post-surveys should be used in future years.

Mechanosensor PIEZO1 is Regulated by Hemodynamics and Augmented by Atherogenesis in Murine Model of Peripheral Arterial Disease

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BACKGROUND: Peripheral arterial disease (PAD) is characterized by atherosclerotic blockages and subsequent disturbed blood flow (d-flow). D-flow causes low and oscillatory shear stress that stimulates pro-inflammatory pathways in endothelial cells (ECs). PIEZO1 is a mechanosensitive ion channel that activates pro-atherosclerotic signaling pathways in ECs. Previous data collected demonstrates that, under atherogenic conditions of high fat diet, D-flow induces atherosclerotic plaque with increased PIEZO1 expression in femoral arteries (FAs). The objective of this project was to examine the expressions of PIEZO1 and PECAM1 (platelet/endothelial cell adhesion molecule 1) under non-atherogenic condition and d-flow.

METHODS: 7 mice fed with chow diet (8-weeks-old; 4 males and 3 females) and 8 mice fed with high fat diet (8-weeks-old; 4 males and 4 female) went through partial femoral ligation (PFL). The left FA was partially ligated to induce d-flow and mimic a PAD environment, while the right FA was left undisturbed to serve as the control. The arteries were collected 4 weeks after surgery and the expression levels of PIEZO1 and PECAM1 between PFL and control conditions were compared through immunohistochemistry (mean fluorescent intensity).

RESULTS: Under atherogenic conditions (high fat diet), PIEZO1 expression was statistically higher in PFL conditions compared to control ($p=0.0017$). There were no overall differences in PIEZO1 and PECAM1 expression between the control and PFL group (PIEZO1 $p=0.105$; PECAM1 $p=0.747$) in the non-atherogenic condition of chow diet.

CONCLUSION: Previous data demonstrates that PFL delivers FA atherosclerosis with increased PIEZO1 expression under high fat diet atherogenic conditions. PFL alone demonstrates a trend of increased PIEZO1 expression. Future work is needed to understand the pathways in which D-flow and atherogenic conditions regulate PIEZO1 expression.

Comparison of Complications and Outcomes of Immediate versus Delayed DIEP Flap Breast Reconstructions

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BACKGROUND: The deep inferior epigastric perforator (DIEP) flap has become the gold standard in autologous breast reconstruction. Immediate DIEP flap breast reconstruction is becoming the preferred choice for women who have undergone mastectomy for breast cancer as prior studies have shown that it could have better aesthetic outcomes, shorter recovery times, and less psychological distress to the patient. However, existing literature on this topic is scarce and variable. The purpose of this study was to determine if timing of DIEP flap breast reconstruction, immediate versus delayed, has any effect on adverse postoperative events or outcomes.

METHODS: A retrospective study of patients who underwent DIEP flap breast reconstruction at the University of Colorado was identified and their electronic medical records reviewed. Two cohorts were evaluated based on the timing of the reconstruction: immediate and delayed. We excluded bilateral reconstructions with mixed reconstruction timing. Patient demographics, risk factors, operative details, recipient-site and donor-site complications, and medical complications were recorded and compared. We conducted bivariate analyses to compare the cohorts.

RESULTS: Between 2012 and 2022, 472 patients were identified who met inclusion criteria. 163(35%) had immediate and 309 (65%) had delayed breast reconstruction. There was no significant difference between the cohorts in regard to age, BMI and ASA score. Delayed breast reconstruction cohort had significantly higher rates of radiation therapy ($p < .0001$). Immediate breast reconstruction cohort had significantly higher number of seromas compared to delayed (11 (7%) vs 7 (2%), 0.01). Overall, breast complications were higher in immediate breast reconstruction patients (64% vs 54%, 0.04). Rate of infection was significantly higher in delayed reconstruction group (16%), 0.0008.

CONCLUSION: Our study concluded that overall immediate breast reconstruction is at higher risk of complications.

Barriers and Preferences in Electronic Communication for Parents of Pediatric Patients in the Athens-Clarke County Area

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BACKGROUND: Electronic communication remains the primary method for providers and patients to relay important information about past and future visits. Pediatric populations have a unique patient-provider interface as parents often serve as the main contact from providers. Identifying preferences and barriers within electronic communication for this population could guide further decisions on strategies and policies to improve the interface between providers and their patients.

METHODS: An anonymous survey (N=13) was distributed to parents through pediatric clinics in the Athens-Clarke County Area and will be distributed through the Athens-Clarke County school system. The survey used the Likert scale for established prompts but also has a section for quantitative responses from participants. The established prompts were generated from local physicians' experiences and parents' perspectives.

RESULTS: 13 parents were sampled who all responded that they had access to a cellular phone and had not changed numbers within the last year. On average parents stated they were "somewhat unlikely" to answer phone calls if they did not recognize the number. However, they were "extremely likely" to answer if their clinic had caller ID. Phone Calls were preferred by a majority of participants (64%) as the method of contact with their healthcare team. The most common barrier to communication reported was the ability to return calls during working hours.

CONCLUSION: While phone calls were the preferred method for contact, healthcare teams could ensure the use of caller ID to increase their ability to reach patients through phone calls. Due to the low initial response rate, the project is in the process of including distribution through the Athens-Clarke County school system. With an increased sample size, the results will better specify areas of improvement for electronic communication.

Resident's Reproductive Radar: Reducing Teratogenic Medication Use in Women of Reproductive Age

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BACKGROUND: Exposure to teratogenic medications occurs in more than 1 in 16 pregnancies with the highest exposure level being in the first trimester. Because more than half of pregnancies in the US are unplanned, it is critical that women are made aware of the teratogenic risks of these medications and are counseled on effective contraception when they are prescribed.

METHODS: A retrospective chart review for a single center was conducted that included female patients ages 18-49 seen at an internal medicine residency clinic from July 1, 2022, to December 31, 2022. A ten-question survey assessing the knowledge and practices of resident physicians regarding contraceptive counseling when prescribing teratogenic medications was distributed to residents. 45 responses were recorded. Descriptive data analysis was performed using SPSS.

RESULTS: 72% of women of reproductive age did not have documentation of their last menstrual period (LMP) and 55% did not have documented contraception use. 52% of reproductive age women were prescribed a teratogenic medication. 23% of reproductive age women who were prescribed a teratogenic medication had neither documentation of LMP nor use of contraception. 93% of resident physicians believe it is their responsibility as a primary care provider to counsel women of reproductive age about contraception and family planning. 67% feel that residency training adequately prepared them to counsel patients about potentially teratogenic medications. 60% of residents feel confident and prepared when counseling women of reproductive age about contraception.

CONCLUSION: Additional training for resident physicians is needed to reduce the prescribing of teratogenic medications to women of reproductive age without appropriate counseling. A hands-on workshop was completed for all residents and the second phase of the study is ongoing.

Outcomes After Pulmonary Artery Reconstruction in Neonates with Tetralogy of Fallot with Major Aortopulmonary Collateral Arteries

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BACKGROUND: Tetralogy of Fallot with major aortopulmonary collateral arteries (TOF with MAPCAs) is a complex and heterogenous congenital cardiovascular anomaly. Early surgical intervention with unifocalization and pulmonary arterial reconstruction and complete intracardiac repair in infancy is emphasized with excellent survival and low right ventricular pressures; however, these patients often require subsequent pulmonary interventions. Delaying surgery until a certain weight may allow further growth and subsequently better outcomes.

METHODS: Single institution retrospective chart review of patients with TOF and MAPCAs who underwent complete repair at a weight less than 8Kg, either as a single-stage repair or after previous surgeries. Native anatomy, repair and freedom from surgical or transcatheter reintervention outcomes were extracted. Descriptive, univariate, Cox regression and Kaplan Meier survival analysis were utilized.

