UH medicine

November 2022

BENEVOLENTIA ✩ SCIENTIA
UNIVERSITY HOSPITALS OF CLEVELAND
LUX
PIETAS ✩ CHARITAS

Nine Department of Medicine Faculty Named to 2022 Distinguished Physician Class

For the fifth year in a row, a group of UH Distinguished Physicians were honored in a ceremony on Tuesday at the Ford Auditorium on the UH Cleveland Medical Center campus – 42 of them in all, representing 16 specialties.

They receive this honor in recognition of their exceptional clinical skills and dedication to patient care. These are the physicians who are widely considered to be the "doctor's doctors," meaning they provide such extraordinary care that their colleagues turn to them to care for their loved ones, themselves and their patients.

They also serve as the top role models and mentors in the training of the next generation of physicians, including medical students, residents and fellows.

The nine awardees from the Department of Medicine are:

- **David E. Blumenthal, MD**
- **Shelby J. Cash, MD**
- **Paula Parker-Deuley, MD**
- **John C. Eyre, MD**
- **Pierre M. Gholam, MD**
- **Betul A. Hatipoglu, MD**
- **Nathan R. Stehouwer, MD**
- **Bejamin P. Young, MD**
- **Michael Zacharias, DO**

Congratulations to all!

Read more about the award >

Treating Fatigue in Long Haul COVID Patients

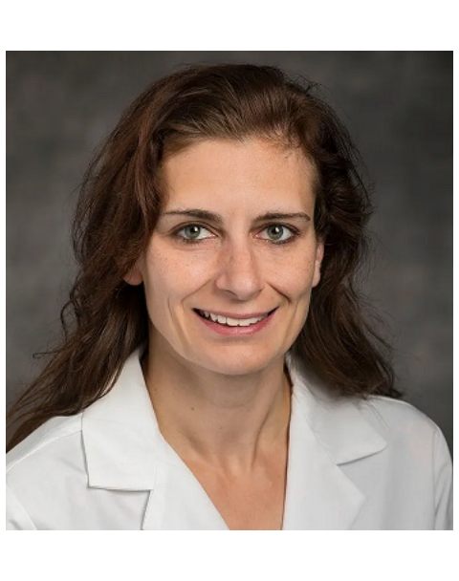
COVID-19, and its sequelae, is the defining illness of this decade, says Kingman Strohl, MD, renowned sleep specialist at University Hospitals Cleveland Medical Center.

"At least 15 percent of people who've had COVID present with a collection of complaints six or more months after an acute infection of COVID-19, higher in those hospitalized," he says. "We call this Long-Haul COVID Syndrome, or Post-Acute Sequelae of SARS-CoV-2 infection (PACS)."

University Hospitals COVID Recovery Clinic

Recognizing the need to help patients suffering from fatigue and other long-haul COVID symptoms, University Hospitals Health System, based in Cleveland, Ohio, launched a consultative COVID Recovery Clinic in August 2021 at University Hospitals Ahuja Medical Center in Beachwood, Ohio. It is the only such clinic in the Cleveland market, where the clinical provider evaluating patients serves as the long-term quarterback for the myriad associated health issues these patients face. University Hospitals leadership has plans to develop similar programs throughout its hospital system.

Read more >



House Calls Program Brings Primary Care Home

Imagine having a serious health condition that keeps you homebound, making it difficult, if not nearly impossible, to seek the medical care you need. This is a significant problem in the communities that University Hospitals serves as well as country at large, where about 3.6 million of the nearly 39 million U.S. adults over age 65 are housebound.

