Based upon descriptions of potential research projects solicited by Dr. Milana from each division, residents are able to choose their Residency Research project from this preselected list.

Residents will work with the project mentor listed and with their Division Chief who will oversee project execution.

The Wednesday, October 3rd Research Fair will provide you with a terrific opportunity to meet and speak with Division members whose projects are of interest to YOU.
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DIVISION OF ADOLESCENT MEDICINE

➢ Study PI: Alison Eliscu

Study Title/Concept: Determining Parents’ Views on Adolescent Participation in Research Studies

Description of Research: Survey distributed to parents of adolescents with following objectives:

(1) To learn parents’ opinions on allowing their adolescent children to make their own decisions about low risk behaviors (like whether to participate in extracurricular activities), high risk activities (like whether to accept a ride from someone who is intoxicated) and participation in research studies without parental consent

(2) To determine the factors which influence a parent’s decision whether or not their adolescent child should be able to enroll in research studies without parental consent

Role of Resident: Look at data results, compare different factors which contribute to parental decision making regarding consent

Timeline for Involvement: Study already IRB approved, research assistant currently enrolling parents into study. Goal to complete enrollment this winter and start analyzing data.

DIVISION OF ADVOCACY

➢ Study PI: Leslie M. Quinn

Study Title/Concept: Risk of ED Visits/hospital readmission for NAS babies in the first two years of life for injury/ suspicion of child maltreatment

Description of Research: This vulnerable population is known to be at risk for ACE’s including child maltreatment/neglect. There are currently no mandated services or required follow-up system in place for these patients/ families. In an effort to determine if we should have changes in hospital, county and state policy regarding mandated services for these infants/ families, we will do a retrospective chart review (2010-2017) of all meconium-positive NAS babies born at UHSB up through their second birthday identifying any ED visit or hospitalization for concerns of injury/possible maltreatment.

Role of the Resident: Participation in an updated/ ongoing literature search on this topic. Since we are still in the planning phase, the resident can help with design in terms of identifying variables for pulling out data for the chart reviews. The resident will help conduct the chart reviews and do data entry.

Timeline for Involvement: Resident can be involved from the beginning but with specific tasks as noted. We do need to apply for IRB approval so chart reviews most likely will not start for at least six months. I envision the resident will identify at least one variable for data analysis and be able to report on this for their scholarly project in senior year.
DIVISION OF ALLERGY & IMMUNOLOGY

- Study PIs: S. Schuval and M. Tobin

Study Title/ Concept: Long Term Follow-up of Young Children with Eosinophilic Esophagitis

Description of Research: Chart review of patients diagnosed with Eosinophilic Esophagitis (identified via ICD 9 code of 530.13 in EMR) to determine duration and efficacy of treatment (diet, PPI, swallowed corticosteroids) and compliance with medication and clinic Follow-up visits. Esophageal biopsies will be reviewed to determine the percentage of children that undergo histologic remission.

Role of Resident: The resident will be involved in all aspects of the project, including background research, IRB submission, and data analysis.

Timeline for Involvement: Data collection (9-12/18) after IRB grants final approval. Data analysis (1/19-3/19). Presentation of study data at Pediatric Research Day (5/19)

DIVISION OF CARDIOLOGY

The Division of Pediatric Cardiology currently has residents working on existing projects. However, if you have strong interest in pursuing a pediatric cardiology study as your Scholarly Activity, please speak with Dr. L. Panesar (Division Head) to explore possibilities.

DIVISION OF CRITICAL CARE

- Study PI: D. Sloniewsky (Co-PI: L Hogan)

Study Title/ Concept: Does Age Matter? Looking for a relationship between the age of transfused blood and fevers in chemotherapy-induced neutropenic pediatric patients

Description of Research: Retrospective evaluation of (1) incidence of fevers after allogenic blood transfusions in chemo-induced neutropenic patients; (2) look for association between transfusion and the development of bacteremia; (3) review association between age of blood and fevers and bacteremia in this population.

Role of Resident: Primary author

Timeline for Involvement: Looking at charts in neutropenic patients between the ages of 1 mo and 25 years between 2000 and 2016. Preliminary work has already been started, therefore it is reasonable for project completion to occur in a year.
Study PI: Ilana Harwayne-Gidansky

Study Title/ Concept: In-Situ Simulation
Description of Research: This is a single center educational and QI research project aimed at improving patient safety with regards to recognition and intervention of pediatric emergencies

Role of Resident: Opening for resident involvement at several different levels- as participant, splinter studies if interested in more responsibility.