RESULTS: A total of 21 TOF with MAPCA patients were identified for analysis. The median weight and age at complete repair were 5.61kg and 5.36 months, respectively. Pulmonary reinterventions were performed in 16 (76%) patients, including conduit interventions in 3 (14%) patients, surgical PA interventions in 10 (48%) patients, and transcatheter PA interventions in 12 (57%) patients. Most surgical reinterventions were bilateral, while most transcatheter reinterventions were unilateral. Additional statistical analysis is in progress to determine freedom from reintervention and factors associated with longer freedom from reintervention.

CONCLUSION: This study identified a challenging subset of patients with TOF to demonstrate the benefit of delaying surgical interventions in patients until a minimum weight of 6-8kg. Using this data, we will determine factors associated with better outcomes after surgical repair and provide strategies for managing TOF in patients <6kg prior to surgical intervention.

The Utility of Advanced Heart Failure Pharmacotherapy in Patients Undergoing Cardiac Resynchronization Therapy for Pacing Induced Cardiomyopathy

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BACKGROUND: Pacing Induced Cardiomyopathy (PICM) is a potentially reversible cardiomyopathy which results from right ventricular (RV) pacing. Cardiac Resynchronization Therapy (CRT) can restore synchronous contraction of the left ventricle, which reduces hospitalizations, morbidity, and mortality in patients with PICM. Current treatment guidelines for cardiomyopathies involve a series of advanced heart failure medications (AHFMs), including SGLT2 inhibitors, mineralocorticoid receptor antagonists, and combined Sacubitril/Valsartan (Entresto). The high number of medications prescribed to patients with heart failure is often associated with poor medication compliance. We sought to determine whether there is a benefit (indicated by improvement of LVEF) in patients taking AHFMs who have experienced PICM and undergone subsequent CRT.

METHODS: Quality improvement study consisting of a retrospective chart review on patients at Piedmont Athens Regional who underwent a CRT upgrade between January 1, 2020, and January 1, 2024. Data on patients undergoing CRT Upgrade patients were extracted including NYHA score, post-implantation ejection fraction, utilization of AHFMs prior to and after implantation, and death.

RESULTS: 316 patients underwent CRT upgrade for a PICM, of which 63 patients (19.9%) had normalization of Left Ventricular Ejection Fraction (LVEF). In these patients, there was an average increase in LVEF of 17.32%. When evaluating the AHFMs that these patients were taking before and after CRT, there was a reduction in the number of AHFMs before versus 6, 12, and 24 months after CRT, but these reductions were not statistically significant ($P=0.62$, 0.66 , and 0.58 , respectively).

CONCLUSIONS: While PICM is an ongoing concern for patients undergoing RV pacing and CRT is a supported procedure for reversing this condition, CRT may not be effective in reducing the number of expensive AHFMs these patients are taking. Because there was significant reduction in LVEF in patients who receive CRT, future studies may focus on other clinical endpoints which are positively influenced by CRT.

Rates and Predictors of Intention to Get Preventive Screenings Among Individuals in Recovery from Substance Use Disorders

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BACKGROUND: Preventive health services are critical for improving health outcomes. Individuals with substance use disorders (SUDs) are at greater risk for chronic disease but often face barriers limiting access to preventive screenings. Given limited data about factors influencing use of such services, this study aimed to identify rates and predictors for intention to get preventive screenings among residents at two recovery centers.

METHODS: A cross-sectional, 32-question survey (N=95, response rate 51%) was conducted at Acceptance Recovery Center and The Potter's House in Athens, GA, collecting data including demographics, health perceptions, access to care, and prior preventive service use. Intention to get preventive screenings is presented, overall and by participant characteristics. Differences by characteristics were assessed using chi-square tests with p-values <0.05 considered statistically significant.

RESULTS: Of all respondents, 26% (23/89) reported ever getting a flu shot and none over age 45 reported colon cancer screening. Among women, 38% (9/24) reported prior pap smears and none over age 45 reported prior mammograms. Intention to get preventive services if recommended (53% yes, 47% no/maybe) was significantly higher (p=.041) among participants with prior preventive services use (64%) compared to those without (42%). Other variables were not significantly associated, but trends showed higher intention among females (70%), those with fair/poor dental health (60%), good/excellent mental health (57%), 3 months+ in the program (59%), and longer time since last wellness visit (>1 yr) (58%).

CONCLUSION: Prior use of preventive health services was lower than current U.S. rates and positively associated with intention to get future recommended screenings. This underscores the need for interventions to improve access and uptake among individuals with SUDs. Addressing these disparities is crucial for equitable healthcare access and better health outcomes.

Investigating Corticospinal Excitability Modulation Prior to Goal-Dependent Moving Target Perception

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BACKGROUND: Corticospinal excitability (CSE) – the summed activation of primary motor cortex (M1) and its projections – depends on task goal. Previous research has shown that CSE is modulated when one is preparing a goal-directed action. Also, the degree of CSE modulation when one prepares movement relies on the characteristics of the visual goal. However, it is unclear how early goal-dependent modulation occurs. The aim of this study was to investigate whether knowledge of the task goal (view or intercept a moving target) influences CSE.

METHODS: A cohort of 18 right-handed adults ages 18 to 33 completed a visual perception and movement task. On each trial, the participant's goal was to either view ("View") or intercept "Interception") a moving target. Transcranial magnetic stimulation (TMS) was applied to the left M1 to generate a motor-evoked potential in the right first dorsal interosseous muscle. Across trials, TMS was either collected between trials ("Baseline"), after the task instruction to view or intercept ("Post-Instruction"), or while the target was moving ("Within-Task").

RESULTS: CSE was significantly greater for the Interception condition relative to View condition at the Within-Task timepoint ($p < 0.001$), but no difference Post-Instruction ($p = 0.115$). The Interception condition also showed significantly greater CSE Within-Task compared to Post-Instruction ($p < 0.001$), while there was no difference for the View condition ($p = 0.323$). CSE for Interception and View conditions were significantly greater ($p < 0.001$) and lower ($p < 0.001$), respectively, compared to Baseline Within-Task, but there was no difference Post-Instruction for Interception ($p = 0.555$) or View ($p = 0.527$).

CONCLUSION: Our findings show CSE enhances when one prepares for movement and reduced when the goal is to withhold movement. This helps contribute to the understanding of goal-dependent visuomotor integration, which has importance in furthering refinement of neurorehabilitation.

Frontal band asymmetry did not significantly differ between different listening conditions for music therapy in the ICU

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BACKGROUND: The intensive care unit (ICU) can be a noisy, stressful environment and can contribute to anxiety and delirium. There is evidence supporting the use of therapeutic music for anxiolysis in critically ill patients, as it can essentially induce a parasympathetically-mediated relaxed state. If we can identify significant neurophysiologic changes in electroencephalograms (EEG) showing engagement of emotional and attention networks, we can evaluate the role of therapeutic music as a complementary therapy in ICU settings.

METHODS: A cohort of 50 VUMC inpatients who were scheduled for EEG recordings as part of their standard of care received 3 minutes each of four different listening conditions (live music, recorded music, no music, white noise) with a survey conducted at the end. Frontal band asymmetry was measured using the ratio of 8-13Hz power to total power, averaged over all channels (relative alpha power). More positive values have been associated with positive affect and greater stress and emotional regulation. EEG and survey results were analyzed for the first 25 patients.

