

Joel Wells	Orthopaedic Surgery	Correlation Between Periacetabular Osteotomy Outcomes and Intraoperative Labral Tear Size	<p>Introduction: Hip dysplasia (HD) occurs when the acetabulum does not provide adequate coverage of the femoral head. HD causes a variety of pathologic changes to the hip through causing an asymmetric distribution of forces. The periacetabular osteotomy (PAO) is a common procedure to treat HD that involves correction and realignment. Because labral tears occur frequently in the setting of HD, many PAO candidates have labral tears. There have been multiple studies evaluating the advantages and disadvantages of repairing labral pathology concurrently with PAO. However, it is currently unknown what role the size of the labral tear has in this relationship.</p> <p>The primary aim of this study was to compare the patient reported outcome measures (PROMs) of PAO patients depending on the intraoperative labral tear size.</p>
James Thornton	Plastic Surgery	Retrospective Review: The extent of forehead flap elevation during second stage for nasal reconstruction	<p>Background: Reconstruction of nasal defects can be particularly challenging given the prominent subunits involved in the facial cosmesis. A popular method of reconstruction is through the paramedian forehead flap (PFF), which provides both excellent soft tissue coverage and cosmesis. Although the literature thoroughly describes the second stage (division and the inset stage) of the forehead flap procedure, there is no evidence of a safe ratio of the flap elevation to the nasal defect circumference to achieve the best favorable cosmetic outcomes. Given that the PFF is the most common interpolated flap used for the face, it is essential for facial surgeons to know a safe limit for the flap elevation to achieve the best second stage inset for a successful cosmetic reconstruction.</p>

			Hypothesis: Existing literature suggests that the flap can safely be elevated at the division and inset stage by over 50%. A safe yet cosmetically favorable ratio of the flap elevation to the nasal defect circumference will likely be in the range of 0.7-0.8.
Takeshi Yokoo	Radiology	Liver magnetic resonance spectroscopy (MRS) triglyceride characterization in the Dallas Heart Study (DHS): relationship with genetic variants, serum lipidomics, liver steatosis biomarkers, and visceral adiposity	Background Sequestration of body fat into subcutaneous and intra-abdominal (visceral) compartments influences metabolic outcomes. Visceral fat contains more immune cells and proinflammatory cytokines, is more metabolically active and sensitive to lipolysis with a greater propensity to generate free fatty acids. It is associated with hypertriglyceridemia, increased VLDL synthesis, liver insulin resistance and inflammation, and reduced HDL cholesterol, and more strongly predicts mortality (Tchernof et al., 2013; Browning et al., 2004; Chalasani et al., 2018; Ibrahim, 2009). Objective The purpose of this study is to examine adiposity in subjects of the Dallas Heart Study and extend the findings in the prospective, longitudinal Dallas Heart and Minds Study. We hypothesize that visceral adiposity increases with age and predicts the development of cardiovascular disease and metabolic syndrome.
Isaac Chan	Internal Medicine	Determining the impact of tumor exposed natural killer cells on healthy natural killer cells	BACKGROUND: Breast cancer is the most common cancer in women, and metastatic disease accounts for most breast cancer related deaths. Identifying risk factors for the onset and progression of metastatic breast cancer (MBC) can help us understand how to address and improve morbidity and mortality due to MBC. Large national databases, such the Surveillance, Epidemiology, and End Results (SEER) Program are limited in their ability to capture granular details from patients' cancer histories.

			<p>OBJECTIVE: The Dallas Metastatic Breast Cancer Study (DMBCS) is a clinical database established at a single academic medical system to track patient demographics, associated pathology, treatments, and other variables to improve outcomes for patients with MBC.</p>
Tony Babb	Internal Medicine	<p>Exertional dyspnea and respiratory sensations during exercise in patients with heart failure with preserved ejection fraction: impact of phenotype</p>	<p>Introduction: Heart failure with preserved ejection fraction (HFpEF) has been increasingly categorized as a heterogenous syndrome based on central (e.g., cardiac and respiratory) and/or peripheral (e.g., vascular and muscular) oxygen limitations. Regardless of the abnormality, dyspnea on exertion (DOE) is a hallmark symptom. However, is unknown if central and peripheral abnormalities can elicit different respiratory sensations. We hypothesized that respiratory sensations felt during exercise would differ between HFpEF patients with central abnormalities and those with peripheral abnormalities.</p>
DaiWai Olson	Neurology - Neuro Critical Care	<p>Pilot of questionnaire survey regarding patient preferences and values towards antithrombic therapy in secondary stroke prevention</p>	<p>Stroke is the 5th leading cause of death in the United States and approximately 26% of individuals who have had a stroke will have a recurrence within five years [1, 2]. Consequently, the prevention of a secondary stroke is essential to the medical management of stroke patients. There is a need, however, to establish an evidence-based approach that informs specific antithrombotic therapy selection for each patient that accounts for the potential bleeding risk versus the benefit of secondary stroke prevention, in addition to individual patient values. The purpose of this study is to pilot test a survey instrument used to capture the willingness of ischemic stroke survivors to take antithrombic medications based on the therapeutic benefit and the risk of major bleeding.</p>

<p>Avneesh Chhabra</p>	<p>Musculoskeletal Radiology</p>	<p>What incremental value does diffusion-weighted imaging add to the diagnosis of osteomyelitis?</p>	<p>Background: Osteomyelitis (OM) is an infection of the bone associated with inflammatory destruction of bone [1]. The average annual incidence of OM has gradually increased from 1969 to 2009 to 24.4 cases per 100,000 people [2]. Diabetic foot osteomyelitis (DFO) develops in approximately 20% of patients with foot infections [3]. Diabetic foot infections cost Medicare about \$13 billion per year, with DFO being the highest driver, necessitating long-term antibiotic therapy and/or surgical intervention. The 3-year mortality rate for patients who received amputations approaches 50%. Thus, early diagnosis of DFO is vital to prevent the need for amputation. Objective and Hypothesis: The American College of Radiology appropriateness criteria for suspected osteomyelitis or soft tissue infection establishes MRI as the modality of choice for suspected infection [6]. Diffusion-weighted imaging (DWI) is an MRI sequence that is useful for determining the presence of abscess, inflammation, and necrosis [7]. Despite this, the ACR appropriateness criteria do not discuss what value, if any, DWI might add to diagnosing soft tissue infections. We hypothesize that DWI adds incremental value to diagnostic accuracy of OM compared to conventional MRI.</p>
<p>Michael Huo</p>	<p>Orthopaedic Surgery</p>	<p>Conventional and Novel Techniques for Fixation of Periprosthetic Femur Fractures After Total Knee Arthroplasty: A Systematic Review</p>	<p>Background: Periprosthetic femur fracture (PFF) is a devastating complication after total knee arthroplasty (TKA). Fracture fixation is one method to treat post-TKA PFFs. Conventional techniques for fracture fixation include retrograde intramedullary nail (RIN) and locking plate (LP) fixation. Recently, the dual plating (DP) and the nail-plate combination (NPC) techniques have emerged. While studies have compared the efficacy of RIN to LP fixation,</p>

