

Access to Healthcare for Children and Youth with Special Healthcare Needs in Kansas

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.vol18.23845>

Introduction. Approximately 14 million children in the United States live with special healthcare needs (CYSHCN). Despite high prevalence of special needs, healthcare services for CYSHCN often remain insufficient. Previous studies have provided evidence of multiple disparities in access and quality of healthcare in the US for this population. This project aimed to evaluate healthcare access for CYSHCN in Kansas.

Methods. Utilizing data from the 2021 National Survey of Children's Health, this study conducted a retrospective and quasi-experimental analysis of healthcare access and barriers. The analysis included 1,696 responses from Kansas households. Children were considered to have special healthcare needs if they had a diagnosis from 24 conditions specified by NSCH.

Results. Although a majority of CYSHCN in Kansas reported adequate healthcare access (97.2%), barriers for those with lifelong health conditions remain. Those with lifelong health conditions were more likely to need healthcare and not be able to receive it, $\chi^2 (1, n = 1,696) = 21.33$; $p < .001$; OR = 0.24; 95% CI (0.12, 0.46) due to appointment and service unavailability and cost. They were also more likely to have problems paying for medical bills, $\chi^2 (1, n = 1,291) = 16.52$; $p < .001$; OR = 0.52; 95% CI (0.37-0.71), and lack health insurance coverage, $\chi^2 (1, n = 1,610) = 7.49$; $p = .006$; OR = 0.76; 95% CI (0.64-0.90).

Conclusions. While CYSHCN in Kansas generally report adequate healthcare, there are critical barriers to address including cost and access. Improving specialist access, decreasing cost, and enhancing health insurance coverage are essential for advancing healthcare quality for this vulnerable population.

Analysis of Hospitalized Cervical Cancer Patients from National Inpatient Sample 2022

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.vol18.23846>

Introduction. Cervical cancer poses significant challenges, and understanding factors associated with mortality among hospitalized patients is crucial for optimizing care. This study aimed to identify demographic and clinical predictors of in-hospital mortality in patients hospitalized with cervical cancer.

Methods. We analyzed the 2022 National Inpatient Sample, identifying adult patients admitted with a cervical cancer diagnosis. Descriptive statistics and survey-weighted logistic regression were performed using STATA BE 18.0.

Results. An estimated 25,610 patients met the inclusion criteria (mean age 53.99 ± 0.24 years; 55.6% White, 17.2% African American, 27% Other). Approximately 35% resided in the lowest income quartile. Common comorbidities included protein energy malnutrition (19.9%), obesity (15.1%), and smoking (36.6%). Metastasis was present in 23.6%, and 14.8% received hospice care. The overall in-hospital mortality rate was 3.8%. Among hospice patients, significant mortality predictors included older age (OR = 1.03, 95% CI: 1.00, 1.05), elective admission (OR = 4.98, 95% CI: 2.31, 10.74), liver disease (OR = 2.28, 95% CI: 1.02, 5.09), and metastasis (OR = 3.06, 95% CI: 1.53, 6.15). For patients without palliative care consult, significant predictors included non-elective admission (OR = 0.09, 95% CI: 0.01, 0.68), protein energy malnutrition (OR = 1.90, 95% CI: 1.08, 3.35), and liver disease (OR = 2.84, 95% CI: 1.37, 5.87).

Conclusions. This study identified key risk factors for mortality among hospitalized cervical cancer patients, emphasizing the need for targeted interventions for older patients and those with specific comorbidities to improve outcomes in this high-risk population.

Blood Flow Restriction Therapy Post Anterior Cruciate Ligament Reconstruction: A Pilot Study

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.vol18.23847>

Introduction. Recent literature suggests that blood flow restriction (BFR) therapy may benefit patients recovering from anterior cruciate ligament (ACL) reconstruction. This study aimed to determine if adding BFR to a standard ACL rehabilitation protocol influences postoperative pain, quadriceps strength, or functional outcome.

Methods. This was a prospective nonrandomized comparative cohort study of patients who underwent ACL reconstruction by one of two sports medicine orthopaedists from 2019 to 2022. Patients between ages 14 and 40 with documented ACL tears were eligible to participate; those with previous knee injuries on either side were excluded. After informed consent, some patients self-selected the addition of BFR therapy to a standard ACL rehabilitation protocol, while others enrolled in the standard postoperative program (control group). Outcome measures included agility and quadriceps strength testing, the Lysholm Knee Scoring Scale assessment, and the 2000 International Knee Documentation Committee (IKDC) score.

Results. Of 130 enrolled patients, 16 chose BFR therapy. The average age was 16, with no differences in gender, injured leg, or injury type. BFR patients reported less pain at all follow-ups, with a significant difference at six months ($p = 0.013$). There were no significant differences in agility or quadriceps strength, but the BFR group showed trends toward improved IKDC 10 and Lysholm scores, with the Lysholm reaching significance at six months ($p = 0.007$).

Conclusions. Our limited data suggest that BFR therapy may be a useful addition to the standard rehabilitation protocol after ACL reconstruction. Larger cohort studies will help elucidate the full effects of BFR in ACL rehabilitation.

Clinical Characteristics and Treatment Outcomes of Patients Diagnosed with Chronic Histiocytic Intervillositis

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.vol18.23848>

Introduction. Chronic histiocytic intervillositis (CHI) is a rare placental lesion associated with an aberrant, non-infectious activation of the maternal immune response. This results in an accumulation of macrophages within the intervillous space of the placenta and is associated with adverse outcomes. This study aimed to describe clinical characteristics and outcomes of patients diagnosed with CHI in pregnancy.

Methods. This IRB-approved, retrospective study utilized data abstracted from electronic medical records at a single institution. Patients with at least one pregnancy diagnosed with CHI or related intervillositis disorder confirmed by placental histopathology reports were included. Patients with intervillositis of infectious origin were excluded.

Results. Nineteen patients were included, with the majority being white (89.5%, n = 17), with a median age of 27 years (range: 17-37) at the time of delivery. Ten (52.6%) patients had autoimmune disease, and 11 (57.9%) had hypertension. Among the 19 patients, there were 61 pregnancies. Nineteen (31.1%) were pregnancies in which CHI was initially diagnosed (index pregnancy), and 29 (47.5%) pregnancies occurred after the index pregnancy. Of these post-index pregnancies, 70% (7/10) were diagnosed with CHI based on available placental pathology. Twenty (38.2%) pregnancies reported complications, in which 63.2% (12/19) occurred during index pregnancies, and 28.6% (6/21) occurred during post-index pregnancies (p = 0.021). Pregnancy loss occurred in 55% (11/20) of index pregnancies, and 40% (10/25) of post-index pregnancies.

Conclusions. Although our results are limited in generalizability due to a small sample size, there is a significant association between pregnancy complications and CHI diagnosis. Risk of pregnancy loss following CHI diagnosis is approximately 40%.

