Our MISSION is to provide compassionate patient-focused clinical care that exceeds the highest standards of quality and patient satisfaction in an unparalleled work environment that features the seamless integration of clinical care and high-impact research.

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The CARE Newsletter

The Cardiovascular and Research Education Newsletter

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News & Information

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Cardiovascular Working Group

John F. Keaney, Jr. M.D.

In the December CVWG, Dr. Yukio Shimasaki spoke about uncoupling proteins in the endothelium. Uncoupling proteins are involved in the regulation of mitochondrial membrane potential and function. He has found that one particular uncoupling protein, UCP-2 is dynamically regulated as a function of endothelial cell growth. In fact, lack of UCP-2 leads to impaired endothelial cell growth and angiogenesis, likely as a consequence of the mitochondrial superoxide signal. These data prompt speculation that mitochondrial superoxide may be a broad signal for cell proliferation and growth regulation. Future studies will examine the implications of the mitochondrion for atherosclerosis.

Faculty Spotlight

Peter B. Gibson, M.D., FACC

Coming to UMass Memorial in January 2009

Dr. Gibson attended the University of Cincinnati College of Medicine before returning home to Massachusetts for residency. While completing the program in Internal Medicine/Pediatrics at Baystate Medical Center, he met his wife, Dr. Laura Gibson. While she completed her fellowship in Infectious Disease here at UMMHC, he worked at Rhode Island Hospital. After his training, he joined Blackstone Cardiology Associates as a noninvasive cardiologist.

Dr. Gibson was one of eight cardiologists in a group working out of Memorial Hospital of Rhode Island, in Pawtucket, and The Miriam Hospital, in Providence. He was the CCU director at Memorial Hospital for five years and was involved in teaching Brown University medical students and residents. He was named *Teacher of the Year* on two occasions. Dr. Gibson is particularly interested in nuclear cardiology as well as transthoracic and transesophageal echocardiography.

He also enjoys treating heart failure patients and

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Fellows Corner

Benjamin Prentiss, M.D.

Dr. Prentiss is currently writing a review article with Dr. Gerard Aurigemma on the phenomenon known as ventricular interdependence.

This complex mechanical and physiologic interaction between the right and left ventricles can be seen in many conditions including: constrictive pericarditis, dilated cardiomyopathy, pericardial tamponade and pulmonary hypertension.

This article reviews the physiology of ventricular interdependence including previous research findings, as well as the echocardiographic findings.

Clinical cases of ventricular interaction and their associated findings are also included in this work. Upon completion, this article will be submitted for publication in cardiovascular imaging journals.
This article dovetails with Dr. Prentiss' previous research on ventricular interdependence with Dr. Theo Meyer that was presented at the 2006 Heart Failure Society of America's Annual Scientific meeting in Seattle, WA.

This work highlighted the prevalence of ventricular interdependence and associated comorbidities in a series of patients presenting to UMass Memorial Healthcare for right heart catheterization.

Dr. Prentiss is also involved in an ongoing project with Dr. Craig Smith comparing the TIMI Myocardium Perfusion Grade (TMPG) assessed by a human observer on the post-PCI coronary arteriograms and the one obtained by processing the cases with the *Subtracted Angiography for Myocardium Blush Assessment* (SAMBA) software in patients who present with acute coronary syndromes (ACS). Their work demonstrating the correlation of this imaging modality with biomarkers of myonecrosis was recently presented at the Transcatheter Cardiovascular Therapeutics (TCT) conference this past October. In their continuing investigation in this area, Drs. Smith and Prentiss hope to demonstrate the utility of this technology as it pertains to acute and long-term outcomes of patients with ACS.

Pertinent Presentations:

Ventricular Interdependence in Heart Failure Patients: Prevalence and Predisposing Conditions (9/2006) Co-author and preceptor: Dr. Theo Meyer. Presented as an abstract at the 2006 Heart Failure Society of America's Annual Scientific meeting in Seattle, WA.

Effect of Physician Specialty and Medical Co-morbidity on Angiotensin Converting Enzyme Inhibitor versus Angiotensin Receptor Blocker Use in Outpatients with Hypertension (11/2003-3/2004) Designed and carried out this epidemiologic senior scholar project with Dr. James Froehlich.