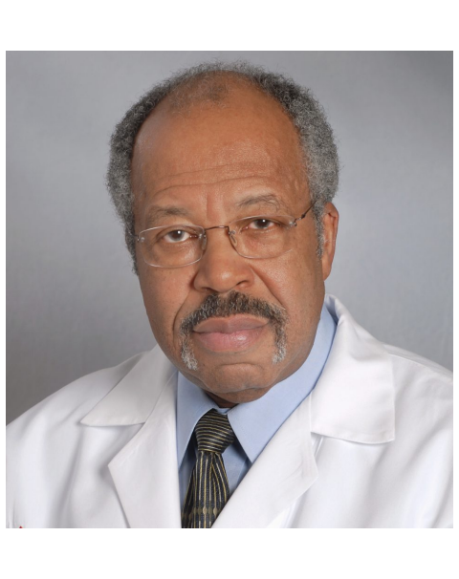
To serve this population, University Hospitals Cleveland Medical Center's Medical House Calls Program provides medical care and support primarily to geriatric patients who are unable to leave their home.

Serving homebound patients

The University Hospitals Medical House Calls Program has served this at-risk population for years, Medical Director **Amanda Lathia, MD**, says. It is run primarily by board-certified nurse practitioners Denise Brown, MSN, APRN, and Barbara Moseley, MSN, APRN.

"Our patients are generally adults 60 years of age and older who are homebound according to Medicare's specifications," **Dr. Lathia** says. "They leave home infrequently due to medical or health reasons, and doing so requires considerable and taxing efforts. In fact, many rarely leave their homes."

Read more about the program >



New Data from SPRINT Trial Offer Insights for Hypertension Control

New data from the landmark SPRINT trial reveal how patients with hypertension can achieve the recommended systolic blood pressure (SBP) target of 130 or lower, regardless of their age or race or ethnic background.

Previous data from SPRINT has shown that intensively managing SBP to 120 or lower reduces patients' risk of major cardiovascular disease events by 27 percent and deaths by 25 percent, compared to those treated to the previously recommended target of less than 140. In addition, those levels of blood pressure were achievable and sustainable long-term. However, until now, details on how this can be achieved haven't been widely available.

"A SBP target that low had not been attempted in any other previous clinical trial, especially in one looking at clinical outcomes," says **Jackson T Wright, Jr., MD, PhD,** Director of the Clinical Hypertension Program at UH Cleveland Medical Center and a senior author on the new SPRINT paper, published in the journal Hypertension.

Read more here >

COVID-19 Bivalent Booster and New Winter Variants

While new COVID-19 variants are popping up around the world, it's not yet clear whether any will cause any reason for concern. Colder weather will likely increase transmission of Omicron BA.4 and BA.5 subvariants of the virus as more people congregate indoors. **Dr. Keith Armitage**, infectious disease physician and Medical Director, UH Roe Green Center for Travel Medicine & Global Health explains who should get the recently FDA-approved bivalent booster for the best protection against infection, hospital stays and long COVID.

Watch here >

ALARMING OUTBREAK
"UNPRECEDENTED" RISE IN RESPIRATORY VIRUS IN CHILDREN ACROSS U.S.
LIVE
CNN

Kenneth Remy, MD talks about RSV cases live on CNN with Fredricka Whitfield

Kenneth Remy, MD talks about RSV cases live on CNN with Fredricka Whitfield.

Watch here >

U.S. Antibiotics Awareness Week

BE ANTIBIOTICS AWARE
SMART USE, BEST CARE
U.S. ANTIBIOTIC AWARENESS WEEK
November 18–24, 2022
www.cdc.gov/antibiotic-use

U.S. Antibiotic Awareness Week 2022

Antibiotics can save lives and are critical tools for treating infections. However, any time antibiotics are used, they can cause adverse drug events and contribute to the development of antibiotic resistance.

- **Antibiotic resistance is an urgent threat to the public's health.** Resistant hospital-onset infections and deaths increased 15% during the first year of the COVID-19 pandemic. After years of steady reductions, US hospitals saw increased rates of several antimicrobial resistance threats, such as vancomycin-resistant Enterococcus and multidrug resistant Pseudomonas.
- **Follow clinical guidelines on how to best evaluate and treat infections**. Historic gains made on antibiotic stewardship were reversed as a result of the pandemic due to antibiotics being the first option given to treat those who presented with a febrile pulmonary process.
- **Always prescribe the right antibiotic, at the right dose, for the right duration, and at the right time**. These setbacks can and must be temporary. Antibiotic and antifungal stewardship—one of our best prevention tools—remains critically important.