Contraceptive Knowledge and Counseling among OB-GYN and Family Medicine Physicians

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.vol18.23849>

Introduction. Few studies have examined knowledge and confidence in contraceptive knowledge and counseling among primary care residents and physicians. This study aimed to evaluate contraceptive education, knowledge, and counseling practices among physicians in obstetrics and gynecology (OB-GYN) and family medicine.

Methods. This is a prospective study that utilized a cross-sectional survey administered to current OB-GYN and family medicine residents and program graduates from the last five years from a single institution. Survey questions included demographics, knowledge of contraception, provider confidence, and contraceptive counseling and procedures. Responses were included if any knowledge questions were answered.

Results. Our final analysis included 45 respondents (response rate of 8%). Of the respondents, 33.3% (n = 15) were family medicine physicians and 66.7% (n = 30) were OB-GYN physicians. There was no difference in the average scores to the knowledge-based questions between the family medicine respondents (60%, 12/20) and OB-GYN respondents (70%, 14/20). Attending physicians' average scores to the knowledge-based questions (85%, 17/20) were significantly higher than current residents' (60%, 12/20; p = 0.0014). The majority of respondents (97.8%, n = 44) agreed they felt comfortable counseling patients. Most respondents (93.3%, n = 42) felt comfortable with procedures and prescribing methods. More advanced training and experience revealed increased comfort with placing both Levonorgestrel and Paraguard intrauterine devices (p = 0.040).

Conclusions. There is no significant difference in knowledge of contraceptive use between OB-GYN and family medicine physicians. More advanced training increases both knowledge and comfort with prescribing and contraceptive procedures. The low response rate and small sample size may limit the generalizability of these results.

Acknowledgement: This abstract was selected for the Outstanding Medical Student Research Award, which was generously funded by the Wichita Medical Research and Education Foundation.

Determining the Epidemiology of *Giardia* Infections among High-Risk ZIP Codes in Sedgwick County, Kansas, 2017-2022

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.vol18.23850>

Introduction. Giardiasis, a common intestinal parasitic infection, has increased in Sedgwick County. The Sedgwick County Health Department (SCHD) identified a 110% rise in *Giardia* cases from 2017-2022 (n >150) compared to 2011-2016 (n <80). This study assessed incidence trends and risk factors using Poisson regression to identify high-risk groups and geographic patterns.

Methods. Laboratory-confirmed *Giardia* cases were obtained from EpiTrax, the Kansas reportable disease case management system. Annual incidence rates (cases per 100,000 population) were calculated for total cases and by ZIP Code using midyear census estimates. The analysis included 26 Sedgwick County ZIP Codes. Poisson regression modeled incidence rate ratios (IRRs) with 95% confidence intervals (CIs), adjusting for ZIP Code, gender, and age group (1-24, 25-54, 55-74, ≥75 years).

Results. Annual giardiasis incidence increased from 3.71 per 100,000 in 2017 to 8.96 in 2022. Three ZIP Codes had significantly higher risk (IRR 1.92 in 67214, IRR 2.01 in 67213, IRR 2.27 in 67218). The average incidence in high-risk ZIP Codes (73.4 per 100,000) was nearly double that of others (38.1 per 100,000). Males aged 25-54 in 67218 had the highest risk (IRR: 7.90, CI: 1.39-5.53).

Conclusions. Giardiasis incidence was highest in ZIP Codes with recent immigrants from Africa and Asia, where limited healthcare, inadequate sanitation, and differing preventive practices may contribute to infection. Underreporting due to asymptomatic infections and missed diagnoses may have underestimated the true burden. Targeted interventions, including sanitation improvements, culturally tailored education, and enhanced surveillance, are essential to reduce transmission and prevent future increases in giardiasis.

Effect of Post-Operative Weightbearing on Intracapsular Femoral Neck Fractures Treated with the Femoral Neck System: A Comparative Cohort Study

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.vol18.23851>

Introduction. This study aimed to compare the outcomes of patients treated with the Femoral Neck System (FNS) as a function of their postoperative weightbearing protocol, as post-operative weightbearing is currently controversial.

Methods. A comparative cohort study of patients with femoral neck fractures who underwent fixation with the FNS at a Level I trauma center from 2019 to 2023 was conducted. Patients were categorized into weightbearing-as-tolerated (WBAT) vs. toe-touch-weightbearing (TTWB). Primary outcome measures were post-operative complications and revision surgery. Secondary outcomes included visual analog scale (VAS) pain score, SF-12 score, and Western Ontario and McMaster Universities Osteoarthritis (WOMAC) score. Because FNS is a novel implant procedure that is increasingly being used at our institution, no power analysis was conducted.

Results. There were 25 patients in the WBAT group and 19 in the TTWB group. There were no statistically significant demographic differences between the two groups; average age was 70 years. Eight of 25 (32%) fracture union complications occurred in the WBAT cohort compared with 4 of 19 (21%) in the TTWB group ($p = 0.507$). Revision surgeries were required in 7 of 25 (28%) patients in the WBAT cohort compared with 3 of 19 (16%) in the TTWB group ($p = 0.474$). No statistically significant differences were observed for VAS pain scores, SF-12 scores, or WOMAC scores.

Conclusions. There were no statistically significant differences in radiographic complications, reoperations, or functional outcome scores between the two post-operative weightbearing protocols. Our findings suggest that WBAT may be permitted in this patient cohort.

Enhancing Medical Student Competency in LGBTQIA+ Health Care through Focused Education on Social Determinants of Health

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.vol18.23853>

Introduction. Despite the growing size of the lesbian, gay, bisexual, transgender, queer or questioning, intersex, asexual, and more (LGBTQIA+) community in the United States, medical education on LGBTQIA+ health remains inadequate. Medical students frequently report insufficient training in LGBTQIA+-specific health topics. This study evaluated the impact of seminars on social determinants of health (SDOH) and LGBTQIA+ health care on third-year medical students' understanding of SDOH-related challenges faced by LGBTQIA+ patients.

Methods. A convenience sample of 116 third-year medical students participated in a three-part seminar during their Obstetrics and Gynecology clerkship. The seminars covered the effects of SDOH on LGBTQIA+ health, hormonal and fertility treatments for transgender patients, and small-group case discussions on challenges LGBTQIA+ patients encounter. A pre/post-survey measured changes in students' knowledge across five learning objectives related to LGBTQIA+ patient care. Students also were asked to provide qualitative feedback on the whole seminar. Quantitative data were analyzed using paired samples t-tests, and open-ended responses were evaluated using the immersion-crystallization approach.

Results. The survey achieved a 97% response rate. Student knowledge on SDOH impacts for LGBTQIA+ patient care significantly improved across all five objectives. On a 10-point Likert scale, mean knowledge scores increased by 1.5 to 3.4 points post-seminar. Open-ended responses emphasized the seminars' relevance and importance while highlighting a desire for more interactivity and additional resources.