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Spotlight on Research

Allison McNamee, R.N.

Title
Efficacy and Tolerability of Nebivolol Compared With Carvedilol in Patients With Coronary Artery Disease And Stage I or II Hypertension

Acronym
NEB-MD-06

Sponsor
Forest Research

Study Design
Multicenter, randomized, double-blind, active-controlled, parallel-group, dose-titration

Call the Cardiovascular Research Hot Line:
4-ENRL (4-3675) or
508-334-3675

Patients
Male or female 18-85 years of age
CAD being status post MI, > than or equal to 14 days post event with no upper time limit; and/or having angiographic evidence of one or more major coronary arteries having narrowing of >than or equal to 50%; and/or having a history of percutaneous or surgical coronary revascularization.

A history of hypertension controlled with two medications and a mean SBP of 110 to 150 and/or a mean DBP of 70 to 95 or
A history of hypertension controlled with one medication and a mean SBP of 110 to 150 and/or a mean DBP of 70 to 95 or
Sporadic treatment of hypertension or treatment naïve and a mean SBP of 140-170 and/ or a mean DBP of 90-109.

Study plan
24-week study consisting of two phases:

1. 4 week Single-blind Treatment Phase/Run-in Period on metoprolol
2. 20 week Double-blind Treatment Phase during which patients meeting the entry criteria will be randomized to treatment with either nebivolol or carvedilol consisting of:
    1. A 6-week Up-titration period during which patients increase their study drug dose
    2. A 12-week Stable-dose Period
    3. A 2-week Down-titration Period of the study drug

Primary Outcome Assessment
Peripheral Diastolic Blood Pressure

Secondary Outcome Assessments
Peripheral Systolic Blood Pressure
Proportion of Patients with BP <140/90
Echocardiographic LVef

40 sites
5-6 subjects/site
9 month recruitment period

Faculty Spotlight, continued from page 1

those with valvular heart disease. In his practice, Dr. Gibson became the partner in charge of human resources. He worked with the physicians and staff to improve the efficiency of the practice operations. This involved efforts to improve patient care and satisfaction as well as provider productivity.

Working at the same institution will be a welcome change for the Drs. Gibson and their family. He's looking forward to helping transport their older daughter, who is a freshman at Bancroft School. He's very much interested in working with a larger group of colleagues with a more diverse range of interests than typically found in a small private group. After working with but competing against academic groups for the last portion of his career, he is hoping to bring his experience and perspective to this new setting with its new challenges.

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See us at:

www.umassmed.edu/cardio

News from the Clinical Trials Research Corner:

Paula Hu, Research Nurse Manager

Cardiology Clinical Trials Research has a total of 26 open enrollment trials. Research nurses are actively screening the eligible patients daily. However, it's difficult to go through all the clinical areas to identify potential subjects. We would like you to help us by referring any potential eligible patients during your daily practice.

An overview of the current research trials will be available on a laminated research pocket card. They will be distributed to you after the New Year. We really appreciate your support. *(Please see overview of research activities below).*

If you have any questions or concerns regarding clinical trials research, please contact Paula Hu, Research Nurse Manager, at 508-334-0481, or **Cardio.Research@Umassmed.edu, or stop by her office S3-861.**

Cardiovascular Working Group Meeting Schedule

Tuesdays at 5:00 PM, Faculty Conference Room S1-342 University Campus

Date	Speaker	Topic
Jan 20	Nathan Lawson, PhD and Scot A. Wolfe, PhD	"Generating new zebrafish models of cardiovascular disease and development using zinc finger nucleases"
Feb 17	Eicke Latz, MD, PhD	"Role of the NALP3 inflammasome in inflammation in atherosclerosis"

We wish a "Happy and Healthy New Year" to everyone from the Division of Cardiovascular Medicine.

