Facing Off Against Heart Disease

The Johns Hopkins Ciccarone Center for the Prevention of Heart Disease

Annual Update 2016
The staff members and fellows of the Johns Hopkins Ciccarone Center for the Prevention of Heart Disease include:

**TOP ROW**  Haitham Ahmed, MD, MPH; Amer Aladin, MD; Dominique Ashen, PhD, CRNP; Michael Blaha, MD, MPH; Roger Blumenthal, MD; Kathy Byrne, CRNP; Chanukya Dahagam, MD

**SECOND ROW**  Zeina Dardari, MS; Roberta Florido, MD; Gary Gerstenblith, MD; Ty Gluckman, MD; Sherita Golden, MD, MHS; Eliseo Guallar, MD; Cathy Handy, MD, MPH

**THIRD ROW**  Rupert Hung, MD; Steven Jones, MD; Stephen Juraschek, MD, PhD; Swetha Kambhampati, MD; Sina Kianoush, MD, MPH; Lara Kovell, MD; Thorsten Leucker, MD

**FOURTH ROW**  Seth Martin, MD, MHS; Francoise Marvel, MD; Lena Mathews, MD; J. Bill McEvoy, MBBCh, MHS; Erin Michos, MD, MHS; Khurram Nasir, MD, MPH; Chiadi Ndumele, MD, MHS

**FIFTH ROW**  Wendy Post, MD, MS; Elizabeth Ratchford, MD; Martin Tibuakuu, MD, MPH; Rajesh Tota-Maharaj, MD; Peter Toth, MD; Seamus Whelton, MD, MPH; Di Zhao, PhD

On the cover: Cover photo design by Ross Blumenthal based on photo by Larry Palumbo (coyotemagicactionshots.com)
Celebrating the Achievements of Our Most Productive Year Ever

The mission of Johns Hopkins Cardiology is to improve cardiovascular health through excellence in clinical care, medical education, and research. Our vision is to be a leader in the delivery of patient-centered care, the training of the next generation of leaders in cardiovascular medicine, and the creation and dissemination of new knowledge. I am proud to say that we have made tremendous progress in the past 27 years of the Johns Hopkins Ciccarone Center for the Prevention of Heart Disease that has greatly contributed to the success of our mission.

The Center has been so fortunate to have the tremendous leadership and sustained support by Nick and Suellen Paleologos, Rich and Katherine Amato, Ginger and the late Irv Gomprect, Thad and Totty Shelley, Don and Rosie Shepard, Ed and Marty Speno, and so many others.

In 2013, Irene Pollin (below) made a transformational gift of $10 million to support our research and education initiatives. I became the inaugural Kenneth Jay Pollin Professor of Cardiology, an endowed professorship named in memory of Irene’s and her late husband Abe’s son, who died from complications of congenital heart disease shortly after his first birthday. Irene has long been a leader in the field of prevention and she pioneered efforts to perform large-scale screening and provide education programs to raise awareness that better lifestyle habits can markedly reduce the risk of future heart attacks and strokes.

Dr. Erin Michos, the Associate Director of the Ciccarone Center, and I continue to work with Irene and the leaders of other preventive cardiology centers at Brigham & Women’s, Cedars-Sinai, and Hadassah Medical Center, whom Irene has generously supported as part of the Pollin Cardiovascular Prevention Network. Irene Pollin is truly a remarkable individual, and so many women and men have benefited from her dedication to cardiovascular disease prevention.

Irene’s donation also allowed us to create the Pollin Cardiovascular Prevention Fellowship program. Drs. Bill McEvoy, Seth Martin, and Parag Joshi were selected as the inaugural recipients. Many of the Ciccarone fellows receive master’s degree-level training at the Bloomberg School of Public Health, often funded through the Pollin gift. The gift has also allowed the Ciccarone Center to develop stronger collaborations with the Welch Center for Prevention, Epidemiology, and Clinical Research and their leaders, including Drs. Larry Appel, Joe Coresh, Liz Selvin, and Eliseo Guallar. These prevention experts have helped mentor our inaugural Pollin fellows and our most recent Pollin fellows, Drs. Haitham Ahmed, Seamus Whelton, and Roberta Florido.

In July 2016 Dr. Ahmed finished his fellowship training and is now an Associate Director of the Preventive Cardiology section at the Cleveland Clinic. He is a superb clinician and researcher and we continue to collaborate with him. Dr. Whelton spent a large portion of the past year doing advanced training in Cardiac CT. He has worked closely with our Director of Clinical Research, Dr. Michael Blaha, in creating a large dataset called the Coronary Artery Calcium Consortium. Together, they are working on a prediction tool to estimate an adult’s risk of death from cardiovascular disease, versus that from cancer, based on their risk factors and coronary artery calcium score. They are also investigating how a person’s fitness level as measured by a treadmill test can predict his/her risk of death from cardiovascular and non-cardiovascular causes.

Dr. Florido is our newest Pollin Cardiovascular Prevention fellow, and she is completing a masters in cardiovascular disease epidemiology at the Bloomberg School of Public Health. She has been working closely with Dr. Chiadi Ndumele on projects examining the relationship of physical activity and weight to risk of heart failure. They are comparing the impact of sustained higher levels of physical activity on preventing heart failure in high-risk groups such as those individuals with diabetes, hypertension, or those with at least moderate coronary artery disease. Dr. Florido is interested in developing effective, targeted interventions for heart failure prevention.

Just as Irene Pollin has long been a leader in Women’s Health, Ciccarone Center faculty Drs. Wendy Post and Michos are key investigators in a large American Heart Association “Go Red for Women” grant focusing on heart failure with preserved heart muscle function (or ejection fraction), also known as HfPEF. This type of heart failure is more common in older females, especially in African American women.
Americans. **Dr. Pamela Ouyang** serves as the Hopkins Go Red for Women Center Director, while Dr. Michos is the Training Director, and **Dr. David Kass** is the Basic Science Project Principal Investigator.

**Drs. Post** and **Jay Vaidya** lead the Population Science Project, which is looking at three large NIH-funded studies to test the associations of sex hormones and nitric oxide/cyclic GMP-signaling with changes in cardiac structure and function over time, and with the development of HFpEF. The Clinical Science Core, led by **Drs. Sanjiv Shah** and **Kavita Sharma**, is classifying these types of patients using sex hormone status, biomarkers, and metabolic factors. The results of this important work will likely have a great impact on the prevention of and management of this growing type of heart failure.

**Drs. Khurram Nasir, Andrew DeFilippis,** and **Blaha** authored important articles in the *Annals of Internal Medicine, European Heart Journal,* and the *Journal of the American College of Cardiology* regarding the accuracy of traditional risk estimation of a patient’s risk of a heart attack and stroke, and the ability to significantly improve risk estimation with selective use of a coronary artery calcium score. Accurate risk estimation plays a pivotal role in deciding which patient should be advised to take a cholesterol lowering medication, aspirin, and possibly a blood pressure medication.

**Drs. McEvoy, Selvin,** and **Coresh** published a series of innovative papers reporting the importance of a novel biomarker, high sensitivity troponin, as a measure of subclinical heart muscle damage. Their work indicated that an increased risk is likely associated with low diastolic blood pressures and an elevated difference between the systolic and diastolic pressures. Moreover, this blood test has important prognostic significance in predicting the risk of developing diabetes, hypertension, heart failure, and other cardiovascular events. Dr. McEvoy also has guided a number of fellows on important publications on risk assessment as well as blood pressure and cholesterol management.

**Drs. Steve Jones** and **Seth Martin,** and **Kathy Byrne, CRNP** run the Lipid Disorders Center of the Hopkins Ciccarone Center which was founded by my late mentor, **Dr. Peter Kwiterovich, Jr.** They are experts in inherited disorders of cholesterol metabolism and in when and how to use the exciting new class of cholesterol-lowering agents. Drs. Jones, Martin, and adjunct faculty member **Dr. Peter Toth** also have led a tremendous amount of innovative lipid disorder related research.

Dr. **Martin** and senior resident **Dr. Francoise Marvel** have been working hard to grow the Ciccarone Center’s digital health arm. They recruited a talented team of software engineers from the Johns Hopkins Whiting School of Engineering and are closely collaborating with Apple on a preventive cardiology solution called Corrie (“cor” is Latin for heart), which guides patients through the recovery process following a heart attack. Leveraging Apple’s medical app platform Carekit and Apple Watch technology, Corrie is designed to improve patient education, organization of care, and implementation of national guidelines.

**Drs. Gary Gerstenblith** and **Chiadi Ndumele** are starting up a new project in collaboration with the Atlantic Coast Athletic Club (ACAC) to examine the physiologic effects of a novel multifaceted intervention to improve physical fitness, body composition, and cardiovascular health in adults with the metabolic syndrome (prediabetic state). We will be studying some sophisticated outcomes, such as changes in inflammatory mediators, biomarkers, hormone levels, and genetic factors.

**Dr. Post** continues to be the principal investigator of the Hopkins Field Center for the NIH-funded Multi-Ethnic Study of Atherosclerosis (MESA), which launched its sixth Examination in September. Drs. Post, Blaha, Michos, Nasir and I have co-authored many important papers from the landmark study. Dr. Post also leads the cardiovascular working group of the Multicenter AIDS Cohort Study and is a national thought leader in cardiovascular genetic epidemiology.

In summary, the legendary Hopkins lacrosse icon Henry Ciccarone has inspired a truly great team of clinicians, educators, and researchers in our efforts to better understand ways to reduce the disabling effects of cardiovascular disease. When asked what his favorite championship win was, Coach Ciccarone would often remark that it was the next one. Similarly, we had our most productive year in 2016, but we believe that our most impactful work is yet to come. I hope you will consider helping us to reach our goal.

Roger S. Blumenthal, M.D.

Roger S. Blumenthal, MD
Director, The Johns Hopkins Ciccarone Center for the Prevention of Heart Disease
The Kenneth Jay Pollin Professor of Cardiology
Johns Hopkins Professor of Medicine and Epidemiology
This past year has been a momentous one for the Johns Hopkins Ciccarone Center for the Prevention of Heart Disease. We continue to accomplish our goals to provide excellent clinical care, educate health care practitioners, and study better ways to prevent heart disease.

