



RESEARCH DEVELOPMENTS at Englewood Hospital and Medical Center

Vol. 4 - Summer 2014

The EHMC Clinical Research Center exists to facilitate the research designed to improve the care provided to all patients. In addition to supporting industry trials of the latest drugs and devices, the Clinical Research Center is assisting many EHMC Physician-Investigators with **innovative, investigator-initiated research projects that are unique to EHMC**. These studies demonstrate our Investigators' commitment to gaining a better understanding of various conditions and to developing improved ways to treat them. This edition of **RESEARCH DEVELOPMENTS** highlights just a few of these original studies:

HIGHLIGHT: Investigator-Initiated Research Studies

DERMATOLOGY

“Microneedling and Universal Peel”

Principal Investigator: Dr. Naana Boakye

Acne scarring may involve atrophic lesions, significant erythema or post-inflammatory hyperpigmentation, requiring a multi-modality treatment approach. Percutaneous collagen induction therapy (PCIT) is a non-invasive treatment using a microneedling device to cause “micro-wounds” in the dermis, which initiate wound healing and



collagen production. Very few studies have evaluated the safety and efficacy of combining microneedling and chemical peels. The aim of this study is to evaluate the effects of this combination as a treatment for acne scars in darker skin types.

INFECTIOUS DISEASES

“Molecular Epidemiology Registry”

Principal Investigator: Dr. Jeffrey Kocher

Staphylococcus aureus (S. aureus) is the leading cause of nosocomial infection in the US. Increasingly, S. aureus typing has become an important tool in the study of strain origin, clonal relatedness, and the epidemiology of outbreaks. The Public Health Research Institute (PHRI) located at Rutgers University has experience in analyzing S.

aureus samples obtained in the hospital setting. In this study, EHMC will send PHRI samples of S. aureus to learn more about the transmission dynamics responsible for outbreaks in hospital settings.



INTERNAL MEDICINE

“Hospital-Acquired Anemia”

Investigators:

Dr. Alexandra Gottdiener

Dr. Aryeh Shander

Hospital-Acquired Anemia (HAA) is an increasingly recognized condition associated with increased length of stay as well as 30-day mortality. There are multiple factors that may lead to HAA, including phlebotomies,



procedural blood loss, and hemodilution. The primary purpose of this study is to investigate the prevalence of HAA at EHMC. Secondary objectives are to identify the effect of HAA on length of stay, cost of care, and morbidity and mortality.

ONCOLOGY

“Breast Cancer Registry for Korean Patients”

Principal Investigator:

Dr. Brian Kim

The goal of this upcoming study is to create a database of information on Korean patients with breast cancer diagnosed and treated at EHMC. This information will then be used to review, analyze, and publish pathological features, clinical features, and other parameters of the disease as they relate to patterns of care, subsequent treatment, and outcomes. This information will be useful in developing future clinical care protocols for this population and could potentially serve as a foundation for new clinical trials.



RESIDENT RESEARCH PROJECTS

The Internal Medicine Residency Program at EHMC requires all residents to complete a clinical research project before graduation. This research focus is an important part of the training program, and generates meaningful contributions to the advancement of medical knowledge. This year, the residents presented their findings at two Senior Resident Research Days on May 29th and June 5th. The projects ranged from case histories to literature reviews to prospective randomized trials:

Elias Akl, MD: Food Elimination Diet: A Prospective Trial in Children with Eosinophilic Esophagitis.
Prabin Sharma, MD: Outcome of Fecal Microbiota Transplantation for Treatment of Recurrent <i>Clostridium Difficile</i> -Associated Diarrhea.
Sharan Sharma, MD: Pharmacogenetic Vs. Clinical-Guided Warfarin Dosing and Its Therapeutic Implications.
Sumeja Zahirovic, MD: The Case of a Beach Runner.
Jawad Abukhalaf, MD; Dona Bugov, MD; Firas El Chaer, MD: BIS Monitoring in Addition to Standard Monitoring for Sedated Patients in the ICU.
Omar Alsamman, MD: Hepatitis B Reactivation: Proposing an Update to the Guidelines.
Seog Eun Hong, MD: Obesity in Medical Clinic Patients.
Shweta Kishore, MD: Review of Reported Cases of Use of Synthetic Cannabinoids and Their Clinical Presentations.
Maria Molineros, MD; Jorge Vivar, MD: Task Force Project - Inpatient Glycemic Control.