Timeline for Involvement: 1-2 years

DIVISION OF EMERGENCY MEDICINE

➢ Study PI: Jeffrey Hom

Study Title: Case-control study assessing risk factors associated with surgical reduction for intussusception

Description of Research: Case-control study to evaluate risk factors for association of need for surgical reduction for intussusception

Role of Resident: Preliminary literature search, data collection

Timeline for involvement: 1-2y

DIVISION OF ENDOCRINOLOGY

➢ Study PI: Jennifer Osipoff

Study Title/ Concept: Effect of Intensified Insulin Pump Therapy on Diabetic Control

Description of Research: A recent innovation insulin pumps provides automatic adjustment of basal insulin dosing based on continuous glucose monitoring. This is a retrospective look at whether diabetic control improves and is sustained once patients are placed on this pump system

Role of Resident: Design study. Formulate data entry log, Obtain IRB approval, retrospectively analyze charts for hemoglobin A1c.

Timeline for Involvement: 2 years

➢ Study PI: Andrew Lane

Study Title/ Concept: Risk factors for transient hyperinsulinemia in neonates

Description of Research: Intent of study is to determine if there is a correlation or threshold for severity of known risk factors (hypoxemia, IUGR, maternal glycemic status, severity/duration of transient neonatal hyperinsulinemia. This would be a retrospective chart review of Stony Brook NICU neonates
with hyperinsulinemia during a specified timeframe that may be expanded or contracted depending on numbers of subjects available.

**Role of Resident:** The resident will be involved in all aspects of the project, including background research, IRB submission, and data analysis.

**Timeline for Involvement:** 2 years

- **Study PI:** Andrew Lane
- **Study Title/Concept:** Effect of glycemic excursion on Hemoglobin A1c
- **Description of Research:** Compare hemoglobin A1c between 2 groups of diabetics with the same (or very similar) mean blood glucoses. The first group would have wide glycemic excursions and the second group would have narrow glycemic excursions. Do wider excursions change the hemoglobin A1c? CGM data would be stronger than meter memory data, recognizing that the CGM group is a more “selected” population.

**Role of Resident:** The resident will be involved in all aspects of the project, including background research, IRB submission, and data analysis.

**Timeline for Involvement:** 2 years

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**DIVISION OF GASTROENTEROLOGY**

- **Study PI:** Anupama Chawla
- **Study Title/Concept:** Inter-Observable and Intra-Observable Variation in Interpretation of Fecal Loading on Abdominal X-ray in Children
- **Description of Research:** This project involves three steps:
  1) Subjective readings of 100 x-rays by 6 attendings;
  2) Re-read of 30 x-rays already read;
  3) Objective scoring of the 100 x-rays

**Role of Resident:**

1) Understanding the objective and subjective readings of the x-ray
2) Collecting data and statistical analyses
3) Abstract preparation

**Timeline for Involvement:** 1 year

- **Study PI:** Michelle Tobin
- **Study Title/Concept:** Would Obtaining 3 Levels of Esophageal Biopsies Increase the Yield of Changes of Eosinophilic Esophagitis (EoE) Compared to 2 Levels (Retrospective & Prospective)
Description of Research: 1) Obtaining 3 level biopsy of esophagus for patients suspicious for EoE, grading the esophagus and looking at a questionnaire for EoE symptoms; 2) Retrospective chart review of 3 years for patients with EoE who had level 3 esophageal biopsy on their first endoscopy that diagnosed them with EoE; 3) Compare if taking at 3 levels would increase yield of diagnosis of EoE vs. if proximal level is not taken (2 levels)

Role of Resident: 1) Understanding how to diagnose EoE and visual markers of EoE in the esophagus; 2) Collecting data from both retrospective chart review and prospective study; 3) Statistical analysis of data

Timeline for Involvement: 2 – 2.5 years

Study PI: Anupama Chawla

Study Title/Concept: Improvement in Psychosocial and Cognitive Function Following Initiation of a Gluten-Free Diet in Patients with Newly Diagnosed Celiac Disease

Description of Research: Administration of KBIT and CPT3 (intelligence testing and attention testing) to newly diagnosed celiac patients before gluten-free diet and after