Congratulations to Michael Blaha, MD, MPH, who was selected for induction as a faculty member in the Delta Omega Alpha Chapter, the national honor society for public health, for “outstanding accomplishment in scholarship, research, and practice.” The Alpha Chapter, the society’s first chapter, was founded in 1924 at the Johns Hopkins Bloomberg School of Public Health.

Kudos to Dr. Roberta Florido, who was named a Pollin Cardiovascular Prevention Fellow, becoming the first woman to participate in the program. Dr. Florido joins current Pollin fellow, Seamus Whelton, MD, MPH; Dr. Haitham Ahmed left to join the Cleveland Clinic. Previous winners include Drs. J. Bill McEvoy, Seth Martin, and Parag Joshi, who were the inaugural Pollin Fellows. “This honor recognizes the great strides in academic cardiology that Dr. Florido has made over the past two years. It is also a testament to her strong commitment to academic medicine and to helping to improve prevention efforts through research,” commented Dr. Roger S. Blumenthal. The fellowship program, established by a 2013 gift by Irene Pollin, supports promising fellows who are doing excellent work in preventive cardiology. Dr. Florido is focused on projects related to the effects of lifestyle habits and the risk of future development of heart failure.

Change Outpatient Cardiac Care Outcomes? There’s an App for That!

Although most healthcare providers are aware of how devastating and life-altering a heart attack can be, the majority of patients and their family members are not prepared for what happens after the hospital discharge: the recuperation period, changes in routine, and the route to healthy living all require a lot of learning. And that, says Dr. Seth Martin, was exactly why they wanted to develop the first cardiology app devoted to the heart attack recovery process.

Recognizing an opportunity to educate and coordinate better care, Dr. Martin worked with Dr. Francoise Marvel, a third-year Internal Medicine resident at Johns Hopkins and a HECITE Fellow in the Technology Innovation Center, and others, to develop a better system, one that involves mobile health tools, provides “interactive” features and reminders, and can be deployed in concert with Hopkins care.

As the concept evolved, Dr. Martin and crew decided to use Apple’s new platform CareKit, a medical software framework for apps that let patients better understand and manage medical conditions. In July 2016, with backing from the university, the team traveled to Cupertino, CA, to work directly with staff at Apple Headquarters to develop prototypes. The final result of their week-long efforts was an iPhone app named “Corrie,” that guides patients through each step of the heart attack recovery process, beginning with hospital day one.

In September, Drs. Martin and Marvel also launched the MICORE (Myocardial Infarction COMbined-Device Recovery Enhancement) Study to test the effectiveness of the Corrie app, combined with the Apple Watch, on patients at Johns Hopkins Hospital and Johns Hopkins Bayview Medical Center.

“We accomplished what we set out to do and more, to build a truly unique app that will help patients recover from a heart attack,” commented Dr. Martin. “Words can’t describe our excitement.”
Ciccarone Center alumnus Andrew DeFilippis, MD, reports that he had at least two reasons to celebrate in April 2016. Early in the month, Dr. DeFilippis, currently an assistant professor of medicine and director of the cardiovascular disease prevention program in the University of Louisville Division of Cardiovascular Medicine, received the Multi-Ethnic Study of Atherosclerosis (MESA) Early Career Investigator Award for his article, “An analysis of calibration and discrimination among multiple cardiovascular risk scores in a modern multiethnic cohort,” published in the Annals of Internal Medicine in February 2015. Dr. DeFilippis also was awarded a year-long “Heart to Heart Grant,” to pursue research to detect a biomarker for heart disease in women, by board members of the Alpha Phi Foundation at the April 2016 reception for Extramural Funding Recipients.

Drs. J. Bill McEvoy and Seth Martin also received MESA Early Career Investigator Awards. Dr. McEvoy’s article, “Cigarette smoking and cardiovascular events: role of inflammation and subclinical atherosclerosis from the Multi-Ethnic Study of Atherosclerosis,” was published in Arteriosclerosis, Thrombosis, and Vascular Biology. Dr. Martin’s article, “Dyslipidemia, coronary artery calcium, and incident atherosclerotic cardiovascular disease: implications for statin therapy from the Multi-Ethnic Study of Atherosclerosis,” was published in Circulation.

Additional congrats to Dr. McEvoy for placing third in the 12th Annual Northwestern Cardiovascular Young Investigators’ Forum awards, for his paper, “Prognostic Value of 6-Year Change in High Sensitivity Cardiac Troponin T for Risk of Heart Failure Hospitalization, Heart Failure Subtype, and Death.” The event, held October 13-16, 2016, recognizes the achievements of young investigators conducting basic or clinical research on arrhythmias, atherosclerosis, heart failure, hypertension, ischemic heart disease, thrombosis, and valve disease.

This year, the American Heart Association (AHA) selected Johns Hopkins to serve as one of five centers for the Go Red for Women (GRFW) Cardiovascular Research Network. The Johns Hopkins project entitled, “Heart Failure With Preserved Ejection Fraction: Female Sex-Hormones and Cyclic GMP-PKG Modulation of Cardiac Disease and Metabolism,” is investigating mechanisms for sex differences of this form of heart failure that is more common in older women compared to men. The Center Director is Dr. Pamela Ouyang, the Training Director is Dr. Erin Michos and the lead investigators for each of the three “Science Cores” include Dr. David Kass, Basic Science Project, Dr. Kavita Sharma, Clinical Science Project, and Dr. Wendy Post and Dr. Jay Vaidya, Population Science Project. This AHA grant will provide a two-year training and mentorship program for three post-doctoral fellows in the area of Women’s Cardiovascular Health research. The first selected AHA post-doctoral fellow in the program is Dr. Vinita Subramanya, who is working on a project related to sex hormone levels and 10-year change in cardiac structure remodeling and aortic stiffness, under the mentorship of Dr. Michos.

In addition to Dr. Subramanya, Dr. Michos also works with several other trainees, including Hopkins medical student Katie Chin, who presented an abstract at AHA’s Annual Scientific Sessions in November: “Physical activity, vitamin D, and incident atherosclerotic cardiovascular disease in the Atherosclerosis Risk in Communities (ARIC) Study.”
Big congrats to Dr. Michos (below), whose recent study, showing that the calcium supplements that many women take to boost bone health may increase their risk for coronary atherosclerosis, made a big media splash when it was published in the Journal of the American Heart Association in early October 2016. Results from the report, which indicate calcium supplements make people more prone to calcified plaque buildup in arteries, possibly contributing to the increased risk of coronary disease, were featured locally in the Baltimore Sun, both in print and online, and in an episode on NBC’s “Nightly News with Lester Holt.” Funding sources for the study included the Blumenthal Scholars Award in Preventive Cardiology.

Congrats are in order for Ciccarone alum Dr. Juan J. Rivera, who now serves as Director of Cardiovascular Prevention Education for Mount Sinai Hospital in Miami Beach. In August, he published his first book, Mejora Tu Salud De Poquito a Poco, a wellness guide for the Hispanic community that includes advice on diet, exercise, sleep, stress, sex, pregnancy, and avoiding medical errors. Since publication, the book has been ranked #1 for sales of any book published in Spanish by Penguin Random House and reached the top 50 books in all of Amazon. Dr. Rivera also finished creating a health app for the Hispanic public called “Dr. Juan 24/7.” When released, app users will be able to follow a diet, a walking program, get a daily wellness prescription, watch health-related videos, and ask video recorded questions.

New Smoking Cessation Clinic Opens

This year, the Ciccarone Center added a new Vascular Medicine Clinic devoted to smoking cessation at its Green Spring Station facility. Under the direction of Dr. Elizabeth Ratchford, who specializes in vascular medicine, and in collaboration with Drs. Seth Martin and Michael Blaha, the clinic focuses on the non-invasive diagnosis and treatment of blood vessel problems outside the heart. The goal is to establish cutting-edge research programs related to smoking, cardiovascular disease, and mobile health. Smoking is closely associated with the risk of peripheral artery disease (PAD), or blockages in the leg arteries, which is Dr. Ratchford’s main area of expertise. Most people with PAD are either current or former smokers. Smokers with PAD develop leg pain with walking (“claudication”) more quickly than nonsmokers, and amputation rates are higher in smokers than in nonsmokers. Smoking after leg bypass surgery increases the risk that the bypass graft will fail. Similarly, smoking is linked to recurrence of carotid artery disease (“restenosis”) after carotid artery surgery and after carotid stents. Smoking increases the rate of expansion of abdominal aortic aneurysms, increases the risk of blood clots in the veins, and interferes with the body’s ability to heal wounds. For these reasons and more, the Ciccarone Center is committed to helping our patients quit smoking, which is the most important action one can take to improve cardiovascular health.

Drs. McEvoy and Chiadi Ndumele also garnered considerable media attention with the release of their articles, “Diastolic Blood Pressure, Subclinical Myocardial Damage, and Cardiac Events: Implications for Blood Pressure Control,” published in the Journal of the American College of Cardiology, and “Severe Obesity Revealed as a Stand-Alone High-Risk Factor for Heart Failure,” published in the Journal of the American Heart Association, respectively. Both papers proved very popular and appeared in more than 70 news stories and medical trade publications.

Henry A. “Chic” Ciccarone, the men’s lacrosse coach at Johns Hopkins from 1975-83, is among nine individuals who will be inducted into the Intercollegiate Men’s Lacrosse Coaches Association’s (IMLCA) Hall of Fame in December 2016. The Ciccarone Center for the Prevention of Heart Disease was founded in 1989 in memory of Coach Ciccarone.

Stanley L. Blumenthal, MD Cardiology Research Awards

Since 2004, the annual Stanley L. Blumenthal, MD, Preventive Cardiology Research Awards have been presented to the Hopkins postdoctoral fellows, graduate students, or housestaff submitting the best abstracts to major research meetings, such as the American College of Cardiology Scientific Sessions. The awards were established in 2003 by the family and friends of the late Dr. Stanley L. Blumenthal, a Phi Beta Kappa graduate of Johns Hopkins University and the School of Medicine. Dr. Blumenthal began his pediatrics training at Hopkins before moving to the University of Michigan to be a senior resident and then to Harvard’s Boston Children’s Medical Center to do Pediatric Cardiology training. He then worked at the National Children’s...
Medical Center in D.C. and George Washington University, and he had a large clinical practice in Silver Spring, MD.