RESULTS: A preliminary analysis showed no significant differences in frontal band asymmetry between the four different listening groups ($p=0.64$). There was also no statistical difference when accounting for delirium and sedation using the Confusion Assessment Method ($p=0.57$). This analysis did not include additional demographic data collected that might have identified potential confounders.

CONCLUSIONS: While we did not see a significant difference in frontal band power asymmetry for the four different listening conditions, music certainly continues to play an important therapeutic role, especially in stressful environments.

Use of a Deep Learning Model to Identify Vocal Differences between Spasmodic Dysphonia and other Vocal Disorders

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BACKGROUND: Spasmodic dysphonia (SD) is a focal dystonia characterized by laryngeal spasms that results in uncontrolled voice breaks during phonation. This voice dysfluency has debilitating effects on a person's ability to communicate. We created a smartphone application using a deep learning model to distinguish between SD and other laryngeal disorders..

METHODS: A prospectively built deep learning model was deployed to a smartphone device and prospectively tested in a convenience group of patients that presented to the Emory Voice Center and Emory Midtown Hospital. Voice sample recordings were obtained from the app. During the recordings, patients were prompted to complete several vocal tasks including phonation of a sustained /e/. Questionnaires were also used to gather patient data and the following were assessed: Cough Severity Index (CSI), Voice Handicap Index (VHI), Dyspnea Index (DI), and Reflux Severity Index (RSI).

RESULTS: Voice sample recording were obtained via a voice recording app in patients (n=25) with Spasmodic Dysphonia (n=2), Vocal Tremor (n=2), Unilateral or Bilateral Paralysis (n=3), Mass (n=3), No Pathology (n=2), or Unrecorded/Unknown Conditions (n=14). VHI and RSI scores were reported for patients with SD (40, 15), Vocal Tremor (25.0, 7.5), Unilateral or Bilateral Paralysis (30.3, 21), and No pathology (0, 0) respectively. Further statistical analysis is required to determine voice quality among patients with specific vocal disorders. Future accuracy calculation will use specificity, sensitivity, and positive predictive value (PPV) calculation to test clinical effectiveness.

CONCLUSION: Current findings are inconclusive on whether a deep learning model can be used to identify different vocal disorders. Ultimately, further statistical analysis and RCT testing in a primary care setting is required to determine the efficacy of this model and its future use.

Incidence of development of clinically relevant toxicities during therapy for acute lymphoblastic leukemia by demographic factors

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BACKGROUND: The chemotherapy used to treat acute lymphoblastic leukemia (ALL) patients can cause adverse effects (AEs). By quantifying the incidence and evaluating who is at highest risk of developing AEs in each chemotherapy course, this study will provide data to enhance counseling of patients and determine which patients may benefit from preventative interventions.

METHODS: Using a cohort of children aged 0 through 21 years with ALL who treated at CHOA from 2010-2022, data were abstracted for four AEs. The presence and severity of anaphylaxis, hypertension, hypotension, and hypoxia were manually abstracted for each patient. The incidence of each AE by course and by extracted demographic characteristic were evaluated.

RESULTS: Of 1194 courses abstracted for anaphylaxis, 40 (3%) had anaphylaxis; 29 (72%) were experienced by white patients, 31 (77%) by non-Hispanic patients, and 26 (65%) by males. The most common course for anaphylaxis was consolidation (n=19, 48%). Of the 470 abstracted courses for hypertension (HTN), 428 (91%) experienced episodes of HTN; 285 (67%) were experienced by white patients, 309 (72%) by non-Hispanic patients, and 241 (56%) by males. The most common course for HTN was maintenance 115 (27%). Of the 831 cases abstracted for hypotension, there were 609 (73%) episodes; 422 (69%) were experienced by white patients, 443 (73%) by non-Hispanic patients, and 365 (60%) by male patients. The most common course for hypotension was interim maintenance 164 (27%). Of the 979 abstracted courses for hypoxia, there were 73 (7.5%) episodes; 58 (79%) were experienced by white patients, 53 (73%) by non-Hispanic patients, and 47 (64%) by male patients. The most common course for hypoxia was induction 21 (29%).

CONCLUSION: The data reveals that hypertension and hypotension were common amongst ALL patients in the cohort while anaphylaxis and hypoxia were rarer. Chart abstraction is ongoing and will expand to 20 clinically-relevant AEs.

Observed Reduction in Atrial and Ventricular Arrhythmia Burden with Baroreflex Activation Therapy

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BACKGROUND: Arrhythmias triggered by cardiac sympathetic overactivation is a major feature of heart failure (HF). Baroreflex activation therapy (Barostim) aims to restore autonomic balance and has shown improvement to quality of life, exercise capacity and symptoms in HF. Barostim may also effectively reduce the arrhythmia burden in patients with HF which further improve symptoms.

METHODS: A single-center retrospective study of patients implanted with Barostim and an implantable cardioverter-defibrillator (ICD) was conducted. Arrhythmia information from ICD interrogations were compared pre- and post- Barostim implantation. Atrial fibrillation (AF) burden was assessed via the AF burden percentage and the number of automatic mode switching (AMS) episodes reported by the ICD. Ventricular tachycardia (VT) burden was assessed via the number of ICD shocks and number of antitachycardia pacing (ATP) episodes reported by the ICD.

RESULTS: From February 2021 to November 2023, 57 Barostim implants were performed, of whom, 36 were included in the study. Compared to 0-3 months pre-Barostim implantation, AF burden reduction was observed 3-6 months post-Barostim implantation ($1.06 \pm 3.56\%$ vs $0.32 \pm 0.69\%$; $p > 0.05$). Both the mean number of non-sustained ventricular tachycardia (NSVT) episodes (7.44 ± 28.12 vs 1.36 ± 5.68 , $p > 0.05$) and AMS episodes (9.53 ± 31.86 vs 6.25 ± 19.84 ; $p > 0.05$) were reduced. A total of 6 ICD shocks occurred in three patients in 0-3 months pre-Barostim implantation, while 0 ICD shocks occurred 0-6 months post-Barostim implantation. Also, a single ATP episode occurred 3-6 months post-Barostim implantation compared to 45 ATP episodes amongst all patients in 0-3 months pre-Barostim implantation.

CONCLUSION: AF and VT burden reduction was observed in patients receiving Barostim. As this is an observational study with a small sample size, further investigation is warranted to elucidate the observed trend towards reduction of arrhythmia burden with Barostim.

Interaction between pain and fatigue in veterans with fibromyalgia receiving cranial electrotherapy stimulation

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BACKGROUND: Fibromyalgia (FM) is a chronic disorder characterized by widespread pain, fatigue, and poor sleep, proposed to be caused by altered pain and neurotransmitter signaling. Given the strong association between chronic pain and fatigue, this study examines the relationship between pain and fatigue in veterans with FM using cranial electrical stimulation (CES), a non-invasive, nonpharmacological, home-based method of applying low-intensity electric current to the brain. It has shown potential benefits in managing FM symptoms.

METHODS: We analyzed data from a randomized, double-blind, sham-controlled trial of CES in veterans with FM. NIH PROMIS short form v1.0-Fatigue 6a and Defense and Veterans Pain Rating Scale (DVPRS) scores were collected at baseline, 6 weeks, and 12 weeks. We used Pearson correlation analysis to assess the relationship between pain and fatigue, while linear mixed models and ANOVA were used to compare CES vs. sham CES on fatigue.

RESULTS: Correlation analysis showed that increased pain was associated with greater fatigue and physical interference. Significant positive correlations between DVPRS and PROMIS scores were observed at 6 and 12 weeks, indicating that pain impacts fatigue over time. CES treatment was associated with significant decrease in fatigue with increased usage ($p=0.003$). However, no significant difference in fatigue scores were found between true and sham CES groups ($p=0.6$). The sham CES group showed a decrease in fatigue with increased usage ($p=0.004$), which may be attributed to meditative effects.

