

**Rotation: Preventive Cardiology/Atherosclerotic Vascular Disease****Rotation Director:** Dr. Roger Blumenthal**Other Faculty:** Drs. Blumenthal, Charles Lowenstein, Wendy Post, Dominique Ashen, Sherita Golden**Rotation Hours:** Mon to Fri, 8:30 am to 5 pm; 2 weekends covering EP service**A. Prevention and Rehabilitation: Patient Care**

	<b>Principle Educational Goals</b>	<b>Learning Activities</b>	<b>Evaluation Methods</b>
1.	To perform a complete evaluation of the patient with focus on cardiovascular prevention	DPC, AR	AE
2.	Write a concise progress notes with emphasis in Return to Work, limitation of physical activities, behavior modification and education and long term management plan as well as referral to other areas of the subspecialty.	DPC, AR, PC	AE
3.	Ability to write concise, accurate, informative, and helpful consultation notes outlining the recommendation and explaining the rational.	CC, DPC, AR	AE
4.	Ability to interpret electrocardiographic stress test, rhythm strips, oxygen consumption, body fat evaluation.	DPC, AR, CC, EP, PCF	AE, DSP
5.	Ability to recognize any arrhythmias as well as exercise induced arrhythmias.	DPC, AR, EP	AE, DSP
6.	Ability to educate and counsel patients on risk factor prevention and life style changes to reduce the risk of cardiovascular disease.	DPC, AR, PC	AE, PR
7.	Ability to diagnose and treat important cardiovascular complications occurring after Percutaneous cardiovascular interventions, surgery, or placement of devices, including LVAD, AICD, and other vascular intervention.	DPC, AR, CC, CAC, ICC, IL	AE, DSP
8.	Ability to establish rehabilitation program and return to work conditions for patients with congestive heart failure, cardiac transplantation, or major surgical procedures.	DPC, AR, CC, HC, IC	AE, DSP
9.	Ability to treat and help patients with noncardiac complications including neuromuscular diseases and cerebrovascular complications.	DPC, AR, CC, IC	AE, DSP
10.	Ability to educate patients in diet modification, behavior modification, tobacco cessation, and stress management.	DPC, PCF	AE, PR

**B. Prevention and Rehabilitation: Medical Knowledge**

	<b>Principle Educational Goals</b>	<b>Learning Activities</b>	<b>Evaluation Methods</b>
1.	Familiarity with the effects of the risk factors on vascular biology on the heart and blood vessels.	DPC, AR	AE
2.	Familiarity with the management of patients during out-patient surgical and interventional follow-up.	DPC, AR, CAC, CC, DSP	AE, DSP
3.	Familiarity with the use of clinical epidemiology, biostatistics, clinical trials, and out-come research.	CC, JC, RC	AE
4.	Familiarity with strategies for diagnosis and treatment of hypertension.	CC, DPC, PCF	AE
5.	Familiarity with the diagnosis and treatment of primary and secondary dyslipidemias.	DPC, CC, JC, PCF	AE

6.	Familiarity with principals of assessment of lifetime cardiovascular risk and cardiovascular risk prevention.	DPC, CC, PEF, JC	AE
7.	Familiarity with the management of the smoking cessation and nicotine addiction.	DPC, AR	AE
8.	Familiarity with phase I through phase IV of cardiac rehabilitation and return-to-work recommendations.	DPC, AR, CC	AE
9.	Familiarity with principle of exercise physiology and oxygen consumption.	CAC, CC, IL, DPP	AE
10.	Familiarity with principle of nutrition and its effect on the cardiovascular system.	DPC, AR, PCF	AE
11.	Familiarity with psychosocial, behavioral, and stress management aspect of cardiovascular diseases.	DPC, AR, PCF, ACS	AE, PR
12.	Familiarity with diagnosis and treatment of peripheral vascular disease and rehabilitation.	DPC, DSP, HC, CAC, EC, CC	EE, DSP

