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Henry Ford Health Publication List – February 2025

This bibliography aims to recognize the scholarly activity and provide ease of access to journal articles, meeting abstracts, book chapters, books and other works published by Henry Ford Health personnel. Searches were conducted in PubMed, Embase, Web of Science, CINAHL, and PsycINFO during the month, and then imported into EndNote for formatting. There are 147 unique citations listed this month, including 106 articles, 40 conference abstracts, and 1 book chapter.

Articles are listed first, followed by conference abstracts and books and book chapters. Because of various limitations, this does not represent an exhaustive list of all published works by Henry Ford Health authors.

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Articles

Conference Abstracts

Books and Book Chapters

Articles

Administration
Goyal N, **Vohra TT**, and **Champagne S**. Residents Vote! A Framework and Toolkit to Improve Resident Voting Rates. *J Grad Med Educ* 2025; 17(1):96-100. PMID: 39980964. Full Text

at the time of writing was Senior Staff Physician, Departments of Emergency Medicine and Internal Medicine, Henry Ford Health, Detroit, Michigan, USA, and is now Senior Vice President, Accreditation, Accreditation Council for Graduate Medical Education, Chicago, Illinois, USA.
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Background Elections substantially impact health care, yet physicians vote less frequently compared to the general population. Engaging residents and fellows in elections, during training when professional identities are formed, may improve physician voting rates. Objective To examine the feasibility and acceptability of a centralized, institution-wide approach to improve graduate medical education (GME) trainee awareness, registration, and participation in the electoral process. Methods Our framework was implemented in academic year 2023-2024, leading up to the 2024 Michigan presidential primary election. It included: voter registration instruction during resident orientation; emails with election deadlines and nonpartisan voting information; distribution of wearable buttons displaying QR codes linking to information on voter registration, early voting, and mail-in ballots; and informational sessions with legislative experts. We created an open-access GME toolkit for other institutions. We measured trainee voting rates using a single text message question on election day. Results Of 1041 trainees, 115 (11%) attended 4 informational sessions; informal feedback was positive. One hundred twenty-three of 826 trainees (15%) responded to the text message question: 35 of 81 (43%) eligible voters reported having voted or planning to do so that day (statewide rate=23%). No additional funding was required. The institutional GME office provided support for operationalization and wearable buttons. Henry Ford Health Government Affairs supported the informational sessions (held during routine didactic time). Conclusions A series of interventions to improve GME trainees' participation in elections appeared to enhance participation in a primary election with low effort and apparent acceptability. An online toolkit with reference data, tips, and tools was created to allow others to replicate this effort.

Administration
Huddleston JM, Whitford D, Yaszemski AK, Schrieber MP, and **Pollak E**. Broadening the definition of patient-safety events: lessons from a multicentre learning health system collaborative. *BMJ Open Qual* 2025; 14(1). PMID: 39971591. Full Text

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BACKGROUND: Improving safety in healthcare has been paramount for decades, yet despite major attention and investment, improvement has remained incremental. Patient safety is a major concern in US healthcare, leading to significant harm and economic losses annually. Accurately identifying safety events remains difficult due to methodological discrepancies and lack of standardisation. This study evaluated the feasibility of implementing a standardised case-review methodology and safety-event taxonomy across diverse hospital settings to assess opportunities for improvement (OFIs) and compare findings with traditional definitions. METHODS: This multicentre retrospective cohort study reports data from 103 hospitals across the USA and Canada between 2016 and 2023. A multivariable logistic regression was performed to test case reviews for differences in the presence of one or more OFIs across several hospital types (bed size, academic status, urban setting, trauma level and Centres for Medicare and Medicaid Services overall star rating) and patient characteristics (age, gender, length of stay, admission and discharge code status and mortality). RESULTS: 19 181 cases were reviewed across the Learning Health System Collaborative, with a median of 107 reviews per hospital. Mortality was the most

common cohort selection, studied by 91 hospitals (88%). At least one OFI was identified in 12 714 cases (66.3%). The logistic regression analysis found that all hospital characteristics and patient age, length of stay, code status and discharge disposition were significantly associated with at least one OFI. Of the 46 444 OFIs identified, 41 439 (89%) were from categories focused on omissions of care. The categories of end-of-life, documentation and treatment/care alone accounted for 25 980 OFIs (56%). CONCLUSION: The highest volumes of safety-related OFIs were associated with omissions of care, as opposed to the traditional definition of patient safety, which primarily includes outcomes from acts of commission.

Anesthesiology
Ali H, Metrouh O, Ahmed M, **Mitchell JD**, Baribeau V, Palmer MR, MacLellan C, and Weinstein J. Comparison of wired and wireless electromagnetic hand motion tracking in central venous access: Are they equivalent enough to cut the cord? *Med Eng Phys* 2025; 136:104280. PMID: 39979003. Full Text

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PURPOSE: This study aims to compare a commercially available wired and wireless tracker in motion analysis of interventional radiologists performing simulated ultrasound-guided central venous access. METHODS AND MATERIAL: Interventional radiologists were asked to volunteer for the study. Participants were asked to place central venous lines on a commercially available, standardized manikin as their needle hand and ultrasound probe motion were recorded using electromagnetic trackers. Each participant performed a total of 10 trials, with 5 trials recorded using a wired tracker and 5 using a wireless tracker. Institution-developed software was used to calculate established motion metrics (path length and number of movements). The motion metrics from the two trackers were compared. RESULTS: Seven interventional radiologists participated in the study. Path length (wireless vs. wired: 773.1 cm ± 85.7 cm vs. 959.5 cm ± 303.6 cm, $p < 0.001$) and number of movements (193 ± 52 vs. 231 ± 50.5, $p = 0.001$) differed significantly between the two trackers; however, the time to complete the procedure (51.8 s ± 14.8 s vs. 49.8 s ± 10.5 s, $p = 0.68$) was similar across trackers. CONCLUSION: The motion metrics of the same operators differ significantly between wired and wireless trackers. Accounting for the sampling frame rate and the frame efficiency of the wireless sensors can provide comparable motion data.

Anesthesiology
Goldstein EC, Neuman MD, Haar VV, Li AC, **Guerra-Londono CE**, Elwyn G, Deiner SG, **Hussain A**, Sappenfield JW, Edwards CJ, Ayad S, Baraldi JH, Whatley K, and Politi MC. Preparing to implement shared decision making in anaesthesia for hip fracture surgery: a qualitative interview study. *Br J Anaesth* 2025; Epub ahead of print. PMID: 39933964. Full Text

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BACKGROUND: Shared decision making is rarely used in anaesthesia consultations. Because either spinal or general anaesthesia can be appropriate for many patients undergoing surgery to repair a hip fracture, this is an appropriate context to implement and test shared decision making and associated resources for anaesthesia decisions. Conversation aids can facilitate shared decision making between clinicians, patients, and caregivers about treatment choices. METHODS: We conducted semi-structured qualitative interviews at seven sites from April to September 2024 to prepare for implementation of a conversation aid about anaesthesia choices for hip fracture surgery. Interviews elicited feedback on shared decision making and a proposed conversation aid comparing spinal and general anaesthesia. RESULTS: We interviewed 12 clinicians and 12 patients and caregivers. The analysis identified four themes, which we mapped to the Practical, Robust Implementation and Sustainability Model. We found (1) broad support for shared decision making in anaesthesia choices before hip fracture surgery, although it is not typically incorporated in current practice; (2) barriers to shared decision making, including institutional culture, preexisting clinician assumptions about patient preferences, and time; (3) features of a resource (i.e. the conversation aid) that can help overcome these barriers; and (4) the importance of engaging in shared decision making with an appropriate clinician. Suggestions from interviews were incorporated into the conversation aid. CONCLUSIONS: Reasonable shared decision-making strategies such as conversation aids were seen by most participants as helpful to support shared decision making about anaesthesia options for hip fracture surgery. Engaging end users at the local level can address key implementation barriers.

Behavioral Health Services/Psychiatry/Neuropsychology

Haley EN, **Braciszewski JM**, **Carlin AM**, **Snodgrass M**, **Pearl ES**, **Loree AM**, and **Miller-Matero LR**. Gender and Racial Differences in the Overvaluation of Shape, Weight, Excess Skin, and Psychosocial Correlates Following Bariatric Surgery. *Obes Surg* 2025; Epub ahead of print. PMID: 39939575. Full Text

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BACKGROUND: Overvaluation of shape and weight (OSW) is a risk factor for psychopathology in those who have undergone bariatric surgery, and overvaluation of excess skin (OES) may present similar psychological risks. Identifying potential gender and racial differences in post-surgical OSW and OES, and their associations with psychosocial outcomes, may inform more individualized assessment and treatment for those who have undergone bariatric surgery. METHODS: In this cross-sectional study, individuals up to 4 years post-bariatric surgery completed an online survey of various psychosocial outcomes. Overvaluation was examined via the shape and weight overvaluation subscale of the Eating Disorders Examination Questionnaire (EDE-Q), and a modified item was used to assess the overvaluation of excess skin. Quality of life (QOL), depression, and anxiety symptoms were also

examined. Gender and racial differences in OSW and OES were examined. Correlations were obtained between OSW/OES, QOL, and psychological symptoms among gender and racial groups. RESULTS: Of 735 participants, women endorsed significantly greater OES than men ($p = .008$). There were no significant gender differences in OSW. White patients endorsed greater OSW than Black patients ($p < .001$), and there were no racial differences in OES. OSW and OES were inversely correlated with QOL among all groups. OSW and OES were positively associated with anxiety and depressive symptoms among both racial groups and women. CONCLUSION: Women may be at greater risk for OES than men, while White patients may be at increased risk for OSW. However, OSW/OES related to poorer QOL in all groups, and greater psychological symptoms in women.

Cardiology/Cardiovascular Research

Backhouse B, Dade F, Bloom JE, Xiao X, Haji K, Yang Y, French C, Stub D, Nanjayya V, Lo S, Chiang M, **Basir MB**, **O'Neill W**, Noaman S, Al-Mukhtar O, Kaye D, Cox N, and Chan W. Protocolised Management of Acute Myocardial Infarction Complicated by Cardiogenic Shock in Australia-Initial Experience From a Hub-and-Spoke Model. *Catheter Cardiovasc Interv* 2025; Epub ahead of print. PMID: 39981831. Full Text

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BACKGROUND: Acute myocardial infarction complicated by cardiogenic shock (AMICS) confers short-term mortality of 40%-50%. Protocolised network management of AMICS patients as part of a hub-and-spoke model supported by upstream mechanical circulatory support (MCS) is gaining traction globally to treat AMICS. METHOD: We conducted a prospective multicenter study in Melbourne, Australia describing our 5-year experience utilizing a protocolised hub-and-spoke model of care for patients with AMICS supported by planned upstream use of Impella CP (Abiomed, Danvers, MA). RESULTS: From December 2019 to August 2024, 31 patients were treated for AMICS with Impella MCS support. Median age was 60 years and 87% were males. ST-elevation myocardial infarction accounted for 84% of presentations, and 29% were complicated by cardiac arrest. The majority of patients treated were in SCAI-CSWG stage D (52%), and stage C (26%) shock. Upstream Impella prior to PCI occurred in 84% of patients. The 30-day survival rate was 74%. An adverse event occurred in 39% of patients. Device-related complications were due to hemolysis (32%) and arrhythmia (3%). Escalation of MCS support was required in five patients (16%). Multivariate analysis identified patients requiring transfer to the hub center prior to revascularisation as an independent predictor of mortality (OR 13.2 [1.34-129.3] $p = 0.027$). CONCLUSION: In this first protocolised hub-and-spoke model of care for AMICS supported by planned upstream use of Impella in Australia, 30-day survival was high compared to published historical rates. Patient and device-related complication rates were low. Expansion of the hub-and-spoke model for the treatment of AMICS appears warranted.

Cardiology/Cardiovascular Research

Carnicelli AP, **Cowger J**, Tedford RJ, and Kanwar M. Authors' response to comment and opinion. *J Heart Lung Transplant* 2025; 44(1):131-132. PMID: Not assigned. Full Text

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Cardiology/Cardiovascular Research
Giustino G, **Jabri A**, **O'Neill BP**, **Lee JC**, **Engel P**, **Fang JX**, **Wang DD**, **Frisoli TM**, **O'Neill WW**, and **Villablanca PA**. Single-Access Technique for Impella-Assisted Balloon Aortic Valvuloplasty and High-Risk PCI in Cardiogenic Shock. *JACC Case Rep* 2025; 30(5). PMID: Not assigned. Full Text

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The single-access technique for Impella-assisted high-risk percutaneous coronary intervention has been previously described and is frequently used in clinical practice to avoid a secondary arterial access and potentially reduce the risk of bleeding and vascular complications. Aortic stenosis associated with cardiogenic shock is associated with high morbidity and mortality. In this setting, Impella-supported balloon aortic valvuloplasty has been reported to be feasible and safe. In this case, we describe a technique for single-access Impella, balloon aortic valvuloplasty, and high-risk percutaneous coronary intervention for left main coronary artery disease in a patient with severe aortic stenosis and large body habitus presenting in cardiogenic shock.

Cardiology/Cardiovascular Research
Lai LKL, **Alrayes H**, **Fram G**, **Lee JC**, **Zweig B**, **O'Neill BP**, **Frisoli TM**, **Gonzalez PE**, **O'Neill WW**, and **Villablanca PA**. Iatrogenic atrial septal defect closure with PASCAL guide system post-mitral valve transcatheter edge-to-edge repair. *J Invasive Cardiol* 2025; Epub ahead of print. PMID: 39993275. Full Text

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Cardiology/Cardiovascular Research
Lal BK, Roubin GS, Meschia JF, Jones M, Heck DV, Sternbergh WC, 3rd, **Aronow HD**, Mena-Hurtado C, Howard G, Mayorga-Carlin M, Sorkin JD, and Brott TG. Carotid artery stenting with open versus closed stent cell configurations in the CREST-2 Registry. *J Vasc Surg* 2025; Epub ahead of print. PMID: 40024381. Full Text

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BACKGROUND: Intra-procedural atheroembolization during carotid artery stenting (CAS) can be reduced through careful patient selection, consideration of vascular anatomy and lesion characteristics, operator and institutional experience, peri-procedural antithrombotic and antiplatelet therapy, and use of embolic protection. However, CAS can also result in stroke as the stent is deployed and embolic protection withdrawn. The free-cell area of most closed-cell stents is <5 mm(2), and ≥5 mm(2) for open-cell stents. The larger area may permit escape of more atheromatous debris. Comparisons of clinical outcomes between closed-cell and open-cell stents have been inconclusive. OBJECTIVE: The aim of this study is to compare clinical outcomes associated with CAS using open-cell versus closed-cell stents. METHODS:

The CREST-2-Registry (C2R) enrolls asymptomatic and symptomatic patients for whom CAS is favored because of high risk for surgery or patient preference. C2R implements operator- and site-credentialing, careful lesion selection, and standardized procedural protocols. Patient characteristics, procedural details, and outcomes are recorded. Interventionists may use FDA-approved devices including open-cell stents (Rx Acculink [Abbott Vascular], Precise Pro Rx [Cordis-Cardinal Health], and Protégé Rx [Medtronic/Covidien]), or closed-cell stents (XACT [Abbott Vascular] and Wallstent Monorail Endoprosthesis [Boston Scientific]. Multivariable logistic regression was used to assess relate stent cell configuration to peri-procedural (30-day) stroke-or-death (SD). RESULTS: Of 5,307 procedures performed by 163 interventionists across 101 clinical centers, 2,054 (38.7%) received open-cell stents, and 3,253 (61.3%) received closed-cell stents. In the periprocedural period, 91 patients (1.7%) experienced a stroke (3 were fatal), and 16 patients died without experiencing strokes (0.4%). After adjusting for age, sex, symptomatic status, and case urgency, and for effect-modification by indication, periprocedural stroke-or-death (SD) was significantly higher when an open-cell stent was placed in a primary lesion compared to closed-cell stents (3.5 events per 100 procedures using open-cell stents [95% CI 2.6, 4.7] vs 2.2% [1.6, 3.0] using closed-cell stents, Odds Ratio 1.59 [1.13, 2.23], p<0.01). Periprocedural SD was not significantly different between stent types when placed in a restenotic lesion (1.2% [0.4, 3.3] using open-cell stents vs 4.0% [2.2, 7.2] using closed-cell stents, OR 0.31 [0.09, 1.01], p=0.052). CONCLUSIONS: Stent design influences periprocedural stroke or death in carotid stenting. Closed-cell stents are associated with a lower event rate when treating primary atherosclerosis, but not in the setting of restenosis.

Cardiology/Cardiovascular Research

Leung C, Fong YH, Chiang MCS, Wong IMH, Ho CB, Yeung YK, Leung CY, Lee PH, So TC, Cheng YW, Chui SF, Chan AKC, Wong CY, Chan KT, **O'Neill WW**, and Lee MKY. Protocol-Driven Best Practices and Cardiogenic Shock Survival in Asian Patients. *J Am Heart Assoc* 2025; e037742. Epub ahead of print. PMID: 40008554. Full Text

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BACKGROUND: Cardiogenic shock carries high mortality. This study investigated the relationship between protocol-advocated best practices and outcomes. METHODS: Patients with cardiogenic shock supported by Impella CP in an Asian tertiary cardiac center were evaluated for 30-day post percutaneous ventricular assist device (PVAD) survival after adopting a standardized protocol emphasizing early mechanical circulatory support (shock-to-PVAD time ≤180 minutes), pulmonary artery catheterization for invasive hemodynamics, and safe vascular access. RESULTS: Of 109 consecutive patients (mean age 58.5±11.2, 80.7% male, 67% acute myocardial infarction, 33% acute decompensated heart failure), 45 (41.3%), 33 (30.3%), and 31 (28.4%) were in SCAI Shock Stages C, D, and E, respectively. A suggestive trend of improving 30-day survival was observed (56.8%, 63.9%, and 72.2% in successive one thirds, P1, P2, and P3 of patients), paralleling a similar trend in achievement of best practices. Patients achieving all 3 best practices significantly increased from 35.1% (P1) to 52.8% (P3) (P=0.026). Median shock-to-PVAD time reduced from 5 [interquartile range: 2-23] hours (P1) to 1.5 [1-5] hours (P3) (P for trend=0.014), whereas pulmonary artery catheterization utilization (80.6-86.1%) and device-related major vascular complications (5.6-8.4%) remained relatively stable. Achieving more best practices was significantly associated with better 30-day survival, with patients achieving all 3, 2, and ≤1 best practices had 30-day survival rates of 75.0%, 63.6%, and 35.7%, respectively (P=0.043). In multivariate Cox regression analysis, shock-to-PVAD time >180 minutes remained an independent predictor of mortality (P=0.031). CONCLUSIONS: Achievement of protocol-advocated best practices, especially early shock recognition and prompt PVAD support in appropriate patients, was associated with improved outcomes with PVAD use in cardiogenic shock. Future studies are suggested to confirm the benefits of a protocolized approach and evaluate the value of individual best practices.

Cardiology/Cardiovascular Research

Martinez Ponce JP, **Ubysz O**, and **Vanhecke T**. Carcinoid Heart Disease: A Rare Complication of Metastatic Neuroendocrine Tumor. *Cureus* 2025; 17(1):e78148. PMID: 40026979. Full Text

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Carcinoid heart disease (CHD), also known as Hedinger syndrome, is a rare but significant cardiac complication associated with metastatic neuroendocrine tumors (NETs). These tumors secret bioactive substances such as serotonin, leading to fibrotic changes primarily affecting the right-sided heart valves. A case study involving a 69-year-old male presented with a four-month history of diarrhea and a new systolic heart murmur. Transthoracic echocardiogram (TTE) results indicated a left ventricular ejection fraction (LVEF) of 60% to 65%, with severe tricuspid regurgitation and pulmonary valve stenosis. Elevated levels of 5-hydroxyindoleacetic acid (5-HIAA) were detected in a 24-hour urine test, and imaging revealed multiple hypoechoic masses in the liver and mesenteric masses adherent to the small intestine. Furthermore, a biopsy confirmed the diagnosis of a NET. Medical therapy like long-acting somatostatin injection and a peptide receptor radionuclide therapy was ineffective in reversing established valvular pathology, and the patient continued to experience clinical decline, suffering from right-sided heart failure. The patient was able to undergo combined tricuspid and pulmonary valve replacement, which resolved his symptoms. This case exemplifies the successful treatment of a rare syndrome leading to right heart failure.

Cardiology/Cardiovascular Research
Nichol G, Dickert NW, Moeller JE, Hochman JS, Facemire C, Adams KN, Stone GW, Morrow DA, Thiele H, Henry TD, Simonton C, Rao SV, **O'Neill W**, Gilchrist I, Egelund R, Proudfoot A, Waksman R, West NEJ, Sapirstein JS, and Krucoff MW. A Framework for Exception From Informed Consent in Trials Enrolling Patients With ST-Segment-Elevation Myocardial Infarction and Cardiogenic Shock. *J Am Heart Assoc* 2025; e037946. Epub ahead of print. PMID: 40008533. Full Text

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Cardiogenic shock (CS) is critical end-organ hypoperfusion attributable to reduced cardiac output. Acute ST-segment-elevation myocardial infarction with CS (AMI-CS) has high mortality. Clinical research is challenging in such patients as they often cannot provide consent, lack available legal representatives, and require initiation of therapy. Multiple trials have enrolled patients with AMI-CS outside the United States under deferred consent. Trials in the United States have enrolled patients with out-of-hospital cardiac arrest under exception from informed consent (EFIC). However, AMI-CS has a longer therapeutic window to initiate treatment than out-of-hospital cardiac arrest, and more patients or their representatives can engage in treatment decisions. We provide a rationale for how a trial enrolling patients with AMI-CS could qualify for conduct using EFIC by meeting each criterion specified in US human subject regulations. AMI-CS is a life-threatening situation, available treatments are unsatisfactory, and collection of valid evidence is necessary. Obtaining informed consent is often not feasible, and trial participation could

benefit subjects. Only enrolling consented patients is impracticable and could reduce the study's generalizability. We propose a therapeutic window of 30 minutes within the study intervention must be initiated, with consent sought within 15 minutes, respecting any refusal or objection to enrollment, and otherwise enrollment under EFIC. A trial could enroll patients with AMI-CS under EFIC and can involve both patients and their representatives. Successful use of EFIC in trials of other interventions in patients with CS or enrolling patients with other acute cardiovascular conditions could increase the available evidence base to improve care.

Cardiology/Cardiovascular Research
Pinney SP, DeVita MV, Redfors B, Kotinkaduwa LN, Cotts M, **Cowger J**, and Costanzo MR. Ultrafiltration for Management of Decompensated Heart Failure: A Reappraisal of AVOID-HF. *JACC Heart Fail* 2025; Epub ahead of print. PMID: 39985535. Full Text

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Cardiology/Cardiovascular Research
Pollack LM, Chang A, Lee JS, Shaffer T, Wall HK, **Brawner CA**, Thompson MP, **Keteyian SJ**, Sukul D, Luo F, and Jackson SL. Health Care Use and Expenditures Associated With Cardiac Rehabilitation Among Eligible Medicare Fee-for-Service Beneficiaries. *J Am Heart Assoc* 2025; e037811. Epub ahead of print. PMID: 39989369. Full Text

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Center for Medicare & Medicaid Innovation, Centers for Medicare & Medicaid Services Baltimore MD USA.
Division of Cardiovascular Medicine Henry Ford Health Detroit MI USA.
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BACKGROUND: Cardiac rehabilitation (CR) can improve cardiovascular health. We identified whether CR participation was associated with fewer subsequent inpatient hospitalizations and emergency department visits and less Medicare and out-of-pocket expenditures, and whether outcomes varied by amount of participation. METHODS: This retrospective study used Medicare fee-for-service claims data, including beneficiaries with a CR-qualifying event in 2016. Participants attended ≥2 sessions of CR within 365 days of the event. Propensity score matching was used to identify CR-eligible nonparticipants. Difference-in-differences analyses were used to compare differences in outcomes before (2014-2015) and after (2018-2019; 2-year CR period=2016-2017) the CR period between participants and nonparticipants. RESULTS: We identified 57 668 CR-eligible beneficiaries after matching, with equal numbers of participants and nonparticipants. Nearly 65% of beneficiaries had a percutaneous coronary intervention, 33.5% had an acute myocardial infarction, 17.5% had a coronary artery bypass graft, and 16.8% had a heart valve repair/replacement. Compared with nonparticipants, participants had 47.6 fewer subsequent annual inpatient hospitalizations per 1000 beneficiaries (95% CI, -58.8 to -36.3) and $1005 lower subsequent annual Medicare expenditures per beneficiary (95% CI, -$1352 to -$659). Compared with no participation, medium participation (12-23 sessions), high participation (24-35 sessions), and CR completion (≥36 sessions) were associated with fewer inpatient hospitalizations and lower Medicare expenditures per year. CONCLUSIONS: CR was associated with fewer subsequent annual inpatient hospitalizations and lower subsequent annual Medicare expenditures. A higher amount of participation

was associated with a further reduction in hospitalizations and expenditures. These findings can inform programs and policies that encourage CR participation.

Cardiology/Cardiovascular Research

Shapiro MD, Haddad TM, Weintraub HS, Baum SJ, **Abdul-Nour K**, Sarwat S, Paluy V, Boatwright W, Browne A, Ayaz I, Abbas CA, and Ballantyne CM. Lipoprotein(a) levels in a population with clinical atherosclerotic cardiovascular disease in the United States: A subanalysis from the Lp(a)HERITAGE study. *J Clin Lipidol* 2024; Epub ahead of print. PMID: 39909772. Full Text

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BACKGROUND: Elevated lipoprotein(a) (Lp[a]) is the most common inherited dyslipidemia that is independently and causally associated with increased atherosclerotic cardiovascular disease (ASCVD) risk. However, data from diverse populations with ASCVD are lacking. OBJECTIVE: To evaluate Lp(a) levels in a diverse, contemporary United States (US) population with ASCVD, stratified by race, ethnicity, and sex. METHODS: Lp(a)HERITAGE (NCT03887520) was a multicenter study that estimated the prevalence of elevated Lp(a) in adults (18-80 years) with ASCVD. US participants with Lp(a) measured in nmol/L pre- or post-enrollment were included in this subanalysis. This study was descriptive; therefore, no statistical comparisons were made. RESULTS: Of all US participants, 14% had an Lp(a) measurement pre-enrollment. This subanalysis included 7679 US participants with Lp(a) measurements in nmol/L (80.5% White; 66.4% male; mean age 63.8 years [standard deviation ± 9.7]). Median Lp(a) was >2.5-fold higher in Black participants (132.0 nmol/L; IQR, 57.1-239.6) vs the overall population (52.1 nmol/L; IQR, 15.7-167.8), and higher in females compared with males (69.4 nmol/L; IQR, 20.1-194.7 vs 45.6 nmol/L; IQR, 14.0-152.6, respectively). Lp(a) levels ≥125 nmol/L were more prevalent among Black (52.0%) and female (38.9%) participants vs the overall population (33.3%). CONCLUSION: In US Lp(a)HERITAGE participants, only 14% had an Lp(a) measurement pre-enrollment, despite having ASCVD. One-third of participants demonstrated Lp(a) levels ≥125 nmol/L, the threshold for high ASCVD risk, which was higher among Black (1/2) and female (2/5) participants, suggesting a greater need for Lp(a) testing in these groups to inform ASCVD risk mitigation.

Cardiology/Cardiovascular Research

Spehar SM, Seth M, Collins JF, Dixon SR, **Pielsticker E**, Lee D, Zainea M, **LaLonde T**, Arora D, Sukul D, and Gurm HS. Evaluating Percutaneous Coronary Intervention Safety, Quality, and Appropriateness Across Michigan Using Blinded Cross-Institutional Peer Review. *Circ Cardiovasc Qual Outcomes* 2025; e011031. Epub ahead of print. PMID: 40008428. Full Text

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BACKGROUND: Several quality improvement initiatives have focused on the quality gap in percutaneous coronary intervention (PCI), yet significant variations in quality persist. Our objective was to use a novel blinded peer review system to evaluate PCI quality, safety, and appropriateness across Michigan. METHODS: Single-vessel PCI cases were randomly selected from the Blue Cross Blue Shield of Michigan Cardiovascular Consortium registry across Michigan (2018-2020), and anonymized angiograms and pertinent case records were uploaded to a secure server. Cases were reviewed by blinded interventional cardiologists internal and external to the institution, using a standardized peer review form and rated on procedural quality, safety, and appropriateness. We compared appropriateness ratings between reviewers and registry-based appropriateness criteria. RESULTS: We conducted 1627 independent peer reviews of 961 cases; 23.7% of cases were for non-ST-segment-elevation myocardial infarction, and 36.4% were for ST-segment-elevation myocardial infarction. The majority (96.4%) of reviewers rated angiogram quality as excellent or adequate. Reviewers noted a complication or suboptimal result in 11.1% of reviews; 44.0% of these were deemed avoidable. Most PCI procedures were considered appropriate or may be appropriate, (87.1%) by all those reviewing. Reviewers were less likely to categorize PCI cases as appropriate compared with registry-based appropriate use criteria definitions (73.1% versus 93.3%). The percentage of cases rated as both appropriate/may be appropriate and technically competent ranged from 76.7% to 100% across sites. CONCLUSIONS: While the overall quality and appropriateness of PCI in Michigan are high, key opportunities to improve care were identified. Additional studies are needed to assess the utility of expanding this approach across the United States.

Cardiology/Cardiovascular Research

Villablanca PA, and Jabri A. Beyond the Valve: When Kidneys Shape the Destiny of M-TEER Outcomes. *JACC Asia* 2025; 5(2):283-284. PMID: 39967219. Full Text

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Center for Health Policy and Health Services Research

Gelino BW, Rabinowitz JA, Maher BS, **Felton JW**, Yi R, Novak MD, Sanchez-Roige S, Palmer AA, and Strickland JC. Delay discounting data in the Adolescent Brain Cognitive Development (ABCD) study: Modeling and analysis considerations. *Exp Clin Psychopharmacol* 2025; Epub ahead of print. PMID: 39992757. Full Text

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This report provides a primer to delay discounting data in the context of the Adolescent Brain Cognitive Development (ABCD) Study. Delay discounting describes the tendency for organisms to devalue temporally constrained outcomes. This decision-making framework has garnered attention from multiple fields for its association with various behavioral health conditions like substance use disorder. Importantly, the literature on delay discounting describes many approaches to analyzing and interpreting discounting data. To be most beneficial to the broader scientific audience, consistency and reproducibility in how delay discounting data are operationalized, analyzed, and interpreted is key. We describe relevant data analysis methods for use with the ABCD Study, a large-cohort longitudinal study (N = 11,878) examining delay discounting among youth respondents across child and adolescent development. Particular attention is given to data collected from children and younger populations given their relevance to ABCD

research and potential merit for unique analytic considerations (e.g., higher rates of atypical responding). We first provide a background on the broad theoretical and conceptual aspects of discounting research. We then review discounting assessment, describing conventional titration tasks and the more novel algorithm-based approaches to generating descriptive metrics. We conclude with recommendations for best practice modeling, data handling and exclusions based on nonsystematic data, and ensuing interpretations. Analytic pipelines and coding are provided for investigator use. (PsycInfo Database Record (c) 2025 APA, all rights reserved).

Center for Health Policy and Health Services Research
Haley EN, **Braciszewski JM**, **Carlin AM**, **Snodgrass M**, **Pearl ES**, **Loree AM**, and **Miller-Matero LR**. Gender and Racial Differences in the Overvaluation of Shape, Weight, Excess Skin, and Psychosocial Correlates Following Bariatric Surgery. *Obes Surg* 2025; Epub ahead of print. PMID: 39939575. Full Text

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BACKGROUND: Overvaluation of shape and weight (OSW) is a risk factor for psychopathology in those who have undergone bariatric surgery, and overvaluation of excess skin (OES) may present similar psychological risks. Identifying potential gender and racial differences in post-surgical OSW and OES, and their associations with psychosocial outcomes, may inform more individualized assessment and treatment for those who have undergone bariatric surgery. METHODS: In this cross-sectional study, individuals up to 4 years post-bariatric surgery completed an online survey of various psychosocial outcomes. Overvaluation was examined via the shape and weight overvaluation subscale of the Eating Disorders Examination Questionnaire (EDE-Q), and a modified item was used to assess the overvaluation of excess skin. Quality of life (QOL), depression, and anxiety symptoms were also examined. Gender and racial differences in OSW and OES were examined. Correlations were obtained between OSW/OES, QOL, and psychological symptoms among gender and racial groups. RESULTS: Of 735 participants, women endorsed significantly greater OES than men ($p = .008$). There were no significant gender differences in OSW. White patients endorsed greater OSW than Black patients ($p < .001$), and there were no racial differences in OES. OSW and OES were inversely correlated with QOL among all groups. OSW and OES were positively associated with anxiety and depressive symptoms among both racial groups and women. CONCLUSION: Women may be at greater risk for OES than men, while White patients may be at increased risk for OSW. However, OSW/OES related to poorer QOL in all groups, and greater psychological symptoms in women.

Center for Health Policy and Health Services Research
Johnson JE, **Clement J**, Sikorskii A, **Loree A**, Meulen MV, Roman L, Dearing JW, Bolder H, White JM, Sokol R, and Meghea C. A cluster randomized stepped wedge implementation trial of scale-up approaches to ending pregnancy-related and -associated morbidity and mortality disparities in 12 Michigan counties: rationale and study protocol. *Implement Sci Commun* 2025; 6(1):19. PMID: 39980059. Full Text

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BACKGROUND: Hospital-focused maternal health safety and quality guidelines have been found to reduce pregnancy-related and -associated morbidity and mortality (PRAMM). Unfortunately, quality of obstetric care can improve without affecting disparities. This project is the first controlled implementation trial to test approaches to implementing safety guidelines that: (1) target PRAMM disparities; and (2) focus on community care (care provided outside hospitals in outpatient and other community settings, and coordination among care settings), where most deaths occur. It is also one of the first to test scale-up or sustainment implementation approaches to addressing maternal morbidity and mortality disparities. METHODS: This project, one of three in the federally funded Multilevel Interventions for Raci.a.l Equity (MIRACLE) Maternal Health Research Center of Excellence, will develop and evaluate an implementation approach for scaling up bundled equity-focused maternal health safety guidelines in community care settings county-wide. The scale-up approach will be co-developed with partners, and then tested using a cluster randomized stepped-wedge trial of 12 Michigan counties with a total population of nearly 6 million. Randomization occurs at the county level; birthing people and providers are clustered within counties. PRAMM outcomes (individual level; primary) will be extracted from a pre-existing statewide linked dataset that includes Medicaid claims and vital records data. The sample will include all Medicaid insured individuals in the 12 counties observed during pregnancy, at birth, and up to 1 year postpartum during the project period (~ 151,920 births, including ~ 49,110 births to Black and/or Hispanic mothers). Implementation outcomes (provider level) will be collected using annual provider (n = 600) surveys and will include scale-up (penetration, reach, control for delivery, and intervention effectiveness at scale) and sustainment (maintenance of fidelity to core elements, health benefits, and capacity to deliver core elements over time) of bundles and cost-effectiveness of implementation approaches. DISCUSSION: This implementation trial will be the first to evaluate an implementation approach to scaling community health equity-focused maternal safety guidelines, addressing an understudied aspect of implementation science (i.e., scale-up). The study will also provide information about implementation cost-effectiveness needed to drive policy decisions. TRIAL REGISTRATION: The study was prospectively registered on Clinicaltrials.gov (NCT06541951) on August 6, 2024. The first participant has not yet been recruited. The url for the trial registration is: https://clinicaltrials.gov/study/NCT06541951?locStr=Flint,%20MI&country=United%20States&state=Michigan&city=Flint&rank=1 .

Center for Health Policy and Health Services Research

Matson TE, Lee AK, Miech EJ, Wartko PD, Phillps RC, Shea M, Altschuler A, Campbell ANC, Labelle CT, Arnsten JH, **Braciszewski JM**, Glass JE, Horigian VE, Murphy MT, Zare-Mehrjerdi M, and Bradley KA. The difference-making role of staff support in implementing nurse care management for opioid use disorder treatment: A configurational analysis. *J Subst Use Addict Treat* 2025; 209642. Epub ahead of print. PMID: 39961581. Full Text

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INTRODUCTION: Understanding conditions in which interventions succeed or fail is critical. The PRimary care Opioid Use Disorders treatment (PROUD) trial, a cluster-randomized hybrid study, tested whether implementation of office-based addiction treatment supported by a nurse increased medication of OUD. Six health systems each provided two primary care (PC) clinics that were randomly assigned to implement the intervention or usual care. This secondary, exploratory study used an innovative mixed methods approach to understand contextual factors that consistently distinguished intervention clinics that increased OUD treatment from those that did not. METHODS: The study collected contextual information through field notes, health system debriefs, and nurse interviews. Rapid qualitative analysis using a template based on the Practical, Robust Implementation and Sustainability Model identified themes reflecting the external environment, recipients, and implementation infrastructure. The study used qualitative themes to create binary factors reflecting barriers and facilitators potentially critical to implementation success and assigned clinics a factor value of 1 if present and 0 if absent. Two clinic-level outcomes were defined: 1) significant increase in patient-years of OUD treatment from baseline to two-year follow-up; and 2) high rate of OUD treatment at two-year follow-up (≥20 per 10,000 patient-years). Coincidence analysis, a cross-case configurational method, identified difference-makers for both OUD outcomes across intervention clinics. RESULTS: Qualitative analysis yielded 11 themes which were dichotomized and consolidated into 9 factors. Two factor values perfectly distinguished between intervention clinics with and without increased OUD treatment (outcome #1): (a) presence of strong support from PC staff and providers and (b) lack of OUD treatment in the community. Intervention clinics increased OUD treatment when either factor value was present; when both were absent, clinics did not increase treatment. Strong support from PC staff and providers was independently sufficient to achieve high rates of OUD treatment (outcome #2) while the absence of support explained low rates of treatment. Importantly, strong support from leadership was not sufficient for either outcome. CONCLUSION: Strong support from staff and providers consistently differentiated between clinics with increased OUD treatment across both outcomes in the PROUD trial from those without. OUD programs should consider increasing support across clinic roles.