Role of Resident: 1) Data collection and demographic collection 2) Understanding what is celiac disease and how it is diagnosed; 3) Statistical analysis; 4) Administer the KBIT and CPT3 testing

Timeline for Involvement: 2 years

DIVISION OF HEMATOLOGY / ONCOLOGY

Study PI: L. Hogan

Study Title/Concept: Correlation of tumor type & chemotherapy with post-Rx Bone Mineral Density

Description of Research: Retrospective analysis of patient data

Role of Resident: IRB approval, Data extraction from patient charts; data/statistical analysis

Timeline for Involvement: Available to start now

Study PI: L. Hogan
Study Title/Concept: Evaluation of chemotherapy neurocognitive late effects by fMRI and neuropsych testing
Description of Research:  Prospective analysis of patient data, project already underway
Role of Resident:  Enrollment of patients, data/statistical analysis
Timeline for Involvement:  Available to start now

➢ Study PI:  R. Meyer

Study Title/ Concept:  Development of a palliative care checklist for assessment of patients to undergo an elective tracheostomy
Description of Research:  Review of literature into long-term consequences of tracheostomy in children and development of a tool to best inform parents of these factors
Role of Resident:  Literature review and synthesis of known health effects of chronic tracheostomy
Timeline for Involvement:  Available to start now

➢ Study PI:  D. Prakash

Study Title/ Concept:  Assessment of dietary anticipatory guidance provided to children <4yrs of age ultimately diagnosed with iron deficiency anticipatory
Description of Research:  Prospective analysis of patient data
Role of Resident:  Data extraction from patient charts; data/statistical analysis
Timeline for Involvement:  Available to start now

DIVISION OF HOSPITALIST MEDICINE
➢ Study PI:  Josette Bianchi and Rosa Cataldo

Study Title/ Concept:  Weight Association with Asthma in Adolescent Patients
Description of Research:  Examining association between weight status and asthma control, severity. We are also looking at both teen and parental perceptions about asthma control in relation to weight parameters.
Role of Resident:  Help with data collection (this is already underway and about 25% done) in our outpatient offices, statistical analysis and literature review to support abstracts, posters and manuscripts.
Timeline for Involvement:  This is IRB approved and data collection is currently underway with 40 participants enrolled. We plan to continue enrollment for another 6-8 months and then begin data analysis in the spring/summer of 2019.
Study PI: Maribeth Chitkara

Study Title/ Concept: Use of an Individualized Teaching Plan to Augment Teaching Skills for Pediatric Residents

Description of Research: Implement a novel iTeach Plan at the completion of the Annual Residents as Teachers Retreat to evaluate commitment and accountability of resident teaching efforts. iTeach plans will be re-considered at 1, 6 and 12 month intervals and qualitatively analyzed for themes. Student ratings of resident teaching pre- and post-iTeach implementation will also be measured.

Role of Resident: Collect iTeach documents from participating residents, conduct qualitative analysis of iTeach docs to identify themes, collect and compile medical student surveys into dataset

Timeline for Involvement: Exempt status issued from IRB, data collection to proceed starting September 26 Residents as Teachers Retreat, data analysis in summer 2019, abstract submission in fall 2019 for spring meetings 2020.

Study PI: Rachel Boykan

Study Title/ Concept: E-cigarette and marijuana use among teens – self-reported data with urine biomarkers. I would encourage anyone interested to speak to me about what questions to look at. We have already published one paper on this, and another on the way - but there are lots of things to look at!

Description of Research: Ongoing (IRB approved): Analysis of dataset of 517 teens (ages 12 - 21) given 60 item questionnaire re use of e-cigs and other tobacco products and marijuana. Have urine samples from 284 of them with tobacco and and smaller subset with marijuana biomarkers (THC).

Role of Resident: Analysis of data already collected. Should come up with research question (that hasn’t been answered yet) from this dataset. Knowledge of SPSS would be good but if not, as long as willing to learn it’s fine.

Timeline for Involvement: Ongoing

Study PI: Rachel Boykan - with Dr. Milana

Study Title/ Concept: Implementation of resident prescription (by calling pharmacies and documenting calls in EMR) of nicotine replacement therapy for smoking parents in inpatient setting.