### C. Prevention and Rehabilitation: Interpersonal Skills and Communication

	Principle Educational Goals	Learning Activities	Evaluation Methods
1.	Communicate effectively the consult findings with physician colleagues and other members of the health care team in a timely fashion to assure a comprehensive patient care.	DPC, AR, PC	AE, PR
2.	Present professional findings to patient and family members in a compassionate and informative manner.	DPC, AR	AE, PR
3.	Provide educational instructions and other learning tools to patients to reinforce behavioral modification.	DPC, AR	AE, PR

### D. Prevention and Rehabilitation: Professionalism

	Principle Educational Goals	Learning Activities	Evaluation Methods
1.	Interact professionally with patients, patients' family, colleagues, and other members of the health care team.	DPC, AR	AE, PR
2.	Appreciation of the spiritual and social context of wellness and illness.	DPC, AR, EI	AE, PR

### E. Prevention and Rehabilitation: Practice-Based Learning and Improvement

	Principle Educational Goals	Learning Activities	Evaluation Methods
1.	Commitment to scholarship and the use of evidence-based preventive cardiology and rehabilitation.	DPC, LC, RC, PR	AE, ECR
2.	Broad reading of the cardiovascular literature with emphasis on primary and secondary prevention, wellness, and cardiac rehabilitation.	JC, RC, GR, PCF	AE, ECR

### F. Prevention and Rehabilitation: Systems-Based Practice

	Principle Educational Goals	Learning Activities	Evaluation Methods
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1.	Understand the complexities of patient care by a cardiac rehabilitation team and how this interaction affects the health of the patient and the community at large.	DPC, AR	AE
2.	Consideration of cost effectiveness of rehabilitation and prevention and outcome measurements strategies.	DPC, ACS, AR	AE
3.	Understanding of the system complexities in cardiovascular prevention and rehabilitation.	DPC, LC	AE
4.	Knowing how to partner with a team of health care providers to assess, coordinate, and improve the cardiac rehabilitation and preventive health care system.	AR, ACS	AE, PR
5.	Willingness and ability to teach medical students, residents, and other health care professionals involved in patient care or system activities.	DPC	AE, PR

**Rotation Goals:** To provide fellows with a core curriculum in all aspects of atherosclerotic vascular disease (ASVD, cardiovascular, cerebrovascular, and peripheral arterial disease) management and risk assessment that will prepare him or her for the Cardiovascular Boards and to enrich their Cardiology training at Johns Hopkins.

**Duties of the fellow:** To attend the following clinical sessions and help lead a Monday Preventive Cardiology/Vascular Disease Journal Clubs during at 1 PM in Carnegie 568. It is hoped that the fellow will write a draft of a review or an original research article on 1 of Preventive/Vascular Disease topics listed below that is suitable for publication.

The fellow can also work with one of the Interventional Radiology attendings a few days each month. It is best to contact Dr. Rusty Hofmann's secretary, Linda at 4-2126 to get a schedule of lectures and conferences. Dr. Hofmann often sees patients on Wednesday afternoons on Blalock 5.

**“Prevention” includes the following subject areas:**

Atherosclerosis/Subclinical and Overt	Endothelial function/dysfunction
Blood Pressure – primary and secondary causes	Family History
Cholesterol Disorders	Genetics of Atherosclerosis/SCD
Cardiac Rehabilitation	Hormone Replacement Therapies/Gender Differences
Coronary CT (EBCT/MDCT)	Peripheral Arterial Disease
Cigarette Smoking	Risk Stratification
Diabetes	Risk Factor Modification
Diet	Thrombosis

**Objectives of the Rotation**

1. To obtain a thorough understanding of the guidelines for lipid management, blood pressure control, and diabetes management (NCEP, JNC VII, ADA, ACC/AHA policy statements)
2. Understand the role of traditional and novel risk factor assessment in cost-effective preventive care.
3. Learn how to accurately assess a person's risk for developing cardiovascular disease using the available risk prediction models.