Center for Health Policy and Health Services Research

Teotia A, Fulton BD, Arnold DR, and Scheffler RM. State-Level Hospital Quality in the United States: Analyzing Variation and Trends From 2013 to 2021. *J Healthc Qual* 2025; 47(1). PMID: 39970062. Full Text

OBJECTIVE: This study develops a hospital quality index to analyze state-level variations in hospital quality in the United States from 2013 to 2021, using data from 3,000 hospitals from the Centers for Medicare & Medicaid Services (CMS) Hospital Compare data set. DESIGN: The quality index combines

three risk-adjusted measures from the CMS Hospital Compare: 30-day readmission rate, 30-day mortality rate, and patient experience. Each measure is converted into a z-score, weighted by hospital beds, and averaged to form the final index, which has a mean of 0 and a standard deviation of 1. RESULTS: In 2021, the average U.S. hospital quality measures were 15.1% for readmissions, 11.2% for mortality, and 69.7% for patient experience. There was significant state-level heterogeneity. The quality index ranged from -0.54 to 0.57. Eight states notably outperformed the U.S. average, with Utah leading. Conversely, 14 states underperformed. From 2013 to 2021, there was an average annual improvement in readmissions (0.08pp) and mortality (0.12pp), but a decline in patient experience (0.27pp). CONCLUSIONS: The study highlights improvements in hospital quality over time but underscores disparities at the state level. The quality index provides a valuable tool for understanding and addressing these variations in hospital care quality.

Dermatology

Austin E, Wang JY, Ozog DM, Zeitouni N, **Lim HW**, and Jagdeo J. Photodynamic Therapy: Overview and Mechanism of Action. *J Am Acad Dermatol* 2025; Epub ahead of print. PMID: 39986394. Full Text

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Photodynamic therapy (PDT) is a versatile treatment with diverse applications in dermatology. PDT combines photosensitizers, most commonly 5-aminolevulinic acid (ALA) or methyl aminolevulinate (MAL), and a light source, such as light-emitting diodes (LEDs), fluorescent bulbs, lasers, flash lamps, or sunlight, in the presence of molecular oxygen to induce therapeutic effects primarily through singlet oxygen and reactive oxygen species generation. Downstream cellular and physiological effects include apoptosis, necrosis, and immune modulation. PDT efficacy depends on photosensitizer parameters, including photosensitizer type, concentration, dosing, temperature, and incubation time, and light source parameters such as light source, power density, wavelength, and fluence. PDT is generally safe and well tolerated; potential adverse effects such as pain and erythema are typically mild and self-limiting. Part I of this Continuing Medical Education (CME) provides a foundational overview of PDT principles, including mechanisms of action, photosensitizers, and light sources.

Dermatology

Brown A, Passeron T, Granger C, Gilaberte Y, Trullas C, Piquero-Casals J, Leone G, Schalka S, **Lim HW**, and Krutmann J. An evidence-driven classification of non-filtering ingredients for topical photoprotection. *Br J Dermatol* 2025; Epub ahead of print. PMID: 39946293. Full Text

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Dermatology

Feldman SR, Lovell K, Yi R, Harper J, Baldwin H, Lain T, **Stein Gold L**, Kircik L, Tanghetti E, and Guenin E. Early Acne Improvements With Fixed-Combination Topical Therapy: Analysis of the First 4 Weeks of Treatment. *J Drugs Dermatol* 2025; 24(1):79-87. PMID: 39761148. Full Text

BACKGROUND: Acne treatment can take weeks to deliver noticeable improvements, which may diminish patients' perception of treatment effectiveness and undermine treatment adherence. Combination topical treatments that target multiple acne pathophysiological pathways are more efficacious than topical monotherapies, and simplifying combination treatment by delivering multiple active ingredients as fixed combinations may improve adherence. METHODS: This review provides an overview of efficacy with 4 weeks of treatment in pivotal trials of fixed-combination topical treatments for acne. Outcomes assessed were reductions from baseline in inflammatory (IL) and noninflammatory lesions (NIL) and treatment success (≥2-grade reduction in global acne severity score and clear/almost clear skin). RESULTS: Data were compiled for 7 acne topicals, comprising fixed combinations of adapalene (ADAP), benzoyl peroxide (BPO), clindamycin phosphate (CLIN), and tretinoin (TRET). At week 4, lesion reductions from baseline ranged from 32 to 54% (IL) and 25 to 45% (NIL), while rates of treatment success ranged from 3 to 12%. Overall, efficacy was greatest with triple-combination CLIN 1.2%/ADAP 0.15%/BPO 3.1% gel (IL: 54-55%; NIL: 43-45%; treatment success: 8-12%), followed by combinations of ADAP/BPO (IL: ~42-48%; NIL: ~38%; treatment success: 4-~7%). CONCLUSIONS: In clinical trials of topical fixed-combination formulations, triple-combination CLIN 1.2%/ADAP 0.15%/BPO 3.1% gel yielded greater lesion reductions and rates of treatment success after 4 weeks of treatment than dyad combinations. Even greater differences may be expected with real-world world use, as early improvements may bolster treatment adherence and long-term outcomes. J Drugs Dermatol. 2025;24(1):79-87. doi:10.36849/JDD.8712.

Dermatology

Issa N, Alexis A, Baldwin H, **Hamzavi I**, Hebert A, Kwong P, Lain E, Moore A, Noor O, Schlesinger T, Weiss J, Woolery-Lloyd H, York JP, Holcomb KZ, Kircik L, and Chavda R. Recommendations to Improve Outcomes in Acne and Acne Sequelae: A Focus on Trifarotene and Other Retinoids. *Dermatol Ther (Heidelb)* 2025; Epub ahead of print. PMID: 39984798. Full Text

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Acne vulgaris affects nearly 50 million people in the USA, ranking as the eighth most prevalent disease globally. This chronic inflammatory skin condition often results in sequelae, including atrophic acne scars, acne-induced macular erythema and acne-induced hyperpigmentation, impacting patients' quality of life. This commentary article reviews the use of topical retinoids, with a particular emphasis on trifarotene cream 0.005%, for managing both acne and acne sequelae. Topical retinoids are considered central to improving treatment outcomes because of their established efficacy, safety and tolerability. Adapalene, tretinoin and tazarotene have demonstrated efficacy in reducing acne and acne sequelae in several studies. Trifarotene has been extensively studied in Phase 3 trials, demonstrating notable success in treating mild-to-moderate acne. Recently, two large-scale, randomized, blinded, Phase 4 clinical trials investigated trifarotene cream 0.005% in patients with atrophic acne scarring and acne-induced hyperpigmentation across all Fitzpatrick phototypes. The START study found that there was a greater reduction in total atrophic acne scar count in the trifarotene group compared with the vehicle group at Week 24 (55.2% vs 29.9%) with statistical significance established as early as Week 2 (P = 0.001). Based on this evidence, we recommend that topical retinoids should be introduced as first-line therapy for the treatment of acne and acne sequelae. Retinoids should be implemented into a treatment routine as early as possible, especially for patients with darker Fitzpatrick phototypes or patients at risk of atrophic acne scarring. Furthermore, retinoids should be incorporated within a comprehensive skincare regimen that includes adequate photoprotection when treating patients with darker Fitzpatrick phototypes. Finally, management of acne and acne sequelae should include maintenance therapy with topical retinoids. This article supports the American Academy of Dermatology's call for acne sequelae treatment guidance and emphasizes the need for continued research to optimize patient care.

Dermatology

Radhakrishna U, Kuracha MR, **Hamzavi I**, Saiyed N, Prajapati J, Rawal RM, Uppala LV, Damiani G, Ratnamala U, and Nath SK. Impaired Molecular Mechanisms Contributing to Chronic Pain in Patients with Hidradenitis Suppurativa: Exploring Potential Biomarkers and Therapeutic Targets. *Int J Mol Sci* 2025; 26(3). PMID: 39940809. Full Text

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Hidradenitis suppurativa (HS) is a chronic skin condition that primarily affects areas with dense hair follicles and apocrine sweat glands, such as the underarms, groin, buttocks, and lower breasts. Intense pain and discomfort in HS have been commonly noted, primarily due to the lesions' effects on nearby tissues. Pain is a factor that can influence DNA methylation patterns, though its exact role in HS is not fully understood. We aim to identify molecular markers of chronic pain in HS patients. We performed DNA methylome of peripheral blood DNA derived from a group of 24 patients with HS and 24 healthy controls, using Illumina methylation array chips. We identified 253 significantly differentially methylated CpG sites across 253 distinct genes regulating pain sensitization in HS, including 224 hypomethylated and 29 hypermethylated sites. Several genes with pleiotropic roles include transporters (ABCC2, SLC39A8,

SLC39A9), wound healing (MIR132, FGF2, PDGFC), ion channel regulators (CACNA1C, SCN1A), oxidative stress mediators (SCN8A, DRD2, DNMT1), cytochromes (CYP19A, CYP1A2), cytokines (TGFB1, IL4), telomere regulators (CSNK1D, SMAD3, MTA1), circadian rhythm (IL1R2, ABCG1, RORA), ultradian rhythms (PHACTR1, TSC2, ULK1), hormonal regulation (PPARA, NR3C1, ESR2), and the serotonin system (HTR1D, HTR1E, HTR3C, HTR4, TPH2). They also play roles in glucose metabolism (POMC, IRS1, GNAS) and obesity (DRD2, FAAH, MMP2). Gene ontology and pathway enrichment analysis identified 43 pathways, including calcium signaling, cocaine addiction, and nicotine addiction. This study identified multiple differentially methylated genes involved in chronic pain in HS, which may serve as biomarkers and therapeutic targets. Understanding their epigenetic regulation is crucial for personalized pain management and could enhance the identification of high-risk patients, leading to better preventative therapies and improved maternal and neonatal outcomes.

Dermatology

Silverberg JI, Bieber T, Paller AS, Beck L, Kamata M, Puig L, Wiseman M, Ezzedine K, Irvine AD, Foley P, Del Rosso J, **Gold LS**, Johansson E, Dossenbach M, Gallo G, Akmaz B, Casillas M, Karlsson A, Curteis T, and Chovatiya R. Lebrikizumab vs Other Systemic Monotherapies for Moderate-to-Severe Atopic Dermatitis: Network Meta-analysis of Efficacy. *Dermatol Ther (Heidelb)* 2025; Epub ahead of print. PMID: 39953372. Full Text

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INTRODUCTION: A systematic literature review and network meta-analysis (NMA) were conducted to compare the short-term efficacy of lebrikizumab to other biologic and Janus kinase (JAK) inhibitor monotherapies approved for moderate-to-severe atopic dermatitis in adults and adolescents. METHODS: The NMA included randomized, double-blind, placebo-controlled monotherapy phase 2 and 3 trials of biologics (lebrikizumab 250 mg every 2 weeks [Q2W], dupilumab 300 mg Q2W, and tralokinumab 300 mg Q2W) and JAK inhibitors (abrocitinib 100/200 mg daily, baricitinib 2/4 mg daily, and upadacitinib 15/30 mg daily) at approved doses. Efficacy outcomes included the proportions of patients achieving Eczema Area and Severity Index (EASI) improvement, an Investigator Global Assessment of 0 or 1 (IGA 0/1), and a ≥ 4-point improvement in pruritus/itch numeric rating scale score at 12 weeks (abrocitinib) or 16 weeks (other treatments). Itch was also assessed at week 4. A Bayesian NMA employing baseline risk-adjusted random effects models was used to estimate treatment differences. RESULTS: Twenty-two monotherapy studies involving 8531 patients were included in the NMA. By week 12/16, lebrikizumab had superior odds of achieving IGA 0/1 and itch improvement compared to baricitinib and tralokinumab; similar odds to dupilumab, abrocitinib, and upadacitinib 15 mg; and inferior odds to upadacitinib 30 mg. Additionally, lebrikizumab had a higher probability of improving EASI than baricitinib 2 mg; similar probability to

baricitinib 4 mg, tralokinumab, dupilumab, abrocitinib, and upadacitinib 15 mg; and lower probability than upadacitinib 30 mg daily. At week 4, lebrikizumab had superior odds of improving itch compared to tralokinumab; similar odds to baricitinib, dupilumab, and abrocitinib 100 mg; and inferior odds to abrocitinib 200 mg and upadacitinib. CONCLUSION: Among biologics, lebrikizumab was comparable to dupilumab and superior to tralokinumab in improving response rates at week 16. Upadacitinib 30 mg was the only JAK inhibitor with superior response rates compared to lebrikizumab.

Dermatology
Veenstra J, **Ozog D**, and **Stephens A**. Benzoyl Peroxide Acne Treatment Shows No Significant Association with Benzene-Related Cancers: A Multicenter Retrospective Analysis. *J Am Acad Dermatol* 2025; Epub ahead of print. PMID: 39986390. Full Text

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Dermatology
Wang JY, Zeitouni N, Austin E, Jagdeo J, **Lim HW**, and **Ozog DM**. Photodynamic Therapy: Clinical Applications in Dermatology. *J Am Acad Dermatol* 2025; Epub ahead of print. PMID: 39986392. Full Text

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Photodynamic therapy (PDT) is a non-invasive treatment modality that uses photosensitizers in conjunction with a light source to induce therapeutic effects mediated in part through reactive oxygen species. PDT can be used as monotherapy or in combination with other treatments. In the United States, PDT is approved by the Food and Drug Administration for the treatment of actinic keratoses and is utilized off-label for other dermatologic conditions. Studies show that PDT has a favorable safety profile and, in order of level of evidence, has been used to treat actinic keratoses, basal cell carcinoma, cutaneous squamous cell carcinoma in situ, acne, port wine stains, cutaneous infections, photoaging, actinic cheilitis, mycosis fungoides, rosacea, alopecia areata, and Extramammary Paget disease. Part II of this CME provides a comprehensive overview of dermatologic clinical applications of PDT. Understanding the expanding evidence-based applications of PDT is crucial for dermatologists to ensure patient safety and optimize patient outcomes through tailored treatment protocols. Herein, we provide clinical descriptions of how to treat various dermatologic diseases using PDT so that clinicians may incorporate PDT into their practice.

Dermatology
Wiala A, Elhage KG, Leung A, **Young AT**, **Gregory M**, **Adrianto I**, **Zhou L**, **Mi QS**, Kumar S, Orcales F, Yeroushalmi S, Haran K, Liu J, Naik HB, Liao W, and Posch C. Patients with PSOriasis and Suppurative Hidradenitis (PSO-SH) share genetic risk factors and are at risk of increased morbidity. *J Am Acad Dermatol* 2025; Epub ahead of print. PMID: 39929305. Full Text

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BACKGROUND: Select patients are diagnosed with both, psoriasis (PSO) and hidradenitis suppurativa (HS), leading to a unique disease pattern. Genetic risk factors remain unidentified. METHODS: The study harnessed an international collection of patients with psoriasis and HS (PSO-SH). Clinical and genetic data was collected and analyzed. RESULTS: 87 PSO-SH patients (70% female) were identified. They had a high number of comorbidities (89%), and worse general physical health compared to PSO-only (OR 3.09 95%CI 1.56-6.12) or HS-only (OR 2.5, 95%CI 1.23-5.00) patients. PSO-SH patients were at significantly higher risk of having Crohn's disease (OR 4.6-11.9; 95% CI). Data revealed the highest overall genetic risk score for PSO-SH patients (PSO-PRS; 108.22), followed by PSO (101.18), HS (99.84), and healthy controls (98.58). High non-HLA scores were associated with an increased risk for developing both psoriasis and HS, indicating a distinct biological profile compared to HS-only and PSO-only individuals. LIMITATIONS: Some clinical information was collected retrospectively. CONCLUSIONS: This study highlights a shared genetic susceptibility of HS and psoriasis at non-HLA loci. Recognizing PSO-SH patients as a distinct patient group with high morbidity and increased risk for developing Crohn's disease will help to improve patient management.

Dermatology

Wortsman X, Alfageme F, Dini V, García-Martínez FJ, Caposiena Caro RD, Frew J, Gonzalez C, **Hamzavi IH**, **Kohli I**, Krajewski PK, Kuyumllian M, Liu J, Mandava A, Nazzaro G, O'Brien E, Oranges T, Pelizzari M, Rezende J, Romani J, Sigrist R, Taleb E, Zattar L, Zavariz J, and Martorell A. International consensus statement on the use of ultrasound in hidradenitis suppurativa. *J Eur Acad Dermatol Venereol* 2025; Epub ahead of print. PMID: 39963815. Full Text

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BACKGROUND: So far, the evidence on the use of ultrasound (US) in hidradenitis suppurativa (HS) demonstrates the utility of US in the diagnosis, scoring and assessment of HS; however, to date, there is no international consensus statement on the use of US in HS, and several published guidelines do not include this topic. OBJECTIVES: To create an international consensus statement on using US in HS that can cover and validate relevant aspects. METHODS: A three-round Delphi study with a panel of international experts representing four continents and working with US in HS in their daily practice. The inclusion criteria of the experts and the set of questions in the survey were defined by a steering committee. A consensus of recommendation was defined when the percentage of agreement (sum of strongly agree and agree) was ε 70%. In between 50% and 69% of agreement, a suggestion was considered. Lower than 50% meant no consensus. RESULTS: Twenty-four international experts from 14 countries participated in the study. A high percentage of consensus (96.4%) was achieved for important aspects of the use of US in HS, including the ultrasonographic indications, technical considerations, training, diagnostic criteria, staging systems, monitoring, support of US-guided procedures and planning of surgery, and the need for US in research and clinical trials. CONCLUSIONS: An international group of experts created a consensus statement with validated recommendations on the use of US in HS. Despite the challenges of the implementation of ultrasound in HS, this task force highly recommends the use of US in HS.

Diagnostic Radiology

Musall BC, and **Bosca-Harasim RJ**. Editorial for "Influence of Multiband Technique on Temporal Diffusion Spectroscopy and Its Diagnostic Value in Breast Tumors". *J Magn Reson Imaging* 2025; Epub ahead of print. PMID: 40019859. Full Text

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Emergency Medicine

Garrison-Desany HM, Meyers JL, Linnstaedt SD, Koenen KC, House SL, Beaudoin FL, An X, Neylan TC, Clifford GD, Jovanovic T, Germine LT, Bollen KA, Rauch SL, Haran JP, Storrow AB, **Lewandowski C**, Musey PI, Jr., Hendry PL, Sheikh S, Jones CW, Punches BE, Pascual JL, Seamon MJ, Harris E, Pearson C, Peak DA, Domeier RM, Rathlev NK, O'Neil BJ, Sergot P, Bruce SE, McLean SA, and Denckla CA. Multi-level socioeconomic modifiers of the comorbidity of post-traumatic stress and tobacco, alcohol, and cannabis use: the importance of income. *Soc Psychiatry Psychiatr Epidemiol* 2025; Epub ahead of print. PMID: 39918603. Full Text

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PURPOSE: Post-traumatic stress (PTS) symptoms are highly comorbid with substance use (i.e., alcohol, tobacco, and cannabis). Few studies have investigated potential individual-, household-, and neighborhood-level socioeconomic effect modifiers of this comorbidity in longitudinal analyses. We aim to examine interactions between this multi-level environment and PTS symptoms on future substance use behaviors. METHODS: Data were drawn from the Advancing Understanding of RecOvery afteR traumA (AURORA) study, including 2943 individuals who presented to the emergency department (ED) within 72 h of a traumatic event. Frequency of tobacco, alcohol, cannabis use, and PTS symptoms were reported at 6 timepoints. Mixed effect Poisson models, clustered by state, were used to generate incidence rate ratios (IRRs) substance use, both cross-sectionally and prospectively. Moderation analysis of PTS and substance use, stratified by household income and area deprivation index (ADI), was conducted using mixed effect models and parallel process growth curves. RESULTS: Significant associations were observed between PTS with tobacco, alcohol, and cannabis use frequency cross-sectionally, and for tobacco and alcohol and PTS exposure prospectively. Lower income ($P < 0.001$) and higher deprivation ($P < 0.001$) were associated with tobacco use, while higher income ($P < 0.001$) and less deprivation ($P = 0.01$) were associated with increased alcohol use. We found modest modification by household income for alcohol and tobacco, and little evidence of modification by neighborhood ADI. CONCLUSIONS: Household income had greater evidence of effect modification for substance use, compared to neighborhood-level ADI. Our findings demonstrate that household indicators of socioeconomic status likely modify the relationship between PTS and substance use.

Emergency Medicine

Goyal N, **Vohra TT**, and **Champagne S**. Residents Vote! A Framework and Toolkit to Improve Resident Voting Rates. *J Grad Med Educ* 2025; 17(1):96-100. PMID: 39980964. Full Text

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Background Elections substantially impact health care, yet physicians vote less frequently compared to the general population. Engaging residents and fellows in elections, during training when professional identities are formed, may improve physician voting rates. Objective To examine the feasibility and acceptability of a centralized, institution-wide approach to improve graduate medical education (GME) trainee awareness, registration, and participation in the electoral process. Methods Our framework was implemented in academic year 2023-2024, leading up to the 2024 Michigan presidential primary election. It included: voter registration instruction during resident orientation; emails with election deadlines and nonpartisan voting information; distribution of wearable buttons displaying QR codes linking to information on voter registration, early voting, and mail-in ballots; and informational sessions with legislative experts. We created an open-access GME toolkit for other institutions. We measured trainee voting rates using a single text message question on election day. Results Of 1041 trainees, 115 (11%) attended 4 informational sessions; informal feedback was positive. One hundred twenty-three of 826 trainees (15%) responded to the text message question: 35 of 81 (43%) eligible voters reported having voted or planning to do so that day (statewide rate=23%). No additional funding was required. The institutional GME office provided support for operationalization and wearable buttons. Henry Ford Health Government Affairs supported the informational sessions (held during routine didactic time). Conclusions A series of interventions to improve GME trainees' participation in elections appeared to enhance participation in a primary election with low effort and apparent acceptability. An online toolkit with reference data, tips, and tools was created to allow others to replicate this effort.

Emergency Medicine

Hawatian K, Sidani M, **Hagerman T**, **Condon S**, **Chien C**, and **Miller J**. Contemporary Approach to Acute Pancreatitis in Emergency Medicine. *JACEP Open* 2025; 6(2). PMID: Not assigned. Full Text

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Acute pancreatitis is a commonly encountered pathology in the emergency department. We presented a clinical review summarizing the contemporary emergency medicine approach to managing acute pancreatitis. Although the diagnostic criteria for acute pancreatitis are straightforward, it has many possible causes, several treatment options, and both short- and long-term sequelae. We discussed diagnostic, intervention, and disposition considerations relevant to emergency clinicians and considered risk assessment using available clinical decision tools. We also discussed changes to traditional treatments and ongoing investigational therapies, including steroids, monoclonal antibodies, and calcium release-activated calcium channel inhibitors.

Emergency Medicine
Jayaprakash N, Sarani N, Nguyen HB, and Cannon C. Sepsis Resuscitation: Caution Against Conflating Initial Fluid Resuscitation and Overall Sepsis Management. *JACEP Open* 2025; 6(2). PMID: Not assigned. Full Text

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Emergency Medicine
Li W, **Bunch CM**, **Zackariya S**, **Patel SS**, **Buckner H**, **Condon S**, Walsh MR, **Miller JB**, Walsh MM, Hall TL, Jin J, Stegemann JP, and Deng CX. Resonant acoustic rheometry for assessing plasma coagulation in bleeding patients. *Sci Rep* 2025; 15(1):5124. PMID: 39934385. Full Text

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Disordered hemostasis associated with life-threatening hemorrhage commonly afflicts patients in the emergency department, critical care unit, and perioperative settings. Rapid and sensitive hemostasis phenotyping is needed to guide administration of blood components and hemostatic adjuncts to reverse aberrant hemostasis. Here, we report the use of resonant acoustic rheometry (RAR), a technique that quantifies the viscoelastic properties of soft biomaterials, for assessing plasma coagulation in a cohort of 38 bleeding patients admitted to the hospital. RAR captured the dynamic characteristics of plasma coagulation that were dependent on coagulation activators or reagent conditions. RAR coagulation parameters correlated with TEG reaction time and TEG functional fibrinogen, especially when stratified by comorbidities. A quadratic classifier trained on selective RAR parameters predicted transfusion of fresh frozen plasma and cryoprecipitate with modest to high overall accuracy. While these results demonstrate the feasibility of RAR for plasma coagulation and utility of a machine learning model, the relative small number of patients, especially the small number of patients who received transfusion, is a limitation of this study. Further studies are need to test a larger number of patients to further validate the capability of RAR as a cost-effective and sensitive hemostasis assay to obtain quantitative data to guide clinical-decision making in managing severely hemorrhaging patients.

Emergency Medicine
Miller J, **Moloney JA**, Elagamy N, **Tuttle J**, **Tirgari S**, Calo S, Thompson R, Nahab B, **Lewandowski C**, and Levy P. Cerebral blood flow change with fluid resuscitation in acute ischemic stroke. *Brain Circ* 2024; 10(4):303-307. PMID: 40012591. Full Text

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BACKGROUND: In acute ischemic stroke (AIS), cerebral autoregulation becomes dysfunctional, impacting the brain's ability to maintain cerebral blood flow (CBF) at adequate levels. Reperfusion of affected and nearby brain tissue in AIS is currently the aim of treatment in AIS, but the effectiveness of fluid resuscitation on increasing the CBF is debated. OBJECTIVE: We investigated the hypothesis that early fluid resuscitation with normal saline bolus would improve CBF velocity in the initial resuscitation of patients with AIS. METHODS: We conducted a prospective, quasi-experimental study on 30 patients in the early stages of AIS management. Patients had a National Institutes of Health Stroke Scale (NIHSS) score of 3 or higher. Patients met inclusion criteria if they were 18-90 years old and had time of stroke onset within 12 h. Patients with a severe underlying disability, hemorrhagic stroke, advanced directives for comfort care/hospice, as well as pregnant patients were excluded. Noninvasive hemodynamic monitoring was performed. We performed transcranial Doppler (TCD) insonation of the middle cerebral arteries (MCAs) to measure CBF velocity. Each patient received a 500-ml normal saline crystalloid bolus as a standardized intervention, then had hemodynamic and TCD measurements repeated. Analysis was limited to patients with stroke confirmed with neuroimaging. Mean flow velocity (MFV) was compared before and postreceiving the bolus in the MCA ipsilateral to the ischemic location. RESULTS: Thirty patients were analyzed who had confirmed AIS. The mean age was 53 ± 13 years, 50% were female, and the median NIHSS was 6 (interquartile range: 4-7). Outcomes measured included various cerebrovascular and cardiovascular parameters. Infusion of 500-mL normal saline bolus produced increases in systolic blood pressure (+7 mmHg, 95% confidence interval [CI] 0.6-13 mmHg) and stroke volume (SV) index (+2.2 ml/m(2), 95% CI 0.3-4.1 ml/m(2)). The mean change in MFV was not statistically significant (+0.3 cm/s, 95% CI-3.7-4.3 cm/s). An adjusted model showed higher age and lower baseline SV index were not associated with improved MFV following administration of the fluid bolus. CONCLUSION: Our prospective study of AIS patients revealed that a fluid bolus improves hemodynamic parameters, but did not significantly increase CBF velocity. TRIAL REGISTRATION: clinicaltrials.gov (identifier: NCT02056821).

Emergency Medicine

Molina MF, Bhananker A, Torres B, **Owda D**, Ordoñez E, and Chary AN. Navigating Nonlinear Pathways: Challenges and Opportunities for Diversity, Equity, and Inclusion Leaders in Academic Emergency Medicine. *J Am Coll Emerg Physicians Open* 2025; 6(2):100060. PMID: 40034199. Full Text

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OBJECTIVES: Diversity, equity, and inclusion (DEI) leadership roles have grown in academic emergency medicine (EM). We sought to elucidate specific pathways to DEI leadership roles among current DEI leaders in academic EM. METHODS: From March to May 2023, we conducted semistructured, qualitative interviews with DEI leaders in academic EM across 5 US regions to investigate their pathways to leadership. Participants were recruited via email using Accreditation Council for Graduate Medical Education-accredited EM residency websites and the Academy for Diversity and Inclusion in EM. After recording and transcribing the interviews, we used an inductive approach to identify major themes.

RESULTS: Of 56 DEI leaders contacted, 25 agreed to participate, and 21 were interviewed. The median (range) interview duration was 34 (25-63) minutes. Leadership titles included directors, chairs, vice chairs, committee chairs, chiefs, advisors, and deans. Three major themes emerged: (1) nonlinear pathways-participants reached DEI roles through informal assumption, volunteering, or self-creation, often without initial aspiration or compensation; (2) undefined roles and expectations-roles and responsibilities were often determined by leaders themselves, with advantages and disadvantages; (3) variable perceived value in promotions-participants felt DEI efforts were frequently undervalued in academic promotion, with mentorship highlighted as crucial for translating DEI activities into academic achievements. CONCLUSION: Our study provides important insights not only into the pathways to DEI leadership among current leaders in academic EM but also into the challenges and opportunities DEI leaders perceive when navigating roles, responsibilities, and academic promotion.

Endocrinology and Metabolism

Arjunan D, Minisola S, **Rao SD**, and Bhadada SK. Changing trends in clinical presentation of primary hyperparathyroidism across countries over time. *Best Pract Res Clin Endocrinol Metab* 2025; 101980. Epub ahead of print. PMID: 39920032. Full Text

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Primary hyperparathyroidism (PHPT), the third most common endocrine disorder, was so eloquently described first by Fuller Albright as a polymorphic condition in his classic paper and monograph as early as 1934. Over the decades, the clinical presentation of PHPT in developed countries has shifted significantly from a disease primarily affecting the bones and kidneys to an asymptomatic condition often discovered incidentally. In developing countries, the high prevalence of vitamin D deficiency is one of the main factors influencing the clinical presentation of PHPT. In Europe and North America, PHPT is predominantly asymptomatic. In South America, China, and Eastern parts of Europe, such as Turkey, Bulgaria, and Russia, there is an ongoing transition from symptomatic to asymptomatic cases. Asia shows variability: symptomatic cases dominate in the Indian subcontinent, Middle East, and Southeast Asia, while transitional patterns with predominant asymptomatic cases have now been reported in China, and Japan reports mostly asymptomatic cases. Factors influencing these changes include advancements in diagnostic technologies, detection of incidental parathyroid adenomas during thyroid ultrasonography, regional differences in vitamin D deficiency, dietary habits, and genetic polymorphisms in vitamin D and calcium-sensing receptors. A higher prevalence of nephrolithiasis in certain climates contributes to regional variations. This review examines the dynamic nature of PHPT's clinical presentation, shaped by geographic, genetic, and environmental influences. Also, this review highlights the importance of addressing global disparities in an attempt to optimize patient outcomes.

Endocrinology and Metabolism

Oravec D, **Zaman R**, **Rao S**, **Chang V**, **Divine G**, and **Yeni YN**. Facet joint distance measurement using digital tomosynthesis while standing. *J Biomech* 2025; 183:112596. PMID: 40023053. Full Text

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The zygapophyseal (facet) joint plays a critical role in load transmission and stability of the spine, and facet degeneration is a common consequence of aging and osteoarthritis. The ability to accurately measure facet space is important, as decreased facet space is associated with facet degeneration and lower back pain. Although grading systems exist for assessing facet joint space narrowing, static imaging fails to characterize changes in the facet gap under load that play a role in segmental stability. Current methods for estimating the dynamic behavior of the facet joint are either inaccurate, radiation costly, or clinically impractical. In the current study, we demonstrate the feasibility of a novel method for 3D measurement of facet joint space using digital tomosynthesis (DTS) imaging in supine and standing positions. Facet gap measurements were found to be strongly correlated with (r to 0.98) and accurate (<20 μm error for median facet gap) relative to microcomputed tomography reference values. In a pilot in vivo demonstration with seven participants, the effect of physiological loading was detectable, with median facet joint space being larger in standing as compared to supine images ($p < 0.0001$). The presented approach may be useful in directly characterizing changes in the facet joint relevant to segmental stability that are not readily assessed via current clinical imaging methods.

Endocrinology and Metabolism

Pasquel FJ, Davis GM, Huffman DM, Peters AL, Parker JC, Laffel LM, Romeo GR, Mathew J, Castorino KN, **Kruger DF**, Dungan KM, Kipnes M, Jauch EC, Oser TK, Shah VN, Horowitz B, Carlson AL, Warren ML, Deeb W, Buse JB, Reed JH, Berner J, Blevins T, Bajaj C, Kollman C, Raghinaru D, Ly TT, and Beck RW. Automated Insulin Delivery in Adults With Type 2 Diabetes: A Nonrandomized Clinical Trial. *JAMA Netw Open* 2025; 8(2):e2459348. PMID: 39951268. Full Text

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IMPORTANCE: There is a need for additional treatment options for people with type 2 diabetes treated with insulin. Given the limited data on the use of automated insulin delivery (AID) systems in type 2 diabetes, studies evaluating their safety and efficacy are important. OBJECTIVE: To evaluate the association of AID with hemoglobin A1c (HbA1c) levels in a diverse cohort of adults with type 2 diabetes. DESIGN, SETTING, AND PARTICIPANTS: This single-arm prospective trial was conducted at 21 clinical centers in the United States among individuals aged 18 to 75 years with type 2 diabetes who had been

using insulin for at least 3 months prior to screening. Participants with AID system use were excluded. The study started with a 14-day standard therapy phase, followed by 13 weeks of treatment with the investigational device. The first participant was enrolled April 11, 2023, and the last participant follow-up visit was February 29, 2024. INTERVENTION: Participants used the Omnipod 5 AID System for 13 weeks following the 14-day standard therapy phase. MAIN OUTCOMES AND MEASURES: Primary outcome was change in HbA1c level at 13 weeks, tested sequentially for noninferiority (0.3% margin) and superiority, compared with baseline. RESULTS: Among 305 participants (mean [SD] age, 57 [11] years; 175 [57%] female; 72 [24%] Black, 66 [22%] Hispanic or Latino, and 153 [50%] White), 289 (95%) completed the trial. At baseline, 223 (73%) were using multiple daily injections, 63 (21%) were using basal insulin without bolus, 17 (6%) were using an insulin pump, 188 (62%) were using continuous glucose monitoring, 168 (55%) were using glucagon-like peptide-1 receptor agonists (GLP-1RAs), and 134 (44%) were using sodium-glucose transport protein 2 inhibitors (SGLT-2is). Following AID use, HbA1c levels decreased from a mean (SD) of 8.2% (1.3) at baseline to 7.4% (0.9) at 13 weeks (mean difference, -0.8 [95% CI, -1.0 to -0.7] percentage points; P < .001 for noninferiority and superiority). Improvement was seen across various subgroups (age, sex, race and ethnicity, insurance), and notably with or without use of GLP-1RAs or SGLT-2is and regardless of pretrial mealtime insulin regimen. Time in target glucose range (70-180 mg/dL) increased from a mean (SD) of 45% (25) to 66% (17) (mean difference, 20 [95% CI, 18 to 22] percentage points; P < .001). Percentage of time in hypoglycemic ranges of less than 54 mg/dL and less than 70 mg/dL was noninferior compared with standard therapy. There was 1 episode of severe hypoglycemia and none of diabetic ketoacidosis or hyperosmolar hyperglycemic syndrome. CONCLUSIONS AND RELEVANCE: In this nonrandomized clinical trial, HbA1c levels were lower in a diverse cohort of adults with type 2 diabetes following AID initiation, suggesting that AID may be a beneficial and safe option for people with type 2 diabetes using insulin. TRIAL REGISTRATION: ClinicalTrials.gov Identifier: NCT05815342.

Family Medicine

Fox K, **Lee R**, and **Anderi E**. Contraception Updates. *Prim Care* 2025. PMID: Not assigned. Full Text

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Family Medicine

Yousif A, **Ngo J**, Abdel-Gadir D, Rocconi RP, Timmins P, Lachance J, Straughn JM, Jr., Dewdney S, Lachance J, Mize B, and Chefetz I. Conversion from Minimally Invasive Surgical Approaches to Open Surgery Among Patients with Endometrial Cancer in the SGO Clinical Outcomes Registry. *Ann Surg Oncol* 2025; Epub ahead of print. PMID: 39982547. Full Text

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BACKGROUND: Endometrial cancer (EC) ranks as the most common gynecologic malignancy in the USA. While minimally invasive surgical (MIS) techniques have revolutionized EC management, conversion to laparotomy remains a concern due to the loss of laparoscopic benefits such as fewer surgical site infections and shorter hospital stays with reported rates varying widely. Factors influencing this conversion, including patient characteristics and tumor attributes, have not been fully understood. Our

study aims to provide a framework for identifying patients at higher risk of conversion, thereby helping to inform surgical decision-making and patient counseling Addressing this gap, our study employs a national registry to analyze patient- and tumor-related factors associated with the transition from MIS to open surgery in EC. PATIENTS AND METHODS: We queried the SGO Clinical Outcomes Registry (COR) to identify all patients with EC who underwent surgical management. The COR indeed validated clinical data from 29 sites collected between 2014 and 2018. The primary outcome was to assess the conversion rate from MIS to open surgery. Descriptive statistics using means with standard deviations or frequency with percentages were used. Chi-squared analysis was used to examine the bivariate relationship between group status and the subjects' demographic and clinical variables. RESULTS: A total of 3.4% (135/4028) of patients underwent conversion from MIS to open surgery. Demographic characteristics were balanced between the groups. Conversion was more prevalent in patients with obesity (29%) and morbid obesity (37%) than in patients who are underweight (2%), normal weight (16%), and overweight (16%). Similarly, conversion was more prevalent in patients with prior abdominal surgery (63% versus 52%; P = 0.001). Endometrioid (EC) predominated (59%) in the converted group, with higher-than-expected non-endometrioid rates (serous carcinoma 16%, clear cell carcinoma 4%, carcinosarcoma 5%, mixed histology 12%; all P < 0.01). Advanced International Federation of Gynecology and Obstetrics (FIGO) stages were more common in patients who converted to open surgery (stage II: 5%, stage III: 25%, stage IV: 9%; all P < 0.001). Type II (24%) and type III (5%) hysterectomies were more frequent in patients who converted to open (P < 0.001). Logistic regression indicated body mass index (BMI), prior surgery, FIGO stage, histology, and hysterectomy type affected conversion (P < 0.001), explaining 12.3% of the variance in the conversion outcome. Indications for conversion included uterine size, adhesions, and disease extent. CONCLUSIONS: The adoption of MIS has become increasingly common standard of care for managing EC, attributed to enhanced perioperative outcomes. Factors associated with conversion such as uterine size, prior abdominal surgeries, surgical complexity, disease extent, and histologic types can affect the surgeon's choice. Ultimately, a personalized surgical approach, tailored to individual patient attributes, remains pivotal for optimizing outcomes in EC management.