CONCLUSION: The study suggests that pain significantly influences fatigue in veterans with FM, with CES showing potential benefits for managing fatigue. Despite the lack of significant difference between true and sham CES, the trends and results highlight the need for further research with larger samples to confirm findings, explore alternative interventions, and better understand the mechanisms linking pain and fatigue.

Identifying Gaps in Pulmonary Vein Isolation Lesion Sets with a Novel Peak Frequency Annotation Algorithm for Patients Requiring Redo Atrial Fibrillation Ablation

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BACKGROUND: Pulmonary vein isolation (PVI) has become a robust treatment option for patients with Atrial Fibrillation (AF). The Abbott EnSiteX™ electroanatomic mapping system peak frequency algorithm can be used for patients who have previously undergone ablation procedures to quickly identify gaps in lesions sets, leading to decreased procedure time and exposure of fluoroscopy.

METHODS: The Abbott EnSiteX™ electroanatomic mapping system was used to compare standard voltage mapping with peak frequency mapping by analyzing the models from patients who underwent redo PVI ablations at Piedmont Athens Regional in 2024.

RESULTS: The cohort (n=10) had a mean age of 63 years, CHA2DS-VASc score of 1.8, left atrial volume index of 37 mL/m², and a left ventricular ejection fraction of 58%. The average procedure time was 62 minutes with a total fluoroscopy time of 3.76 minutes. The use of the EnSiteX™ system with the peak frequency algorithm resulted in an 84% reduction in the area of potential ablation sites when compared to voltage mapping. Additional patients will be added to the study to expand the data set.

CONCLUSIONS: The peak frequency algorithm is a novel mapping technique that can be used to identify gaps in PVI lesion sets. Continued improvements in the identification of ablation targets can help to effectively decrease procedure times, decrease fluoroscopy exposure and improve success rates in patients requiring redo ablations for AF.

Assessment of the HER2DX Assay in High-Risk Patients

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BACKGROUND: Given the substantial clinical and biological differences that exist in HER2+ breast cancer, and the wide array of strategies now available for therapy, development of a predictive and prognostic genomic assay for patients with HER2+ breast cancer is a significant unmet need. New risk stratification tools are needed to properly assess which treatment options are best suited for each patient depending on the intrinsic variations in each patient's HER2+ breast cancer and how each individual responds to treatment. The goal of this study is to investigate the performance of the HER2DX assay as a risk stratification tool in a high-risk patient to allow for personalized treatment planning instead of opting for the standard of care which consists of prolonged, multi-agent, highly toxic chemotherapy and HER2-directed therapy.

METHODS: The Dana Farber Cancer Institute (DFCI) breast surgery Clinical Outcomes and Quality Database (COQD) was used to identify patients belonging to two high risk cohorts of interest: (1) pts with stage III BC (n=76); and (2) pts with stage I-III BC and residual disease after neoadjuvant therapy (n=181). Available FFPE tissue from each patient was reviewed for tumor, cut, and shipped to Reveal Genomics who ran the HER2DX assay. HER2DX assay results were returned for each evaluable specimen, and the distribution of HER2DX risk and HER2DX pCR scores in each population of interest was described, the correlation of HER2DX pCR score with was evaluated, and the correlation of HER2DX risk score with iDFS, distant disease-free survival, and overall survival for all pts was evaluated.

RESULTS: Results are currently pending.

CONCLUSION: If our aims are met, our results will support further prospective investigation of the HER2DX genomic assay in these important subgroups, such that therapy can be appropriately individualized for all patients.

Mind Matters: Do Psychosocial Factors Influence Nociceptive Pain?

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BACKGROUND: Historically, psychosocial factors were viewed as secondary responses to pain. New insights reveal that these factors influence the onset, persistence, and severity of chronic nociceptive pain, i.e. pain from altered nociception without tissue damage, as seen in temporomandibular disorder (TMD). This study aimed to 1) compare the presence of psychosocial factors in TMD patients and pain-free controls and 2) evaluate the link between nociceptive pain and multimodal hypersensitivity in TMD patients.

METHODS: TMD patients (n=30) and pain-free controls (n=24) completed psychosocial questionnaires assessing psychosocial status. Visual, thermal, auditory, and pressure sensory testing was conducted at the temporomandibular joint, masseter, forearm, hand, and leg. Group differences were analyzed using SPSSv29.0 with t-tests and non-parametric tests. Bivariate associations between psychosocial factors, nociceptive pain, and sensory sensitivity were examined, with α level set to $p < .05$.

RESULTS: TMD patients had significantly higher anxiety, FM-ness, jaw function limitation, hypervigilance, catastrophizing, negative affect, physical dysfunction, fatigue, sleep disturbance, and kinesiophobia. Depression, positive affect, perceived stress, and hyperacusis showed no significant difference. In TMD patients, nociceptive pain which is measured by FM-ness, i.e. the extent of fibromyalgia-like symptoms, was associated with poorer psychosocial status. TMD patients also had higher visual and auditory sensitivity, correlating positively with nociceptive pain.

CONCLUSION: TMD patients experience more psychological distress than pain-free controls. Elevated nociceptive pain in TMD patients is linked to increased psychological distress and multimodal hypersensitivity. These findings suggest that TMD patients with higher nociceptive pain and psychosocial dysfunction may need specialized treatments beyond standard nociceptive pain management.

A Retrospective Analysis of the Impact of Obesity and Diabetes on Stroke Severity

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BACKGROUND: Stroke is a leading cause of long-term disability in the U.S., with many being attributable to lifestyle-related risk factors. Obesity and diabetes, in particular, have been shown to significantly increase the risk of having a stroke. However, the connection between these conditions and the severity of stroke is not as well understood. Some research suggests that increased body mass index (BMI) levels reduce the severity of ischemic strokes (the “obesity paradox”), while the impact of diabetes on stroke severity remains unclear. This study investigated the effects of obesity and diabetes on the severity of ischemic stroke.

METHODS: A retrospective chart review of 405 ischemic stroke patients admitted to Piedmont Athens Regional between 2019-2022 was performed. The patient charts were categorized based on their pre-stroke diabetes status and their BMI classification: not overweight (BMI < 25 kg/m²), overweight (BMI 25-29.9 kg/m²), obese (BMI > 30 kg/m²). National Institutes of Health Stroke Scale (NIHSS) scores at admission and discharge, tissue plasminogen activator administration (tPA), and Activity Measure for Post-Acute Care (AM-PAC) scores were used as outcome measures. One-way ANOVAs and t-tests were used for statistical analyses.

RESULTS: There were trends such that patients without diabetes had more severe NIHSS scores at admission ($p = 0.059$) and were more likely to receive Tissue Plasminogen Activator ($p = 0.063$). Patients who were not overweight were more likely to be older at stroke onset ($p < 0.001$), have more severe NIHSS scores at discharge ($p = 0.049$), and have worse AM-PAC scores ($p = 0.016$).

CONCLUSION: Patients with a lower BMI and without diabetes experienced more severe strokes and poorer outcomes. The data also offers support for the idea of the “obesity paradox”, where obesity, despite being a stroke risk factor, may have better outcomes post-stroke.