4. Review the latest recommendations for behavior and lifestyle modification (diet, exercise, weight loss, and smoking cessation) in reducing the risk of CVD.
5. Learn how to decide between interventional and medical management of vascular disease and when to do both simultaneously.
6. Understand how to interpret the results of atherosclerosis imaging and to apply to results to improve CVD risk assessment.
7. Review the optimal medical and interventional management strategies to decrease the risk of future cerebrovascular events.

### Evaluation of Fellows:

Fellows will be asked to submit a review on one of the above topics. They will also be asked to study the Preventive Cardiology, Hypertension, and Peripheral Arterial Disease modules from the ACCSAP review materials and the questions and their answers will be reviewed with one of the faculty members in Preventive Cardiology. You can access the ACCSAP V and VI material online by going to [www.cardiosource.com](http://www.cardiosource.com) (the user name is [rblument@jhmi.edu](mailto:rblument@jhmi.edu) and the password is 606909) and go to self-study materials.

### Supervision:

All fellows will be under the supervision of Drs. Blumenthal, Golden, Kwiterovich, Lowenstein, Ashen, and Post.  
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### Potential Subject Areas to Review in ACCSAP V and VI:

We will focus on comprehensive risk factor modification from a medical and lifestyle point of view. The following areas that we would like to cover during the rotation:

1. Pathophysiology of Diabetes. Pharmacologic treatment of hyperglycemia/Diabetes.
2. Optimal management of Dyslipidemia (elevated LDL, low HDL, or high triglycerides, and mixed dyslipidemias) – To understand the rationale behind the NCEP guidelines and learn how to better implement their recommendations. Review the clinical trials using statins, fibrates, resins, niacin, and cholesterol absorption inhibitors.
4. Optimal treatment of hypertension – JNC VII guidelines and clinical trials review.
5. Risks and Benefits of hormone replacement therapy – Review the data from HERS, HERS II, WHI, and other clinical trials as well as the epidemiological and mechanistic data involving HRT and cardiovascular disease risk.
6. Cost-effective diagnostic screening strategies for CHD and PAD.
7. Review of basic statistical techniques used in the preventive cardiology literature.
8. Interventions for smoking cessation.
9. Role of psychosocial factors in the development of atherosclerotic vascular disease and how to manage them.
10. Cost-effectiveness of medical and lifestyle preventive strategies.
11. Development of exercise prescriptions and management of a cardiac rehabilitation program as well as a peripheral arterial disease rehabilitation program.

12. Work-up and management of renovascular hypertension and other secondary causes of hypertension.
13. Applications of coronary calcium scanning, cardiac MRI, MRA of the carotids, aorta, and lower extremities and carotid ultrasound/IMT. CT angiography of the coronaries is an area of emerging interest.
14. Appropriate evaluation of and management of peripheral arterial disease and carotid atherosclerosis – ABIs, MRA, and ultrasound techniques.
15. Techniques to assess endothelial function and vascular compliance – e.g. brachial artery testing, pulse wave velocity.
16. Genetics of vascular disease (genetic polymorphisms for hypertension, arterial thrombosis, and venous thrombosis).
17. Mediators of CAD and PAD progression (inflammation, infection, plaque stability and vulnerability).
18. Management of obesity (pharmacologic treatment and lifestyle modification).
19. Pathophysiology of atherosclerotic vascular disease.
20. Interventional and medical options for the management of peripheral arterial disease.
21. Approaches to the patient with severe CHD who is deemed a poor candidate for revascularization (gene therapy, PMR/TMR, external counterpulsation treatment).
22. Strategies to improve adherence and compliance with lifestyle modification and medical therapy.
23. Calculation of CVD risk appraisal based on Framingham Study and the PROCAM study.

### **Suggested schedule Options:**

#### **Monday:**

8AM – 12:30 PM Outpatient Center Preventive Cardiology with **Drs. Blumenthal, Ashen**; (JHOC 7)

12-1 PM Fellow-led journal club or outside invited speakers.