Gastroenterology

Razavi HA, Waked I, **Brown KA**, et al. Number of people treated for hepatitis C virus infection in 2014-2023 and applicable lessons for new HBV and HDV therapies. *J Hepatol* 2025; Epub ahead of print. PMID: 39914746. Full Text

BACKGROUND AND AIMS: The year 2023 marked the 10-year anniversary of the launch of direct-acting antivirals (DAAs) for the treatment of the hepatitis C virus (HCV). HCV treatment trends by country, region, and globally are important to monitor progress toward the World Health Organization's 2030 elimination targets. Additionally, the historical patterns can help predict the treatment uptake for future therapies for other liver diseases. METHODS: The number of people living with HCV (PLHCV) treated between 2014-2023 across 119 countries was estimated using national HCV registries, reported DAA sales data, pharmaceutical companies' reports, and estimates provided by national experts. For the countries with no available data, the average estimate of the corresponding Global Burden of Disease region was used. RESULTS: An estimated 13,816,000 (95% uncertainty intervals (UI): 13,221,000-16,415,000) PLHCV were treated, of whom 12,748,000 (12,226,000-15,231,000) were treated with DAAs, of which 11,081,000 (10,542,000-13,338,000) were sofosbuvir-based DAA regimens. Country-level data accounted for 97% of these estimates. In high-income countries, there was a 41% drop in treatment from its peak, and reimbursement was a large predictor of treatment. In low- and middle-income countries, price played an important role in expanding treatment access through the public and private markets, and treatment continues to increase slowly after a sharp drop at the end of the Egyptian national program. CONCLUSIONS: In the last 10 years, 21% of all HCV infections were treated with DAAs. Regional and temporal variations highlight the importance of active screening strategies. Without program enhancements, the number of treated PLHCV stalled in every country/region which may not reflect a lower prevalence but may instead reflect the diminishing returns of the existing strategies. IMPACT AND IMPLICATIONS: Long-term hepatitis C virus (HCV) infection can lead to cirrhosis and liver cancer. Since 2014, these infections can be effectively treated with 8-12 weeks of oral therapies. In 2015, the World Health Organization (WHO) established targets to eliminate HCV by 2030, which included treatment targets for member countries. The current study examines HCV treatment patterns across 119 countries and regions from 2014 to 2023 to assess the impact of national programs. This study can assist

physicians and policymakers in understanding treatment patterns within similar regions or income groups and in utilizing historical data to refine their strategies in the future.

Gastroenterology

Sengupta S, Anand A, Yang Q, Reagan M, Husted M, Minnick A, Nagy LE, Dasarathy S, Sims OT, and **Mellinger JL**. The impact of integrated care on clinical outcomes in patients with alcohol-associated liver disease: Early outcomes from a multidisciplinary clinic. *Hepatol Commun* 2025; 9(2). PMID: 39927894. Full Text

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BACKGROUND: We analyzed early outcomes regarding the impact of our integrated alcohol-associated liver disease (ALD) clinic on patients with ALD and alcohol use. METHODS: We conducted a retrospective study of patients with ALD who were evaluated in our integrated clinic from May 1, 2022, to December 31, 2023. Primary outcomes included differences in baseline clinical/demographic data between patients who accepted versus declined an appointment and changes in the severity of ALD, alcohol consumption, functional status, hospital utilization, and remission in alcohol use disorder for evaluated patients. RESULTS: Patients who declined appointments (n=66) had higher median no-show rates (15.0 [8.0,30.0] vs. 8.5 [3.25,15.0], p<0.001), social vulnerability index (0.53 [0.26,0.79] vs. 0.38 [0.17,0.63], p=0.033), and proportions of cirrhosis (78.8% vs. 59.8%, p=0.017) versus evaluated patients. Comparison of baseline to first follow-up visit for evaluated patients (n=102) demonstrated significant reductions in median AST (59.5 [41.75, 89] vs. 44.5 [33.5, 56.25], p<0.001), alanine-aminotransferase (33.5 [20,45.25] vs. 26.5 [18.75,33.0], p=0.017), total bilirubin (1.6 [0.7,3.3] vs. 1 [0.5,1.9], p=0.001), phosphatidylethanol (263 [35, 784] vs. 0 [0, 163], p<0.001), MELD-3.0 and Sodium scores for patients with alcohol-associated hepatitis and cirrhosis (16 [11, 18.75] vs. 12 [9, 14], p<0.001), 14 [9.25, 17.75] vs. 11 [8.5, 14], p<0.001), and Child-Turcotte-Pugh scores for patients with cirrhosis (9 [6, 10.5] vs. 7 [6, 9], p<0.001). The proportion of patients with active-severe alcohol use disorder significantly decreased (85.2% vs. 51.9%, p<0.001). Additionally, patients had significant reductions in emergency department utilization (incidence rate ratio of 0.64 emergency department visits/month (p=0.002) and 0.71 hospital admissions/month (p=0.025). However, after considering the false discovery rate, the reduction in hospitalization admissions/month was not statistically significant (False Discovery Rate adjusted p=0.056). CONCLUSIONS: Our integrated approach led to reductions in liver injury, degree of liver decompensation, alcohol use, and ED utilization, and remission in AUD in a population of both non-transplant ALD and post-transplant patients.

Global Health Initiative

Fromsa A, Conlan AJK, **Srinivasan S**, Gumi B, Bedada W, Zeleke M, Worku D, Lakew M, Tadesse B, Bayissa B, Sirak A, Abdela MG, Mekonnen GA, Chibssa T, Veerasami M, Jones GJ, Vordermeier HM, Juleff N, Wood JLN, Ameni G, and Kapur V. Comparative performance of tuberculin and defined-antigen cocktails for detecting bovine tuberculosis in BCG-vaccinated cattle in natural settings. *Sci Rep* 2025; 15(1):4564. PMID: 39915566. Full Text

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Bovine tuberculosis (bTB) is a threat to cattle health and public safety. The current control programs are hampered by wildlife reservoirs and socioeconomic barriers. Vaccinating cattle with Bacillus Calmette-Guérin (BCG) effectively reduces transmission, offering a potential solution for controlling bTB. A key requirement for vaccination strategies using BCG is the validation of defined antigens to differentiate infections among vaccinated animals (DIVA). We compared tuberculin with DIVA peptide cocktails (ESAT-6, CFP-10, and Rv3615c) in 67 unvaccinated and 67 BCG-vaccinated cattle exposed to M. bovis in a natural setting. The cattle were tested every 4 months with a skin test and every 2 months with interferon-gamma (IFN-γ) release assays (IGRA) over a year of exposure. Before exposure, the DIVA skin, DIVA IGRA, and tuberculin tests showed 100% specificity in unvaccinated control calves. After exposure, the DIVA skin, DIVA IGRA, and comparative cervical tuberculin (CCT) tests had comparable sensitivities of 46% (95% CI 36, 56), 45% (95% CI 35, 55), and 47 (95% CI 37, 57), respectively, when assessed against animals positive by M. bovis culture PCR. The results suggest that test-and-slaughter control strategies using tests with low sensitivity are not expected to be effective in controlling bTB in high-prevalence herds, and highlight an urgent need to improve the sensitivity of diagnostic tests for bTB in these settings.

Global Health Initiative

Green L, **Kaljee L**, Chowdhury SA, McHale T, Mishori R, Fateen D, and Sheth N. Healthcare workers' perspectives on trauma and mental health access for Rohingya refugees in Cox's Bazar. *Front Public Health* 2024; 12:1458680. PMID: 39931226. Full Text

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BACKGROUND: In August 2017, the Rohingya population of northern Rakhine State in Myanmar fled to Bangladesh following "clearance operations" by the Myanmar security forces that were characterized by widespread and systematic violence, constituting severe human rights violations. The "clearance operations" were preceded by years of consistent denial of the human rights of the Rohingya people in Myanmar. This study examines the impact of these human rights violations on the trauma experiences of Rohingya survivors, their resulting mental health, and the availability and access to post-migration mental health services. METHODS: Qualitative one-on-one interviews were conducted with 26 health care professionals who cared for Rohingya refugees after their arrival in Bangladesh. RESULTS: Trauma experienced by the Rohingya spanned the period before, during, and following migration and was ongoing at the time of data collection. The impact of Rohingya survivors' concurrent grief and trauma in relation to the violence they experienced in Myanmar as well as during and after their journey to Bangladesh that, at times, exacerbated survivors' trauma presentation. There were limited mental health services available in Bangladesh and additional structural and procedural barriers to care that limited

responsiveness to Rohingya survivors' mental health needs. CONCLUSION: The Rohingya experienced traumatic human rights violations in Myanmar that led to their forced migration to Bangladesh. The Rohingya continued to experience trauma during their forced migration to Bangladesh and were exposed to additional stressors in the post-migration settings in refugee camps, including lack of access to adequate mental health services. These experiences have resulted in a spectrum of stress-and trauma-related symptoms. These findings show the mental health impact of protracted human rights violations on the Rohingya, revealing how trauma is not a singular event but a continuous experience. Detailing the limited mental health infrastructure and structural barriers facing Rohingya refugees in Bangladesh, the findings underscore the urgent need for trauma-informed interventions that address the complex psychological consequences of systemic violence and displacement. The findings emphasize the critical importance of holistic mental health support in refugee settings, providing evidence-based recommendations for the public health and humanitarian sector to consider when designing programs to address the mental health and psychosocial support needs of sexual violence survivors living in conditions of displacement.

Global Health Initiative

Sayami JT, Amatya R, Karki K, Bajracharya D, Shrestha B, **Srinivasan S**, **Prentiss T**, **Shallal A**, **Zervos M**, **Latack K**, and **Kaljee L**. A nursing and midwifery training program in Kathmandu on antimicrobial resistance and stewardship and infection prevention and control: a qualitative and quantitative outcomes and process evaluation. *Front Public Health* 2025; 13:1497335. PMID: 39916710. Full Text

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BACKGROUND: Low- and middle-income countries (LMICs) are disproportionately affected by antimicrobial resistance (AMR). Nurses and midwives are essential to a holistic approach to AMR stewardship (AMS) and IPC within LMICs. OBJECTIVE: (1) Adapt AMS and IPC training programs and practice guidelines for community- and hospital-based nurses and midwives in Nepal; (2) pilot and conduct training outcome and process evaluations. DESIGN: A one-day training was developed through partnerships between Henry Ford Health and nursing and midwifery organizations and teaching facilities in Nepal. Quantitative outcome and process evaluations were conducted. Qualitative process evaluation interviews were conducted with purposefully selected trainees. SETTINGS: Trainees worked in healthcare facilities in Kathmandu Valley. PARTICIPANTS: A total of 126 nurses and midwives participated in the training and the quantitative evaluation. Eighteen trainees participated in the process evaluation interviews. METHODS: The 10-module program was adapted from AMS and IPC materials from the World Health Organization and the Nepal Ministry of Health and Population, and curricula from previous AMS studies in Nepal. Key outcomes were AMS and IPC knowledge, and decision-making about empirical dispensing of antibiotics. The process evaluation focused on training content, integration into practice, implementation barriers, and recommendations for dissemination. Quantitative data analysis included descriptive and bivariate analysis. Qualitative data analysis included coding, searches, review of coded texts, and identification of patterns and themes. RESULTS: AMS and AMR knowledge increased at immediate [1.40 (1.06-1.74) CI 95%] and six-month post-training [0.71 (0.35-1.08) CI 95%]. IPC knowledge also increased at immediate [0.79 (0.55-1.03) CI 95%] and six-month post-training [0.72 (0.49-0.96) CI 95%]. At immediate post-training, an increasing number of respondents indicated that they would not dispense antibiotics for adults [14.74% (4.88, 24.60%) CI 95%] and children [8.13% (-1.88, 18.14%) CI 95%] with fever and sore throats, and for non-pregnant women with burning sensation when urinating [10.69% (0.68%, 20.71%) CI 95%]. Process evaluation data indicated positive responses to the training content and relevancy to practice. CONCLUSION: The AMS-IPC training increased knowledge and decreased intentions for dispensing antibiotics. Participants provided concrete examples of implementation of learnings into practice. Trainings will be adapted to address identified content needs and challenges to implementation.

Global Health Initiative

Tinsley SA, **Dankerlui D**, **Romain C**, **Ruffin W**, **Brown E**, **Burnett C**, **Long D**, **Yacobucci K**, **Clement J**, Fasakin A, Makinde-Odusola B, **Williams E**, **Fields T**, **Abdollah F**, **Moore D**, **Hwang C**, and **Walker EM**. Increasing Prostate Cancer Education and Screening for Black Men in Southeastern Michigan: Your Prostate, Your Health. *J Cancer Educ* 2025; Epub ahead of print. PMID: 40019704. Full Text

Vattikuti Urology Institute, Henry Ford Health, Detroit, MI, USA.
Wayne State University, Detroit, MI, USA.
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Black Men (BM) have disproportionately higher mortality rates from prostate cancer (PCa) and present with more advanced disease. Early screening may improve outcomes. The aim of our project was to provide education, screening, and provider outreach with a long-term goal to decrease the disproportionate number of PCa deaths in BM. We conducted focus group discussions with BM to assess their perceptions and understanding of PCa and screening. Focus groups aided in the development of educational materials. Educational materials were distributed at community events. Screening was offered, at select events, using prostate-specific antigen (PSA) testing. Men with PSA levels of ≥ 4 ng/ml were contacted for follow-up. The project included training for Henry Ford Health (HFH) providers and an assessment of their PCa screening practice. We completed 4 focus groups and distributed ~ 1000 PCa educational brochures. We participated in 45 community events between March 2022 to June 30, 2023. 340 men were screened. 28 men had an elevated PSA, and 17 men did not complete follow-up. Multiple HFH provider educational sessions were conducted. Of 129 providers who completed a screening practice assessment, 78 (60%) routinely offered PSA screening to men between ages 55-69. Between 2018 to 2023 at HFH, the PSA screening rate overall increased from 8.2% to 12.7%. Although our outreach efforts were effective at increasing PSA screening, 60.7% of men screened in our community events with elevated PSA did not follow-up. Future efforts should further reduce barriers to PCa screening and follow-up.

Hematology-Oncology

Lam VK, and **Gadgeel SM**. Even With the CROWN Findings, There Remain Multiple First-Line Treatment Options for Patients With Advanced ALK-Positive NSCLC. *J Thorac Oncol* 2025; 20(2):150-153. PMID: 39914918. Full Text

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Hematology-Oncology

Munshi PN, Olin RL, Wall S, McCurdy SR, Al-Juhaishi T, Baker J, Bhatt VR, Chokr N, Dahi P, DeFilipp Z, Espinoza-Gutarra M, **Farhan S**, Gowda L, Hamilton BK, Inamoto Y, Jayani R, Kharfan-Dabaja MA, Lin R, Meyers G, Mishra A, Murthy HS, Nawas M, Rosko AE, Ruiz M, Sorror ML, Sung AD, Carpenter PA, Hamadani M, and Artz AS. US Geriatric Assessment Practices for Older Adults Undergoing Hematopoietic Cell Transplantation or CAR T- cell therapy: An ASTCT Physician Survey from the Aging Special Interest Group and Committee on Practice Guidelines. *Transplant Cell Ther* 2025; Epub ahead of print. PMID: 39961473. Full Text

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Division of Hematology-Oncology, Fred & Pamela Buffett Cancer Center, University of Nebraska Medical Center, Omaha, NE.
Bone Marrow Transplant and Cellular Therapy Program, Weill Cornell Medicine/New York-Presbyterian Hospital, New York, NY.
Adult Bone Marrow Transplant & Cellular Therapy Services, Memorial Sloan Kettering Cancer Center, New York, NY.
Hematopoietic Cell Transplant and Cellular Therapy Program, Massachusetts General Hospital, Boston, MA.
The University of Alabama at Birmingham, School of Medicine - Medicine - Hematology & Oncology, Birmingham, AL.
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Yale School of Medicine, Yale Cancer Center, New Haven, CT.
Blood and Marrow Transplant Program, Hematology and Medical Oncology, Taussig Cancer Institute, Cleveland Clinic, Cleveland, OH.
Division of Hematopoietic Stem Cell Transplantation, National Cancer Center Hospital, Tokyo, Japan.
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Fred Hutchinson Cancer Center and the University of Washington School of Medicine, Seattle, WA.
Division of Hematologic Malignancies and Cellular Therapeutics, University of Kansas Medical Center, Kansas City, KS.
Division of Clinical Research, Fred Hutchinson Cancer Center, Seattle, WA.
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Geriatric assessment (GA) may identify vulnerabilities and promote risk-stratification in older adults predisposed to toxicities after autologous (auto), allogeneic (allo) hematopoietic cell transplantation (HCT) and chimeric antigen T-cell therapies (CAR T). With increased utilization cellular therapies for older adults

the American Society for Transplantation and Cellular Therapy (ASTCT) Committee on Practice Guidelines and its Special Interest Group for Aging (SIG) conducted an online cross-sectional survey between April 2023 and August 2023 to determine transplantation and cellular therapy physicians' practice patterns regarding GA in older patients receiving HCT and CAR T-cell therapies. E-mail surveys were sent to 1168 ASTCT physician members and only 96 (8.2%) respondents completed the survey. Most (86%) were affiliated with university/teaching centers and 70% had a combined HCT and cellular therapy practice. More than 50% of respondents were interested in pursuing GA but 68% described barriers. The top two recognized barriers to GA were lack of time (96%) and clinical support staff (90%). Despite interest, only 15% respondents reported to know the domains of GA 'well'. Among those using GA, the minimum age used for routine GA was 65 years for allo-HCT and CAR T in over 91% respondents. Taken together, we recommend the HCT community leadership and GA experts combine efforts to address the gap in GA uptake and implementation.

Hematology-Oncology
Owen DH, Ismaila N, Ahluwalia A, Feldman J, **Gadgeel S**, Mullane M, Naidoo J, Presley CJ, Reuss JE, Singhi EK, and Patel JD. Therapy for Stage IV Non-Small Cell Lung Cancer With Driver Alterations: ASCO Living Guideline, Version 2024.3. *J Clin Oncol* 2025; Epub ahead of print. PMID: 40014839. Full Text

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American Society of Clinical Oncology, Alexandria, VA.
Confluence Health Wenatchee Valley Hospital and Clinics, Wenatchee, WA.
EGFR Resisters patient advocacy group, Deerfield, IL.
Henry Ford Cancer Institute/Henry Ford Health System, Detroit, MI.
Aurora Cancer Care, Mount Pleasant, WI.
Sidney Kimmel Comprehensive Cancer Center, Baltimore, MD.
Ohio State University, Comprehensive Cancer Center and The James Cancer Hospital/Solove Research Institute, Columbus, OH.
Georgetown University, Washington, DC.
University of Texas MD Anderson Cancer Center, Houston, TX.
Northwestern University, Chicago, IL.

Living guidelines are developed for selected topic areas with rapidly evolving evidence that drives frequent change in recommended clinical practice. Living guidelines are updated on a regular schedule by a standing expert panel that systematically reviews the health literature on a continuous basis, as described in the ASCO Guidelines Methodology Manual. ASCO Living Guidelines follow the ASCO Conflict of Interest Policy Implementation for Clinical Practice Guidelines. Living Guidelines and updates are not intended to substitute for independent professional judgment of the treating clinician and do not account for individual variation among patients. See appendix for disclaimers and other important information (Appendix 1 and 2). Updates are published regularly and can be found at https://ascopubs.org/nsclc-da-living-guideline.

Hematology-Oncology
Ray P, Shukla S, Zhang Y, Donahue KL, Nancarrow DJ, Kasturirangan S, Shankar S, Cuneo K, Thomas D, **Gadgeel SM**, Lawrence TS, Pasca di Magliano M, and Ray D. SMURF2 facilitates GAP17 Isoform 1 membrane displacement to promote mutant p53-KRAS oncogenic synergy. *Mol Cancer Res* 2025; Epub ahead of print. PMID: 39976545. Full Text

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Cooperativity between mutant p53 and mutant KRAS, although recognized, is poorly understood. In pancreatic cancer, mutant p53 induces splicing factor hnRNPK causing isoform switch producing

overexpression of GTPase activating protein 17 isoform 1 (GAP17-1). GAP17-1 is mis-localized in the cytosol, instead of the membrane, due to insertion of exon 17 encoding a PPLP motif, thus allowing mutant KRAS to remain in the GTP bound hyperactive state. However, the role of PPLP in influencing GAP17-1 mis-localization remains unclear. We show that Smad Ubiquitination Regulatory Factor 2 (SMURF2), a known stabilizer of mutant KRAS, interacts with GAP17-1 via the PPLP motif and displaces it from the membrane, facilitating mutant p53 mediated mutant KRAS hyperactivation. We used cell lines with known KRAS and TP53 mutations, characterized Smurf2 expression in multiple pancreatic cancer mouse models (iKras*; iKras*, p53*, and p48-Cre; Kras*) and performed single cell RNAseq and tissue microarray on preclinical and clinical samples. We found that SMURF2 silencing profoundly reduces survival of mutant TP53; KRAS driven cells. We show that a GAP17-1 AALA mutant does not bind to SMURF2, stays in the membrane, and keeps mutant KRAS in the GDP bound state to inhibit downstream signaling. In mouse models, mutant KRAS and SMURF2 upregulation are correlated in pancreatic intraepithelial neoplasia (PanIN) and ductal adenocarcinoma (PDA) lesions. Furthermore, PDA patients who received neoadjuvant therapy and express moderate to high SMURF2 show decreased overall survival (p=0.04). Implications: In TP53 and KRAS double mutated pancreatic cancer, SMURF2 driven GAP17-1 membrane expulsion facilitates mutant p53-KRAS oncogenic synergy.

Hematology-Oncology

Tinsley SA, **Dankerlui D**, **Romain C**, **Ruffin W**, **Brown E**, **Burnett C**, **Long D**, **Yacobucci K**, **Clement J**, Fasakin A, Makinde-Odusola B, **Williams E**, **Fields T**, **Abdollah F**, **Moore D**, **Hwang C**, and **Walker EM**. Increasing Prostate Cancer Education and Screening for Black Men in Southeastern Michigan: Your Prostate, Your Health. *J Cancer Educ* 2025; Epub ahead of print. PMID: 40019704. Full Text

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Infectious Diseases

Brar I, Ruane PJ, Berhe M, Brinson C, Benson P, Henry K, Liu H, Andreatta K, Hindman JT, and Ramgopal M. Efficacy and safety of switch to bictegravir/emtricitabine/tenofovir alafenamide from dolutegravir/abacavir/lamivudine: Results from an open-label extension of a phase 3 randomized, double-blind, multicenter, active-controlled, non-inferiority study. *Medicine (Baltimore)* 2025; 104(8):e41482. PMID: 39993074. Full Text

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North Texas Infectious Diseases Consultants, Dallas, TX.
Central Texas Clinical Research, Austin, TX.
Be Well Medical Center, Berkley, MI.
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Gilead Sciences, Inc., Foster City, CA.
Midway Research Center, Fort Pierce, FL.

BACKGROUND: The phase 3 randomized, active-controlled GS-US-380-1844 (NCT02603120) study evaluated switching to the single-tablet regimen bictegravir, emtricitabine, and tenofovir alafenamide (B/F/TAF) from dolutegravir (DTG), abacavir (ABC), and lamivudine (3TC) among people with HIV-1. Previously, results from the 48-week double-blind phase showed that switching to B/F/TAF was noninferior to remaining on DTG/ABC/3TC and that B/F/TAF was well tolerated. Here, we show the long-term safety and efficacy of switching to B/F/TAF from DTG/ABC/3TC among people with HIV-1. METHODS: Participants were virologically suppressed people with HIV-1 (HIV-1 RNA <50 copies/mL for ≥ 3 months prior to screening) receiving DTG/ABC/3TC at baseline. Participants were randomized 1:1 to switch to B/F/TAF or remain on DTG/ABC/3TC. Following 48 weeks of treatment with B/F/TAF or DTG/ABC/3TC in the double-blind phase, participants had the option to enter an open-label extension phase, during which they received B/F/TAF. Virologic, immunologic, and safety outcomes during treatment with B/F/TAF through the open-label extension up to 168 weeks, including preexisting and treatment-emergent resistance, were analyzed. RESULTS: Among 547 participants in the all-B/F/TAF analysis set, virologic suppression (HIV-1 RNA < 50 copies/mL) was maintained in 99% to 100% of participants up to 168 weeks into B/F/TAF treatment, including in those with preexisting resistance; no treatment-emergent resistance was detected. CD4 cell counts remained stable during B/F/TAF treatment, with median (interquartile range) changes from baseline of -17 (-120, 65) cells/μL at week 48 and -9 (-100, 108) cells/μL at week 96. Safety and tolerability findings were consistent with previously reported findings up to week 48; most drug-related adverse events were grade 1 or 2 in severity; no new safety signals were identified. CONCLUSION: Switching to B/F/TAF from DTG/ABC/3TC was associated with continued high rates of virologic suppression up to week 168, with no treatment-emergent resistance. B/F/TAF was well tolerated throughout the study period.

Infectious Diseases

Sayami JT, Amatya R, Karki K, Bajracharya D, Shrestha B, **Srinivasan S**, **Prentiss T**, **Shallal A**, **Zervos M**, **Latack K**, and **Kaljee L**. A nursing and midwifery training program in Kathmandu on antimicrobial resistance and stewardship and infection prevention and control: a qualitative and quantitative outcomes and process evaluation. *Front Public Health* 2025; 13:1497335. PMID: 39916710. Full Text

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Henry Ford Health, Public Health Sciences, Detroit, MI, United States.

BACKGROUND: Low- and middle-income countries (LMICs) are disproportionately affected by antimicrobial resistance (AMR). Nurses and midwives are essential to a holistic approach to AMR stewardship (AMS) and IPC within LMICs. OBJECTIVE: (1) Adapt AMS and IPC training programs and

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Infectious Diseases

Vergidis P, **Ordaya EE**, Porter E, Sweet H, Wang W, Evans AF, Zhang C, Young JH, and Liu X. A Novel Giant Magnetoresistance-Enabled Multiplex Polymerase Chain Reaction Assay for the Diagnosis of Invasive Fungal Infection. *Open Forum Infect Dis* 2025; 12(2):ofaf068. PMID: 40008305. Full Text

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BACKGROUND: Despite advances in clinical microbiology, the diagnosis of invasive fungal infections remains challenging. Giant magnetoresistance (GMR) is a novel technology that enables the detection of trace amounts of cell-free DNA (cfDNA). We evaluated a high-multiplex molecular diagnostic assay coupled with GMR-enabled lab-on-a-chip technology that can detect 18 different fungal species. METHODS: Analytical performance was evaluated in spiked plasma samples. After amplification, cfDNA was digested. Residual single-stranded DNA was flowed over a GMR sensor that was surface-coated with probes specific to different fungal species. After hybridization, magnetic beads bound to the probe complexes produced a GMR signal that was detected by the sensors. Clinical performance was determined using residual serum samples collected before the initiation of antifungal treatment from 20 patients with infection. RESULTS: The limit of detection of the assay ranged from 5 to 50 copies per polymerase chain reaction (PCR) reaction. Nonspecific signals were not observed in the spiked samples. Fungal cfDNA was detected in 80% of patients with invasive candidiasis (3/4 with candidemia, 5/6 with invasive candidiasis without candidemia), all 3 cases of invasive pulmonary aspergillosis, and all 3 cases of disseminated histoplasmosis. cfDNA was not detected in 2 patients with cryptococcosis (both had negative blood cultures) and 2 patients with Pneumocystis pneumonia. CONCLUSIONS: We developed a novel GMR-enabled multiplex PCR assay detecting fungal pathogens that have been prioritized for public health action. Clinical sensitivity was highest in cases of presumed angioinvasion and dissemination. This technology has the potential for use in the clinical microbiology laboratory setting.

Internal Medicine

Butt MF, Isherwood G, Lewis-Lawson T, Sbarigia C, Lambiase C, **Aburumman RNM**, Dhali A, Bush D, Card T, and Corsetti M. Clinical Characteristics and Outcomes of Patients With Rome IV Functional Dyspepsia Who Consume Opioids: A Real-World Study. *Neurogastroenterol Motil* 2025; e15019. Epub ahead of print. PMID: 40017096. Full Text

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INTRODUCTION: The prevalence of opioid use and its impact on healthcare outcomes among patients with Rome IV functional dyspepsia (FD) has not been reported in real-world clinical practice in the United Kingdom (UK). The primary aim of this study was to study the prevalence of opioid intake among outpatients diagnosed with Rome IV FD. Secondary aims were to determine (A) the differences in phenotype and healthcare resource utilization between patients who consumed opioids versus non-users, and (B) whether a combination of opioid cessation and a neuromodulator prescription could improve gastrointestinal (GI) symptoms. METHODOLOGY: Data were collected from consecutive patients diagnosed with FD according to the Rome IV clinical criteria in a single tertiary care neurogastroenterology outpatient clinic in the UK between January 2016 and December 2021. Patients who consumed opioids were provided with opioid cessation advice and prescribed a neuromodulator (the intervention). RESULTS: One hundred and fifty-six patients were diagnosed with FD and 48 (31%) were taking opioids. In a multivariate logistic regression model (OR, [95% CI]), older age (1.03 [1.004-1.059], $p = 0.03$), depression and/or anxiety (4.2 [1.4-12.5], $p = 0.01$), and chronic pain (4.0 [1.8-8.9], $p < 0.001$) were independently associated with opioid consumption at baseline. At least 44% of patients adhered to opioid cessation advice and, among these persons, 29% reported symptom improvement in response to a neuromodulator. The intervention had a number needed to treat of 5.7 to achieve an improvement in clinical symptoms. CONCLUSION: Opioid intake in FD is independently associated with older age, depression and/or anxiety, and chronic pain. Encouraging opioid cessation may be an important strategy in the management of FD.

Internal Medicine

Li W, **Bunch CM**, **Zackariya S**, **Patel SS**, **Buckner H**, **Condon S**, Walsh MR, **Miller JB**, Walsh MM, Hall TL, Jin J, Stegemann JP, and Deng CX. Resonant acoustic rheometry for assessing plasma coagulation in bleeding patients. *Sci Rep* 2025; 15(1):5124. PMID: 39934385. Full Text

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Disordered hemostasis associated with life-threatening hemorrhage commonly afflicts patients in the emergency department, critical care unit, and perioperative settings. Rapid and sensitive hemostasis phenotyping is needed to guide administration of blood components and hemostatic adjuncts to reverse aberrant hemostasis. Here, we report the use of resonant acoustic rheometry (RAR), a technique that

quantifies the viscoelastic properties of soft biomaterials, for assessing plasma coagulation in a cohort of 38 bleeding patients admitted to the hospital. RAR captured the dynamic characteristics of plasma coagulation that were dependent on coagulation activators or reagent conditions. RAR coagulation parameters correlated with TEG reaction time and TEG functional fibrinogen, especially when stratified by comorbidities. A quadratic classifier trained on selective RAR parameters predicted transfusion of fresh frozen plasma and cryoprecipitate with modest to high overall accuracy. While these results demonstrate the feasibility of RAR for plasma coagulation and utility of a machine learning model, the relative small number of patients, especially the small number of patients who received transfusion, is a limitation of this study. Further studies are need to test a larger number of patients to further validate the capability of RAR as a cost-effective and sensitive hemostasis assay to obtain quantitative data to guide clinical-decision making in managing severely hemorrhaging patients.

Internal Medicine

Maliha M, Satish V, Chi KY, Zeas DB, Kharawala A, **Shama N**, Abittan N, Nandy S, Osabutey A, Madan N, Singh P, and Gashi E. Role of Embolic Protection in Percutaneous Coronary Intervention Without Saphenous Venous Graft Lesions in ST-Segment-Elevation Myocardial Infarction: A Systematic Review and Meta-Analysis. *Crit Pathw Cardiol* 2025; 24(1):e0376. PMID: 39345009. Full Text

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INTRODUCTION: Embolic protection devices (EPDs) are catheter-based devices that can be used to capture atherosclerotic remnants released during percutaneous coronary intervention (PCI). We aim to study the efficacy and safety of EPDs in PCIs without saphenous vein grafts (SVGs) in ST-segment-elevation myocardial infarction (MI). METHODS: Three electronic databases of MEDLINE, Web of Science, and Embase were searched from inception to April 10, 2024, to identify relevant randomized controlled trials that compared outcomes of patients subjected to EPD during PCI with a control group where EPDs were not utilized. The primary outcome was 30-day all-cause mortality. Secondary outcomes were major adverse cardiovascular and cerebrovascular events at 30 days, post-PCI thrombolysis in MI grade 3 flow attainment, ST-segment resolution at 90 minutes post-procedure, and postprocedure angiographically detectable signs of distal embolization. The effect estimates of outcomes were assessed using risk ratio (RR) with a 95% confidence interval (CI). Random-effects meta-analysis was conducted using the restricted maximum likelihood method, given that the interstudy variance was inevitable. RESULTS: We included 3 randomized controlled trials enrolling 741 patients (age, 61.6 ± 12.15 years; 22% females) undergoing PCI without SVG lesions. As opposed to the control group, the use of EPD did not yield a significant effect on all-cause mortality [RR, 0.76 (95% CI, 0.31-1.86); I 2 = 0%], major adverse cardiovascular and cerebrovascular events [RR, 0.66 (95% CI, 0.34-1.27); I 2 = 0%], post-PCI thrombolysis in MI 3 flow [RR, 1.18 (95% CI, 0.86-1.62); I 2 = 77%], and ST-segment resolution at 90 minutes post-procedure [RR, 1.05 (95% CI, 0.90-1.22); I 2 = 0%]. However, EPD significantly decreased angiographically detectable signs of distal embolization [RR, 0.60 (95% CI, 0.36-0.99); I 2 = 0%]. CONCLUSIONS: EPD significantly reduced angiographically detectable signs of distal embolization in PCI without SVG lesions in ST-segment-elevation MI though there were no clinical signs of improved flow or mortality. Further trials are necessary to thoroughly evaluate the potential benefits and requirements of EPD usage in such procedures.

Internal Medicine

Martinez Ponce JP, **Ubysz O**, and **Vanhecke T**. Carcinoid Heart Disease: A Rare Complication of Metastatic Neuroendocrine Tumor. *Cureus* 2025; 17(1):e78148. PMID: 40026979. Full Text

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Carcinoid heart disease (CHD), also known as Hedinger syndrome, is a rare but significant cardiac complication associated with metastatic neuroendocrine tumors (NETs). These tumors secret bioactive substances such as serotonin, leading to fibrotic changes primarily affecting the right-sided heart valves. A case study involving a 69-year-old male presented with a four-month history of diarrhea and a new systolic heart murmur. Transthoracic echocardiogram (TTE) results indicated a left ventricular ejection fraction (LVEF) of 60% to 65%, with severe tricuspid regurgitation and pulmonary valve stenosis. Elevated levels of 5-hydroxyindoleacetic acid (5-HIAA) were detected in a 24-hour urine test, and imaging revealed multiple hypoechoic masses in the liver and mesenteric masses adherent to the small intestine. Furthermore, a biopsy confirmed the diagnosis of a NET. Medical therapy like long-acting somatostatin injection and a peptide receptor radionuclide therapy was ineffective in reversing established valvular pathology, and the patient continued to experience clinical decline, suffering from right-sided heart failure. The patient was able to undergo combined tricuspid and pulmonary valve replacement, which resolved his symptoms. This case exemplifies the successful treatment of a rare syndrome leading to right heart failure.

Internal Medicine
Qureshi MA. The Impact of Percutaneous Coronary Intervention on Echocardiographic Parameters in Patients with Chronic Total Occlusion of the Coronary Arteries with Diverse Left Ventricular Ejection Fractions: A Single-Center Retrospective Study. *Heart Surg Forum* 2025; 28(1):E134-E135. PMID: Not assigned. Full Text

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Internal Medicine
Ray R, **Mahmood A**, Chaudhry R, Masmoum MD, Talha M, Siddiqui FI, and Ullah I. The Impact of Novel Lipid-Lowering Agents on Cardiovascular Risk Reduction: A Systematic Review and Meta-Analysis. *Curr Cardiol Rev* 2025; Epub ahead of print. PMID: 39950470. Full Text

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INTRODUCTION: Reducing the risk of atherosclerotic cardiovascular disease is the aim of lipid-lowering therapy (ASCVD). It is commonly acknowledged that low-density lipoprotein (LDL) is a major cause of ASCVD. Several online databases and search engines, such as Pub- Med and the Cochrane Library, were used to conduct a thorough search. METHOD: This study included RCTs assessing the effect of PCSK9 inhibitors on cardiovascular events. The RevMan 5.4 software was used to conduct the meta-analysis. This analysis included nine RCTs in total. RESULTS: Meta-analysis of the included studies showed that the levels of total cholesterol, LDL, and triglycerides were reduced after the use of PCSK9 inhibitors, and HDL levels were increased, which is good cholesterol. Most adverse cardiac events (MACE) were reduced after the use of PCSK9 inhibitors. CONCLUSION: In conclusion, ezetimibe, a PCSK9 inhibitor added to statin therapy, further reduces MACE risk without affecting all-cause mortality, even though statins already significantly reduce major adverse cardiovascular events (MACE) and mortality.

Internal Medicine
Tinsley SA, **Dankerlui D**, **Romain C**, **Ruffin W**, **Brown E**, **Burnett C**, **Long D**, **Yacobucci K**, **Clement J**, Fasakin A, Makinde-Odusola B, **Williams E**, **Fields T**, **Abdollah F**, **Moore D**, **Hwang C**, and **Walker EM**. Increasing Prostate Cancer Education and Screening for Black Men in Southeastern Michigan: Your Prostate, Your Health. *J Cancer Educ* 2025; Epub ahead of print. PMID: 40019704. Full Text

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Black Men (BM) have disproportionately higher mortality rates from prostate cancer (PCa) and present with more advanced disease. Early screening may improve outcomes. The aim of our project was to provide education, screening, and provider outreach with a long-term goal to decrease the disproportionate number of PCa deaths in BM. We conducted focus group discussions with BM to assess their perceptions and understanding of PCa and screening. Focus groups aided in the development of educational materials. Educational materials were distributed at community events. Screening was offered, at select events, using prostate-specific antigen (PSA) testing. Men with PSA levels of ≥ 4 ng/ml were contacted for follow-up. The project included training for Henry Ford Health (HFH) providers and an assessment of their PCa screening practice. We completed 4 focus groups and distributed ~ 1000 PCa educational brochures. We participated in 45 community events between March 2022 to June 30, 2023. 340 men were screened. 28 men had an elevated PSA, and 17 men did not complete follow-up. Multiple HFH provider educational sessions were conducted. Of 129 providers who completed a screening practice assessment, 78 (60%) routinely offered PSA screening to men between ages 55-69. Between 2018 to 2023 at HFH, the PSA screening rate overall increased from 8.2% to 12.7%. Although our outreach efforts were effective at increasing PSA screening, 60.7% of men screened in our community events with elevated PSA did not follow-up. Future efforts should further reduce barriers to PCa screening and follow-up.