You can read more about the COVID-19 pandemic impact on antimicrobial resistance from the CDC's 2022 Special Report.

Visit the UH Adult Antimicrobial Stewardship Program website for updated guidelines and to find out how you can contribute to greater antimicrobial awareness. (UH internal site)

- Leila S. Hojat, MD, MS: Director, UH Antimicrobial Stewardship Program
- Courtney Veltri, PharmD, BCPS: Pharmacy Lead, UH Antimicrobial Stewardship Program
- Nicholas Newman, PharmD, BCIDP: Pharmacy Co-Lead, UH Antimicrobial Stewardship Program

Awards - Appointments - Publications

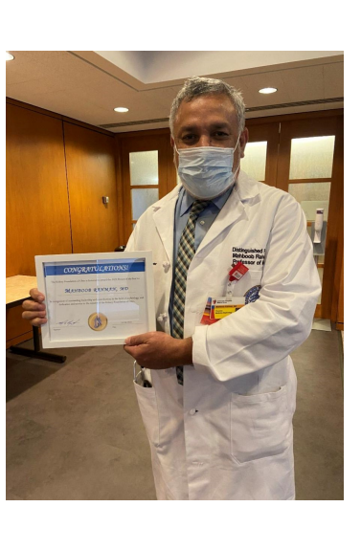
Robert Salata, MD Receives the Society of 1866 Distinguished Physician Award for 2022

The UH Distinguished Physician Award recognizes an esteemed physician who has made an extraordinary impact on UH, our patients, their families and our communities. **Robert A. Salata, MD**, has called UH his professional home since 1985, and is the founding director of the Infectious Diseases and Immunology Institute at the Case Western Reserve School of Medicine.

He is an esteemed and internationally acclaimed infectious disease specialist and researcher known for advancing understanding, combatting and controlling infectious diseases worldwide.

Since the first days of COVID-19, **Dr. Salata** has been the face and voice of UH, appearing regularly on news and information programs to provide knowledge and comfort to a vast audience seeking information about diagnosis, treatment, the vaccine, appropriate precautions, etc.

Earlier this year, in recognition of **Dr. Salata**'s remarkable commitment and career, the **Robert A. Salata, MD** Chair in Infectious Diseases was established in his name.



Mahboob Rahman, MD named Kidney Foundation of Ohio's 2023 Person of the Year

The Kidney Foundation of Ohio is thrilled to announce that the 2023 Person of the Year award will be presented to **Dr. Mahboob Rahman** for his incredible contributions to the fields of hypertension and nephrology and his dedication and service to the mission of the Kidney Foundation of Ohio.

This honor will be celebrated at the 31st Annual Gala on Saturday, March 4, 2023 at the Cleveland Marriott Downtown!

Sanjay Rajagopalan, MD and Sadeer Al-Kindi, MD Published in *Annals of Internal Medicine*

Health Care and Climate Change: Challenges and Pathways to Sustainable Health Care

Climate change strikes at the very core of health care's mission to keep people healthy. The health effect of extreme temperatures, forest fires, and natural calamities, and the expansion of the range of infectious diseases, are undeniably apparent (1). Health care delivery leaves an environmental footprint from the use of large quantities of natural resources to the generation of air pollution, vast amounts of waste, and substantial greenhouse gas (GHG) emission. Health care accounts for 8.5% of U.S. GHG emissions (2.5 billion tons per year) and 5% globally; similar fractions of toxic air emissions make it the fifth-largest source of GHG worldwide (2, 3).

Twenty percent of the U.S. gross domestic product and 10% of the global economy are attributable to health care (4). Health care organizations (HCOs) are strategically positioned to help transform communities and markets in the new green economy by bringing sustainability principles to every aspect of health care, as recognized during the 26th Conference of the Parties (COP-26) in 2021 (5) and recently endorsed by the Department of Health and Human Services and the White House (6). However, there is a chasm between aspirations and policies: the real work of health care decarbonization still looms large. Most global and U.S. HCOs do not have sustainability principles in their mission statements. The reporting of GHG emissions and sustainability is neither mandated nor mainstream; other than a moral imperative, no levers exist to force HCOs to reduce GHG emissions.