Conclusions. These findings highlight the value of incorporating educational sessions on LGBTQIA+ health disparities into medical curricula. Such experiences effectively enhance students' knowledge. Future iterations could improve interactivity, expand available resources, and assess long-term knowledge retention.

Experiences of First-Generation Students at The University of Kansas School of Medicine

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.vol18.23854>

Introduction. This study captured the experiences of first-generation medical students at the University of Kansas School of Medicine (KUSM) to better understand their experiences related to academic performance, financial resources, psychological well-being, and social integration to identify areas in which the university can better support this population of students.

Methods. A qualitative research design was used to collect narrative responses and demographic data from first-generation students in KUSM's Classes of 2023-2026. At the time of the study, there was no publicly available demographic data reporting first-generation students at KUSM. Participants completed a survey with eight open-ended questions about their academic, financial, psychological, and social experiences. Data collection occurred between May 18, 2023, and June 28, 2023. An immersion-crystallization approach was used to analyze the content.

Results. Data from 14 students with at least one respondent from each class was included in the analysis. Six distinct themes were identified: pride and making it against the odds, hidden curriculum highlighting disadvantages, crippling debt and the emphasis on return on investment, sacrifices made by family members, individual sacrifices and mental health, and the role of community in one's sense of self.

Conclusions. Upon completion of theme analysis, recommendations were made to KUSM on how to better support future first-generation medical students in efforts to provide a more equitable learning environment. Specifically, the pillars of identification, mentorship, and scholarship were presented to address all themes from this study. The insights gained will inform the development of programming to support and celebrate first-generation medical students.

Exploring Rural Kansas Hospital Leaders' Perceptions of Accountable Care Organizations

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.vol18.23855>

Introduction. Accountable Care Organizations (ACOs) have been shown to reduce healthcare costs while improving healthcare quality. However, their adoption rates are low in rural regions (populations <50K). Understanding the perceptions of rural Kansas hospital leadership on ACO participation is key to optimizing rural healthcare. This study evaluated perceived familiarity with ACOs, benefits/barriers, and key deciding factors of ACO participation in rural Kansas hospitals.

Methods. Using a mixed-methods, cross-sectional survey distributed through Kansas Hospital Association (KHA) communications to rural hospital leadership, collected data included Likert-like scales for ACO familiarity, perceived barriers, and perceived advantages. Open-ended questions regarding the overall view of ACO participation were included. Data were analyzed with descriptive and thematic qualitative analysis.

Results. The 24-question survey received 13 completed responses. Response rate is unknown due to convenience sampling through a third-party partner (KHA). Most respondents (12) held salaried leadership roles; 10 represented a critical access hospital. Twelve participants reported familiarity with ACOs, and five reported current participation. Perceptions were divided based on current ACO participation. ACO participants held a more favorable view, emphasizing the benefits of participation. Non-ACO participants emphasized perceived drawbacks and barriers, focusing on financial and logistical concerns. Financial concerns were the most frequently mentioned free response answer to what would determine participation status.

Conclusions. Enhancing logistical support, in the form of staffing, EHR, and reducing regulatory burden, as well as financial support could improve ACO perception and subsequent participation in rural Kansas. Future research should increase sampling efforts and evaluate longitudinal outcomes of ACO participation in the rural Kansas scope.

Higher Symptom Burden Following Mild Traumatic Brain Injury Negatively Affects Quality of Life – A Cross-Sectional Comparative Study

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.voll8.23856>

Introduction. Close to 31% of individuals who suffer from a mild traumatic brain injury (mTBI) report persistent symptoms three months post-injury. Physical, cognitive, emotional, and sleep-related disturbances can affect quality of life (QoL). We examined the relationship between symptom severity, QoL, and time since injury in individuals with persistent symptoms after mTBI.

Methods. Individuals between 40-80 years with mTBI were recruited through a Neurology clinic, with controls enrolled from the community. Demographics were collected. Participants completed the WHOQOL-BREF, assessing physical, psychological, social, and environmental QoL, and the Post Concussion Symptom Scale (PCSS), measuring four symptom domains. Mann-Whitney U tests compared groups, and Spearman's rank correlations examined relationships between time since injury, PCSS, and QoL domains in the mTBI group.

Results. This convenience sample included 21 controls and 18 individuals with mTBI (mean age 55.22±11.76). Significant differences in PCSS scores were seen (mTBI: 54.50, IQR 60; controls: 3.00, IQR 5.5) ($p < 0.001$). QoL in each domain was significantly lower in the mTBI group ($p < 0.001$). PCSS scores in all domains correlated with poorer physical and environmental QoL ($p < 0.05$). Additionally, higher scores in physical and affective PCSS domains correlated with worse psychological QoL ($p < 0.05$). Time since injury showed no associations with PCSS or QoL.

Conclusions. Higher symptom burden following mTBI affects physical QoL by limiting work capacity and environmental QoL due to decreased ability to participate in leisure activities. Limitations include small sample size and variability in BMI, education, and comorbidities. Lack of improvement in symptom burden over time highlights the chronic nature of these challenges.

Impact of Albumin Dose Standardization in Large Volume Paracentesis

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.voll8.23857>

Introduction. To prevent paracentesis induced circulatory dysfunction, the American Association for the Study of Liver Disease recommends dosing albumin at 6-8 g/L of fluid removed after large volume paracentesis (LVP). In response to the albumin shortage in 2022, an albumin standardization protocol was implemented based on a study by Anderson et al., which was not associated with worse outcomes.

Methods. This IRB approved retrospective single center study included data from adult patients admitted at Ascension Via Christi Hospitals Wichita, Inc. who received albumin after LVP from 1/1/2021 to 4/30/2022 (PRE-AS) and 1/1/2023 to 4/30/2024 (POST-AS), respectively. Select exclusion criteria included Scr >1.5 mg/dL and bilirubin \geq 5 mg/dL with INR \geq 1.5. The primary outcome was albumin dose in grams. Select secondary outcomes included acute kidney injury and hyponatremia. To meet a power of 80%, and alpha of 0.05, a sample size of 100 patients was needed. Chi-squared test or Fischer's exact test was applied for discrete data, as appropriate. Student's t-test or Mann-Whitney U test was applied for continuous data, as appropriate.

Results. Due to stringent exclusion criteria, only 35 patients were evaluated (PRE-AS, N = 14; POST-AS, N = 21). Neither primary outcome ($p = 0.802$) nor secondary outcomes reached statistical significance.

Conclusions. Although underpowered, a statistically significant difference in albumin dose utilization was not observed. Future sufficiently powered studies should evaluate the non-inferiority of an albumin standardization protocol on the incidence of acute kidney injury and hyponatremia.