Nephrology

Garcia Valencia OA, Thongprayoon C, Jadlowiec CC, Mao SA, Leeaphorn N, Budhiraja P, **Khoury N**, Pham JH, Craici IM, Gonzalez Suarez ML, and Cheungpasitporn W. Advancing health equity: evaluating AI translations of kidney donor information for Spanish speakers. *Front Public Health* 2025; 13:1484790. PMID: 39931300. Full Text

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BACKGROUND: Health equity and access to essential medical information remain significant challenges, especially for the Spanish-speaking Hispanic population, which faces barriers in accessing living kidney donation opportunities. ChatGPT, an AI language model with sophisticated natural language processing capabilities, has been identified as a promising tool for translating critical health information into Spanish. This study aims to assess ChatGPT's translation efficacy to ensure the information provided is accurate and culturally relevant. METHODS: This study utilized ChatGPT versions 3.5 and 4.0 to translate 27 frequently asked questions (FAQs) from English to Spanish, sourced from Donate Life America's website. The translated content was reviewed by native Spanish-speaking nephrologists using a standard rubric scale (1-5). The assessment focused on linguistic accuracy and cultural sensitivity, emphasizing retention

of the original message, appropriate vocabulary and grammar, and cultural relevance. RESULTS: The mean linguistic accuracy scores were 4.89 ± 0.32 for GPT-3.5 and 5.00 ± 0.00 for GPT-4.0 (p = 0.08). The percentage of excellent-quality translations (score = 5) in linguistic accuracy was 89% for GPT-3.5 and 100% for GPT-4.0 (p = 0.24). The mean cultural sensitivity scores were 4.89 ± 0.32 for both GPT-3.5 and GPT-4.0 (p = 1.00). Similarly, excellent-quality translations in cultural sensitivity were achieved in 89% of cases for both versions (p = 1.00). CONCLUSION: ChatGPT 4.0 demonstrates strong potential to enhance health equity by improving Spanish-speaking Hispanic patients' access to LKD information through accurate and culturally sensitive translations. These findings highlight the role of AI in mitigating healthcare disparities and underscore the need for integrating AI-driven tools into healthcare systems. Future efforts should focus on developing accessible platforms and establishing guidelines to maximize AI's impact on equitable healthcare delivery and patient education.

Neurology

Berezovsky A, **Nuga O**, **Datta I**, **Bergman K**, **Sabedot T**, Gurdziel K, **Irtenkauf S**, **Hasselbach L**, **Meng Y**, Mueller C, Petricoin EF, 3rd, **Brown S**, Purandare N, Aras S, **Mikkelsen T**, **Poisson L**, **Noushmehr H**, Ruden D, and **deCarvalho AC**. Impact of developmental state, p53 status, and interferon signaling on glioblastoma cell response to radiation and temozolomide treatment. *PLoS One* 2025; 20(2):e0315171. PMID: 39919036. Full Text

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Glioblastoma (GBM) tumors exhibit extensive genomic, epigenomic, and transcriptional diversity, with significant intratumoral heterogeneity, complicating standard treatment approaches involving radiation (RT) and the DNA-alkylating agent temozolomide (TMZ). In this study, we employed an integrative multi-omics approach, including targeted proteomics, transcriptomics, genomics, and DNA methylation profiling, to investigate the response of a representative panel of GBM patient-derived cancer stem cells (CSCs) to astrocytic differentiation and RT and TMZ treatments. Differentiated CSC progenies retained the expression of key stemness genes and survival pathways, while activating the BMP-Smad signaling pathway and upregulating extracellular matrix components. This was associated with increased resistance to TMZ, though not to RT, across all models. We identified TP53 status as a critical determinant of transcriptional response to both RT and TMZ, which was also modulated by the differentiation state and treatment modality in wildtype (wt) p53 GBM cells. Both mutant and wt p53 models exhibited significant activation of the DNA-damage associated interferon (IFN) response in CSCs and differentiated cells, implicating this pathway in the GBM response to therapy. We observed that activation of NF-κB was positively correlated with the levels of O-6-methylguanine-DNA methyltransferase (MGMT) protein, a direct DNA repair enzyme leading to TMZ resistance, regardless of MGMT promoter methylation status, further supporting the clinical potential for inhibition of NF-kB signaling in GBM treatment. Our integrative analysis of the impact of GBM cell developmental states, in the context of genomic and molecular diversity of patient-derived models, provides valuable insights for pre-clinical studies aimed at optimizing treatment strategies.

Neurology

Jumah A, **Mohamedelkhair A**, **Elfaham A**, Batista S, Ma T, Ngo SL, Mashina M, **Mohn DJ**, **Vismara T**, **Reardon T**, Chughtai F, Sanchez GJ, Vilardo M, Camerotte R, and **Ramadan AR**. Predicting stroke in patients with infective endocarditis: A systematic review and meta-analysis of risk factors. *Int J Stroke* 2025; Epub ahead of print. PMID: 39924686. Full Text

Department of Vascular Neurology, Emory University, Atlanta, GA, USA.
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BACKGROUND: Neurological complications in patients with infective endocarditis (IE), such as ischemic and hemorrhagic stroke, are well described; however, predicting which patients are most likely to experience stroke remains uncertain. AIMS: We conducted a systematic review and meta-analysis to identify the factors associated with the risk of stroke in patients hospitalized with IE. METHODS: A systematic search of Ovid MEDLINE, EMBASE, and Web of Science up to 27 June 2024 was conducted. Articles evaluating risk of acute ischemic stroke (AIS) or intracranial hemorrhage (ICH) in patients with IE were included. Meta-analysis of odds ratios was feasible for only some predictive factors due to study heterogeneity. Cochrane's Risk of Bias in Non-Randomized Studies of Exposure tool was used for risk-of-bias assessment. SUMMARY OF REVIEW: Of 3538 studies identified, 35 were included: 9 prospective and 26 retrospective cohort. Staphylococcus aureus infection (odds ratio (OR) 3.05; 95% CI, 1.96-4.73, I(2) = 77.2%; 9 studies) and 1-mm increment in vegetation size (OR, 1.26; 95% CI, 1.02-1.55, I(2) = 90.1%; 3 studies) were associated with a higher risk of AIS, after adjusting for other covariates. High-intensity signals on transcranial Doppler, and comorbidities such as hypertension, atrial fibrillation, and hyperlipidemia were also found to be associated with a higher risk of AIS. The risk of ICH was increased by thrombocytopenia, mycotic aneurysms, prior ICH or AIS, and cerebral microbleeds. CONCLUSION: Our study has identified factors which are associated with increased stroke risk in IE and may help physicians predict risk. While echocardiographic and neuroimaging findings may be particularly informative, underlying comorbidities and various laboratory values may also contribute to predicting IE-associated strokes.

Neurology

Kaur N, and **Singh J**. Generation and Characterization of Human iPSC-Derived Astrocytes with Potential for Modeling X-Linked Adrenoleukodystrophy Phenotypes. *Int J Mol Sci* 2025; 26(4). PMID: 40004040. Full Text

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X-adrenoleukodystrophy (X-ALD) is a peroxisomal metabolic disorder caused by mutations in the ABCD1 gene encoding the peroxisomal ABC transporter adrenoleukodystrophy protein (ALDP). Similar mutations in ABCD1 may result in a spectrum of phenotypes in males with slow progressing adrenomyeloneuropathy (AMN) and fatal cerebral adrenoleukodystrophy (cALD) dominating most cases. Mouse models of X-ALD do not capture the phenotype differences and an appropriate model to investigate the mechanism of disease onset and progress remains a critical need. Here, we generated induced pluripotent stem cell (iPSC) lines from skin fibroblasts of two each of apparently healthy control, AMN, and cALD patients with non-integrating mRNA-based reprogramming. iPSC lines expanded normally and expressed pluripotency markers Oct4, SOX2, NANOG, SSEA, and TRA-1-60. Expression of markers SOX17, Brachyury, Desmin, OXT2, and beta tubulin III demonstrated the ability of the iPSCs to differentiate into all three germ layers. iPSC-derived lines from CTL, AMN, and cALD male patients were differentiated into astrocytes. Differentiated AMN and cALD astrocytes lacked ABCD1 expression and accumulated saturated very long chain fatty acids (VLCFAs), a hallmark of X-ALD, and demonstrated differential mitochondrial bioenergetics, cytokine gene expression, and differences in STAT3 and AMPK

signaling between AMN and cALD astrocytes. These patient astrocytes provide disease-relevant tools to investigate the mechanism of differential neuroinflammatory response in X-ALD and will be valuable cell models for testing new therapeutics.

Neurology
Marto JP, Strambo D, **Chebl A**, et al. Recanalization Outcomes and Procedural Complications in Patients With Acute Ischemic Stroke and COVID-19 Receiving Endovascular Treatment. *J Stroke* 2025; 27(1):128-132. PMID: 39916463. Full Text

Neurology
Paganoni S, Fournier CN, **Newman DS**, **Arcila-Londono X**, et al. Efficacy and Safety of Zilucoplan in Amyotrophic Lateral Sclerosis: A Randomized Clinical Trial. *JAMA Netw Open* 2025; 8(2):e2459058. PMID: 39960672. Full Text

IMPORTANCE: The etiology of amyotrophic lateral sclerosis (ALS), a fatal neurodegenerative disease, is unknown. However, neuroinflammation and complement activation may play a role in disease progression. OBJECTIVE: To determine the effects of zilucoplan, an inhibitor of complement C5, in individuals with ALS. DESIGN, SETTING, AND PARTICIPANTS: Zilucoplan was tested as regimen A of the HEALEY ALS Platform Trial, a phase 2 to 3 multicenter, randomized, double-blind, placebo-controlled perpetual platform clinical trial with sharing of trial infrastructure and placebo data across multiple regimens. Regimen A was conducted from August 17, 2020, to May 4, 2022. A total of 162 participants were randomized to receive zilucoplan (122 [75.3%]) or regimen-specific placebo (40 [24.7%]). An additional 124 concurrently randomized participants were randomized to receive placebo in other regimens. INTERVENTIONS: Eligible participants were randomized in a 3:1 ratio to receive zilucoplan or matching placebo within strata of edaravone and/or riluzole use for a planned duration of 24 weeks. Active drug (zilucoplan, 0.3 mg/kg) and placebo were provided for daily subcutaneous dosing. MAIN OUTCOMES AND MEASURES: The primary end point was change in disease severity from baseline through 24 weeks as measured by the Amyotrophic Lateral Sclerosis Functional Rating Scale-Revised (ALSFRS-R) total score and survival, analyzed using a bayesian shared-parameter model and reported as disease rate ratio (DRR; <1 indicating treatment benefit). The study included prespecified rules for early stopping for futility. Outcome analyses were performed in the full analysis set comparing the zilucoplan group with the total shared placebo group (n = 164). RESULTS: Among the 162 participants who were randomized (mean [SD] age, 59.6 [11.3]; 99 [61.1%] male), 115 (71.0%) completed the trial. The estimated DRR common to ALSFRS-R and survival was 1.08 (95% credible interval, 0.87-1.31; posterior probability of superiority, 0.24). The trial was stopped early for futility. No unexpected treatment-related risks were identified. CONCLUSIONS AND RELEVANCE: In this randomized clinical trial of zilucoplan in ALS, treatment did not alter disease progression. The adaptive platform design of the HEALEY ALS Platform Trial made it possible to test a new investigational product with efficient use of time and resources. TRIAL REGISTRATION: ClinicalTrials.gov Identifier: NCT04297683.

Neurology
Ranxhi B, Bangash ZR, Chbihi ZM, Todi SV, **LeWitt PA**, and Tsou WL. The effect of AKT inhibition in α-synuclein-dependent neurodegeneration. *Front Mol Neurosci* 2025; 18:1524044. PMID: 39974188. Full Text

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Parkinson's disease (PD) is a progressive neurodegenerative disorder affecting millions of individuals worldwide. A hallmark of PD pathology is the accumulation of α-synuclein (α-Syn), a small protein known to support neuronal development and function. However, in PD, α-Syn cumulatively misfolds into toxic aggregates that disrupt cellular processes and contribute to neuronal damage and neurodegeneration. Previous studies implicated the AKT signaling pathway in α-Syn toxicity in cellular models of PD, suggesting AKT as a potential therapeutic target. Here, we investigated the effect of AKT inhibition in a Drosophila model of synucleinopathy. We observed that administration of the AKT inhibitor, A-443654 led

to mild improvements in both survival and motor function in flies expressing human α-Syn. Genetic studies revealed that reduction of AKT levels decreased α-Syn protein levels, concomitant with improved physiological outcomes. The protective effects of AKT reduction appear to operate through the fly ortholog of NF-κB, Relish, suggesting a link between AKT and NF-κB in regulating α-Syn levels. These findings highlight the AKT cascade as a potential therapeutic target for synucleinopathies and provide insights into mechanisms that could be utilized to reduce α-Syn toxicity in PD and related disorders, such as multiple system atrophy.

Neurology
Shah S, Osuala KO, Brock EJ, **Ji K**, Sloane BF, and Mattingly RR. Three-Dimensional Models: Biomimetic Tools That Recapitulate Breast Tissue Architecture and Microenvironment to Study Ductal Carcinoma In Situ Transition to Invasive Ductal Breast Cancer. *Cells* 2025; 14(3). PMID: 39937011. Full Text

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Diagnosis of ductal carcinoma in situ (DCIS) presents a challenge as we cannot yet distinguish between those lesions that remain dormant from cases that may progress to invasive ductal breast cancer (IDC) and require therapeutic intervention. Our overall interest is to develop biomimetic three-dimensional (3D) models that more accurately recapitulate the structure and characteristics of pre-invasive breast cancer in order to study the underlying mechanisms driving malignant progression. These models allow us to mimic the microenvironment to investigate many aspects of mammary cell biology, including the role of the extracellular matrix (ECM), the interaction between carcinoma-associated fibroblasts (CAFs) and epithelial cells, and the dynamics of cytoskeletal reorganization. In this review article, we outline the significance of 3D culture models as reliable pre-clinical tools that mimic the in vivo tumor microenvironment and facilitate the study of DCIS lesions as they progress to invasive breast cancer. We also discuss the role of CAFs and other stromal cells in DCIS transition as well as the clinical significance of emerging technologies like tumor-on-chip and co-culture models.

Neurology
Venkatraman A, Viswanathan A, and **Rao SS**. Un-binding the Umwelt: The Differential Contributions of the Five Classical Senses can be Understood Through Hindu Tantra. *Biosemiotics* 2025:31. PMID: Not assigned. Full Text

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Information from our senses, memories and thoughts is bound together into a unified whole that constitutes our experience of our world, our Umwelt. However, our ability to investigate our Umwelt through standard Western-derived neuroscience is limited, because of the third-person approach that undergirds the field. Achieving greater coherence in our understanding requires the addition of an approach which is fundamentally integrative. The most comprehensive first-person approach to the nervous system can be found in the introspective traditions of Tantric Hinduism. In this review, we explore the hierarchical ordering of the senses in Hinduism (from most gross to the most subtle, the latter being closer to consciousness), and how this may be linked to sensorimotor coupling in the parietal cortex. We

demonstrate how this ordering parallels the developmental history of the sensory cortices over the course of vertebrate evolution. The synergy between biosemiotics and neurophenomenology is made clear, as the idea of a "Great Chain of Semiosis" can be very helpful in understanding the reasons behind the emergence of this sensory hierarchy. The structures of the Subtle body described in Hindu Tantra should be seen as semiotic nodes used by the conscious agent in interacting with the world around it. We propose that metaphor ties together the various sensory mappings of the body at the cognitive level. Integrating insights from Hindu Tantra will help modern science better investigate questions of agency, meaning and semiosis in organisms.

Neurosurgery

Berezovsky A, **Nuga O**, **Datta I**, **Bergman K**, **Sabedot T**, Gurdziel K, **Irtenkauf S**, **Hasselbach L**, **Meng Y**, Mueller C, Petricoin EF, 3rd, **Brown S**, Purandare N, Aras S, **Mikkelsen T**, **Poisson L**, **Noushmehr H**, Ruden D, and **deCarvalho AC**. Impact of developmental state, p53 status, and interferon signaling on glioblastoma cell response to radiation and temozolomide treatment. *PLoS One* 2025; 20(2):e0315171. PMID: 39919036. Full Text

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Glioblastoma (GBM) tumors exhibit extensive genomic, epigenomic, and transcriptional diversity, with significant intratumoral heterogeneity, complicating standard treatment approaches involving radiation (RT) and the DNA-alkylating agent temozolomide (TMZ). In this study, we employed an integrative multi-omics approach, including targeted proteomics, transcriptomics, genomics, and DNA methylation profiling, to investigate the response of a representative panel of GBM patient-derived cancer stem cells (CSCs) to astrocytic differentiation and RT and TMZ treatments. Differentiated CSC progenies retained the expression of key stemness genes and survival pathways, while activating the BMP-Smad signaling pathway and upregulating extracellular matrix components. This was associated with increased resistance to TMZ, though not to RT, across all models. We identified TP53 status as a critical determinant of transcriptional response to both RT and TMZ, which was also modulated by the differentiation state and treatment modality in wildtype (wt) p53 GBM cells. Both mutant and wt p53 models exhibited significant activation of the DNA-damage associated interferon (IFN) response in CSCs and differentiated cells, implicating this pathway in the GBM response to therapy. We observed that activation of NF-κB was positively correlated with the levels of O-6-methylguanine-DNA methyltransferase (MGMT) protein, a direct DNA repair enzyme leading to TMZ resistance, regardless of MGMT promoter methylation status, further supporting the clinical potential for inhibition of NF-kB signaling in GBM treatment. Our integrative analysis of the impact of GBM cell developmental states, in the context of genomic and molecular diversity of patient-derived models, provides valuable insights for pre-clinical studies aimed at optimizing treatment strategies.

Neurosurgery

Boele FW, Hertler C, Sherwood P, Cachia D, Dirven L, Young JS, **Walbert T**, Stockdill M, Rodriguez Almaraz E, and Piil K. Reporting standards in randomized controlled trials involving neuro-oncology caregivers: A systematic review report from the RANO-Cares working group. *Neurooncol Pract* 2025; 12(1):19-33. PMID: 39917763. Full Text

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BACKGROUND: Family caregivers in neuro-oncology (eg, spouse, family member, friend to a patient) have high unmet support needs, yet intervention trials and effective support options are scarce. The Response Assessment in Neuro-Oncology (RANO)-Cares working group investigated the methodological quality of neuro-oncology caregiver outcomes reporting in randomized controlled trials (RCTs). METHODS: A systematic review was performed to evaluate to what extent RCTs assessing outcomes of caregivers of adult primary brain tumor patients adhere to minimum reporting standards. A 33-item checklist (23 applicable to secondary analysis reports) based on the International Society for Quality of Life Research (ISOQOL) criteria for patient-reported outcome reporting was used. Risk of bias was assessed per RCT. RESULTS: Fifteen publications from 11 unique RCTs included 676 neuro-oncology caregivers, with low overall risk of bias. Ten publications (66%) reported on caregiver outcomes as a primary aim, of which 8 (80%) satisfied ≥2/3 of the key methodological criteria. Of the 5 secondary analysis reports (33%), 2 (40%) met ≥2/3 of applicable key criteria. Criteria often not reported adequately included sample size calculations (reported adequately in n = 8, 53%), participant flow (n = 9, 60%) window for data collection (n = 1, 6%), and extent of (n = 10, 66%), reasons for (n = 9, 60%), and statistical approaches in dealing with (n = 4, 26%) missing data. CONCLUSIONS: Whilst there are opportunities to enhance reporting standards, RCTs that include neuro-oncology caregiver outcomes generally adhere to high-quality reporting standards and have low risk of bias, indicating good potential to impact clinical practice.

Neurosurgery

Fortunato JT, Walsh LE, Polacek LC, Reiner AS, **Walbert T**, Thomas AA, Buthorn J, Sigler A, Prigerson HG, Applebaum AJ, and Diamond EL. Illness understanding and religiousness in patients with recurrent glioblastoma. *Neurooncol Pract* 2025; 12(1):100-112. PMID: 39917760. Full Text

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BACKGROUND: Patients with glioblastoma (GBM) often have inaccurate perceptions of prognosis. Strong religious beliefs have been associated with limited illness understanding (IU) in patients with advanced cancer, but IU and religiousness have not been investigated in patients with GBM. The aim of this study was to evaluate the association between religiousness and spirituality and IU in patients with GBM. METHODS: Patients enrolled in a prospective multicenter study of recurrent GBM (Coping with Glioblastoma, NCT02375841). Within one month of medical visits discussing MRI scans showing GBM progression, patients completed study surveys containing published measures of IU and religiousness. IU was compared between participants with moderate or high versus slight or no religiousness based on several patient-reported prompts using Fisher's exact tests. RESULTS: Twenty-four patients completed surveys of religiousness and IU. IU was partial within our cohort. Fifteen participants (62.5%) acknowledged that their illness was terminal. Only 6 (25%) correctly acknowledged their prognosis (months). Eleven patients (46%) were moderately or very religious, while 9 (38%) were either slightly religious or not at all religious. High religiousness and spirituality were each associated with partial IU (P = .06 and P = .01, respectively). A belief that God could perform a miracle to cure them of cancer and a belief in sanctity through suffering were also each associated with partial IU. CONCLUSIONS: This prospective study that suggests religiousness, including the belief in miracles and a belief in sanctification through suffering, might influence patients' IU. Further research is warranted to study this association.

Neurosurgery
Rendo V, Lee EQ, Bossi C, Khuu N, Rudek MA, Pal S, Azazmeh N, Rashid R, Lin JR, Cusick M, Reynolds ARN, Fassinou ACR, Ayoub G, Malinowski S, Lapinskas E, Pisano W, Jeang J, Stopka SA, Regan MS, Spetz J, Desai A, Lieberman F, Palanichamy K, Fisher JD, Pelton K, Huang RY, Sarosiek KA, Nabors LB, Holdhoff M, Danda N, Strowd R, Desideri S, **Walbert T**, Ye X, Chakravarti A, Sorger PK, Santagata S, Agar NYR, Grossman SA, Alexander BM, Wen PY, Ligon KL, and Beroukhim R. A window-of-opportunity trial reveals mechanisms of response and resistance to navtemadlin in patients with recurrent glioblastoma. *Sci Transl Med* 2025; 17(786):eadn6274. PMID: 39970230. Full Text

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Inhibitors of murine double minute homolog 2 (MDM2) represent a promising therapeutic approach for the treatment of TP53 wild-type glioblastomas (GBMs), reactivating p53 signaling to induce cancer cell death. We conducted a surgical window-of-opportunity trial (NCT03107780) of the MDM2 inhibitor navtemadlin (KRT-232) in 21 patients with TP53 wild-type recurrent GBM to determine achievable drug concentrations within tumor tissues and biological mechanisms of response and resistance. Participants received navtemadlin at 120 mg (n = 10) or 240 mg (n = 11) for 2 days before surgical resection and after surgery until progression or unacceptable toxicity. Both 120 and 240 mg daily dosing achieved a pharmacodynamic impact, but median progression-free survival was 3.1 months. DNA sequencing of three recurrent tumors revealed an absence of TP53-inactivating mutations, indicating alternative mechanisms of resistance. To understand the mechanisms of response and resistance associated with navtemadlin, we conducted functional and spatial analyses of human tissue and patient-derived GBM neurosphere models. Navtemadlin induced partial tumor cell death as monotherapy, and combination with temozolomide enhanced apoptosis in GBM neurospheres while sparing normal bone marrow cells in vitro. We also observed up-regulation of oligodendrocyte differentiation genes with navtemadlin treatment and enrichment of oligodendrocyte transcription factor 2 (OLIG2)-positive cells at relapse, suggesting an unexplored mechanism of navtemadlin tolerance in GBM. Overall, these results indicated that clinically achievable doses of navtemadlin exert pharmacodynamic effects on GBM and suggest that combined treatment with temozolomide may be a route to more durable survival benefits.

Neurosurgery

Wilson TG, **Baghel M**, **Kaur N**, **Datta I**, **Loveless I**, Potla P, **Mendez D**, **Hansen L**, **Baker K**, **Lynch TS**, **Moutzouros V**, **Davis J**, and **Ali SA**. Circulating miR-126-3p is a mechanistic biomarker for knee osteoarthritis. *Nat Commun* 2025; 16(1):2021. PMID: 40016267. Full Text

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Osteoarthritis is a major contributor to pain and disability worldwide, yet there are currently no validated soluble biomarkers or disease-modifying treatments. Given that microRNAs are promising mechanistic biomarkers that can be therapeutically targeted, in this study, we aimed to identify and prioritize reproducible circulating microRNAs associated with radiographic knee osteoarthritis. Across four independent cohorts, we find circulating miR-126-3p is elevated in knee osteoarthritis versus controls. Across six primary human knee osteoarthritis tissues, miR-126-3p is highest in subchondral bone, fat pad and synovium, and lowest in cartilage. Following both intravenous and intra-articular miR-126-3p mimic treatment in a surgical mouse model of knee osteoarthritis, we show reduced disease severity in males. In human knee osteoarthritis biospecimens, miR-126-3p mimic treatment reduces genes and markers

associated with angiogenesis, as well as genes linked to osteogenesis, adipogenesis, and synovitis-processes secondary to angiogenesis. Our findings indicate that miR-126-3p is elevated in knee osteoarthritis and mitigates disease severity, supporting its potential as a biomarker and therapeutic target.

Obstetrics, Gynecology and Women's Health Services
Hold LA, Phillips T, Cordts P, Steltzer SS, Bae SH, Henry BW, Migotsky N, Grossman S, Dela Cruz C, Padmanabhan V, **Moravek MB**, Shikanov A, Abraham AC, and Killian ML. Functional changes to Achilles tendon and enthesis in an adolescent mouse model of testosterone hormone therapy. *Connect Tissue Res* 2025; 1-11. Epub ahead of print. PMID: 40019025. Full Text

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PURPOSE/AIM: Some youth seek puberty suppression to prolong decision-making prior to starting hormone therapy to help align their physical sex characteristics with their gender identity. During peripubertal growth, connective tissues such as tendon rapidly adapt to applied mechanical loads (e.g. exercise) yet if and how tendon adaptation is influenced by sex and gender-affirming hormone therapy during growth remains unknown. The goal of this study was to understand how pubertal suppression followed by testosterone influences the structural and functional properties of the Achilles tendon using an established adolescent mouse model of testosterone hormone therapy. MATERIALS AND METHODS: C57BL/6N female mice were assigned at postnatal day 26 to the following experimental groups: control (vehicle treated), gonadotropin release hormone analogue (GnRHa) treatment alone to delay puberty, testosterone (T) alone after puberty, or delayed puberty with T treatment (i.e. GnRHa followed by T). RESULTS: We found that pubertal suppression using GnRHa with and without T, as well as treatment with T alone post-puberty, increased the ultimate load of tendon in female mice. Additionally, we found that GnRHa, but not T treatment resulted in a significant increase in cell density at the Achilles enthesis. CONCLUSIONS: These findings demonstrate that delayed puberty and T have no negative influence on structural or functional properties of mouse tendon.

Obstetrics, Gynecology and Women's Health Services
Pfau DR, Cho E, Clark JG, Kruger RE, Chan-Sui RK, Kinnear H, Dela Cruz C, Schwartz AR, Padmanabhan V, Shikanov A, and **Moravek MB**. Short and long duration testosterone treatments induce reversable subfertility in female mice using a gestational model of gender-affirming hormone therapy. *Hum Reprod* 2025; Epub ahead of print. PMID: 39935255. Full Text

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STUDY QUESTION: How does testosterone gender-affirming hormone therapy (T-GAHT) impact breeding success in female mice? SUMMARY ANSWER: T-GAHT causes reversible subfertility in female mice and persistent changes to reproductive tract anatomy, gene expression, and hormone receptors. WHAT IS KNOWN ALREADY: Adult female mice implanted with capsules containing 10 mg of testosterone mimic many aspects of reproductive phenotypes of T-GAHT patients, who may desire future gestation while pausing T-GAHT. In mice, oocytes retrieved from T-GAHT mice had decreased IVF rates, and T cessation prior to stimulation improved these outcomes. However, the effects of T-GAHT on breeding have not been examined. STUDY DESIGN, SIZE, DURATION: Adult female CD1 mice were subcutaneously implanted with capsules containing 10 mg of testosterone or blank controls. In separate studies, capsules were removed after 6 ('short') or 12 weeks ('long' n = 15/group), then mice were paired with proven-breeder CD1 males. Breeding pair success and pup development (15-20/group) were measured for first and second litters, then terminal measurements were taken from dams and their adult offspring (10/group). PARTICIPANTS/MATERIALS, SETTING, METHODS: The reproductive success of explanted T-GAHT and control mice was investigated by pairing them with proven-breeder CD1 males. Regular observations of dams and litters enabled analysis of fertility and the development of male and female pups for two litters. Terminal measures for dams and/or adult offspring focused on endpoints tied to reproductive tract function and gestation, including reproductive hormones, vaginal cytology, sperm analysis and ovarian and uterine anatomy, histology, and gene expression. MAIN RESULTS AND THE ROLE OF CHANCE: All but one T-GAHT dams gave birth, but the time between pairing and their first birth was longer than controls after long (22.3 ± 1.3 days vs 24.5 ± 3.1) and short (23.2 ± 1.4 days vs 25.5 ± 4) treatments. Dams given long T-GAHT treatment had fewer pups in their first litters (11.9 ± 2.7 pups vs 7.8 ± 3.1) but pup number was unaltered after short treatment (11.5 ± 2.4 pups vs 11.4 ± 3.7). Further, offspring from first litters displayed accelerated puberty. Fertility differences and offspring developmental effects were absent for second gestations and litters. Despite fertility rescue, several anatomical, genetic, and histological changes persisted in T-GAHT dams after two litters. Offspring reproductive system outcomes were not significantly altered once dam fertility was restored. This study powerfully demonstrates a subfertile phenotype in T-GAHT-treated animals that is rescued over time and identifies gonadotropin and steroid hormone signaling as potential mechanisms for further investigation. LARGE SCALE DATA: No large-scale data were generated in this study. LIMITATIONS, REASONS FOR CAUTION: Significant effects of T-GAHT on dam terminal measures may be unrelated to subfertility, and similar endpoints must be examined during the subfertile period to identify and fully understand their roles in T-GAHT-dependent reproductive changes. WIDER IMPLICATIONS OF FINDINGS: The assumption that T-GAHT causes irreversible damage to reproduction has harmfully informed public opinion, medical practice, and government policies. The finding in T-GAHT mice that fertility and offspring outcomes are not permanently impacted are of translational relevance and opens avenues to be tested first in non-human primate models and then humans. STUDY FUNDING/COMPETING INTEREST(S): NIH R01 HD098233, NIH T32 DK071212. The authors declare no competing interests.

Ophthalmology and Eye Care Services

Qin L, Pierce M, **Kasetty VM**, Espinosa-Heidmann D, and Marcus D. Review and Appraisal of Current and Investigational Complement System Inhibitory Therapy for Geographic Atrophy Secondary to Age-related Macular Degeneration. *US Ophthalmic Review* 2024; 18(1):25-32. PMID: Not assigned. Full Text

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ge-related macular degeneration (AMD) is a prevalent cause of vision impairment, affecting millions worldwide. This chronic condition encompasses two main forms: non-exudative (dry) AMD and exudative (wet) AMD. Dry AMD, characterized by the accumulation of drusen and alterations in the retinal pigment epithelium, can evolve into geographic atrophy (GA), culminating in irreversible vision impairment. Despite its considerable impact, therapeutic options for GA were historically constrained until recent advancements emerged. This comprehensive review underscores the pivotal role of the complement system in the pathogenesis of GA. Recent breakthroughs in AMD management have introduced innovative therapeutic modalities targeting complement factors, notably pegcetacoplan and avacincaptad pegol, both of which have garnered FDA approval. These agents have exhibited efficacy in decelerating the growth of GA lesions, offering a promising avenue for GA treatment. Additionally, we delve into past

and ongoing clinical trials investigating supplementary complement inhibitors, including IONIS-FB-LRx, NGM621, ANX007, danicopan and AVD-104, highlighting their potential to shape future research endeavours and treatment paradigms. Challenges such as dosing frequency, the risk of neovascular conversion, and interindividual variability in treatment response underscore the imperative for ongoing research and the refinement of therapeutic strategies. While further investigations are warranted to delineate optimal treatment regimens and address extant challenges, the development of complement inhibitors represent a promising stride toward preserving vision and enhancing outcomes for individuals afflicted by this debilitating condition.

Ophthalmology and Eye Care Services

Shuman H, Trivedi V, Patwa D, Lee PS, Tran DV, Im J, Me R, Komro J, Okeagu C, **Le K**, and Lin X. Infusion-Induced Macular Holes in Pars Plana Vitrectomy: A Case Series of Six Patients. *Retin Cases Brief Rep* 2025; Epub ahead of print. PMID: 39933157. Full Text

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PURPOSE: To describe a series of six cases in which iatrogenic macular holes were induced by the infusion fluid flow of a 25-gauge pars plana vitrectomy (PPV) system. METHODS: This is a retrospective case series of six patients treated at Kresge Eye Institute between 2018 and 2024. RESULTS: Iatrogenic macular holes caused by infusion fluid flow are a rare complication of PPV. In this series, five out of six patients had a history of diabetes mellitus and proliferative diabetic retinopathy. The majority of these patients were undergoing repair of tractional retinal detachments when the complication occurred. The average patient age was 47 years (range: 32-66 years). Four patients were pseudophakic, and only one had undergone prior vitrectomy. Preoperative visual acuity ranged from 20/50 to hand motion, while postoperative visual acuity ranged from 20/80 to hand motion. Two patients experienced an improvement in visual acuity postoperatively. CONCLUSION: This case series highlights the potential risk of macular hole formation due to infusion fluid dynamics during pars plana vitrectomy. In diabetic patients with tractional retinal detachments or significant macular ischemia, we recommend positioning the infusion cannula away from the posterior pole to mitigate the risk of this complication.

Orthopedics/Bone and Joint Center

Castle JP, **Kasto JK**, **Jiang EX**, **Gaudiani MA**, **Wolterink TD**, **Timoteo T**, **Best J**, **Bishai SK**, **Kolowich PA**, and **Muh SJ**. Arthroscopic rotator cuff repair with bioinductive patch achieves equivalent patient-reported outcomes and retear rate at 1 year. *Shoulder Elbow* 2025; Epub ahead of print. PMID: 39925868. Full Text

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PURPOSE: The purpose of this study was to evaluate the safety and efficacy of a bioinductive patch augmentation following arthroscopic rotator cuff repair (RCR) in terms of patient-reported outcomes, motion, and complications stratified by tear size. METHODS: A retrospective review of patients undergoing primary RCR with and without bioinductive bovine collagen patch augmentation for supraspinatus/infraspinatus tears from 2014 to 2022 at two centers was performed. Exclusion criteria included: age <18 years, revisions, or lack of 6-month postoperative follow-up. Patients were propensity-score matched 2:1 to patch-augmented patients based on age, sex, BMI, and tear size. Outcomes were compared between the patch and control groups after being stratified by tear size. RESULTS: A total of 125 patients patch augmented RCRs were matched to 250 controls. No significant differences in demographics or comorbidities between groups. Following stratification by tear size, VAS for partial and small/medium tears in the patch cohorts were lower ($p = 0.02$) at 3 months. Functional scores were not statistically different. Patch-augmented partial and small/medium tears showed increased forward

elevation ($p < 0.05$) at 1-year follow-up. Retear rates were statistically similar. CONCLUSIONS: Bioinductive patch augmentation demonstrates equivalent outcomes for pain and function, retear rate, but is associated with improved forward elevation up to 1-year for partial and small/medium tears. LEVEL OF EVIDENCE: Level III, retrospective cohort study.

Orthopedics/Bone and Joint Center
Cominos ND, Tramer JS, Peace AJ, Zaborowicz MA, **Eller EB**, and Khalil LS. Achilles Rupture Repair: Modified Gift-Box With a Proximal Myotendinous Backup Fixation Technique. *Arthrosc Tech* 2025; 14(1):103180. PMID: 39989681. Full Text

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Achilles tendon tears are not an uncommon injury, with a predominance in explosive athletes and weekend warriors in the third to fifth decade of life. Consideration of operative intervention is commonplace in young athletes, whereas less active and older individuals may opt for nonsurgical treatment. Surgical treatment is reported to improve functional outcomes in high-demand individuals and demonstrates increased plantarflexion power, better return to sports rates, and a reduced rerupture rate. Traditionally, a primary end-to-end repair of the Achilles tendon was the surgical treatment of choice. More recently, alternative advanced techniques and minimally invasive constructs have been proposed in an effort to improve repair construct while reducing soft tissue complications. This technical note describes a technique that combines a modified gift-box primary repair with backup fixation using calcaneal anchors. This technique is performed with a small, medially based incision that reduces wound and nerve complications, while promoting end-to-end tendon healing by reducing tension across the repair site through the calcaneal backup fixation.

Orthopedics/Bone and Joint Center
Oravec D, **Zaman R**, **Rao S**, **Chang V**, **Divine G**, and **Yeni YN**. Facet joint distance measurement using digital tomosynthesis while standing. *J Biomech* 2025; 183:112596. PMID: 40023053. Full Text

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The zygapophyseal (facet) joint plays a critical role in load transmission and stability of the spine, and facet degeneration is a common consequence of aging and osteoarthritis. The ability to accurately measure facet space is important, as decreased facet space is associated with facet degeneration and lower back pain. Although grading systems exist for assessing facet joint space narrowing, static imaging fails to characterize changes in the facet gap under load that play a role in segmental stability. Current methods for estimating the dynamic behavior of the facet joint are either inaccurate, radiation costly, or clinically impractical. In the current study, we demonstrate the feasibility of a novel method for 3D measurement of facet joint space using digital tomosynthesis (DTS) imaging in supine and standing positions. Facet gap measurements were found to be strongly correlated with (r to 0.98) and accurate

(<20 µm error for median facet gap) relative to microcomputed tomography reference values. In a pilot in vivo demonstration with seven participants, the effect of physiological loading was detectable, with median facet joint space being larger in standing as compared to supine images ($p < 0.0001$). The presented approach may be useful in directly characterizing changes in the facet joint relevant to segmental stability that are not readily assessed via current clinical imaging methods.