Read more here >

Alex Gifford, MD Published on Two CF Study Articles

SYMPLIFY Main Study Results
Reducing treatment burden is a priority for people with cystic fibrosis, whose health has benefited from using new modulators that substantially increase CFTR protein function. The SIMPLIFY study aimed to assess the effects of discontinuing nebulised hypertonic saline or dornase alfa in individuals using the CFTR modulator elexacaftor plus tezacaftor plus ivacaftor (ETI).

Read the entire article here

Update on Clinical Outcomes of Highly Effective Modulator Therapy
Based on the cystic fibrosis transmembrane conductance regulator (CFTR) genotype, approximately 90% of people with cystic fibrosis (CF) are candidates for highly effective modulator therapy (HEMT). Clinical trials conducted over the last 11 years have shown that these oral therapies substantially restore CFTR function, leading to improvements in lung function, nutritional status, and health-related quality of life. Here, we review safety and efficacy data from phase 3 clinical trials and observational studies which support the use of HEMT in most adults and children with CF. We also discuss opportunities for additional investigation in groups underrepresented or excluded from phase 3 clinical trials, and challenges in the evaluation of the safety and efficacy of HEMT at increasingly earlier stages of CFTR-mediated pathophysiology.

Read the entire article here

Drs. Shine Raju and Amrita John Receive Innovation Award

The Innovation Award was presented at the UH Feuer Acceleration Winner Celebration event on October 24th

They won for their development of the High-level Automated Atomic-Oxygen Decontamination System (HAADS), which is a unique self-contained and automated decontamination system that has the potential for varied applications in commercial and residential use. It was developed to disinfect masks and other PPE during COVID surges, but has many other potential applications.

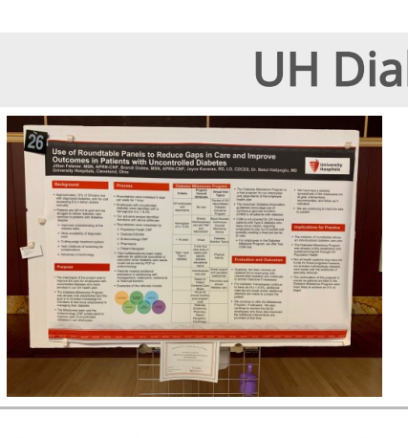
Academic Update - Kingman Strohl, MD

- **Dr. Strohl** is the national PI for the SUPRA trial, an FDA Phase III trial of a novel alternative therapy for OSA. https://clinicaltrials.gov/ct2/show/NCT04861038 Sponsored by Sommetrics LLC
- Sleeper G, Rashidi M, **Strohl KP**, Najimi N, Chen PL, El Ghoul R, Chiang AA. Comparison of expiratory pressures generated by four different EPAP devices in a laboratory bench setting. Sleep Med. 2022 Aug;96:87-92. doi:10.1016/j.sleep.2022.05.004. Epub 2022 May 13. PMID: 35613539. **Assessments of alternative-to-PAP therapy for OSA using expiratory resistance therapy**
- Malhotra A, Strollo PJ Jr, Pepin JL, Schweitzer P, Lammers GJ, Hedner J, Redline S, Che D, Chandler P, Bujanover S, **Strohl K**. Effects of solriamfetol treatment on body weight in participants with obstructive sleep apnea or narcolepsy. Sleep Med. 2022 Aug 14;100:165-173. doi: 10.1016/j.sleep.2022.08.005. Epub ahead of print. PMID: 36084494. **Multi-site study secondary analysis of the effects of an alerting medication on body weight**
- Krystal AD, Benca RM, Rosenberg R, Schweitzer PK, Malhotra A, Babson K, Lee L, Bujanover S, **Strohl KP**. Solriamfetol treatment of excessive daytime sleepiness in participants with narcolepsy or obstructive sleep apnea with a history of depression. J Psychiatr Res. 2022 Aug 20;155:202-210. doi: 10.1016/j.jpsychires.2022.08.018. Epub ahead of print. PMID: 36070638. **Multi-site study secondary analysis of the effects of an alerting medication on patients with and without a history of depression.**