Each year, the awards are bestowed following the division’s yearly cardiovascular research retreat. This year’s presentations and awards ceremony, held June 3 and run by David Kass, MD, Director, Institute of CardioScience, featured lectures on cutting-edge cardiovascular disease science by Daniela Cihakova, MD, PhD, Kathy Griendling, PhD, Andrew Arai, MD, and Lisa Cooper, MD, MPH. As in years past, there were combined oral presentations for both basic science and clinical science, and then separate awards were given for the posters presented in each category. Cash prizes were awarded to the following outstanding young cardiovascular disease researchers.

First place in the ORAL COMPETITION: BASIC SCIENCE went to Shira Ziegler, BA, who is in the MD/PhD program at the School of Medicine. Her presentation was entitled “Pseudoxanthoma elasticum dysregulation of local ATP metabolism and treatment with a tissue non-specific alkaline phosphatase inhibitor.” Hal Dietz, MD, is her research mentor.

There were two second place prizes awarded in this closely contested category. One award went to Stephen Chelko, PhD for his work, “Peroxisome proliferator-activated receptor-alpha as a novel target in the treatment and management of arrhythmogenic cardiomyopathy.” His senior mentor is Dan Judge, MD. The other second place winner was Mark Ranek, PhD, for “PKG phosphorylation of TSC2 is a novel anti-hypertrophic mechanism via enhanced autophagy.” His senior mentor is David Kass, MD.

News & Highlights

New Blumenthal Endowed Scholar Fund Established

We are proud to announce that, over the course of this past year, The Roger S. Blumenthal, M.D. Endowed Scholar Fund in Preventive Cardiology has become fully funded. We’d like to extend our gratitude to those who contributed to this initiative, and in particular, Nick and Suellen Paleologos, who led the effort. Nick and Suellen have been involved with Johns Hopkins since their son John attended Johns Hopkins University 20 years ago and was a star defenseman for the Blue Jays. As a patient of Dr. Blumenthal, Nick has been able to witness firsthand the great work that The Ciccarone Center for the Prevention of Heart Disease does. The Center has continued to be a benefit not only to him, but to many of his friends, co-workers, and family members alike.

“The Roger Blumenthal Scholar program in Preventive Cardiology is our way of saying thank you to the highly skilled doctors and scientists that make up the Ciccarone Center,” says Nick Paleologos. “We are proud to be able to support the Center so that they can continue the superb care and research that they do.”

This endowed fund now generates annual income which will support the work of deserving scholars and clinical researchers, enabling them to focus more time on teaching and research discovery. Moreover, this program supports the work of talented young investigators in cardiovascular diseases, ensuring that this critical area of clinical care, research, and training will continue to remain an area of promise and leadership.

This year’s inaugural Roger S. Blumenthal Scholars in Preventive Cardiology are Drs. Erin Michos and Michael Blaha, two of the country’s young leaders in cardiovascular epidemiology as well as vascular disease screening and management. Congrats to you both!
First prize in the COMPETITION: CLINICAL/TRANSLATIONAL SCIENCE category went to Seamus Whelton, MD, MPH, for his presentation entitled “Coronary artery calcium and the competing risk of CVD and non-CVD mortality.” His senior mentor was Michael J. Blaha, MD, MPH.

First prize in the POSTER COMPETITION: BASIC SCIENCE category went to Guobao Chen, PhD, for his presentation entitled, “The role of Sca-1+ cardiac fibroblast in post-injury cardiac remodeling.” Dr. Daniela Cihakova was senior mentor. Second prize was awarded to William Schmidt, PhD for his research project, “Influence of actin pseudo-acetylation on in vivo and in vitro cardiac performance.” Anthony Cammarato, PhD, was senior mentor. And Olurotimi Mesubi, MB, BS, took third place for “Oxidized CaMKII causes atrial fibrillation susceptibility in a diabetic mouse model.” Mark Anderson, MD, PhD, The William Osler Professor of Medicine, was the senior author.

Among the winners of the POSTER COMPETITION: CLINICAL/TRANSLATIONAL SCIENCE category was Taylor Purvis, BA, a first-year medical student, who was awarded first prize for her work, “Circadian misalignment increases cardiovascular disease risk factors in humans.” Frank Scheer, PhD, was the senior mentor. Renato Quispe, MD, MSH took second place for his project, “Accuracy of low-density lipoprotein cholesterol estimation at very low levels.” Seth Martin, MD, MPH was the senior author. And third prize was awarded to Tom Metkus, MD, for his work, “Use of mechanical and non-invasive ventilation in STEMI: 12-year trends and prognostic impact from the national inpatient sample.”

Hands-On Training to Improve CPR

Dr. Seth Martin, currently co-chair of the American Heart Association (AHA) Young Hearts Board, recently helped launch a training kiosk at Baltimore-Washington International Thurgood Marshall Airport designed to teach passengers hands-only cardiopulmonary resuscitation (CPR). The touch screen on the device provides a five-minute lesson, followed by a practice session and a 30-second CPR test using a rubber mannequin. Participants also receive feedback during the lesson on hand placement, pressure, and rate of compressions. The goal of the program, operated by the AHA and funded by the Amerigroup Foundation, is to reduce the number of cardiac arrests that happen outside of hospitals each year.

Shaker Eid, MBA, MD, and Nisha Chandra-Strobus, MBBS, MD, were his senior mentors.

Congratulations to all the winners!

Continuing the MESA investigations

Kudos to the team managing the Johns Hopkins Field Center for the Multi-Ethnic Study of Atherosclerosis (MESA), which launched their sixth examination in September 2016. Ciccacanore Center staff involved in MESA Exam 6 include Drs. Wendy Post (principal investigator), Erin Michos, Michael Blaha, and Roger Blumenthal.

MESA, a long-running, federally funded medical research study of both traditional and novel risk markers of cardiovascular disease, began in 2000, involving more than 6,800 men and women from six communities in the United States. MESA is sponsored by the National Heart, Lung, and Blood Institute of the National Institutes of Health, and participants are seen at clinics at major universities, including Hopkins, Columbia University, Northwestern University, UCLA, University of Minnesota, and Wake Forest University.

MESA Exam 6 has added some exciting new components to the five completed examinations. Participants now will undergo 1) ultrasounds of the heart (echocardiography) to evaluate heart function and risk of heart failure; 2) advanced cognitive and blood testing to understand genetic markers of Alzheimer’s disease; 3) lung imaging and breathing tests to understand the interplay of lung function with heart disease; and 4) heart rhythm monitoring and brain MRIs to see whether arrhythmias of the heart can contribute to silent strokes and brain vascular disease.

In addition, for the first time in its 16-year history, MESA will also incorporate a randomized clinical trial. This trial, which will compare 2000 IU of Vitamin D3 with a placebo, will help researchers better understand why people respond differently to vitamin D treatment by testing whether genes, hormones, or other biological factors explain the variation in individual responses to vitamin D treatment.

Data obtained from MESA has been used by investigators worldwide, and to date, has generated over 1,100 publications. MESA Exam 6 will further our understanding of mechanisms that underlie heart and vascular disease, and the Johns Hopkins Ciccarone Center is
news & highlights

MESA

proud to be a major contributor to this landmark study. For more information, go to www.mesa-nhlbi.org.

Dr. Martin once again teamed up with members of the AHA’s Young Hearts Board to participate in a cooking class at the AHA’s “Simple Cooking with Heart Kitchen” in Baltimore. They made two heart-healthy dishes — alfredo lasagna with broccoli and a cauliflower casserole — then donated the food to the staff and residents of the Maryland Center for Veterans Education and Training, a nonprofit providing veterans in need with comprehensive services. Dr. Martin also works with the AHA’s Advocacy Coordinating Committee and serves as chair of the Young Hearts Board. Other Young Hearts Board community activities include creating handmade holiday cards to be distributed to patients at local cardiac rehab centers.

We recently added Kathy Byrne, CRNP, to the Johns Hopkins Lipid Clinic section of the Ciccarone Center. Dedicated to caring for individuals with complex lipid disorders that often lead to heart disease, stroke, vascular disease, or other noncardiovascular disorders, our team also consists of Drs. Steve Jones and Seth Martin. Our comprehensive approach to diagnosis and treatment of dyslipidemias includes personalized lipid testing, screening for genetic lipid disorders, education and counseling related to nutrition, exercise, weight management, smoking cessation, diabetes, and blood pressure control.

**P.J. Schafer Cardiovascular Research Award**

The P.J. Schafer Cardiovascular Research Award funds the efforts of clinical investigators seeking a better understanding of how to diagnose premature heart disease and prevent sudden cardiac death. Previous recipients of this prestigious award, which is given to a junior faculty member, include Drs. Erin Michos, Richard George, Saman Nazarian, Rhondalyn McLean, Oscar Cingolani, Chiadi Ndumele, Michael Blaha, and Allison Hays.

The 2015-2016 P.J. Schafer award winners are Seth S. Martin, MD, MHS, and J. William (“Bill”) McEvoy, MBBch, MHS. Because two winners were selected together in 2015, no new winner will be announced until 2017. Drs. Martin and McEvoy were chosen for their research interest and accomplishments in devising strategies to better predict who is actually at above-average risk for cardiovascular disease and who is really at very low risk. The award will help Dr. Martin continue his work with “big data,” including the “mHealth trial,” which involves digitally tracking physical activity and using automated, personalized text messaging to reinforce healthy behavior in real-time. Dr. McEvoy will continue to focus on refining and personalizing cardiovascular risk, testing novel biomarkers of risk, and doing comparative effectiveness research with a special emphasis on hypertension and atherosclerosis.

Hopkins Cardiology is indebted to Paul and Vivian Schafer and the Board of the P.J. Schafer Foundation for their hard work and generous contributions in support of cutting-edge research geared to the prevention of sudden cardiac death, which tragically took the life of their son, P.J.

To make donations or sign up for the P.J. Schafer golf tournament, go to www.pjschafer.com.