Orthopedics/Bone and Joint Center

Wilson TG, **Baghel M**, **Kaur N**, **Datta I**, **Loveless I**, Potla P, **Mendez D**, **Hansen L**, **Baker K**, **Lynch TS**, **Moutzouros V**, **Davis J**, and **Ali SA**. Circulating miR-126-3p is a mechanistic biomarker for knee osteoarthritis. *Nat Commun* 2025; 16(1):2021. PMID: 40016267. Full Text

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Osteoarthritis is a major contributor to pain and disability worldwide, yet there are currently no validated soluble biomarkers or disease-modifying treatments. Given that microRNAs are promising mechanistic biomarkers that can be therapeutically targeted, in this study, we aimed to identify and prioritize reproducible circulating microRNAs associated with radiographic knee osteoarthritis. Across four independent cohorts, we find circulating miR-126-3p is elevated in knee osteoarthritis versus controls. Across six primary human knee osteoarthritis tissues, miR-126-3p is highest in subchondral bone, fat pad and synovium, and lowest in cartilage. Following both intravenous and intra-articular miR-126-3p mimic treatment in a surgical mouse model of knee osteoarthritis, we show reduced disease severity in males. In human knee osteoarthritis biospecimens, miR-126-3p mimic treatment reduces genes and markers associated with angiogenesis, as well as genes linked to osteogenesis, adipogenesis, and synovitis-processes secondary to angiogenesis. Our findings indicate that miR-126-3p is elevated in knee osteoarthritis and mitigates disease severity, supporting its potential as a biomarker and therapeutic target.

Otolaryngology – Head and Neck Surgery

Dunn MR, Fridman I, Kinlaw AC, **Neslund-Dudas C**, **Tam S**, and Elston Lafata J. Identifying Barriers to Being Offered and Accepting a Telehealth Visit for Cancer Care: Unpacking the Multi-Levels of Documented Racial Disparities in Telehealth Use. *Health Serv Res* 2025; e14461. Epub ahead of print. PMID: 39976577. Full Text

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OBJECTIVE: To evaluate patient- and area-level factors in relation to telehealth visit use in cancer care.
STUDY SETTING AND DESIGN: We surveyed a cohort of adults with an upcoming healthcare visit

related to their cancer treatment at two academic medical centers (one in central North Carolina and one in southeast Michigan) and their community affiliates. Black adults and those with a scheduled telehealth visit were purposively oversampled during recruitment. We linked respondent residential addresses to area-level measures, including broadband access. The two patient-reported outcomes of interest were (1) whether a choice in visit type (virtual or in-person) was offered and (2) scheduled visit type. DATA SOURCES AND ANALYTIC SAMPLE: We assembled a cohort of 773 adults (response rate = 15%). After excluding nonrecall for being offered a choice, the analytic sample was 725 adults. PRINCIPAL FINDINGS: The sample was 46% aged < 65 years, 42% Black, and 67% women. Black respondents were less likely than non-Black respondents to be offered a choice, 15% versus 23%, prevalence difference (PD) and 95% CI = (-8.7%, CI: -14.4, -3.0) and if offered a choice, less likely to accept a telehealth visit (20% vs. 67%; PD = -47.0%, CI: -62.0, -32.0). Compared to men, women had a lower frequency of visit choice (16% vs. 27%; PD = -10.9%. CI: -17.4, -4.4) and accepted telehealth visits (42% vs. 63%; PD = -20.8%, CI: -36.8, -4.7). Respondents who expressed technology-related worries were less likely to accept a telehealth visit. Lower area-level technology access (e.g., broadband ownership) and higher poverty were nonsignificantly associated with less offering and less scheduling of telehealth visits. CONCLUSIONS: Interventions to improve access to telehealth in cancer care and mitigate structural inequities (namely racism and sexism) should consider patient- and area-level barriers to being offered a choice in visit type and the ability to accept a telehealth visit.

Otolaryngology – Head and Neck Surgery

Gao MZ, Awonusi OO, Ramkumar SP, Myint JA, Barnes JM, Semprini J, **Adjei Boakye E**, Rohde RL, Zimet GD, and Osazuwa-Peters N. The Affordable Care Act and change in human papillomavirus (HPV) vaccine uptake in the United States. *Vaccine* 2025; 50:126842. PMID: 39914253. Full Text

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BACKGROUND: Human papillomavirus (HPV) vaccination uptake has increased in the United States yet continues to fall short of the Healthy People 2030 goal. Cost of care is a known barrier. The Affordable Care Act (ACA) aimed to enhance access to preventive healthcare services, including HPV vaccination. Our study examined the association between the ACA and known vaccination-enabling factors in the United States. METHODS: We analyzed data from 29,216 adults aged 18-26 in the National Health Interview Survey from 2011 to 2017. Changes in vaccination-enabling factors (regular physician visitation and changes in health insurance status) and HPV vaccination status pre- (2011-2013; n = 13,494) to post-ACA (2014-2017; n = 15,722) were assessed using logistic regression models adjusted for poverty, education, marital status, comorbidities, sex, and geography. RESULTS: A total of 13,494 and 15,722 eligible individuals were identified pre- and post-ACA, respectively. Post-ACA, the proportion of individuals reporting receipt of one dose of the HPV vaccine increased by 43 % (3.9 % to 5.5 %; OR 1.45, 95 % CI 1.24, 1.70; p < .001), with significant gains among non-Hispanic White (OR 1.55, 95 % CI 1.24, 1.94) and Black individuals (OR 1.59, 95 % CI 1.12, 2.29). Completion of ≥2 doses rose from 12.5 % to 17.8 % (OR 1.62, 95 % CI 1.47, 1.79), notably among Hispanic individuals (7.6 % to 14.7 %, OR(interaction) = 1.36, 95 % CI 1.05, 1.77; p = .020). Post-ACA, there was a significant decrease in

uninsured rates and an increase in vaccination completion odds among individuals privately insured (OR 1.36, 95 % CI 1.22, 1.52; p < .001) and those insured by Medicaid (OR 1.81, 95 % CI 1.35, 2.43; p < .001). Regular physician visits also rose pre- to post-ACA (53.1 % to 57.1 %, OR 1.17, 95 % CI 1.09, 1.25; p < .001). CONCLUSION: The ACA has been associated with increased HPV vaccination uptake, especially among racial/ethnic minorities, gains likely driven by an increase in vaccination-enabling factors such as decreased uninsurance and increased access to physician visits.

Otolaryngology – Head and Neck Surgery
Goshtasbi K, Abiri A, Talati V, Patel JA, Nguyen TV, Pang JC, **Craig JR**, Papagiannopoulos P, Phillips KM, Tajudeen BA, Adappa ND, Palmer JN, Sedaghat AR, Wang EW, Su SY, and Kuan EC. Postoperative Management Following Endoscopic Skull Base Reconstruction: A Multidisciplinary Cross-Sectional Survey. *Head Neck* 2025; Epub ahead of print. PMID: 39963813. Full Text

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BACKGROUND: There is limited consensus on management protocols and practice patterns following endoscopic skull base surgery (ESBS). METHODS: An online-based survey focusing on ESBS practice patterns was anonymously distributed to the American Rhinologic Society, North American Skull Base Society, and American Head and Neck Society Skull Base Section membership. RESULTS: A total of 130 surgeons (81.5% in academic positions) completed the survey. Regarding reconstructive materials, 36.9% always used autologous as opposed to synthetic materials, with variation in specific materials used. Lumbar drain was never used by 22.3% of respondents, while high BMI or suspected intracranial hypertension (43.1%) and high-flow leak or large dural defects (50.0%) were indications for lumbar drain usage. There was significant variation in types of nasal packing, type, and duration of postoperative activity restrictions, antibiotic use, and debridement protocols. CONCLUSION: Postoperative management following endoscopic skull base reconstruction is highly complex, with a wide variety of practice patterns. LEVEL OF EVIDENCE: N/A.

Otolaryngology – Head and Neck Surgery
Haley EN, **Braciszewski JM**, **Carlin AM**, **Snodgrass M**, **Pearl ES**, **Loree AM**, and **Miller-Matero LR**. Gender and Racial Differences in the Overvaluation of Shape, Weight, Excess Skin, and Psychosocial Correlates Following Bariatric Surgery. *Obes Surg* 2025; Epub ahead of print. PMID: 39939575. Full Text

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BACKGROUND: Overvaluation of shape and weight (OSW) is a risk factor for psychopathology in those who have undergone bariatric surgery, and overvaluation of excess skin (OES) may present similar psychological risks. Identifying potential gender and racial differences in post-surgical OSW and OES, and their associations with psychosocial outcomes, may inform more individualized assessment and

treatment for those who have undergone bariatric surgery. METHODS: In this cross-sectional study, individuals up to 4 years post-bariatric surgery completed an online survey of various psychosocial outcomes. Overvaluation was examined via the shape and weight overvaluation subscale of the Eating Disorders Examination Questionnaire (EDE-Q), and a modified item was used to assess the overvaluation of excess skin. Quality of life (QOL), depression, and anxiety symptoms were also examined. Gender and racial differences in OSW and OES were examined. Correlations were obtained between OSW/OES, QOL, and psychological symptoms among gender and racial groups. RESULTS: Of 735 participants, women endorsed significantly greater OES than men ($p = .008$). There were no significant gender differences in OSW. White patients endorsed greater OSW than Black patients ($p < .001$), and there were no racial differences in OES. OSW and OES were inversely correlated with QOL among all groups. OSW and OES were positively associated with anxiety and depressive symptoms among both racial groups and women. CONCLUSION: Women may be at greater risk for OES than men, while White patients may be at increased risk for OSW. However, OSW/OES related to poorer QOL in all groups, and greater psychological symptoms in women.

Palliative Medicine

Maku H, Pierre CC, Greene DN, Henderson E, Rogers CL, Whitley C, and **Winston-McPherson GN**. Creation and evaluation of a gender diversity focused cultural competency training for phlebotomists: Study protocol for a randomized controlled trial. *Heliyon* 2025; 11(3):e42023. PMID: 39931491. Full Text

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BACKGROUND: Lesbian, Gay, Bisexual, Transgender, Queer, Intersex, and Asexual (LGBTQIA+) patients face unique challenges when navigating the healthcare system. In laboratory medicine, LGBTQIA + patients may experience bias and stigma when interacting with phlebotomists and laboratory professionals leading to substandard care and safety concerns. Education and job-specific training can help improve cultural competency on the part of lab staff. Our group developed a web-based LGBTQIA + cultural competency training tailored to the educational needs of phlebotomists with the goal of improving interactions with gender-diverse patients. METHODS: We propose a randomized control group study to compare the effectiveness of a gender-cultural competency training to improve phlebotomist knowledge, attitudes, and care delivery skills related to gender-diverse patients. The development and design of the education followed consensus recommendations. In order to appeal to our target audience, the educational material is accessible, engaging, and not- time- or labor-intensive. To distribute the training to several sites over a limited time, we will utilize an online educational platform as opposed to a face-to-face curriculum. CONCLUSIONS: The principal investigators anticipate that providing adequate training to phlebotomists will statistically improve their overall cultural competency and lead to an improved ability to provide affirming, safe and competent care to patients within the gender-expansive community. If successful, we anticipate that both national and international organizations can easily adapt this curriculum for their use.

Palliative Medicine

Umar A, Umer M, Ali H, Zeeshan H, and **Ahsan B**. Unvaccinated and Unprepared: A COVID-19 Saga of Diffuse Alveolar Hemorrhage. *Cureus* 2025; 17(1):e77036. PMID: 39917128. Full Text

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Diffuse alveolar hemorrhage (DAH) is a severe complication that can arise from various conditions, including COVID-19. This case report describes a 37-year-old Caucasian male with mild asthma and obesity who developed diffuse alveolar hemorrhage (DAH) following a COVID-19 infection. Despite initial treatment, his respiratory status deteriorated, leading to intubation and venovenous extracorporeal membrane oxygenation (VV ECMO). Multiple complications followed, culminating in multi-organ failure and his death. This case highlights the complexity of managing DAH in severe COVID-19 and underscores the importance of early recognition and a multidisciplinary approach. Additionally, a literature review compares similar cases to analyze outcomes and management strategies.

Pharmacy

Litten K, Folz H, **Lobkovich A**, Sherrill CH, and Berlie H. Integrating continuous glucose monitoring into Doctor of Pharmacy curricula. *J Am Coll Clin Pharm* 2025; 8(2):129-135. PMID: Not assigned. Full Text

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The use of digital health technology is on the rise. Within diabetes care, continuous glucose monitoring (CGM) is transforming how we monitor and manage patients with diabetes. Pharmacists play pivotal roles in CGM education, accessibility, utility, and application. In turn, pharmacy students should have a working knowledge of these devices. Currently, CGM inclusion in Doctor of Pharmacy (Pharm.D.) curricula is variable, and little is known about the best way to incorporate this content. This article highlights the critical need to intentionally integrate CGM into didactic and experiential teaching. Incorporating CGM education should be individualized to the institution and the level of the trainee. Educational approaches such as patient cases and hands-on activities can enhance CGM-related knowledge, skills, confidence, and empathy, which may empower trainees to be practice-ready and provide essential CGM services after graduation. This guide will provide a suggested framework for integrating CGM into Pharm.D. curricula.

Public Health Sciences

Berezovsky A, **Nuga O**, **Datta I**, **Bergman K**, **Sabedot T**, Gurdziel K, **Irtenkauf S**, **Hasselbach L**, **Meng Y**, Mueller C, Petricoin EF, 3rd, **Brown S**, Purandare N, Aras S, **Mikkelsen T**, **Poisson L**, **Noushmehr H**, Ruden D, and **deCarvalho AC**. Impact of developmental state, p53 status, and interferon signaling on glioblastoma cell response to radiation and temozolomide treatment. *PLoS One* 2025; 20(2):e0315171. PMID: 39919036. Full Text

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Glioblastoma (GBM) tumors exhibit extensive genomic, epigenomic, and transcriptional diversity, with significant intratumoral heterogeneity, complicating standard treatment approaches involving radiation (RT) and the DNA-alkylating agent temozolomide (TMZ). In this study, we employed an integrative multi-

omics approach, including targeted proteomics, transcriptomics, genomics, and DNA methylation profiling, to investigate the response of a representative panel of GBM patient-derived cancer stem cells (CSCs) to astrocytic differentiation and RT and TMZ treatments. Differentiated CSC progenies retained the expression of key stemness genes and survival pathways, while activating the BMP-Smad signaling pathway and upregulating extracellular matrix components. This was associated with increased resistance to TMZ, though not to RT, across all models. We identified TP53 status as a critical determinant of transcriptional response to both RT and TMZ, which was also modulated by the differentiation state and treatment modality in wildtype (wt) p53 GBM cells. Both mutant and wt p53 models exhibited significant activation of the DNA-damage associated interferon (IFN) response in CSCs and differentiated cells, implicating this pathway in the GBM response to therapy. We observed that activation of NF-κB was positively correlated with the levels of O-6-methylguanine-DNA methyltransferase (MGMT) protein, a direct DNA repair enzyme leading to TMZ resistance, regardless of MGMT promoter methylation status, further supporting the clinical potential for inhibition of NF-kB signaling in GBM treatment. Our integrative analysis of the impact of GBM cell developmental states, in the context of genomic and molecular diversity of patient-derived models, provides valuable insights for pre-clinical studies aimed at optimizing treatment strategies.

Public Health Sciences

Blackwell CK, Mansolf M, Rose T, Pila S, Cella D, Cohen A, Leve LD, McGrath M, Neiderhiser JM, **Urquhart A**, and Ganiban JM. Adolescent Social Media Use and Mental Health in the Environmental Influences on Child Health Outcomes Study. *J Adolesc Health* 2025; Epub ahead of print. PMID: 39918508. Full Text

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PURPOSE: Research on adolescent social media use focuses on negative mental health outcomes, with less attention on potential positive outcomes. The current study addresses this limitation by investigating associations between adolescent social media use and both psychological well-being and psychopathology. METHODS: Three US-based pediatric cohort sites participating in the National Institutes of Health Environmental influences on Child Health Outcomes study contributed cross-sectional survey data. Adolescents (13-18 years) self-reported the time spent and type of (active, passive) social media use, and their psychological well-being (Patient-Reported Outcome Measurement Information System [PROMIS] Life Satisfaction and Meaning and Purpose), psychopathology (Strengths and Difficulties Questionnaire and PROMIS Depressive Symptoms), and peer relationship quality (PROMIS Peer Relationships). We estimated associations between social media use and 4 mental health groups aligned to the dual factor model of mental health (high well-being/low psychopathology; high well-being/high psychopathology; low well-being/low psychopathology; low well-being/high psychopathology), and tested interactions with peer relationships. Models were adjusted for age, sex, race, ethnicity, and family income. RESULTS: Participants (N = 963) were sociodemographically diverse (22% income ≤130% federal poverty level; 42% adolescents of color). Elastic net regressions revealed more hours using social media increased the probability of being in the high psychopathology/low well-being group;

adolescents with poor peer relationships spending ≥7 hours/day on social media had the greatest risk of poor mental health. Positive peer relationships were the strongest predictor of positive mental health. DISCUSSION: Peer relationships were the most meaningful contribution to adolescent mental health, and quality of social media use had little influence.

Public Health Sciences
Carroll NM, Eisenstein J, Freml JM, Burnett-Hartman AN, Greenlee RT, Honda SA, **Neslund-Dudas CM**, Rendle KA, Vachani A, and Ritzwoller DP. Association of systemic therapy with survival among adults with advanced non-small cell lung cancer. *Transl Lung Cancer Res* 2025; 14(1):176-193. PMID: 39958214. Full Text

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BACKGROUND: Uptake of new systemic therapy treatments among patients with advanced non-small cell lung cancer (NSCLC) occurred rapidly after FDA approval. Few studies have characterized the association of these therapies on survival in community settings. We assessed survival by type of systemic therapy received among patients diagnosed with advanced NSCLC who were treated in community-based settings. METHODS: In this retrospective cohort, patients diagnosed with de novo stage IV NSCLC between March 2012 and December 2020 were followed through December 31, 2021. Survival was ascertained with restricted mean survival time from treatment receipt through 12 and 60 months and compared by RMST differences adjusting for demographic and tumor characteristics. Trends in one-year survival probabilities were assessed using joinpoint regression. RESULTS: Of 945 patients receiving systemic therapy, 46% received cytotoxic chemotherapy (Chemo-Only), 15% bevacizumab +/- Chemo, 22% immunotherapy +/- Chemo, and 16% targeted therapies. Median days from diagnosis to treatment ranged from 32 to 42. Compared to those receiving Chemo-Only, patients receiving immunotherapy +/- Chemo survived 1.4 months longer [95% confidence interval (CI): 0.5 to 2.3 months; P=0.002] and 3.2 months longer (95% CI: -1.4 to 7.9 months; P=0.18) through 12 and 60 months follow-up, respectively. Relative to those receiving Chemo-Only, patients receiving targeted therapies survived 1.6 months longer (95% CI: 0.7 to 2.5 months; P<0.001) and 5.5 months longer (95% CI: 0.7 to 10.4 months; P=0.02) through 12 and 60 months follow-up. One-year survival significantly increased from 30% to 59% between 2012 and 2020 (P=0.007). CONCLUSIONS: We found patients receiving targeted therapies and immunotherapy +/- Chemo survived longer than those on Chemo-Only. One-year survival probabilities significantly increased between 2012 and 2020. Additional research is needed to better understand the potential benefits and harms, including patient adverse events and financial toxicity.

Public Health Sciences
Carroll NM, Eisenstein J, Wain KF, Freml JM, Greenlee RT, Honda SA, **Neslund-Dudas C**, Rendle KA, Vachani A, and Ritzwoller DP. Patterns of recurrence among adults diagnosed with screen-detected lung cancer. *Cancer Epidemiol* 2025; 95:102777. PMID: 39970848. Full Text

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BACKGROUND: With the recent shift in lung cancer staging towards early-stage disease coinciding with the introduction of lung cancer screening (LCS), little is known if LCS has affected the rate of recurrence and survival in community settings. Our objective was to evaluate variation in the detection and outcomes of recurrent lung cancer stratified by receipt of LCS. METHODS: Patients aged 55-80 years old diagnosed with stage I-IIIA non-small cell lung cancer (NSCLC) between 1/1/2014 and 12/31/2020 who completed definitive therapy and were considered disease-free were identified. Rates of recurrence were calculated in discrete 12-month intervals and by cumulative incidence. Survival was evaluated by multivariable adjusted Restricted Mean Survival Time (aRMST). Factors associated with recurrence were evaluated by Poisson models. RESULTS: Among 916 patients meeting study criteria, 708 (77 %) were non-screen-detected and 208 (23 %) were considered screen-detected. The proportion of recurrence between non-screen-detected (22 %) and screen-detected (17 %) was similar (P = 0.11). Recurrence rates during the first and second years after definitive therapy were 10.1 and 4.1 per 100 person-years for the non-screen-detected and 6.0 and 4.5 per 100 person-years for screen-detected, respectively. Two-year cumulative incidence of recurrence was 16.5 % (95 % CI, 13.9 %-19.4 %) for non-screen-detected patients and 13.8 % (95 % CI, 9.3 %-19.0 %) in the screen-detected group. Recurrence-free survival and survival after recurrence were similar between the two groups. Screening status was not associated with the likelihood of recurrence (RR=0.94, 95 % CI, 0.59-1.50). CONCLUSION: These findings provide evidence of recurrence being a part of the intrinsic nature of disease progression despite mode of detection. Our findings emphasize the need for all patients to receive surveillance and survivorship care after treatment for early-stage NSCLC regardless of mode of detection. Further study with longer follow-up is warranted.

Public Health Sciences

Dunn MR, Fridman I, Kinlaw AC, **Neslund-Dudas C**, **Tam S**, and Elston Lafata J. Identifying Barriers to Being Offered and Accepting a Telehealth Visit for Cancer Care: Unpacking the Multi-Levels of Documented Racial Disparities in Telehealth Use. *Health Serv Res* 2025; e14461. Epub ahead of print. PMID: 39976577. Full Text

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OBJECTIVE: To evaluate patient- and area-level factors in relation to telehealth visit use in cancer care. STUDY SETTING AND DESIGN: We surveyed a cohort of adults with an upcoming healthcare visit related to their cancer treatment at two academic medical centers (one in central North Carolina and one in southeast Michigan) and their community affiliates. Black adults and those with a scheduled telehealth visit were purposively oversampled during recruitment. We linked respondent residential addresses to area-level measures, including broadband access. The two patient-reported outcomes of interest were (1) whether a choice in visit type (virtual or in-person) was offered and (2) scheduled visit type. DATA SOURCES AND ANALYTIC SAMPLE: We assembled a cohort of 773 adults (response rate = 15%). After excluding nonrecall for being offered a choice, the analytic sample was 725 adults. PRINCIPAL FINDINGS: The sample was 46% aged < 65 years, 42% Black, and 67% women. Black respondents were less likely than non-Black respondents to be offered a choice, 15% versus 23%, prevalence difference

(PD) and 95% CI = (-8.7%, CI: -14.4, -3.0) and if offered a choice, less likely to accept a telehealth visit (20% vs. 67%; PD = -47.0%, CI: -62.0, -32.0). Compared to men, women had a lower frequency of visit choice (16% vs. 27%; PD = -10.9%. CI: -17.4, -4.4) and accepted telehealth visits (42% vs. 63%; PD = -20.8%, CI: -36.8, -4.7). Respondents who expressed technology-related worries were less likely to accept a telehealth visit. Lower area-level technology access (e.g., broadband ownership) and higher poverty were nonsignificantly associated with less offering and less scheduling of telehealth visits. CONCLUSIONS: Interventions to improve access to telehealth in cancer care and mitigate structural inequities (namely racism and sexism) should consider patient- and area-level barriers to being offered a choice in visit type and the ability to accept a telehealth visit.

Public Health Sciences

Gao MZ, Awonusi OO, Ramkumar SP, Myint JA, Barnes JM, Semprini J, **Adjei Boakye E**, Rohde RL, Zimet GD, and Osazuwa-Peters N. The Affordable Care Act and change in human papillomavirus (HPV) vaccine uptake in the United States. *Vaccine* 2025; 50:126842. PMID: 39914253. Full Text

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BACKGROUND: Human papillomavirus (HPV) vaccination uptake has increased in the United States yet continues to fall short of the Healthy People 2030 goal. Cost of care is a known barrier. The Affordable Care Act (ACA) aimed to enhance access to preventive healthcare services, including HPV vaccination. Our study examined the association between the ACA and known vaccination-enabling factors in the United States. METHODS: We analyzed data from 29,216 adults aged 18-26 in the National Health Interview Survey from 2011 to 2017. Changes in vaccination-enabling factors (regular physician visitation and changes in health insurance status) and HPV vaccination status pre- (2011-2013; n = 13,494) to post-ACA (2014-2017; n = 15,722) were assessed using logistic regression models adjusted for poverty, education, marital status, comorbidities, sex, and geography. RESULTS: A total of 13,494 and 15,722 eligible individuals were identified pre- and post-ACA, respectively. Post-ACA, the proportion of individuals reporting receipt of one dose of the HPV vaccine increased by 43 % (3.9 % to 5.5 %; OR 1.45, 95 % CI 1.24, 1.70; p < .001), with significant gains among non-Hispanic White (OR 1.55, 95 % CI 1.24, 1.94) and Black individuals (OR 1.59, 95 % CI 1.12, 2.29). Completion of ≥2 doses rose from 12.5 % to 17.8 % (OR 1.62, 95 % CI 1.47, 1.79), notably among Hispanic individuals (7.6 % to 14.7 %, OR(interaction) = 1.36, 95 % CI 1.05, 1.77; p = .020). Post-ACA, there was a significant decrease in uninsured rates and an increase in vaccination completion odds among individuals privately insured (OR 1.36, 95 % CI 1.22, 1.52; p < .001) and those insured by Medicaid (OR 1.81, 95 % CI 1.35, 2.43; p < .001). Regular physician visits also rose pre- to post-ACA (53.1 % to 57.1 %, OR 1.17, 95 % CI 1.09, 1.25; p < .001). CONCLUSION: The ACA has been associated with increased HPV vaccination uptake, especially among racial/ethnic minorities, gains likely driven by an increase in vaccination-enabling factors such as decreased uninsurance and increased access to physician visits.

Public Health Sciences

Link-Gelles R, Chickery S, Webber A, Ong TC, Rowley EAK, DeSilva MB, Dascomb K, Irving SA, Klein NP, Grannis SJ, Barron MA, Reese SE, McEvoy C, Sheffield T, Naleway AL, Zerbo O, Rogerson C, Self WH, Zhu Y, Lauring AS, Martin ET, Peltan ID, Ginde AA, Mohr NM, Gibbs KW, Hager DN, Prekker ME, Mohamed A, Johnson N, Steingrub JS, Khan A, Felzer JR, Duggal A, Wilson JG, Qadir N, Mallow C, Kwon JH, Columbus C, **Vaughn IA**, Safdar B, Mosier JM, Harris ES, Chappell JD, Halasa N, Johnson C, Natarajan K, Lewis NM, Ellington S, Reeves EL, DeCuir J, McMorrow M, Paden CR, Payne AB, Dawood FS, and Surie D. Interim Estimates of 2024-2025 COVID-19 Vaccine Effectiveness Among Adults Aged ≥18 Years - VISION and IVY Networks, September 2024-January 2025. *MMWR Morb Mortal Wkly Rep* 2025; 74(6):73-82. PMID: 40014628. Full Text

COVID-19 vaccination averted approximately 68,000 hospitalizations during the 2023-24 respiratory season. In June 2024, CDC and the Advisory Committee on Immunization Practices (ACIP) recommended that all persons aged ≥6 months receive a 2024-2025 COVID-19 vaccine, which targets Omicron JN.1 and JN.1-derived sublineages. Interim effectiveness of 2024-2025 COVID-19 vaccines was estimated against COVID-19-associated emergency department (ED) or urgent care (UC) visits during September 2024-January 2025 among adults aged ≥18 years in one CDC-funded vaccine effectiveness (VE) network, against COVID-19-associated hospitalization in immunocompetent adults aged ≥65 years in two networks, and against COVID-19-associated hospitalization among adults aged ≥65 years with immunocompromising conditions in one network. Among adults aged ≥18 years, VE against COVID-19-associated ED/UC visits was 33% (95% CI = 28%-38%) during the first 7-119 days after vaccination. Among immunocompetent adults aged ≥65 years from two CDC networks, VE estimates against COVID-19-associated hospitalization were 45% (95% CI = 36%-53%) and 46% (95% CI = 26%-60%) during the first 7-119 days after vaccination. Among adults aged ≥65 years with immunocompromising conditions in one network, VE was 40% (95% CI = 21%-54%) during the first 7-119 days after vaccination. These findings demonstrate that vaccination with a 2024-2025 COVID-19 vaccine dose provides additional protection against COVID-19-associated ED/UC encounters and hospitalizations compared with not receiving a 2024-2025 dose and support current CDC and ACIP recommendations that all persons aged ≥6 months receive a 2024-2025 COVID-19 vaccine dose.

Public Health Sciences

Oravec D, **Zaman R**, **Rao S**, **Chang V**, **Divine G**, and **Yeni YN**. Facet joint distance measurement using digital tomosynthesis while standing. *J Biomech* 2025; 183:112596. PMID: 40023053. Full Text

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The zygapophyseal (facet) joint plays a critical role in load transmission and stability of the spine, and facet degeneration is a common consequence of aging and osteoarthritis. The ability to accurately measure facet space is important, as decreased facet space is associated with facet degeneration and lower back pain. Although grading systems exist for assessing facet joint space narrowing, static imaging fails to characterize changes in the facet gap under load that play a role in segmental stability. Current methods for estimating the dynamic behavior of the facet joint are either inaccurate, radiation costly, or clinically impractical. In the current study, we demonstrate the feasibility of a novel method for 3D measurement of facet joint space using digital tomosynthesis (DTS) imaging in supine and standing

positions. Facet gap measurements were found to be strongly correlated with (r to 0.98) and accurate (<20 µm error for median facet gap) relative to microcomputed tomography reference values. In a pilot in vivo demonstration with seven participants, the effect of physiological loading was detectable, with median facet joint space being larger in standing as compared to supine images ($p < 0.0001$). The presented approach may be useful in directly characterizing changes in the facet joint relevant to segmental stability that are not readily assessed via current clinical imaging methods.

Public Health Sciences

Sayami JT, Amatya R, Karki K, Bajracharya D, Shrestha B, **Srinivasan S**, **Prentiss T**, **Shallal A**, **Zervos M**, **Latack K**, and **Kaljee L**. A nursing and midwifery training program in Kathmandu on antimicrobial resistance and stewardship and infection prevention and control: a qualitative and quantitative outcomes and process evaluation. *Front Public Health* 2025; 13:1497335. PMID: 39916710. Full Text

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BACKGROUND: Low- and middle-income countries (LMICs) are disproportionately affected by antimicrobial resistance (AMR). Nurses and midwives are essential to a holistic approach to AMR stewardship (AMS) and IPC within LMICs. OBJECTIVE: (1) Adapt AMS and IPC training programs and practice guidelines for community- and hospital-based nurses and midwives in Nepal; (2) pilot and conduct training outcome and process evaluations. DESIGN: A one-day training was developed through partnerships between Henry Ford Health and nursing and midwifery organizations and teaching facilities in Nepal. Quantitative outcome and process evaluations were conducted. Qualitative process evaluation interviews were conducted with purposefully selected trainees. SETTINGS: Trainees worked in healthcare facilities in Kathmandu Valley. PARTICIPANTS: A total of 126 nurses and midwives participated in the training and the quantitative evaluation. Eighteen trainees participated in the process evaluation interviews. METHODS: The 10-module program was adapted from AMS and IPC materials from the World Health Organization and the Nepal Ministry of Health and Population, and curricula from previous AMS studies in Nepal. Key outcomes were AMS and IPC knowledge, and decision-making about empirical dispensing of antibiotics. The process evaluation focused on training content, integration into practice, implementation barriers, and recommendations for dissemination. Quantitative data analysis included descriptive and bivariate analysis. Qualitative data analysis included coding, searches, review of coded texts, and identification of patterns and themes. RESULTS: AMS and AMR knowledge increased at immediate [1.40 (1.06-1.74) CI 95%] and six-month post-training [0.71 (0.35-1.08) CI 95%]. IPC knowledge also increased at immediate [0.79 (0.55-1.03) CI 95%] and six-month post-training [0.72 (0.49-0.96) CI 95%]. At immediate post-training, an increasing number of respondents indicated that they would not dispense antibiotics for adults [14.74% (4.88, 24.60%) CI 95%] and children [8.13% (-1.88, 18.14%) CI 95%] with fever and sore throats, and for non-pregnant women with burning sensation when urinating [10.69% (0.68%, 20.71%) CI 95%]. Process evaluation data indicated positive responses to the training content and relevancy to practice. CONCLUSION: The AMS-IPC training increased knowledge and decreased intentions for dispensing antibiotics. Participants provided concrete examples of implementation of learnings into practice. Trainings will be adapted to address identified content needs and challenges to implementation.

Public Health Sciences

Sidahmed E, Homayouni R, **Childers K**, Lick D, Oleszkowicz A, Weitz E, and Mulhem E. Disparities in SARS-CoV-2 Infection Among Arab Americans Living in Southeast Michigan. *J Racial Ethn Health Disparities* 2025; Epub ahead of print. PMID: 39994153. Full Text

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COVID-19 has disproportionately affected racial and ethnic minority groups in the USA, nevertheless, there is little research regarding how it impacted the Arab American (ArA) population. In this retrospective study, we investigated potential disparities between ArA and Caucasian (CA) groups during the first 2 years of the pandemic. The study included 110,896 adult patients who were tested for SARS-CoV-2 at eight emergency departments (EDs) within a large health system in Southeast Michigan between March 1, 2020, and July 31, 2022. Univariate analysis revealed that ArA had greater odds (OR 2.16, 95% CI 2.03-2.29) of testing positive compared to CA and significantly lower odds (OR 0.69, 95% CI 0.62-0.77) of subsequent hospitalization compared to CA. There were no significant differences in hospital mortality, 30-day ED revisit, or 30-day rehospitalization. After adjusting for age, gender, health insurance type, and a variety of co-morbidities, ArA had significantly higher odds of infection (adjusted OR 2.10, 95% CI 1.97-2.25) compared to CA, while there were no differences in other outcomes. Our study showed significantly higher risk of COVID infections in ArA and necessitates further research to understand factors contributing to this finding and measures to decrease the infection risk in this population in future pandemics.

Public Health Sciences

Urquhart A, **Sitarik AR**, **Cassidy-Bushrow AE**, **Cyrus A**, **Graham-McNeil K**, **Straughen JK**, **Santarossa S**, **Wegienka G**, and **Johnson CC**. Factors associated with attrition in a diverse birth cohort study in Detroit, Michigan. *J Dev Orig Health Dis* 2025; 16:e10. PMID: 39962863. Full Text

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Long-term birth cohorts are essential for studying health and disease over the life course. The retention of participants remains a challenge in study design. Previous research works on attrition are limited in length of follow-up time and lack of racial/ethnic diversity. Using data from the Wayne County Health, Environment, Allergy, and Asthma Longitudinal Study (WHEALS; United States cohort born between 2004 and 2007, n = 1258), we first performed longitudinal latent class analyses to identify patterns of participation spanning the prenatal period and six follow-up timepoints: 1, 6, 12, and 24 months; 3-6 years; and 10-12 years. Data collection included a combination of in-person visits, home visits, home specimen kits, and staff-administered questionnaires. We examined associations between baseline factors and participation class using multinomial logistic regression modeling, and with conditional inference modeling to identify variables most strongly associated with class. We identified four participation classes: high early participation with gradual loss-to-follow-up, sporadic participation, consistently high participation, and consistently low participation. Multiple baseline characteristics were associated with participation class. The "consistently high participation" class was disproportionately composed of participants who were older, were of higher education, had private insurance, had suburban residence, and were with higher income. Conditional inference trees identified maternal education, insurance, and income as most strongly associated with participation class. Through latent class modeling, we show that participants who were lost to follow-up fell into distinct groupings of participation.

In the future, preparatory communications with those who are at the highest risk of study discontinuation may improve long-term retention.

Public Health Sciences
Veenstra J, **Ozog D**, and **Stephens A**. Benzoyl Peroxide Acne Treatment Shows No Significant Association with Benzene-Related Cancers: A Multicenter Retrospective Analysis. *J Am Acad Dermatol* 2025; Epub ahead of print. PMID: 39986390. Full Text

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Public Health Sciences
Wiala A, Elhage KG, Leung A, **Young AT**, **Gregory M**, **Adrianto I**, **Zhou L**, **Mi QS**, Kumar S, Orcales F, Yeroushalmi S, Haran K, Liu J, Naik HB, Liao W, and Posch C. Patients with PSOriasis and Suppurative Hidradenitis (PSO-SH) share genetic risk factors and are at risk of increased morbidity. *J Am Acad Dermatol* 2025; Epub ahead of print. PMID: 39929305. Full Text

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BACKGROUND: Select patients are diagnosed with both, psoriasis (PSO) and hidradenitis suppurativa (HS), leading to a unique disease pattern. Genetic risk factors remain unidentified. METHODS: The study harnessed an international collection of patients with psoriasis and HS (PSO-SH). Clinical and genetic data was collected and analyzed. RESULTS: 87 PSO-SH patients (70% female) were identified. They had a high number of comorbidities (89%), and worse general physical health compared to PSO-only (OR 3.09 95%CI 1.56-6.12) or HS-only (OR 2.5, 95%CI 1.23-5.00) patients. PSO-SH patients were at significantly higher risk of having Crohn's disease (OR 4.6-11.9; 95% CI). Data revealed the highest overall genetic risk score for PSO-SH patients (PSO-PRS; 108.22), followed by PSO (101.18), HS (99.84), and healthy controls (98.58). High non-HLA scores were associated with an increased risk for developing both psoriasis and HS, indicating a distinct biological profile compared to HS-only and PSO-only individuals. LIMITATIONS: Some clinical information was collected retrospectively. CONCLUSIONS: This study highlights a shared genetic susceptibility of HS and psoriasis at non-HLA loci. Recognizing PSO-SH patients as a distinct patient group with high morbidity and increased risk for developing Crohn's disease will help to improve patient management.