			<p>the other fixation techniques have not been compared with one another. Objective: The purpose of this study is to review the existing literature on the outcomes of treating TKA PFFs with different fixation types. We hypothesize that the newer fixation techniques are more efficacious when compared with the RIN and the LP fixation.</p>
Nitin Jain	Physical Medicine and Rehabilitation	Risk Factors Associated with Glenohumeral Joint Osteoarthritis	<p>Background: Glenohumeral osteoarthritis (GH OA) is a condition defined by progressive loss of articular cartilage in the joint space, which causes pain, joint-space narrowing, and decreased function. Osteoarthritis (OA) is estimated to impact at least 25 million people annually in the US alone. While determining the exact prevalence of GH OA is difficult, some have shown that 16.1-20.1% of adults older than 65 have radiographic evidence of GH OA. There is evidence that the incidence of GH OA increases with age, female sex, and prior shoulder trauma. However there is paucity of studies comparing multiple risk factors associated with GH OA based on a large cohort of patients in a single population. Therefore, the purpose of this study was to compare and quantify the effect of multiple risk factors for the development of GH OA in a large cohort of patients. Hypothesis: We hypothesized that increasing age, male sex, prior shoulder trauma, work history, and medical comorbidities would be associated with GH OA.</p>
Nader Pouratian	Neurological Surgery	Differing Roles of High and Low Beta Sub-Bands in Parkinson's Disease Movement Disorders	<p>Background It has been shown that an increase in beta range (12-30 Hz) activity in the cortico-thalamo-basal ganglia network is largely responsible for many of the movement disorder symptoms associated with Parkinson's disease. Recently, studies have shown that</p>

			<p>rather than a continuous level of activity throughout this entire range, the wave activity is better characterized by a bursting pattern of "bubbles" that can be localized to either the high or low range of the beta spectrum.</p> <p>Objective The objective of this study is to use a time-frequency representation of brain waves to identify the frequency range, duration, and temporal frequency of beta bursts, and to correlate these wave characteristics with clinical symptom assessments.</p>
Angeline Wang	Ophthalmology	Clinical characteristics and surgical outcomes of patients undergoing pars plana vitrectomy for complications of proliferative diabetic retinopathy	<p>Background: Diabetic retinopathy is one of the leading causes of blindness among working age adults in the United States. The complications of advanced or proliferative diabetic retinopathy, particularly tractional retinal detachment, and persistent vitreous hemorrhage, require surgical intervention and can be challenging to treat. While pars plana vitrectomy has been the mainstay of surgical treatment of proliferative diabetic retinopathy for many years, there is debate about surgical technique, timing of surgery, and need for and timing of adjuvant therapies. Parkland Hospital treats a large number of patients with advanced diabetic eye disease and a large comprehensive review of these patients would contribute to the understanding and management of this condition.</p> <p>Hypothesis: Administering an Anti-VEGF agent such as bevacizumab will improve post operative visual outcomes as it will decrease improper reactive vascular growth because of the surgery.</p>
Heidi Jacobe	Dermatology	Advanced Magnetic Resonance Imaging and 3D Stereophotogrammetry	<p>Background Morphea is an orphan disease characterized by sclerosis and inflammation of the skin and subcutaneous tissue. In addition to affecting the skin, morphea has extracutaneous manifestations including</p>

		<p>on Craniofacial Morphea patients with neurological involvement</p>	<p>neurologic findings, which are poorly understood. Existing studies consist of retrospective case reports and series in children (Chiu et al 2012, Seese et al 2020). Critical knowledge gaps hindering patient care include the demographic and clinical findings associated with the presence of neurological changes, the clinical implications of brain imaging changes, and the pathology of the observed brain change. The objective of this pilot study is to prospectively determine the clinical, demographic, and radiologic characteristics of neurologic involvement in morphea patients using advanced Magnetic Resonance Imaging (MRI) and 3D stereophotogrammetry.</p> <p>Hypothesis We hypothesize neurological manifestations, as determined by imaging results, will be unrelated to the activity and severity of cutaneous disease, as determined by validated clinical outcome measures.</p>
Alexander Callan	Orthopedic Surgery	<p>Pathological Fractures in the Pediatric Population</p>	<p>Pathological fractures are defined as fractures that occur with minor injury or trauma that normally would not have characterized the type of fracture observed (Siddiqui et al., 2021). Most pathological fractures occur secondary to benign bone lesions, which are commonly found in long bones like the humerus and femur of skeletally immature individuals (Li, Ye, & Shu, 2021; Tomaszewski, Rutz, & Mayr, 2022; Canavese, Samba, &Rousset, 2016; De Mattos, Binitite, & Dormans 2012). The primary purpose of this study is to investigate the demographic and clinical factors affecting pathological fracture and healing of common benign lesions in long bones of the pediatric population at Children's Medical Center Dallas from January 2010 to December 2021.</p>

Romaine Johnson	Pediatric Otolaryngology	Socioeconomic Risk Factors and Perioperative Outcomes in Patients with Zenker's Diverticulum	<p>Background Zenker's diverticulum (ZD) involves the formation of a diverticulum in the triangle of Killian, between the inferior pharyngeal constrictor muscle and the cricopharyngeus muscle, due to increased intraluminal pressure and muscular weakness. This bulging pouch of mucosa, submucosa, and connective tissue can greatly affect the lives of those afflicted - leading to issues such as halitosis, regurgitation, aspirational pneumonia, and malnutrition. ZD was traditionally resolved through open diverticulectomy and cricopharyngeal myotomy. However, with the advent of endoscopic procedures, new approaches have been implemented with increasing frequency, such as endoscopy-guided stapler and carbon dioxide laser, among others. Despite innovation in the field, recurrences remain high and there is still very little research that explores socioeconomic risk factors and corresponding clinical outcomes broadly. Objective We are studying whether those living in more disadvantaged areas will be at greater risk for larger diverticulum and malnutrition at the time of the procedure. A second aim is to find which pre-operative risks will lead to a greater need for open surgery and higher rates of complications.</p>
Mamta Jain	Internal Medicine	Inpatient HCV testing at a safety-net hospital: Effects of COVID-19	<p>Primary liver cancers are among the top ten causes of cancer death in the United States, accounting for more than 27,000 deaths each year (1). The most important risk factor for this disease in the U.S. is chronic infection with hepatitis C virus (HCV) (2), which currently infects about 1% of the U.S. adult population (3). Unfortunately, even though hepatitis C can be cured in most patients who receive treatment (4), more than 4 out of 10 infected individuals are unaware of their infection (5). Appropriate</p>

			<p>HCV screening is, therefore, of great importance. The purpose of this study is to explore how inpatient HCV testing has changed as a result of the COVID-19 pandemic. We predicted that abnormal liver function tests caused by COVID-19 would have provoked an increase in inpatient HCV testing, but not necessarily a proportionate increase in the number of HCV cases identified.</p>
Benjamin Levi	Surgery	Fibrosis in Post-Tenotomy Treatment of Clubfoot	<p>Clubfoot is a multifactorial, idiopathic phenomenon resulting in mobility loss in pediatric populations. In approximately 80 to 90% of cases, a percutaneous Achilles tenotomy is required to correct the equinus contracture^{1,2}. A subset of clubfoot patients undergoing Achilles tenotomy heal with extensive fibrosis in the resected tendon and surrounding tissues. Here, we sought to understand the development of fibrosis in post-tenotomy treatment of clubfoot at the cellular level, through histology and through single cell RNA-seq (scRNA-seq).</p>
Kemp Kernstine	Cardiovascular and Thoracic Surgery	Does Robotic Thymectomy Improve Long-Term Outcomes in Patients with Nonthymomatous Myasthenia Gravis?	<p>Background: Myasthenia gravis (MG) is a chronic autoimmune disease, with a prevalence of about 20 per 100,000 in the U.S., that causes skeletal muscle weakness. While thymectomy, the resection of the thymus, has been a mainstay in the treatment of MG, not enough studies have assessed the differences in long-term outcomes between thymectomy approaches for nonthymomatous MG. Objective: To compare robotic and non-robotic thymectomy in terms of perioperative and long-term outcomes and show that the robotic approach is comparable or superior to other approaches, especially in the long-term for the treatment of nonthymomatous MG.</p>