**Our Advice Column for a Heart-Healthy Life**

Since April 2015, Dr. Erin Michos has led the Ciccarone Center staff in contributing monthly cardiovascular health-related articles to US News and World Report. Written for a lay audience, the articles are designed to serve as an expert advice column and a resource to patients and others interested in managing and improving their health. The following is a list of some of the articles written and published in the past year:

- “How Obesity Can Affect Your Heart”
- “Electronic Cigarettes: Are They Safer Than Traditional Cigarettes?”
- “Know Your A1C: What This Blood Test Can Tell You About Your Risk for Diabetes and Cardiovascular Disease”
- “Aspirin for Cardiovascular Disease Prevention: Balancing Benefits With Risks to Determine if Aspirin Is Right for You”
- “Vitamin D Deficiency and the Prevention of Heart Disease: To Treat or Not to Treat?”
- “How to Pick Your Next Mobile Health App”
- “Inflammation and Heart Disease: What is CRP and Who Might Benefit From Testing?”
- “Pregnancy and the Heart: A Difficult Pregnancy May Warn of Future Cardiovascular Risk”
- “Holiday Heart Syndrome: How to Gift Yourself a Stress-Free Heart This Season”
- “Beyond Sex: Erectile Dysfunction Could Spell Heart Trouble”

To read these articles and more, visit http://health.usnews.com/health-news/patient-advice/for-better.
Our Donors Make an Invaluable Difference

The impact of philanthropy is immeasurable. It enables research, education, and clinical care to advance beyond the limitations of budgetary constraints and diminished federal funding. We are truly grateful to our generous contributors. They assist in our efforts and partner with us as we remain at the forefront of scientific investigation and collaboration in all areas of cardiovascular disease prevention.

Richard and Katherine Amato

While our space here is limited, please know our gratitude is not. Philanthropic support of any amount has been greatly appreciated, but we’d like to take this opportunity to thank the following donors for their extraordinary investment in our clinical research and activities over the past year:

Mr. Michael Amato
Mr. and Mrs. Richard Amato
Mr. David Ansell
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Mr. Daniel Wagner
Mr. and Mrs. Robert Zucker
The Johns Hopkins Ciccarone Center for the Prevention of Heart Disease has identified a simple and effective way to reduce one’s risk of cardiovascular disease. Our “ABCDE” method — which stands for Assessment of risk, Antiplatelet therapy; Blood pressure management; Cholesterol management, Cigarette/tobacco cessation; Diet and weight management, Diabetes prevention and treatment; and Exercise — organizes the national guidelines into a comprehensive plan for managing prevention. This tool is intended to provide a brief set of instructions for people to discuss with their doctors.

**A**ssessing Your CVD Risk
An adult can estimate his or her risk of heart attack or stroke over the next 10 years by using the atherosclerotic cardiovascular disease (ASCVD) risk calculator: [http://clincalc.com/Cardiology/ASCVD/PooledCohort.aspx](http://clincalc.com/Cardiology/ASCVD/PooledCohort.aspx).

**An Aspirin a Day**
A small dose of aspirin (81 mg) daily may lower the risk of a heart attack and stroke. In many patients who have had a heart attack or have heart stents, adding another antiplatelet medicine, such as clopidogrel, to daily aspirin can add additional benefit. Aspirin is generally recommended for people with 1) an ASCVD risk estimate >10% (if not at high risk for bleeding); 2) those who have known atherosclerosis; and 3) diabetes (if at least 40 years of age).

**B**lood Pressure — Go Low
High blood pressure is a significant cause of heart attack, stroke, kidney disease, and dementia. Hypertension is defined as a blood pressure of >140/90. Recent clinical trial data indicates that a person over age 50 with a cardiac risk factor should likely strive for a systolic blood pressure of <130. Lifestyle interventions, including regular aerobic exercise, eating a diet low in salt and high in fruits and vegetables, losing excess weight, and reducing alcohol intake, all lower blood pressure.

**C**holesterol Therapy a Must
Cholesterol gradually builds up on the walls of arteries over time, leading to atherosclerosis. Healthier dietary habits and increased exercise remain the two best ways to improve cholesterol, but often a statin and/or other medication is employed to lower cardiovascular risk.

**Cigarette/Tobacco Cessation**
Smoking increases the risk of heart attack and stroke and is linked to multiple types of cancers. If you smoke, make every concerted effort to stop. Develop a plan to quit, and set a quit date. Resources are available to help you stop smoking, including nicotine replacement therapies and prescription medications. Contact 1-800-QUIT-NOW.

**D**iabetes Prevention and Treatment
Both diabetes and prediabetes can lead to heart disease, stroke, kidney failure, blindness, and amputations. You can help diagnose both conditions by checking your hemoglobin A1c (HbA1c) levels. A measured HbA1c of 5.7-6.4% represents pre-diabetes, while a level of 6.5% or more represents diabetes. Weight loss and improvements in diet and exercise help prevent the development of diabetes. If you are a diabetic, you may need medications, such as metformin or insulin, for optimal diabetes control.

**E**xercise Is Key
Exercise helps us lose weight, stay healthy, and feel better. A good exercise program consists of aerobic activity, strength training, and flexibility exercise. Guidelines recommend 3-4 sessions a week, lasting on average 30-40 minutes per session, involving moderate- to vigorous-intensity physical activity. Reduce sitting time and aim for >10,000 steps/day of walking.

**Diet and Weight Management**
A healthy diet should be rich in fruits, vegetables, and whole grains, along with low-fat dairy products, poultry, fish, legumes, and nuts. Sweets, sugar-sweetened beverages, red meat, and simple carbohydrates found in white breads, pastas, and white rice should be minimized.

Weight and height are measured to calculate body mass index, or BMI. Normal BMI is 18-24.9 kg/m²; 25-29.9 kg/m² is considered overweight; and ≥ 30 kg/m² indicates obesity. Making sustained improvements in diet and exercise can aid in weight loss. The recent guidelines point out that the loss of at least 5% of body weight via a low-calorie diet, combined with an increase in physical activity, can improve many risk factors.

**Take control of your ABCs!**
For more information, call the Johns Hopkins Ciccarone Center for the Prevention of Heart Disease at 410-955-7376. www.hopkinsmedicine.org/heart

*Personalized prevention advice is the trademark of the Ciccarone Center.*
Since 1990, the mission of the Ciccarone Center for the Prevention of Heart Disease has been three-fold:

- To create excellent clinical care for people at risk of developing heart disease
- To educate health care practitioners about how to better identify and care for patients at risk of developing heart disease
- To establish rigorous research programs to study better prevention of cardiovascular disease

Relentless pursuit of these goals over the past two decades has led to the creation of one of the fastest growing clinical and research programs at Johns Hopkins, which is highly regarded for its innovative and effective approaches to cardiovascular disease prevention and treatment.

**Clinical Care**

The trademark of the Ciccarone Center is its comprehensive approach, which involves both global assessment and aggressive management of multiple risk factors (not just single risk factors, such as high blood pressure or high cholesterol) contributing to the development and progression of atherosclerosis. Our clinical center is dedicated to:

- The detection and management of individuals at risk for accelerated atherosclerosis (primary prevention) to prevent or delay the onset of cardiovascular disease, and
- The management of patients with established vascular disease (secondary prevention) to reduce recurrent cardiovascular events and decrease mortality.

**Education**

Our educational efforts are aimed at both the medical community and the general public. The Ciccarone Center also serves as a model for teaching the art of prevention of cardiovascular disease to fellows, residents, and students at the Johns Hopkins School of Medicine and the Bloomberg School of Public Health.

Our physicians and nurse practitioners are also lecturers for medical and nursing students and physicians at Johns Hopkins and at national meetings. Hopkins Medicine also organizes meetings to address educational issues for the public.

**Research**

As part of Johns Hopkins, the Ciccarone Center for the Prevention of Heart Disease is committed to conducting cutting-edge research on atherosclerosis and risk factors for heart disease. We conduct research on two levels:

- Clinical research studies of cardiovascular disease involving informed, consenting adults, and
- Basic research and experiments to decipher the molecular reactions leading to atherosclerotic vascular disease.

**A Personalized, Comprehensive Approach**

The Ciccarone Center specializes in managing adults who are at high risk for future cardiovascular disease because of the presence of multiple cardiac risk factors (such as hypertension, dyslipidemia, diabetes, smoking, sedentary lifestyle, or overweight status) or a history of known cardiovascular or peripheral arterial disease.

The Ciccarone Center’s personalized, comprehensive approach to lifestyle and medical management can slow the progression of cardiovascular disease and decrease one’s future risk of a heart attack, stroke, bypass surgery, angioplasty, or stenting. We also sponsor research that includes both clinical trials and basic molecular studies.

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**Wendy S. Post, MD, MS**

Dr. Wendy Post continues in her role as the principal investigator for the Hopkins field center for the Multi-Ethnic Study of Atherosclerosis (MESA; see page 7) and also leads studies investigating cardiovascular disease associated with HIV infection in the Multicenter AIDS Cohort (MACS) study. In 2015, she was elected as a member of the American Society for Clinical Investigation (ASCI), for her scientific contributions, and joined the editorial board of the journal Circulation as an associate editor. She also serves as the director of research for the Hopkins cardiovascular fellowship program. Drs. Post and David Kass successfully renewed a $4.3 million NIH-funded T32 cardiology research training grant this year. This prestigious program is now in its 41st year of continuous funding in the Hopkins cardiology division and provides salary support and educational funding for 12 post-doctoral trainees each year. Dr. Post was also recently appointed to chair a university-wide committee by Johns Hopkins University President Ronald Daniels, along with Dr. Pierre Coulombe. This committee will evaluate issues involving the biomedical workforce and advise Daniels about best practices and changes that might be instituted to improve the career trajectory of these early career scientists.
Several groups of patients have been of particular interest to the Ciccarone Center:
- Women and ethnic minorities
- Patients with metabolic disorders, in particular, inherited dyslipidemias, the metabolic syndrome, and diabetes
- Patients with accelerated atherosclerosis
- Persons with a family history of coronary heart disease or stroke
- Persons with recurrent chest pain but no established cardiovascular disease
- Persons who have been intolerant of standard cholesterol or blood pressure medications

State-of-the-Art Testing
We are especially interested in individuals who develop cardiovascular disease before the age of 65. We have special expertise in the screening and management of asymptomatic family members of persons with premature atherosclerotic disease. Our team may selectively employ state-of-the-art testing to help identify factors contributing to heart disease clustering in families.

