BASIC STANDARDS
FOR SUBSPECIALTY
RESIDENCY TRAINING
IN OSTEOPATHIC CARDIOLOGY

American Osteopathic Association

and the

American College of Osteopathic Internists

Revised 7/2000
Basic Standards for Subspecialty Residency Training in Osteopathic Cardiology

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Basic Standards For Subspecialty Residency Training in Osteopathic Cardiology, Revised BOT 7/2000
ARTICLE I - INTRODUCTION

These are the Basic Standards for Subspecialty Residency Training in Cardiology as approved by the American Osteopathic Association and the American College of Osteopathic Internists. These standards will provide the osteopathic resident with advanced training in the field of diseases of the cardiovascular system and prepare the resident for board certification in Cardiology.

These Basic Standards continue to reflect the recommendations as set forth by the American College of Cardiology’s task force as delineated in the Core Curriculum Training in Adult Cardiology Symposium (COCATS). The Standards also incorporate the philosophy of osteopathic training.

ARTICLE II - DEFINITION AND PURPOSES

The subspecialty of Cardiology consists of the diagnosis, therapy, management, prevention and rehabilitation of adult patients with acute and chronic forms of cardiovascular disorders. The purpose of an osteopathic cardiology training program is:

A. To emphasize the interactions of the neuromusculoskeletal and cardiovascular systems and the application of osteopathic principles and practices as they relate to patients with cardiovascular disorders.

B. To develop a broad exposure to acute and chronic cardiovascular diseases through accurate clinical bedside diagnosis, appropriate use of decisive testing, and integration of all data into a well communicated consultation with special awareness of the unique characteristics of each individual patient.

C. To provide the resident with properly organized, progressive responsibility in the care of patients and allow the resident to develop clinical and laboratory/procedural skills in the diagnosis and treatment of patients.

The provisions of expertise in the laboratory/procedural skills pertinent to the diagnostic and therapeutic management of patients with cardiovascular diseases must be predicated upon an adequate number of procedures performed by the trainee, as outlined by the COCATS guidelines. (See Appendices A-G)

ARTICLE III - INSTITUTIONAL REQUIREMENTS

A. To be approved by the AOA for residency training in cardiology, an institution must meet all the requirements as formulated in the Residency Training Requirements of the AOA.
ARTICLE III - INSTITUTIONAL REQUIREMENTS (cont’d)

B. To be approved for residency training, the institution(s) must have the following minimal resources\(^1\), which shall include:

1. Adequate inpatient and outpatient facilities with an appropriate number of patients of a wide age range and a broad variety of cardiovascular disorders. Residents must be supervised when seeing patients in both kinds of facilities.

2. Laboratories for cardiac catheterization, electrocardiography, exercise and pharmacologic stress testing (including stress and dobutamine echo), Doppler transthoracic and transesophageal echocardiography and ambulatory ECG monitoring.

3. Facilities for nuclear cardiology, including ventricular function assessment, myocardial perfusion imaging and studies of myocardial viability.

4. Appropriate facilities for management of patients with arrhythmias, including electrophysiologic testing; arrhythmia ablation; signal-averaged ECG and tilt-table testing as well as the previous evaluation, implantation anti-arrhythmic devices and their long term management.

5. Appropriate facilities for cardiac catheterization, angiography and hemodynamic assessment, with adequate numbers of patients undergoing interventional procedures.

6. Facilities and faculty for training in cardiovascular research.

7. Modern intensive cardiac care facilities.

8. Facilities for cardiac surgery and cardiac surgery intensive care.

9. Appropriate facilities for the assessment of patients with systemic hypertension.

10. Facilities for assessment of peripheral vascular disease, pulmonary function and cardiovascular radiology.

11. Facilities and faculty involved in the diagnosis, therapy and follow-up care of patients with congenital heart disease.

12. Facilities and faculty involved in the instruction in preventative cardiology, risk factor modification, management of lipid disorders and cardiac rehabilitation.

13. Other appropriate facilities necessary to accomplish the training, including a comprehensive medical library.

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\(^{1}\) Access and use of these resources may be through arrangements made with affiliated institutions.
ARTICLE III - INSTITUTIONAL REQUIREMENTS (cont’d)

14. Facilities for ongoing outpatient clinical experience at least one-half day per week in an outpatient setting with appropriate supervision throughout the 36 month training period. (see Appendix F)

C. The institution must provide sufficient patient load with diverse pathology to properly train a minimum of two residents in cardiology. The resident must have increasing participation in the bedside and office diagnosis and medical management of cases on the cardiology service, as well as performance and interpretation of diagnostic procedures in the cardiovascular laboratories. The patient volume utilized for teaching must include both hospitalized and ambulatory patients, and the method for the achievement of longitudinal care for ambulatory patients must be indicated.

