Pediatric Research Day

A Showcase for Residents and Fellows

Wednesday, May 28, 2025
8 am to 1 pm
Charles B. Wang Center

Stony Brook Children's

RENAISSANCE SCHOOL OF MEDICINE AT STONY BROOK UNIVERSITY
Department of Pediatrics

101 Nicolls Road
Health Sciences Tower
Level 4
Stony Brook, NY 11794-8434
stonybrookchildrens.org

May 28, 2025

Welcome to our annual Resident and Fellow Research Day!

Each year the Department of Pediatrics comes together to celebrate the scholarship of our training programs, the mentorship our faculty provides and the collaboration that brings us all together. As we continue to solidify our role as a world-class children's hospital we are committed to preparing the next generation of clinician scholars.

I'd like to recognize the commitment and fortitude of our residents and fellows. Conceptualizing and executing research during clinical training requires dedication. Despite the challenges and time constraints that come with training, our residents and fellows have remained steadfast in their scholarly work.

In addition to the residents and fellows I would like to acknowledge the faculty mentors. These individuals navigate the day-to-day challenges of clinical practice and yet remain committed to the oversight of research and medical education. The projects that you see today represent years of collective work between these faculty members and our trainees.

I would like to thank everyone involved in today's event, especially our department's Resident Scholarly Oversight Committee (RSOC) and Fellowship Scholarly Oversight Committee (FSOC) faculty. Without their efforts today would not be possible.

Please join me in congratulating our researchers as well as their faculty mentors! We are looking forward to learning about your scholarly endeavors and celebrating your efforts.

Sincerely,

Carolyn Milana, MD
Chair, Department of Pediatrics
Associate Professor of Clinical Pediatrics
Physician-in-Chief, Stony Brook Children's Hospital

AGENDA

2025 PEDIATRIC RESEARCH DAY • WEDNESDAY, MAY 28 • 8 AM–1 PM
CHARLES B. WANG CENTER

8-8:25 am	**Registration and Breakfast:** Wang Atrium/Main Lobby
8:30 am	**Welcome and Chair's Opening Remarks:** Dr. Carolyn Milana
8:35 am	**Introduction of Keynote Speaker:** Dr. Katherine Biagas
8:40-9:35 am	**Keynote Speaker:** Dr. Kenneth Remy How to Make Precision Medicine Efforts More Precise in Sepsis

PLATFORM PRESENTATIONS: SESSION 1 • 9:35–10:20 AM

9:35 am	**Introduction of Invited Judges:** Dr. Rachel Boykan
9:40-10:20 am	**Resident Platform Presentations**–Session Chair: Dr. Surabhi Aggarwal
	Danielle Esteban, DO (Mentored by Dr. Candice Foy) Seize the Day! A QI Approach to Improving Epilepsy Monitoring Unit Discharge Times
	Kuldeep Mahal, MD (Mentored by Dr. Allison Eliscu) Impact of Discriminatory Experiences in Health Care and the Community on Mental Health and Health Care Access Among LGBTQ+ Young Adults
	Lisa Thottumari, MD (Mentored by Dr. Christy Beneri and Dr. Julie Cherian) Lyme Disease – Maximizing Medical Management
10:20-10:30 am	**Coffee Break**

PLATFORM PRESENTATIONS: SESSION 2 • 10:30–11 AM

10:30-11 am	**Fellow Platform Presentations**–Session Chair: Dr. Echezona Maduekwe
	Vivian Chang (Mentored by Dr. Echezona Maduekwe) The Reliability of Point-of-Care Hemoglobin in Neonates >28 weeks Gestational Age

POSTER PRESENTATION SESSION: 11 AM-12 PM • FOLLOWED BY LUNCH FOR INVITED ATTENDEES

11 am-12 pm	**Poster Session Medical and Research Translation Wang/Atrium Lobby and Auditorium**–Session Chair: Dr. Andrew Handel
12-1 pm	**Resident and Fellow Luncheon:** East Hall **Informal Career Talk for Residents and Fellows:** Dr. Kenneth Remy **Presentation of Awards and Closing Remarks:** Dr. Carolyn Milana

KEYNOTE SPEAKER

KENNETH E. REMY, MD, MHSC, MSCI, FCCM

Dr. Remy is a tenure track Associate Professor and NIH funded physician-scientist in the Departments of Internal Medicine, Pediatrics, Pathology, and Biochemistry in the Divisions of Pulmonary Critical Care Medicine and Pediatric Critical Care Medicine. He serves as the Director of the Division of Pulmonary Critical Care Medicine Basic Science and Translational Critical Care Research and Co-Director for Clinical, Basic Science, and Translational Critical Care Research in the Division of Pediatric Critical Care Medicine. He is the Inaugural Director of the Case Western Reserve University and University Hospitals of Cleveland Blood, Heart, Lung, and Immunology Research Center launching in Spring 2023. He is also The Ellery Sedgwick, Jr. Chair and Distinguished Scientist in Cardiovascular Research. Previously, Dr. Remy was an Associate Professor at Washington University in St. Louis in the Departments of Pediatrics and Internal Medicine. At Washington University, Dr. Remy successfully completed the Academic Medical Leadership Program for Physicians and Scientists in the School of Medicine, the Olin Business School and BJC HealthCare.

Dr. Remy's expertise lies in adult and pediatric sepsis, COVID disease, and global health. As an adult and pediatric critical care physician, his laboratory is focused on two areas: heme-based trafficking and signaling in immune dysregulation in context of diseases of intravascular hemolysis (COVID, sepsis, malaria, sickle cell disease, thalassemia) and after red blood cell transfusion; and real time immunophenotyping of pro and hypoinflammatory states to identify timing for immunoadjuvant therapies. During the COVID-19 pandemic, Dr. Remy cared for thousands of patients in the adult and pediatric ICU while pivoting his laboratory activities to understanding the evolution of the disease in both a hematologic and immune functional approach. Dr. Remy in collaboration with Dr. Richard Hotchkiss were among early descriptions that demonstrated a COVID-19 immunosuppressive phenotype demonstrating significant T-cell exhaustion in patients with critical illness. Dr. Remy's first authored manuscript on care of adults in the pediatric ICU was the featured article in Pediatric Critical Care Medicine. He has been featured on a number of news programs including CNN, CBS Evening News, BBC News, People Magazine, NBC News, Reuters, USA Today, and many other local and international news stations on his experiences during the pandemic and speaking on the immunologic consequences of disease, pediatric multisystem inflammatory syndrome (MIS-C), public health measures and schools, and potential therapies for SARS-CoV-2 infection. He has over 130 peer reviewed publications and an H-Index of 40.

Prior to Case Western University, University Hospitals of Cleveland, and Washington University: Dr. Remy holds a Medical Degree from Jefferson Medical College and Masters' Degrees from Duke University (Clinical Research) and Washington University in St. Louis (Translational Research; immunology focus). He completed dual residencies in Internal Medicine and Pediatrics at Case Western University/University Hospitals of Cleveland/Rainbow Babies and Children's Hospital in Cleveland, Ohio, Pediatric Critical Care fellowship at New York Presbyterian Hospital-Columbia University in New York City, and Adult Critical Care Fellowship at the National Institutes of Health in Bethesda, MD. He is quadruple boarded in each of these specialties. Additionally, he is formally trained in Global Health and emergency and disaster preparedness; and has received a certificate of clinical research from the National Institutes of Health. He is also the medical director (ICU captain) for Heart Care International's Medical Missions and global health chair for the Pediatric Acute Lung Injury and Sepsis Investigators (PALISI) Network. He Co-founded the first-in-world Global Health Critical Care Fellowship in Blantyre, Malawi in 2017 and remains a co-fellowship director.