Public Health Sciences

Wilson TG, **Baghel M**, **Kaur N**, **Datta I**, **Loveless I**, Potla P, **Mendez D**, **Hansen L**, **Baker K**, **Lynch TS**, **Moutzouros V**, **Davis J**, and **Ali SA**. Circulating miR-126-3p is a mechanistic biomarker for knee osteoarthritis. *Nat Commun* 2025; 16(1):2021. PMID: 40016267. Full Text

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Osteoarthritis is a major contributor to pain and disability worldwide, yet there are currently no validated soluble biomarkers or disease-modifying treatments. Given that microRNAs are promising mechanistic biomarkers that can be therapeutically targeted, in this study, we aimed to identify and prioritize reproducible circulating microRNAs associated with radiographic knee osteoarthritis. Across four independent cohorts, we find circulating miR-126-3p is elevated in knee osteoarthritis versus controls. Across six primary human knee osteoarthritis tissues, miR-126-3p is highest in subchondral bone, fat pad and synovium, and lowest in cartilage. Following both intravenous and intra-articular miR-126-3p mimic treatment in a surgical mouse model of knee osteoarthritis, we show reduced disease severity in males. In human knee osteoarthritis biospecimens, miR-126-3p mimic treatment reduces genes and markers associated with angiogenesis, as well as genes linked to osteogenesis, adipogenesis, and synovitis-processes secondary to angiogenesis. Our findings indicate that miR-126-3p is elevated in knee osteoarthritis and mitigates disease severity, supporting its potential as a biomarker and therapeutic target.

Pulmonary and Critical Care Medicine

Debiane LG, Wahidi MM, and Feller-Kopman DJ. Management of the Undiagnosed Pleural Effusion. *Curr Pulmonol Rep* 2025; 14(1). PMID: Not assigned. Full Text

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Purpose of Review: Despite a reasonable initial workup, a significant proportion of pleural effusions (PE) remain undiagnosed. We review here the management of the undiagnosed PE with a focus on an evidence-based evaluation of persistent unexplained PEs. Recent Findings: The pooled sensitivity of pleural fluid cytology for malignancy is low (58.2%) and varies considerably based on tumor type without significant increase upon re-testing. However, pleural tissue biopsy via thoracoscopy carries a much higher diagnostic yield for maligancy, particularly mesothelioma, with a low complication rate. Importantly, the combination of the thoracoscopic visual assessment of the pleura, pleural touch preparations, and the presence of pleural nodules on computed tomography carries a high predictive accuracy for malignant PE (94%). In tuberculosis-endemic countries, thoracoscopy may not be necessary since closed needle pleural biopsy's diagnostic yield is high. Also, pleural fluid adenosine deaminase carries a good sensitivity (87.5%) and specificity (87.82%). More recently, anti-inflammatory therapy with intravenous dexamethasone for parapneumonic effusions did not improve serum inflammatory markers compared to placebo. The combination of intrapleural tissue plasminogen activator and DNase reduced the frequency of referral for surgical treatment. Summary: Work up of the undiagnosed PE requires a thorough and systematic approach. Management relies on patient-centered outcomes. Artificial intelligence and machine learning may help provide a new venue in the future to differentiate malignant from non-malignant PEs.

Radiation Oncology

Berezovsky A, **Nuga O**, **Datta I**, **Bergman K**, **Sabedot T**, Gurdziel K, **Irtenkauf S**, **Hasselbach L**, **Meng Y**, Mueller C, Petricoin EF, 3rd, **Brown S**, Purandare N, Aras S, **Mikkelsen T**, **Poisson L**, **Noushmehr H**, Ruden D, and **deCarvalho AC**. Impact of developmental state, p53 status, and interferon signaling on glioblastoma cell response to radiation and temozolomide treatment. *PLoS One* 2025; 20(2):e0315171. PMID: 39919036. Full Text

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Glioblastoma (GBM) tumors exhibit extensive genomic, epigenomic, and transcriptional diversity, with significant intratumoral heterogeneity, complicating standard treatment approaches involving radiation (RT) and the DNA-alkylating agent temozolomide (TMZ). In this study, we employed an integrative multi-omics approach, including targeted proteomics, transcriptomics, genomics, and DNA methylation profiling, to investigate the response of a representative panel of GBM patient-derived cancer stem cells (CSCs) to astrocytic differentiation and RT and TMZ treatments. Differentiated CSC progenies retained the expression of key stemness genes and survival pathways, while activating the BMP-Smad signaling pathway and upregulating extracellular matrix components. This was associated with increased resistance to TMZ, though not to RT, across all models. We identified TP53 status as a critical determinant of transcriptional response to both RT and TMZ, which was also modulated by the differentiation state and treatment modality in wildtype (wt) p53 GBM cells. Both mutant and wt p53 models exhibited significant activation of the DNA-damage associated interferon (IFN) response in CSCs and differentiated cells, implicating this pathway in the GBM response to therapy. We observed that activation of NF-κB was positively correlated with the levels of O-6-methylguanine-DNA methyltransferase (MGMT) protein, a direct DNA repair enzyme leading to TMZ resistance, regardless of MGMT promoter methylation status, further supporting the clinical potential for inhibition of NF-kB signaling in GBM treatment. Our integrative analysis of the impact of GBM cell developmental states, in the context of genomic and molecular diversity of patient-derived models, provides valuable insights for pre-clinical studies aimed at optimizing treatment strategies.

Radiation Oncology

Snyder KC, **Siddiqui SM**, **Parikh P**, and **Thind K**. Adaptive treatment workflow and dosimetric evaluation of intracranial fractionated stereotactic radiosurgery on a low-field magnetic resonance-linear accelerator. *Phys Imaging Radiat Oncol* 2025; 33:100702. PMID: 39911877. Full Text

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BACKGROUND AND PURPOSE: Online adaptive radiotherapy for fractionated intracranial stereotactic radiosurgery (FSRS) on a magnetic resonance linear accelerator (MR-L) has the potential to allow for real-time adjustments of anatomical changes during radiotherapy treatment. This study investigates the dosimetric improvements of an online-adaptive MR-L workflow and validates the dosimetry utilizing an MR-visible phantom. METHODS AND MATERIALS: Twenty-six cases previously treated with a conventional C-arm linear accelerator (CA-L) were replanned to determine optimal optimization

constraints and objectives for achieving comparable MR-L plans. The optimization methodology was subsequently applied to simulate an online adaptive workflow on an MR phantom, incorporating target volumes from five previously treated patients that required offline adaptation. Plan quality and normal brain dose statistics were evaluated and compared to the offline adapted CA-L plans. RESULTS: No significant difference was observed between the CA-L and MR-L target coverage. The normal brain dose for MR-L plans increased with target volume more rapidly than for CA-L plans. However, some outliers achieved equivalent normal brain doses, indicating potential benefits of MRIgRT for specific superficial volumes located in the frontal, occipital lobes, and cerebellum. End-to-end validation with simulated adaptive workflow on a MR phantom utilizing target volumes that previously required adaption showed acceptable difference of <2.5 % between measured and planned target dose. CONCLUSION: The study shows promising results for an online adaptive workflow for the treatment of intracranial FSRS on a low-field MR-L.

Radiation Oncology

Tinsley SA, **Dankerlui D**, **Romain C**, **Ruffin W**, **Brown E**, **Burnett C**, **Long D**, **Yacobucci K**, **Clement J**, Fasakin A, Makinde-Odusola B, **Williams E**, **Fields T**, **Abdollah F**, **Moore D**, **Hwang C**, and **Walker EM**. Increasing Prostate Cancer Education and Screening for Black Men in Southeastern Michigan: Your Prostate, Your Health. *J Cancer Educ* 2025; Epub ahead of print. PMID: 40019704. Full Text

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Black Men (BM) have disproportionately higher mortality rates from prostate cancer (PCa) and present with more advanced disease. Early screening may improve outcomes. The aim of our project was to provide education, screening, and provider outreach with a long-term goal to decrease the disproportionate number of PCa deaths in BM. We conducted focus group discussions with BM to assess their perceptions and understanding of PCa and screening. Focus groups aided in the development of educational materials. Educational materials were distributed at community events. Screening was offered, at select events, using prostate-specific antigen (PSA) testing. Men with PSA levels of ≥ 4 ng/ml were contacted for follow-up. The project included training for Henry Ford Health (HFH) providers and an assessment of their PCa screening practice. We completed 4 focus groups and distributed ~ 1000 PCa educational brochures. We participated in 45 community events between March 2022 to June 30, 2023. 340 men were screened. 28 men had an elevated PSA, and 17 men did not complete follow-up. Multiple HFH provider educational sessions were conducted. Of 129 providers who completed a screening practice assessment, 78 (60%) routinely offered PSA screening to men between ages 55-69. Between 2018 to 2023 at HFH, the PSA screening rate overall increased from 8.2% to 12.7%. Although our outreach efforts were effective at increasing PSA screening, 60.7% of men screened in our community events with elevated PSA did not follow-up. Future efforts should further reduce barriers to PCa screening and follow-up.

Sleep Medicine

Olff M, Hein I, Amstadter AB, Armour C, Skogbrott Birkeland M, Bui E, Cloitre M, Ehlers A, Ford JD, Greene T, Hansen M, Harnett NG, Kaminer D, Lewis C, Minelli A, Niles B, Nugent NR, Roberts N, Price M, **Reffi AN**, Seedat S, Seligowski AV, and Vujanovic AA. The impact of trauma and how to intervene: a narrative review of psychotraumatology over the past 15 years. *Eur J Psychotraumatol* 2025; 16(1):2458406. PMID: 39912534. Full Text

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To mark 15 years of the European Journal of Psychotraumatology, editors reviewed the past 15-year years of research on trauma exposure and its consequences, as well as developments in (early) psychological, pharmacological and complementary interventions. In all sections of this paper, we provide perspectives on sex/gender aspects, life course trends, and cross-cultural/global and systemic societal contexts. Globally, the majority of people experience stressful events that may be characterized as traumatic. However, definitions of what is traumatic are not necessarily straightforward or universal. Traumatic events may have a wide range of transdiagnostic mental and physical health consequences, not limited to posttraumatic stress disorder (PTSD). Research on genetic, molecular, and neurobiological influences show promise for further understanding underlying risk and resilience for trauma-related consequences. Symptom presentation, prevalence, and course, in response to traumatic experiences, differ depending on individuals' age and developmental phase, sex/gender, sociocultural and

environmental contexts, and systemic socio-political forces. Early interventions have the potential to prevent acute posttraumatic stress reactions from escalating to a PTSD diagnosis whether delivered in the golden hours or weeks after trauma. However, research on prevention is still scarce compared to treatment research where several evidence-based psychological, pharmacological and complementary/ integrative interventions exist, and novel forms of delivery have become available. Here, we focus on how best to address the range of negative health outcomes following trauma, how to serve individuals across the age spectrum, including the very young and old, and include considerations of sex/gender, ethnicity, and culture in diverse contexts, beyond Western, Educated, Industrialized, Rich, and Democratic (WEIRD) countries. We conclude with providing directions for future research aimed at improving the well-being of all people impacted by trauma around the world. The 15 years EJPT webinar provides a 90-minute summary of this paper and can be downloaded here [http://bit.ly/4jdtx6k].
Defining trauma is complex and multifaceted with survivors' subjective interpretation of an experience being more important than the objective characteristics of an event. Research needs to consider sex/gender, age, and geographical and cultural contexts in defining trauma.Trauma may have multiple, often comorbid, mental and physical health outcomes, calling for transdiagnostic screening of trauma survivors. Assessments need to be improved to capture sex/gender differences, young and older trauma survivors and cultural contexts.Several (innovative) evidence-based interventions are available for prevention and treatment of trauma outcomes, but more research is needed on if and how to adapt these for optimal efficacy across sex/genders, the life span and local cultural contexts.
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Surgery
Brooks CJ, Duggal N, Seth M, Joseph MS, Sukul D, Chetcuti SJ, Ailawadi G, Patel H, Grossman PM, **Alnajjar R**, and Harris AW. Quality of Life After Mitral Transcatheter Edge-to-Edge Repair According to Baseline Tricuspid Regurgitation. *Structural Heart* 2025. PMID: Not assigned. Full Text

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Background: There is a high prevalence of significant tricuspid regurgitation (TR) in patients undergoing mitral transcatheter edge-to-edge repair (M-TEER). Significant TR is associated with poor prognosis and affects decision-making between M-TEER and concomitant mitral and tricuspid valve surgery. Improved quality of life (QoL) is an important metric for patients. Methods: We analyzed data from 1838 patients undergoing M-TEER included in a multicenter statewide registry from 2015 to 2023. QoL was assessed using baseline and 30-day Kansas City Cardiomyopathy Questionnaire (KCCQ) scores. Patients were classified as no/mild TR or moderate/severe TR, and changes in KCCQ scores were compared. The primary outcome was an adjusted analysis consisting of survival to 30 days with a ≥15-point improvement in KCCQ score. Results: Complete endpoint data were available for 1421 patients (77.3%). On average, patients undergoing M-TEER experienced large improvements in QoL, regardless of baseline TR group. Thirty-day mortality for patients with moderate/severe TR was higher than for those with no/mild TR (42 [4.1%] vs. 16 [2.0%], respectively, p = 0.018). The majority of patients survived to 30 days with ΔKCCQ ≥15 (63.8% for no/mild TR vs. 59.6% for moderate/severe TR, p = 0.120). Patients with moderate/severe TR exhibited no difference in the primary adjusted outcome (adjusted odds ratio: 0.851, p = 0.177). Conclusions: The majority of patients experience a large improvement in QoL after M-TEER, regardless of baseline TR severity. Further research should explore a staged approach of M-TEER followed by tricuspid valve intervention as needed compared to concomitant mitral/tricuspid valve surgery.

Surgery
Bui J, Kalata S, Reddy RM, Clark M, Hollenbeck M, Mollberg N, Lall S, and **Popoff AM**. An Evaluation of Lymph Node Harvest in Sublobar Resections in a Statewide Quality Collaborative. *J Thorac Cardiovasc Surg* 2025; Epub ahead of print. PMID: 40023483. Full Text

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OBJECTIVE: Evaluate the effectiveness of nodal harvest in sublobar resections (SLR) for peripheral non-small cell lung cancer (NSCLC). METHODS: Retrospective review of prospectively collected data for patients who underwent wedge resection (WR) and segmentectomy (SG) for NSCLC from January 2015 to March 2023 at 21 centers within a statewide quality collaborative. The primary end point was the extent of lymph node (LN) harvest defined as ≥ 10 LNs, ≥5 lymph node stations (LNS), or 3 mediastinal LNS and 1 hilar LNS (3/1 LNS). We also examined the LN harvest stratified by operative approach (open, video-assisted (VATS), robot-assisted (RATS)). RESULTS: A total of 1398 patients receiving SLR were reviewed: 919 (65.7%) with WR and 479 (34.3%) with SG. Only 15.6% (152) WR and 54.6% (263) SG had an adequate number of LNS harvested. RATS was associated with higher rates of harvesting ≥10 LNs ($p < .001$) or harvesting ≥5 LNS or 3/1 LNS ($p < .001$) compared with VATS for WR. Compared with open procedures and VATS, RATS was associated with higher rates of harvesting ≥5 LNS or 3/1 LNS for SG ($p = 0.002$; $p = 0.003$, respectively). CONCLUSION: WR and SG have low rates of adequate LN harvesting. Robotic surgery was associated with improved LN harvesting rates. Given the increase interest in SLRs, continued focus on improving and increasing LN harvesting are needed.

Surgery
Crumbley M, Petersen S, Bonham AJ, Yang P, Gururaj A, Deng C, Dennis A, **Carlin AM**, and **Varban OA**. Variation in opioid-free discharge after metabolic surgery from 2018 to 2023: a state-wide analysis from the Michigan Bariatric Surgery Collaborative. *Surg Obes Relat Dis* 2025; Epub ahead of print. PMID: 39948009. Full Text

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BACKGROUND: Efforts have been made to reduce opioid prescribing after metabolic-bariatric surgery (MBS) given the increased risk for misuse. Variation in prevalence of opioid-free discharge following MBS and its impact on outcomes remains unclear. OBJECTIVES: To evaluate variation in opioid prescribing practices after MBS and the impact of opioid-free discharge on outcomes. SETTING: MBS programs participating in a state-wide quality improvement collaborative. METHODS: Using a state-wide bariatric-specific data registry, all patients who underwent MBS between 2018 and 2023 and had opioid prescribing data were identified (n = 54,276). Patient characteristics and 30-day risk-adjusted outcomes were compared between patients who were and were not prescribed opioids at discharge. Surgeon and practice characteristics were also compared between the top and bottom quartiles of opioid-free discharge. RESULTS: The prevalence of opioid-free discharge increased from 7.7% to 32.1% over the study period. Only .4% of patients, who were opioid-free at discharge, obtained an opioid prescription within 30 days of discharge. Opioid-free discharge was associated with lower rates of emergency department (ED) visits (7.7% vs 8.2%, P = .0008), despite similar complication rates (7.6% vs 7.3%, P = .7261). There were no significant differences in age, case volume, or practice types between surgeons in the top quartile and bottom quartile for opioid-free discharge. CONCLUSIONS: Opioid-free discharge after MBS has increased in prevalence with extremely low failure rates without negatively impacting ED visit rates. Variation in opioid prescribing persists and may be due to patient-specific factors as well as surgeon-specific preference.

Surgery
Haley EN, **Braciszewski JM**, **Carlin AM**, **Snodgrass M**, **Pearl ES**, **Loree AM**, and **Miller-Matero LR**. Gender and Racial Differences in the Overvaluation of Shape, Weight, Excess Skin, and Psychosocial Correlates Following Bariatric Surgery. *Obes Surg* 2025; Epub ahead of print. PMID: 39939575. Full Text

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BACKGROUND: Overvaluation of shape and weight (OSW) is a risk factor for psychopathology in those who have undergone bariatric surgery, and overvaluation of excess skin (OES) may present similar psychological risks. Identifying potential gender and racial differences in post-surgical OSW and OES, and their associations with psychosocial outcomes, may inform more individualized assessment and treatment for those who have undergone bariatric surgery. METHODS: In this cross-sectional study, individuals up to 4 years post-bariatric surgery completed an online survey of various psychosocial outcomes. Overvaluation was examined via the shape and weight overvaluation subscale of the Eating Disorders Examination Questionnaire (EDE-Q), and a modified item was used to assess the overvaluation of excess skin. Quality of life (QOL), depression, and anxiety symptoms were also examined. Gender and racial differences in OSW and OES were examined. Correlations were obtained between OSW/OES, QOL, and psychological symptoms among gender and racial groups. RESULTS: Of 735 participants, women endorsed significantly greater OES than men ($p = .008$). There were no significant gender differences in OSW. White patients endorsed greater OSW than Black patients ($p < .001$), and there were no racial differences in OES. OSW and OES were inversely correlated with QOL among all groups. OSW and OES were positively associated with anxiety and depressive symptoms among both racial groups and women. CONCLUSION: Women may be at greater risk for OES than men, while White patients may be at increased risk for OSW. However, OSW/OES related to poorer QOL in all groups, and greater psychological symptoms in women.

Surgery

Liang J, Zhao Z, Xie Y, Lai D, **Okereke IC**, Velotta JB, Gabriel E, and Lin W. Identification and validation of LINC02381 as a biomarker associated with lymph node metastasis in esophageal squamous cell carcinoma. *Transl Cancer Res* 2025; 14(1):613-625. PMID: 39974376. Full Text

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BACKGROUND: The treatment of esophageal squamous cell carcinoma (ESCC) patients varies considerably depending upon whether lymph node metastasis (LNM) is present. Patients with ESCC can particularly benefit from neoadjuvant therapy if LNM is accurately diagnosed before surgery. Long noncoding RNA (lncRNA) has been confirmed to be closely related to the development of metastases in ESCC, but much remains unknown regarding the relationship between LNM and lncRNA. The purpose of our study was to investigate relationship between LNM and lncRNA, and create a diagnostic model for predicting LNM in ESCC before surgery. METHODS: We used quantitative real-time polymerase chain reaction (qRT-PCR) to detect the expression of LINC02381. We also verified the in vitro effect of LINC02381 on the growth and metastasis of ESCC in the KYSE510 and KYSE180 cell lines. We used the Kaplan-Meier (KM) method and the log-rank test to confirm the differences of overall survival (OS) and disease-free survival (DFS) in LINC02381 expression. We used univariate and multivariate logistic regression analyses to screen for clinical characteristics and assessed their clinical diagnostic efficacy using receiver operating characteristic (ROC) curves. The model was validated with the area under the curve (AUC) and calibration curves and visualized through a nomogram. RESULTS: qRT-PCR suggested a significant elevation of LINC02381 expression in ESCC tissues compared with normal esophageal epithelial tissues ($P<0.001$) and in ESCC tissues with LNM ($P<0.001$). Analysis of OS and DFS indicated that the high expression of LINC02381 and lymph node positivity were associated with poor prognosis.

Combined analysis showed that patients with both a high expression of LINC02381 and lymph node positivity had the worst prognosis. High expression of LINC02381 was associated with poor differentiation, tumor-node-metastasis (TNM) staging, and LNM in ESCC. Presence of LNM was also closely associated with tumor differentiation and primary tumor staging. Univariate and multivariate logistic regression analyses identified that primary tumor staging, tumor differentiation, and LINC02381 expression were independent influencing factors. In the ROC curve analysis of the risk model, the AUC for LINC02381 expression was 0.822 and increased to 0.913 when primary tumor staging and tumor differentiation were added. We further conducted calibration curve analysis to display the calibration of our final model. A nomogram was used to display the predictive variables. The in vitro experiments demonstrated that the knockdown of LINC02381 could inhibit the growth and metastasis of ESCC. CONCLUSIONS: LINC02381 may serve as a biomarker for predicting LNM. Our risk model can assist in predicting LNM in clinical practice, inform the decision to implement neoadjuvant therapy before surgery, and therefore improve prognosis.

Surgery

Magyar CTJ, **Rajendran L**, Li Z, Banz V, Vogel A, O'Kane GM, Chan AC, and Sapisochin G. Precision surgery for hepatocellular carcinoma. *Lancet Gastroenterol Hepatol* 2025; Epub ahead of print. PMID: 39993401. Full Text

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Hepatocellular carcinoma arises in the setting of cirrhosis in most cases, requiring multidisciplinary input to define resectability. In this regard, more precise surgical management considers patient factors and anatomical states, including resection margins, tumour biology, and perioperative therapy. Together with advances in surgical techniques, this integrated approach has resulted in considerable improvements in patient morbidity and oncological outcomes. Despite this, recurrence rates in hepatocellular carcinoma remain high. As the systemic treatment landscape in hepatocellular carcinoma continues to evolve and locoregional options are increasingly used, we review current and future opportunities to individualise the surgical management of patients with hepatocellular carcinoma.

Surgery

Rajendran L, and Sapisochin G. Disappearing colorectal liver metastases: the importance of radiographic-pathologic correlation in oncology care. *Hepatobiliary Surg Nutr* 2025; 14(1):131-135. PMID: 39925904. Full Text

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Urology

Bhanvadia R, Bochner E, Popokh B, Taylor J, Franco A, Wu Z, Antonelli A, Ditonno F, **Abdollah F**, Simone G, Tuderti G, Correa A, Ferro M, Tozzi M, Porpiglia F, Tufano A, Perdonà S, Broenimann S, Singla N, Derweesh IH, Gonzalgo ML, David RB, Mehrazin R, Rais-Bahrami S, Yong C, Sundaram CP, Moghaddam FS, Ghoreifi A, Djaladat H, Autorino R, Lotan Y, and Margulis V. Cumulative smoking exposure impacts oncologic outcomes of upper tract urothelial carcinoma. *Urol Oncol* 2025; Epub ahead of print. PMID: 39956690. Full Text

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BACKGROUND: The impact of cumulative smoking exposure (CSE) on oncologic outcomes for upper tract urothelial carcinoma (UTUC) remains understudied. We examined the effect of this factor on oncologic outcomes in UTUC patients undergoing radical nephroureterectomy utilizing a large contemporary multicenter, multinational cohort. METHODS: Multicenter review of 1,730 patients across 17 institutions. A total of 1,041 patients met selection criteria: nephroureterectomy for urothelial carcinoma without variant histology and complete pathologic and smoking data. Smoking exposure was stratified as light, moderate, or heavy by cigarettes per day and years smoking based on prior studies. Cancer-specific (CSS) and overall survival (OS) were assessed using Kaplan-Meier and multivariable hazards models. A sub-analysis examined the effect of smoking cessation on survival stratified by CSE. RESULTS: Median follow-up (IQR) was 24 (10-48) months. Light CSE was equal to a median of 2.0 pack years smoked, moderate CSE was equivalent to 13.0 pack years, and heavy CSE was equivalent to 40 pack-years. Five-year CSS and OS were 97% and 91% in nonsmokers, 96% and 89% with light exposure, 85% and 66% with moderate exposure, and 75% and 60% with heavy exposure. On multivariable hazards models, both moderate and heavy smoking exposure were associated with worse CSS and OS compared to nonsmokers. Smoking cessation was not associated with improved survival outcomes among patients with moderate or heavy CSE. CONCLUSIONS: Increasing CSE was associated with worse general health and oncologic outcomes in this UTUC cohort. Smoking cessation can modulate cancer outcomes up to certain thresholds of smoking exposure, emphasizing the need for both early smoking cessation and continued aggressive cancer treatment in patients with UTUC.

Urology

Ficarra V, Rossanese M, Ilaria R, Giannarini G, Mottrie A, Thomas C, Chun F, Galfano A, **Abdollah F**, and Di Trapani E. Impact of transperitoneal anterior, retzius-sparing, extraperitoneal, transvesical and perineal approaches on urinary continence recovery after robot-assisted radical prostatectomy: a systematic review and meta-analysis of comparative studies. *Prostate Cancer Prostatic Dis* 2025; Epub ahead of print. PMID: 39929994. Full Text

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BACKGROUND: Urinary incontinence significantly impacts on health-related quality of life of patients undergoing radical prostatectomy. In the last decades, several approaches (extraperitoneal, Retzius-sparing (RS), perineal and, transvesical) for robot-assisted radical prostatectomy (RARP) have proposed with the aim to improve functional outcomes in comparison with transperitoneal, anterior ones. METHODS: We performed a systematic review and meta-analysis of studies published in English language, in the last ten years, comparing the different approaches used to perform RARP. We included only studies reporting urinary continence rates at different follow-up time points. From each eligible study, we extracted the number of analyzed patients; the study design; the continence definition; and, when available, immediate, 1-, 3-, 6-, and 12-mo urinary continence rates. Statistical analyses were performed using RevMan version 5.4 (Cochrane Collaboration, Oxford, United Kingdom, UK). The Odds Ratio (OR) with 95% confidence intervals (CIs) was calculated using the generic inverse variance. A p value of <0.05 was set as significance level when comparing studies. RESULTS: The meta-analyses of studies comparing anterior, transperitoneal RARP and RS-RARP in terms of immediate (OR = 3.73; 95% CI: 2.17-6.43; p < 0.0001), 1-mo (OR = 4.16; 95% CI: 2.68-6.48; p < 0.00001), 3-mo (OR 4.71; 95% CI: 3.70-6.00; p < 0.0001), 6-mo (OR 4.12; 95% CI: 2.95-5.75; p < 0.00001) and 12-mo (OR = 3.25; 95% CI: 1.76-5.99; p < 0.00001) urinary continence rates showed a statistically significant advantage in favor of RS approach. However, a sub-analysis of Randomized Controlled Trials showed overlapping urinary continence rates between the two approaches at 6-mo (OR = 1.99; 95% CI: 0.90-4.42; p = 0.09) and 12-mo (OR = 1.36; 95% CI: 0.43-4.31; p = 0.60) after surgery. The meta-analysis of studies comparing extraperitoneal and transperitoneal approaches showed that 6-mo urinary continence rates were overlapping between the two approaches (OR = 1.18; 95% CI: 0.85-1.65; p = 0.32). The meta-analysis of studies comparing single-port (SP) and multi-port (MP) RARP showed comparable 6-mo urinary continence rates (OR = 0.93; 95% CI 0.65-1.33; p = 0.69). CONCLUSIONS: Within the limitations of mainly low to moderate quality of evidence, the RS approach offers significant advantages compared to an anterior, transperitoneal, approach in terms of urinary continence recovery at different follow-up time points in patients who underwent MP-RARP. MP perineal and transvesical approaches need to be further tested and might be of interest in the setting of SP-RARP. Our meta-analysis showed comparable results between SP- and MP-RARP in terms of urinary continence rates.

Urology

Mostafa T, Pinggera GM, Al Hashimi M, Sahin B, Çayan S, Shah R, Chung E, **Rambhatla A**, Arafa M, Atmoko W, Raheem O, Rashed A, Le TV, Tadros N, Alipour H, Ko E, Altay B, Ashour S, Moussa M, Adriansjah R, Russo GI, Busetto GM, Shamohammadi I, Sokolakis I, Musa MU, Bahar F, Çeker G, Toprak T, Timpano M, Quang N, Truong MN, Le ST, Cannarella R, Motawi A, Bocu K, Boeri L, Colpi GM, Salvio G, Khalafalla KM, Falcone M, Gherabi N, Jindal S, Hamoda T, Bowa K, Ong TA, Bahmyari S, El-Sakka A, El Meliegy A, Taha E, Ho CCK, Calik G, Calogero AE, Yogiswara N, Cardona Maya WD, Al

Najjar H, Ragab M, and Agarwal A. Global Andrology Forum Clinical Practice Guidelines on the Management of Premature Ejaculation. *World J Mens Health* 2025; Epub ahead of print. PMID: 39947652. Full Text

PURPOSE: Premature ejaculation (PE) is a commonly encountered male sexual dysfunction (MSD) with various definitions, diagnostic criteria, and treatment options, leading to significant heterogeneity and controversy in its management. This study aimed to explore the global practice patterns of the diagnosis and management of PE. MATERIALS AND METHODS: A cross-sectional, global, online survey on PE was conducted using a questionnaire developed by an international cohort of experts. Results were analyzed using R version 4.1.2. Additionally, expert recommendations were formulated using a modified Delphi method. RESULTS: The survey was completed by 264 participants from 41 countries. The majority of respondents were below the age of 45 years and were urologists focusing on andrology and sexual health. PE diagnosis was primarily based (by 61.5%) on an intravaginal ejaculatory latency time of less than one minute. Lifelong PE was the most common category reported (47.7%), and most respondents (84.2%) observed ante-portas PE in less than 25% of cases. Distinguishing PE from erectile dysfunction was challenging for many respondents (60.7%). Diabetes mellitus was the most common comorbidity (17.1%). Pharmacological therapy was the most common treatment method (34.3%), with dapoxetine being the most preferred medication (37.9%). Surgical methods were infrequently used. Emerging treatments like hyaluronic acid gel glans augmentation were favored by only 11.7%. Patient satisfaction was the primary criterion for successful PE treatment (55.9%), and cost was a significant concern for many (35.5%). CONCLUSIONS: This global survey highlights significant diversity in the diagnostic and treatment strategies for PE. Standard diagnostic criteria are generally accepted, off-label medication is widely used in therapy, and the role of surgery is still controversial. A multi-modal therapy approach, tailored to the patient's specific needs, is favored. Further research into the neurobiology of PE and the development of effective and safe options is crucial for improving the management of PE.

Urology

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Introduction: Retroperitoneal approach for robotic partial nephrectomy (PN) has been shown to offer shorter operative times and hospital stays without differences in complication rates compared with the transperitoneal approach. The single-port (SP) system may be better suited than multiport (MP) for challenges with the retroperitoneal approach such as narrow access geometry. We evaluated if the adoption of SP PN increased the utilization of retroperitoneal approach. Methods: We retrospectively reviewed an IRB-approved multi-institutional database of all PN from 2013 to 2023. The date of the first

SP PN split the cohorts before and after SP adoption. The percentage of retroperitoneal and transperitoneal approach cases overall and for SP and MP was determined before and after adoption. Joinpoint analysis assessed changes in rates of the retroperitoneal approach. Logistic regression compared patient and tumor characteristics with retroperitoneal approach PN before and after adoption of SP. Results: Overall 1959 patients were evaluated, of which 654 were performed prior versus 1305 after SP adoption. There was an increased percentage of retroperitoneal approach after adoption, with 7.3% (48/654) before compared with 24.8% (324/1305) after adoption. The percentage of the retroperitoneal approach for SP PN was 52.8% (134/254), increasing over time with 75% (24/32) of SP in 2023 performed with a retroperitoneal approach. Conclusion: The retroperitoneal approach was used more frequently than the transperitoneal approach in the SP cohort. The adoption of SP increased the incidence of the retroperitoneal approach.

Urology
Salka B, Troost JP, Gaur S, Shankar PR, Diab AR, Hakim C, Mervak BM, Khalatbari S, and Davenport MS. Clinical and Imaging Predictors of False-Positive and False-Negative Results in Prostate Multiparametric MRI Using PI-RADS Version 2. *Radiol Imaging Cancer* 2025; 7(2):e240019. PMID: 39950963. Full Text

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Purpose To evaluate predictors of false-positive (FP) and false-negative (FN) results for prostate cancer at prostate multiparametric MRI (mpMRI) using the Prostate Imaging and Reporting Data System version 2 (PI-RADS v2). Materials and Methods This was a single-center retrospective cohort study of 2548 consecutive patients who underwent prostate mpMRI examinations (October 2016-July 2022) containing zero or one PI-RADS v2 category 3-5 lesions. Prostate mpMRI examinations were interpreted by 13 radiologists. FP results were defined as prospective PI-RADS v2 score of 3 or higher but benign or grade group 1 prostate cancer at subsequent combined targeted and systematic biopsy. FN results were defined as prospective PI-RADS v2 score 2 or lower but grade group 2 or higher prostate cancer at subsequent combined targeted and systematic biopsy. Predictors of FP and FN results were assessed by logistic regression. Results Among the 2548 patients (mean age, 65.7 years ± 7.6 [SD]; all male) analyzed, 52.0% (831 of 1597) had FP results and 15.8% (150 of 951) had FN results at mpMRI. FP results were more likely for younger patients (odds ratio [OR], 0.95/y; P < .001), smaller lesions (OR, 0.62/mm; P < .001), transition zone lesions (OR, 1.74 vs peripheral zone; P = .006), and patients with low prostate-specific antigen (PSA) density (OR, 0.55 per 0.1 ng/mL(2) increase; P < .001). FN results were more likely for older patients (OR, 1.03/y; P = .01) and patients with high PSA density (OR, 2.05 per 0.1 ng/mL(2) increase; P < .001). Conclusion PSA density and patient age independently predicted FP and FN results for detection of prostate cancer at mpMRI using PI-RADS v2. These factors are not part of the PI-RADS v2 algorithm and may inform mpMRI interpretation to improve prostate cancer diagnosis.
Keywords: MR Imaging, Prostate, PI-RADS, Prostate MRI, Prostate Cancer

Urology
Soputro NA, Okhawere KE, Ramos-Carpinteyro R, Sauer Calvo R, **Wang Y**, Manfredi C, Snajdar E, Raver M, Saini I, Chavali JS, Mikesell CD, Pedraza AM, Ahmed M, Stifelman MD, **Rogers C**, Lorentz A, Autorino R, Yuh B, Nelson RJ, Crivellaro S, Badani KK, and Kaouk J. Development of Patient-Specific Nomogram to Assist in Clinical Decision-Making for Single Port Versus Multi-Port Robotic Partial Nephrectomy: A Report from the Single Port Advanced Robotic Consortium. *J Endourol* 2025; Epub ahead of print. PMID: 39909476. Full Text

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Objective: To develop a patient-specific algorithm to better guide clinical decision-making when considering between single port (SP) and multi-port (MP) robotic partial nephrectomy (RPN). Materials and Methods: A retrospective review was performed on the institutional review board-approved, prospectively maintained multi-institutional database of the Single Port Advanced Research Consortium to identify all consecutive patients who underwent SP and MP-RPN between 2019 and 2023. Baseline clinicodemographic variables were used to identify the significant predictors of SP-RPN. The significant variables were used to construct a nomogram to predict the likelihood of SP vs MP-RPN. Results: Of the 1021 patients included in our analysis, 189 (18.5%) and 832 (81.5%) underwent SP and MP-RPN, respectively. Statistically significant predictors of SP-RPN included a lower comorbidity profile, a significant abdominal surgical history as characterized by a higher Hostile Abdomen Index, as well as tumors of lower complexity. The nomogram generated using the aforementioned variables demonstrated a reasonable performance with an area under the curve of 0.79. An optimal cutoff point was determined, with likelihood ratios above 0.12 indicating a preference for SP-RPN. Of note, all SP-RPN cases that scored above the 0.12 cutoff exhibited improved perioperative outcomes, including shorter ischemia time and less intraoperative blood loss. Conclusions: In this study, we have devised a novel patient selection nomogram aimed at enhancing clinical decision-making within the expanding repertoire of RPN approaches. The findings highlighted in this study offer valuable guidance to facilitate appropriate patient selection and thereby ensuring favorable perioperative outcomes associated with RPN procedures.

Urology

Tinsley SA, **Dankerlui D**, **Romain C**, **Ruffin W**, **Brown E**, **Burnett C**, **Long D**, **Yacobucci K**, **Clement J**, Fasakin A, Makinde-Odusola B, **Williams E**, **Fields T**, **Abdollah F**, **Moore D**, **Hwang C**, and **Walker EM**. Increasing Prostate Cancer Education and Screening for Black Men in Southeastern Michigan: Your Prostate, Your Health. *J Cancer Educ* 2025; Epub ahead of print. PMID: 40019704. Full Text

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Black Men (BM) have disproportionately higher mortality rates from prostate cancer (PCa) and present with more advanced disease. Early screening may improve outcomes. The aim of our project was to provide education, screening, and provider outreach with a long-term goal to decrease the disproportionate number of PCa deaths in BM. We conducted focus group discussions with BM to assess their perceptions and understanding of PCa and screening. Focus groups aided in the development of educational materials. Educational materials were distributed at community events. Screening was

offered, at select events, using prostate-specific antigen (PSA) testing. Men with PSA levels of ≥ 4 ng/ml were contacted for follow-up. The project included training for Henry Ford Health (HFH) providers and an assessment of their PCa screening practice. We completed 4 focus groups and distributed ~ 1000 PCa educational brochures. We participated in 45 community events between March 2022 to June 30, 2023. 340 men were screened. 28 men had an elevated PSA, and 17 men did not complete follow-up. Multiple HFH provider educational sessions were conducted. Of 129 providers who completed a screening practice assessment, 78 (60%) routinely offered PSA screening to men between ages 55-69. Between 2018 to 2023 at HFH, the PSA screening rate overall increased from 8.2% to 12.7%. Although our outreach efforts were effective at increasing PSA screening, 60.7% of men screened in our community events with elevated PSA did not follow-up. Future efforts should further reduce barriers to PCa screening and follow-up.