Alexandra Callan	Orthopaedic Surgery	What are the outcomes of early development of lung metastases in soft tissue sarcomas?	Soft tissue sarcomas are a group of cancers that originate in tissues like muscle, fat, tendons, nerves, lymph vessels, blood vessels, and even the lining of the joints. These cancers can begin anywhere where these types of tissues are found but are mostly found in the arms, legs, chest, and abdomen. There are more than 50 subtypes of soft tissue sarcoma that exist and vary in age distribution. It can be challenging to diagnose tumors since they may be mistaken for other types of growth. This study aims to find the outcomes of the early development of lung metastases in soft tissue sarcomas. We hypothesize that early development of lung metastases results in a worse prognosis.
John Murala	Thoracic Surgery	30-year follow-up/outcomes of lung transplantation for cystic fibrosis - A single center experience	Lung transplants (LTx) is one of the leading treatment options for patients with end stage lung and heart disease, which often precipitates from preliminary diseases such as cystic fibrosis (CF), chronic obstructive pulmonary disease (COPD), interstitial lung disease, and pulmonary hypertension. However, there are still many pre-operative and post-operative factors that affect the progression and long-term outcomes of lung transplants that are not understood completely. Therefore, this study aims to examine all available CF and LTx patient and procedural data that are associated with post-op morbidity and mortality.
Anna Wani	Sleep Medicine	Achondroplasia and Obstructive sleep apnea (2 studies, one literature review and one chart review)	Objective: To determine the most used interventions for obstructive sleep apnea in children with achondroplasia and determine their efficacy as well as to highlight research gaps for future studies.

Al Aly	Plastic Surgery	Preference for Averaging in East Asian Faces: A Source of Potential Guidance in Aesthetic Plastic Surgery	Background Aesthetic surgery has become increasingly popular in East Asian countries. Despite evident regional developments, relatively little research has been done on the application of objective tools in guiding Ethnic Plastic Surgery in Asian patients. The evolutionary psychology theory of koinophilia, or love of average features, presented the basis for a solution to build a foundation for East Asian aesthetic standards. Objective We hypothesize that the composite face in a cohort will be viewed as significantly more attractive than their respective cohort. However, we also predict that based on a rater's preference for their cognitive average, there will be a significant difference in the rating between regional and ethnic subgroupings.
Cristina Thomas	Dermatology	Clinical Characteristics of Inpatients Admitted for Hidradenitis Suppurativa Flares	Hidradenitis suppurativa (HS) is an inflammatory skin condition associated with painful subcutaneous nodules that typically develop on the axillae, groin, buttocks, and inframammary region. We aim to better characterize the clinical characteristics of patients hospitalized for HS. Based on our anecdotal experience, we postulate that HS flares requiring hospitalization may be associated with fevers, leukocytosis, increased pain, and increased drainage from lesions. We also hypothesize that the presentation of HS flare patients can mimic septic shock, raising concern for infection and causing patients to be initially misdiagnosed with sepsis.
John Hulleman	Ophthalmology	Unbiased identification of clinically-approved drugs that promote HTRA1 production in retinal cells	Background: Age-Related Macular Degeneration (AMD) is the leading cause of blindness in the elderly population in both developed and developing countries. The pathogenesis of AMD involves a progressive degeneration of photoreceptor cells and retinal pigment epithelium

			<p>(RPE). This leads to a loss of structural integrity of the RPE layer and an eventual disruption of the photoreceptor cells. Introduction: The etiology of AMD is complex and multifactorial with age, race, family history, smoking, and sun exposure being common risk factors. Another main risk factor is genetic susceptibility. Genome-wide association studies (GWAS) have confirmed the association between AMD and genetic variations. It has been determined that variants in the 10q26 chromosomal locus (Chr10) confer the strongest genetic risk for AMD. Chr10 contains the HTRA1 gene encoding a secreted serine protease and extracellular chaperone which is thought to be the main force driving AMD risk. A recent study (Williams et al 2021, PNAS) found that HTRA1 expression in the RPE increases in normal healthy individuals but is refractive to change in patients with AMD. These results suggest that identifying ways to increase HTRA1 expression in the RPE over time may be a viable therapeutic strategy for patients with Chr10 directed AMD.</p>
Carlos Bagley	Neurological Surgery	T12 Plumb line Sagittal Vertical Axis (SVA) as an Intraoperative Measurement of Correction in Spinal Deformity Correction Surgery	<p>Adult spinal deformities are typically progressive and result from increasing disc degeneration and weakened stabilizing muscles of the spine that occurs as patients age. Some of the most common deformities of this type include adult primary degenerative scoliosis (ADS), in which the spine becomes misaligned and unstable along one or more of the three planes of spinal balance, or failed back syndrome where patients report a persistent lumbar spinal pain that has not been alleviated by previous surgical interventions. The severity of deformity is assessed preoperatively through upright, weight bearing</p>

			<p>radiographs that are reviewed for measurements of alignment such as pelvic incidence (PI), pelvic tilt (PT), sacral slope (SS), and sagittal vertical axis (SVA) as measured from the C7 or C2 plumb line. The plumb line SVA is one of the most common measurements utilized to evaluate preoperative severity of deformity and to compare to postoperative degree of correction. However, this measurement is difficult to review intraoperatively, and therefore the degree of correction cannot be evaluated until after surgery. The T12 plumb line SVA, a novel parameter of interest, can be used instead to assess correction more easily intraoperatively, and can give surgeons the opportunity fine tune correction while still operating. This study serves as a retrospective review of patient records and radiographs to evaluate the predictive value of intraoperative T12 plumb line SVA measurements when compared to preoperative measurement. We hypothesize that this will serve as a valuable intraoperative measurement that can successfully predict patient outcomes from deformity correction surgery.</p>
Joe Walter Kutz	Otolaryngology	Intratemporal vs Extratemporal Facial Nerve Involvement in Head and Neck Squamous Cell Carcinoma	<p>Introduction Squamous cell carcinoma (SCC) is the most common type of head and neck cancer. Perineural invasion (PNI), along the facial nerve/CN VII, is a rare occurrence in head and neck cancer patients. The facial nerve is responsible for all facial movement, partial hearing ability, and partial taste. It has two general segments, an extratemporal segment that starts outside of the stylomastoid foramen and an intratemporal segment, which is contained within the skull. The presence of PNI can portend a worse prognosis for the patient with regards to mortality and recurrence.</p>

			<p>Purpose There has been some investigation into the nature of perineurally invasive head and neck cancer, such as the sensitivity of MRI to detect PNI. However, a study comparing the demographics, histology, and clinical outcomes between intratemporal versus extratemporal PNI-positive head and neck cancer patients has never been done. To focus on a homogenous population, I chose to limit our cohort to only PNI-positive head and neck squamous cell carcinoma patients in this study.</p>
Caroline Park	Surgery	A Video-Based Approach to Enhance Medical Students' Trauma Clerkship Training	<p>Background: Surgical clerkship rotations are complex and fast-paced in nature, so an efficient and site-specific orientation is an important component of medical students' clerkship experience. Orientations may be delivered in a variety of modalities, including written documents, videos, and in-person instruction. This survey-based study aims to assess medical students' satisfaction with and areas for improvement in our recently adopted video orientation module for the trauma surgery rotation.</p>
David Greenberg	Internal Medicine	Kinetics and Spatial Determination of Antisense Antibiotics in <i>Pseudomonas aeruginosa</i> Biofilm	<p><i>Pseudomonas aeruginosa</i> is a bacterial species with the capacity to form robust biofilms; biofilms are structured communities of bacteria encapsulated by an extracellular matrix, protecting the bacteria from antimicrobial therapies. As <i>P. aeruginosa</i> can result in severe infections in immunocompromised patients (most notably patients with cystic fibrosis), the development of therapeutics that remain active in the biofilm setting will be a critical feature of new antimicrobial compounds. Peptide-conjugated phosphorodiamidate morpholino oligomers (PPMOs) are a novel antisense antimicrobial therapy, consisting of both an oligomer portion, targeting specific mRNA and preventing its translation, and a peptide that</p>