Description of Research: QI project to implement resident prescription of nicotine replacement therapy (NRT= nicotine gum and patch) from inpatient setting. Will educate residents on NRT, how to prescribe, then will pilot this and track prescriptions. May also do some pre and post attitudinal and self-reported behavior surveys of participants
Role of Resident: Create pre-and post-surveys, work on EMR implementation with IT, track and monitor prescriptions (call pharmacies), adjust as PDSA cycles inform.

Timeline for Involvement: In planning stages. Would need IRB but would likely be exempt. Working with IT may be slow to have change implemented but would hopefully have something going within 6 months. Would need to learn/know SPSS at basic level

➢ Study PI: Rachel Boykan

Study Title/Concept: Resident Survey Re: Education and Practice of Addressing Smoking Cessation in Residency Training

Description of Research: If possible do either national pediatric resident survey or perhaps survey residents in different specialties at Stony Brook. Survey would include self-reported attitudes, education, comfort with doing, practice.

Role of Resident: Write IRB, create survey, administer survey and analyze data. Would need to learn/ know SPSS at basic level.

Timeline for Involvement: Could start anytime. IRB probably a few months, survey development and administration a few months, then data analysis. Overall could be quick study.

DIVISION OF INFECTIOUS DISEASES

➢ Study PI: Christy Beneri

Study Title/Concept: The Changing Epidemiology of Tick-Borne Infections

Description of Research: Review data in Lyme lab in regards to tick identification and time of year and temperature to assess change in tick patterns that impact how we think about tick-borne infections.

Role of Resident: Data collection and analysis with PI help
Timeline for Involvement: Less than one year; project ready to be started

➢ Study PI: Christy Beneri

Study Title/Concept: Rickettsia amblyommmii, possible new tick-borne infection in our area

Description of Research: Work with DOH to review all DOH reports that are positive for Rickettsia rickettesii. We see high rate of false positives though these may be other spotted fevers given we have the lone star tick in our area and may be seeing Rickettsia amblyommmii. Consider contacting patients for retesting.

Role of Resident: Data collection and analysis with PI help
Timeline for Involvement: 1-2 years
DIVISION OF NEONATOLOGY

➢ Study PI: Jennifer Pynn

Study Title/Concept: Can the Time to Regain Birthweight in the Very Low Birthweight Population Predict Growth Outcomes at Discharge?

Description of Research: This is a clinical retrospective research project that is ongoing and requires additional chart review and data collection

Role of Resident: Data collection

Timeline for Involvement: 12-18 months. Has IRB approval

➢ Study PI: Shanty Sridhar

Study Title/Concept: Use of Stadiometer-O'Leary Length Boards in Measuring Length In VLBW (<1500gms) Infants in Optimizing Growth Outcomes at Discharge

Description of Research: Prospective study - Comparing lengths using regular tape measure vs O'Leary length board. Using Weekly length as a marker in optimizing Daily Protein

Role of Resident: Data collection, partner with PI in data analysis, presentation of data at pediatric conferences, partner with PI in writing the manuscript. Weekly visit to NICU Measuring lengths using board (with Nutritionist). Data collection and analysis


➢ Study PI: Shanthy Sridhar

Study Title/Concept: Improving Birthing Dose of Hepatitis B Vaccine Administration in Level III NICU Admits

Description of Research: This is an ongoing QI Project evaluating birthing dose Hepatitis B vaccination rates on all NICU admits. NYS requires Vaccine given a 12 hrs of age. Our trend is towards discharge or at 72 hrs. PDSA cycles being implemented to improve timely administration of Vaccine.

Role of Resident: Providing monthly Audits (with our NP). Implementing PDSA cycles. Identifying barriers. Education

Timeline for Involvement: 12-18 months
Study Title/Concept: Hypoglycemia Risk Score: A valuable clinical tool for assessing the need for dextrose infusion requirement in the management of hypoglycemia for infants of medication dependent diabetic mother

Description of Research: Severe or prolonged hypoglycemia in the neonatal population cause cellular dysfunction and tissue damage with a high risk of neurologic handicap including. Although it is unclear at what specific values of blood glucose or after which duration of low glucose level these complications will occur, the concern resulted to the screening recommendations by the American Academy of Pediatrics to maximize detection and treatment of neonatal hypoglycemia. The AAP guideline however, did not provide information on the risk of severe hypoglycemia that will necessitate intravenous therapy. The association between hypoglycemia and neurological sequelae underscores the need for early identification in immediate post-delivery period of high risk infants that will require intravenous glucose infusion. Such early detection could aid early transfer from the delivery room to appropriate unit for management. The aim of this study therefore, is to evaluate the reliability of the Hypoglycemia risk score in predicting the needs for intravenous dextrose requirement in a high risk infants of diabetic mothers.