Impact of Social Vulnerability on Hypertension-Related Outcomes among Medicare Beneficiaries in Kansas: A Three-Year Retrospective Analysis

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.vol18.23858>

Introduction. Hypertension is a major contributor to morbidity and mortality among older adults. The Social Vulnerability Index (SVI), reflecting socioeconomic disparities, may influence hypertension-related outcomes. This study examined the association between county-level SVI and hypertension-related hospitalizations and mortality among older adults in Kansas.

Methods. We retrospectively analyzed CDC data from 2019-2021 on beneficiaries aged 65+. County-level SVI, age-adjusted hypertension-related hospitalization, and mortality rates were obtained directly from the CDC. Hospitalizations (principal diagnosis on admission) and deaths (any mention among 20 listed causes) were identified using ICD-10 codes I10–I15. Pearson correlation assessed associations between SVI and outcomes by county, SVI quartiles, sex, and race/ethnicity.

Results. The mean hospitalization rate was 8.49 (7.68-9.32) per 1,000 beneficiaries, rising from 7.12 (SVI Q1) to 10.75 (SVI Q4). Mean mortality was 862.69 (799.52-925.86) per 100,000 beneficiaries, increasing from 842.75 (SVI Q1) to 992.00 (SVI Q4). Hospitalization rates were highest among Black residents (20.50-25.44/1,000) and men (9.39-12.76/1,000). Seward County had the highest SVI; Jefferson County had the lowest. SVI showed a moderate correlation with hospitalization rates ($r = 0.319$, $p = 0.0009$); a 0.1 increase in SVI was linked to 0.461 additional hospitalizations per 1,000 beneficiaries. Mortality correlation was weaker and nonsignificant ($r = 0.118$, $p = 0.232$). Socioeconomic status ($r = 0.34$, $p < 0.001$) and housing/transportation ($r = 0.29$, $p = 0.0027$) were significantly associated with hospitalization rates.

Conclusions. Higher social vulnerability is associated with increased hypertension-related hospitalizations. Public health efforts should prioritize high-SVI counties to reduce disparities.

Importance of Community in the Development of Resilient Caregivers for Medically Complex Children

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025
<https://doi.org/10.17161/kjm.vol18.23859>

Introduction. Children with medical complexity (CMC) have chronic health problems that significantly affect organ systems, limit function, and increase healthcare and medical technology needs. Few studies explore caregiver resilience. Research shows resilience helps caretakers overcome adversity and improve mental health. This study examines factors that influence caregiver resilience.

Methods. Caregivers completed anonymous surveys at healthcare clinics or through social media (10/2022-11/2023), collecting demographics, caregiving hours, and travel time. Resilience was measured using the 17-item Likert scale version of the Adult Resilience Measure Revised (ARM-R; total maximum score: 85). Personal and caregiver resilience scores were derived from the total score. Kruskal-Wallis tests, Dwass-Steel-Critchlow-Fligner methods, and Spearman rank correlation were used.

Results. Of the 200 participants, 187 were analyzed. Most were female (91.44%), biological parents (80.75%), and 40-49 years old (35.83%). The average total score was 68.08 (SD = 12.42). The total scores ($p = 0.007$) and caregiver resilience scores ($p < 0.001$) differed significantly across the five categories of hours spent sharing caregiving tasks with families. Sense of belonging correlated with higher total scores ($\rho = 0.80$, $p < 0.001$), personal ($\rho = 0.84$, $p < 0.001$), and caregiver ($\rho = 0.61$, $p < 0.001$) resilience scores. Furthermore, a sense of belonging shows a positive correlation with perceived fair treatment ($\rho = 0.73$, $p < 0.001$) and interpersonal relationships ($\rho = 0.59$, $p < 0.001$).

Conclusions. Most participants scored relatively high on resilience scores. Sharing caregiving tasks with families and feeling connected to the community were identified as factors improving resilience. Perceived fair treatment and interpersonal relationships had a positive impact on belongingness. Future interventions should enhance family involvement and focus on community-building.

***In Situ* Decompression of the Ulnar Nerve and Transposition of the Medial Triceps Insertion for Cubital Tunnel Syndrome: A Retrospective Cohort Study**

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025
<https://doi.org/10.17161/kjm.vol18.23865>

Introduction. There is no consensus on the management of the hypermobile ulnar nerve in the setting of *in situ* ulnar nerve decompression for cubital tunnel syndrome (CubTS). We hypothesized that modifying simple nerve release at the elbow by detaching the medial triceps insertion, transposing it over the ulnar nerve, and reattaching the insertion to the medial epicondyle would simultaneously decompress and stabilize the nerve.

Methods. A retrospective chart review of all patients treated for CubTS using the modified surgical technique from 2010 to 2024 was conducted. Patients who underwent concurrent procedures were excluded. Attempts were made to contact all eligible patients by phone. Those contacted who agreed to participate in our study were administered a questionnaire to assess outcomes including changes in preoperative ulnar paresthesia and hand weakness, overall patient satisfaction, and need for revision surgery.

Results. Of the 79 eligible patients contacted, 19 patients comprised the study cohort. Mean time from procedure to follow-up was 5.1 years (range 1.7 to 10.2). Preoperative ulnar paresthesia was resolved or improved in 16 of 19 patients, unchanged in 3. Preoperative hand weakness was resolved or improved in 12 of 15 patients, no better in 3. Sixteen of 19 were satisfied with the outcome, 2 were neutral, and one was not. No surveyed patients required revision surgery.

Conclusions. Modification of *in situ* decompression of the ulnar nerve by transposing the medial triceps insertion to stabilize the nerve posterior to the medial epicondyle appears to be a viable treatment option for CubTS.

Medical Student Readiness for Residency after Completing an OB-GYN Residency Bootcamp

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.vol18.23866>

Introduction. Residency preparation bootcamps ease the transition to residency by allowing students to practice technical skills and interpersonal skills. It is unclear how bootcamps impact preparedness once residents are fully immersed in residency. The study aimed to assess medical student perceptions regarding residency readiness before and after participating in an Obstetrics & Gynecology (OB-GYN) specialty-specific preparatory course.

Methods. This study utilized cross-sectional surveys administered to a convenience sample of medical students completing a two-week, OB-GYN “Boot Camp” at a single teaching institution. Participants completed surveys before and after participating in the bootcamp, and one structured phone interview three months into residency.

Results. Ten participants completed the bootcamp and elected to participate in our study. The majority were female (80%) and 50% were attending a combined university/community hospital residency program. After completing the bootcamp, participants reported improved preparedness regarding performing basic ultrasound (30% vs. 80%), understanding ACGME Milestones (20% vs. 100%), having difficult conversations (30% vs. 100%), understanding malpractice (10% vs. 60%), and personal finance (20% vs. 90%). Three months into residency, four participants completed interviews. Obstetrical skills (50%), performing basic ultrasound (50%), and interpreting fetal heart tones (75%) were most helpful. The majority were “ready as expected” (75%) regarding clinical skills and communication, “less than ready” (75%) to manage stress in residency, and 75% reported the bootcamp was very helpful in preparing them for residency.