			<p>allows for cellular penetration. Interestingly, PPMOs have been shown to reduce biofilm and bacterial lung burden of <i>P. aeruginosa</i> in vitro and in vivo; however, the exact mechanism remains unknown. Here, we used a fluorescently labelled strain of <i>P. aeruginosa</i> (GFP-expressing) and a PPMO conjugated to the fluorophore Rhodamine to determine whether colocalization of PPMO within biofilm occurs via fluorescent confocal microscopy; biofilm was grown in Mueller-Hinton II growth medium. Understanding the topographical distribution of labelled PPMO within the <i>Pseudomonas</i> biofilm would help to elucidate the mechanism by which PPMO penetrates biofilm and the ultrastructural changes biofilm undergoes in the presence of PPMO. We hypothesize that the cationic-rich peptide in PPMOs causes charge disruption within the predominantly negatively charged biofilm, resulting in the biofilm's destruction.</p>
Benjamin Levine	Cardiology	Physical activity and the progression of coronary artery calcification	<p>Background: Physical activity (PA) has been shown to cause a dose-dependent reduction in risk for metabolic syndrome, heart failure, and cardiovascular disease (CVD)- and all-cause mortality, however a recent cross-sectional study of 21,768 men correlated high levels of PA (>3000 MET•min/wk) with higher levels of coronary artery calcium (CAC) of at least 100 AU, than were observed with lower levels of PA. Further study of the effects of PA on CAC level and its progression in men and women is needed to inform clinical recommendations related to PA. Objectives: To assess the association between within-person changes in PA and CAC, and to further determine whether PA level predicts the rate of CAC progression.</p>

Philippe Zimmern	Urology	Recurrent Urinary Tract Infections in Patients with Type 2 Diabetes Mellitus: A Systematic Review	Type 2 Diabetes Mellitus (T2DM) is a known risk factor for developing urinary tract infections (UTI). Our hypothesis was that T2DM is also a risk factor for recurrent urinary tract infections (rUTI). This review sought out to examine the available literature on rUTI in patients with T2DM and to identify significant gaps in knowledge in the field.
Avneesh Chhabra	Radiology/Orthopedic Surgery	Radiographic and MRI Findings in Great Trochantric Pain Syndrome - A Case-Control Study	<p>INTRODUCTION Greater trochanteric pain syndrome (GTPS) is a degenerative condition often described as lateral hip pain localized to the greater trochanteric region with or without clinical abductor weakness. It is associated with varying degrees of gluteal tendinopathies, tears, bursal inflammation, and hip abductor muscle dysfunction. The aim of this study was to evaluate radiologic differences among patients with clinically proven GTPS versus no GTPS. We hypothesize that GTPS patients will show larger enthesophytes and more severe gluteal tendon tears than those without stratified in two cohorts, the patients with available MRI and radiographs were included.</p>
Bradley Lega	Neurosurgery	The precuneus and the posterior cingulate cortex: successful memory encoding	<p>Background: The brain and its regions are comprised of a diverse set of neuronal pathways, many of which whose details remain unknown. Discovering what drives certain neuronal oscillations, where they come from, and where they propagate to can better inform us of many disease pathways, creating viable targets for drugs and surgery. My project focused on memory consolidation, a process that is crucial to human cognition and function, yet remains highly unknown in terms of the various interconnections and regions that come together to drive successful encoding. Objective: My data sought to answer the role of two brain regions, the posterior</p>

			cingulate cortex and the precuneus, in successful memory encoding. Specifically in regards to free recall.
Michael Huo	Orthopedic Surgery	Effect of supine versus lateral patient positioning on rate of favorable intramedullary nail placement.	<p>Background Hip fracture, a significant problem in the geriatric population, can be repaired with an intramedullary (IM) nail. This device features a screw driven through the femoral neck into the femoral head. Proper screw placement is important because the screw can penetrate through the femoral head post-operatively. Patients may be positioned supine or laterally during the operation, and some orthopedic surgeons believe lateral positioning affords more control over IM nail placement.</p> <p>Objective In the setting of intertrochanteric femur fracture repair with IM nail, it is hypothesized that lateral positioning of the patient confers a greater rate of favorable lag screw placement as compared to supine positioning.</p>
Nader Pouratian	Neurosurgery	Elucidating how Beta-Burst Suppression Modulates Information Transmission in Parkinson's Disease Patients	<p>(1) Background: Parkinson's disease (PD) is the second-most common neurodegenerative disorder worldwide, affecting 2-3% of the population 65 years and older. Although the cause of PD is unknown, its pathophysiology arises from the depletion of dopamine in the basal ganglia. The most critical deficit in PD involves neuronal loss in the substantia nigra. Subsequent decreased dopaminergic transmission in the striatum leads to basal ganglia dysfunction and reduced excitatory input to the motor cortex. Clinically, decreased motor cortex activity results in the presentation of symptoms such as bradykinesia, rigidity, and rest tremor. These symptoms are associated with synchronized, pathologic beta oscillation in the beta band (12-35 Hz) in the basal ganglia-thalamocortical (BGTC) motor network. However, a causal</p>

			<p>relationship has not yet been fully established. Nevertheless, deep brain stimulation (DBS) has been used to alleviate the motor symptoms of PD patients.</p> <p>Hypothesis: We hypothesize that the pathologic beta oscillations interfere with the motor network's functional connectivity, resulting in disruption of information transmission among nodes of the BGTC network.</p>
Carlos Bagley	Neurological Surgery	Proposed influences on cervical myelopathy surgical outcomes between two medical institutions	<p>Background Cervical myelopathy is age-related degeneration and compression of the cervical spinal cord [1]. Symptoms include deficits in motor and sensory function of the cervical nerve roots [2]. Research on cervical myelopathy is relevant especially in the United States as our population continues to age [3,4]. Surgery is the preferred treatment due to progressing deficits in function [5,6]. Studies have been done comparing outcomes between approaches in different age groups, however, demographic and socioeconomic influences have not been explored in the literature [7]. This chart review studies the Dallas patient populations seen at Parkland Hospital and the University of Texas Southwestern Medical Center for surgical treatment of cervical myelopathy. We investigated the severity of disease, demographics, and outcomes of surgery to see if there are differences in outcomes based on socioeconomic status or other variables. Due to the implications of a safety net county hospital versus a university institution, we hypothesize that Parkland patients may present later and may show worse surgical outcomes while CUH/ZL patients will have better outcomes.</p>