Role of Resident: Data collection, partner with PI in data analysis, presentation of data at pediatric conferences, partner with PI in writing the manuscript

Timeline for Involvement: 12-24 months

Study Title/Concept: The Accuracy of Ultrasound Estimated Fetal Weight Percentile on Modified Fenton Curve for Birth Weight Estimation and Drug-dosing in Preterm Infants

Description of Research: In the immediate post-delivery period, 10% of newborns require some assistance to initiate breathing, and approximately 0.1% will need epinephrine administration in a weight-based dosing measurement during resuscitation in the delivery room. It is therefore, critical that individuals skilled in the evaluation and resuscitation of the newborn be aware of birth weight to avoid dosing errors. But it is difficult to interrupt a resuscitation to obtain an accurate weight during a newborn code and could actually be harmful to delay treatment. As a result, it is not uncommon in the absence of birth weight for a skilled personnel directing resuscitation to visually estimate the weight to be used for medication administration. Such visual weight estimation varies from observer to observer, and can result in medication dosing errors. In order to minimize the potential for medication errors during the neonatal resuscitation in the delivery room, it would be optimal to have an estimated prenatal weight that could be extrapolated to an accurate weight especially in premature infants. We hypothesize that weight estimation using prenatal ultrasound-determined fetal weight percentile on the modified Fenton curve will be better than the visual estimated weight, and similar to the actual birth weight at any given gestational age birth in preterm infants ≤36 weeks gestational age.

Role of Resident: Obtaining informed consent, data collection, partner with PI in data analysis, presentation of data at pediatric conferences, partner with PI in writing the manuscript.

Timeline for Involvement: 18 – 24 months
Study Title/Concept: Impact of Components of Golden Hour Care Protocol (GHCP) on Intraventricular Hemorrhage in newborn infants (IVH)

Description of Research: The study is proposed to evaluate the individual impacts of known components of golden hour care that are associated with IVH including thermoregulation, volume expansion, Surfactant administration and establishment of IV access for fluid administration in golden hour of care (first 90 minutes of life). It will involve retrospective review of the charts of infants with IVH during a period of past three meetings.

Role of Resident: First year: Prepare and submit protocol (Protocol is ready for submission)
Second year: first 6 months for chart review Second 6 months: analyze data
Third year: preparation for presentation and write up years.

1. Submit protocol to IRB,
2. Collect data and help analyze the impact of these components on outcomes as it relates to occurrence of IVH.
3. He/she will participate in the preparation and presentation of the data/results at local/regional

Timeline for Involvement: 18-24 months

Study Title/Concept: Determination of Correlation of Transcutaneous Bilirubin with Serum Bilirubin in Late Preterm Infants Receiving Varied Routes of Fluid and Nutritional Support.

Description of Research: The aim of the study is to determine the correlations of transcutaneous bilirubin measurements (TcB) with total serum bilirubin (TsB) values in late preterm infants receiving fluid and nutritional management based on routes of administration. Bilirubin clearance is facilitated by oral intake and measurement of TcB may be affected by hydration status of the skin in infants who are exclusively orally fed from those who are placed on intra-venous fluid supplementation (IVF). If correlation is found, then TcB measurements can be used as a screening method to measure bilirubin in late preterm infants.

Role of Resident: (Already has resident involved.) Kevin has been involved and has already submitted the IRB protocol. Upon approval he will be responsible for enrollment of patients. Protocol has been submitted to IRB and we will be enrolling patients once it is approved.

Timeline for Involvement: 24 months
Study PI: Aruna Parekh

Study Title/Concept: Impact of Neonatal Morbidities on High Risk Clinic Follow Up

Description of Research: Ongoing QA project. Determine the impact of neonatal morbidities on high risk clinic follow up rates. Our Preliminary data with limited numbers show a trend towards higher follow up rates in infants with increased morbidities. However, a significant number of patients continue to miss follow up recommendations. We would like to study the details of demographics of patients, intervention such as education to families at the time discharge and a post discharge survey or a phone call can help improve outcomes.