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PRESENTATION 1. Resident

Seize the Day! A QI Approach to Improving Epilepsy Monitoring Unit Discharge Times

Danielle Esteban, DO[1]; Shantel Apeseche, MD[2]; Elizabeth Cruz, MD[2]; Candice Foy, MD[1,3]
[1]Department of Pediatrics, Stony Brook Children's Hospital; [2]Department of Pediatric Neurology; [3]Division of Pediatric Hospital Medicine

Background: Timely discharge of pediatric epilepsy patients is essential to ensure prompt access to prescribed antiseizure medications (ASM) and prevent missed doses that may lead to seizure recurrence. Delayed discharges also impact hospital efficiency, throughput, and cost-effectiveness. Quality improvement (QI) initiatives focused on discharge readiness, interdisciplinary communication, and medication reconciliation have been shown to improve the discharge process.[1–5]

Objective: The primary goal was to increase the percentage of discharge orders placed before 11 AM from 7% to above 25% at Stony Brook Children's Hospital Epilepsy Monitoring Unit. If this target was not met, the secondary goal was to increase the percentage of discharges occurring between 11 AM and 2 PM from 36% to above 40%.

Methods: A process map and key driver diagram were used to identify workflow inefficiencies impacting discharge. Plan-Do-Study-Act (PDSA) cycles were implemented, incorporating prescriber role clarification and workflow checklists to address prescriber discrepancies, pharmacy approval delays, and interdisciplinary communication gaps. Outcome measures included the percentage of patients with discharge orders before 11 AM and those discharged between 11 AM and 2 PM. Process measures assessed timely ASM prescribing (sent prior to 2pm) to allow for earlier discharges, while balancing measures tracked prescription errors. Data was collected via chart review and the hospital's error reporting system from January 2022 to December 2024.

Results: A total of 329 patients were included, with 128 in the intervention phase. Discharges before 11 AM did not meet the 25% goal (average pre-study 9%, implementation 8%). However, discharges between 11 AM and 2 PM increased from 36% to 60%, surpassing the 40% goal. Timely ASM prescriptions improved by 23% from baseline in PDSA Cycle 1 but was not sustained, likely influenced by resident turnover and weekend staffing. Discharge prescription errors remained low, primarily related to dosing discrepancies.

Conclusions: While early morning discharge rates did not improve, discharges completed before 2 PM increased, thus benefiting hospital throughput without compromising patient care. The biggest impediment to early discharge is the late-morning reading of non-urgent electroencephalogram reports, which delays attending rounds with families. Future efforts will focus on refining interventions, improving interdisciplinary communication, reducing prescriber role variability, and addressing system barriers such as pharmacy approval delays and staffing constraints.

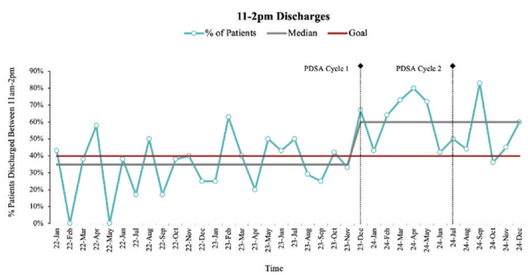

Chart 1

PRESENTATION 2. Resident

Impact of Discriminatory Experiences in Health Care and the Community on Mental Health and Health Care Access Among LGBTQ+ Young Adults

Kuldeep Mahal, MD[1]; Xioyue Zhang, MS[2]; Allison Eliscu, MD[1,3]
[1]Department of Pediatrics, Stony Brook Children's Hospital; [2]Renaissance School of Medicine at Stony Brook University; [3]Divison of Adolescent Medicine

Background: Studies have shown that LGBTQ+ individuals experience significant health care disparities. LGBTQ+ individuals experience high rates of discrimination in the healthcare setting, harassment and violence in their communities. This has been shown to make individuals feel more isolated, less accepted within their community, and can worsen their health and wellbeing. However, few studies have investigated the impact of healthcare discrimination and experiences of community discrimination on the mental health of LGTBQ+ young adults and how that may further impact their access to healthcare.

Objective: To investigate the impact of discriminatory experiences in healthcare and the community on both mental health and access to healthcare in LGBTQ+ individuals aged 18-25.

Methods: The 2021 LGBTQ+ Community Health Needs Survey is an anonymous health needs assessment survey of LGBTQ+ adults ages 18+ living in Nassau and Suffolk Counties. Specific survey items were identified to investigate participants' mental health, experiences of discrimination in the community and in health care, and as markers of access to health care resources. Chi-squared tests with exact p-values from a Monte-Carlo simulation were utilized to examine the association between variables. The Monte Carlo simulation was used to estimate p-values to support the association analysis and not for modeling purposes. P-values less than 0.05 were considered statistically significant.

Results: Of the 389 participants who completed the survey, 66% described their mental health as fair (40%) or poor (26%). Additionally, 67% of participants reported experiencing discrimination in their community and 29% had experienced discrimination in a health care setting. Although experiences of discrimination in health care settings and community settings did not have a significant association with their mental health, participants who had experienced discrimination in healthcare settings were less likely to have a regular primary care provider (61% vs 77%, p-value = 0.0016) and were also less likely to have had an annual physical within the past year (46% vs 59%, p-value = 0.02).

Conclusions: Although discriminatory experiences in healthcare and the community did not have an association with reported mental health, our study found discriminatory experiences in healthcare may impact access to preventive care. In addition, many individuals may have heard about these experiences secondhand, which could impact their comfort in healthcare settings. Education and training among healthcare providers to help reduce the frequency of healthcare discrimination is crucial and may improve access to preventive care.

PRESENTATION 3. Resident

Lyme Disease – Maximizing Medical Management

Lisa Thottumari, MD[1]; Jodi Riggs NP[1,2]; Virti Jain, BTech[3]; Julie Cherian, MD[1,4]; Christy Beneri, DO[1,2]
[1]Department of Pediatrics, Stony Brook Children's Hospital; [2]Division of Pediatric Infectious Disease, [3]Stony Brook University; [4]Division of Pediatric Rheumatology

Background: Lyme arthritis is a late-stage manifestation of Lyme disease, a tick-borne illness caused by *Borrelia burgdorferi*. Studies show that approximately 10% of patients treated with the standard 4-week antibiotic treatment continue with persistent arthritis or antibiotic-refractory Lyme arthritis (ARLA), which can cause further pain, activity limitation, and prolong treatment courses.

Objectives: The purpose of this study was to elucidate treatment outcomes in Lyme arthritis and determine best clinical practice by identifying factors, such as initial treatment choice, duration of arthritis, and compliance with anti-inflammatory regimen, that correlate with increased risk of developing ARLA.

Methods: Study was a retrospective chart review of pediatric Lyme arthritis cases presenting to Stony Brook Children's Hospital or outpatient clinics from 2020-2024. Inclusion criteria were children ≤18 years of age with ICD-10 codes for Lyme arthritis or Lyme disease with arthritis. Children with pre-existing arthritis conditions or Lyme disease without arthritis were excluded. RedCap was used to collect demographic data, course/type of treatments, and lab values. For statistical analysis, Google Colab and Python were used for data processing, statistical analysis, and visualization; t-test, chi-square, and Fisher's exact test were used based on the data set with a p-value of <0.05 for statistical significance.

Results: 127 pediatric Lyme arthritis cases were included (78 male, 49 female; average age of 10). Sixteen patients (12.6%) required a second course of antibiotics. Most had monoarthritis, primarily the knee; nine patients had polyarthritis, with only one requiring a second course (p=0.99). For initial treatment, 81 patients were prescribed doxycycline, 44 amoxicillin, one ceftriaxone, and one amoxicillin/clavulanate, but no antibiotic was effective in preventing the need for additional treatment (p=0.48). Symptom duration for 2-4 weeks (27.8%) or more than one month (36.8%) was more associated with requiring a second course of antibiotics (p=0.02). ESR and CRP were obtained in 97 (76%) patients; ESR levels were higher in patients who did not require a second course of antibiotics (39 vs 25, p=0.04), while CRP levels were higher in patients who did, though not statistically significant (23 vs 8, p=0.1).