Conference Abstracts

Anesthesiology
Wang Y, **To L**, **Jones M**, **Basir M**, **Grafton G**, **Villalba P**, and **Griebe K**. HIGH- VERSUS LOW-RANGE ANTI-XA GOALS FOR IV HEPARIN IN PATIENTS WITH MECHANICAL CIRCULATORY SUPPORT. *Crit Care Med* 2025; 53(1):1. Full Text

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Cardiology/Cardiovascular Research
Al Jebaje Z, **Fadel R**, **Jabri A**, and **Alaswad K**. 100.80 Investment Procedures in CTO-PCI: Real World Experience. *JACC Cardiovasc Interv* 2025; 18(4):S12-S13. Full Text

Background: With increased CTO complexity comes lower success rates and higher complications. Investment has been introduced as a technique to overcome the most challenging of CTOs in a planned or ad-hoc fashion, which is believed to improve procedure success. However, no randomized trials have yet to support that evidence and real-world experience has been limited. Methods: We conducted a retrospective cohort analysis of patients who underwent CTO PCI between 2015 and 2023 at Henry Ford Hospital, Detroit, MI. Patients were selected from the HFH pool of the PROGRESS CTO registry and followed via EMR review, we collected Baseline characteristics, procedural details, and clinical outcomes. Results: 67 subjects were included in the final analysis, Target CTO lesions included RCA (55.2%), LAD (26.9%), and LCX (26.9%). Median (IQR) J-CTO score was 3 (2-4), and time to completion procedure was 60 days. TIMI flow > 0 was achieved in 82% of patients after the initial procedure, of whom 19 (35%) maintained TIMI flow on follow-up. Successful crossing strategy was AWE (41%), ADR (30%), and retrograde approach (29%). Final technical success was 83.6%. Composite complications was 13% for both procedures, with very low 30-day MACE rate of 1.5%. Conclusion: This retrospective cohort study reflects real world experience at a high-volume center and showed the effectiveness of investment technique in improving the success rate of a complex subcategory of an already challenging procedure. Prospective studies are warranted to validate these findings and refine strategies for optimizing outcomes. [Formula presented]

Cardiology/Cardiovascular Research
Walji M, **Affas Z**, **Jacob C**, and **Arnautovic JZ**. 500.12 Cardiac Critical Care in a Community Setting: Cardiologist-Led vs. Intensivist-Led Outcomes. *JACC Cardiovasc Interv* 2025; 18(4):S77. Full Text

Background: The complexity of cardiovascular conditions necessitates specialized cardiac care, yet current staffing models in many community settings lack dedicated critical care cardiologists. Globally, cardiologists specialized in critical care are more common and allow for expertise when managing conditions like acute coronary syndromes (ACS), severe heart failure, advanced cardiac life support, and life-threatening arrhythmias. There is growing recognition of the benefits of critical care cardiologists, especially as the population ages and the prevalence of complex cardiac cases increases. However, the US still lacks specialized programs that promote cardiologists in critical-care medicine. Objective: The study aims to assess two staffing models in cardiac critical care: cardiologist-led versus intensivist-led outcomes in response to the increased need for specialized critical care trained cardiologists. Methods: This is a retrospective review of patients admitted to the critical care unit in a community-hospital from March to November of 2022 who were admitted with a primary cardiac etiology. Non-cardiac and surgical patients were excluded. Cardiologists could choose to either admit the patients to their own service and consult an intensivist as needed such as in the setting of hypoxic respiratory failure where BiPAP/mechanical ventilation was used (collaborative model) or admit patients directly to an intensivist-led service (traditional model). Results: This study included 181 patients: 103 admitted to the intensivist-led model and 78 admitted to the cardiologist-led model. Both groups had similar demographics with no statistical significant difference in cardiac risk factors. The most common admitting diagnoses were ACS, structural heart diseases, and tachyarrhythmias. Overall, there was no statistical difference between complications or outcomes (length of stay (LOS), mortality, or 30-day readmissions) among cardiologist-led teams and the traditional, intensivist-led model. Conclusion: Cardiologist-led critical care in

collaboration with an intensivist is not inferior to the traditional model. The current workforce in community critical care units is not meeting consensus guidelines due to increasing complexities and interplay of medical and cardiovascular conditions requiring specialized care. This creates a unique opportunity for cardiovascular expertise through fellowship and training that can enhance the quality of care in critically-ill patients.

Cardiology/Cardiovascular Research
Wang Y, **To L**, **Jones M**, **Basir M**, **Grafton G**, **Villalba P**, and **Griebe K**. HIGH- VERSUS LOW-RANGE ANTI-XA GOALS FOR IV HEPARIN IN PATIENTS WITH MECHANICAL CIRCULATORY SUPPORT. *Crit Care Med* 2025; 53(1):1. Full Text

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Cardiology/Cardiovascular Research
Zghouzi M, **Jabri A**, Maligireddy A, Bista R, Paul T, Nasser F, Lichaa H, **Aronow H**, Vallabhajosyula S, **Kelly B**, **Grafton G**, **Awdish R**, **Basir MB**, **Alaswad K**, **Alqarqaz M**, **Koenig G**, and **Aggarwal V**. 200.21 Association Between Frailty, Use of Advanced Therapies, In-Hospital Outcomes, and 30-Day Readmission in Elderly Patients Admitted With Acute Pulmonary Embolism. *JACC Cardiovasc Interv* 2025; 18(4):S44. Full Text

Background: Clinical decision-making when assessing elderly patients with acute PE often involves an assessment of frailty that may impact the use of advanced therapies. We sought to evaluate the use of advanced therapies and associated in-hospital outcomes by frailty status in such patients. Methods: We utilized the National Readmission Database (NRD) to identify acute PE admissions in older patients (>75 years) from 2016 to 2020. We defined high-risk PE by the presence of one or more of the following: shock, progressive hypoxia, vasopressor use, or ECMO requirement. Frailty was determined using a previously validated hospital frailty risk score (HFRS). Results: Overall, 233,091 nationally representative patients with acute PE met the study inclusion criteria; 50.9% of patients with no frailty risk (score >5), while 49.1% of patients with increased frailty risk (score 5-30). A total of 7.4% (17,277) of patients with high-risk features were identified, of whom 79.9% (13,810) patients were frail. Receipt of catheter-directed thrombolysis (CDT) and embolectomy (CDE) were comparable among high-risk frail and non-frail patients. Compared to non-frail patients, increased frailty was associated with higher in-hospital mortality. This increase was 2.3-fold in those without high-risk features and 1.2-fold in those with high-risk features. There is a similar increase in intracranial hemorrhage, gastrointestinal bleeding, and hematuria. Similarly, frailty and high-risk PE were associated with higher length of stay (LOS), increased resource utilization and cost, and fewer home discharges. Conclusion: Catheter-based therapies were utilized at similar rates in frail individuals compared to non-frail elderly individuals with high-risk PE. Increased frailty conferred an increased risk of in-hospital adverse events in elderly patients with PE. [Formula presented]

Center for Health Policy and Health Services Research
Bradley K, Hyun N, Idu A, Wartko P, Liu D, Matthews A, McCormack J, Campbell A, Samet J, Lee A, Yu O, Campbell C, Horigian V, Glass J, **Braciszewski J**, Arnsten J, and Bobb J. Differential Effect of Implementing Office Based Addiction Treatment in Primary Care on OUD Treatment across Sex and Race or Ethnicity in the PROUD Trial. *Drug Alcohol Depend* 2025; 267. Full Text

Drug Category: Opiates/Opioids Topic: Treatment Abstract Detail: Clinical - Experimental Abstract Category: Original Research Aim: Women and Black and Hispanic individuals with opioid use disorder (OUD) are less likely to receive medication treatment. The PROUD trial demonstrated that nurse care management of OUD in primary care (PC) increased OUD medication treatment compared to usual care (UC). This report describes findings regarding the impact of the intervention across sex, race, and ethnicity. Methods: Six health systems (TX, FL, MI, NY, WA) each provided 2 PC clinics randomized to UC or the PROUD intervention, consisting of (a) full-time nurse salary, (b) nurse training and technical assistance, and (c) ≥3 PC providers who prescribed buprenorphine. The main outcome was patient-years of OUD medication treatment per 10,000 PC patients (“patient-years of treatment”), a clinic-level measure reflecting treatment access and duration. Mixed-effect models evaluated patient-years of treatment

testing for effect modification by (1) sex or (2) race and ethnicity, adjusting for baseline values of the outcome in sub-groups. Exploratory analyses describe differences between PROUD and UC in the change from pre- to post-randomization in the percent of PC patients who received any OUD medication treatment, pathways to treatment and duration of treatment. Results: At baseline, PROUD and UC clinic samples were 59.3-64.0% women, 18.5-18.9% Black, 26.4–33.4% Hispanic, and 31.6–41.3% white. The intervention increased patient-years of treatment among men (13.7; 95% CI: 5.8, 21.7) but not women (2.9; -4.3, 10.2); interaction p-value 0.045. Despite no significant interaction between the intervention and race or ethnicity (p=0.22), there was a large increase in patient-years of treatment for white patients in PROUD compared to UC clinics (35.6; 9.4, 61.8), but not for Black or Hispanic patients (0.0; -25.6, 25.7 and 1.8; -23.9, 27.4). Percentages of PC patients treated increased more in PROUD than UC, but increases were lower for women and Black or Hispanic patients: women, 0.11%; men, 0.29%; Black, Hispanic, and white patients, 0.08%, 0.09%, and 0.30%, respectively, suggesting differences in treatment access. Conclusions: PROUD's implementation of nurse care management for OUD, while increasing OUD treatment overall, did not overcome disparities in OUD treatment in PC. Additional interventions are necessary to increase OUD treatment in women, Black and Hispanic patients. Financial Support: National Drug Abuse Treatment Clinical Trials Network (CTN-0074), UG1 DA040314, UG1 DA015831, UG1 DA013035, UG1 DA013720, HHSN271201400028C, 75N95019D00013

Center for Health Policy and Health Services Research

Nguyen A, Binswanger I, Goodrich G, Campbell C, Xu S, **Loree A**, and Glanz J. Instability of Insurance Coverage in Patients on Buprenorphine and Naltrexone for Opioid Use Disorder: Evidence From Three US Health Systems. *Drug Alcohol Depend* 2025; 267. Full Text

Drug Category: Opiates/Opioids Topic: Health Services Abstract Detail: Clinical - Epidemiology Abstract Category: Original Research Aim: We examined health plan disenrollment and associated factors in patients on medication for opioid use disorder (MOUD). Methods: In this retrospective cohort study of patients age ≥16 on buprenorphine or naltrexone between 2012-2021 from 3 health systems, we calculated the frequency of health plan disenrollment within 12 and 24 months after the first observed MOUD (index) treatment episode. We fit Poisson models to identify patient characteristics associated with disenrollment rates, defined as the number of disenrollments per person-years of follow-up. Characteristics examined included patient demographics, insurance type, medications (e.g., opioid analgesics and benzodiazepines), substance use disorders, mental health disorders, and other comorbidities. Results: The cohort included 22,938 MOUD patients with a mean (median) age of 38.7 (36), of whom 62% were men, 5% Black, 78% White, 17% other or missing race, and 19% Hispanic of any race. Further, 84% had commercial insurance, 12% had Medicare, 6% had Medicaid, and 6% had other insurance (not mutually exclusive). The mean (median) length of treatment episodes was 506 (130) days. Within 12 and 24 months of the index treatment episode, 6,161 (26.9%) and 9,525 (41.5%) patients, respectively, had ≥1 disenrollments on or off treatment. Additionally, 1,898 (8.3%) and 2,698 (11.5%) patients had ≥1 disenrollments while on treatment within 12 and 24-months from the index episode, respectively. In an adjusted model, the estimated risk of disenrollment was higher for ages 16-25 (IRR=1.80, 95% CI 1.63-1.99) and 26-45 (IRR=1.40, 95% CI 1.40-1.66) compared to ages 46-64. Further, the estimated risk was lower for patients with Medicare compared to those without Medicare (IRR=0.73, 95% CI, 0.62-0.84). Results were similar for disenrollment while on treatment. Conclusions: In this cohort of patients on MOUD, more than 40% disenrolled from health plans within two years of treatment. Findings suggest that disenrollment may contribute to poor treatment retention, especially in younger patients. Financial Support: This study is supported by a grant from the National Drug Abuse Treatment Clinical Trials Network (CTN-0141) of the National Institute on Drug Abuse (3UG1DA040314-08S4).

Diagnostic Radiology

Metrouh O, Ali H, Ahmed M, **Mitchell JD**, Matyal R, Palmer MR, MacLellan C, and Weinstein J. Abstract No. 287 In Vivo Central Venous Line Placement after Simulation Training: Evaluating the Transferability of Technical Performance Using Hand Motion Analysis. *J Vasc Interv Radiol* 2025; 36(3):S132. Full Text

Purpose: This study aims to assess technical performance correlation between central line placement during simulation training on a manikin and in-vivo procedures on real patients using validated hand motion metrics. Materials and Methods: Thirty-nine PGY2 anesthesia and interventional radiology (IR)

trainees were recruited to perform ultrasound-guided central venous line placement on a standardized manikin during simulation training. Subsequently, they performed the procedure on real patients following the same methodology. All trials were video recorded, and performance was assessed using validated hand motion metrics—Path Length (PL), Rotational Moves (RM), Translational Moves (TM), and Time1-3. Participants were mentored by IR and anesthesia experts during training and in-vivo performance. Procedure steps were standardized across all trials. Motion data from the first and final simulation trials were compared using Wilcoxon signed-rank test. Spearman's correlation was used to assess the agreement between final simulation performance and real-patient performance for both the overall procedure and specific procedure segments4. Data are reported as median ± interquartile range and p values were adjusted using Benjamini-Hochberg correction. Results: A total of 184 simulation trials and 29 in-vivo trials (3 excluded due to methodological differences) were analyzed. Median number of simulated trials was 5 (IQR: 5–11.5). Significant performance improvement was observed after training, with lower metrics in the final trials for the needle hand (e.g., RM: 118 ± 63 vs. 164.5 ± 77.5, adj. p< 0.001) and the probe hand (e.g., RM: 66 ± 75.2 vs. 123 ± 110.5, adj. p< 0.001). A significant reduction in procedure time was seen (57 ± 33 vs. 97.4 ± 45.2, adj. p< 0.001). Using motion data of the entire procedure, no significant correlation was found between the final simulation and the in-vivo performance for all metrics. However, when breaking the procedure down into segments, correlation analysis showed that participants who had fewer translational movements during needle access in simulation performed the needle access phase in the operating room with less translational movements (Rho=0.65, adj. p=0.002). Conclusion: Hand motion data show there is transferability of skill gained during simulation to in-vivo performance for at least one portion of a routine interventional procedure. This suggests that specific portions of procedures are more reproducible and may be more appropriate for assessing performance between simulation and in vivo settings.

Emergency Medicine
Harvey L, and **Bissonette A**. A COAGULOPATHIC CHAMELEON: A CASE OF CATASTROPHIC ANTIPHOSPHOLIPID SYNDROME. *Crit Care Med* 2025; 53(1):1. Full Text

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Emergency Medicine
Hussain A, **Montgomery Z**, **Gill J**, **Jaehne AK**, **Wilson I**, **Veryser D**, **Ghosh S**, **Shah RP**, **Obeid N**, and **Rivers E**. THE PHENOTYPE OF BACTEREMIA ADMITTED FROM THE EMERGENCY DEPARTMENT THAT REQUIRES SURGERY. *Crit Care Med* 2025; 53(1):1. Full Text

[Hussain, Afzal; Montgomery, Zachary; Gill, Jasreen; Jaehne, Anja Kathrin; Wilson, Ian; Veryser, Debra; Shah, Rupen; Obeid, Nadia; Rivers, Emanuel] HENRY FORD HOSP, DETROIT, MI USA. [Ghosh, Sunita] Henry Ford Hlth, Detroit, MI USA.

Emergency Medicine
Jaehne AK, **Fanous R**, **Morelli MJ**, **Clarin J**, **Debolt B**, **Slavin C**, **Culberson H**, and **Rivers E**. CHARACTERISTICS OF PATIENTS WITH PAYMENT DENIALS FOR SEPSIS. *Crit Care Med* 2025; 53(1):1. Full Text

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Emergency Medicine
Montgomery Z, **Hussain A**, **Gill J**, **Jaehne AK**, **Wilson I**, **Veryser D**, **Ghosh S**, **Obeid N**, **Shah R**, and **Rivers E**. IMPLICATIONS OF EMERGENCY DEPARTMENT BACTEREMIA IN PATIENTS WHO REQUIRE SURGERY. *Crit Care Med* 2025; 53(1):1. Full Text

[Montgomery, Zachary; Hussain, Afzal; Gill, Jasreen; Jaehne, Anja Kathrin; Wilson, Ian; Veryser, Debra; Obeid, Nadia; Shah, Rupen; Rivers, Emanuel] HENRY FORD HOSP, DETROIT, MI USA. [Ghosh, Sunita] Henry Ford Hlth, Detroit, MI USA.

Emergency Medicine

Munroe E, Bernstein S, **Cahill M**, **Jayaprakash N**, **Kaatz S**, Horowitz J, McLaughlin E, Posa P, Swaminathan L, Younas M, Flanders S, and Prescott H. NONINVASIVE HEMODYNAMIC MONITORING DEVICES FOR PATIENTS WITH SEPSIS ACROSS MICHIGAN HOSPITALS. *Crit Care Med* 2025; 53(1):1. Full Text

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Endocrinology and Metabolism

Anwar A, Hasan K, Mansur A, **Fnu M**, and Siddiqui F. A NEWLY DIAGNOSED CASE OF CATASTROPHIC ANTIPHOSPHOLIPID ANTIBODY SYNDROME IN A 60-YEAR-OLD. *Crit Care Med* 2025; 53(1):1. Full Text

[Anwar, Ayesha; Hasan, Khwaja; Siddiqui, Faraz] Guthrie Robert Packer Hosp, Sayre, PA USA. [Mansur, Assaad] Summa Hlth Akron, Akron, OH USA. [Fnu, Manas] Henry Ford, DETROIT, MI USA.

Gastroenterology

Lawitz EJ, Trivedi PJ, Kowdley KV, **Gordon SC**, Bowlus CL, Londoño MC, Hirschfield GM, Gulamhusein A, Crittenden DB, Frigerio F, Zhuo S, Heusner C, and Levy C. Long-Term Efficacy and Safety of Open-Label Seladelpar Treatment in Patients With Primary Biliary Cholangitis: Pooled Interim Results for up to 3 Years From the ASSURE Study. *Dig Liver Dis* 2025; 57:S88-S89. Full Text

Introduction: ASSURE (NCT03301506) is an ongoing, open-label, long-term, Phase 3 trial of seladelpar—a novel delpar (selective PPARδ agonist)—in patients (pts) with primary biliary cholangitis who rolled over from the Phase 3, placebo-controlled RESPONSE trial (NCT04620733) and from legacy trials (ENHANCE [NCT03602560], CB8025-21629 [NCT02955602], CB8025-31731 [NCT03301506], CB8025-21838 [NCT04950764]). Eligibility criteria included inadequate response or intolerance to ursodeoxycholic acid. Aim: To present pooled interim efficacy and safety results from the RESPONSE trial and from legacy trials. Materials and Methods: Data cutoff: January 31, 2024. Patient exposure to seladelpar in ASSURE was analyzed. Key efficacy endpoints included composite biochemical response (CBR; ALP <1.67 × ULN, ALP decrease ≥15%, TB ≤ULN) and ALP normalization. Pruritus was assessed using a numeric rating scale (NRS; 0–10) through month (M) 6; change from baseline (BL) was assessed at M6 in pts with moderate-to-severe pruritus (NRS ≥4). Adjusted adverse events (AEs) were calculated per 100 pt-years. Baseline included first exposure to seladelpar in ASSURE or RESPONSE. Results: 337 pts received 10 mg of seladelpar daily. At BL, mean age was 58.1 (9.7) years, 94% were female, mean ALP was 287.5 (128.4) U/L, TB was 0.75 (0.34) mg/dL, and 16% had cirrhosis. At M12, M24, and M30, 204/280 (73%), 90/124 (73%), and 30/37 (81%) achieved the CBR endpoint, respectively, with ALP normalization in 38%, 38%, and 41%. Mean NRS pruritus change at M6 was −3.3 (SE 0.24) among 99 pts. Exposure-adjusted AEs occurred in 86, 70, and 63 pts per 100 pt-years by M12, M24, and M36, respectively. No serious treatment-related AEs were reported. Conclusions: Seladelpar showed durable biochemical response by M30, with 81% achieving CBR, 41% attaining ALP normalization, and robust pruritus improvement. It remained safe and well tolerated, showing consistent safety over 3 years.

Hematology-Oncology

Abdelrahim M, **Khan G**, Hatoum H, Zervoudakis A, Dayyani F, Zhang L, Li J, Maxwell F, O'Reilly EM, Wainberg ZA, and Peters MLB. Impact of UGT1A1*28 polymorphism on tolerability in patients with metastatic pancreatic ductal adenocarcinoma (mPDAC) treated with NALIRIFOX in NAPOLI 3. *J Clin Oncol* 2025; 43:717-717. Full Text

Hematology-Oncology
Al Asadi A, **Aref I**, **Doemer AJ**, **Hijaz M**, and **Elshaikh MA**. Comparative Efficacy Analysis Between Adjuvant Vaginal Cuff Brachytherapy And Pelvic External Beam Radiation Treatment For Women With FIGO Stage I Uterine Endometrioid Carcinoma With Pathologic Negative Lymph Node Evaluation: A Propensity Score Matching Analysis. *Int J Gynecol Cancer* 2025; 35(2). Full Text

Introduction/Background Based on the PORTEC-2 study, there was no statistically significant difference in vaginal cuff recurrence between patients who received adjuvant vaginal cuff brachytherapy (VCB) and those who received pelvic external beam radiation treatment (EBRT). However, the majority of patients included in this study did not have a surgical lymph node evaluation (SLNE). Using propensity score matching (PSM), the aim of this study is to analyze the comparative efficacy of the two adjuvant radiation therapy (RT) modalities for women with FIGO stage I uterine endometrioid carcinoma (EC) who underwent SLNE. Methodology Our institutional uterine cancer database was queried for women with 2009 FIGO stage I EC who had surgical staging with pathologically negative pelvic lymph node evaluation who received adjuvant RT between 1/1990 and 12/2022. Demographics, surgical, and pathologic factors were analyzed comparing the two patient groups (VCB vs EBRT). 5-year recurrence-free (RFS), disease-specific (DSS), and overall survival (OS) were evaluated. Variables predicting RF, DSS, and OS were assessed using univariate and multivariate analyses for each treatment modality. Results 372 patients were identified with a median age of 67 years and median follow up time of 110 months. There were 248 (66.7%) and 124 (33.3%) patients in the VCB and EBRT groups, respectively. Using PSM (2:1), there was no statistically significant difference in 5-year RFS (89% vs. 84%, p=0.09), DSS (98% vs. 94%, p=0.09), and OS (88% vs. 82%, p=0.2) between VCB and EBRT patients, respectively. Independent predictors of worse 5-year RFS and DSS were higher grade and any lymphovascular space invasion (LVSI) while age >60, higher Charlson comorbidity index (CCI), higher grade, and any LVSI were independent predictors of worse 5-year OS. Similarly, there was no statistically significant difference in the pattern of first recurrence between the two groups. Conclusion Using propensity score matching, our data suggest no survival endpoint difference between adjuvant vaginal cuff brachytherapy and pelvic external beam radiation treatment for surgically staged patients with FIGO stage I endometrioid carcinoma whose pathologic pelvic lymph node evaluation was negative. Disclosures None

Hematology-Oncology
Al Hallak MN, Khan HY, Aboukameel A, Bannoura S, Choucair K, Beal EW, Tobon M, Beydoun R, Shields AF, Mohammad R, Beebe-Dimmer JL, **Philip PA**, Pasche B, and Azmi AS. XPO1 inhibition as a clinically viable strategy to enhance durability of response to KRAS G12D inhibitor in pancreatic ductal adenocarcinoma. *J Clin Oncol* 2025; 43:736-736. Full Text

Hematology-Oncology
Bai S, **Singh B**, **Ethakota J**, Ogedegbe OJ, Ntukidem OL, Chitkara A, Rani S, **Kumar D**, **Hirth J**, and **Malik DB**. The role of artificial intelligence in colorectal cancer and polyp detection: A systematic review. *J Clin Oncol* 2025; 43:47-47. Full Text

Hematology-Oncology
Ethakota J, **Singh B**, **Bai S**, **Kumar D**, and **Malik DB**. A systematic review of the impact of artificial intelligence in pancreatic cancer detection. *J Clin Oncol* 2025; 43:685-685. Full Text

Gupta AO, Sharma A, Frangoul H, Dalal J, Kanter J, **Alavi A**, DiPersio JF, Eapen M, Jaroscak DJJ, Ayala E, Ziga ED, Rifkin-Zenenberg S, Minella AC, Chen G, Chen Y, Chockalingam PS, Lin L, Joseney-Antoine M, Ianniello L, Gardner B, Hartigan AJ, Ciaramella G, Goyal S, Simon A, Thompson AA, and Heeney MM. Safety and Efficacy of Autologous CD34+ Base Edited Hematopoietic Stem Cells (BEAM-101) for the Treatment of Sickle Cell Disease with Severe Vaso-Occlusive Crises: Results from the Ongoing Phase 1/2 Beacon Study. *Transplant Cell Ther* 2025; 31(2):S22. Full Text

A.O. Gupta, Department of Pediatrics, University of Minnesota, Minneapolis, MN, United States

BEAM-101 is an investigational base edited autologous cell therapy for the treatment (tx) of SCD through upregulation of anti-sickling fetal hemoglobin (HbF). We present initial data from BEACON

(NCT05456880), a Phase 1/2, single-arm, open-label study evaluating the safety and efficacy of BEAM-101 in patients (pts) with SCD with severe vaso-occlusive crises (sVOCs). Pts aged 18–35 with SCD and ≥4 sVOCs in the 2 years pre-screening were eligible per trial criteria. After plerixafor mobilization, autologous CD34+ HSPCs were collected by leukapheresis and edited with an adenine base editor. After myeloablative conditioning with busulfan, pts received a single infusion of BEAM-101 (≥3.0 × 106 viable CD34+ cells/kg) and are monitored for 24 months (m). As of July 2, 2024, 6 pts have been dosed. Demographics: 5/6 βS/βS, 1/6 βS/β0, 50% female, 19–27 years. Half (n=3) required a single mobilization cycle and half required 2. Pts received a mean BEAM-101 dose of 11.9 × 106 (5.2–23.4) viable CD34+ cells/kg. Besides safety data that include all pts dosed (n=6), the following data are from pts dosed with ≥1m of follow up (n=4; 6, 5, 2, and 1m[s] post-tx, each). All 4 pts with ≥1m of follow up achieved neutrophil and platelet engraftment at a median of 17 (15–19) and 20 (11–34) days, respectively. One pt died due to respiratory failure, likely related to busulfan conditioning, 4m after infusion. In all pts dosed (n=6), there have been no ≥Grade 3 AEs or serious AEs related to BEAM-101. Using central lab data, pts' total Hb increased from baseline (mean 9.3 [7.9–10.9] g/dL) to 17.9, 18.2, 11.0, and 11.8 g/dL at last time point available (LTPA) for P1, P2, P3, and P4, respectively. No signs/symptoms or interventions were needed for high total Hb. All pts achieved >60% HbF of non-transfused (NT) Hb (total Hb − HbA) at Month (M) 1 and sustained this elevation to the LTPA. By M1, HbS% in NT blood dropped to ≤36% in all 4 pts and was sustained through LTPA. In total blood, % F-cells were 99.6% in P1 at M6, 94.4% in P2 at M4, 52.0% in P3 at M2, and 13.3% in P4 at M1 with all pts having >19 pg HbF/F-cell at LTPA. Peripheral blood editing in nucleated cells, measured in P1 (at M6) and P2 (at M3), was 69.9% and 76.1%, respectively. Markers of hemolysis have normalized or improved for all pts. No VOCs have been reported by investigators following BEAM-101 tx. These initial data show a safety profile for BEAM-101 consistent with busulfan conditioning and autologous HSCT. Tx with BEAM-101 resulted in rapid engraftment and marked improvement of anemia in all 4 dosed pts. We observed rapid and robust HbF induction in NT blood in all post-tx assessments. No VOCs were reported by investigators post-tx. These initial data support base editing of the HBG1/2 promoters as an effective therapeutic modality for the tx of SCD and will continue to be investigated in the ongoing BEACON study. Updated data to be presented.

Hematology-Oncology

Muhanna ZM, Issa A, Yasin J, Alkuttob L, El-Niss M, Alsufi M, and **Farhan S**. Two Decades of Extracorporeal Photopheresis for the Treatment of Steroid-Refractory Acute Graft-Versus-Host-Disease: A Meta-Analysis. *Transplant Cell Ther* 2025; 31(2):S301-S302. Full Text

S. Farhan, Stem Cell Transplantation and Cellular Therapy, Henry Ford Health, Detroit, MI, United States

Introduction: Steroid-refractory acute graft-versus-host-disease (SR-aGVHD) remains a significant challenge following hematopoietic stem cell transplantation (HSCT), negatively impacting patient outcomes and quality of life. Despite the decades-long use of extracorporeal photopheresis (ECP) for steroid-refractory acute graft-versus-host disease (SR-aGVHD), only two meta-analyses of its efficacy exist, both published at the same time nearly a decade ago. This study aims to address this gap by presenting an updated meta-analysis incorporating historical and recent data on ECP's impact on SR-aGVHD. Methods: A systematic search was conducted per PRISMA guidelines using PubMed, Scopus, and the Cochrane Library, covering all records up to September 2024. Studies using ECP as prophylaxis or first-line treatment were excluded. A meta-analysis assessed efficacy-related outcomes including overall survival rate (OS) stratified by time points, overall response rate (ORR), and organ-specific response. Additional outcomes include the percentage of patients tapering or discontinuing steroid treatment and non-relapse mortality (NRM). Pooled hazard ratios were also calculated comparing the effect of grade 3 and 4 aGVHD vs grade 2 aGVHD and ECP vs other treatments on OS. A multivariate meta-regression model investigated the effect of the publication year, grading system, age, and combination of ECP with other therapies on ORR, NRM, and steroid-sparing rate. Results: Our search identified 954 unique studies, 38 were of interest and 29 were included in the quantitative analysis. A total of 1285 patients were included, most studies were conducted on adult patients (n=23), with most utilizing a retrospective single-group study design (n=30). There was high variability in the regimens, with differences in duration and frequency. I2 values ranged from 11% to 85%, with most analyses exhibiting considerable heterogeneity. In the meta-analysis, the pooled ORR was 72% (95% CI: 68% - 77%; Figure

1), with a 1-year OS rate of 52% (95% CI: 38% - 66%; Figure 2). The skin response was 89% (95% CI: 80% - 95%), gut 54% (95% CI: 42%- 67%), and liver 36% (95% CI: 24% - 48%). The pooled steroid-sparing rate was 66% (95% CI: 58% - 74%). The pooled HR showed significantly worse OS in patients with grade 3 and grade 4 aGVHD vs grade 2 aGVHD (HR: 2.35, 95% CI: 1.67 – 3.29; Figure 3). ECP insignificantly demonstrated longer OS than other treatments (HR: 0.64, 95% CI: 0.29 - 1.42). The meta-regression showed no significant effect of any of the groups on the variables analyzed. Conclusion: This systematic review shows that ECP is an effective treatment for (SR-aGVHD), with a positive but insignificant effect on OS compared to other treatments. However, due to the heterogeneity of the studies, further studies are needed to explore synergistic interactions between ECP and other therapies and how ECP fares against other treatments.

Hematology-Oncology

Neme K, **Srikantan S**, **Mazur I**, **Mikulandric N**, **Emole J**, **Alavi A**, **Peres E**, **Abidi MH**, and **Farhan S**. Budesonide for Engraftment Fever Prophylaxis: A Single Center Randomized Study Interim Analysis. *Transplant Cell Ther* 2025; 31(2):S545-S546. Full Text

S. Farhan, Stem Cell Transplant & Cellular Therapy Department, Henry Ford Health, DETROIT, MI, United States

Background: Engraftment Syndrome (ES) is an early complication post HSCT that may occur around neutrophil recovery day +7-21. Its incidence varies widely (7 to 72%) depending on the criteria used. The mechanism is not completely understood, but it is suggested that it is related to reactive lymphocytes driven by cytokines. ES is usually a self-limited process but is associated with increased length of hospitalization. Prior studies by Dhakal et al. and three other studies have demonstrated the benefit of steroid prophylaxis in reducing ES. Since there are no randomized data regarding interventions to prevent ES, we conducted a prospective study to determine if budesonide prophylaxis starting on day +5 post HSCT reduces the incidence of engraftment fever and or ES. Methods: This is a prospective, single center, open-label, randomized trial in patients aged 18 years and older receiving allogenic or autologous HSCT at Henry Ford Health in the United States. We randomly assigned patients (1:1) to receive budesonide 3 mg or nothing orally starting 5 days post SCT until neutrophil engraftment (twice a week for allogeneic and daily for autologous HSCT). Primary outcome is to assess the incidence of engraftment fever between the two groups. Secondary outcomes include to determine severity of ES between the two groups and length of stay (LOS). Results: Between December 13, 2023, and August 29, 2024, 52 consecutive patients were randomly assigned to receive budesonide (n=30) or nothing (n=22). Thirty were males and 22 females, with many patients Caucasians (n=33), followed by African American (n=12), others (n=6), and Hispanic (1). Autologous HCT was performed in 34 patients, whereas 18 patients underwent an allogeneic HCT. Multiple Myeloma was the primary diagnosis for patients undergoing and autologous HCT and Acute Leukemia was the primary diagnosis in allogeneic HCT. Of the 22 patients who did not receive budesonide (12 auto and 10 allo HSCT), 18 experienced a fever with 3 who had positive cultures. Of the 30 who were assigned to budesonide, 19 experienced fevers with 2 positive cultures. There was a trend for patients receiving budesonide prophylaxis to experience fewer fevers than those in the non-budesonide group, regardless of whether the transplant was autologous or allogeneic (OR for the whole group was 0.38 (p=0.15), auto HSCT 0.2 (p=0.21), allo HSCT 0.3 (p=0.18). None of the patients experience a related or probably related severe adverse event related to budesonide. Conclusion: At this point, in this interim analysis, there seems to be a trend for less fever with budesonide without severe adverse events. Nothing is statistically significant so far.