For an individual patient, we may use the latest assessment techniques to measure lipoproteins (total cholesterol, high-density lipoprotein-cholesterol [HDL-C], LDL-C, and triglyceride levels) and apolipoproteins (Lp[a], apolipoprotein B) as well as nontraditional risk factors, such as high-sensitivity C-reactive protein (hsCRP), and measurements of lipoprotein size and number. However, for many individuals these emerging risk factors are often not needed to optimize their management in a cost-effective manner.

Advanced Diagnostic Tools
Among asymptomatic adults with no history of cardiovascular disease, we may use a 64-slice or a 320-slice multidetector computed tomography (MDCT) scan of the chest to measure the amount of coronary artery calcification. The presence of elevated coronary artery calcification (e.g. > 75th percentile for one’s age and gender) or thickened carotid arteries is a sign of accelerated atherosclerosis for one’s age and may lead to more aggressive attempts at comprehensive risk factor changes through both medical management and lifestyle modification. Occasionally, a cardiac CT angiogram may also be indicated in patients with atypical chest pain and inconclusive stress test results. After an initial comprehensive evaluation, we can inform a patient whether his/her management might be changed by some of the more sophisticated laboratory and diagnostic testing that we can provide.

Improving Lifestyle Habits
Dominique Ashen, PhD, CRNP, and Kathy Byrne, CRNP, nurse practitioners who specialize in helping people improve their lifestyle habits, assist patients with behavior changes such as:
- Following healthier diets
- Maintaining a prudent body weight
- Smoking cessation
- Maintaining a regular aerobic program
- Coping better with stress

Our Mission
We have built the Johns Hopkins Ciccarone Center for the Prevention of Heart Disease with the following goals in mind:

1. Provide a center dedicated to clinical patient care and the global assessment of risk factors for cardiovascular disease, which enables patients to receive:
   - the latest information on the prevention of atherosclerotic vascular disease,
   - comprehensive management of risk factors for cardiovascular disease, and
   - high-quality care that is integrated into the other health promotional resources of Johns Hopkins.

2. Create a center at Johns Hopkins for the education of health care providers in the area of prevention of cardiovascular disease. Teaching by our physicians and nurse practitioners broadly targets Hopkins nurses, medical students, fellows, and physicians as well as the community at large.

3. Foster cardiovascular research, including both clinical trials and translational research.
A listing of the publications by the staff of The Johns Hopkins Ciccarone Center for the Prevention of Heart Disease, from October 2015 through September 2016.

Assessment of Cardiovascular Risk
Summary: This paper takes a global view of disparities and highlights that disparate care is not limited to the U.S. and it is a challenge that the medical community should face head on.

Summary: This study examined secular trends in red blood cell distribution width in relation to increased risk of cardiovascular and non-cardiovascular death.

Summary: Selective use of coronary artery calcium scanning can significantly improve cardiovascular risk prediction.

Summary: Early detection of advanced coronary artery calcium and carotid plaque provides opportunities for predicting the onset of subsequent vascular erectile dysfunction.

Summary: We provide the perspective of the preventive cardiologist in discussing the limitations of current risk scores and the interplay between erectile dysfunction assessment and the use of personalized prognostic tools.

Summary: This study reviews the current literature supporting the use of erectile dysfunction as a CVD risk factor, and presents a testing algorithm for evaluating CVD risk in men with erectile dysfunction.

Summary: We provided important guidance on the guideline-recommended clinician-patient risk discussion, the concept of shared decision making, and the ACC/AHA Risk Estimator application.

Summary: The AHA-ACC-ASCVD risk score often overestimates ASCVD risk among men, women, and all four race/ethnic groups evaluated in a modern American primary prevention cohort.

Summary: This study sought to develop and validate risk prediction models for heart failure with preserved and reduced ejection fraction.

Summary: This editorial focuses on the important need to improve our approach for estimating CVD risk and validating existing risk scores.


Sherita Golden, MD, MHS
Over the past year, Sherita Golden, MD, MHS, the Hugh P. McCormick Family Professor of Endocrinology and Metabolism, and Executive Vice-Chair, Department of Medicine, at Johns Hopkins University, has continued her work examining endocrine/hormonal risk factors associated with the development of type 2 diabetes and cardiovascular disease (CVD) in the Multi-Ethnic Study of Atherosclerosis (MESA) and the Jackson Heart Study (JHS). Her recent work focuses on the hormones of the adrenal glands — cortisol (which regulates glucose and fat metabolism) and aldosterone (which regulates salt balance and blood pressure). Results from MESA show that the cortisol axis, which regulates our response to stress, is abnormal in the setting of type 2 diabetes and obesity. In the JHS, high aldosterone levels are associated with a high risk of developing type 2 diabetes and CVD over time. Dr. Golden’s work also focuses on the impact of lifestyle factors on the risk of type 2 diabetes. A brisk walking pace and higher exercise physical activity are associated with a lower risk of diabetes, although the association was stronger in whites than blacks and Hispanics. Dr. Golden remains the principal investigator of the Hopkins site of the Diabetes Prevention Program, which is renewed for another five years by the NIH. This landmark study showed that lifestyle intervention and metformin significantly lowered the risk of developing type 2 diabetes in individuals with prediabetes. The new phase of the grant continues to follow the original trial participants as a cohort for another five years with a focus on how the original interventions are related to cancer and age-related outcomes and on the natural glycemic history of prediabetes.
Summary: While nonalcoholic fatty liver disease is associated with CVD risk, imaging of the liver with CT does not improve global risk prediction.


Summary: Selective use of coronary artery calcium in low-risk men and women improves risk detection algorithms that are currently based on traditional risk factors.


Summary: Middle-aged and older adults with zero coronary artery calcium are less likely to develop common age-related comorbid conditions, and represent a unique population of “healthy agers.”


Summary: Favorable cardiovascular risk profiles are associated with significantly lower medical expenditure and healthcare utilization among individuals with and without established cardiovascular disease.


Summary: Although 10-year event rates were relatively low in those with low lifetime risk, coronary artery calcium was the strongest predictor of incident CHD.


Summary: Negative results of atherosclerosis-imaging tests, particularly coronary artery calcium score of 0, resulted in the greatest downward shift in estimated CVD risk.


Summary: Nontraditional risk markers — specifically, CAC score, ABI, and family history — were independent predictors of atherosclerotic cardiovascular disease events.


Summary: Coronary artery calcium is strongly associated with the long-term mortality risk in young and middle-aged men and women.


Summary: Coronary artery calcium effectively stratified mortality risk of patients with and without a family history of coronary disease.


Summary: Healthy arterial aging may be predominantly influenced by the long-term maintenance of a low CVD risk profile or genetic factors, rather than the absence of any specific risk factor cluster identified in late adulthood.


Summary: Significant risk heterogeneity exists among those eligible for statins, according to the new guidelines. The absence of coronary artery calcium reclassifies approximately one-half of candidates as not in need of statin therapy.

Seth S. Martin, MD, MHS

Seth S. Martin, MD, MHS, a recent graduate of the Pollin Cardiovascular Disease Prevention Fellowship, joined the Ciccarone Center core faculty in 2015 as Associate Director of the Lipid Clinic.

Dr. Martin is an assistant professor of medicine in the Johns Hopkins Division of Cardiology and associate faculty member in the Welch Center for Prevention, Epidemiology, and Clinical Research in the Johns Hopkins School of Public Health. He is also now serving as teaching faculty for medical student cardiology and transition to the wards curricula and a core teaching faculty member for the Janeway Farm in the Osler Medical Residency.

Dr. Martin leads the Ciccarone Center’s efforts to transform cardiovascular care using mobile health technology. His first cardiology Apple CareKit app, “Corrie,” released in the summer of 2016, guides patients through the heart attack recovery process. Dr. Martin is the principal investigator on the MICORE (Myocardial Infarction COmBined-Device Recovery Enhancement) Study, testing the effectiveness of the Corrie app with the Apple Watch. This past year, Dr. Martin received the Multi-Ethnic Study of Atherosclerosis (MESA) Early Career Investigator Award for an article published in *Circulation*. He is now co-chair of the American Heart Association Young Hearts Board and helped launch a training kiosk at the BWI airport that teaches cardiopulmonary resuscitation. Dr. Martin also was appointed by Maryland Governor Larry Hogan to serve as a Council Member on the State Advisory Council on Heart Disease and Stroke Prevention.


27. Blaha MJ. Personalizing Treatment: Between Primary and Secondary Prevention. American Journal of Cardiology. 2016 Sep 15;118(6 Suppl):4A-12A. Summary: Coronary artery calcium scoring identifies an important subgroup of patients with coronary artery calcium scoring between primary and secondary prevention, which can be termed “primary and secondary prevention,” and might benefit from more aggressive lipid-lowering pharmacotherapy.

28. Kambhampati S, Ashvietiya T, Stone NJ, Blumenthal RS, Martin SS. Shared decision-making and patient empowerment in preventive cardiology. Current Cardiology Reports. 2016 May;18(5):49. Summary: This article explores the various components of shared decision-making in scenarios such as hypertension and hyperlipidemia, heart failure, and diabetes.


41. Parnell TS, Calhoun EA, Golden SH, Halladay JR, Krok-Schoen JL, Appelhans BM, Cooper LA. Achieving health equity: Closing the gaps in health care disparities, interventions, and research. Health Affairs (Project Hope). 2016 Aug 1;35(8):1410-5. Summary: This study highlights innovative interventions that address gaps in knowledge of health care, focusing on cardiovascular disease and cancer by providing recommendations for advancing the field of health equity.


44. Srinath R, Gottesman RF, Golden SH, Carso KA, Dobs AS. Association between endogenous testosterone and cerebrovascular disease in the Atherosclerosis Risk in Communities (ARIC) Study. Stroke. Forthcoming 2016. Summary: This study examined the association of testosterone with subclinical and clinical cerebrovascular disease.