Conclusion: Longer symptom duration was the only factor that increased ARLA. While these results will not guide the management of Lyme arthritis, this study helps providers recognize that patients with a longer duration of arthritis need closer follow-up.

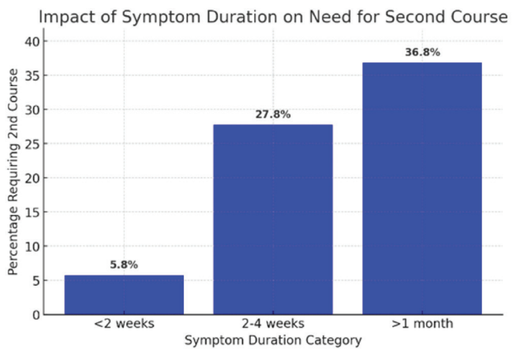

Chart 1

PRESENTATION 4. Fellow

The Reliability of Point-of-Care Hemoglobin in Neonates >28 weeks Gestational Age

Vivian Chang, MD[1]; Wei Hou, PhD[1]; Echezona Maduekwe, MD[1]
[1]Stony Brook University School of Medicine, Stony Brook, NY

Background: Point-of-care (POC) testing for blood gas analysis is used in the Neonatal Intensive Care Unit (NICU), providing rapid hemoglobin values from small blood volumes, minimizing blood loss and speeding up treatment. However, accuracy of POC results needs to be further evaluated, especially for neonates born at gestational ages >28 weeks without umbilical catheters in place. There is limited information comparing POC hemoglobin values to central laboratory (lab) values. We hypothesize that while POC hemoglobin levels will be similar to lab hemoglobin levels, they will yield faster results.

Objective: To assess the agreement between point-of-care and lab measurement of hemoglobin concentration and the differences in time required to obtain results for infants born at gestational ages >28 weeks.

Design/Methods: This prospective observational cohort study analyzed 187 paired blood samples from infants born after 28 weeks of gestation admitted to the NICU from July 2023 through December 2024. It compared hemoglobin measurements from lab tests with those from a blood gas analyzer. The Lab analyzer (Sysmex XN-9100®) needs a minimum of 500µl of blood, whereas the blood gas analyzer (ABL90 Flex Radiometer®) needs 65µl per sample. Bland-Altman plot was used for statistical analysis to assess agreement and identify systematic differences between the two measurements methods. To detect significance with 80% power, a sample size of 187 was necessary if the paired difference exceeded 2g/dL. The significance level was established at P <0.05. The SUNY Stony Brook Institutional Review Board approved the study, and informed consent was not required.

Results: Of 197 eligible patients, 187 were enrolled, with 50.3% female. Ten patients were excluded due to samples collected from different sources. The average gestational age was 36.6 weeks (± 3.2). Most samples were arterial (60.4%), followed by capillary (34.2%), and venous (5.4%). No significant difference was seen in hemoglobin concentration between arterial-venous samples from the lab and POC testing (16.66g/dL vs. 16.73g/dL; p 0.38). However, capillary samples had significantly higher hemoglobin in POC testing (p = 0.01). The Bland-Altman plot showed a mean difference of 0.09 for arterial-venous samples and -0.4 for capillary samples. POC testing yielded results with mean time of 3.98 minutes (± 7.1) and lab testing with mean time of 62 minutes (± 41.8), (p <0.001).

Conclusion: Arterial-venous hemoglobin readings obtained from POC testing strongly correlated with lab results and yield quicker results for infants born after 28 weeks of gestation. While not a replacement for a complete blood count, it is a valuable supplement for monitoring hemoglobin levels. Further research is needed to examine variability in POC and lab hemoglobin readings from capillary samples.

POSTER 5. Resident

Neonatal Sepsis and Sepsis-Induced Acute Kidney Injury and Subsequent Chronic Kidney Disease in Children

Briana Cohen, MD[1]; Esther Speer, MD[1,2]; Surabhi Aggarwal, MD[1,2]; Robert Woroniecki, MD[1,3]
[1]Department of Pediatrics, Stony Brook Children's Hospital; [2]Division of Neonatology; [3]Division of Pediatric Nephrology

Background: Neonatal sepsis is one of the most common risk factors for acute kidney injury (AKI) among preterm and term newborns. Prior research showed that pediatric AKI is associated with development of chronic kidney disease (CKD). However, it is unclear if neonatal sepsis-induced AKI (sAKI) is associated with CKD in childhood.

Objective: To investigate whether there is an association between neonatal sAKI and CKD in early childhood (≤5 years), as expressed by hypertension, proteinuria or decreased kidney function.

Methods: Retrospective, single center chart review of neonates delivered or transferred within the first 3 days of life (DOL) to SBUH between 01/01/2015-01/01/2018 with positive blood cultures (as surrogate measure for neonatal sepsis) prior to 28 DOL was performed on convenience sample of 25 of 40 eligible neonates. List of neonates with positive blood cultures were provided by Microbiology database. Severe sepsis or septic shock was defined using Stony Brook Pediatric Sepsis and Severe Sepsis Criteria. AKI was defined using Modified Kidney Diseases Improving Global Outcomes AKI Classification. Descriptive statistics and Fisher's exact test were performed.

Results: 20 (80%) neonates were preterm including 7 (28%) extremely preterm. 7 (28%) had low birth weight (LBW), 3 (12%) VLBW, and 9 (36%) ELBW. All were exposed to at least 1 nephrotoxic agent. 6 (24%) had sAKI, 67% stage 1 and 33% stage 3 AKI. 6 (24%) of neonates with sepsis expired during their hospitalization; 4 of 6 (67%) with sAKI compared to 2 of 19 (11%) without AKI (p=0.015). Only 8 of 19 (42%) neonates who survived sepsis with or without AKI followed up with SBUH physicians, however none were nephrologists.

Conclusions: sAKI in neonates carries significantly higher mortality than sepsis alone. However, due to its high mortality and lack of follow up by a SBUH nephrologist, we were unable to determine an association between neonatal sAKI and subsequent CKD. Further studies with a longer enrollment period or multicenter analysis to increase subject number may be able to clarify their risk of CKD development. Furthermore, future directions would benefit from examination of barriers to referrals to nephrology of neonates who survived either sepsis and/or AKI.

Infant Characteristics	No AKI (N=19)	AKI (N=6)
Gestational Age - (wk)	31 5/7 ± 5 2/7	31 5/7 ± 6 1/7
Birth Weight - (g)	1754 ± 924	1797 ± 1191
Birth Weight Percentile- (%)	47.0 ± 28.4	44.5 ± 18.1
Female Sex - no.(%)	5 (26)	4 (67)
Cesarian Delivery - no.(%)	10 (53)	5 (83)
SNAPPE II Score - no.	19.3 ± 22.9	44.7 ± 32.3
5-Minute APGAR - no.	8 ± 1	6 ± 3
Mortality – no.(%)	2 (10)	4 (67)

Results are displayed as "number (percent)" or "mean ± standard deviation"

Table 1

POSTER 6. Resident

Long-Term Outcomes of Patients with Pediatric Systemic Lupus Erythematosus (pSLE) Treated with Combination Rituximab and Cyclophosphamide: A Single Center Cohort and Review of Literature

Peyton Houser, MD[1]; Aneesha Achar, BS[2]; Julie Cherian, MD[1,3]; Farzana Nuruzzaman, MD[1,3]
[1]Department of Pediatrics, Stony Brook Children's Hospital; [2]Renaissance School of Medicine at Stony Brook University; [3]Division of Pediatric Rheumatology

Background: Patients with pSLE with life/organ threatening manifestations are treated with a protocol of rituximab and cyclophosphamide at our institution as described in previous literature. However, the few published reports of the combined rituximab and cyclophosphamide in pSLE lacked representation of Black patients and/or evaluation of long-term damage indices beyond 1 year.