Role of Resident: Resident will be responsible to continue ongoing data collection of all patients coming to our HR clinic and related to their demographics, education status, discharge interventions and post discharge contacts made by NICU on our follow up rates.

Timeline for Involvement: 1-2 yrs ongoing. Over next two years resident will help collect data and study impact of our ongoing interventions on follow up

Study Pls: Jonathan Mintzer and Shanthy Sridhar

Study Title/Concept: Feeding Tolerance and Growth Outcomes Following Implementation of a Neonatal Nutritional Care Bundle: A Before-After Analysis

Description of Research: In the NICU setting, provision of adequate nutrition is a critical element of neonatal care to promote optimal growth. To aid in streamlining care practices, the NICU Enteral Feeding Committee implemented a nutritional care bundle in the very low birth weight population. Elements of this care bundle included earlier fortification of breast milk, avoidance of routinely checking gastric residuals without a clinical indication, and continuation of TPN until a higher enteral feeding volume had been achieved, among other factors. As these care practices have now been in place for approximately two years, the Enteral Feeding Committee has anecdotally noted some improvements in time to full enteral feeds, hospital length of stay, and discharge weight percentiles, all factors associated with overall improvement in outcomes since instituting the nutritional care bundle. In this study, we aim to perform a formal before-after analysis of the effects of our nutritional care bundle by comparing a cohort of neonates admitted to the NICU prior to the nutrition-based initiative to a second cohort whose care occurred after the intervention to evaluate a broader selection of both short-term enteral feeding advancement parameters and longer-term discharge-related outcome.

Role of Resident: The resident will work with the PI to design and compose a formal research protocol, meet with the study statistician to develop data collection instruments, and complete Institutional Review Board application materials and submission for approval. The resident will be responsible for all data collection, as supervised by the PI, and assisted by members of the NICU Enteral Feeding Committee. Upon completion of data collection, the resident will then complete statistical analysis with the study statistician and prepare an abstract for submission to local, regional, and national research meetings. Upon acceptance, the resident will then be responsible for poster and/or platform presentations resulting from the abstract. Finally, under the guidance and supervision of the PI, the resident will prepare a study manuscript for submission to a peer-reviewed journal.
Timeline for Involvement:  Initial study protocol construction, including statistical review and IRB submission (with expedited review due to the minimal-risk study design), could typically be completed within 2-3 months of project acceptance. Time for data collection is dependent on number of subjects required following power analysis, though generally could be completed within 3-6 months as all data is chart-review based. Statistical analysis will then be conducted over the weeks following completion of data collection. Ideally, all above study-related activities will be completed by the early part of the 2nd Residency Year, such that the remainder of the research project time can be devoted to abstract preparation and submission, conference presentations (poster/platform), and manuscript preparation.

**DIVISION OF NEPHROLOGY**

- **Study PI:** R. Woroniecki

**Study Title/ Concept:** Effectiveness of Life Style Modifications in the Management of Pediatric Hypertension

**Description of Research:** Weight reduction and regular aerobic exercise are recommended first steps in the treatment of primary hypertension and according to the national guidance can be sufficient to control high blood pressure. However it is unclear how actually effective are those recommendations in our suburban Long Island pediatric population. We aim in this retrospective, descriptive study to examine prevalence of nutritional assessments, longitudinal body mass index and weight z-scores, left ventricular mass and blood pressure control in children evaluated and followed for hypertension in our pediatric nephrology clinics.

**Role of Resident:** To assist in IRB application, collect data from Electronic Medical Record and assist in data analysis

**Timeline for Involvement:** PGY-1 (IRB application), PGY-2 (data collection/analysis), PGY2/PGY3 (data presentation)

**DIVISION OF PRIMARY CARE**

- **Study PI:** Robyn Blair

**Study Title/ Concept:** Resident Handoffs in the Continuity Clinic Setting

**Description of Research:** Patient handoffs in continuity clinic is complicated. There are currently no published handoff processes for pediatric residency program outpatient continuity clinic

**Role of Resident:** The resident will review current literature regarding patient handoff tools and the systems implemented in other outpatient subspecialties. Through educational sessions with current residents, a new handoff system will be implemented and evaluated. The resident will help design the implementation process. Patient continuity with their physician team will be reviewed after the implementation of the handoff system.
Timeline for Involvement: The project will begin in the resident’s PGY-1 training year with implementation of the formal handoff process at the end of the first year for all graduating residents. The process will be evaluated and data reviewed in the resident’s second year. A poster or paper may be written in the PGY-2 year, depending upon results. If changes to the process are needed, these changes can be implemented in the end of PGY-2 training. Presentation at the PGY-3 level would be reasonable as well.