Investigation of Association between Medication Effects and Biological Markers in the B-SNIP Biotypes

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BACKGROUND: The underlying biological etiology of psychosis syndromes are unknown. They are currently diagnosed based on clinical symptoms. It is possible that biomarker identification would allow for more effective diagnosis and treatment of individuals with psychosis. The B-SNIP consortium is a large multisite study that used clustering methods to identify 3 subtypes of psychosis: Biotype 1, Biotype 2, and Biotype 3. The "Biotypes" were derived using a battery of biologically based measures: EEG, saccade eye movement tasks that measure cognitive control, the stop signal task, and measures of general cognition utilizing the Brief Assessment of Cognition (BAC). Clinical interviews were obtained including the Positive and Negative Syndrome Scale (PANSS) to assesses positive, negative, and general psychotic symptoms. Our research goal was to determine prescribing variations and efficacy differences between biotypes in psychotropic medications and explore their relationship to symptom severity.

METHODS: Over 1700 participants with psychotic syndromes were included. Psychotropic medications were broken down by type (ex. antidepressant) and subtype (ex. SSRI). The percentage of each biotype on each medication type was calculated and compared to the other biotypes via ANOVA with a post-hoc Tukey HSD. The average PANSS score was then calculated for each biotype, and the average score for each medication group was calculated and compared to the respective biotype average via a 2-sided T-test.

RESULTS: A lower proportion of individuals with Biotype 3 psychosis takes anticholinergics, antipsychotics, and mood stabilizers, and a higher percentage take stimulants. Biotype 3s on anticholinergics or antidepressants have higher PANSS scores as do Biotype 2s on antidepressants.

CONCLUSIONS: In our cross-sectional sample, Psychosis Biotypes had different psychotropic profiles and showed unique relationships to clinical symptoms. Future studies would be necessary to determine if a causal relationship is present.

A Retrospective Analysis of the Relationship between Pre-Existing Hypertension and Outcomes After Ischemic Stroke

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BACKGROUND: Hypertension is an important risk factor for stroke and influences acute ischemic stroke treatment indications. Abnormal blood pressure levels may reduce the likelihood of receiving intravenous thrombolytic therapy, such as tissue plasminogen activator (tPA). Hypertension may also contribute to levels of post-stroke impairment. This study aims to determine the relationship between pre-existing hypertension and the likelihood of receiving tPA, as well as subsequent levels of post-stroke impairment.

METHODS: We conducted a retrospective analysis of patients admitted to Piedmont Athens Regional Hospital for ischemic stroke from January 2019 to December 2022 (N=405). Patients were stratified based on whether they were previously diagnosed with hypertension or not. Outcome measures included: systolic blood pressure at admission/discharge, tPA administration, NIH Stroke Scale (NIHSS) at admission/discharge, and Activity Measure for Post-Acute Care (AM-PAC) Score.

RESULTS: Most patients (87.9%) had pre-existing hypertension at the time of stroke, and subsequently had higher systolic blood pressure upon admission ($p < 0.001$) and discharge ($p < 0.001$). Hypertension did not affect the likelihood of tPA administration, nor the NIHSS score at admission/discharge (p 's > 0.05). However, patients with hypertension tended to exhibit worse AM-PAC scores ($p = 0.073$). Of tPA recipients, AM-PAC scores were worse in patients with hypertension ($p = 0.033$).

CONCLUSIONS: Although hypertension did not significantly influence tPA administration or NIHSS scores, patients with pre-existing hypertension may experience greater post-stroke functional impairment, given lower AM-PAC scores. This emphasizes the importance of hypertension management to enhance ischemic stroke recovery outcomes. Further research is warranted to determine how hypertension affects stroke care and outcomes.

Efficacy of Left Atrial Appendage Closure Post Coronary Bypass Grafting or Valve Replacement as Assessed by CCT

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BACKGROUND: Left atrial appendage ligation is performed during open heart surgery to reduce stroke risk in patients with atrial fibrillation. Despite the widespread adoption of this procedure, neither the success rates of the procedure nor the outcomes after discontinuation of anticoagulation are known. Our study aims to 1) investigate the efficacy of left atrial appendage ligation; 2) examine real world utilization of anticoagulation following ligation; and 3) outcomes following discontinuation of anticoagulation stratified by success of ligation.

METHODS: A cohort of 74 patients (from 43 to 79) who had undergone LAA ligation during a CABG, valve replacement, or ablation procedure and who received cardiac CT imaging at least 2 weeks post-op was first assessed for LAA closure rates. Their charts were then reviewed to determine oral anticoagulation status 6+ months post op. Post-operative stroke occurrence was also reviewed and considered in the context of patient's anticoagulation status.

RESULTS: Approximately 77% of the subjects had a complete left atrial appendage ligation as determined by a cardiologist board certified in cardiac imaging. Approximately 39% of patients with complete closure remained on oral anticoagulation compared to 81% of patients with incomplete closure. There was no statistically significant difference in stroke rates between patients with successful closure on vs off oral anticoagulation ($p=0.20$). There was a marginally significant difference in major bleed rates between patients with successful closure on vs off oac ($p=0.05$).

CONCLUSION: Patients with complete left atrial appendage ligation experience a markedly decreased stroke risk in the absence of oral anticoagulation as compared with patients who had incomplete LAA ligation. Further research is needed in determining criteria for OAC discontinuation following LAA ligation.

Assessing the Motivations and Barriers to Cardiac Rehabilitation

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BACKGROUND: Patients are referred to cardiac rehabilitation for a variety of conditions, such as post- MI, CAD, and COPD. The 16-week program involves supervised exercise counseling and training, and education on healthy lifestyle changes, aiming to help recovery from a previous heart condition and to prevent future complications. Attendance is associated with lower odds of all-cause mortality and hospitalization. However, there is a significant drop out rate (17-39%). Assessing the factors causing patients to drop out at Piedmont Heart Institute's Cardiac Rehabilitation Unit allows for the identification of barriers and motivational factors so that solutions can be hypothesized to decrease the dropout rate.

METHODS: Patients who opted-out of the program within the last 80 days were contacted to confirm their reasoning for exiting the program and asked what would have motivated them to stay in the program. Patients who completed the program within the last 80 days were contacted to determine their motivational factors and any potential barriers they had to overcome.

RESULTS: Over 80 days, 17 patients opted out of the program (22%) and 16 patients completed the program (20.3%). Of those who opted out, the main barriers they experienced were cost, distance and transportation. Other barriers were lack of knowledge and managing other comorbidities. Of those who completed the program, the main motivational factors included family, knowledge of the program and free time.

CONCLUSION: Studies show that the main barriers to attending cardiac rehabilitation were transportation, cost, and language barriers. Transportation and lack of insurance were found to be main barriers at Piedmont OHC, however, mental health and grieving were additional barriers seen. This study was limited by the sample size, availability bias and the short time frame. For future research, solutions can be piloted, and the data collected in this project can be used to compare the drop-out rate.

The Impact of Single Word Presentation on Patients with Homonymous Hemianopia

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BACKGROUND: Visual field defects caused by hemianopias can be debilitating, affect normal activities of daily living, and impair quality of life. Difficulty reading is a common complaint among those with eye disease, and this pilot study will try to evaluate whether the effects of impaired reading can be improved through displaying single words, while also identifying factors that may predict poor reading speed and comprehension.

METHODS: A cohort of 3 homonymous hemianopia (HH) patients > 18 years old were recruited from the Emory Eye Center. They were compared to a cohort of 7 control patients without eye disease and each patient underwent a Discourse Comprehension Test (DCT), both paragraph and single-word presentation, the Montreal Cognitive Assessment (MoCA) Test, the National Eye Institute Visual Function Questionnaire 25 (NEF-VQI), and the Short Form 36 Health Survey Questionnaire (SF-36).