Objective: To evaluate long-term Systemic Lupus Erythematosus Disease Activity Index (SLEDAI) scores, exposure to steroids, and Systemic Lupus International Collaborating Clinics/American College of Rheumatology (SLICC/ACR) Damage Indices of patients with pSLE treated with a protocol of rituximab and cyclophosphamide and review its use in the literature.

Methods: Retrospective review of medical records between 2013-2023 of patients diagnosed with SLE at ≤18 years old and treated with rituximab and cyclophosphamide with at least 1 year of follow-up were found. Descriptive statistics were calculated with continuous variables as means and categorical variables as percentages. A PubMed search for articles published after 2000 was performed to compare prior studies with our cohort.

Results: Eleven patients met eligibility criteria: 6 Black/African American, 2 Caucasian, 2 Asian, and 1 Hispanic/Latino. Mean prednisone dose and mean SLEDAI scores decreased significantly over follow-up periods. We achieved low disease activity in all our patients as defined by SLEDAI score< 4 and prednisone dose < 7.5 mg/day *(Figure 1)*. There was no statistically significant difference between SLICC/ACR damage indices from the start of the protocol to the 5 years follow up post-protocol. No difference in outcomes between races was seen. Seven studies from case reports (n=1) to small cohorts (n= 17) were included in our literature review. Our cohort had a more diverse population and included longer-term mean outcomes than earlier studies (51 months versus 18 months, respectively). Despite some variability in dosing, all studies reported improvement of disease activity and relatively low incidence of infections.

Conclusion: Our racially diverse cohort shows the efficacy of systematic administration of rituximab and cyclophosphamide in decreasing disease activity scores and decreasing overall exposure to steroids in pSLE. Long-term organ damage was not seen 5 years after treatment in our cohort, further emphasizing disease control with early aggressive therapy. This protocol was well-tolerated. Larger, prospective randomized clinical trials are needed for further validation.

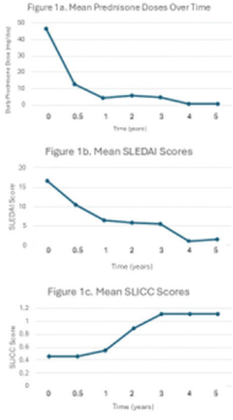

Figure 1: Mean SLEDAI scores, daily prednisone dose, and SLICC scores over time.

POSTER 7. Resident

Knowledge of Lyme Disease & Prevention Practices Among Parents in a Highly Endemic Area

Sheila Krishnan, DO, MPH[1]; Andrew S Handel, MD[1,2]
[1]Department of Pediatrics, Stony Brook Children's Hospital; [2]Division of Pediatric Infectious Disease

Background: Lyme disease (LD) is a growing public health concern in the US that disproportionately affects children and the elderly. Studies have also found that minority groups are more likely to present with later manifestations of LD, suggesting missed opportunities for early diagnosis and treatment. Despite the prevalence, few assessments have been performed to measure tickborne disease knowledge among parents in endemic areas.

Objectives: To determine the baseline knowledge of LD identification and prevention among parents and caregivers in a highly endemic region. To determine if there are any differences between parents based on social determinants of health (SDOH), i.e. primary language (English or Spanish), income level, and level of education.

Methods: An anonymous survey was conducted among parents at Stony Brook Children's Hospital and its six ambulatory clinics on Long Island, NY. Posted QR codes linked to a Qualtrics™-based study, which displayed the informed consent statement and survey instrument. The flyers and survey were available in English and Spanish. Questions included demographics (income, level of education), knowledge assessment (including identification of ticks as a vector and the erythema migrans (EM) rash), and prevention practices. Proportions were compared using Fisher exact tests.

Results: 109 self-selected respondents completed the survey between 2023-2024, with 91 (83%) responding in English and 18 (17%) in Spanish. 16 respondents (15%) reported living on LI for <5 years, and 25 (23%) reported household income < $50,000, of which 15 (14%) reported household income below $20,000. 29 (27%) reported highest level of education as high school. Respondents with Spanish preference, household income <$50,000, and highest education level of high school were more likely to misidentify the vector of LD or an image of the EM rash *(Table 1)*. 25 respondents (23%) reported that their child had a tick bite in the past year. 10 respondents (9%) reported taking no tick preventive measures routinely for their children. Eleven (10%) respondents reported no knowledge of LD.

Conclusions: Knowledge of LD remains limited. This is pronounced in those with lower income, education, and Spanish preference, each of which is an SDOH. Culturally and linguistically appropriate public health outreach should focus on education about early recognition and transmission. This is particularly salient as LD vaccines are developed, as outreach to these groups will be vital to vaccine uptake and LD prevention.

Identify an image of the rash associated with LD

		Correct	Incorrect	p-value
	All	64	14	
Language	Spanish	5	5	0.005
	English	59	9	
Living on LI	<5 years	9	3	0.49
	>5 years	55	11	
Income	<$50,000	7	10	<0.001
	>$50,000	57	4	
Education	HS or below	10	11	<0.001
	Higher Education	54	3	

Table 1: Responses to selected "Knowledge" question from parent survey.

POSTER 8. Resident

Obstructive Sleep Apnea and Somatic Syndromes in Adolescents: The Utility of the Body Sensation Questionnaire

Victoria Lee, DO[1]; Solha Park[2]; Xiaoyue Zhang, MS[2]; Arthur Chen, BS[3]; Areebah Mehmood[4]; Catherine Kier, MD[1,5]
[1]Department of Pediatrics, Stony Brook Children's Hospital; [2]Biostatistical Consulting Core, Renaissance School of Medicine at Stony Brook University; [3] Renaissance School of Medicine at Stony Brook University; [4] Stony Brook University; [5]Division of Pediatric Pulmonology

Background: Obstructive sleep apnea (OSA) and obesity are thought to contribute to increased sympathetic tone via chronic inflammation. The Body Sensation Questionnaire (BSQ) is a 17-item questionnaire assessing increased somatic arousal such as tremors, sweating, and dry mouth. In adults with OSA, higher BSQ scores have been correlated with somatic syndromes, anxiety, and insomnia. The BSQ has not been studied in adolescents nor has it been correlated with obesity.

Objective: We hypothesized that higher BSQ scores would be correlated with somatic syndromes, anxiety, depression, ADHD, headaches and use of psychotropic medications in adolescents with OSA, and that BSQ scores would differ in obese and non-obese adolescents.

Methods: This retrospective chart review included 54 obese and 49 non-obese adolescents ages 12-18 who answered the BSQ, Epworth Sleepiness Scale (ESS) and Fatigue Severity Scale (FSS) as screening at our Sleep Disorders Center from Jan 2013 to Feb 2025. Correlations between BSQ scores and somatic syndromes (anxiety, depression, ADHD, headaches), use of psychotropic medications, ESS and FSS were assessed using Wilcoxon rank-sum tests or Kruskal-Wallis tests for categorical variables, or Pearson's correlation for continuous variables. Multiple linear regression with adjustment compared the BSQ difference between obese (BMI >/= 95th%) and non-obese groups.

Results: Higher BSQ score was correlated with anxiety ($p = 0.0166$), depression ($p = 0.0546$), headaches/migraines ($p = 0.0002$) and psychotropic medication use ($p = 0.0181$). BSQ scores had a moderate linear correlation with the ESS ($p < 0.0001$, correlation coefficient 0.51) and a mild correlation with the FSS ($p = 0.0151$, correlation coefficient 0.36). BSQ scores between obese and non-obese adolescents were not statistically significant ($p = 0.1953$). After controlling for age, anxiety, headaches and psychotropic medications, there was no difference in BSQ score between obese and non-obese groups (33.8 vs 28.49, $p = 0.1272$). Power estimation at 11.5%.