- **Study PIs:** Robyn Blair and Rina Meyer

**Study Title/Concept:** Strategies for Fostering Resilience and Reflection

**Description of Research:** As the newest ACGME guidelines indicate, physician resident psychological and emotional well-being are critical to the development of a caring, competent, resilient physician. Programs are required to create training elements to enhance the meaning that each resident finds in the experience of being a physician. Our current Schwartz Rounds series provides residents the opportunity to think and reflect on topics that relate to their role as physicians and healthcare team members, however the large group setting may not provide all residents with a chance to share their opinions. Through this project, we will create and initiate a smaller Balint-like groups designed to offer protected, facilitated resident reflection time on topics related to challenging areas, such as the emotional response to difficult situations and professionalism dilemmas.

**Role of Resident:** The resident will review current literature on resident well-being as well as Balint groups. The resident will help initiate a needs assessment and then participate in the design of the new program elements. The resident will work with the project PIs to develop evaluation tools and assess feedback to the new curricular addition.

Timeline for Involvement: The project will begin in the resident’s PGY-1 training year with a literature search. Project design and IRB approval will be obtained in the first year of training. The process will be evaluated and data reviewed in the resident’s second year. A poster or paper may be written in the PGY-2 year, depending upon results. If changes to the process are needed, these changes can be implemented in the end of PGY-2 training. Presentation at the PGY-3 level would be reasonable as well.

- **Study PI:** Susmita Pati

**Study Title/Concept:** Evaluation of the Impact of an Enriched Primary Care Medical Home Intervention (Keeping Families Healthy)

**Description of Research:** Secondary analysis of data collected from participants in Keeping Families Healthy, an enriched primary care medical home intervention in which trained community health workers help ‘at-risk’ families achieve self-sufficiency in following recommended clinical care. Existing data collected includes a broad array of child, family, home, and neighborhood characteristics and clinical outcomes.

**Role of Resident:** Perform literature review, assist with formulating data analysis plan & interpretation of results, draft abstracts for submission to national scientific meetings, draft manuscripts for submission
to peer-reviewed scientific journal. Presentation & authorship opportunities available for interested individuals, commensurate with contributions.

**Timeline for Involvement:** 1-2 years

**DIVISION OF PULMONOLOGY**

- **Study PI:** Catherine Kier

**Study Title/ Concept:** Obstructive sleep apnea and Somatic syndromes in Obese Adolescents: The Utility of the Body Sensation Questionnaire

**Description of Research:**

The Body Sensation Questionnaire (BSQ) is a 17-item questionnaire in which the respondent rates how much a symptom or sign of increased sympathetic nervous system tone was experienced over the preceding week on an increasing scale from 1 (never) to 5 (extremely). In a previous report (Amdo, et al [1]), there is a correlation of the Body Sensation Questionnaire (BSQ) score with the presence of somatic syndromes (six syndromes), anxiety (anxiety disorders, nightmares, use of benzodiazepines), and insomnia (sleep onset, sleep maintenance, and use of hypnotics) in adults with obstructive sleep apnea (OSA), being that the body is in a state of chronic stress. Up to 50% of overweight/obese children have OSA compared to up to 6% of normal weight children. OSA and obesity share inflammatory pathways known to lead to metabolic syndrome and cardiovascular complications. Neurocognitive and behavioral consequences have also been reported as complications of OSA in children and adolescents. Our hypothesis is that obese adolescents with OSA have higher BSQ scores, reflecting increased somatic arousal. It is important to validate this tool in adolescents to correlate OSA with associated somatic syndromes such as anxiety disorder.

This is a retrospective chart review study. During their routine clinical office visits for sleep evaluation at our Stony Brook Sleep Disorders Center, children >12 years old fill out the Epworth Sleepiness scale and the BSQ questionnaire in addition to the pediatric sleep questionnaire intake. In this retrospective study, subjects’ demographic data, anthropometric and clinical data as well as their polysomnographic data (sleep parameters) will be collected. Statistical analysis will be utilized to look for correlation of the clinical and polysomnographic data with the BSQ score.