Options for 1PM onwards: Work with **Dr. Bruce Perler** who sees patients in his Vascular Surgery Clinic on Monday and Thursday afternoons on JHOC 7

#### **Tuesday:**

8:30 – Noon: **Dr. Sherita Golden** will be seeing patients in the Diabetes Center (JHOC-2)

12-1 PM : Fellow's Conference at JHH

8:30 – 4:30 Dr. Blumenthal sees patients and interprets EBCT scans at our Timonium location.

Other options: 7:00 AM Interventional Radiology Conference followed by half a day in Dr. Perler's Vascular Lab learning how to do diagnostic studies. (Vasc lab number is 5-1425, Diana Call)

Afternoon could also be spent in the Interventional Radiology CVDL under the supervision of Dr. Lawrence "Rusty" Hofmann. (His secretary's (Linda) number is 4-2126). Rusty's pager is 3-5054 and his cell phone is 443-618-2677. His e-mail is [lhofmann@jhmi.edu](mailto:lhofmann@jhmi.edu). Dr. Hofmann also works closely with Dr. Aravind Arepally.

4:00 PM: Vascular Surgery Walk Rounds on Nelson 7

### **Wednesday:**

Cardiology Grand Rounds from 8:00 – 9:00 AM

9:30 AM- 12:30 PM: The Johns Hopkins Cardiology at Timonium office with Dr. Blumenthal seeing patients and interpreting EBCT scans.

8:30- 12: 30 **Dr. Kwiterovich** sees patients in the University Lipid Clinic on JHOC –8 in the Pediatrics section. (4-0972 or 5-5035)

12:30-1:30 PM: Welch Center for Prevention Grand Rounds; 2024 E. Monument Street (2<sup>nd</sup> floor)

2:30 PM-3:30 PM: Renal Transplant conference; Broadway research Building G07

Other Options: Noon-4:30 PM: Dr. Hofmann sees patients in clinic on Blalock 5 or does interventional radiology cases in CVDL.

4:30 or 5:00 PM: **Vascular Disease Clinical Conference** in Carnegie 489 – 5 PM the first week of the month and 4:30 PM every other week. M&M is part of this twice a month.

### **Thursday:**

8-9 AM Vascular Clinical Conference with Dr. Bruce Perler (Carnegie 489)

9-12:30 PM Fellows can see patients with **Dr. Peter Kwiterovich** in the Johns Hopkins University Lipid Clinic from 8:30 – 12:30 in JHOC – 8<sup>th</sup> floor Dr. Kwiterovich's number is 4-0972 or 5-5035)

Other Options: Preventive Cardiology Clinic from 9:15 – Noon with Dr. Lowenstein at JHOC or with Dr. Post at Johns Hopkins Cardiology at Timonium from 8:30-4 PM

8:30-9:30 AM: Cardiac Cath conference to discuss M&M, vascular complications, and a variety of ASVD topics.

1 PM: **Dr. Bruce Perler** has Vascular Surgery clinic on JHOC 7

### **Friday:**

8:30 – 12:30 PM **Drs. Blumenthal & Ashen** see patients at Timonium from 8 AM- 4:00 PM

Noon – 1 PM: Fellows Conference, Carnegie 568

1:30 – 4:30 PM Preventive Cardiology Clinic at Johns Hopkins Cardiology at Timonium to see patients with Dr. Blumenthal.

Other options:

Vascular Surgery Clinic with Dr. Glen Roseborough in the Breast Center – JHOC 8 from 9 AM – Noon.

Cardiac Rehabilitation/Clinical Exercise Program at Greenspring Station.

12:30-1:30 PM Vascular meeting – scheduled cases for the next week are discussed and films are reviewed in the Ross Conference Room, 7<sup>th</sup> floor. (Go to Blalock 6 – go to Ross Bldg and up the ramp to the 7<sup>th</sup> floor.)

**November, 2005**