Conclusions. OB-GYN bootcamps improved reported preparedness in clinical and non-clinical skills. Bootcamp students felt adequately ready three months into residency, although managing stress in residency could be improved.

OASIS Repair Practice Patterns amongst OB-GYN and Family Medicine Physicians in Kansas

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025
<https://doi.org/10.17161/kjm.vol18.23867>

Introduction. Obstetric anal sphincter injuries (OASIS) are a complication of pregnancy, occurring in 3.8% of deliveries. Correct identification and repair of OASIS can have significant impact on bowel and urinary function, pelvic pain and pelvic organ prolapse. Few studies have looked at practice patterns related to 3rd and 4th degree laceration and repair based on specialty and provider type. Our study aimed to assess training and practice patterns for OASIS repairs among obstetrician-gynecologists (OB-GYNs) and Family Medicine (FM) physicians in Kansas.

Methods. In this cross-sectional study, surveys were administered to a convenience sample of providers specializing in OB-GYN and FM or were resident physicians in OB-GYN/FM. The primary outcome was to assess repair practices, training and exposure to OASIS repairs for physicians providing obstetrical care. Responses were excluded if the respondent did not provide obstetrical care.

Results. Out of 135 received responses, 73.3% (N = 99) were included in our analysis. Of our respondents, 50.5% (n = 49/97) were OB-GYNs, and the majority were attending physicians (76.8%, n = 76). All (n = 48) OB-GYNs reported performing OASIS repairs compared to 57.1% (24/42) FM physicians (p <0.001). Out of respondents performing OASIS repairs, 98.6% (73/74) received training in residency (p <0.001), and 18.5% (12/65) had post-residency training in OASIS repairs (p = 0.665). Eighteen (19.6%) respondents did not perform OASIS repairs, and all stated they consulted a surgical specialist for the repair.

Conclusions. Most physicians performing vaginal deliveries in Kansas received training on OASIS repairs in residency. When a provider encountered an OASIS and does not perform the repair, they consulted a surgical specialist to assist.

Rural Healthcare Providers' Referral Practices: A Survey

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.vol18.23868>

Introduction. In rural areas, where specialty care is less accessible, high-quality referrals from primary care providers are essential. This study explored the factors that influence rural primary care providers in their referral patterns and barriers they experience in the referral process.

Methods. An online, cross-sectional survey was conducted among primary care providers in rural Kansas. Rural represents communities with fewer than 50,000 people. Providers in this study are limited to MDs (doctors of medicine), DOs (doctors of osteopathic medicine), NPs (nurse practitioners), and PAs (physician assistants).

Results. The dataset included 56 rural healthcare providers (MD/DO = 36; NP = 9; PA = 11). Of these, 75% reported limited availability of specialists as a significant barrier when referring patients. When deciding on referrals, 96.4% of providers considered the specialist's distance, while 67.9% also factored in positive feedback from previous patients. A negative patient experience and an unfavorable experience consulting with a specialist were the most influential factors that adversely affected a rural provider's referral decision. To access the quality of specialist care, 62.5% of providers reviewed patients' medical records. Providers reported that the most impactful methods of improving rural healthcare referral practices would be increased direct contact with specialists (53.6%) and receiving medical records in a timely manner (53.6%).

Conclusions. Rural primary care providers face numerous barriers which makes referring patients to specialists particularly challenging. A reliable referral process along with access to necessary specialists is imperative to effectively serve rural patients. Further studies could explore specialists' role in the referral process from rural communities.

School Start Times and Adolescent Behaviors in Kansas

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.vol18.23869>

Introduction. Research shows delaying school start times (STs) for secondary students improves academic performance, leading to recommendations for delayed STs by the American Academy of Pediatrics. This study examined the relationship between STs in Kansas and adolescent behaviors.

Methods. This cross-sectional study explored relationships between STs, attendance, and vehicular crash data among Kansas high school students. Publicly available data from 2021-2022 was used for 85 counties. Pearson's correlation was applied with a significance of $p < 0.05$. All analyses were performed using R Statistical Software (v4.2.764; R Core Team 2021).

Results. The earliest ST was 7:00 am (0.3%, $n = 1$), and the latest 8:35 am (0.3%, $n = 1$). The majority of teen crashes (60%, $n = 1,441$) occurred in counties with STs before 8 am, showing a significant negative correlation ($r = -0.427$, $p = 0.0001$) between average STs and accidents per county. A significant positive correlation was observed between average ST and attendance rates per county ($r = 0.55$, $p < 0.0001$).

Conclusions. This study suggests earlier STs may impact adolescent behaviors. With 60% of teen crashes occurring in counties with early STs, delayed STs may reduce accidents. Furthermore, later STs are linked to improved attendance rates. Despite limitations, these findings demonstrate the need for further research to explore the benefits of later STs for adolescent health and safety in Kansas.

The Dynamics of Care Delivery in Cleft and Craniofacial Clinics

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.vol18.23870>

Introduction. Multidisciplinary care is essential for patients with cleft and craniofacial conditions, making it important to understand any challenges in delivering comprehensive treatment. While well-established literature is limited, identifying barriers, fostering discussions, and exploring solutions are key to improving care and advancing cleft and craniofacial treatment. This study aimed to identify current challenges faced by American Cleft Palate-Craniofacial Association (ACPA)-approved teams in providing multidisciplinary cleft and craniofacial care.

Methods. A REDCap[®] survey was distributed to 199 ACPA-approved. It encompassed questions related to team demographics and Likert-scale questions regarding team, insurance, and patient dynamics.

Results. Sixty-eight of the 199 teams (34%) responded, comprising academic (72%) and private (28%) institutions, with 80% affiliated with a children's hospital. While only 14% of teams reported difficulty obtaining insurance reimbursement for cleft team visits, patient affordability remained a concern: surgery (46%), ancillary procedures (51%), and orthodontics (60%). Cost challenges were common in metropolitan areas (population >1 million). Inadequate financial (38%) and administrative (32%) support also posed significant barriers. Loss to follow-up was a common challenge among teams.

Conclusions. This study highlights the need for continued collaboration within the cleft/craniofacial care community to address financial, administrative, and access-related challenges. While access to multidisciplinary care may be available, financial barriers remain a significant concern. Strengthening team collaboration and advocating for systemic change will be essential to effectively meet patient needs. Study limitations include a small sample size and limited depth due to the survey design.