Isaac Chan	Internal Medicine	Functional Characterization of Copy Number Amplified Genes in Metastatic Breast Cancer	<p>Background: Breast cancer is the most common cancer in women: there are 290,560 new diagnoses of breast cancer and 43,780 deaths due to breast cancer in the US alone each year. Patients with metastatic disease have a median survival time of 30 months and 5-year survival rate of 27%, compared to a 90% 5-year survival rate for breast cancer overall. Understanding how breast cancer metastasis forms will help lead to novel treatment strategies for patients with metastatic disease, for the purpose of improving their prognosis. Hypothesis: cBioPortal is an open access resource for cancer genomics and has compiled data from many studies assessing copy number amplifications in metastatic and primary breast cancer. We hypothesized that copy number amplifications enriched in metastatic disease over primary disease may contribute to their metastatic phenotype and may be potential targets to treat metastatic disease.</p>
Benjamin Chong	Dermatology	Frequency and Risk Factors for Coexisting CLE Subtypes	<p>Background/Objectives: Cutaneous lupus erythematosus (CLE) is an autoimmune disease that can be classified into acute (ACLE), subacute (SCLE), or chronic subtypes (CCLE) according to clinical features, duration of cutaneous lesions, histological changes in skin biopsies, and laboratory abnormalities. Prior studies of CLE patient cohorts have primarily classified the subtypes of CLE as distinct entities. Among the limited existing literature that has examined the prevalence of having coexisting CLE subtypes, the patient populations have predominantly been based in Europe, with limited demographic and clinical data collected for this cohort. This study will assess the prevalence and risk factors for having coexisting CLE subtypes. We hypothesize that a minority of CLE patients</p>

			will present with coexisting subtypes, with the presence of systemic lupus erythematosus (SLE) being a significant risk factor.
Karanjit Kooner	Ophthalmology	Vascular Morphology of the Optic Nerve and Retina in Glaucoma	Background Glaucoma, the second leading cause of blindness, affects over 80 million patients worldwide, including 3 million patients in the USA. It is a progressive optic neuropathy affecting both the structure and vascular supply of the optic nerve and retina. Optical coherence tomography angiography (OCTA) is a new, noninvasive technique which excels at providing the vasculature and anatomy of these regions. Recent studies have demonstrated a possible link between vessel area density (VAD) and glaucoma progression. However, conflicting data indicates a need for more robust study of VAD and other quantitative parameters such as vessel length density (VLD) and branchpoint density (BPD). Therefore, our aim was to analyze and compare these three parameters in patients with primary open angle glaucoma (POAG) and healthy subjects using open-source ImageJ software.
Christina Chan	Neonatology	Analyzing Delivery Room Practices to Minimize Transmission of Sars-COV-2 to Neonates	Following the onset of the COVID-19 pandemic, delivery management of mothers and neonates remains unclear. Transmission from a positive mother to an infant at the time of delivery is not well described despite many worldwide recommendations implemented to prevent theoretical transmission. Which method or methods might be associated with the greatest reduction in transmission are still not clearly defined.
Robert Weinschenk	Orthopedic Surgery	Differences in Cost and Complications Associated with Primary Total Hip	Introduction A primary total hip arthroplasty (THA) is a common and highly successful orthopedic procedure. ¹ THAs can also be done following bone tumor resection, to

		<p>Arthroplasty (THA) and THA Following Tumor Resection: A PearlDiver Study</p>	<p>reconstruct the large segmental defect that is left after the procedure. However, this version of a THA is more challenging, with various rates of success.² Despite the differences between these procedures, they are categorized under the same Current Procedural Terminology (CPT) code and result in similar reimbursement rates. Objective We hypothesize that THAs following a tumor resection will have higher complication rates and increased associated costs, in the first 90 days after the THA, compared to those of primary THAs. We hope that this study can be used to support or refute the current classification of these two procedures under the same CPT code and affect their reimbursement rates.</p>
<p>Danielle Robertson</p>	<p>Ophthalmology</p>	<p>Observing the Effects of ULK1 Inhibition on Mitophagy During Pseudomonas Aeruginosa Corneal Infection</p>	<p>Background: Pseudomonas aeruginosa has long been associated with microbial keratitis in contact lens wearers. Pseudomonas aeruginosa is an opportunistic gram-negative bacteria known for making biofilms which can lead to infection in the lung in patients with cystic fibrosis, severe burns, skin wounds, and the cornea. Infection of the cornea, known as microbial keratitis, is characterized by the presence of an infiltrate that blocks light and is often associated with an epithelial defect. Neutrophil-mediated inflammation that occurs in response to infection can cause corneal destruction and vision loss. Studies in our laboratory have shown that infection of corneal epithelial cells by Pseudomonas induces autophagy, a mechanism cells use to clear out damaged components and debris. We have further shown that disruption of autophagy using an Unc-51 like autophagy activating kinase (ULK1/2) inhibitor reduces intracellular</p>

			<p>bacteria viability in corneal epithelial cells in vitro.</p> <p>Objective: The purpose of this study is to determine effects of the ULK1/2 inhibitor, MRT6892, on mitophagy and mitochondrial function during <i>Pseudomonas aeruginosa</i> corneal infection to better understand its potential therapeutic role in treating microbial keratitis.</p>
Sherwood Brown	Psychiatry	<p>Treating Caregiver Depression to Improve Childhood Asthma: Implications of Emotional Climate for Asthma Related Quality of Life</p>	<p>Background: Asthma is a common chronic inflammatory disorder of the airways that affects adults and children worldwide, presenting a substantial personal and public health burden. The most common chronic disease of childhood, the condition results in significant morbidity for affected children with consequences in relation to health resource utilization, productivity at school, and persisting implications for lung function and health-related quality of life. Children with asthma and their caregivers frequently report depressive and anxiety symptoms which are associated with poorer asthma outcomes in the child.</p> <p>Hypothesis: 1. We hypothesize that after controlling for asthma control, the emotional climate of the child will make a significant contribution towards predicting the asthma-related quality of life. 2. We hypothesize the higher scores for anxiety and depression in the caregiver and child will be associated with poorer asthma-related quality of life. Conversely, we also expect that lower scores for anxiety and depression in the caregiver and child will be associated with higher asthma-related quality of life.</p>
Salah Aoun	Neurological Surgery	<p>Systematic review and meta-analysis of mono versus poly-antibiotherapy in discitis,</p>	<p>Introduction Infectious spondylodiscitis is a disease that often presents with a nonspecific combination of symptoms such as generalized pain in the hip, pain in the lower back, restricted movement or even deterioration of</p>

		spondylodiscitis, epidural abscess formation	the CNS, in the ways of neurological deficits and cervical lesions (1). Due to the wide array of presentations, spondylodiscitis is often not caught in the early stages of infection leading to long hospital stay times averaging 30-57 days and a reported hospital mortality rate between 2% and 17% (2). We aim to explore if a patient with Infectious Spondylodiscitis is treated utilizing polytherapy, then they will have a reduced rate of further complications and need for surgical intervention when compared to monotherapy.
Senthil Sambandam	Orthopaedics	The Impact of Obesity on Total Hip Arthroplasty Outcomes: A Retrospective Matched Cohort Study	Introduction: Previous research has shown that obesity is associated with worse post-operative outcomes and this study elaborates on said research to determine how rates of specific complications after total hip arthroplasty align with obesity status. We hypothesize that obese patients would higher rates of complications and cost, thus worse outcomes, than non-obese patients.
E. Sherwood Brown	Psychiatry	A Pooled Analysis of the Efficacy of Citalopram or Escitalopram for the Treatment of Patients with Asthma and Major Depressive Disorder	One risk factor for asthma-related morbidity is depression. Both major depressive disorder (MDD) and asthma have a high economic and medical burden. Available data on the effect of SSRIs in depressed people with asthma is limited and where available, sample sizes are relatively modest. To overcome these data limitations, the increased sample size found in pooled studies, in which data from multiple studies with similar designs are combined, can help enhance statistical power, improve precision of intervention effects, obtain information that is difficult to elucidate from individual studies, and engage in exploratory investigation of new hypotheses1-3.
Melissa Mauskar	Dermatology	Analysis of Patient Reported Symptoms and	Lichen sclerosis is a chronic, idiopathic inflammatory skin disorder that commonly affects the anogenital area in