D. The institution shall maintain an adequate medical library containing carefully selected texts, the latest editions of medical journals and other appropriate publications in various branches pertaining to training in cardiology. The library shall be in the charge of a qualified person who shall act as custodian of its contents and arrange for the proper cataloging and indexing that will facilitate investigative work by the residents.

E. The institute shall have organized and cooperative departments of pathology, radiology and surgery.

F. Cardiology training programs must provide the opportunity for cardiology residents to maintain their skills in general internal medicine, as well as in those aspects of cardiology that relate to internal medicine.

G. All participating resident trainers shall serve as role models and endeavor by work and deed to provide high standards, goals and ideals for each resident.

H. The institution must provide written policy and procedure for the selection of residents which shall include:

1. Application review and personal interview by an appropriate education committee that includes the program director.

2. Requirements for the resident to meet federal, state and local licensing and controlled substances registration regulations within a reasonable time from selection.

3. Requirements for the resident to meet national, state and local organizational membership requirements within a reasonable time from selection.

I. The institution shall execute a contract with each resident in accordance with the residency training requirements of the AOA.
ARTICLE III - INSTITUTIONAL REQUIREMENTS (cont’d)

J. Upon satisfactory completion of the training program, the institution shall award the resident an appropriate certificate. The certificate shall confirm the fulfillment of the program requirements, starting and completion dates of the program and the name(s) of the training institution(s) and the program director(s).

ARTICLE IV - PROGRAM REQUIREMENTS

A. A residency training program shall commence only after it has received the recommendation of the Council on Postdoctoral Training and the approval of the AOA Board of Trustees.

B. The residency training program in cardiology shall be three (3) years in duration and shall provide supervised clinical experience and didactic programs to enable the resident to develop sufficient skills and knowledge in the performance and interpretation of cardiovascular diagnostic modalities. Included shall be the principles of operation and function, indication, limitation, risk vs. benefit ratio and cost effectiveness of the various technical procedures used in the diagnosis, therapy and management of cardiovascular disorders. The general educational content of the program shall include:

1. The integration of osteopathic principles and practice in the treatment of patients with cardiovascular disorders.

2. A core curriculum in the basic medical sciences of cardiovascular medicine of sufficient depth to form a foundation upon which the resident may base continuing expansion of knowledge and application of newer concepts throughout his/her career.

3. A clinical sciences curriculum that will include formal, regularly scheduled lectures, weekly cardiac catheterization conference, mortality and morbidity review, and literature review opportunities (Journal Club). A multi-disciplinary meeting that involves cardiovascular surgery and anesthesia is highly desirable. Teaching rounds must be conducted in a regular fashion.

4. Sufficient clinical experience and didactic training to enable the resident to provide accurate diagnosis and appropriate therapy for a broad spectrum of cardiovascular diseases. The training should adhere to the guidelines for training in adult cardiovascular medicine, core cardiology training symposium (COCATS) as approved by the American College of Cardiology. The program should be structured according to the COCATS 3 levels of training.

   Level I - Basic training required of all trainees to be competent consulting cardiologists.
ARTICLE IV - PROGRAM REQUIREMENTS (cont’d)

Level II - Additional training in one or more specialized areas enabling a cardiologist to perform or interpret, or both, specific procedures at an intermediate skill level.

Level III - Advanced training in a specialized area enabling a cardiologist to perform, interpret and train others to perform and interpret specific procedures at a high skill level.

a.) Level I training should be achieved by all trainees.

b.) Level II training should be required of all trainees wishing to achieve primary operator status in those specific areas, such as diagnostic cardiac catheterization, echocardiography and nuclear cardiology, that he/she will perform, interpret, or both as a consulting cardiologist.

c.) An additional 12 months of training beyond the required 36 months core cardiology training should be required for those specific subspecialty areas, such as interventional cardiology and electrophysiology, to enable a cardiologist to be proficient in these areas or to achieve Level III status.

d.) The program must include a minimum training of:

- 8 months clinical non-laboratory practice activity with a minimum of 3 months in the CCU/ICU. (see Appendix A)

- 4 months echocardiography (see Appendix C, part 2)

- 4 months or a minimum 100 cases in the catheterization laboratory (see Appendix B)

- 2 months electrophysiology and pacemaker (see Appendix D)

- 4 months ECG, stress testing, Holter, including exposure to physiologic and pharmacologic stress modalities, both echo and nuclear (see Appendix C, parts 1, 2)

e.) The remaining 12 months should be used for additional training in those areas in which the trainee would like to achieve Level II, independent operator status, research and exposure to congenital heart disease, preventive cardiology, transplant cardiology, etc., as defined by COCATS. (see Appendices A, B, C)
ARTICLE IV - PROGRAM REQUIREMENTS (cont’d)

   f.) The recommended minimum number of procedures in COCATS must be achieved by all trainees, including ECG Interpretation, Holter monitors, exercise stress testing and echocardiography. (see Appendix C, Parts 1,2)

   5. Affective content with regard to behavioral characteristics involved in the interaction between the resident, the patient and the teaching staff. The program should enhance the ability of the resident to understand the contingencies of health and illness and the development of a mature concern regarding the quality of patient care.