Conclusion: Higher BSQ scores correlated with anxiety, depression, headaches, and psychotropic medication use in adolescents with OSA as reported in adults with OSA. The increased somatic arousal associated with sleepiness and fatigue from the three questionnaires have implications for future studies to explore the relationship between OSA, anxiety, and depression. Lastly, although not statistically significant, obese adolescents trended higher BSQ scores correlating with increased somatic arousal. A greater sample size may have shown significance. As obesity, anxiety and depression are increasingly prevalent in adolescents, future studies may define possibilities for collaborative care for adolescents.

POSTER 9. Resident

Impact of Supervised Exercise and Nutrition at a Pediatric Obesity Center

Rosen Ling, MD[1]; Anupama Chawla, MD, MCH, PNS[1,2]; Amy Canterella, MS, RDN[1,3]; Brianna Burghard, MS, RDN[1,3]; Rachel Valenti, MS, RDN[1,3]; Peter Morelli, MD, FACC[1,4]; Sharon Martino, PT, PhD[5]; Ada Lee, DO, DABOM[1,2]

[1]Department of Pediatrics, Stony Brook Children's Hospital; [2]Division of Pediatric Gastroenterology; [3]Division of Adolescent Medicine; [4]Division of Pediatric Cardiology; [5]Department of Physical Therapy, Stony Brook University

Background: Obesity, defined as a body mass index (BMI) at or above the 95th percentile, has more than tripled among U.S. children since the 1970s. Childhood and adolescent obesity is associated with an increased risk of adverse health outcomes, including cardiovascular disease, hypertension, dyslipidemia, insulin resistance, type 2 diabetes mellitus, and metabolic dysfunction-associated steatotic liver disease (MASLD). These conditions can be assessed through clinical measurements such as vital signs and laboratory evaluations.

Objective: To compare the effectiveness of standard counseling on nutrition and exercise with a program including interactive nutrition lessons and exercise plus standard counseling. Stony Brook's Healthy Weight and Wellness Center (HWWC) is a multidisciplinary intervention that provides diet and lifestyle counseling while Fit Kid's For Life program (FKFL) offers an interactive intervention.

Methods/Design: This retrospective study, conducted at a single pediatric obesity center, analyzed patients enrolled in the HWWC program with or without FKFL between January 2014 and December 2020. Inclusion criteria were patients aged 7-17, BMI ≥ 85th percentile for age and sex, with at least 6 months of follow-up. Exclusion criteria were no follow-up within 6 months. The study included 40 HWWC patients: 20 with FKFL and 20 without, cohorts matched by age and sex. Pre- and post-treatment data on lab work (ALT, lipid panel, HbA1c, insulin, fasting glucose), blood pressure, heart rate (HR), and anthropometrics were collected and analyzed using SPSS with t-tests.

Results: After participation in a 10-week session of FKFL and HWWC, systolic blood pressure (SBP) significantly decreased ($p = 0.035$) compared to HWWC alone. A statistically significant decrease in SBP was noted in children ages 7-12 ($p=0.037$) but not in adolescents ages 13-17. No significant differences were found in diastolic blood pressure ($p=0.193$), HR ($p=0.461$), weight ($p=0.232$), BMI ($p=0.211$), ALT ($p=0.335$), or lipid panel ($p=0.448$). Body fat percentage ($p=0.292$) and HbA1c ($p=0.052$) decreased on average, but not significantly, in FKFL with HWWC participants.

Conclusion: Pediatric patients who participated in both FKFL and HWWC had a statistically significant decrease of SBP compared with those participating in HWWC alone. This suggests supervised exercise and hands-on nutrition may be more effective than standard counseling in reducing SBP in pediatric patients with obesity. Larger-scale, longer-term studies are warranted to further find significant changes in other vital signs or labs values that correlate with other comorbidities of obesity for patients receiving interactive interventions with traditional counseling.

POSTER 10. Resident

Screening for Obesity in the Inpatient Pediatric Setting: Initiation of a Quality Improvement Project

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Background: Pediatric obesity is a chronic disease affecting 14.4 million children worldwide. In New York State the prevalence of overweight and obesity in children aged 6-17 years is 33.2% (latest data, 2022). The American Academy of Pediatrics (AAP) recommends utilizing Body Mass Index (BMI) as a screening tool with every patient encounter. Overweight is defined as BMI between the 85th and 95th percentile and obesity as BMI at or above the 95th percentile for age and sex.

Objective: By 6/2025, 60% of patients on the acute inpatient unit (AIU) at Stony Brook Children's Hospital meeting criteria for overweight will be provided educational materials and referrals for follow up with their pediatrician and 60% of patients with BMI > 99th will be referred to healthy weight management clinic.

Methods: Initial needs assessment: A random sampling of electronic medical records (EMR) data was performed for admissions to the AIU between 01/2023-06/2023, to establish baseline overweight and obesity prevalence. A multidisciplinary team of residents, nurses and nutritionists designed and implemented a screening and intervention system, whereby pediatric residents would screen every inpatient for elevated BMI and nurses would distribute educational materials and referrals to qualifying individuals. Two PDSA cycles were performed in this initial study period.

Results: Baseline prevalence of overweight and obesity was 38.0%. In 6/2024 (First PDSA cycle), a standardized template was created for documentation of BMI and planned interventions; an educational Power Point was presented to residents. However, no qualifying individuals were identified or educated.

In 9/2024 (second PDSA cycle), the inpatient team received a reminder presentation of the power point. Random sampling with 50 EMR charts revealed 34 patients who met criteria for screening. 44% of those qualified for intervention; however, the intervention was not done.

Conclusion/Next Steps: Initial efforts in screening for overweight/obesity in the inpatient setting were unsuccessful. Next steps will include establishing automated reports via EMR to identify qualifying patients, to whom case managers will provide the interventions. Screening for obesity may be possible through a robust plan that would identify the limitations of our implementation and by utilization of the EMR.

POSTER 11. Resident

Clinical Outcomes of Prenatally Diagnosed Critical Congenital Heart Disease in an Academic Medical Center Without Pediatric Cardiothoracic Surgery

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Background: Clinical outcomes for infants diagnosed with critical congenital heart disease (CCHD) depend on the timing of diagnosis, severity of the defect, and coordination of care after diagnosis. Ideally, medical centers without pediatric cardiac surgical services must accurately risk stratify infants prenatally diagnosed with CCHD to determine which infants require delivery at a pediatric cardiac surgical center. Models of risk assessment have been established to assist with stratifying infants with CCHD. Level of Care (LOC) assignment is a guide created to assist with the anticipated clinical needs at delivery based upon cardiac diagnoses and fetal cardiac exam. RACHS-1 is a scoring tool used to measure CCHD complexity and mortality risk. A combination of LOC and RACHS-1 scores may be an effective tool to identify pregnancies at higher risk for urgent neonatal intervention and optimize delivery planning for infants with CCHD.

Objective: We aim to describe the outcomes for a cohort of patients with prenatally diagnosed CCHD at an academic medical center without pediatric cardiac interventional or surgical services.

Methods/Design: After obtaining IRB approval, fetal echocardiograms for patients expected to have a diagnosis of CCHD between 1/1/2013 and 12/31/2023 were reviewed. CCHD was defined as a cardiac diagnosis that required initiation of prostaglandin E1 and/or cardiac surgery within the first 30 days of life. After identifying patients with CCHD, chart review was performed to define two groups: Infants receiving care at Stony Brook Children's Hospital (SBCH) or transferred to a cardiothoracic surgical (CTS) center. All infants were retrospectively given LOC assignment and RACHS-1 scores. Outcome data collected for all patients included: Post-natal circulation, spontaneous loss of pregnancy, termination of pregnancy, post-natal mortality, and attrition from SBCH cardiology practice. Clinical outcomes, LOC assignment, and RACHS-1 scores were compared between the two groups to determine how well infants were risk stratified prenatally.