Academic Update - Sameer Avasarala, MD

- LUMINANCE Study - dual-energy chest CT – bronchoscopic lung volume reduction CHEST grant
- Selected as a member-at-large for the Interventional Procedures Section of CHEST's Thoracic Oncology and Chest Procedures Network - https://www.chestnet.org/Networks/Thoracic-Oncology-and-Chest-Procedures-Network
- Associate Editor of the American Association for Bronchology and Interventional Pulmonology Podcasts - https://www.aabronchology.org/podcasts
- UH Site PI for the GRAvity- Versus Wall Suction-drIven Large Volume Thoracentesis: a rAndomized Controlled Study (GRAWITAS Study) (MD Anderson): https://clinicaltrials.gov/ct2/show/NCT05131945 Currently enrolling subjects
- First author - ROSE study published: Rapid On-site Evaluation Practice Variability Appraisal (ROSE PETAL) survey Cancer Cytopathol. 2022 Sep 1. doi: 10.1002/cncy.22641. Online ahead of print. (https://pubmed.ncbi.nlm.nih.gov/36048711/)

UH Diabetes & Obesity Center Update


Use of Roundtable Panels to Reduce Gaps in Care and Improve Outcomes in Patients with Uncontrolled Diabetes

Outstanding Poster in Quality Improvement Category

This certificate is presented to:

Jillian Fetzner, Brandi Dobbs, Joyce Kavaras, Betul Hatipoglu

The 2022 Advanced Practice Conference

The James

Diabetes & Obesity Center Members Receive Poster Award

Jillian Fetzner APRN-CNP and **Dr. Betul Hatipoglu** from the Diabetes and Obesity Center collaborated with Brandi Dobbs APRN-CNP and Joyce Kavaras RD, LD from UH Populations Health to submit a poster to Annual Ohio State University Advanced Practice Provider Hybrid Conference on September 15-16, 2022.

Not only was the poster selected for the conference but also won Outstanding Poster in the Quality Improvement Category. The title of the poster was "Use of Roundtable Panels to Reduce Gaps in Care and Improve Outcomes in Patients with Uncontrolled Diabetes." They discussed their role in the Diabetes Milestones Program. The Diabetes Milestone Program was established to improve the care for employees with uncontrolled diabetes who were enrolled in our UH health plan. The goal was to continue to increase knowledge for members to feel more empowered in managing their diabetes.

Obesity and Metabolism Speaker Series

The CWRU Center for Diabetes, Obesity and Metabolism is very excited to present via ZOOM , Speaker Clifford Rosen MD, Director of Clinical and Translational Research, Senior Scientist at Maine Medical Center's Research Institute, Adjunct Staff Scientist at the Jackson Laboratory, and Professor of Medicine at Tufts University School of Medicine. He will be speaking on the subject of COVID -19 and Diabetes. Please join us on 12/02/2022 12:00-1:00 to hear Dr. Rosen speak on this interesting and important subject.

There will be a short question and answer session moderated at the end of this talk. We look forward to seeing everyone in attendance . Please reach out to DiabetesHelpLine@UHhospitals.org for Zoom info or with any questions you may have concerning this Event.

Recent publications (since August)