45. Zhang Y, Guallar E, Blasco-Colmenares E, Harms AC, Vreken RJ, Hankemeier T, Tomaselli GF, Cheng A. Serum-based oxypins are associated with outcomes in primary prevention implantable cardioverter defibrillator patients. Public Library of Science One. 2016 Jun 9;11(6):e0157035. Summary: This study sought to better understand if oxypins were associated with outcomes of arrhythmias and all-cause mortality in recipients of primary prevention implantable cardioverter defibrillators.

Summary: This study tested whether distinct fluctuation patterns underlying the variability of physiological signals have unique prognostic value in an extensively phenotyped cohort of heart failure patients using EntropyX


Summary: The aim was to develop a risk prediction score incorporating variables associated with mortality, left ventricular assist device implant, or heart transplant in recipients of a primary prevention cardiac resynchronization therapy-defibrillator.


Summary: This study focused on estimating the influence of ambient air pollution exposure to ethnic differences in common carotid intima-media thickness.


Summary: This study examined changes in carotid IMT and carotid plaque morphology in patients receiving multifactorial cardiovascular disease risk factor management in a community-based prevention clinic.


Summary: This study reviews the evidence for morphine in myocardial infarction and outlines novel strategies that may facilitate future investigations of this clinical dilemma.


Summary: This study discusses the historical background and physiologic rationale for therapeutic hypothermia, reviews the recent literature supporting this intervention, and outlines practical considerations.


Summary: This study assessed the comparative benefits of using the pooled cohort equation (PCE), Framingham Risk Score, and European SCORE for ASCVD risk assessment in MESA.


Summary: This systematic review synthesized available data on the distribution and outcomes associated with ideal CV health metrics.


Summary: This study determined whether the prevalence and extent of coronary artery calcium is higher in female SLE patients compared with a non-SLE sample.


Summary: Abnormal electrophysiological substrate quantified by global electric heterogeneity parameters are independently associated with sudden cardiac death in the general population.


Summary: This study determined the prevalence of and factors associated with myocardial scar in middle- and older-aged individuals.


Blood Pressure


83. Plante TB, Urezz B, MacFarlane ZT, Blumenthal RS, Miller ER 3rd, Appel LJ, Martin SS. Validation of the instant blood pressure smartphone app. JAMA Internal Medicine. 2016 May 1;176(5):700-2. Summary: A popular smartphone application with more than 150,000 units sold produced highly inaccurate blood pressure measurements.

Research Publications
This past year, Chiadi Ndumele, MD, MHS, the Robert E. Meyerhoff Assistant Professor of Medicine, Division of Cardiology, at the Johns Hopkins University School of Medicine, published a landmark article in the *Journal of the American Heart Association*. In their analysis of 13,730 individuals in the ARIC Study without baseline cardiovascular disease (CVD), Dr. Ndumele and co-authors (including Drs. Blumenthal and Gerstenblith) compared the association of obesity with different major subtypes of CVD (heart failure, coronary heart disease [CHD] and stroke). They found that obesity had the strongest relationship with the development of heart failure, with an approximate four-fold higher risk for heart failure, compared with approximate two-fold higher risks for CHD and stroke. Additionally, Dr. Ndumele found that the association of obesity with CHD and stroke was entirely explained by the presence of traditional risk factors, such as hypertension, diabetes, and cholesterol levels. In contrast, the association of obesity with heart failure was largely unexplained by traditional risk factors. This suggests that among individuals with obesity, controlling traditional factors may reduce most of the excess risk for CHD and stroke, but controlling these risk factors alone is likely not sufficient to address the increased risk of heart failure associated with obesity.


**Summary:** This review critically appraises government recommendations, with a focus on the evidence base for each area where the guidelines differ from the ACC/AHA guidelines, and calls for harmonization of lipid treatment guidelines.


**Summary:** This meta-analysis showed a significant increase in plasma apolipoprotein levels following statin therapy.


**Summary:** Remnant lipoprotein cholesterol levels are predictive of incident CHD in this diverse group of primary prevention subjects.


**Summary:** This study focused on clarifying the associations of HDL-C subclasses with incident CHD in two large primary prevention cohorts.


**Summary:** We assessed the impact of L-carnitine on plasma Lp(a) concentrations through a systematic review and meta-analysis of trials.

**Summary:** Although high levels of homocysteine were associated with 2-6% higher TG-rich lipoproteins in unadjusted analysis, after adjustment for confounders hyperhomocysteinemia does not appear associated with an atherogenic lipid profile.


**Summary:** This article discusses current guidelines for cholesterol treatment that emphasize the importance of engaging patients in a risk-benefit discussion prior to initiating statin therapy.


**Summary:** This study discusses the updated ACC/AHA and National Lipid Association guidelines on lipid treatment and summarizes the various statins and their potential benefits.


**Summary:** The authors evaluate the latest evidence on clinical management of patients who have had difficulty taking a statin medication.


**Summary:** This article concisely delivers the current importance of engaging patients in a risk-benefit discussion prior to initiating statin therapy.


**Summary:** In the setting of ongoing controversies about statin drugs, this high-profile review helps doctors and patients make informed decisions about the use of this important drug class for prevention of heart attacks and strokes.


**Summary:** The authors discuss deep flaws in an article on cholesterol and mortality in the elderly and argue that its misguided conclusions could harm implementation of cholesterol guidelines.


**Summary:** The study identified 14,958 eligible patients, 9,458 patients were observed in China PEACE-3 trial were explored.


**Summary:** The clinical implications of statin intolerance in the pivotal GAUSS-3 trial were explored.


**Summary:** This study determined whether lipoprotein(a) cutoff values used in clinical laboratories to assess risk of CVD, identify subclinical calcific aortic valve disease and its severity and whether significant interactions are observed across race/ethnicity.


**Summary:** This study assessed the impact of statin therapy in PAH through a systematic review and meta-analysis of available studies.


**Summary:** Despite high levels of homocysteine is not independently associated with an atherogenic lipid profile: The very large database of lipids (VLDL-21) study. *Atherosclerosis*. 2016 Jun 24;119(1): 3-6.


**Summary:** Despite statin efficacy in reducing CVD morbidity and mortality, some persons are unable to tolerate statins due to adverse events such as hepatotoxicity and myalgia/myopathy.


136. Toth PP. CVD risk as a function of HDL-C phenotypes is modulated by other components of the lipid panel.


**Summary:** This study provided an overview of novel agents such as PCSK9 and CETP inhibitors in combination with statin therapy on CVD outcomes.


**Summary:** This study examined the effects of a Bergamot extract on cardio-metabolic parameters, including lipids, atherogenic lipoproteins and subclinical atherosclerosis.

Summary: Coronary artery calcium score is associated with the presence of the no-reflow phenomenon in patients with ST-elevation myocardial infarction.


Summary: In an ethnically diverse population of asymptomatic individuals free from baseline cardiovascular disease or heart failure, the left ventricular area measured by non-contrast cardiac computed tomography is a strong predictor of incident heart failure events beyond traditional risk factors.


Summary: The authors propose potential trial approaches based on recent changes in clinical practice that could make a new coronary artery calcium trial design feasible.


Summary: This study examined the associations of clinical risk factors and cardiac imaging markers with changes in ejection fraction after defibrillator implantation.


Summary: In patients undergoing primary percutaneous coronary intervention, high D-dimer levels on admission were associated with a larger infarct size and may be a marker of advanced myocardial injury.


Summary: This study examined the associations of clinical risk factors and cardiac imaging markers with changes in ejection fraction after defibrillator implantation.


Summary: This study looked at the prevalence of intracranial atherosclerotic stenosis and its association with vascular risk factors using high-resolution magnetic resonance angiography.


Summary: This study implemented a magnetic resonance imaging protocol to measure intracranial atherosclerotic disease in a population-based multicenter study.
**Summary:** This study examined the relationship between elevated parathyroid hormone level and white matter hyperintensities and subclinical infarcts measured on brain magnetic resonance imaging.

**Summary:** This study evaluated whether a PET-determined longitudinal decrease in myocardial blood flow or gradient correlates with invasively measured fractional flow reserve in CAD patients.

**Summary:** This study reports on a unique 67-year-old patient who presented with angina symptoms to this study. This study evaluated the association of subclinical carotid and femoral plaques with risk factors and coronary artery calcium score in middle-aged men.

**Summary:** This study found that higher levels of total daily calcium intake may be associated with reduced risk for incident coronary artery calcium, but calcium supplement use might increase risk.

**Summary:** This study summarizes existing data regarding subclinical CVD in patients with COPD to identify screening strategies in these patients.

**Summary:** This study evaluated image quality, signal-to-noise ratio, and contrast-to-noise ratio from coronary CTA images and assessed the dependence on heart rate and BMI.

**Summary:** This study determined which risk factors and coronary artery calcium: The AWHS Study. *Journal of the American College of Cardiology*. 2016 Mar 22;67(11):1263-74. 
**Summary:** This study evaluated the association of subclinical carotid and femoral plaques with risk factors and coronary artery calcium score in middle-aged men.

**Summary:** This study evaluated the association of subclinical carotid and femoral plaques with risk factors and coronary artery calcium score in middle-aged men.

**Summary:** The authors critically examine emerging clinical data on a new type of coronary artery stenting approach.

**Summary:** This study reviewed laboratory results and clinical outcomes for all continuous flow left ventricular assist devices implanted from 2004 to June 2014.

**Vitamin D**

**Summary:** This study evaluated image quality, heart rate, and body mass index. Initial patient experience with a new computed tomography scanner. *European Heart Journal: Cardiovascular Imaging*. 2016 Jun 19. 
**Summary:** This study evaluated whether a PET-determined longitudinal decrease in myocardial blood flow or gradient correlates with invasively measured fractional flow reserve in CAD patients.

**Summary:** There is not a significant effect of vitamin D supplementation on adiponectin and leptin levels.

**Summary:** This study conducted a cross-sectional analysis of a representative sample of US men and found that vitamin D deficiency was associated with an increased prevalence of ED independent of ASCVD risk factors.

**Summary:** This study determined which risk factors were associated with longitudinal changes in 25-hydroxyvitamin D levels among ARIC participants.