The Relative Risks of Heat-Related Illnesses Over the Past Ten Years in Adults Over 65 at an Academic Medical Center in Kansas City, Kansas

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.vol18.23871>

Introduction. High Heat Days (HHDs), commonly called “Heat Advisories” or “Excessive Heat Warnings,” occur when predicted temperatures exceed 100°F or a 105°F Heat Index. The prevalence of HHDs has increased alongside rising national temperatures, raising concerns about heat-related illnesses, particularly in older adults (≥ 65 years). This study assessed impacts of HHDs on illness incidence and risk. While prior research has examined heat-related health effects, a paucity of studies focused on the Great Plains region.

Methods. A retrospective cohort study analyzed 11,498 adult patients presenting to The University of Kansas Medical Center Emergency Department from May-October, 2013-2023. Diagnoses were recorded and compared between Non-High Heat Days (NHHDs) and HHDs, defined as the 90th percentile Heat Index ($\geq 100.1^\circ\text{F}$). Relative risk (RR) and 95% confidence intervals were calculated.

Results. Among adults ≥ 65 ($n = 5,664$, mean 77.4 years), 31% belonged to minority groups. The ≥ 65 cohort had significantly higher RR ($p < 0.05$) for cerebral thrombosis (2.3), non-atrial fibrillation/flutter cardiac dysrhythmias (1.5), volume depletion (1.9), and heat-related illness (7.3) on HHDs. ED visit proportions on HHDs vs. NHHDs were 14.6% in ≥ 65 and 15.6% in < 65 (18-64) groups.

Conclusions. Rising temperatures necessitate targeted interventions for older adults. Although mortality was not assessed, increased morbidity may elevate mortality risk. Clinically, cautious diuretic use, blood pressure monitoring, and hydration recommendations are essential. Study limitations include a restricted range of diagnoses, possibly underestimating HHD-associated health impacts. Planning for adequate temperature relief centers, covered transit shelters, and avoiding unnecessary outdoor exposure should be considered from a community policy perspective.

The Relationship between Radiation Therapy and Urinary Incontinence in Prostate Cancer Patients

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.vol18.23872>

Introduction. Previous studies have examined the urinary side effects of brachytherapy and external beam radiation therapy for prostate cancer. However, there's limited research on urinary outcomes following proton therapy radiation. This study explored differences in urinary incontinence rates among various prostate cancer radiation treatments.

Methods. In this single-institution retrospective cohort study 234 patient charts were reviewed, and 188 patients met the inclusion criteria: 97 received intensity-modulated radiation therapy (IMRT), 31 received IMRT with brachytherapy (IMRT+), 47 received stereotactic body radiation therapy (SBRT), and 13 received proton therapy. Patient data were collected from EPIC medical records, and urinary side effects were assessed using the International Prostate Symptoms Score (IPSS). IPSS scores range from 0-35 with a higher score representing more severe urinary symptoms. Descriptive statistics, including mean, standard deviation, median, and the Kruskal-Wallis H test, were used for analysis.

Results. Significant differences were observed among treatment groups: rectal spacers were placed in 86% of SBRT patients compared to 34% of IMRT patients, and 97% of IMRT+ patients received adjunctive hormonal therapy compared to 37% of SBRT patients. IPSS scores differed significantly between groups, with IMRT+ patients having the highest median score (10) and proton therapy patients the lowest (5; $p = 0.025$).

Conclusions. These findings suggest that proton therapy is associated with the lowest urinary incontinence rates, though the small sample size limits the reliability of this conclusion. IMRT+ patients exhibited the highest urinary incontinence rates, possibly due to hormonal therapy. Future research should further explore the role of hormonal therapy in exacerbating urinary incontinence.

Young Adults' Perceptions of the Health Effects of E-Cigarette Use

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21 2025

<https://doi.org/10.17161/kjm.vol18.23873>

Introduction. Few data exist regarding users' perceptions of e-cigarettes health effects, yet awareness of effects decreases likelihood of nicotine use. As Emergency Departments (EDs) are a common touchpoint for substance use intervention, identifying user perceptions can guide targeted cessation efforts. It is unclear whether medical education adequately prepares students to discuss potential health risks of e-cigarettes. This study examined e-cigarette use and perceptions of health effects among medical students and similarly aged ED patients as well as students' confidence counseling patients on e-cigarette use.

Methods. A survey examining e-cigarette use and perceptions of associated health effects was conducted among KUMC ED patients aged 18 to 35 who admitted use of e-cigarettes and KU School of Medicine (SOM) students.

Results. Ninety ED patients and 187 SOM students were surveyed. Fewer ED patients than SOM students perceived e-cigarettes to cause lung injury (77.8%, $n = 70$ vs. 94.7%, $n = 177$, $p = 0.032$), cancer (82.2%, $n = 74$ vs. 91.4%, $n = 170$, $p = 0.003$), and heart disease (70.0%, $n = 63$ vs. 84.0%, $n = 157$, $p = 0.009$). Fifty-four percent of SOM students reported low confidence in e-cigarette counseling. ED patients were less likely to perceive e-cigarette health risks than SOM students. Most participants were generally aware of health risks associated with e-cigarette use. SOM students reported low confidence in counseling patients on e-cigarette use, suggesting room for curricular improvement as reliable data on health effects of e-cigarettes emerges.

Conclusions. This study's small sample size and single SOM inclusion limit generalizability. Understanding ED patients' perceptions is key to developing brief cessation intervention material for use in the ED.

Psychotropic Medication Prescriptions among Incarcerated Individuals in Kansas

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.vol18.23904>

Introduction. The high prevalence of mental illness in the U.S. penal system is well-documented, but limited health data impedes effective treatment assessment and health surveillance. This observational study aimed to characterize psychotropic medication use among inmates aged 18 and older within the Kansas Department of Corrections (KDOC) who had at least one psychiatric diagnosis.

Methods. Data were manually extracted from facility health records by KDOC administration and de-identified for analysis. Descriptive statistics and chi-square analyses were used to examine differences in psychotropic medication use by age, gender, facility, and mental health severity as of April 2023.

Results. Of approximately 8,590 inmates, 44% (n = 4,090) had a documented mental illness. Among them, 72% (n = 2,936) were prescribed at least one psychotropic medication, totaling 4,967 prescriptions. Of those receiving medications, 49% (n = 1,440) were diagnosed with any mental illness (AMI), 42% (n = 1,222) with severe mental illness (SMI), and 9% (n = 265) with severe and persistent mental illness (SPMI). An estimated 28% (n = 1,154) of diagnosed inmates were not prescribed psychotropics. Topeka Correctional Facility had the highest proportion of psychiatric prescriptions relative to its inmate population (44%, n = 314).

Conclusions. Mental illness is prevalent in the KDOC population, with psychotropic medication use influenced by mental health severity and gender. Further research is needed to better understand and support the mental health needs of incarcerated individuals.

Acknowledgement: This abstract was selected for the Outstanding Medical Student Research Award, which was generously funded by the Wichita Medical Research and Education Foundation.