Hospital Medicine

Munroe E, Bernstein S, **Cahill M**, **Jayaprakash N**, **Kaatz S**, Horowitz J, McLaughlin E, Posa P, Swaminathan L, Younas M, Flanders S, and Prescott H. NONINVASIVE HEMODYNAMIC MONITORING DEVICES FOR PATIENTS WITH SEPSIS ACROSS MICHIGAN HOSPITALS. *Crit Care Med* 2025; 53(1):1. Full Text

[Munroe, Elizabeth; Bernstein, Steven; Kaatz, Scott; Prescott, Hallie] Univ Michigan, Ann Arbor, MI USA. [Cahill, Megan] Henry Ford Macomb Hosp, Detroit, MI USA. [Jayaprakash, Namita] Henry Ford Hosp, Detroit, MI USA. [Kaatz, Scott; Younas, Mariam] Hurley Med Ctr, Flint, MI USA. [Posa, Patricia] Michigan

Med, Northville, MI USA. [Swaminathan, Lakshmi] Trinity Hlth IHA Med Grp, Ypsilanti, MI USA. System; Henry Ford Hospital

Infectious Diseases
Brochu J, Lim L, Abuhalaweh S, **Veve M**, **Mylnarek L**, **Payter K**, **Kenney R**, **Suleyman G**, **Field E**, and **Smith Z**. RISK FACTORS ASSOCIATED WITH PRIMARY BLOODSTREAM INFECTIONS IN ADULTS RECEIVING PARENTERAL NUTRITION. *Crit Care Med* 2025; 53(1):1. Full Text

[Brochu, Jessica; Veve, Michael; Mylnarek, Linda; Payter, Katelyn; Kenney, Rachel; Suleyman, Geehan; Field, Erin; Smith, Zachary] Henry Ford Hosp, Detroit, MI USA. [Lim, Lauren] Johns Hopkins Univ Hosp, Baltimore, MD USA. [Veve, Michael] Wayne State Univ, Detroit, MI USA. Johns Hopkins Medicine; Wayne State University

Internal Medicine
Bai S, **Singh B**, **Ethakota J**, Ogedegbe OJ, Ntukidem OL, Chitkara A, Rani S, **Kumar D**, **Hirth J**, and **Malik DB**. The role of artificial intelligence in colorectal cancer and polyp detection: A systematic review. *J Clin Oncol* 2025; 43:47-47. Full Text

Internal Medicine
Chitkara A, Anamika F, Khosla AA, **Bai S**, Adib A, Patel R, and Singh R. Prevention, diagnosis, and management of penile cancer in the LGBTQ+ community: A systematic review and meta-analysis. *J Clin Oncol* 2025; 43:2-2. Full Text

Internal Medicine
Chitkara A, Anamika F, Khosla AA, Batra A, Patel R, **Bai S**, Deshpande S, and Singh R. Disparities in clinical trial enrollment among LGBTQ+ individuals and its impact on cancer treatment and management: A systematic review. *J Clin Oncol* 2025; 43:805-805. Full Text

Internal Medicine
Ethakota J, **Singh B**, **Bai S**, **Kumar D**, and **Malik DB**. A systematic review of the impact of artificial intelligence in pancreatic cancer detection. *J Clin Oncol* 2025; 43:685-685. Full Text

Internal Medicine
Ntukidem OL, Ogedegbe OJ, and **Bai S**. Updated trends in incidence and mortality of pancreatic cancer. an analysis of the Surveillance, Epidemiology, and End Results (SEER) database. *J Clin Oncol* 2025; 43:786-786. Full Text

Internal Medicine
Ogedegbe OJ, **Bai S**, Ntukidem OL, Egwom P, Malik D, Olafimihan AG, and Atencah SN. Second primary malignancy in bladder cancer: A retrospective population-based analysis. *J Clin Oncol* 2025; 43:676-676. Full Text

Internal Medicine
Ogedegbe OJ, Ntukidem OL, **Bai S**, Cheema AY, Sukhera AB, Rodriguez Vazquez J, and Erazo G. Racial, gender and socioeconomic disparities in survival outcomes of hepatocellular carcinoma. *J Clin Oncol* 2025; 43:526-526. Full Text

Internal Medicine
Ogedegbe OJ, Ntukidem OL, **Bai S**, Olafimihan AG, and Cheema AY. Racial disparities in incidence-based mortality and survival outcomes in testicular cancer in adolescent and young adults. *J Clin Oncol* 2025; 43:650-650. Full Text

Internal Medicine
Ogedegbe OJ, Ntukidem OL, **Bai S**, Olafimihan AG, Egwom P, and Malik D. Chronic obstructive pulmonary disease mortality risk in renal cell carcinoma: A population-based study from 1992-2021. *J Clin Oncol* 2025; 43:450-450. Full Text

Internal Medicine

Qureshi MA, Haseeb S, **Ahmed O**, Bakht D, Amir M, Saeed S, **Srivastava K**, **Yasin Z**, **Bai S**, **Tariq H**, Shahid A, and **Othman H**. 700.54 Comparative Outcomes of TAVR Vs. SAVR for Patients With Prior CABG: A Meta-Analysis. *JACC Cardiovasc Interv* 2025; 18(4):S98-S99. Full Text

Background: Transcatheter Aortic Valve Replacement (TAVR) and Surgical Aortic Valve Replacement (SAVR) are treatments for severe aortic stenosis, especially in patients with a history of Coronary Artery Bypass Grafting (CABG). This meta-analysis compares the short and long-term outcomes of TAVR and SAVR, focusing on post-operative atrial fibrillation (AF), pacemaker implantation, and 1-year cardiovascular (CV) mortality, stroke, and major vascular complications. Methods: A systematic review and meta-analysis were conducted per PRISMA guidelines, including studies comparing TAVR and SAVR outcomes in CABG patients. Primary outcomes were post-operative AF, pacemaker implantation, and 1-year CV mortality, stroke, and major vascular complications. Odds ratios (OR) with 95% confidence intervals (CI) were calculated using a random-effects model. Heterogeneity was assessed with the I2 statistic, and a p-value of <0.05 was considered significant. Results: Post-Operative AF: 3 studies (854 patients) showed a significantly lower incidence of AF in the TAVR group (OR: 0.15, 95% CI: 0.09-0.27, P < 0.00001).Pacemaker Implantation: 10 studies (15,790 patients) showed TAVR was associated with a higher risk of pacemaker implantation (OR: 2.41, 95% CI: 1.49-3.89, P = 0.0003).1-Year Outcomes: 5 studies (8,627 patients) showed no significant difference between TAVR and SAVR for 1-year CV mortality (OR: 0.84, P = 0.51), stroke (OR: 0.94, P = 0.80), or major vascular complications (OR: 1.72, P = 0.12). Conclusion: TAVR offers a lower incidence of post-operative AF but a higher risk of pacemaker implantation compared to SAVR. For 1-year CV mortality, stroke, and major vascular complications, TAVR and SAVR show comparable outcomes. Further studies with larger sample sizes are needed to confirm these findings and better understand long-term outcomes [Formula presented]

Internal Medicine

Walji M, **Affas Z**, **Jacob C**, and **Arnautovic JZ**. 500.12 Cardiac Critical Care in a Community Setting: Cardiologist-Led vs. Intensivist-Led Outcomes. *JACC Cardiovasc Interv* 2025; 18(4):S77. Full Text

Background: The complexity of cardiovascular conditions necessitates specialized cardiac care, yet current staffing models in many community settings lack dedicated critical care cardiologists. Globally, cardiologists specialized in critical care are more common and allow for expertise when managing conditions like acute coronary syndromes (ACS), severe heart failure, advanced cardiac life support, and life-threatening arrhythmias. There is growing recognition of the benefits of critical care cardiologists, especially as the population ages and the prevalence of complex cardiac cases increases. However, the US still lacks specialized programs that promote cardiologists in critical-care medicine. Objective: The study aims to assess two staffing models in cardiac critical care: cardiologist-led versus intensivist-led outcomes in response to the increased need for specialized critical care trained cardiologists. Methods: This is a retrospective review of patients admitted to the critical care unit in a community-hospital from March to November of 2022 who were admitted with a primary cardiac etiology. Non-cardiac and surgical patients were excluded. Cardiologists could choose to either admit the patients to their own service and consult an intensivist as needed such as in the setting of hypoxic respiratory failure where BiPAP/mechanical ventilation was used (collaborative model) or admit patients directly to an intensivist-led service (traditional model). Results: This study included 181 patients: 103 admitted to the intensivist-led model and 78 admitted to the cardiologist-led model. Both groups had similar demographics with no statistical significant difference in cardiac risk factors. The most common admitting diagnoses were ACS, structural heart diseases, and tachyarrhythmias. Overall, there was no statistical difference between complications or outcomes (length of stay (LOS), mortality, or 30-day readmissions) among cardiologist-led teams and the traditional, intensivist-led model. Conclusion: Cardiologist-led critical care in collaboration with an intensivist is not inferior to the traditional model. The current workforce in community critical care units is not meeting consensus guidelines due to increasing complexities and interplay of medical and cardiovascular conditions requiring specialized care. This creates a unique opportunity for cardiovascular expertise through fellowship and training that can enhance the quality of care in critically-ill patients.

Neurosurgery

Holden D, Dingman S, Sutton L, Desai H, Morsi R, Bonderski V, Barats M, Almajali M, Ashouri Y, Zaidat O, Webb A, Johnson R, Choi R, Schneider L, Baker R, Wetmore L, Anderson E, Gutierrez-Aguirre S, O'Donnell N, and **Entezami P**. CANGRELOR IN ACUTE STENTING OF RUPTURED ANEURYSMS AND CONCOMITANT EXTERNAL VENTRICULAR DRAIN USE. *Crit Care Med* 2025; 53(1):1. Full Text

[Holden, Devin; Barats, Michael] Albany Med Ctr, Albany, NY USA. [Dingman, Spencer; Sutton, Lauren] Barnes Jewish Hosp, St Louis, MO USA. [Desai, Harsh; Morsi, Rami] Univ Chicago, Chicago, IL USA. [Bonderski, Veronica] Univ Chicago Med, Chicago, IL USA. [Almajali, Mohammad; Ashouri, Yazan; Zaidat, Osama] Ctr Med Chirurg St Vincent, Bridgeport, CT USA. [Webb, Andrew; Johnson, Riley] Massachusetts Gen Hosp, Boston, MA USA. [Choi, Richard; Schneider, Laura; Baker, Richard] Christiana Care, Newark, DE USA. [Wetmore, Lori] Indiana Univ Hlth, Indianapolis, IN USA. [Anderson, Eve] IU Hlth Methodist Hosp, Indianapolis, IN USA. [Gutierrez-Aguirre, Salvador] Baptist Neurol Inst, Jacksonville, FL USA. [O'Donnell, Nick] Albany Coll Pharm & Hlth Sci, Albany, NY USA. [Entezami, Pouya] Henry Ford Hlth, Detroit, MI USA. Hospital; University of Chicago; Harvard University; Harvard University Medical Affiliates; Massachusetts General Hospital; Christiana Care Health System; Indiana University Health; IU Health University Hospital; Indiana University Health; IU Health Methodist Hospital; Albany College of Pharmacy & Health Sciences; Henry Ford Health System

Obstetrics, Gynecology and Women's Health Services

Al Asadi A, **Aref I**, **Doemer AJ**, **Hijaz M**, and **Elshaikh MA**. Comparative Efficacy Analysis Between Adjuvant Vaginal Cuff Brachytherapy And Pelvic External Beam Radiation Treatment For Women With FIGO Stage I Uterine Endometrioid Carcinoma With Pathologic Negative Lymph Node Evaluation: A Propensity Score Matching Analysis. *Int J Gynecol Cancer* 2025; 35(2). Full Text

Introduction/Background Based on the PORTEC-2 study, there was no statistically significant difference in vaginal cuff recurrence between patients who received adjuvant vaginal cuff brachytherapy (VCB) and those who received pelvic external beam radiation treatment (EBRT). However, the majority of patients included in this study did not have a surgical lymph node evaluation (SLNE). Using propensity score matching (PSM), the aim of this study is to analyze the comparative efficacy of the two adjuvant radiation therapy (RT) modalities for women with FIGO stage I uterine endometrioid carcinoma (EC) who underwent SLNE. Methodology Our institutional uterine cancer database was queried for women with 2009 FIGO stage I EC who had surgical staging with pathologically negative pelvic lymph node evaluation who received adjuvant RT between 1/1990 and 12/2022. Demographics, surgical, and pathologic factors were analyzed comparing the two patient groups (VCB vs EBRT). 5-year recurrence-free (RFS), disease-specific (DSS), and overall survival (OS) were evaluated. Variables predicting RF, DSS, and OS were assessed using univariate and multivariate analyses for each treatment modality. Results 372 patients were identified with a median age of 67 years and median follow up time of 110 months. There were 248 (66.7%) and 124 (33.3%) patients in the VCB and EBRT groups, respectively. Using PSM (2:1), there was no statistically significant difference in 5-year RFS (89% vs. 84%, p=0.09), DSS (98% vs. 94%, p=0.09), and OS (88% vs. 82%, p=0.2) between VCB and EBRT patients, respectively. Independent predictors of worse 5-year RFS and DSS were higher grade and any lymphovascular space invasion (LVSI) while age >60, higher Charlson comorbidity index (CCI), higher grade, and any LVSI were independent predictors of worse 5-year OS. Similarly, there was no statistically significant difference in the pattern of first recurrence between the two groups. Conclusion Using propensity score matching, our data suggest no survival endpoint difference between adjuvant vaginal cuff brachytherapy and pelvic external beam radiation treatment for surgically staged patients with FIGO stage I endometrioid carcinoma whose pathologic pelvic lymph node evaluation was negative. Disclosures None

Pharmacy

Brochu J, Lim L, Abuhalaweh S, **Veve M**, **Mylnarek L**, **Payter K**, **Kenney R**, **Suleyman G**, **Field E**, and **Smith Z**. RISK FACTORS ASSOCIATED WITH PRIMARY BLOODSTREAM INFECTIONS IN ADULTS RECEIVING PARENTERAL NUTRITION. *Crit Care Med* 2025; 53(1):1. Full Text

[Brochu, Jessica; Veve, Michael; Mylnarek, Linda; Payter, Katelyn; Kenney, Rachel; Suleyman, Geehan; Field, Erin; Smith, Zachary] Henry Ford Hosp, Detroit, MI USA. [Lim, Lauren] Johns Hopkins Univ Hosp,

Baltimore, MD USA. [Veve, Michael] Wayne State Univ, Detroit, MI USA. Johns Hopkins Medicine; Wayne State University

Pharmacy
Cheaito F, **Bloome M**, **Moorhouse W**, and **Yost R**. NEP SCORE: A TOOL FOR TARGETING PERIPHERAL NOREPINEPHRINE UTILIZATION. *Crit Care Med* 2025; 53(1):1. Full Text

[Cheaito, Fatimah] HENRY FORD HOSP, DETROIT, MI USA. [Bloome, Michael; Moorhouse, Wolfegang; Yost, Raymond] Henry Ford Wyandotte Hosp, Wyandotte, MI USA. Henry Ford Wyandotte Hospital

Pharmacy
Kabalka E, **Smith Z**, **Tatem G**, and **August B**. INCIDENCE OF DEXMEDETOMIDINE-INDUCED CARDIOVASCULAR ADVERSE DRUG EVENTS IN PATIENTS WITH CIRRHOSIS. *Crit Care Med* 2025; 53(1):1. Full Text

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Pharmacy
Neme K, **Srikantan S**, **Mazur I**, **Mikulandric N**, **Emole J**, **Alavi A**, **Peres E**, **Abidi MH**, and **Farhan S**. Budesonide for Engraftment Fever Prophylaxis: A Single Center Randomized Study Interim Analysis. *Transplant Cell Ther* 2025; 31(2):S545-S546. Full Text

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Background: Engraftment Syndrome (ES) is an early complication post HSCT that may occur around neutrophil recovery day +7-21. Its incidence varies widely (7 to 72%) depending on the criteria used. The mechanism is not completely understood, but it is suggested that it is related to reactive lymphocytes driven by cytokines. ES is usually a self-limited process but is associated with increased length of hospitalization. Prior studies by Dhakal et al. and three other studies have demonstrated the benefit of steroid prophylaxis in reducing ES. Since there are no randomized data regarding interventions to prevent ES, we conducted a prospective study to determine if budesonide prophylaxis starting on day +5 post HSCT reduces the incidence of engraftment fever and or ES. Methods: This is a prospective, single center, open-label, randomized trial in patients aged 18 years and older receiving allogenic or autologous HSCT at Henry Ford Health in the United States. We randomly assigned patients (1:1) to receive budesonide 3 mg or nothing orally starting 5 days post SCT until neutrophil engraftment (twice a week for allogeneic and daily for autologous HSCT). Primary outcome is to assess the incidence of engraftment fever between the two groups. Secondary outcomes include to determine severity of ES between the two groups and length of stay (LOS). Results: Between December 13, 2023, and August 29, 2024, 52 consecutive patients were randomly assigned to receive budesonide (n=30) or nothing (n=22). Thirty were males and 22 females, with many patients Caucasians (n=33), followed by African American (n=12), others (n=6), and Hispanic (1). Autologous HCT was performed in 34 patients, whereas 18 patients underwent an allogeneic HCT. Multiple Myeloma was the primary diagnosis for patients undergoing and autologous HCT and Acute Leukemia was the primary diagnosis in allogeneic HCT. Of the 22 patients who did not receive budesonide (12 auto and 10 allo HSCT), 18 experienced a fever with 3 who had positive cultures. Of the 30 who were assigned to budesonide, 19 experienced fevers with 2 positive cultures. There was a trend for patients receiving budesonide prophylaxis to experience fewer fevers than those in the non-budesonide group, regardless of whether the transplant was autologous or allogeneic (OR for the whole group was 0.38 (p=0.15), auto HSCT 0.2 (p=0.21), allo HSCT 0.3 (p=0.18). None of the patients experience a related or probably related severe adverse event related to budesonide. Conclusion: At this point, in this interim analysis, there seems to be a trend for less fever with budesonide without severe adverse events. Nothing is statistically significant so far.

Pharmacy
Wang Y, **To L**, **Jones M**, **Basir M**, **Grafton G**, **Villalba P**, and **Griebe K**. HIGH- VERSUS LOW-RANGE ANTI-XA GOALS FOR IV HEPARIN IN PATIENTS WITH MECHANICAL CIRCULATORY SUPPORT. *Crit Care Med* 2025; 53(1):1. Full Text

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Public Health Sciences
Hussain A, **Montgomery Z**, **Gill J**, **Jaehne AK**, **Wilson I**, **Veryser D**, **Ghosh S**, **Shah RP**, **Obeid N**, and **Rivers E**. THE PHENOTYPE OF BACTEREMIA ADMITTED FROM THE EMERGENCY DEPARTMENT THAT REQUIRES SURGERY. *Crit Care Med* 2025; 53(1):1. Full Text

[Hussain, Afzal; Montgomery, Zachary; Gill, Jasreen; Jaehne, Anja Kathrin; Wilson, Ian; Veryser, Debra; Shah, Rupen; Obeid, Nadia; Rivers, Emanuel] HENRY FORD HOSP, DETROIT, MI USA. [Ghosh, Sunita] Henry Ford Hlth, Detroit, MI USA.

Public Health Sciences
Montgomery Z, **Hussain A**, **Gill J**, **Jaehne AK**, **Wilson I**, **Veryser D**, **Ghosh S**, **Obeid N**, **Shah R**, and **Rivers E**. IMPLICATIONS OF EMERGENCY DEPARTMENT BACTEREMIA IN PATIENTS WHO REQUIRE SURGERY. *Crit Care Med* 2025; 53(1):1. Full Text

[Montgomery, Zachary; Hussain, Afzal; Gill, Jasreen; Jaehne, Anja Kathrin; Wilson, Ian; Veryser, Debra; Obeid, Nadia; Shah, Rupen; Rivers, Emanuel] HENRY FORD HOSP, DETROIT, MI USA. [Ghosh, Sunita] Henry Ford Hlth, Detroit, MI USA.

Pulmonary and Critical Care Medicine
Kabalka E, **Smith Z**, **Tatem G**, and **August B**. INCIDENCE OF DEXMEDETOMIDINE-INDUCED CARDIOVASCULAR ADVERSE DRUG EVENTS IN PATIENTS WITH CIRRHOSIS. *Crit Care Med* 2025; 53(1):1. Full Text

[Kabalka, Emma] Charleston Area Med Ctr, Charelston, WV 25701 USA. [Smith, Zachary; August, Benjamin] Henry Ford Hosp, Detroit, MI USA. [Tatem, Geneva] HENRY FORD HOSP, DETROIT, MI USA. Henry Ford Hospital

Pulmonary and Critical Care Medicine
Zghouzi M, **Jabri A**, Maligireddy A, Bista R, Paul T, Nasser F, Lichaa H, **Aronow H**, Vallabhajosyula S, **Kelly B**, **Grafton G**, **Awdish R**, **Basir MB**, **Alaswad K**, **Alqarqaz M**, **Koenig G**, and **Aggarwal V**. 200.21 Association Between Frailty, Use of Advanced Therapies, In-Hospital Outcomes, and 30-Day Readmission in Elderly Patients Admitted With Acute Pulmonary Embolism. *JACC Cardiovasc Interv* 2025; 18(4):S44. Full Text

Background: Clinical decision-making when assessing elderly patients with acute PE often involves an assessment of frailty that may impact the use of advanced therapies. We sought to evaluate the use of advanced therapies and associated in-hospital outcomes by frailty status in such patients. Methods: We utilized the National Readmission Database (NRD) to identify acute PE admissions in older patients (>75 years) from 2016 to 2020. We defined high-risk PE by the presence of one or more of the following: shock, progressive hypoxia, vasopressor use, or ECMO requirement. Frailty was determined using a previously validated hospital frailty risk score (HFRS). Results: Overall, 233,091 nationally representative patients with acute PE met the study inclusion criteria; 50.9% of patients with no frailty risk (score >5), while 49.1% of patients with increased frailty risk (score 5-30). A total of 7.4% (17,277) of patients with high-risk features were identified, of whom 79.9% (13,810) patients were frail. Receipt of catheter-directed thrombolysis (CDT) and embolectomy (CDE) were comparable among high-risk frail and non-frail patients. Compared to non-frail patients, increased frailty was associated with higher in-hospital mortality. This increase was 2.3-fold in those without high-risk features and 1.2-fold in those with high-risk features. There is a similar increase in intracranial hemorrhage, gastrointestinal bleeding, and hematuria. Similarly,

frailty and high-risk PE were associated with higher length of stay (LOS), increased resource utilization and cost, and fewer home discharges. Conclusion: Catheter-based therapies were utilized at similar rates in frail individuals compared to non-frail elderly individuals with high-risk PE. Increased frailty conferred an increased risk of in-hospital adverse events in elderly patients with PE. [Formula presented]

Radiation Oncology

Al Asadi A, **Aref I**, **Doemer AJ**, **Hijaz M**, and **Elshaikh MA**. Comparative Efficacy Analysis Between Adjuvant Vaginal Cuff Brachytherapy And Pelvic External Beam Radiation Treatment For Women With FIGO Stage I Uterine Endometrioid Carcinoma With Pathologic Negative Lymph Node Evaluation: A Propensity Score Matching Analysis. *Int J Gynecol Cancer* 2025; 35(2). Full Text

Introduction/Background Based on the PORTEC-2 study, there was no statistically significant difference in vaginal cuff recurrence between patients who received adjuvant vaginal cuff brachytherapy (VCB) and those who received pelvic external beam radiation treatment (EBRT). However, the majority of patients included in this study did not have a surgical lymph node evaluation (SLNE). Using propensity score matching (PSM), the aim of this study is to analyze the comparative efficacy of the two adjuvant radiation therapy (RT) modalities for women with FIGO stage I uterine endometrioid carcinoma (EC) who underwent SLNE. Methodology Our institutional uterine cancer database was queried for women with 2009 FIGO stage I EC who had surgical staging with pathologically negative pelvic lymph node evaluation who received adjuvant RT between 1/1990 and 12/2022. Demographics, surgical, and pathologic factors were analyzed comparing the two patient groups (VCB vs EBRT). 5-year recurrence-free (RFS), disease-specific (DSS), and overall survival (OS) were evaluated. Variables predicting RF, DSS, and OS were assessed using univariate and multivariate analyses for each treatment modality. Results 372 patients were identified with a median age of 67 years and median follow up time of 110 months. There were 248 (66.7%) and 124 (33.3%) patients in the VCB and EBRT groups, respectively. Using PSM (2:1), there was no statistically significant difference in 5-year RFS (89% vs. 84%, p=0.09), DSS (98% vs. 94%, p=0.09), and OS (88% vs. 82%, p=0.2) between VCB and EBRT patients, respectively. Independent predictors of worse 5-year RFS and DSS were higher grade and any lymphovascular space invasion (LVSI) while age >60, higher Charlson comorbidity index (CCI), higher grade, and any LVSI were independent predictors of worse 5-year OS. Similarly, there was no statistically significant difference in the pattern of first recurrence between the two groups. Conclusion Using propensity score matching, our data suggest no survival endpoint difference between adjuvant vaginal cuff brachytherapy and pelvic external beam radiation treatment for surgically staged patients with FIGO stage I endometrioid carcinoma whose pathologic pelvic lymph node evaluation was negative. Disclosures None

Sleep Medicine

Roehrs T, **Sibai M**, **Tabor A**, and **Roth T**. Mood and Difficulty Discontinuing Chronic Hypnotic Use. *Drug Alcohol Depend* 2025; 267. Full Text

Drug Category: Benzodiazepines/Sedatives Topic: Behavioral Pharmacology Abstract Detail: Clinical - Experimental Abstract Category: Original Research Aim: The inability to discontinue hypnotics after chronic use remains a concern, which has never been directly tested in a controlled, blinded, prospective study using self-administration choice procedures. This study reports on measures of mood and difficulty discontinuing hypnotic use in a clinical trial in which persons with insomnia were instructed to stop taking their study medication after 6 months of nightly use. Methods: DSM-V diagnosed insomnia participants, aged 23-61 years, (n=41, 36 females), with no other sleep disorders, unstable medical or psychiatric diseases or drug dependency completed the trial. Following a screening NPSG participants were randomized to zolpidem XR (12.5 mg), eszopiclone (3 mg), or placebo nightly for 6 months. After 6 months nightly use, over a 2-week discontinuation, they were instructed to discontinue their hypnotic use, but if necessary, to self-administer either 1, 2, or 3 capsules, each packaged separately in labeled envelopes, of their assigned “blinded” medication (zolpidem XR 6.25 mg, 6.25 mg, placebo; eszopiclone 2 mg, 1 mg, placebo as capsules 1, 2 and 3 respectively; or 3 placebos). The BDI II. BAI, ISI, ESS, and POMS were completed at study entry, month6, and study end. Results: Over the 14 nights 21 participants took zero (51%) capsules and among the 20 taking capsules (SAer) the median total number chosen was 3. BDI II scores at study entry were significantly higher (6.3 +/-2.4) in the SAer group compared to the non-SAer (3.2 +/- 0.8) group ($p<0.05$). SA groups did not differ in BAI, ISI, or ESS scores. At study end

both BDI II (p<0.001) and BAI (p<0.05) scores had declined significantly from study entry levels. Conclusions: The majority (51%) of the participants discontinued 6-months of nightly hypnotic use. Higher depression scores (BDI II) were predictive of difficulty discontinuing chronic hypnotic use. Financial Support: NIDA, grant#: R01DA038177 awarded to Dr. Roehrs.

Surgery
Brochu J, Lim L, Abuhalaweh S, **Veve M**, **Mylnarek L**, **Payter K**, **Kenney R**, **Suleyman G**, **Field E**, and **Smith Z**. RISK FACTORS ASSOCIATED WITH PRIMARY BLOODSTREAM INFECTIONS IN ADULTS RECEIVING PARENTERAL NUTRITION. *Crit Care Med* 2025; 53(1):1. Full Text

[Brochu, Jessica; Veve, Michael; Mylnarek, Linda; Payter, Katelyn; Kenney, Rachel; Suleyman, Geehan; Field, Erin; Smith, Zachary] Henry Ford Hosp, Detroit, MI USA. [Lim, Lauren] Johns Hopkins Univ Hosp, Baltimore, MD USA. [Veve, Michael] Wayne State Univ, Detroit, MI USA. Johns Hopkins Medicine; Wayne State University

Surgery
Chamseddine H, **Kabbani L**, **Nypaver T**, **Weaver M**, **Boules T**, and **Shepard A**. Medical Centers With Vascular Surgery Training Programs Are More Likely To Utilize Autologous Vein And Vein Mapping. *Ann Vasc Surg* 2025; 112:409. Full Text

Introduction and Objectives: The Society for Vascular Surgery recommends pre-operative vein mapping (PVM) and autologous vein conduits when available for patients undergoing infrainguinal bypass (IIB). This study aims to explore the potential relationship between the presence of a vascular surgery training program (VSTP) at medical centers and the utilization of PVM and autologous vein conduits for IIB. Methods: Patients who underwent IIB between 2016-2022 were identified in a statewide vascular surgery registry of 49 different medical centers. Medical centers were split into those with and without a VSTP. Bayesian mixed effects logistic regression was used to evaluate the association between having a VSTP and the utilization of PVM and autologous vein conduits. Results: A total of 5,951 patients and thirty-seven medical centers were included, of which 24% (9/37) had a VSTP. Hospital rates of PVM utilization varied (range 10%-82%, median 41%), while that of autologous vein utilization ranged between 16%-88% (median 44%). Centers with a VSTP were more likely to utilize PVM (58% vs 39%, p<0.001) and autologous vein (55% vs 43%, p<0.001) compared to those without a VSTP. On multivariate analysis, centers with a VSTP were associated with a two-fold increase in PVM utilization (OR 2.23; 95% CI 1.03-4.77) and were more likely to utilize autologous vein conduits (OR 1.83, 95% CI 1.61-2.08, p<0.001). A strong linear relationship between PVM and autologous vein utilization was observed (R-squared=0.96) (Figure). Conclusions: Medical centers with specialized vascular surgery training programs are more likely to utilize PVM and autologous vein conduits in patients undergoing IIB. This adherence to best medical practices may be attributed to a pervasive culture of scientific inquiry nurtured within the environment of a teaching program. [Formula presented]

Surgery
Chamseddine H, **Shepard A**, Chahrour M, **Nypaver T**, **Weaver M**, **Kavousi Y**, **Onofrey K**, **Boules T**, Hoballah JJ, and **Kabbani L**. Arm Vein Is Superior To Polytetrafluoroethylene In Infrainguinal Bypass To The Tibial Vessels. *Ann Vasc Surg* 2025; 112:425-426. Full Text

Introduction and Objectives: When single-segment great saphenous vein (ssGSV) is unavailable, commonly used conduits include alternative source autologous veins and polytetrafluoroethylene (PTFE). This study aims to compare the outcomes of arm veins and PTFE in infrainguinal bypass (IIB). Methods: Patients undergoing an IIB from a femoral origin between 2003-2023 were identified in the VQI. Patients who received an arm vein were 1:3:3 propensity-matched with those who received ssGSV and PTFE respectively. Cox-regression was used to evaluate the long-term outcomes of patency, amputation, reoperation, and major adverse limb events (MALE). Results: 894 patients undergoing IIB using an arm vein (73% single segment, 27% spliced) were matched to 2,682 patients receiving ssGSV and 2,682 patients receiving PTFE. The three groups were similar in all baseline characteristics. When the popliteal artery is the distal outflow site, arm veins and PTFE exhibited similar primary patency (67% vs 73%, p=0.074), primary-assisted patency (83% vs 78%, p=0.270), and secondary patency (86% vs 87%,

p=0.605) at 1-year. When a tibial artery is the distal outflow site, arm veins had similar primary patency (63% vs 65%, p=0.460), but higher primary-assisted patency (80% vs 70%, p<0.001) and secondary patency (83% vs 77%, p=0.009) compared to PTFE at 1-year. Using an arm vein for a femoral-to-tibial bypass was associated with a 61% decrease in the risk of amputation (HR 0.39 [0.27-0.56], p<0.001), 53% decrease in thrombectomy/lysis to re-establish patency (HR 0.47 [0.30-0.74], p=0.001), and 30% decrease in the loss of secondary patency (HR 0.70 [0.54-0.92], p=0.009) compared to using PTFE. No difference was observed between single-segment and spliced arm vein. Conclusions: Arm vein for femoral-to-tibial bypass is associated with higher long-term patency and lower amputation rates compared to PTFE. In the absence of a suitable ssGSV, using an arm vein should be considered before resorting to a PTFE graft.

Surgery

Chamseddine H, **Shepard A**, **Lee J**, **Nypaver T**, **Weaver M**, and **Kabbani L**. Lower Extremity Venous Pulsatility Warrants Screening for Right Heart Dysfunction. *J Vasc Surg Venous Lymphat Disord* 2025; 13(2). Full Text

Objectives: There is considerable disagreement among clinicians regarding the interpretation of pulsatile venous waveforms, ranging from normal physiologic variation to potential indicators of elevated right atrial pressure (RAP) or severe tricuspid regurgitation. This study aims to evaluate the diagnostic performance of pulsatile venous flow in detecting elevated RAP, elevated pulmonary artery pressure (PAP), and right ventricular dysfunction. Methods: All patients who underwent lower extremity venous duplex ultrasound (VDUS) and concurrent cardiac echocardiogram within 14 days between January 2020 and February 2024 at a quaternary medical center were reviewed. Patients with evidence of deep venous thrombosis and those with unilateral pulsatile venous flow were excluded. Pulsatile venous flow was defined as retrograde flow during atrial systole of the cardiac cycle. An elevated RAP was defined as a RAP ≥8 mmHg, and an elevated PAP was defined as a PAP >30 mmHg. Simplified echocardiographic pulmonary artery pulsatility index (ePAPI) was calculated as the ratio of the tricuspid regurgitation gradient to the RAP, and right ventricular dysfunction was defined as a simplified ePAPI ≤3.1. Correlations between pulsatile venous flow and each of RAP, PAP, and right ventricular dysfunction were assessed using sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV). Results: A total of 5223 patients were included in the study, of which 868 patients (15%) had pulsatile venous flow, 3643 (63%) had an elevated RAP, and 4072 (70%) had an elevated PAP. The assessment of pulsatile venous flow in detecting elevated RAP and PAP demonstrated a sensitivity of 20% and 19% respectively, and specificity of 90% and 91% respectively. The PPV of pulsatile venous flow in confirming elevated RAP and PAP were 77% (671/868) and 81% (706/868) respectively, suggesting that there is a 77% and 81% likelihood that patients with pulsatile venous flow had an elevated RAP and PAP respectively. Nonetheless, the NPV was 40% (1742/4355) and 33% (1416/4355), respectively, indicating that only 40% and 33% of patients did not have elevated RAP and PAP despite normal venous flow. Normal venous flow demonstrated high accuracy in ruling out right ventricular dysfunction with an NPV of 86%. Conclusions: A finding of pulsative venous flow on VDUS exhibits a high PPV for elevated RAP and PAP, warranting screening for right heart failure in patients presenting with lower extremity venous pulsatility. Nevertheless, this finding exhibits a moderate NPV, thus limiting its effectiveness as a standalone diagnostic tool for ruling out right heart dysfunction. Clinicians should exercise caution in interpreting negative results, as they may overlook significant cases of elevated RAP and PAP and provide potential false reassurance in these cases.

Surgery

Hussain A, **Montgomery Z**, **Gill J**, **Jaehne AK**, **Wilson I**, **Veryser D**, **Ghosh S**, **Shah RP**, **Obeid N**, and **Rivers E**. THE PHENOTYPE OF BACTEREMIA ADMITTED FROM THE EMERGENCY DEPARTMENT THAT REQUIRES SURGERY. *Crit Care Med* 2025; 53(1):1. Full Text

[Hussain, Afzal; Montgomery, Zachary; Gill, Jasreen; Jaehne, Anja Kathrin; Wilson, Ian; Veryser, Debra; Shah, Rupen; Obeid, Nadia; Rivers, Emanuel] HENRY FORD HOSP, DETROIT, MI USA. [Ghosh, Sunita] Henry Ford Hlth, Detroit, MI USA.

Surgery

Montgomery Z, **Hussain A**, **Gill J**, **Jaehne AK**, **Wilson I**, **Veryser D**, **Ghosh S**, **Obeid N**, **Shah R**, and **Rivers E**. IMPLICATIONS OF EMERGENCY DEPARTMENT BACTEREMIA IN PATIENTS WHO REQUIRE SURGERY. *Crit Care Med* 2025; 53(1):1. Full Text

[Montgomery, Zachary; Hussain, Afzal; Gill, Jasreen; Jaehne, Anja Kathrin; Wilson, Ian; Veryser, Debra; Obeid, Nadia; Shah, Rupen; Rivers, Emanuel] HENRY FORD HOSP, DETROIT, MI USA. [Ghosh, Sunita] Henry Ford Hlth, Detroit, MI USA.

Surgery

Pairawan S, **Shepard A**, **Weaver M**, **Peshkepija A**, **Onofrey K**, **Kavousi Y**, **Nypaver T**, and **Kabbani L**. Paravisceral Transaortic Endarterectomy: A Case Series At A Quaternary Care Center. *Ann Vasc Surg* 2025; 112:407-408. Full Text

Introduction and Objectives: Occlusive disease of the paravisceral aorta poses a challenge for an endovascular approach. We sought to evaluate the outcomes of paravisceral transaortic endarterectomy (PTE) at our quaternary care center. Methods: A retrospective analysis was performed of patients who underwent PTE between 2006 and 2024. Results: 14 patients were identified. The majority of our patients were of white race, non-Hispanic, and of female sex with a mean age of 66 years. Risk factors included active tobacco use, hypertension and hyperlipidemia in 50%, 79% and 79% of patients, respectively. Indications/Operations performed are listed in Table 1. Intraoperative duplex was performed in five patients, with re-intervention in three patients for retained distal plaque/raised endpoint. Supraceliac clamping was performed in 13 (93%) with a mean clamp time of 34.5 min. Mean operating room (OR) time and estimated blood loss was 470 min and 1100 mL, respectively. Postoperative complications included: pneumonia (29%), acute kidney injury (29%), and gastrointestinal bleeding (7%). One patient returned to the OR for a retroperitoneal hematoma. Mean hospital length of stay was 18.3 days. No mortalities were present at 30 days. One patient required readmission within 30 days and two patients required re-intervention at six and nine months. Mean follow-up was 28 months (1-84 months) with 11/14 (79%) alive without recurrent symptoms. Figure 1 illustrating before and after (4 years) PTE for CMI. Conclusions: PTE for occlusive disease of the paravisceral aorta is an option with acceptable mortality, morbidity, and re-intervention rates. Intraoperative duplex may help ensure a good technical outcome. [Formula presented] [Formula presented]

Surgery

Pairawan SS, **Shepard AD**, **Kabbani L**, and **Peshkepija A**. Unique Repair Of A Mycotic Extent IV TAAA Using Visceral Branching Technique. *Ann Vasc Surg* 2025; 112:442-443. Full Text

Introduction and Objectives: A mycotic extent IV thoracoabdominal aneurysm (TAAA) is a lethal condition. This case study highlights a unique approach in the management of a mycotic extent IV TAAA. Methods: A 78-year-old male with a history of axillobifemoral bypass for lower extremity ischemia presented with a mycotic extent IV TAAA. He underwent resection/repair with a visceral branching (VB) technique utilizing a rifampin-soaked bifurcated Dacron graft modified with two additional sidearms through a thoracoabdominal approach. The graft was sewn end-to-side to the distal descending thoracic aorta. After stapling of the aorta just below the anastomosis, the aneurysm sac was opened and perfusion catheters (Figure 1) were inserted into the four visceral arteries. Aggressive debridement of the aneurysm sac was performed. Cultures demonstrated Bacteroides Fragilis. The postoperative course was complicated by temporary spinal cord ischemia managed aggressively, with elevated mean arterial pressure and a spinal drain and, with full recovery. Patient was discharged on 6 weeks of Intravenous and lifelong suppressive antibiotics. Figure 2 demonstrating post reconstruction CTA. Results: Contemporary repair of a mycotic extent IV TAAA involves aortic debridement and reconstruction while providing visceral and renal protection. Aortic cross-clamping produces significant hemodynamic effects, not well tolerated in many patients. VB decreases visceral ischemia time while circumventing the hemodynamic effects of aortic clamping. This is particularly advantageous in patients with limited physiological reserve. Conclusions: This report demonstrates the feasibility of modifying a standard bifurcated graft during an open mycotic extent IV TAAA repair without the need for circulatory support. [Formula presented] [Formula presented]

Books and Book Chapters

Behavioral Health Services/Psychiatry/Neuropsychology
Miller-Matero LR. “Depression and pain: Bidirectional relationship and changes with psychological treatment.” *Pain, the opioid epidemic, and depression*, edited by Scherrer JF, and Ballantyne JC, Oxford University Press, 2024, 62-79. Full Text

Depression has a bidirectional relationship with pain. As depression worsens, pain severity and pain-related functional interference increase, and as pain increases, the severity of depression escalates. This has led to the development of psychotherapeutic interventions that target both depression and pain in tandem. This chapter discusses these therapies and the logic behind their efficacy. It also covers therapies for reducing opioid use. Therapies that can reduce opioid use and improve pain-related functioning may be followed by improvement in depression and lower risk for new-onset depression. The unique challenges faced by providers and patients with comorbid pain, depression, and opioid use are reviewed, and opportunities, such as integrated primary care/behavioral health may increase access to needed care for these complex patients. Finally, the author comments on future directions and policy changes needed to improve access to psychological treatments for pain, mood disorders, and chronic prescription opioid use.