- Griggs S, **Blanchette JE**, Hickman Jr RL, Magny-Normilus C, **Baskin RG**, Margevicius S, **Hatipoglu B**. Racial and Ethnic Cardiometabolic Risk Disparities in the T1D Exchange Clinic Registry Cohort. Endocrine Practice. 2022 Oct 22. Link: https://doi.org/10.1016/j.eprac.2022.10.003
- **Blanchette JE**, Aaron SP, Allen NA, Litchman ML. Equity in the Provision of Diabetes Self-Management Education and Support. Diabetes Spectrum. 2022;35(3):284-94. Link: https://doi.org/10.2337/dsi22-0005
- Phillip M, Nimri R, Bergenstal R, Barnard-Kelly K, Danne T, Hovorka R, Kovatchev B, Messer L, Parkin C, Ambler-Osborn L, Amiel S, Bally L, Beck R, Biester S, Biester T, **Blanchette J**, Bosi E, Boughton C, Breton M, . . . Battelino T. Consensus Recommendations for the Use of Automated Insulin Delivery (AID) in Clinical Practice. Endocrine reviews. 2022. Link: https://doi.org/10.1210/endrev/bnac022

Recent Book Chapter

- Litchman ML**, Blanchette JE**, Shockley C, Oser TK. Digital health and telehealth for behavior change in diabetes. Diabetes Digital Health and Telehealth. 2022 August 1:131-45.Link: https://doi.org/10.1016/B978-0-323-90557-2.00007-8

New Inpatient Diabetes Management Team

The inpatient diabetes management team (DMT) was created to help improve diabetes care in the hospital. The team is made up of a diabetes educator, endocrinology PAs, pharmacy residents, fellows and an attending. Working together, we are able to serve diabetes patients 7 days per week in the hospital as well as a weekly post-hospital discharge clinic. In the past month with the launch of our service, we have already been able to supply over 100 prescriptions for diabetes medications and supplies to patients before they leave the hospital. Our goal is to optimize glucose control, improve health outcomes and prevent readmission through education and collaboration.

Get their promo flyer with contact info here

Dr. Hatipoglu discusses growing Type 2 Diabetes Problem

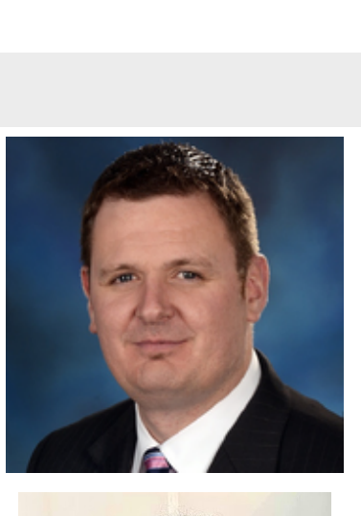
Type 2 Diabetes is a problem that is massively growing here in the U.S. and that has a lot of doctors worried. The latest numbers show one in seven American adults has Type 2 diabetes now, up from one in 20 in the 1970s.

40 percent of young adults will be diagnosed with it at some point in their lives. Some doctors say medical care simply isn't enough. Doctor **Betul Hatipoglu** is a professor of medicine at Case Western Reserve University School of Medicine. She's also the medical director of the Diabetes & Obesity Center at University Hospitals in Cleveland.

Listen here

Dr. Hatipoglu was also the chair for AACE's cardiometabolic conference 9/30-10/1 held in San Antonio TX.

Research News



University Hospitals Team Receives Grant to Study Long-term Consequences and Outcomes of COVID-19 and other Viruses

$200,000 award from American Lung Association

Nearly three years since the start of the COVID-19 pandemic and severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is still circulating across the globe, as scientists investigate how it works and how best to treat it. A team at University Hospitals (UH) aims to unearth potential immunologic mechanisms and understanding of COVID-19 upon long-term consequences and outcomes thanks to a grant from the American Lung Association (ALA).

"There is an urgent need to better understand the pathobiology and both long-term and immediate clinical implications of SARS-CoV-2 viral infection that leads to COVID-19's death rates," said **Kenneth E. Remy, MD, MHSc, MSCI, FCCM**, Division of Pulmonary/Critical Care and Pediatric Critical Care at University Hospitals, Principal Investigator for this study, and Ellery Sedgwick, Jr. Chair and Distinguished Scientist in Cardiovascular Research. "The pandemic showed us that we need to increase our knowledge about the potential emerging threat of other novel respiratory viruses. Thanks to this grant, UH will be at the forefront of this work.