An Uncommon Cause of Respiratory Distress: Ruptured Tension Gastrothorax

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.vol18.23874>

Introduction. A gastrothorax occurs when the stomach becomes displaced into the thoracic cavity and is typically associated with congenital diaphragmatic hernia (CDH). If this gastrothorax ruptures, air, fluid, food, and other stomach contents aggregate and can raise intrathoracic pressure, which can lead to respiratory distress, hemodynamic compromise, and cardiac arrest. Congenital diaphragmatic hernias are most commonly seen in children and diagnosed in utero but can be asymptomatic and found in up to 6% of adults later in life.

Case Report. Here, we discuss a case of a 69-year-old male who presented to the ED for evaluation of two days of generalized weakness and shortness of breath without associated upper respiratory symptoms. On physical exam, the patient was hemodynamically unstable with absent lung sounds on the left. A portable chest x-ray was obtained, and a chest tube was placed, which drained bilious fluid but did stabilize the patient. CT imaging revealed a ruptured gastrothorax with tension bilothorax, requiring emergency operative repair which was successful

Discussion. Gastrothorax is rare and presents similarly to other causes of tension physiology. It is important to consider a diaphragmatic hernia and gastrothorax in patients with respiratory distress as it can have drastic consequences if untreated or improperly treated. Additional procedural considerations include placing a chest tube in a higher rib space to avoid serious injury to the diaphragm, liver/spleen, or in this case, stomach.

Catatonia as a Treatable Cause of Late Regression in Rett Syndrome: A Case Report

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.vol18.23875>

Introduction. Rett syndrome is an X-linked neurodevelopmental disorder characterized by loss of speech, motor, and cognitive abilities that typically occurs after a period of normal development. Diagnosis is generally made between six months and two years as developmental delays and regression become noticeable. Catatonia is a neuropsychiatric syndrome with motor and behavioral abnormalities, including disturbances to speech, movement, and responsiveness. Individuals with neurodevelopmental disorders are at elevated risk of catatonia, though diagnosis is often difficult due to variable and overlapping symptomatology.

Case Report. A 10-year-old female diagnosed with Rett syndrome presented with several months of poor oral intake, weight loss, insomnia, mutism, catalepsy, ambitendency, grimacing, and worsening agitation with self-injury. Examination revealed catatonia, and treatment with lorazepam yielded notable improvement in symptoms. Medical work-up including neuroimaging, lumbar puncture, and serum studies was unremarkable, and low-dose lorazepam was continued outpatient with some benefit. A viral illness caused acute worsening of catatonic symptoms, requiring rehospitalization and titration of lorazepam to 24mg daily. There was subsequently marked improvement in catatonia, including reduction of aggression and self-injury, improved sleep and return of some meaningful speech.

Discussion. Very few descriptions of catatonia in Rett Syndrome exist in the medical literature. Regression in Rett Syndrome tends to be prominent in early development, though catatonia should be considered when late motor and behavioral changes occur. This case illustrates catatonia as a treatable cause of regression in Rett Syndrome leading to a return of previously acquired skills and abilities, highlighting the importance of early recognition and treatment.

COL2A1 Gene Abnormality and Kabuki Syndrome: Possible Risk Factors for Catatonia and Psychosis in an Adolescent Female

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025
<https://doi.org/10.17161/kjm.vol18.23876>

Introduction. The COL2A1 gene, among other collagen genes, is fundamental in the composition of the extracellular matrix (ECM). Dysfunction in ECM contributes to disruption of synapse connectivity, neuronal mutation and abnormalities of neurotransmission, including GABAergic, glutamatergic, dopaminergic systems, and neural inflammatory processes. The COL2A1 gene and KMT2D (pathogenic variant in Kabuki Syndrome) have been theorized to play a role in the development of schizophrenia, though neither has been described as increasing risk of catatonia.

Case Report. A 16-year-old female, with Kabuki Syndrome (without known pathogenic variants), intellectual disability, craniofacial dysmorphism, sensorineural hearing loss, periventricular leukomalacia, and heterozygous COL2A1 gene abnormality presented with abrupt change in baseline for one month. The examination was consistent with catatonia, including poor oral intake, incontinence, slowed movements, catalepsy, disorientation, agitation, mutism, insomnia, stereotypic movements, autonomic abnormalities, and visual and auditory hallucinations. Medical workup including neuroimaging, EEG, lumbar puncture, and encephalitis panel were negative. Benzodiazepines resolved catatonia symptoms but caused behavioral disinhibition. Low dose Valproate and Olanzapine led to rapid and complete resolution of symptoms with return to baseline.

Discussion. To our knowledge, this is the first description of catatonia and psychosis in a patient with COL2A1 genetic variant and Kabuki Syndrome. GABA, glutamate, and dopamine dysfunction, as well as neuroinflammation, are all identified risk factors for catatonia, and the COL2A1 gene is known to affect these processes. More studies are required to establish the relationship between the Kabuki Syndrome phenotype, COL2A1 gene, and potential increased risk for psychosis and catatonia in these populations.

Patent Foramen Ovale? An Interesting Case Report

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.vol18.23877>

Introduction. Patent foramina ovalia (PFOs) are found in 25% of adult population.¹ The prevalence of PFOs in cryptogenic strokes is higher than in those of known causes,² and because strokes caused by paradoxical emboli are multifactorial, they are under-reported. This case describes a stroke caused by a peripherally inserted central catheter (PICC)-associated thrombus resulting in a paradoxical embolism via a PFO.

Case Report. A 41-year-old male was found with a pericardial effusion. A PICC line was placed following admission. He underwent an emergent pericardial window with 2 L of purulent drainage removed. On POD 5, he developed dysarthria, right hemisensory loss, and hemiparesis. A CT head was normal, but a CT angiography head/neck showed left PCA occlusion, and he was taken for thrombectomy. He had successful clot extirpation and recanalization. A transesophageal echocardiogram (TEE) showed a right atrial mass measuring 1-1.5 x 2 cm. The PICC line was noted to “intermittently touch” the mass with each heartbeat. Additionally, there was a small PFO with right-to-left shunting. The PICC line was removed, and a heparin infusion was started. Removal of the mass surgically or intravascularly was discussed. A few days later, a repeat TEE showed the thrombus had decreased in size. The patient opted to transition to oral anticoagulation and to consider outpatient PFO closure. He had complete resolution of his neurological symptoms.