NURSING RESEARCH PROJECTS

As a Magnet-designated institution, EHMC relies on the research efforts of our nurses. Currently, there is a cohort of EHMC nurses completing the requirements for a Master of Science in Nursing (MSN) degree. As part of this endeavor, each nurse designed and conducted a research project. These EHMC Nurse-Investigators are listed below, along with their project titles:

Alice Barden, BSN, RN; Rebeca Esquivel, RN: Perceptions of Barriers to Continuing Education Attendance Among Staff Nurses.
Maria Car, BSN, RN: In an Acute Care Setting, What is the Relationship between the Levels of Stress for RNs Who Attended a Stress Management Class as Compared to RNs Who Did Not?
Elizabeth Cattani, BSN, RN: The Impact of a Surgical Safety Checklist and Communication in Operating Rooms.
Amy Evans, BSN, RN: Team Work and Job Satisfaction.
Katherine Garcia, BSN, RN: Transitional Care and the Impact on Patient Safety Once Discharged from the Hospital.
Precious Inay, BSN, RN: Improving ED Flow by Placing a Pivot Nurse at Triage: A QI Project.
Sajeetha Jacob, BSN, RN: Emergency Severity Index (ESI) Acuity System and its Effectiveness on the Delivery of Patient Care in the Emergency Department.
Sylvia Lopez, BSN, RN: Huddling as a communication strategy to improve patients' perception of the Emergency Department experience.
Peter Obamije, RN, BC: Evaluating the effects of family education on medication compliance as a post discharge support intervention to reduce readmission rate in a psychiatric unit.
Joanne Preiss, BSN, RN: Nurse Liaison in a Surgical Waiting Area.
Marlene Veselsky, BSN, RN: Does Hand Massage Reduce Preoperative Anxiety in Same Day Surgery Adult Patients?

SURGICAL SCIENCE AND RESEARCH LAB

As reported previously, the EHMC Surgical Science and Research Lab is busy conducting several IACUC-approved animal research studies. As part of EHMC's collaboration with the Bergen County Academies (BCA), students are trained to assist with and contribute to these ongoing projects. Two recent students, **Jenna DiRito** and **Serena Tharakan**, worked with Associate Lab Director, Mr. Thomas Hoffmann, on a project entitled, "Nanoparticle-Mediated Gene Delivery via Balloon Angioplasty to Suppress Intimal Hyperplasia." Their student-led research effort has resulted in numerous awards and accolades. Jenna and Serena were finalists in the Intel International Science & Engineering Fair, finishing in 2nd place in the Medicine category. Most recently, they finished in 1st place in the Young Science Achievers competition held at the Liberty Science Center. BCA credits EHMC with providing the unique opportunity for these students to generate original research and achieve such remarkable success.



Project Summary:

In the U.S. alone, over 200,000 cardiovascular surgical procedures utilizing venous grafts fail annually, primarily due to restenosis caused by the physiological response known as intimal hyperplasia (IH). IH can be attributed to endothelial cell proliferation and narrowing of the blood vessels through the role of the controller gene known as Pdx1. In this project, a novel approach to control the expression level of genes, short-hairpin RNA (sh-RNA), was employed to stop cells from dividing. It was hypothesized shRNA-regulated knockdown of Pdx1 delivered to a rat carotid artery via nanoparticles could reduce or prevent the development of a neo-intima, and ultimately occlusion. Scanning electron microscopy, transmission electron microscopy, fluorescence and confocal light microscopy, and polymerase chain reaction were used in the analysis of samples to assess the extent of IH and levels of gene expression. The results were dramatic; where shRNA was delivered, no IH was observed compared to rats with no shRNA.