**Summary:** This study assessed the prospective association between circulating 25-hydroxyvitamin D and atrial fibrillation risk.
Research Publications


Summary: This editorial discusses whether we should be measuring vitamin D levels to assess coronary risk among patients with hypertension.


Summary: This study's goal was to evaluate whether 25(OH)D deficiency is associated with hemostatic and inflammatory biological profile.

Diet/Weight/Obesity


Summary: This landmark review summarizes the evidence demonstrating the importance of each facet of risk factor management in atrial fibrillation prevention and therapy.


Summary: The link between obesity and heart failure was stronger than those for other CVD subtypes and was uniquely explained by traditional risk factors.


Summary: This study examined the association between BMI categories and the development of nonalcoholic fatty liver disease in a large cohort of metabolically healthy men and women.


Summary: This study investigated the relationship of anthropometric measurements with computed tomography body fat composition to determine if these relationships differ by sex and race.


Summary: This study informed effective primary atherosclerosis prevention strategies by identifying specific dietary patterns related to early atherosclerosis.


Summary: This study investigated the relationship between sugar-sweetened carbonated beverage consumption and coronary artery calcium in a large study of asymptomatic adults.


Summary: This study examined associations between glycemic index and fat intake with carotid atherosclerosis.


Summary: Workplace wellness programs provide an important option for weight loss that can obviate the need for bariatric surgery, reduce CVD risk, and potentially reduce costs.


Summary: AHA's cardiovascular health metrics for smoking, physical activity, total cholesterol, and glucose blood need to be reinforced.


Summary: This study detailed 6- and 12-month cardio-metabolic outcomes of an intense 12-week workplace lifestyle intervention program, the My Unlimited Potential, conducted in a large healthcare organization.


Summary: The Baptist Employee Healthy Heart Study assesses the addition of a personalized, interactive, web-based, nutrition-management and lifestyle-management program to the existing health-expertise web platform.


Summary: This study found that nonoptimal intakes of n-6 polysaturated fat, trans fat, and saturated fat each contribute to significant estimated coronary heart disease mortality.
Diabetes/Metabolic Syndrome


Summary: Meeting an increasing number of American Heart Association 2020 impact goals for dietary intake, physical activity, smoking, blood pressure, cholesterol and body mass index was associated with a dose-dependent lower risk of diabetes with significant variation by race/ethnicity.


Summary: The risk with diabetes is heterogeneous, and various diabetes-specific factors modulate that risk. CAC scoring is the most appropriate risk stratification tool for asymptomatic individuals with diabetes that can guide initiating/intensifying or withholding the most aggressive pharmacological therapies among high-risk or low-risk individuals, respectively.


Summary: In asymptomatic individuals, a higher serum gamma-glutamyl transferase level was independently associated with increased burden of subclinical inflammation across metabolic states and may explain its association with increased cardiovascular risk.


Summary: This study evaluated the role of several factors and extent of particle-cholesterol discordance in those with diabetes mellitus and metabolic syndrome for event prediction.


Summary: This study developed and validated a tool to predict the risk of all-cause readmission within 30 days among hospitalized patients with diabetes.


Summary: This study assessed the association between physical activity, sedentary behavior, and incident diabetes in the Multi-Ethnic Study of Atherosclerosis.


Summary: This study examined associations between intensive lifestyle intervention and changes in testosterone and associations with mood among middle-aged men.


Summary: This study determined whether there is a racial difference in the risk of acute kidney injury between hospitalized black and white adults with diabetes mellitus in the US.


Summary: This study determined whether appropriate therapeutic changes in insulin doses are made to prevent and manage insulin-associated hypoglycemic events in non-critically ill hospitalized patients.


Summary: This study assessed the effect of prediabetes (impaired fasting glucose and/or impaired glucose tolerance) on the incidence of chronic kidney disease.


Summary: This study examined the magnitude and types of hospitalizations among persons with prediabetes, undiagnosed diabetes, and diagnosed diabetes.


Summary: This study examined the association of both aldosterone and renin, with insulin resistance, β-cell function, and incident diabetes in a large African American cohort.

Michael Blaha, MD

This past year has been a momentous one for Michael Blaha, MD. In addition to being named one of the two inaugural Roger S. Blumenthal, MD, Scholars in Preventive Cardiology, Dr. Blaha was chosen as an official standing member of the Endocrinologic and Metabolic Drug Advisory Committee (EMDAC) for the FDA, and honored as a faculty inductee of the Delta Omega Public Health Honor Society. Dr. Blaha also received grant funding from several organizations: the American Heart Association, for studying the potential markers of early pulmonary and cardiovascular harms among electronic cigarette users; the Aetna Foundation, for testing a mobile health intervention aimed at increasing physical activity levels and decreasing tobacco urges among active smokers; and Ameon; for creating a model used to predict which patients might be sufficiently high risk to benefit from the new PCSK9 inhibitor class of cholesterol-lowering medications.

Summary: This study aimed to determine if type 2 diabetes is associated with longitudinal change in diurnal cortisol curve features.


Summary: This study aimed to clarify the cumulative effects of adverse social factors on the risk of diabetes.


Summary: This study investigated the cross-sectional association of cortisol curve features with glycemia in those with and without diabetes and insulin resistance, in non-diabetic subjects.


Summary: This study examined if trait anger and anxiety would predict incident type 2 diabetes, independently of depressive symptoms.


Summary: This state-of-the-art review summarizes the association of and mechanisms relating to depression, anxiety, serious mental illness, and eating disorders to diabetes mellitus.


Summary: This study determined the prevalence of minor depression and major depression in a clinic-based population of adults with type 2 diabetes.


Summary: This study examined the effect of a diabetes self-management problem-solving intervention on diabetes care and health behaviors in African-Americans with type 2 diabetes.


Summary: This study studied the linearity of the relationship between metabolic syndrome and TSH across the euthyroid range.


Summary: This review critically evaluated the literature pertaining to sedentary behavior and cardiovascular risk and suggests interventions to reduce sedentary behavior time.


Summary: This review critically evaluated the literature pertaining to sedentary behavior and cardiovascular risk and suggests interventions to reduce sedentary behavior time.


Summary: A review of guideline recommendations for ASCVD risk assessment driving the use of statins or aspirin for certain subgroups of patients with diabetes.


Summary: This study investigated the association of 1,5-Ag with subclinical myocardial damage and atherosclerosis.


Summary: This study examined the association of elevated parathyroid hormone with the incidence of diabetes.


Summary: This study tested the hypothesis that serum calcium concentration is independently associated with the incidence of diabetes and evaluated the association of calcium-sensing receptor gene single nucleotide polymorphism rs1801725 with incident diabetes.

### Exercise/Fitness


Summary: Heart rate and exercise parameters achieved on treadmill tests are equally prognostic among patients using versus not using pulmonary medications.


Summary: Sedentary time and moderate-to-vigorous physical activity are independently associated with all-cause mortality.


Summary: This review critically evaluated the literature pertaining to sedentary behavior and cardiovascular risk and suggests interventions to reduce sedentary behavior time.


**Summary:** This editorial focuses on the need for young adults to maintain regular exercise programs to reduce their risk of chronic disease.


**Summary:** The indication for stress testing is an independent predictor of mortality, with a stronger predictor of survival than chronicologic and may be a useful for facilitating patient discussions regarding the impact of exercise capacity on long-term risk.


**Summary:** This study sought to determine whether being a man or a woman modified the relationship between fitness and mortality.


**Summary:** Cardiorespiratory fitness is a strong predictor of all-cause mortality in both white and black patients with no significant interaction observed between race, fitness, and outcomes.


**Summary:** Higher baseline exercise capacity was independently associated with a lower risk of early death after a first myocardial infarction.


**Summary:** This study investigated the impact of differences in exercise capacity associated with age on long-term outcomes, and derived fitness-associated “biologic age” as a tool to encourage positive lifestyle changes.


**Summary:** An automated tracking-texting intervention increased physical activity with, but not without, texting component; this supports new mHealth tracking technologies as facilitators in need of behavior change drivers.


**Summary:** Technology holds significant potential to provide low-cost, scalable, and individualized tools to improve management of important CVD risk factors.


**Summary:** Moderate-vigorous physical activity ≥30 minutes, ≥5 days/week is associated with significantly lower health care spending and resource utilization among individuals with and without established CVD.


**Summary:** This large study with over 20-years of followup found that increased physical activity was beneficial for reducing cardiovascular risk similarly among those with and without a family history of premature coronary artery disease.


**Summary:** This study investigated the impact of differences in exercise capacity associated with age on long-term outcomes, and derived fitness-associated “biologic age” as a tool to encourage positive lifestyle changes.


**Summary:** A systematic review of trials that evaluated the efficacy of mHealth technologies, such as text message reminders and phone calls, in increasing medication adherence.


**Summary:** This review highlights the utility and feasibility of implementing mHealth technologies in clinical settings and proposes an organizational framework to support activity assessment, counseling and referrals to community resources for CVD risk reduction interventions.


**Summary:** This study evaluated whether the severity of the familial hypercholesterolemia phenotype, i.e., increased levels of LDL-C and CVD risk, decreases in more distantly related patients within one family.
This study evaluated the association of chronic hepatitis C virus infection and coronary atherosclerosis among participants in the Multicenter AIDS Cohort Study.

Summary: This study examined associations of serum osteoprotegerin and receptor activator for nuclear factor-kB ligand concentrations with HIV infection and subclinical atherosclerosis.


Summary: Lower th gh subcutaneous adipose tissue was associated with greater coronary artery calcium and total plaque score extent regardless of HIV serostatus.

Summary: This study investigated whether the association between subclinical atherosclerosis and CVD may differ in populations from distinct genetic backgrounds.

Summary: This study evaluated the association of chronic hepatitis C virus infection and coronary atherosclerosis among participants in the Multicenter AIDS Cohort Study.

Summary: This study compared the prevalence and extent of coronary plaque and stenosis among humans with and without HIV infection. This study found an increased prevalence of coronary non-calcified plaque among participants with a coronary artery calcium score of zero: Multicenter AIDS Cohort Study (MACS). HIV Medicine. 2015 Nov;16(10):635-9.

Summary: Among men with coronary artery calcium scores of zero, HIV infection is associated with an increased prevalence of non-calcified coronary plaque independent of traditional CVD risk factors.