Dr. Remy and his team, Monty Mazer, MD, pediatric cardiac intensivist, UH Rainbow Babies & Children's Hospital, and **Rana Hejal, MD**, Medical Director, MICU, UH Cleveland Medical Center, received this support from the ALA because of evidence of their ongoing excellence and productivity in the fields of immune phenotyping and surveillance. **Dr. Remy's** previous work was among the first in world to demonstrate early in the pandemic the immunosuppressive effects of the SARS-CoV-2 virus.

Read more here >

Welcome to the Department

Tawana Holifield
Associate GME Program
Administrator,
Department of Medicine
Residency Program

Omer Pamuk, MD
Division of Rheumatology
Associate Professor, CWRU

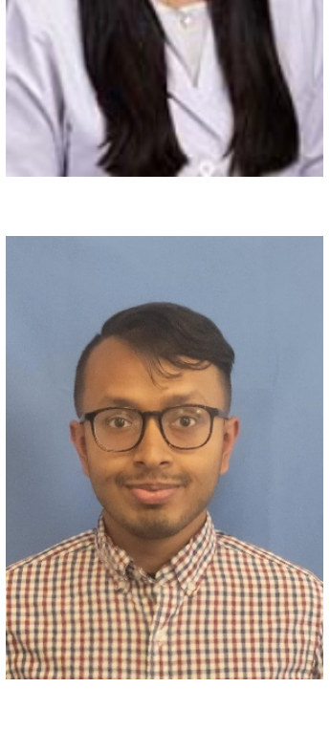
Dr. Omer Pamuk graduated from Istanbul University, Istanbul School of Medicine, Istanbul, Turkey (1995) and completed his Internal Medicine Residency at Istanbul University, Cerrahpasa School of Medicine, Istanbul, Turkey (1996 - 2001). In 2009, Dr. Pamuk was assigned as the Chief of the Division of Rheumatology at Trakya University School of Medicine.

In 2012, Dr. Pamuk became a full-time Professor in Medicine and Rheumatology at the Trakya University School of Medicine, Division of Rheumatology, Edirne, Turkey. He established Systemic Lupus Erythematosus and Scleroderma inception cohorts at his institution and he published articles about clinical and epidemiological data pertaining to his lupus cohort.

In 2016, Dr. Pamuk decided to continue his medical career in the US. He initially worked at the Dr. Tsokos Lupus Laboratory from 2016 to 2017. He completed his Rheumatology Fellowship at the NIAMS (National Institute of Arthritis and Musculoskeletal and Skin Diseases) / NIH (National Institutes of Health) Rheumatology Fellowship Program, Bethesda, MD. During his fellowship, he mainly treated systemic lupus erythematosus patients who were enrolled in the "Natural History of Lupus NIAMS / NIH Protocol". He will establish a lupus center at the UH.

Lauren Mathias, MD
Division of Rheumatology

Dr. Mathias obtained her undergraduate training from the University of Pennsylvania in 2012. She completed her medical school at the University of Oklahoma College of Medicine in 2016. Subsequently, completed her medicine residency training and rheumatology fellowship at the University of Southern California-Los Angeles County Medical Center in 2021. She practiced as a rheumatologist from 2021 till now at PIH Health, LA. Her responsibilities included patient care including inpatient consultation, outpatient care, and resident education. She will be practicing at the Green road location.



Ebne Rafi, PharmD, RPh
Clinical Pharmacy Specialist
UH Diabetes & Obesity Center

Dr. Ebne Rafi did his residency training at South Shore University Hospital and Buffalo Medical Group in the state of New York where he specialized in diabetes management in both the inpatient and outpatient setting. Throughout his career he has become heavily involved in medication management, and utilizing diabetes technologies to improve outcomes for patients with diabetes. Furthermore he is involved in both teaching and as well as research focusing on improving care for those with diabetes.