		<p>Clinical Presentation Scoring in Patients with Vulvar Lichen Sclerosus</p>	<p>postmenopausal women. Conventionally, vulvar lichen sclerosis (vLS) presents with progressive pruritis, burning, and dyspareunia, although the clinical spectrum varies widely - ranging from asymptomatic patients to those with highly impaired quality of life and/or severe scarring, including urethral obstruction and introital narrowing. Our goal this summer was to perform a retrospective cross-sectional study comparing patient reported survey responses and objective clinical presentation score to determine if certain survey responses correlate to more severe disease upon initial presentation. We hypothesize that patients whose symptoms interfere with their sleep and have burning with urination will present with more severe clinical scoring and should be flagged as high priority.</p>
Alexandra Callan	Orthopedic surgery	<p>Physical therapy in breast cancer patients and incidence of frozen shoulder</p>	<p>Introduction Frozen shoulder or adhesive capsulitis is a common shoulder disease which limits active and passive range of motion of the glenohumeral joint with associated pain and dysfunction. Frozen shoulder is caused by inflammation around the shoulder capsule leading to significant loss of motion most severe with internal rotation. Several studies have shown frozen shoulder has association with breast cancer patients after surgery and/or radiation therapy. [citations] However, with proper education and physical therapy, both can help prevent frozen shoulder in breast cancer patients' post-surgery (Cho et al., 2019). Hypothesis We hypothesize that prophylactic physical therapy may reduce incidence of adhesive capsulitis in patient with breast cancer who require surgery and/or radiation therapy.</p>

David Busch	Dept. of Anesthesiology, Dept. of Neurology	Serial Neuroinflammatory Biomarker Concentrations as Predictors for Neurological Injury in Pediatric ECMO Patients	<p>Background Extracorporeal membrane oxygenation, or ECMO, is a form of mechanical support reserved for cardiac and pulmonary conditions unresponsive to conventional therapy.¹ Even though ECMO improves survival in neonatal and pediatric patients, it carries significant morbidities, including neurological injuries.² Currently, no diagnostic tools are available to consistently detect neurological injuries early during ECMO, leaving survivors with neurodevelopmental disabilities later in life. Serial measurements of inflammatory biomarkers have the potential to provide clinicians with dynamic neurological statuses during ECMO therapy. Objective The objective of this study is to determine the temporal evolution and clinical utility of neuroinflammatory biomarkers (IL-8 and others) in predicting neurological injury in pediatric ECMO patients.</p>
Michael Van Hal	Orthopedic Surgery	Percutaneous Fixation Compared with Open Fixation Treatment of a Traumatic Thoracolumbar Fracture without Neurological Deficit: A Prospective, Single-surgeon Experience Study	<p>Introduction: Ninety percent of all spinal fractures occur at the thoracolumbar junction (T10-L2). Trauma to this region can cause permanent neurological deficit. Despite the seriousness of a fracture at the thoracolumbar region, there are conflicting opinions on the ideal management. We are unaware of a prospective study comparing the effectiveness of percutaneous fixation to open fixation of a fracture at the thoracolumbar junction. Objective: The purpose of this study was to test our hypothesis that neurologically intact patients who received percutaneous fixation as their treatment for a thoracolumbar fracture will have better outcomes and higher satisfaction than those who had open fixation as their method of treatment.</p>

Christopher Derderian	Plastic Surgery	Developing Machine Learning Models to Assess Cleft Rhinoplasty Outcomes	<p>Cleft lips are a relatively common condition, occurring in approximately 0.3-0.45 per 1000 live births. These defects are associated with many complications, such as feeding and speaking problems. Apart from these significant physiological effects, patients also experience a large psychosocial burden due to aesthetics, especially as the cleft correction rhinoplasty is typically one of the last surgeries performed and occurs during teenage years. The objective of this study was to develop a machine learning model to objectively evaluate the outcomes of the cleft rhinoplasty. We hypothesize that this model will be able to evaluate the efficacy of surgery by distinguishing between pre- and post-cleft rhinoplasties while not being able to distinguish post-cleft rhinoplasties with the normal control rhinoplasties.</p>
Alexandra Callan	Orthopedic Surgery	Late Functional and Quality of Life Outcomes in Pediatric Patients After Limb Sparing Surgery for Bone and Soft Tissue Sarcomas of the Lower Extremity	<p>Background: Pediatric bone and soft tissue sarcomas are rare with a combined age-adjusted incidence of 2.7 cases per 100,000 children ages 0 to 19 in the US. Treatment is multidisciplinary and typically consists of chemotherapy or radiation followed by surgical resection. Advances in endoprostheses and surgical techniques have allowed orthopedic oncologists to develop limb sparing procedures with the potential to significantly improve long-term function. However, due to the rare incidence of these tumors, there is limited data on functional outcomes in pediatric orthopedic oncology patients. Objective: This study aimed to capture late post-operative functional and quality of life metrics in pediatric patients who were at least six months post wide-resection, limb sparing reconstruction for bone or soft tissue sarcomas of the lower extremity using Fitbits. We aim to explore the</p>

			average amount of daily steps in this population versus the general pediatric population to assess functional outcomes as well as assess if later stage of disease at time of diagnosis or post-operative complications decrease activity outcomes.
Angeline Wang	Ophthalmology	Clinical Courses and Outcomes of Endogenous Endophthalmitis	Background: Endogenous endophthalmitis is a rare but severe eye infection that occurs via hematogenous spread of infection from extraocular sites. It can lead to irreversible vision loss and requires immediate medical attention due to its rapid progression and poor prognosis. A comprehensive review of cases from two hospitals can contribute to understanding the course and management of this disease. Objective: We looked to investigate the different clinical courses of bacterial and fungal endophthalmitis and stratify patient outcomes based on time to presentation.
Bonnie Bermas	Rheumatology	ANA Clinical Utility Assessment	Background Antinuclear antibodies (ANAs) are antibodies that are directed against proteins in the cell nucleus. They are common, appearing in approximately 25% of healthy individuals. In a small percentage of people, these antibodies signify an autoimmune condition such as Systemic Lupus Erythematosus (SLE) or Mixed Connective Tissue Disease (MCTD). However, most often these antibodies are found in healthy people or after drug or infectious exposure and do not signify a rheumatologic diagnosis. Thus, testing for these antibodies in persons without specific symptoms to suggest a rheumatologic process has a high likelihood of producing "false" positive test results. Ultimately, it is imperative to examine the clinical utility of ordering ANA testing. Objective This research study aimed to classify the demographic and

			clinical features of patients who received an ANA order at UT Southwestern Medical Center. Furthermore, this project seeks to evaluate the efficacy of ANA testing by examining whether a positive test resulted in clinical diagnosis.
William Dauer	Peter O'Donnell Jr. Brain Institute	β -glucuronidase enzyme replacement therapy for DYT6 Dystonia	<p>Background: Dystonia is a debilitating disorder that is defined by sustained involuntary twisting movements. There is no cure for dystonia and current symptomatic treatments offer only modest efficacy but have a multitude of side effects. Dominantly inherited, loss of function mutations in the THAP1 transcription factor causes juvenile-onset DYT6 dystonia (DYT-THAP1). Previous works with THAP1 null mice demonstrate that THAP1 modulates the development of oligodendrocyte progenitor cells (OPC) by regulating the catabolism of glycosaminoglycans (GAGs), a crucial component of the extracellular matrix (ECM). The loss of THAP1 within OPCs directly reduces GAG-catabolic lysosomal enzyme β-glucuronidase causing the accumulation of GAGs that inhibit their own maturation to myelinating cells. The result is severe dysmyelination during early CNS maturation and impaired neurodevelopment. Genetic overexpression of GusB (β-glucuronidase) rescues the maturation deficits and CNS myelination in THAP1 deficient mice raising the critical question of whether β-glucuronidase enzyme replacement could restore myelination in THAP1 null mice. Hypothesis: Administration of β-glucuronidase enzyme replacement therapy (ERT) will reverse dysmyelination in DYT6 dystonia models.</p>