University of Massachusetts Medical School

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CHF Studies

Contact: Karen Rofino x5560 (or CHF team)

ASCEND-HF (*Nesiritide & Decompensated CHF)*
Pts: EF <40%, acute hospitalization for CHF
Ex: Baseline SBP<100

DOSE AHF
Pts: Home furosemide >/= 80 and </= to 240mg; < 24 h after admission

PAP
Pts: NYHA Class I, with EF </= to 40%

RED HF (*Darbepoetin Alfa in CHF with anemia)*
Pts: EF≤40, NYHA Class II, III, IV with ≥9 Hgb ≤ 12
Must be **anemia** of chronic disease

REDUCE HF (*ICD/Hemodynamic monitor)*
Pts: Needs Single Chamber ICD, CHF ≥ 3 Month, NYHA II,III
What: Meds titrated via web-based hemodynamics at home

TOPCAT *(Spironolactone vs. placebo)*
Pts: EF ≥45% with S/S of HF
Ex: COPD, no aldosterone antagonist

CATH Studies

Contact: Steve Ball x8357 or Allison McNamee x2886

Carotid Artery Stenting Registry
Pts: Known Carotid Dz & hi risk for CEA

FREEDOM *(DM: CABG vs PCI)*
Pts: DM, multivessel dz on cath; Needs screen before cath

IMPROVE-IT (Vytorin vs Zocor in subject with ACS)
Pts: unstable angina or NSTMI ≤ 10 days

NEB-MD-06 (nebivolol vs carvedilol in CAD and HTN)
Pts: S/P MI, LVEF ≥ 40%

Protect (*Endeavor vs. Cypher)*)
Pts: Any patient that can receive Endeavor or Cypher DES
Exclusion: Previous DES

REVEAL (*PROCRIT® vs Placebo on infarct size w/ acute STEMI)*
Pts: STEMI with successful PCI
Exclusion: LVEF < 50%, prior MI or CABG

Trilogy ACS *(Prasugrel vs clopidogrel)*
Pts: recent UA/NSTMI event who are to be medically managed
Ex; PCI or CABG for index event

VIA-2291 (VIA-2291 vs placebo on vascular inflammation after ACS)
Pts: ASC event 1- 3 months prior to randomization

Xience V USA (*Xience DES stent registry)*
Pts: Any patient that can receive a Xience DES

EP Studies

Contact: Karen Rofino x5143/ KellyAnn Rofino x5953)

AF-CRT (Biventricular Pacing of AF*)*
Evaluate effects of (CRT) and the overall AF in patients who are being upgraded from an ICD or pacemaker to a Boston Scientific CRT- ICD

CAVE (Careful Analysis of Ventricular Events*)*
Determine if the ICD/pacemaker would sense the electrical impulses generated from the application of electrocautery during surgery

GAME (Genetic Arrhythmia Markers for Early Detection*)*
Identify the feasibility of utilizing genetic markers to identify patients in need of an ICD.

OM8 Afib (Lovaza® for the prevention of AF)
Assess the effect of Lovaza® on time to the first symptomatic recurrence of AF vs placebo.

Optimum (Optim Lead Insulation Material Registry*)*
Evaluate the chronic clinical performance of the Optim lead.

PAVE-MD (LV -based Stimulation Post AV Block Evaluation)
Compare the effects of RV pacing versus BiV pacing in CHB.

EP Studies

Contact: Karen Rofino x5143/ KellyAnn Rofino x5953)

PROVIDE (Implantable Cardioverters)
Effect of high detection rates, prolonged detection intervals, aggressive SVT discriminators, and extensive ATP therapy on the rate of first shock.

Remote (Non-Invasive of BP Waveform with a Laser Doppler*)*
Determine if there is a correlation between arterial BP measurements of an indwelling catheter to noninvasive BP waveform measurements from skin displacement over an artery performed with a laser Doppler vibrometer.

Risk Stratification (MADIT II Type*)*
Evaluate the predictive value of 6 min. walk, QOL, blood biochemical/genetic and ECG parameters for predicting arrhythmic events.

SMART-AV (AV Optimization*)*
Optimizing AV delay timing in HF w/ a CRT-D with the Smart AV feature.

Vest-Predict (Early Sudden death and Prediction of ICD*)*
VEST –post MI (>24 h) EF <35 to a VEST or standard tx to determine if reduce mortality in the 60 days following an MI prior to device implant.

Predict– Post MI 60 day, if EF ≤ 35- ICD implanted; if EF >35 - Reveal implanted.