Upcoming Events

Medicine Grand Rounds
November 22
Cancelled for Holiday

Medicine Grand Rounds
November 29
"Insomnia Treatment with Behavioral and Mind Body Practices: The Science and Research Evidence"" *(Zoom Only)*

Sat Bir S. Khalsa, PhD
Assoc. Professor of Medicine, Harvard Medical School
Department of Medicine, Brigham and Women's Hospital
Director of Yoga Research, Yoga Alliance
Director of Research, Kundalini Research Institute
Research Assoc., Benson Henry Institute for Mind Body Medicine
Research Affiliate, Osher Center for Integrative Medicine
Editor in Chief, International Journal of Yoga Therapy

Medicine Grand Rounds
December 6
"Important Differences in the Clinical Care of African Americans"

Gregory L. Hall, MD
Medical Director, UH Cutler Center for Men
Edgar B. Jackson, Jr., MD Chair in Diversity and Clinical Excellence
Senior Staff, Primary Care Institute

Medicine Grand Rounds
December 13
"Title TBD" (Topic: Climate Change)

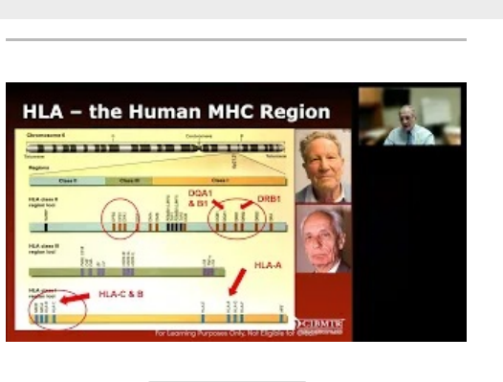
Vishnu Laalitha Surapaneni, MD, MPH
Assistant Professor, General Internal Medicine
University of Minnesota Medical School

Medicine Grand Rounds
December 20
Cancelled for Holiday

Medicine Grand Rounds
December 27
Cancelled for Holiday

Recurring Events (Zoom information sent out weekly)
Tuesdays @ Noon - **Medicine Grand Rounds Seminar Series** (September - May)
Wednesdays @ Noon - **VA Conference**
Fridays @ Noon - **UH M&M Conference**

Recent Medicine Grand Rounds


HLA – the Human MHC Region

View

Koen van Besien, MD, PhD

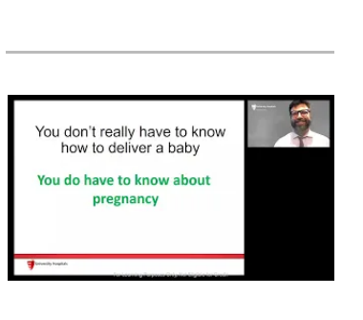
"The Enduring Promise of Cord Blood Grafts"

CGM reduces HbA1c regardless of treatment therapy (with or without CSII usage).

View

Julia Blanchette, PhD, RN, BC-ADM, CDCES and Nick Galloway, BSN, RN, CSCES

"Diabetes Technology: The Present, Future and Integration in Practice"

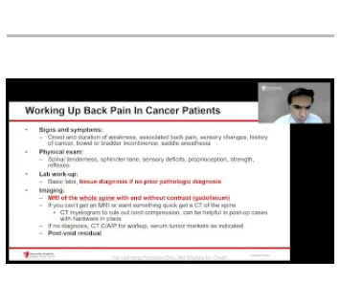

You don't really have to know how to deliver a baby

You do have to know about pregnancy

View

David Hackney, MD, MS

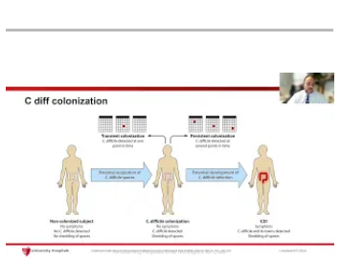
"Abortion in the Context of Maternal Medical 'Serious Risks'"


Working Up Back Pain In Cancer Patients

View

Saad Sheikh, MD

"Radiation Treatment for Spine Metastases"


C diff colonization

View

Elie Saade, MD, MPH, FIDSA

"Eliminating Healthcare-Acquired Infections: Is 0 a Rational Number?"

Click here to view online

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To contribute, email: Matthew.Zelesnik@UHhospitals.org

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