

(CPP and PPP), characteristic impedance (Z_c), augmentation index, and forward pressure wave. Race-specific characteristic means and proportions were tested using Student's T- or Chi-square tests. After further sex stratification, significant variation in characteristics among sex within race were tested using nested ANOVA. RESULTS/ANTICIPATED RESULTS: Characteristics of the study group stratified by race were found to be similar. Vascular measures stratified by race revealed blacks to have significantly higher Z_c ($p = 0.03$) and PPP ($p = 0.03$) than whites. DISCUSSION/SIGNIFICANCE OF IMPACT: In this study of vascular hemodynamics in young black and white participants we found differences in Z_c and PPP. Findings suggest that differing relations between proximal aortic diameter and wall stiffness may contribute to the racial disparity in CVE in adults. This finding could offer an explanation to the beneficial effects of treatment modalities that target aortic stiffness in blacks.

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Comparing the Impact of Adding an Educational Video Presentation to Universal Self-Consent for Remnant Clinical Biospecimens: A Single Blind Randomized-Control Trial

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OBJECTIVES/GOALS: BURRITO is an efficient strategy that provides full disclosure in the electronic medical record of a patient's preference in real time. BURRITO uses printed materials only to inform patients and has a <50% rates of consent. We hypothesized that adding an informational video to the printed materials would increase donations. METHODS/STUDY POPULATION: This study was IRB-approved and was considered minimal risk. The BURRITO self-consent workflow process (Soares et. al, Biopreservation and Biobanking, IN PRINT) was developed in an outpatient cardiology clinic. In the same clinic, patients were randomized to receiving printed materials only (standard procedure) or the printed materials plus a 2.5-minute informational video (intervention) while waiting for the physician in the exam room. Randomization occurred at the level of the day in clinic. Patients were blinded to the nature of the study. Following the presentation of information, the patient's decision on consent for donation was documented in the electronic record by ancillary clinical staff. Rates of consent were analyzed by a statistician not involved in the experiment and after completion of trial. RESULTS/ANTICIPATED RESULTS: Thirty-five clinic days were randomized to either intervention (17 days) or standard (18 days), and a total of 255 patients decided during their visit to either "opt-in" or "opt-out" to donating remnant biospecimens for future research. One hundred patients opted to defer deciding (28%). No significant demographic differences were noted between the study arms. The rate of consent was 73% vs. 58% in the intervention group and the control group, respectively (p -value = 0.014). This represents an increase in the odds of consenting with an informational video by 96% (OR = 1.96, 95% CI = 1.15 to 3.34). DISCUSSION/SIGNIFICANCE OF IMPACT: This is the first randomized trial to show that an informational video with printed materials is superior for when patients are self-consenting to opt-in for clinical remnant biospecimen donation. This result adds to the evidence that the BURRITO process plus video (BURRITOV) is an effective approach for biospecimen universal consenting.

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Consistent Differences in Lumbar Spine Alignment Between Low Back Pain Subgroups and Sexes during Clinical and Functional Sitting Tests*

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OBJECTIVES/GOALS: Test the validity of a system for subgrouping people with CLBP by comparing lumbar spine alignment in two CLBP subgroups and sexes during clinical tests of maximum flexed and extended sitting and a functional test of preferred sitting. METHODS/STUDY POPULATION: Using the Movement System Impairment classification system, 154 participants with CLBP were subgrouped based on the predominant direction of altered movement and alignment patterns and symptoms during a standardized examination. Participants performed a functional test of preferred sitting followed by clinical tests of maximum flexed and extended sitting in random order. Reflective markers were placed superficial to T12, L3 and S1 spinous processes. 3D marker co-ordinate data were collected using an 8 camera motion capture system. Sagittal plane lumbar curvature angle (LCA), defined as the angular distance between T12, L3, and S1 landmarks was calculated for each test. A three-way mixed effect ANOVA model was used to examine the following effects: test, subgroup, sex, test*subgroup, test*sex, subgroup*sex. RESULTS/ANTICIPATED RESULTS: Test: Lumbar alignment patterns were different for flexed [LCA = 7.4° (6.1, 8.7)], extended [LCA = -22.6° (-23.9, -21.3)], and preferred [LCA = -3.8° (-5.2, -2.5)] sitting tests. LBP subgroup: Rotation-extension [LCA = -7.5° (-8.7, -6.3)] had more extended lumbar alignment than rotation [LCA = -5.2° (-6.2, -4.2)]. Sex: Women had more extended lumbar alignment [LCA = -10.3° (-11.2, -9.3)] than men [LCA = -2.5° (-3.7, -1.2)]. Test*sex: The difference in lumbar alignment between women and men was smaller during the flexed sitting test [women = 4.2° (2.5, 5.9), men = 9.9° (7.8, 12.1)], compared to extended [women = -27.5° (-29.2, -25.8), men = -17.0° (-9.2, -14.8)] and preferred [women = -7.4° (-9.1, -5.8), men = -0.3° (-2.5, 1.8)]. The test*subgroup ($p = 0.84$) and subgroup*sex ($p = 0.87$) interactions were not significant.

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Cumulative Childhood Trauma Load Across Race in Individuals with Alcohol Use Disorder

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OBJECTIVES/GOALS: Our objective was to investigate racial differences in experiencing multiple categories of childhood trauma (CT) and the differential impact on alcohol use in individuals with alcohol use disorder (AUD). We hypothesized that there would be a differential additive effect of CT categories endorsed and drinking behaviors between racial groups. METHODS/STUDY POPULATION: Participants were recruited through the NIAAA screening protocol where they completed alcohol-related assessments including a 90-day Timeline Followback (TLFB) and the Alcohol Use Disorder Identification Test (AUDIT). Structured Clinical Interviews for DSM disorders were conducted to identify participants with lifetime alcohol dependence (DSM-IV) or AUD (DSM-5) (N = 1152).