RESULTS: A total of 10 clinical studies were completed. Descriptive statistics were used to evaluate the outcome measures and covariates in both HH and control groups. Linear mixed models will be utilized to evaluate the impact of covariates on the outcome measures in both groups. Only Visual Field Index (VFI) was found to be statistically significant ($p=0.001$).

CONCLUSION: Further investigation into single word presentation improving impaired reading is warranted due to small sample size of HH patients. Obtaining more data and identifying other factors that may contribute to poor reading may improve rehabilitation measures in patients with other diseases causing peripheral vision loss such as lasered diabetic retinopathy, optic neuropathies, and strokes.

The Incidence of Hematologic Malignancies in Patients with Hidradenitis Suppurativa: An Institutional Study

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BACKGROUND: Patients with hidradenitis suppurativa (HS) have been demonstrated to have a higher risk of developing hematologic malignancy (HM) than the general population. Prior study designs have been limited by small sample sizes and lack of analysis of implicated HM subtypes. This case series study evaluates the incidence of HM subtypes within HS patients from detailed chart review to guide recommendation on cancer screening for patients with HS.

METHODS: A detailed chart review was conducted on 84 patients (57.1% female, 76% white) with HS and HM treated at Brigham and Women's Hospital, Massachusetts General Hospital, Faulkner Hospital, and Dana-Farber Cancer Institute using Mass General Brigham RPDR query from 12/1/2016-6/6/2024. Patients who had a confirmed diagnosis of HS by dermatology from available records, underwent wide excision and had confirmatory pathology for HS, or were diagnosed with HS by at least 1 non-dermatology medical provider on at least 2 clinical encounters were included.

RESULTS: 70.2% HS/HM patients had lymphoid or plasma cell neoplasms, including Hodgkin lymphoma (23.7%), aggressive B cell lymphoma (16.9%), SLL/CLL (11.9%), and multiple myeloma (8.5%). 29.8% HS/HM patients had myeloid neoplasms, the most common of which included acute myeloblastic leukemia (80%). The overall most common HM in patients with HS was acute myeloid leukemia (23.8%), followed by Hodgkin lymphoma (16.7%).

CONCLUSION: This study is the largest chart review study to date evaluating HM subtypes in patients with HS. As cancer screening guidelines are being developed for patients with HS, physicians should be aware of increased incidence rates of HM among this cohort and monitor patients for HM development, particularly lymphoid or plasma cell neoplasms and AML.

The effect of transcranial magnetic stimulation on movement onset and muscle activation in a complex upper-limb task

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BACKGROUND: Transcranial magnetic stimulation (TMS) is a powerful tool to non-invasively measure motor system excitability during movement preparation. Application of TMS itself can also speed up motor responses, likely due to intersensory facilitation from the audible click at the time of stimulation. However, the impact of TMS on reaction times and muscle activation during complex tasks involving upper-limb movements remains underexplored.

METHODS: Three healthy, right-handed participants used a robotic manipulandum (KINARM End Point Lab) to perform obstacle-avoidance reaching movements with their right arm. On each trial, the movement required either the extensor carpi radialis (ECR) or the flexor carpi radialis (FCR) to act as the prime mover. Electromyography (EMG) from the ECR and FCR was measured without TMS to obtain average reaction time during the first block of trials. TMS was then applied during task performance at target onset or at 33%, 50%, or 67% of the participant's median reaction time from the first block.

RESULTS: TMS trials showed significantly reduced reaction times compared to non-TMS trials ($t = 8.27$, $p < 0.001$). Trials in which ECR was the prime mover exhibited faster reaction times compared to FCR across all conditions ($F = 77.19$, $p < 0.001$); this difference was more pronounced in non-TMS trials ($F = 6.04$, $p = 0.014$).

CONCLUSION: This study shows evidence that applying TMS during movement preparation speeds up reaction time and alters muscle activation patterns during a complex upper-limb reaching task. Future work will apply these task protocols to uncover physiological differences underlying altered motor performance after mild traumatic brain injury.

Can ABG Predict the Likelihood of a Clinically Significant Pulmonary Embolism?

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BACKGROUND: Pulmonary embolism (PE), although treatable, has a large mortality rate in the United States. CT pulmonary angiogram (CT PE) is the gold standard for diagnosis but is often over-ordered in low-risk patients. The goal of this study is to assess if ABGs are sufficient to detect clinically significant PEs requiring treatment without the use of imaging.

METHODS: Retrospective analysis was performed on 313 patients hospitalized in 2022 and 268 patients hospitalized in 2023 at Grady Memorial Hospital that underwent CT PE. CT PE order date, order time, and status was assessed and ABG pH, PCO₂, and PaO₂ was recorded if the patient had data recorded within 24 hours of their CT PE order time.

RESULTS: Out of 581 total patients, 116 total positive CT PEs were found. 51 had ABG data collected within 24 hours of the order time. Additional statistical analysis is underway to determine the significance of the ABG data in comparison to the CT PE results. Further data analysis is underway to establish data points to create a scoring system of which one consistent test will be used in ABGs to predict clinically significant PEs.

CONCLUSION: The lack of positive CT PEs with ABG data opens the possibility of performing prospective analysis in all ICUs to receive an ABG with each CT PE for 6 months. Serum creatinine, hospital location, oxygen requirements, heart rate, and respiratory rate will be retrospectively assessed on these patients to analyze their hospitalized condition. Retrospective and prospective analysis of acute kidney injury will also be conducted.

Risk Factors for Loss to Follow-up in Thoracolumbar Spine Trauma Patients: A Case-Control Study

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BACKGROUND: Loss to follow up (LTFU) is a challenging issue faced by all specialties within the medical field. LTFU is especially an issue regarding trauma patients who check into federally qualified healthcare centers. The follow-up rate for overall trauma cases is estimated to be up to 47%. However, while there is research regarding risk factors (RFs) for follow-up in orthopedic trauma, there are currently no studies investigating this topic for thoracolumbar (TL) spine trauma.

METHODS: A cohort of 100 patients who received procedures for TL trauma at a single center were retrospectively charted for predetermined potential RFs. T-tests and odds ratios determined correlative association between preset follow-up criteria and potential RFs. Chi-squared p-values assessed significance.

RESULTS: 81% of patients returned for initial follow-up, 61% returned for 2 or more appointments, and overall, the average was 2.28 follow-ups. The following RFs had statistically significant association with LTFU: having an MIS procedure (OR = 2.664, 1.445-4.914, $p = 0.003$), not having a laminectomy (OR = 3.519, 1.223-10.121, $p = 0.002$), having a longer length of stay in the hospital ($t = 3.089$, $p = 0.003$), having a diagnosed mental health issue (OR = 2.713, 1.213-6.069, $p = 0.018$), and having a non-emergent TL procedure (OR = 1.388, 0.975-1.975, $p = 0.011$). A strong predictor for long-term follow-up was having a PCP (OR = 2.454, 1.143-5.268, $p = 0.027$). Of note, age, sex, race, smoking, and substance use were not significantly associated with LTFU.

CONCLUSION: The results offer an interesting analysis and addition to characterizing the patients who follow-up after trauma procedures. This study provides a foundation for future studies to investigate TL trauma follow-up RFs and other trauma subspecialties with larger cohorts. A long-term goal with this area of research is to provide these RFs as guidance to surgeons on procedural choices when a patient presents for trauma intervention.

Comparing Gait Measurements of Involved and Uninvolved Sides Preoperatively in Patients with Lower Extremity Pathology Using the Stridelink Wearable Gait Measuring Device

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BACKGROUND: Gait analysis is an effective tool for evaluating the functional outcomes of lower extremity surgeries. Utilizing the Stridelink wearable gait measuring device, we aim to capture precise and objective gait metrics, providing a comprehensive assessment of gait asymmetry. By comparing these measurable parameters, we seek to better understand the impact of lower extremity conditions on gait dynamics and contribute valuable insights into preoperative functional assessments.

