

PREVENTIVE CARDIOLOGY FELLOWSHIP TRAINING PROGRAM

Program Director
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BACKGROUND

Most adult Americans have at least one or more identifiable risk factors for cardiovascular disease and twelve million Americans have established coronary artery disease (CAD). Even more importantly, about one-half of the deaths each year in American men and women are due to cardiovascular causes. There is an increasing incidence of heart disease at a younger age not only in women, but also in patients with diabetes mellitus.

A growing body of evidence suggests that atherosclerosis is a highly modifiable disease process. Most patients at high risk for CAD or with established CAD remain untreated or inappropriately treated. In fact many patients with established cardiovascular disease are currently undertreated in spite of significant information in the cardiac literature that has demonstrated that preventive measures are effective in reducing CAD morbidity and mortality. Lipid-lowering and beta blocker medication is utilized in less than 30-40% of established disease patients, ACE inhibitors are used in less than 40% of the appropriate patients and under 20% of hypertensive patients are appropriately identified and treated. Aspirin is used in approximately 50% of patients eligible by currently accepted indications.

A wide variety of atherosclerotic risk factors previously unrecognized are rapidly being established including endothelial dysfunction, hormone deficiency, elevated homocysteine levels, and other genetic and biomarkers for coronary atherosclerosis. Additionally, management of lipid disorders is also becoming increasingly complex in light of recent evidence suggesting that optimization of cardiovascular prognosis involves more than lowering LDL, but also normalization of total cholesterol to HDL ratio, improving the subspecies of LDL towards a more buoyant sub-type, and normalization of triglyceride levels. Design and implementation of appropriate diet, exercise, smoking cessation programs for the patient, and optimal management of glucose intolerance/insulin resistance are also important in optimizing cardiovascular prognosis.

Knowledge and expertise in these divergent areas will become increasingly relevant and new therapies will continue to emerge.

PROGRAM OBJECTIVES

This program will include the completion of multifaceted training in the medical therapy of atherosclerosis and coronary artery disease.

The Preventive Cardiology Fellow will be instructed in the applied clinical management of atherosclerosis for disease stabilization and cardiovascular event reduction and prevention. This will include multidisciplinary training in the primary areas of risk assessment, lipidology, exercise physiology, hypertension management, psychosocial screening/behavioral

counseling/cardiovascular outcomes in assessment, and design, implementation and analysis of preventive cardiology research projects.

Optional secondary areas of training will include noninvasive atherosclerosis imaging techniques for disease detection and monitoring, metabolic screening management and prevention and medical management of congestive heart failure.

PROGRAM DURATION:

One year.

ELIGIBLE APPLICANTS:

Licensed MDs or DOs who have completed two or three years in cardiology subspecialty training. Other acceptable backgrounds will include internal medicine and internal medicine physicians who have other qualifications such as a Ph.D. in Exercise Physiology, Advanced Training in Nutrition, Diabetology or Hypertension.

FELLOWSHIP PROGRAM CURRICULUM

The Preventive Cardiology Fellowship Curriculum will involve a series of rotations (1-2 month dedicated rotations as well as ongoing tutorial training in specific areas, specialty clinics and didactic sessions. The curriculum will also be divided into the core curriculum and secondary curriculum as outlined below.

The core curriculum areas are considered essential to the fellowship training and are approached in a rotational series. Overall approximately one-third of the core curriculum will be devoted to atherosclerosis management, behavioral and psychosocial counseling. Secondary curriculum areas will be included according to the interest of the fellow. These areas may be approached in a series format similar to the core curriculum or in parallel with other core or secondary areas of interest.

The fellow will be responsible for leading three clinical conferences yearly emphasizing evolving concepts in preventive cardiology, including research projects in which the fellow is currently involved. The fellow will be encouraged to submit abstracts to both the American College of Cardiology and American Heart Association Annual Scientific Sessions.