Participants self-identified as Black or White completed the Childhood Trauma Questionnaire (CTQ) which assesses 5 types of CT: emotional abuse, physical abuse, sexual abuse, physical neglect, and emotional neglect, and were classified into 3 CT groups: no trauma, 1 type of trauma, and 2+ types of trauma endorsed. RESULTS/ANTICIPATED RESULTS: For Black participants (N = 583), 21.6% experienced no trauma, 21% experienced 1 type, and 57.4% experienced 2 or more types, with the most common being physical abuse and emotional neglect. For White participants (N = 569), 32.1% experienced no trauma, 20.6% experienced 1 type, and 47.3% experienced 2 or more types, with the most common being emotional neglect and emotional abuse. There were significant associations between CT groups, TLFB, and AUDIT measures. For Black participants, AUDIT-Harm and AUDIT Total were significantly different across the 3 CT groups (all p values <0.05). For White participants, Heavy Drinking Days was significantly different across the 3 CT groups (p = 0.028), with trends for AUDIT-Harm (p = 0.061) and AUDIT-Dependence (p < 0.065). DISCUSSION/SIGNIFICANCE OF IMPACT: In individuals with AUD, there were significant positive associations between the number of CT categories endorsed and alcohol use across race, suggesting a cumulative effect of CT on risky alcohol use. Future work includes exploring personality and behavioral mediators of the relationship between cumulative trauma load and drinking.

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Developing a predictive tool to detect peripheral artery disease (PAD): Examining patient-reported symptoms in ischemic versus non-ischemic conditions (PREDICT PAD)*

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OBJECTIVES/GOALS: Objectives: The study goal is to identify discriminating symptom characteristics of PAD versus non-ischemic conditions to improve recognition. Just as nausea, back, and jaw pain were once thought to be unrelated to myocardial infarction and coronary artery disease, patient-reported symptoms of PAD are frequently overlooked as being a sign of PAD. METHODS/STUDY POPULATION: Methods: Using a prospective de novo population-based cross-sectional design we will link symptom descriptors to PAD disease status using diagnostic testing in individuals who report lower extremity or buttock symptoms (n = 100). Symptom descriptors will be obtained via questionnaires and structured interviews will be completed pre and post physical function tests. Using near infrared spectroscopy, we will measure calf muscle tissue oxygenation levels to further differentiate ischemic vs. non-ischemic symptoms during exercise. The primary outcome will be the diagnostic accuracy of patient-reported symptoms which discriminate between PAD and non-PAD conditions. Positive predictive value and accuracy will be calculated using receiver operating characteristic (ROC) curve and chi-square analysis. RESULTS/ANTICIPATED RESULTS: Results: Previous studies from which symptom descriptors have been obtained were from patients with known PAD, of which 85-88% of participants were male.¹⁻² Seventy-six percent of this sample thus far is female. Nationally, PAD prevalence is 20% in those over the age of 70 years, however 58% of our study participants tested positive for PAD (via ankle brachial index test).³ The most commonly reported symptoms of PAD are “numbness” and “aching” vs. those without PAD most commonly reporting

“cramping”. These results trend against our current understanding of PAD symptomatology, which is that cramping is the cardinal symptom of PAD.⁴ Preliminary analysis suggests that balance is a sensitive and specific predictor of PAD. Recruitment is ongoing, therefore results are preliminary. DISCUSSION/SIGNIFICANCE OF IMPACT: Translation of the results will impact primary care and community health. Improved disease detection will position providers to refer patients to exercise therapy before symptoms become disabling. Understanding the diagnostic accuracy of symptoms prepares us to apply novel techniques, such as statistical modeling, to systematically predict PAD.

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Development of a play-based coaching intervention to improve quality of life and wellbeing for mothers with cancer and their young children

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OBJECTIVES/GOALS: Mothers with cancer who have young children experience life disruptions when treatment procedures limit mother-child interactions. This study proposes the development of an intervention combining the Coaching approach with the Model of Playfulness to improve Quality of Life (QoL) and wellbeing of these patients and their young children. METHODS/STUDY POPULATION: This embedded mixed method study will be guided by the two initial phases of the ORBIT Model for the development of behavioral interventions for patients with chronic diseases. Participants will be mothers in the post-acute treatment stage of cancer (n = 6) and their children who are between 2 years and a half and 6 years, 11 months. Phase 1A, Definition, builds on qualitative data from a concurrent study exploring the experiences of mothers with cancer playing with their young children. As part of this phase, we will develop a play-based coaching intervention. In Phase 1B, Refinement, we will employ in-depth semi-structured interviews and standardized tools to evaluate acceptability of the intervention and preliminary outcomes. This will serve to further refine the intervention. RESULTS/ANTICIPATED RESULTS: Phase 1A will yield a plan for the intervention and data to enhance its initial implementation. Phase 1B will yield data, from the perspective of the mothers, about acceptability of the intervention procedures (e.g., delivery strategy, place for the intervention, time devoted, and outcome measures). This will enable modifications to the intervention. Additionally, Phase 1B will yield preliminary data from specific QoL and wellbeing measures. For the mother, data about anxiety and depression symptoms, stress levels, and parental self-efficacy; for the child, emotional and behavioral indicators; for both: playfulness. DISCUSSION/SIGNIFICANCE OF IMPACT: This study entails the development of an intervention to enhance QoL and wellbeing of mothers with cancer and their children. Play moments as the centerpiece of the intervention, represent an innovative approach. Findings will guide the design of future feasibility studies to advance the development of this outcome driven intervention.