Joseph Hill	Department of Internal Medicine, Division of Cardiology	Strategies to Suppress FoxO1 Transcriptional Activity by Post-translational Modification	<p>Background: Heart failure (HF) is the number one cause of morbidity and mortality in the US and worldwide. There is an unmet need to define and dissect mechanisms underlying HFpEF pathogenesis in an effort to identify novel therapeutic target(s) that can ultimately lead to new strategies to treat the syndrome. Numerous transcription factors and signaling molecules have been reported to play essential roles in HFpEF pathology. Among them, activation of Forkhead box O1 (FoxO1), a member of the Forkhead box family of transcription factors, has recently been reported to play a pivotal role in HFpEF. However, the molecular mechanism of FoxO1 activation in HFpEF is unknown. Our preliminary data suggest that MST1-induced phosphorylation of FoxO1 is increased in the HFpEF murine heart and necessary for efficient ubiquitination, nuclear localization, and activation of FoxO1-driven reporter activity in vitro. Hypothesis: We hypothesize that phosphorylation-mediated ubiquitination of FoxO1 governs its nuclear localization and activity in HFpEF.</p>
Thiru Annaswamy	PM&R	Unmet Needs of Disability-Related Competencies in Medical Education: A Qualitative Study	<p>Background In the United States (US), one in four adults lives with a disability. Although persons with disabilities (PWD) represent the largest minority group and have frequent contact with the US medical system, medical trainees have not been sufficiently trained to care for PWD with dignity. It is well-documented that PWD are medically underserved, experience significant barriers in healthcare access, have poorer health outcomes, and face discrimination when encountering the health system. Objective The aim of this qualitative study is to identify key unmet needs in disability-related competencies of</p>

			<p>medical training by qualitatively studying the healthcare encounter experiences of PWD and comparing them to educational strategies currently implemented in medical education.</p>
Jun Wu	Molecular Biology	Localization of a Novel RNA Ligase in Mice Brain to Further Seizure Etiology	<p>Background: C12ORF29 is an unannotated gene that was discovered in search of members of ATP-grasp fold enzymes. Biochemical studies displayed that C12ORF29 has in-vitro 5' to 3' RNA ligase activity with tRNA as a mediator. C12ORF29 is predicted to be a novel human RNA ligase and the only human RNA ligase with 5' to 3' ligase activity. C12ORF29 knockout mice have displayed spontaneous seizure development. It has been shown that tRNA splicing defects lead to neurodegeneration.</p> <p>Objective: We hypothesize that C12ORF29 localizes to the brain considering that loss of C12ORF29 invokes seizures in C12ORF29 knockout mice.</p>
Eric Olson	Molecular Biology	Tunable Control of Base Editors in Vitro and in Vivo	<p>Background: CRISPR-Cas genome editing tools continue to lead new advances in possible therapeutic treatments for genetically based diseases. One class in particular, the base editor, is a fusion protein of a Cas nuclease and a deaminase, which are directed by a sgRNA to a programmed site to allow targeted base pair conversions. One of the leading platforms for in vivo delivery of this construct is recombinant adeno-associated virus (AAV), a US Food and Drug Administration-approved delivery modality. In transduced cells, episomal recombinant AAV is stabilized through concatemerization and circularization, leading to long-term expression of the cargo transgene (1). In the context of gene editing, long-term expression of AAV-delivered CRISPR-Cas9 base editors could lead to oncogenic mutations due to off-</p>

			<p>target DNA and RNA editing. Destabilizing domains (DDs) are short protein sequences that are inherently unstable under physiological conditions. When DDs are fused to a protein of interest (POI), the entire fusion protein is rapidly degraded by the proteasome. Hypothesis: DD-base editor fusion proteins could allow tunable and controllable expression in vivo using a small molecule ligand following AAV-delivery, resulting in robust on-target editing efficiency with minimal off-target editing and long-term base editor expression.</p>
Daniel Koehler	Orthopaedic Surgery	Quantifying the incidence of upper extremity tendinopathies and the necessitated surgical interventions in patients undergoing aromatase inhibitor therapy	<p>Background Breast cancer is the leading cause of cancer-related deaths among women globally. In the United States, one in eight women will be diagnosed with breast cancer during their lifetime. The introduction of newer therapies has drastically evolved the management of breast cancer. Third generation aromatase inhibitors (AI) have been shown to significantly improve recovery, even promoting disease free survival (DFS), and are slowly replacing tamoxifen as the recommended adjuvant therapy for hormone-receptor-positive breast cancer in postmenopausal women. These include the non-steroidal inhibitors anastrozole (Arimidex) and letrozole (Femara), as well as the steroidal inhibitor exemestane (Aromasin). Inhibiting the aromatase enzyme disrupts the cascade by which androgen precursors are converted into estrogen, the hormone that feeds the growth of breast cancer. While AIs are generally well tolerated, they are known to be strongly correlated with multiple tendinopathies and arthralgias. Many of these conditions are identified in the upper extremity as affecting the elbow, wrist, and hand in the form of elbow epicondylitis, De Quervain's</p>

			<p>tenosynovitis, and trigger fingers, respectively. These tendinopathies can result in significant morbidity for the breast cancer survivors undergoing long-term therapy.</p> <p>Hypothesis It is hypothesized that, compared to an age-matched control group, the incidence of upper extremity tendinopathies as well as the requirement for subsequent surgical intervention will be increased for patients who are undergoing AI adjuvant therapy for breast cancer.</p>
Shane Miller	Departments of Orthopaedic Surgery and Pediatrics	A Longitudinal Evaluation of Presentation Differences Between First and Second Concussions Among Pediatric Patients in North Texas	<p>Background Participation in sports is a popular and healthy activity among children and adolescents. Unfortunately, sports-related head injuries are also common. Children who suffer multiple concussions have been shown to have worse long-term outcomes on subsequent concussions compared to their first (Field et al., 2003). Recurrent concussions generally required a prolonged recovery time/return-to-play and longer symptom duration (Castile et al., 2012; Covassin et al., 2013; Eisenberg et al., 2013; Guskiewicz et al., 2003).</p> <p>Hypothesis I hypothesize that a second occurrence of a concussion among children is associated with a greater symptom load initially and at 3-month follow-up with a longer return-to-play compared to their first concussion.</p>
Nicole Rich	Digestive and Liver Diseases	Evaluating Sex, Gender, Race, and Ethnicity Bias in Gastroenterology Clinical Research	<p>Background Few studies report disaggregated data by race, ethnicity, and sex as and/or explicitly aim to examine disparities in outcome (Doubeni et al, Gastroenterology 2021). Adequate inclusion of these groups and reporting of disaggregated data is important in properly determining the magnitude of disparities and potential driving factors. Disparities in sex and race reporting and analysis exist throughout clinical research. For example, a publication in JAMA surgery demonstrated that significant</p>

			<p>sex bias exists in both reporting and analysis in surgical clinical research studies. In this study, 33% of manuscripts evaluated included analyses by sex, and 23% included discussions with results by sex (Mansukhani et al, JAMA Surg. 2016). Determining the magnitude of racial, ethnic and sex disparities within gastrointestinal (GI) clinical research studies is the first necessary step to designing interventions to reduce disparities and promote health equity for all GI patients. Objective This study sought to evaluate if racial, ethnic, sex, and gender bias exists in GI studies published in 2021, by considering the demographics of subjects included, as well as if these demographics were used as variables in analyses.</p>
Jeffrey Kenkel	Plastic Surgery	Does change of mind affect patient satisfaction for non-invasive facial cosmetic procedures at UTSW	<p>BACKGROUND Studies have established the impact on quality of life and improved emotional and psychological well-being that non-invasive cosmetic procedures provide patients, regardless of the presence of a disease state. [1,2,3,4] Thus, the direct consequential responsibility of physicians is to accurately measure patient satisfaction in a clinically and scientifically sound manner. Over the last decade, many approaches have been developed, but one has risen above the others: FACE-Q Aesthetics served as a case study by the FDA in the evaluation of patient-reported outcomes, was adopted in a growing number of FDA Label Claims, and was set as a standard by the UK Royal College of Surgeons national cosmetic surgery quality improvement initiative. [5,6,7,8] In 2020, non-surgical aesthetic procedures accounted for ~33% of the monetary value of all plastic and reconstructive surgical care provided to patients in the US. [8] The top 5 non-surgical procedures totaled 5,547,983, while the top 5</p>