CORE CURRICULUM:

1. Risk assessment and atherosclerotic risk factor management. Computerized models will be utilized as well as an ongoing database to track risk factor intervention. This will be done primarily in the context of the Preventive Cardiology Clinic at Cardiovascular Consultants.
2. Lipidology – including dietary and pharmacologic lipid management, as well as patient monitoring and follow-up. James O’Keefe, M.D. and Richard Moe, M.D will supervise.
3. Exercise Physiology/Cardiac Rehabilitation – This will include exercise testing and interpretation, exercise kinetics, exercise prescription, supervision and monitoring of off site

(Saint Luke's Cardiac Rehab) and on site (Cardiovascular Consultants' office) exercise testing/exercise programs. Additionally, risk stratification and determination for need for ongoing monitoring will be covered. This will be accomplished by a two to three month rotation in the Cardiac Rehab Program of Saint Luke's Hospital. The fellow will attend weekly patient cardiac exercise sessions, as well as supervisory staff meetings while doing this rotation.

4. Hypertension Management – This will include evaluation of hypertension and tailoring of longitudinal hypertensive regimens. James O'Keefe, M.D, will predominantly supervise.
5. Psychosocial Screening/Behavioral Counseling – This will include introduction to psychosocial screening tools, behavioral counseling, psychosocial interventions, etc. This will be accomplished by interactions with Dr. Carlos Poston and Dr. Keith Haddock (behavioral psychologists at the University of Missouri-Kansas City with a special interest in cardiovascular disease who have joint appointments at the Mid America Heart Institute.
6. Diabetology/Management of Insulin Resistance – This will be accomplished by contact with Mitch Hamburg, M.D., Director of the Clinical Diabetes Program at Saint Luke's Hospital.
7. Vascular Biology – Including understanding of endothelial health and dysfunction, atherosclerosis progression and regression and hemostatic components of atherosclerotic disease, etc. James O'Keefe, M.D. and William Harris, Ph.D will supervise.
8. Cardiovascular Outcomes/Epidemiology in Clinical Trials – This will include didactic and applied learning principals of preventive medicine, outcomes assessment, statistics, clinical epidemiology, and cardiovascular risk stratification and screening. James O'Keefe, M.D. and William Harris, Ph.D will supervise.
9. Outcomes Research – Supervised by John Spertus, M.D., MPH, Director of the Health Outcomes Center of the Mid America Heart Institute. The Health Outcomes Center is housed in the Clinical Research Center of the Mid America Heart Institute. Four biostatisticians, multiple nurse coordinators, programmers, database architects and other individuals are involved in extensive clinical trials. Over 30 publications are currently underway.

SECONDARY AREAS (OPTIONAL):

1. Noninvasive Atherosclerotic Imaging - including ultrasound of the carotid and femoral arteries, cine CT, MRI, nuclear perfusion stress testing and cine CT screening for coronary calcification. This will be under the direction of James O'Keefe, M.D., who is also a nuclear cardiologist and the Director of the Cine CT Screening Laboratory for coronary calcification.
2. Prevention and treatment of Congestive Heart Failure – This will be completed in the CHF Clinic at Saint Luke's Hospital and Cardiovascular Consultants and will be supervised by James O'Keefe, M.D., Anthony Magalski, M.D., and Tracy Stevens, M.D. This will involve medical management of CHF (both preventive management and management of patients with clinically apparent disease).

FELLOWSHIP PROGRAM RESEARCH

Fellows will be expected to design and execute at least one research project in the area of atherosclerosis treatment during their fellowship training. Areas of research experience to be emphasized include research design, recruitment techniques, data acquisition, and analysis. The fellow will be encouraged to present the research at national meetings and publish the data in established cardiovascular journals.

EVALUATIONS

The responsibilities as outlined and other activities will be assigned and evaluated by the Director of the Fellowship Program – James O’Keefe, M.D.

TIME ALLOCATION

The following outline gives approximate times for each of the activities. Listed are the allocations and percentages of the twelve-month duration of the Preventive Cardiology Fellowship:

- Preventive Cardiology Clinic 30%
- Cardiac Rehabilitation 20%
- Research 20%
- Lipidology 10-15%
- CV Imaging 15%
- Teaching 10%
- Diabetology 5%
- Congestive Heart Failure 0-15%

** The Fellow will not have call duties during the twelve month Fellowship.