Discussion. The prevalence of PFOs, and their correlation with cryptogenic strokes, mandates a careful clinical approach when choosing to place central catheters, which carry a known risk of thrombosis.³

1. Teshome, MK. et al. (2020) *Curr Probl Cardiol* 45(2): 100392
2. Handke, M. et al. (2007) *N Engl J Med* 357(22): 2262–2268
3. Debourdeau, P. et al. (2008) *Pathologie-biologie* 56(4): 211-219

Unmasking the Culprit: Pulmonary Tularemia Masquerading as an Infiltrating Hilar Lesion in a 50-Year-Old Male – A Case Report

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.voll8.23878>

Introduction. Tularemia is a zoonotic disease caused by *Francisella tularensis*. Atypical presentations are vital to raise awareness among clinicians and broaden diagnostic suspicions.

Case Report. A 50-year-old male presented with fever, confusion and headache for 11 days, accompanied by night sweats, nausea, vomiting, and diarrhea, and was noted to be sleeping excessively, intermittently confused, and had difficulty speaking. The patient did not have any chest pain, palpitations, cough, dizziness, urinary symptoms, numbness, rashes, or seizures. He had no recent travel, exposure to sick contacts, or hospitalizations. Initial labs were notable for elevated white count and transaminases. Initial chest x-ray was notable for left lung airspace disease. Computerized tomography showed a large area of consolidation within the left upper lobe with soft tissue infiltration into the left perihilar region. The patient did not respond to broad spectrum antibiotics. On day six, a heavy growth of *Francisella tularensis* was isolated in pleural fluid culture. The patient was treated with gentamicin for seven days, in addition to ciprofloxacin and flagyl, which were continued for a total of four weeks for empyema. Fever resolved and his overall clinical status progressively improved.

Discussion. Tularemia was confirmed from pleural fluid culture. Serologic tests were also notable for a positive IgM. The presentation was consistent with pneumonic and typhoidal tularemia with a notable lack of lymphadenopathy and predominance of pulmonary symptoms, fever, and other non-specific systemic symptoms. Maintaining a high clinical suspicion for atypical pathogens - such as Tularemia - in cases of severe pneumonia with atypical findings is important.

Implementation of the Updated 2024 Colonoscopy Quality Indicators: A Quality Improvement Project

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.vol18.23879>

Problem. Colonoscopy quality indicators continue to evolve with emerging data and technological advancements. This Quality Improvement (QI) project aimed to incorporate updated 2024 colonoscopy metrics guidelines into our ongoing quality metrics database. Previous guidelines tracked metrics only for average-risk screening colonoscopies, while the new recommendations expand tracking to all colonoscopies regardless of indication. We examined the impact of this change on core metrics.

Baseline Measurement. Metrics measured included Adenoma Detection Rate (ADR), Adenomas Per Colonoscopy (APC), Sessile Serrated Lesion Detection Rate (SSLDR), and Withdrawal Time, as per the 2024 guidelines.

Design. This project began with a review of the updated guidelines, followed by education and training for endoscopy staff on new benchmarks. The revised quality indicators were implemented with ongoing monthly tracking and analysis using descriptive statistics and percentages.

Results. A total of 504 colonoscopies (October 2024-January 2025) were compared to 1,456 from the prior fiscal year (October 2023-September 2024). ADR increased from 58.5% to 66.8%. SSLDR increased from 11.2% to 13.4%. APC increased from 1.59 to 2.13 adenomas. Withdrawal time increased from 13.3 to 14.5 minutes.

Conclusions. Core metrics of ADR, APC, and SSLDR now include patients undergoing colonoscopy for any indication. Previously these were only tracked for average-risk screening colonoscopies. These updates aim to improve colonoscopy quality by ensuring more thorough exams, hence reducing colorectal cancer incidence. Implementing them into our practice reinforces the importance of continuous quality monitoring and improvement.

Use of Meropenem at Ascension Via Christi Hospitals: A Quality Improvement Project

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.vol18.23880>

Introduction. At Ascension Via Christi Hospitals, we identified a rise in the use of Meropenem, a broad-spectrum antibiotic effective against multi drug resistant (MDR) organisms. This project aims to evaluate meropenem utilization among non-Infectious Disease (ID) physicians and identify opportunities for optimizing use.

Baseline Measurement. Outcome measures included frequency and duration of Meropenem use, appropriateness of indications, and alignment with microbiologic diagnoses. Process Measures were identification of risk factors for MDR organisms and assessment of empiric vs. targeted therapy.

Design. A retrospective chart audit of all orders for Meropenem from October 2023 to April 2024 was performed. Data were collected regarding duration, indication, microbiologic diagnosis, and ordering service.

Results. Of 100 Meropenem orders reviewed, 27 originated from non-ID services. Hospitalists accounted for 52%, surgery 30%, medical residents 11%, and pulmonary 7%. Duration of therapy ranged from 1–11 days (median: 3; mean: 4.4). Empiric therapy accounted for 48% of orders, 50% of which were for pneumonia (PNA), though most lacked MDR risk factors. Only 18.5% had an ESBL diagnosis, over half being urinary tract infections (UTIs). 11% were escalated after failure of other antipseudomonal antibiotics (piperacillin-tazobactam and cefepime), and another 11% continued without a clear indication. Only one case targeted MDR *Pseudomonas aeruginosa*.

Conclusions. The most common use of carbapenems among non-ID providers is empiric therapy. To optimize use, we recommend identifying specific risk factors, prompt de-escalation, shorter treatment durations for PNA, and exploring carbapenem-sparing alternatives for UTI. Restricting carbapenem to ID providers is another strategy to limit empiric use and promote appropriate stewardship.

Systematic Review of the Representation of Female Athletes in Meniscal Repair Studies

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Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025

<https://doi.org/10.17161/kjm.vol18.23881>

Introduction. Female athletes have been historically underrepresented within sports science and sports medicine research, including studies on meniscal repair and partial meniscectomy—common arthroscopic procedures in this population. In studies including female athletes, important biological differences are often overlooked, despite the influence hormones, menstrual status, and other sex-specific traits have on performance and recovery. This study systematically reviews female athlete representation in studies on meniscal repair and partial meniscectomy.

Methods. A systematic review was conducted using PubMed to analyze the representation of female athletes in meniscal repair or partial meniscectomy studies. Studies were analyzed by: study population, sex distribution, athletic caliber, menstrual status, research theme, journal impact factor, failure rates, and return to sport rate.

Results. Eighty-two studies were included. No female-only studies were identified, while 9/82 (11%) were male-only. No studies examined females at the highest athletic caliber (Tier 5), though two male-only studies did. Menstrual status was not considered. Among treated participants, 2,157 (70.3%) were male and 911 (29.7%) female. Male-only studies had the highest journal impact factor of 4.39, compared to 3.64 for mixed-sex cohort and 4.21 for male vs. female sub-analysis studies. Females were underrepresented in studies evaluating surgical failure and return to sport.

Discussion. Research on meniscal repair and partial meniscectomy relies heavily on male-based evidence. Even studies including females overlooked potential impacts of biological differences. Future studies should account for sex-specific factors to improve study quality and applicability. Key limitations of this study are use of a single database and publication bias.