METHODS: Gait measurements were collected preoperatively from patients undergoing lower extremity procedures using the Stridelink wearable gait measurement device. Quantitative measurements, including involved and uninvolved foot stride, stance, and swing time were collected. Descriptive statistics were generated to assess the means and standard deviations of the cohort. A Shapiro-Wilks test was performed followed by an independent t-test to compare stride, stance, swing, and step measures between involved and uninvolved sides. All statistical analyses were conducted using Python with the appropriate statistical libraries. Significance was set at $p < 0.05$.

RESULTS: A total of 48 subjects were included for analysis (average age 55.9 years; 13 men, 35 women). Paired t-tests revealed significant differences between the involved and uninvolved sides for stride time ($t=-2.05$, $p=0.046$), stance time ($t=-4.47$, $p<0.0001$), and swing time ($t=3.83$, $p=0.0004$). The step count showed a near-significant difference ($t=-1.94$, $p=0.058$). These findings indicate notable asymmetries in pre-operative gait characteristics between involved and uninvolved sides.

CONCLUSIONS: The Stridelink wearable device was found to effectively identify the significant differences in gait measurables such as stride, swing, and stance times between patients' involved and uninvolved sides. Using these data we will further explore variation in gait measurements that arise due to different lower extremity pathologies.

Validation of the Cubital Tunnel Syndrome 6 (CuTS-6) Diagnostic Criteria

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BACKGROUND: Cubital Tunnel Syndrome (CuTS) is the second most common peripheral mononeuropathy. Clinical examination and diagnostic testing for CuTS have variable sensitivities and specificities. Six criteria have been proposed as a potential diagnostic tool for CuTS. These criteria include: 1) paresthesias in ulnar nerve distribution, 2) symptoms precipitated by increased elbow flexion/positive elbow flexion tests, 3) positive Tinel sign at the medial elbow, 4) atrophy/weakness/ late findings (eg, claw hand of the ring/small finger) of ulnar nerve-innervated muscles of the hand, 5) loss of two-point discrimination in ulnar nerve distribution, and 6) similar symptoms on the involved side after successful treatment on the contralateral side.

METHODS: 20 patients with CuTS, confirmed by ultrasound (US) and nerve conduction studies (NCS), underwent testing for the CuTS-6 criteria. The number of CuTS-6 criteria met in each cohort along with the US and NCS findings will be used to calculate sensitivity and specificity of the CuTS-6 criteria, as compared to control groups.

RESULTS: In the CuTS cohort, 14 patients (70%) met three or more criteria. 18 (90%) had positive US findings for CuTS with an average cross-sectional area of the ulnar nerve at 10.9 mm². 15 (75%) had reduced conduction velocity of the ulnar nerve at the elbow. Of the cohort, all 20 patients (100%) met criteria number one, 18 (90%) met criteria three, and 10 (50%) met criteria five. 4 (20%) patients had positive CuTS-6 criteria with positive US findings but negative NCS findings. Data from the control group is currently pending for comparison.

CONCLUSION: Sensitivity and specificity of the CuTS-6 criteria was not calculated as compared to the control group; however, early data is promising that these criteria have high correlation with current objective diagnostic criteria. More data is currently being collected and a prospective registry is being created for further studies on the CuTS-6 criteria.

Characterizing 30-Day Readmission in Patients Undergoing Autologous Breast Reconstruction with DIEP Flap

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BACKGROUND: Advancements in microsurgical procedures and adoption of enhanced recovery after surgery protocols have led to improvements in free flap breast reconstruction. There is currently minimal data on hospital readmission in free flap breast reconstruction patients. The objective of this study is to identify individual and surgical risk factors associated with hospital readmission in patients undergoing autologous breast reconstruction.

METHODS: A retrospective chart review was conducted on patients who underwent autologous breast reconstruction with DIEP flap between 2015 and 2023. Patients who experienced readmission within 30 days of surgery were identified. Potential risk factors were categorized as preoperative, operative, or postoperative. Univariable and multivariable regression were employed to determine risk factors for readmission. Variance inflation factor (VIF) was < 3.0 for all variables, ensuring the absence of multicollinearity. P-values ≤ 0.05 were considered significant.

RESULTS: A total of 624 patients were reviewed for factors associated with increased readmission rates. Our study observed a readmission rate of 16.3%, significantly higher than the literature-reported range of 4.5-6.5%. Increased BMI ($p=0.034$) and smoking history ($p=0.049$) were identified as independent risk factors for hospital readmission in this population. Other risk factors showed significance in univariable analysis but failed to maintain association in the multivariable model.

CONCLUSIONS: Key findings indicate that preoperative factors such as BMI and smoking status should be carefully considered to reduce readmission. These data suggest that DIEP flap patients meeting these criteria may benefit from increased preoperative planning. Implementing prehabilitation programs targeting associated factors for readmission, BMI risk stratification, and the development of predictive scores could benefit patients undergoing breast reconstruction and warrants further exploration.

Assessing Caregiver Burden and Mental Health in Dementia Care: Insights from the Outpatient Geriatrics Clinic at Grady Memorial Hospital

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BACKGROUND: Dementia encompasses progressive diseases impacting memory and judgment, often requiring a caregiver to complete daily tasks. This caregiving can impose significant stress, leading to negative health outcomes for both the patients and caregivers. We aim to assess the caregiver burden at Grady's Geriatric Clinic and the Brain Center to implement a program addressing the caregivers' social and mental needs.

METHODS: Caregivers of patients with varying stages of dementia at Grady's Geriatric Clinic were referred to assess caregiver burden using four standardized screening tools: BRIEF Health Literacy, PHQ-9, GAD-7, and BFSC-s. Caregiver burden, health literacy, and mental health were also assessed. Data, including demographic details and qualitative impacts on financial and overall health, were collected via telephone interviews and analyzed descriptively.

RESULTS: A total of 13 caregivers were assessed. Data on patients: mean age 62 years old, 12 identifying as African-American, educational level: 6 completed high school. The mean BRIEF score was 16, reflecting marginal health literacy, while the average BFSC-s score of 15 indicated high caregiver burden. Twelve (92%) caregivers experienced depression, ranging from minimal to moderate, and 5 (38%) had probable anxiety disorders. Open-ended responses revealed that caregiving affects overall well-being and financial health, with many caregivers reporting reduced earnings and needs for respite, meal assistance, or assisted living resources.

CONCLUSIONS: The findings from the new caregiver program at Grady highlight high caregiver burden for those caring for dementia patients. To provide comprehensive care, it is crucial to address the care network and tailor interventions to the social needs of caregivers. These results suggest that further research is needed to determine if such interventions can reduce caregiver burden and improve patient health outcomes.

Oxygen-Ejection Fraction Values of Cerebral Microbleeds, Their Surrounding Tissue, and Contralateral Healthy Parenchyma – Do CMBs Reflect Tissue Metabolism?

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BACKGROUND: Cerebral microbleeds (CMBs) are a form of small vessel disease found in the microvasculature of the brain. Much research has been done on the prevalence, risk factors, and associated conditions of CMBs but their underlying pathophysiology remains somewhat of a mystery. In particular, it is unknown if CMBs damage parenchyma, or if they reflect tissue metabolism.