			<p>surgical procedures only totaled 923,520. [9] While the financial and institutional impact of focusing on non-surgical procedures is minor, the potential good for patients' experiences overwhelmingly dominates. Previous studies have investigated components of patient experiences such as physician and patient concerns and goals, follow-through rates, and predictors for follow-through. [10,11] However, an analysis of the effect of mismatch between a patient's pre-consult procedure preference and actual follow-through procedure on validated satisfaction scores has not. OBJECTIVES This study aims to improve the quality of care for non-surgical facial procedure patients in UTSW's Plastics and Reconstructive Surgery Department.</p>
Isaac Chan	Internal Medicine	InteractPrint predicts clinically meaningful interactions between cancer epithelial cells and immune cells: Lessons from a single-cell breast cancer atlas	<p>BACKGROUND: While immunotherapy has revolutionized the treatment of many solid tumors, the efficacy of immunotherapy regimens is comparatively lower in breast cancer. Immunotherapy efficacy is often negatively correlated with intratumor heterogeneity. Novel immunotherapy approaches in breast cancer should leverage how cancer epithelial cell heterogeneity affects immune cells in the tumor microenvironment. However, current definitions of cancer epithelial cell heterogeneity in breast cancer have limited resolution. Single cell RNA-seq (scRNA-seq) provides an unprecedented opportunity to further define cancer epithelial cell heterogeneity and identify how heterogeneity influences interactions with immune cells.</p>
Jacques Lux	Radiology	Perfluorohexane Functions as an Immunotherapeutic	<p>Background: Perfluorocarbons (PFCs) are biologically inert, fluorine-containing hydrocarbons used in 19F-MRI imaging of inflammation and malignancy due to a predilection for</p>

		Adjuvant via Induction of M1-type Macrophage Polarization	macrophage and monocyte ingestion in vivo [1]. Perfluorohexane (PFH) is a PFC demonstrated to induce macrophage-mediated inflammation [2]. Given the role of anti-inflammatory M2 and M1-tumor associated macrophages in facilitating tumor progression [3], investigating the effects of PFH on macrophage polarization offers insight into its potential as an immunotherapeutic agent. Objective: We sought to characterize the efficacy of PFH in reducing tumor burden by enhancing pro-inflammatory, M1-like macrophage activity both in vitro and in vivo.
Samuel McBrayer	Children's Medical Center Research Institute	Evaluating the localization of pyrimidine synthesis enzymes as a targetable vulnerability in IDH1 mutant glioma cells	Glioma is the most common primary brain tumor, representing 80% of the 26,000 annual diagnoses of malignant central nervous system tumors in the United States. Gliomas develop in two mutually exclusive pathways. The IDH mutant pathway involves driver mutations in the metabolic genes IDH1 or IDH2, which encode isocitrate dehydrogenase (IDH) enzymes. Although inhibitors of mutant IDH oncoproteins are being tested in the clinic, early results indicate they have guarded efficacy against progressive or high-grade IDH mutant gliomas. Therefore, there is a critical unmet need for new therapies for IDH mutant gliomas. Based on these data, I hypothesized that the spatial localization of UMPS changes in the presence of the salvage pathway substrate uridine. I aimed to evaluate the localization of the enzyme UMPS in immortalized astrocytes (NHAs) cultured in human plasma-like media (HPLM) with and without physiologic levels of uridine.
Raquibul Hannan	Radiation Oncology	Stereotactic Ablative Radiotherapy for the	Glandular metastases, in particular pancreatic metastases, are associated with renal cell carcinoma (RCC) of indolent

		Treatment of Pancreatic Metastases from Renal Cell Carcinoma	biology. Pancreatic metastases may develop in isolation or involve other organs and are associated with prolonged survival. Pancreatic metastases can be treated with systemic therapy, stereotactic ablative radiotherapy (SAbR) or surgical resection, but the optimal management of these patients is unknown. As there is little data on SAbR for RCC pancreatic metastases, I investigated the local control (LC), progression-free survival (PFS), overall survival (OS) rates as well as toxicities related to SAbR for RCC metastases to the pancreas.
Peter Douglas	Molecular Biology	Impact of Decreasing Proteins Involved with Lipid Surveillance or Macroautophagy on Neurodegeneration Following Traumatic Brain Injury	Background: Traumatic brain injuries (TBIs) have a rising prevalence within the United States with an estimated 2.5 million TBI-related ED visits in 2010. Despite the rising prevalence of TBIs and their associations with neurodegenerative disorders, the biochemical basis behind TBIs remains unclear. The proteins RAB-11.1 and NHR-49 are involved with maintaining cellular lipid levels while ATG-16.2 is critical for macroautophagy, both important processes that are involved with neuronal survival. Hypothesis: If levels of RAB-11.1, NHR-49, or ATG-16.2 are decreased in astrocytes or dopaminergic neurons, there will be increased degeneration in dopaminergic neurons following mechanical injury.
Maria del Pilar Bayona Molano	Interventional Radiology	System immune inflammatory index or liver fibrotic markers and correlation with tumoral response for HCC after Y-90	Yttrium 90 (Y90) is an alternative locoregional therapy for Hepatocellular Carcinoma (HCC) recently adopted by the Barcelona Guidelines (BLCB) for patients with lesions < 8 cm according to the Legacy trial results. The value of immune response has been highlighted and used as a tool to incorporate immunotherapy as a lead therapy for advanced HCC. The combination of immunotherapy and locoregional therapies including ablation and intra-arterial

			<p>therapies was reported as a successful strategy to enhance tumoral response. Pretreatment predictors, including the System Immune Inflammatory Index (SII) and ALBI score, have been used after surgical resection with demonstrated correlation with tumoral recurrence. In 2022, Y90 was incorporated in the BCLC guidelines for the treatment of HCC according to the results of the Legacy trial. It includes lesions which measure 8 cm or below that can benefit with the use of radioembolization therapy. The immune response of the tumor to the Y90 has been also deeply studied. The aim of this study is to evaluate the utility of the SII and ALBI to anticipate treatment response for HCC post Y90.</p>
Thiru Annaswamy	PM&R	A Novel Mixed Reality System to Manage Phantom Pain In-Home: Results of a Pilot Clinical Trial	<p>Background: "Phantom limb pain" is a pain at the location of the missing limb experienced in those who undergo amputations. Mirror therapy is a well-accepted treatment standard, where the participant places a mirror in a position where it can reflect an image of the unaffected limb, allowing the patient to visually perceive the missing limb. Mixed reality options are now becoming increasingly more common. Objective: To investigate the pain and functional outcomes of using a Mixed Reality System for Managing Phantom Pain (Mr. MAPP), a newly developed system for in-home use, in a pilot sample of patients with unilateral lower limb amputation and phantom pain. Texas Health Care System that fulfill study criteria.</p>
Jarrett Berry	Internal medicine	Diurnal relationships in blood pressure and its effects on cardiac biomarkers	<p>Background: Nighttime blood pressure (BP) may have relatively greater prognostic importance for adverse cardiovascular outcomes than daytime BP, but the mechanism underlying this diurnal variation remains unclear. We aimed to characterize the relationship of 24-</p>

			hour ambulatory BP parameters with N-terminal pro-B-type natriuretic peptide (NT-proBNP) and high sensitivity cardiac troponin T (hs-cTnT) levels.
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