Future implications of this study: BSQ could be a surrogate measure of somatic arousal by further doing a prospective study to correlate BSQ score to objective measure of increased sympathetic tone (via heart rate variability using an open-source heart rate variability analysis program). Potentially, BSQ could be used to measure improvement (effect of treatment) of somatic syndromes after OSA treatment in obese OSA adolescents.

**Role of Resident:**

The resident will be tasked to assist in IRB application for retrospective chart review. The resident will be tasked to assist in chart review and data collection of subjects’ demographic data, clinical data during
their routine clinical sleep evaluation and polysomnographic data (sleep parameters). Resident will assist in data preparation for analysis by a statistical software.

**Primary Outcome:** Higher BSQ score is seen in obese adolescents with OSA.

**Secondary Outcomes:** Higher BSQ score is correlated with somatic syndromes, anxiety, behavioral problems, use of ADHD or psychotrophic medications in obese adolescents with OSA. Higher BSQ score is correlated with abnormal sleep parameters (apnea-hypopnea index, sleep latency, sleep efficiency, arousals) during overnight polysomnography in obese adolescents with OSA.

**Study End Point:** Completion of retrospective chart review and polysomnographic review of obese adolescent subjects seen at Stony Brook Sleep Disorders Center from 2014-2018 (recent 5 years).

**Timeline for Involvement:** 12 months to complete chart review and polysomnographic review.


- **Study PIs:** Katharine Kevill and Candice Foy

**Study Title/ Concept:** The Asthma Journey Game: Creating an easy and fun mechanism for multi-lateral communication at the patient’s bedside.

**Description of Research:** Asthma is one of the most common chronic disease of childhood and one of the most common reasons for hospital admission. Communication among patients and health care team members is the backbone of patient-centered care. There is a complex ecosystem of stakeholders that are involved in the care of a single patient when admitted to the hospital. Health care members often deliver information individually to patients and communicate with each other separately—either in person or through the electronic medical record. This fragmented process leaves open the potential for large gaps in communication about essential elements of the patient’s home management plan. A retrospective chart review of patients admitted to SBCH for asthma from 01/2017-04/2017, identified opportunities for improvement in the coordination and communication of individualized asthma education in the inpatient setting. We have created an asthma journey game that provides a fun, centralized, visual mechanism to disseminate essential elements of an individual patient’s asthma education among all members of the patient’s team.

**Role of Resident:** **There is a current resident involved in this project.**

**Potential role of future resident:** In the future, a resident may choose to evaluate the effects of the game upon such areas as: family knowledge of asthma; hospital surveys of patient satisfaction; perception of intra-team communication among stakeholders; accuracy of intra-team communication.

**Timeline for Involvement:** An intern could start involvement at any time by working as a team with the current resident. The intern would need to write a new IRB early in 2019.
Study PI: Julie Cherian

Study Title/ Concept: Evaluation of Pain Reduction Methods for Subcutaneous Injections in Patients Receiving Subcutaneous Biologic Therapies in Rheumatic Disease to Increase Medication Compliance

Description of Research: Biologic therapies have dramatically reduced morbidity and mortality among children with rheumatic disease. However, most are administered by frequent injections. Painful injections can cause psychologic trauma in children and in turn reduce compliance of these life changing therapies. It is important to understand efficacious methods to reduce injection site pain to help improve medication compliance.

To better understand ways to improve pain control with injectable medications, a survey will be administered to parents and children at the start of therapy and after 6 months of being on therapy. Survey questions will include age groups, type of medication, and interventions used.

Role of Resident: Residents would create and administer a survey (parent and child) on methods used to reduce pain at the time of subcutaneous injection of biologic therapies in patients suffering from rheumatic disease. Various methods of pain reduction would be included and parents are required to rank each method used.

Timeline for Involvement: The first 4-6 months would be used to help create the survey and become familiar with various ways to control pain. Methods of pain reduction include applying ice to the site of injection, emla (lidocaine), coughing at the time of injection, buzzy bee, and/or physician administration of injection. And one year would be devoted to administering the surveys which will be given at baseline (when patients first start injectable medications) and 6 months later.