Results: A total of 4,244 fetal echocardiograms were performed within the study period. 126 patients were identified to have CCHD. Group 1: 58 patients were risk stratified to deliver at a center with interventional and cardiac surgical services. Group 2: 68 patients were delivered at SBCH. Group 1 had 35 live births, 1 spontaneous pregnancy loss, and 22 terminations of pregnancy. Mean prenatal LOC assignment in Group 1 was 2.4. Mean RACHS-1 score in Group 1 was 3.7. Group 2 had 53 live births, 7 spontaneous pregnancy loss, and 8 terminations of pregnancy. Mean prenatal LOC assignment in Group 2 was 1.7. Mean RACHS-1 score in Group 2 was 2.5.

Conclusion: Infants with higher prenatal LOC assignment and RACHS-1 scores were more likely to be risk stratified to deliver at a CTS center. Termination of pregnancy was more common in pregnancies with higher LOC assignments and RACHS-1 scores. Prenatal assignment of a combined LOC assignment and RACHS-1 score may be a useful tool to help accurately risk stratify delivery of infants with prenatally diagnosed CCHD.

POSTER 12. Resident

Parent Knowledge of Congenital Cytomegalovirus and Other Neonatal Infection Screening in New York State

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Background: Congenital cytomegalovirus (cCMV) is the most common congenital infection. Although most infants with cCMV (90%) are asymptomatic at birth, 10-15% of this subset will develop hearing loss during childhood. New York State (NYS) legislature requires infants who fail the newborn hearing screen be tested for cCMV, yet this approach identifies a small minority of cCMV cases. In 2023, NYS began a one-year pilot program adding cCMV to the newborn screen (NBS). Despite an increase in cCMV diagnoses, little remains known about parent knowledge and attitudes toward cCMV.

Objective: Identify gaps in knowledge of cCMV and other congenital infectious screening in NYS.

Methods/Design: We conducted a cross-sectional survey of parents of newborns delivered at Stony Brook University Hospital from March - September, 2024. Fliers containing links to a Qualtrics survey were placed in patient rooms throughout the Newborn Nursery. Fliers and surveys were available in English and Spanish. Survey questions included parent/child demographic information and knowledge of the NYS NBS and cCMV. Responses were analyzed with descriptive statistics.

Results: Our survey received 31 completed responses. Response rate could not be calculated due to the nature of the study flier placement. Demographics are described below. 55% of respondents had either not discussed or were unsure if they had ever discussed the NBS with a medical provider. Awareness of neonatal infectious screening performed in NYS was limited for HIV (48% aware), syphilis (26%), and hepatitis B (61%). 84% reported no knowledge of cCMV prior to delivery. Of the 6 respondents (19%) with prior cCMV knowledge, 50% correctly identified hearing loss as the most common long-term complication. Of those without prior cCMV knowledge, 81% identified the OB/GYN and 58% identified the Pediatrician as the preferred places to learn about cCMV.

Conclusions: We conducted a survey-based assessment of cCMV knowledge among parents of neonates. Our findings reveal major knowledge gaps. Most newborn parents had not been told about the NBS prior to delivery and >80% were previously unaware of cCMV. Among those with knowledge of cCMV, almost all were able to identify the correct preventative measures. Increasing awareness of cCMV may help to reduce transmission rates and subsequent cCMV complications. Informing OB/GYNs and Pediatricians that they are preferred sources of cCMV information may encourage more conversations about newborn screening.

Birthing parent	Yes (20; 65%)	No (11; 35%)			
Age (years)	20-25 (3; 10%)	26-30 (6; 19%)	31-35 (12; 39%)	36-40 (9; 29%)	>41 (1; 3%)
Ethnicity	White (13; 42%)	Black (2; 6%)	Asian (5; 16%)	Hispanic / Latino (10; 32%)	Other/Multiple (1; 4%)
# of children	1 (10; 32%)	2 (10; 32%)	3 (9; 29%)	4 (2; 7%)	
Highest educ level	College/Bachelors (24; 77%)	High School/GED (6; 19%)	Prefer not to say (1; 4%)		

Table: Demographic characteristics of the 31 survey respondents (n; %)

POSTER 13. Resident

Factors Influencing Pediatric to Adult Rheumatology Transition Care Readiness

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Background: Patients with childhood-onset rheumatic conditions who transfer care from pediatric to adult providers are at risk for poor health outcomes stemming from disease flare, increased ED visits, and hospitalizations suggesting gaps in transition medicine. The Transition Readiness Assessment Questionnaire (TRAQ) is a validated, 20 item questionnaire with 4 subsections, adapted from the American College of Rheumatology, to help assess health care management skills that can aide in transition to adult providers. Higher TRAQ scores indicate greater transition skills with scores ranging 20-100.

Objectives: This study's aim was to determine if demographic factors are associated with TRAQ scores and sub scores. This will allow for identification of vulnerable groups of adolescents/young adults (AYAs) who are most at risk for poor outcomes associated with poor transition readiness.

Methods: This is a cross-sectional study of patients aged 11-21 years with a childhood onset rheumatic disease. They were prospectively recruited from consecutive ambulatory visits at single center suburban academic institution. Patients were asked to complete separate TRAQ survey and demographics surveys. Statistical analyses using SPSS (Pearson Correlation, ANOVA, Regression analysis, and Mann-Whitney U tests) were then performed to assess associations between demographic factors and the transition readiness scale.

Results: Of 73 patients recruited for the study, 49 completed both surveys. 7 declined to participate, 10 were not reachable via phone call, and 7 agreed to participate but never completed the survey. Age was shown to have a positive association with both increase in total TRAQ score as well as scores in all the subsections (p= .004). Having a job or a driver's license was also shown to have a statistically significant association with higher TRAQ scores (both p <.001), though likely confounded by age. Statistics investigating the other demographic variables (diagnosis, gender, GPA, language, race, etc) did not show any significant correlation with TRAQ score or subscore.

Conclusions: In this cohort, there was a significant association between age, employment status, and possessing a driver's license with higher TRAQ score and subscores. Further prospective longitudinal studies with larger sample sizes are needed to identify certain AYA groups who may benefit from earlier exposure to transition education to help facilitate a seamless transition to adult care.

POSTER 14. Resident

What are the Optimal Intervals for Food Allergy Follow-up?

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Background: Foods are triggers for 50-80% of anaphylactic reactions in children. Current management of food allergy anaphylaxis is prompt treatment with intramuscular epinephrine. Long term management includes prevention. Current guidelines do not specify how often food-allergic patients should be seen for follow-up visits. Allergy clinic visits provide valuable opportunities for education, reassessment of food allergies, review of food allergy action plans, and discussion and renewal of epinephrine autoinjectors.

Objective: To determine the optimal interval for Pediatric Allergy Clinic follow-up for children with peanut allergy resulting in improved patient outcomes, such as reduced rates of accidental ingestions, allergic reactions, epinephrine autoinjector use, and anaphylaxis.

Methods: A retrospective chart review was conducted utilizing ICD-10 codes, to identify peanut-allergic children followed by the Pediatric Allergy Clinic. Exclusion criteria included asthma, allergic rhinitis, multiple food allergies, or patients seen for one visit. We compared patient outcomes in patients seen annually, versus those seen more frequently (every 4-6 months or every >6-12 months). Chi-square analysis was utilized to determine differences in disease outcomes between groups using GraphPad Prism statistical software.