Summary: This study compared the prevalence and extent of coronary plaque and stenosis between users of specific antiretroviral drugs or drug classes using coronary computed tomography among HIV-infected men in the Multicenter AIDS Cohort Study.

**Summary:** This study investigated associations of inflammatory markers with subclinical CAD in 923 participants of the Multicenter AIDS Cohort Study who underwent noncontrast CT scans.


**Summary:** Researchers studied CVD risk score utility by comparing the association between Framingham Risk Score/pooled cohort equation categories and coronary artery plaque presence by HIV serostatus.


**Summary:** This study investigated whether age and human immunodeficiency virus treatment may affect the association of HIV infection with atherosclerosis.


**Summary:** Insulin resistance over nearly a decade was greater in HIV-infected men than HIV-uninfected men and was associated with significant coronary artery stenosis.


**Summary:** This study summarizes the cardiac manifestations of HIV infection, cardiometabolic effects of HAART, ASCVD risk assessment, prevention and treatment in persons with HIV-1 infection.


**Summary:** This study investigated the impact of statin therapy on lipid concentrations through a systematic review and meta-analysis of available RCTs.

**Peripheral Vascular Disease/ Anticoagulant Therapy**


**Summary:** This study presents the latest knowledge regarding the pathogenesis of aortic dissection complicated by malperfusion syndrome and discusses its management guidelines.


**Summary:** This study reviews the current diagnosis and treatment of uncomplicated type B aortic dissections.


**Summary:** A specific case was used to discuss the entity of idiopathic aortitis, and review the literature on its clinical manifestations and long-term management.


**Summary:** This study discussed novel oral anticoagulants and the needs of patients on long-term anticoagulation.


**Research Publications**

**Remembering Bob Scott**

Robert H. “Bob” Scott, who served as the men’s lacrosse coach and Director of Athletics at Johns Hopkins in a career that spanned 40 years, passed away on September 15 at the age of 86. He served as the Blue Jay lacrosse coach for 20 seasons and as the Director of Athletics at Johns Hopkins for 22 years.

During his tenure as lacrosse coach he guided Hopkins to seven national championships, including the school’s first NCAA Championship in his final season on the sideline in 1974, and 42 times his players earned first-team All-America recognition. At various points during his career at Hopkins he also coached football, basketball, wrestling and soccer.

During his career, Scott acted as an educator, historian, and ambassador of lacrosse. He traveled extensively throughout the United States and Japan, promoting and teaching America’s first sport. *Lacrosse: Technique and Tradition*, a book he wrote in 1976, is considered the premier lacrosse guide; it later became the first work on the sport to be published in Japanese.

Scott transitioned to a role as Johns Hopkins’ Director of Athletics in 1973 and served in that role until he retired in 1995 – more than 46 years after first arriving on the Homewood campus as an undergraduate.
The Multi-Ethnic Study of Atherosclerosis (MESA).


2. Yakooob MY, Kianoush S, Al-Rifai M, DeFilippis AP, Bittencourt MS, Duncan BB, Bensenor IM, Lotufo PA, Blaha MJ. Associations of cigarette smoking with cardiovascular inflammation and subclinical atherosclerosis: The Brazilian longitudinal study of adult health (ELSA-Brasil).


2. Yakooob MY, Kianoush S, Al-Rifai M, DeFilippis AP, Bittencourt MS, Duncan BB, Bensenor IM, Lotufo PA, Blaha MJ. Associations of cigarette smoking with cardiovascular inflammation and subclinical atherosclerosis: The Brazilian longitudinal study of adult health (ELSA-Brasil).


For his innovative research, Dr. Leucker was recently awarded the prestigious Howard S. Silverman Award by the Division of Cardiology. He has published numerous papers in the field and is currently applying for a research grant to further advance his cutting-edge research.

Thorsten Leucker, MD

Currently in his third year of a cardiology fellowship, Thorsten Leucker, MD, has distinguished himself as a blood vessel, or vascular, expert with a special interest in the impact of HDL (“good cholesterol”) and PCSK9 (a cholesterol receptor controlling protein) on vascular function. Healthy vascular function refers to the ability of the arteries to expand when a person is exercising or under stress as well as the ability of the arteries to resist the buildup of atherosclerotic plaques or the development of blood clots.

Dr. Leucker is collaborating with multiple members of the Ciccarone Center on the clinical and basic science side to provide excellent clinical care for our patients and develop future therapies to protect blood vessel function. He is on track to continue his path of becoming a clinician-scientist combining his clinical and research interests in preventive cardiology.

Research Presentations


27. Bittencourt MS, Blaha MJ, Jones SR, Toth PP, Benson IM. GLYCA is associated with coronary artery calcium above and beyond C-reactive protein. The Brazilian Longitudinal Study of Adult Health (ELSA-Brasil).


30. Faridi KF, Quispe R, Hendrani AD, Joshi PH, Brinton E, Cruz DE, Banach M, Toth PP, Kulkarni K, Martin SS, Jones SR. Evaluation of estimated and directly measured remnant lipoprotein cholesterol: The Very Large Database of Lipids.


Presentations at the 2016 Congress of the European Society of Cardiology (ESC), August 27-31; Rome, Italy.


2. Quispe R, Michos ED, Dahagam C, Elshazy MB, Kulkarni KR, Toth PP, Blumenthal RS, Jones SR, Martin SS. Discordance between low-density lipoprotein cholesterol and other atherogenic lipid measurements by levels of high-sensitivity C-reactive protein: The Very Large Database of Lipids Study 23.


Presentations at the 2016 International Society of Pharmacoepidemiology (ISPE), August 25-28; Dublin, Ireland.


Presentations at the 2016 Annual Meeting of the Society of General Internal Medicine (SGIM), May 11–14; Hollywood, FL.

Plante TB, O’Kelly AC, Misra S, Ureca B, Martin SS. Differences in expected and reported systolic blood pressure measurements and user experience from a popular, inaccurate smartphone blood pressure application.

Plante TB, O’Kelly AC, Misra S, Ureca B, Martin SS, Chander G. Trends in user ratings and reviews of a popular yet inaccurate blood pressure smartphone application.


The Ciccarone Center

UNITING THE PROUD TRADITIONS OF HOPKINS

**The Ciccarone Center for the Prevention of Heart Disease** was founded in 1989 in memory of Henry A. “Chic” Ciccarone, a legendary athlete and lacrosse coach at Johns Hopkins who died at age 50 after his third heart attack.

But he was more than that. In the way he led his teams and his life, Chic embodied all that Johns Hopkins itself represents: dedication, excellence, leadership.

With intense, energetic competitiveness, pride, and engaging, infectious humor, Chic compiled an extraordinary record of achievements in athletics. As a three-time All-American midfielder and team captain, he won nearly every major Hopkins lacrosse award and was named to the All-Time Hopkins lacrosse team upon his graduation in 1962.

In 1989, the friends and former players of Coach Ciccarone began raising funds for the development of a comprehensive program geared toward the prevention of coronary heart disease events. The Ciccarone Center sought to unite the proud traditions of Hopkins lacrosse and Hopkins Medicine.

**We all have a stake in winning the battle against heart disease.** By joining the team at the Ciccarone Center, by sharing our enthusiasm and dedication to it, your support of coronary disease prevention will protect your life and the lives of those you love. ▲

Coach Henry Ciccarone (center), with his sons, Henry, Jr. (left) and Brent.
How to Contact the Ciccarone Center

We see patients Monday through Friday at the Johns Hopkins Ciccarone Center at Green Spring Station and on Mondays at the Johns Hopkins Outpatient Center. Dr. Michos also sees patients at Odenton. At each location we can perform exercise stress tests, treadmill stress echo tests, echo Doppler tests, EKGs, Holter monitors and refer patients for cardiac CT scans. Vascular ultrasound testing and consultations are available at Green Spring Station. Vascular Medicine consultations are also available at White Marsh.

Appointments at the Johns Hopkins Ciccarone Center at Green Spring Station, 10755 Falls Road, Pavilion I, Suite 360, Lutherville, MD 21093 location can be scheduled at 443-997-0275. (Drs. Blumenthal, Post, Ashen, Ratchford, and Blaha)

Appointments at the Johns Hopkins Outpatient Center, 601 North Caroline Street, Baltimore, Maryland 21287, can be scheduled at 443-997-0270. (Drs. Jones, Ndumele, Blumenthal, Martin, McEvoy, and Gerstenblith)

Appointments at the Johns Hopkins Cardiology Center at Odenton, 1132 Annapolis Road, Suite 104, Odenton, MD 21113, can be scheduled at 443-997-0275 or 410-874-1520. (Dr. Michos)

Appointments for Vascular Medicine consultations or vascular ultrasound testing can also be scheduled through Dr. Ratchford’s Center for Vascular Medicine Scheduling line at 443-997-1800. Dr. Elizabeth Ratchford serves as the Medical Director of the vascular ultrasound laboratory at Green Spring Station.

Support the Prevention of Heart Disease

Heart disease is America’s #1 killer — more than cancer and accidents combined. Our goal at the Ciccarone Center is to stop heart disease before it develops, through an aggressive program of risk assessment and comprehensive lifestyle and medical management.

Like all pioneering medical programs, however, we are in constant pursuit of funding to accelerate our progress. We depend on the support of generous donors to thrive.

The Johns Hopkins Ciccarone Center for the Prevention of Heart Disease has just completed its 27th year of service and is going strong. When you give to the Ciccarone Center, you’re ensuring that, if you or a loved one is at risk for heart disease or stroke, you’ll have a program to help prevent it. Or if you already have heart disease, you’ll maximize your opportunity for an active and enjoyable life.

You can help support this program by contributing to the future of heart disease research, education, and patient care. Make a tax-deductible donation to the Ciccarone Center today and help save lives tomorrow.

Gifts may be made in the form of cash, check, credit card, securities, real estate or personal property. For more information, please call the development office at 443-287-7384, or visit http://www.hopkinsmedicine.org/heart_vascular_institute/about_us/charitable_giving/.
Congratulations to Kyle Harrison (18), 2016 inductee to the Johns Hopkins Athletic Hall of Fame.