METHODS: A cohort of 191 patients with dementia were imaged. Susceptibility-weighted, quantitative-susceptibility mapping (QSM), and oxygen-ejection fraction (OEF) images of their brains were obtained. The susceptibility-weighted and QSM images were obtained to localize the CMBs. OEF images were obtained because of their utility in measuring tissue metabolism, specifically how much oxygen is extracted from the parenchyma at a single point. Regions of interest (ROI) were placed on OEF images over the CMB, on 4 points directly surrounding the CMB, and on the contralateral side of the brain.

RESULTS: Of the 191 in the cohort, 75 had CMBs. 8 participants were excluded because of the proximity of their CMBs to ventricles or the skull. Among the 40 remaining subjects, the average of the ROIs over the CMB, the parenchyma surrounding CMBs, and the contralateral parenchyma were compared with a t-test. There was a significant difference between the OEF intensity over the CMB in comparison to the parenchyma surrounding the CMBs ($p < 0.01$). There was no significant difference between the OEF intensity of the CMB and the contralateral parenchyma, or the parenchyma surrounding the CMB and the contralateral parenchyma.

CONCLUSIONS: The results of this study indicate that there is an alteration in tissue metabolism in CMBs when compared to parenchyma surrounding CMBs. These alterations provide evidence that there is indeed damage to neural tissue.

Rare Transformation of Essential Thrombocythemia to Chronic Myeloid Leukemia: A Case Series

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BACKGROUND: While essential thrombocythemia (ET) commonly evolves into myelofibrosis (MF), its transformation into CML is rare and presents challenges. This abstract discusses three cases of elderly patients initially diagnosed with ET who later developed CML.

CASE 1: A 74-year-old man with prostate cancer and recurrent venous thromboembolism (VTE), diagnosed with JAK2 V617F mutation ET. Initial bone marrow biopsy showed hypercellular marrow with megakaryocytic hyperplasia and reticulin fibrosis. After three years, he presented with splenomegaly, elevated WBC (18,000-109,000 cells/ μ L), LDH (1021 U/L), uric acid (7.1 mg/dL), platelets (607,000/ μ L). Bone marrow biopsy confirmed CML with BCR/ABL translocation. He was treated with dasatinib, ruxolitinib, and hydroxyurea.

CASE 2: A 71-year-old female with breast DCIS and hypertension, diagnosed with JAK2 V617F mutation ET after elevated platelet counts (584,000/ μ L) and splenomegaly. She was treated with Aspirin. Ten years later, she presented with extreme fatigue, weight loss, early satiety, and dyspnea. Labs showed elevated WBC (141,000 cells/ μ L) and platelets (557,000/ μ L). A blood smear showed myeloblasts and basophilia. Bone marrow biopsy confirmed CML with t(9;22). She achieved remission on nilotinib but later needed ruxolitinib and a BET inhibitor due to severe fibrosis.

CASE 3: A 60-year-old male with diabetes and chronic kidney disease, diagnosed with ET with a platelet count of 1 million. He was treated with anagrelide and hydroxyurea, with JAK2 V617F mutation confirmed. Fifteen years later, he developed post-ET myelofibrosis, treated with darbepoetin and ruxolitinib. Ten years later, his WBC rose from 20.0 to 78.9, and BCR-ABL PCR confirmed CML. He was treated with imatinib

CONCLUSIONS: These cases highlight the rare transformation from ET to CML, suggesting a potential link to the JAK2 V617F mutation. Further research is needed to understand this transition and explore ways to prevent CML progression in ET patients.

Confronting Adolescent Chlamydia: Investigating Sociodemographics of Chlamydia Prevalence in Georgia Department of Public Health District 2

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BACKGROUND: Chlamydia is a very common sexually transmitted infection (STI) that can lead to serious reproductive and health complications if left untreated. It is the most frequently reported bacterial infection in the United States, with young adults being the most affected age group.

METHODS: This study analyzed chlamydia cases from 2018-2022 among adolescents aged 10-19 in the 13 counties of the Georgia Department of Public Health (GA DPH) District 2. Cases were reported to the State Electronic Notifiable Disease Surveillance System (SENDSS) of the GA DPH. The Online Analytical Statistical Information System (OASIS) was used to collect the racial/ethnic group population data from GA DPH District 2.

RESULTS: The average age of adolescents diagnosed with chlamydia decreased over this 5-year period, with females contributing to most of the documented cases. Meanwhile, the number of reported cases increased. Racial/ethnic group analysis showed the highest rates were among the non-Hispanic Black population followed by the Hispanic population.

CONCLUSIONS: Possible contributing factors to the trends seen in the past 5 years may include decreased use of condoms, lack of sex education, social stigma around sexually transmitted infection (STI) testing, and increased rates of sexual activity. Because of its rising prevalence and associated health risks, chlamydia remains a significant public health concern in Georgia. The decreasing average age of diagnosed patients and increasing case numbers underscore the need for comprehensive outreach activities, such as collaborative sex education with public schools, free screening clinics, and accessible treatment services.

Cracking Down on Colorectal Cancer: Elevating the Frequency of Completed Colorectal Cancer Screening in an Outpatient Clinic in Athens, Georgia

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BACKGROUND: Colorectal cancer (CRC) is the second leading cause of cancer-related deaths in both men and women in the United States in 2024. Because of this drastic occurrence, it is imperative that primary care clinics throughout the United States encourage all eligible patients to undergo CRC screenings to prevent potential deaths from colorectal cancer diagnoses. This study aims to evaluate the effectiveness of various interventions designed to increase CRC screening rates at the Piedmont Athens Clay Community Care Clinic in Athens, GA.

METHODS: The three CRC tests used in this study were the fecal immunochemical test (FIT)/fecal occult blood test (FOBT), Cologuard, and colonoscopy. To increase screening rates in this outpatient clinic, primary care physicians (PCPs) were encouraged to implement interventions, such as streamlined FIT test, screening education for nursing staff, and team huddle reminders, to increase the frequency of colorectal screenings ordered and resulted from eligible patients.

RESULTS: Analysis revealed an increase in CRC screening rates from 33.6% pre-intervention to 46.5% post-intervention, indicating a noticeable improvement in the number of screenings conducted. The results suggest that these interventions were effective in increasing CRC screening rates in the clinic.

CONCLUSIONS: Given their potential to enhance early detection of CRC, implemented interventions should be considered in other clinics to improve overall screening rates.

Experiential Enrichment: Resident Physician Knowledge and Utilization of Continuous Glucose Monitors (CGMs) after Personal Use

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BACKGROUND: 38.4 million people in the United States suffer from diabetes. A continuous glucose monitoring device (CGM) is a tool that assists people with tracking their glucose levels. Qualifications for a prescription of a CGM device are once daily insulin usage or experience of a hypoglycemic event. Although the eligibility parameters have widened, physician prescriptions of CGMs have not changed.

METHODS: The aim of this study was to increase the amount of CGM prescriptions for eligible patients through an education intervention for resident physicians in the Piedmont Athens Regional Internal Medicine Residency Programs. This study was executed in three separate phases: Pre-Intervention, Intervention, and Post-Intervention. Pre-Intervention consisted of a survey measuring the knowledge of and attitudes towards CGM devices; 58 resident physicians responded. The Intervention phase included a practicum session and participants wearing a CGM device for the device's lifetime. Post-intervention included a second survey; 39 participants responded. This was a cross-sectional and single-center study.

RESULTS: The results from the survey reflected that 89% of resident physicians are more likely to prescribe CGM devices in the future. According to the raw data collected before and after the study, the average of prescriptions per physician increased by 33%.

CONCLUSIONS: Using the data from both surveys, as well as data from actual prescriptions of the devices, it was determined that CGM training increases the amount of CGM prescriptions for resident physicians.

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