Results: We identified 80 children (mean age 5.9+4.8 years, 55% male and 45% female) with peanut allergy. Patients were divided into 3 groups based on frequency of follow-up visits *(Table 1)*. Group I included 23 children followed annually, Group II included 22 children followed every >6-12 months, and Group III included 35 children followed every 4-6 months. Accidental ingestions and allergic reactions occurred in 15% of the total cohort with urgent care/ED needed in 3.8% of the total cohort. No patients reported anaphylaxis or epinephrine autoinjector use. 15% of the cohort was lost to follow-up. Chi-square analysis showed no statistically significant differences in outcomes between groups I, II or III.

Conclusions: Patients with peanut allergy continue to have accidental ingestions and allergic reactions and may be lost to follow-up. Patients with more frequent visits did not demonstrate reduced adverse patient outcomes. Improving patient education strategies and greater provider efforts are needed to retain peanut-allergic patients in care and to prevent adverse outcomes. Patient education at follow-up visits should include discussions focusing on high-risk situations, strategies to avoid cross contamination, and indications and proper technique for using epinephrine autoinjectors.

	Group I: Annual follow-up	Group II: >6-12 month	Group III: 4- 6 month
Accidental ingestions	6 (26%)	2 (9%)	4 (11%)
Allergic reactions	6 (26%)	2 (9%)	4 (11%)
Anaphylaxis	0	0	0
ED/Urgent care visits	2 (9%)	0	1 (3%)
Loss to Follow up	6 (26%)	2 (9%)	4 (11%)

Table 1: Patient outcomes by follow up time

POSTER 15. Resident

Care Gaps in Eosinophilic Esophagitis Patients: Comparison of Pediatric vs Adult Populations

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Background: Eosinophilic esophagitis (EoE) is an inflammatory disease of the esophagus that impacts individuals of all ages. The chronicity of the disease requires frequent re-evaluations. Studies have shown that lapses in care may be associated with disease progression. However, there are scarce data regarding care gaps in pediatric and adult patients.

Objective: Primary objective: To determine and compare the prevalence of care gaps in pediatric and adult EoE patients. Secondary objective: To determine whether lapses in care result in disease complications and/or histological progression.

Methods: EMR data for 50 pediatric and 50 adult EoE patients (ICD-9 (530.13) and ICD-10 (K 20.0) codes) at Stony Brook University were retrospectively reviewed. Patients were classified as those who received continuous care, lapsed care (not seen for > 12 months), or discontinuous care (defined as care gap >12 months). Differences between pediatric and adult populations were determined using two-tailed z scores and chi-square analysis.

Results: 50 children (mean age: 15.8 + 4.8 years) and 50 adults with EoE (mean age 47.9 + 15 years) were identified. Nineteen pediatric patients (38%) had continuous care, compared with 16 adult patients (32%), (z score = -0.63, p= 0.529). Twenty- four pediatric patients (48%) had lapsed care, compared with 16 (32%) adult patients, (z=-1.633, p= 0.1031). Eighteen adult patients (36%) had discontinuous care, compared with 7 pediatric patients (14%) (z=2.5403, p= 0.011). There was no statistical difference between the reasons for return to care in the pediatric vs adult patients ($\chi 2(3, N= 25)=3.68$, P= 0.29).

There was evidence of increased histological progression in the discontinuous care groups compared with the continued care groups in both pediatric and adult populations (z score = 2.38, p= 0.01). Disease complications did not differ between groups (z score= 1.70, p= 0.08). *(Table 1).*

Conclusion: Care gaps occur frequently in both pediatric and adult EoE patients. However, reasons for return to care did not differ between children and adults. There was evidence of histologic progression in patients with lapsed care, compared with those who had continued care. Providers need to adapt new strategies to keep EoE patients engaged in care to prevent disease progression and complications.

	Pediatric Population	Adult Population
Continuous Care (z score = -0.63, p= 0.529)	19 (38%)	16 (32%)
Lapsed Care (z=-1.633, p= 0.1031)	24 (48%)	16 (32%)
Discontinuous Care (z=2.5403, p= 0.0111)	7 (14%)	18 (36%)
Total Histological Progression (pediatric and adult population) (z score = 2.38, p= 0.01)	Continuous Care: 0/19 Discontinuous Care: 2/6 (33%)	Continuous Care: 0/15 Discontinuous Care: 1/18 (5%)
Total Complications (total pediatric and adult population) (z score = 1.70, p= 0.08)	Continuous Care: 0/19 Discontinuous Care: 0/7	Continuous Care: 2/16 (12.5%) Discontinuous Care: 5/18 (27%)

Table 1: Comparison of care gaps between pediatric vs adult patients

POSTER 16. Resident

Utilization of a PDA Scoring System in the VLBW Population to Predict Hemodynamically Significant PDA

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Background: Patent ductus arteriosus (PDA) significantly impacts preterm neonates, requiring reliable tools for early detection and management. Standard practice includes bedside echocardiography to identify the presence of a hemodynamically significant PDA (hsPDA). The SIMPLE scoring system, a non-echocardiographic method based on multiple clinical parameters, predicts hsPDA in extremely low birth weight (ELBW=<1000g) infants with scores >14, though its effectiveness in determining treatment needs in very low birth weight (VLBW=<1500g) populations has yet to be determined.

Objective: To evaluate the efficacy of the SIMPLE scoring system in predicting a hsPDA, defined as one needing medical or surgical treatment, in the VLBW population.

Methods: A retrospective cohort study, approved by the Stony Brook Institutional Review Board, included VLBW neonates admitted to the Stony Brook NICU from 2019-2023 with an echocardiographic diagnosis of PDA. Clinical parameters within the first 72hours of life were used to calculate the SIMPLE score. Infants were divided into groups based on treatment necessity, and statistical analyses such as Chi-square, Wilcoxon rank sum tests, and logistic regression (corrected for GA and BW) were used to determine the relationship between SIMPLE scores and hsPDA treatment risk.

Results: A total of 110 VLBW patients were included in this study. Patients were more premature (median GA 26.1weeks (24.6, 28.4) vs 27.3weeks (25.7, 28.9); p=0.04) and had a lower BW (median BW 844g (642, 1068) vs 932.5g (770, 1150); p=0.07) in the hsPDA treatment group when compared to patients without a hsPDA. Treated patients also had higher FiO_2 levels (≥40%); p=0.03. Patients with a SIMPLE score <9 did not require any PDA treatment and ROC curves demonstrated no distinct difference in sensitivity or specificity regardless of the cutoffs used. However, mortality and comorbidities including Grade III/IV IVH, and ROP were associated with higher SIMPLE scores *(see Table 1).*

Conclusion: The SIMPLE score at 72 hours of life can assess morbidity and mortality risk, but its ability to differentiate between those who will require treatment and those who will not require further investigation. Next steps include comparing the score to echocardiographic parameters and the need for treatment, as well as a multi-center retrospective study to validate the SIMPLE score's effectiveness in diverse clinical environments.

Outcome	Level	N	Mean	SD	Min	Q1	Median	Q3	Max	P-value*
IVH Grade III	No	99	14.8	3.8	6	12	14	18	22	0.02
	Yes	11	17.7	3.5	10	16	18	21	22	
IVH Grade IV	No	98	14.8	3.7	6	12	14	18	22	0.01
	Yes	12	17.7	4.2	7	16	19	20.5	22	
ROP	No	67	14.2	3.8	6	12	13	18	21	0.002
	Yes	43	16.5	3.5	10	14	17	19	22	
Mortality	No	94	14.5	3.7	6	12	14	18	22	<.0001
	Yes	16	18.6	2.6	11	18	19	20.5	21	
*P-values were based on Wilcoxon rank-sum tests.										