RECENT EHMC PUBLICATIONS

Garg, J., **Krishnamoorthy, P.**, et al. (2014). Cardiovascular Abnormalities in Carbon Monoxide Poisoning. *Am J Ther*, in print.

Gombotz, H., Rehak, P.H., **Shander, A.**, Hofmann, A. (2014). The Second Austrian Benchmark Study for Blood Use in Elective Surgery: Results and Practice Change. *Transfusion*, in print.

Gudin, J., Lee, A.J. (2013). The Downside of Up-Scheduling. *Pain Med*, Nov;14(11):1628-9.

Gudin, J.A., Mogali, S., Jones, J.D., Comer, S.D. (2013). Risks, Management, and Monitoring of Combination Opioid, Benzodiazepines, and/or Alcohol Use. *Postgrad Med*, Jul;125(4):115-30.

Harris, M.T., Baum, N.H. (2013). Barriers to Entry or Exit: Which Ones Are You Building? *J Med Pract Manage*, Jul-Aug;29(1):44-7

Holmes, A.A., Konig, G.,...**Puzio, T.**, et al. (2014). Clinical Evaluation of a Novel System for Monitoring Surgical Blood Loss. *Anesth Analg*, in print.

Kinnebrew, M.A., **Lee, Y.J.**, et al. (2014). Early Clostridium Difficile Infection During Allogeneic Hematopoietic Stem Cell Transplantation. *PLOS ONE*, Mar;9(3):1-9.

Shander, A., Gandhi, N., Aslaksen, R.A. (2014). Anesthesiologists and the Quality of Death. *Anesth Analg*, Apr;118(4):695-7

Shander, A., Javidroozi, M., **Naqvi, S., Aregbeven, O.**, et al. (2014). An Update on Mortality and Morbidity in Patients with Very Low Postoperative Hemoglobin Levels Who Decline Blood Transfusion. *Transfusion*, in print.

Sharma, P., Siu, K. (2013). Pancytopenia in Secondary Hyperparathyroidism Due to End-Stage Renal Disease, *Am J Med*, Dec;126(12):e11-2.

Sivendran, S., Chang, R.,...**Tismenetsky, M.**, et al. (2014). Dissection of Immune Gene Networks in Primary Melanoma Tumors Critical for Antitumor Surveillance of Patients with Stage II-III Resectable Disease. *J Invest Dermatol*, in print.



THE EPMC CLINICAL RESEARCH CENTER

NEW INVESTIGATORS

The EPMC Clinical Research Center welcomes the following new Investigators:

• Irene Ambe-Nguni, APN	• Michael Huynh, MD
• Matthew Blaszk, MD	• Precious Inay, RN, BSN, ONC
• Naana Boakye, MD	• Sajeetha Jacobs, BSN, RN
• Elizabeth Cattani, BSN, RN-BC	• Walter Klein, MD
• Amy Evans, BSN, RN	• Sylvia Lopez, BSN, RNC, CEN
• Katherine Garcia, BSN, RN, MSW, LSW	• Majdouline Sabi, MD
• Mark Ginsburg, MD	• Joshua Sonett, MD
• Lyall Gorenstein, MD	• Marlene Veselsky, BSN, RN

If you are interested in registering as an Investigator with the Clinical Research Center, please email Jamie.Ketas@ehmc.com or Renee.Lockwood@ehmc.com for information on the required documentation and training.

PUBLIC WEBSITE

This issue of '**RESEARCH DEVELOPMENTS**' includes information on just a portion of our ongoing clinical research projects. A full listing of all clinical trials open for patient enrollment is available on our public website: http://www.inglewoodhospital.com/ms_clinical-trials_home.asp

This website can also be accessed from the e-Portal. Just scroll down and click on the blue "**Clinical Research Center**" button that is located on the right-hand side, underneath "Up to Date."

CLINICAL RESEARCH CENTER

- ✓ Listing of Active Clinical Trials
- ✓ Resources for Physicians

If you are interested in learning more about the clinical research opportunities and resources available at Englewood Hospital and Medical Center, please contact the Clinical Research Center at 201.894.3418.



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