Table 1: Descriptive statistics of SIMPLE score by event of adverse outcome

POSTER 17. Fellow

Introducing Video Laryngoscopy for Endotracheal Intubation in a Level III Academic NICU: A Quality Improvement Initiative

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Background: Neonatal endotracheal intubation can be a challenge for inexperienced and experienced providers, attributed to this population's unique anatomy and limited respiratory reserve. As a result, multiple intubation attempts are often necessary resulting in adverse events. Video laryngoscopy (VL), which enhances the viewing angle during endotracheal intubation, can improve first-attempt success rates for both trainees and experienced providers as well as reduce adverse events[1,2,3]. Implementation of Rapid Cycle Deliberate Practice (RCDP), where learners repeatedly perform a simulation interjected with micro-debriefs, can help rapidly acquire clinical skills[4].

Objective: Our primary goals are to demonstrate a 20% increase in VL utilization, 20% increase in first-attempt success rate among trainees using VL over 12 months starting in March 2023.

Design/Methods: This Quality Improvement (QI) project initiative was approved by the QI committee at Stony Brook University Hospital to be implemented in our level III academic Neonatal Intensive Care Unit (NICU). Before March 2023, VL was not used clinically on our unit, and our baseline data showed our NICU providers had minimal experience with VL. We then implemented RCDP simulation sessions to introduce and integrate NeoView VL on high-fidelity mannequins to all providers including attendings. Concurrently, interdisciplinary teaching sessions were conducted with nursing staff and respiratory therapists. After completing the initial RCDP sessions, VL was implemented clinically for nonemergent endotracheal intubations and Less Invasive Surfactant Administration procedures. During subsequent PDSA cycles VL was taught to new fellows and eventually brought to the delivery room. Following each endotracheal intubation procedure on our unit, regardless of whether using VL or direct laryngoscopy, providers completed a worksheet providing patient background data, number of intubation attempts, and adverse events. Results were analyzed using statistical run charts.

Results: Our findings revealed a greater than 20% increase in the utilization of VL *(Chart 1)*. Although we did not achieve a 20% increase in first attempt success rate the first attempt success rate improved from baseline *(Chart 2)*. When comparing VL to DL for all intubations, VL had a 62% first attempt success rate compared to 54% with DL.

Conclusion: The implementation of VL has improved the success of endotracheal intubation amongst trainees and is an effective teaching tool. VL can be successfully introduced in an academic Level III NICU using RCDP simulation, despite the absence of prior experience with this technology.

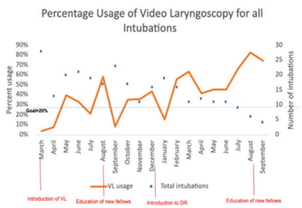

Chart 1: Run chart of percentage usage by laryngoscope type. March 2023-September 2024

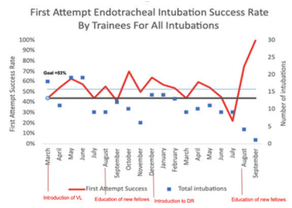

Chart 2: Run chart of first attempt success rate among trainees. March 2023-September 2024

POSTER 18. Fellow

A National Survey on Usage of Video Laryngoscopy for Neonatal Endotracheal Intubation

Daniel Helfgott, MD[1]; Jie Yang, PhD[2]; Xiaoyue Zhang, MS[2]; Taehoon Ha, MS[2]; Jennifer Pynn, MD[1] and Shanthy Sridhar, MD[1]
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Background: Neonatal endotracheal intubation can be a challenge attributed to this population's unique anatomy and limited respiratory reserve. As a result, multiple intubation attempts are often necessary resulting in adverse events[1]. Video Laryngoscopy (VL), which enhances the viewing angle during endotracheal intubation, reduces adverse events and improves first-attempt success rates[2,3,4]. A large 2022 study from the National Emergency Airway Registry for Neonates reported that 23% of 2,730 intubation encounters used VL. However, it remains unclear how often and when VL is utilized for endotracheal intubation nationwide. Additionally, while the C-MAC is frequently cited in the literature, it is limited by its smallest blade size of 0, and it is uncertain whether more neonatal-specific systems are being used.

Objective: This study aims to evaluate the current use of VL, types of VL systems used and the confidence levels associated with its use.

Method: A cross-sectional survey of the American Academy of Pediatrics Section of Neonatal-Perinatal Medicine (SONPM) members was conducted and approved by the SONPM leadership and the Stony Brook Institutional Review Board. Surveys were collected from April 2024 to November 2024 and included questions regarding provider training, NICU level, VL usage, and VL systems. Descriptive statistics and chi square tests were employed to analyze the data.

Results: A total of 404 survey responses were collected with 350 surveys completed in entirety. The majority of NICUs included were Level III (40%) and IV (57%). Most responders were attending neonatologists (80%), 18% were fellows, and 3% were advanced practice providers. Approximately 2/3 of responders use VL in their daily practice. Of those who do not use VL, 56.6% were very interested or extremely interested in learning how to use this tool. The three most common VL systems were C-MAC, Neoview and Glidescope *(Figure 1)*. Those who use a Neoview are more likely to be use VL on smaller neonates *(Chart 1)*. However, of those that use a VL less than half will extremely often or very often use a VL on their first attempt and 70% felt more proficient using DL rather than a VL.

Conclusion: Our survey indicates that approximately two-thirds of neonatologists use VL in their daily practice, with the most common systems being C-MAC, Neoview, and Glidescope. These findings underscore the need for further study of the various VL systems available and highlight the desire for education on the use of VL.

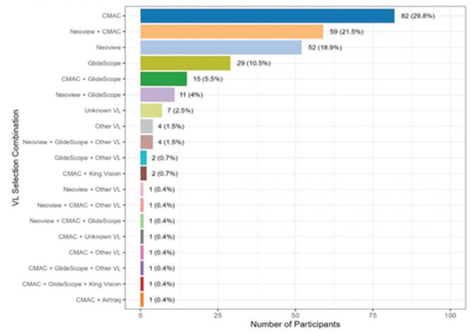

Figure 1: Selection of VL types among participants who currently use VL in daily practice

Variable	Yes/No	Total (N=275)	Neoview User (N=129)	Non-Neoview User (N=146)	P-Value
Do you use any VL for neonates <1000g?	No	68 (24.7%)	4 (3.1%)	64 (43.8%)	<.0001 *
	Yes	207 (75.3%)	125 (96.9%)	82 (56.2%)	
Do you use any VL for neonates 1000-1500g?	No	37 (13.5%)	3 (2.3%)	34 (23.3%)	<.0001 *
	Yes	238 (86.5%)	126 (97.7%)	112 (76.7%)	
Do you use any VL for neonates 1500-2000g?	No	18 (6.6%)	8 (6.2%)	10 (6.9%)	1.00
	Yes	257 (93.5%)	121 (93.8%)	136 (93.2%)	
Do you use any VL for neonates >2000g?	No	11 (4%)	4 (3.1%)	7 (4.8%)	0.56
	Yes	264 (96%)	125 (96.9%)	139 (95.2%)	

*Statistical significance level set at <0.05

Chart 1

ADDITIONAL WORK

19. Christina Mazza, MD; Kelcy McIntyre, MD; Victoria Lee, DO (Amanda Waldeck, PharmD; Maribeth Chitkara, MD and Randi Trope, DO)	Sedation Weans: Decreasing Length of Hospitalization
20. Aikaterini Mastoropoulou, MD (Andrew Lane, MD)	Posaconazole Induced Adrenal Insufficiency in an Adolescent with a Gain of Function Mutation in STAT1
21. Aikaterini Mastoropoulou, MD (Andrew Lane, MD)	A Rare Case of Central Precocious Puberty in a Male Infant with Adrenal Hypoplasia Congenita
22. Kelcy McIntyre, MD (Ken-Michael Bayle, DO and Stuart Holzer, MD)	Ambulatory electrocardiogram monitoring in pediatric patients with palpitations

ACKNOWLEDGEMENTS

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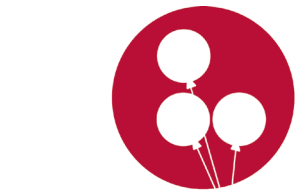

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