   The resident should be encouraged to cultivate an attitude of scholarship and dedication to continuing medical education throughout his/her career.

C. If necessary, the program must provide suitable arrangements for outside rotations to ensure the complete education of the resident and for broadening the scope of training. All rotations must meet standards as formulated in the Residency Training Requirements of the AOA and must be appropriately documented.

ARTICLE V - QUALIFICATIONS AND RESPONSIBILITIES OF THE PROGRAM DIRECTOR

A. The program personnel and faculty must fulfill and maintain the eligibility requirements as delineated in the Residency Training Requirements of the American Osteopathic Association.

B. Qualifications of the Program Director:

   1. The program director must be certified in internal medicine and cardiology by the American Osteopathic Association, through the American Osteopathic Board of Internal Medicine.

   2. The program director must meet the standards of the position as formulated in the Residency Training Requirements of the AOA.

   3. All trainers participating in the residency training program shall be under the supervision of the program director.

C. Responsibilities of the Program Director:

   1. The program director’s authority in directing the residency training program must be defined in the program documents of the institution.
ARTICLE V - QUALIFICATIONS AND RESPONSIBILITIES OF THE PROGRAM DIRECTOR (cont’d)

2. The program director may on occasion appoint physicians from other departments to participate in the training of residents on the basis of their documented expertise in disciplines that significantly impact on cardiology. Any such appointments shall be by mutual consent and based on specific written institutional policy.

3. The program director shall arrange affiliations and/or outside rotations necessary to meet the program objectives and fulfill the requirements as delineated in III-B.

4. The program director shall in cooperation with the AOA Department of Education, prepare required material for inspections.

5. The program director shall provide the resident with all documents pertaining to the training program, as well as the requirements for the satisfactory completion of the program. The written program description must include:
   
   a.) Curriculum design including the integration of the osteopathic principles and practice.
   
   b.) Didactic program (i.e., lecture schedules, conferences, reading requirements).
   
   c.) Clinical programs (i.e., required basic skills and competencies, including psychomotor, cognitive and non-cognitive elements, as well as procedural competencies, diagnosis and osteopathic manipulative treatment).
   
   d.) Required and elective clinical rotations, including site designation.
   
   e.) Evaluation procedures and requirements for residents, trainers and program directors.

6. The program director shall be required to submit quarterly program reports to the director of medical education and administrator of the institution. Annual reports shall be submitted to the American College of Osteopathic Internists.

7. The program director is responsible for the adequacy of the facility (see Article III) including support resources for the provision of an education of high quality.

8. The program director must devote sufficient time and effort to the graduate education program and related activities.
ARTICLE V - QUALIFICATIONS AND RESPONSIBILITIES OF THE PROGRAM DIRECTOR (cont’d)

9. The program director, or his/her designee, must attend the annual ACOI Congress on Medical Education for Residency Trainers for the development of program directors and faculty at least once every three years to qualify for continuing approval of the program. It is recommended that any physician anticipating appointment to the position of director of a training program should attend the program directors' meeting prior to assuming the position.

D. There should be an adequate number of faculty members in the division (or section) of cardiology to guarantee close supervision of all trainees and to allow for the critical evaluation of the program and the competence of the trainees.

E. Each rotation and laboratory should have supervisory faculty responsible for supporting the program director in assuring that the trainees meet the training objectives of the program and the requirements of the standards set forth by the AOA and the ACOI as outlined, herein, based on COCATS guidelines. The supervisory responsibilities also include the direct evaluation and competency of the trainees. The supervisory faculty will usually be section heads or other personnel as selected by the program director.

F. The institution(s) where training takes place must provide effective support to the program director, so as to provide these educational attributes. This support must include sufficient time and clerical support to adequately fulfill the educational and logistical needs of the trainees and training program to maintain excellence in education and adherence to the requirements of the AOA and ACOI.

ARTICLE VI - RESIDENT REQUIREMENTS

Training in cardiology involves the development of knowledge, skill and experience to provide a solid foundation in clinical cardiology. The field of cardiology is expansive and requires a broad base of knowledge in general medicine. Cardiology itself contains a sufficient number of subspecialty areas, but a three-year training program in cardiology provides substantial experience only in general cardiology. The resident should anticipate additional years of study in order to master complex or newly emerging fields of cardiology, such as coronary angioplasty, electrophysiology, and cardiac transplantation. Applicants are sought who will deliver the best possible care for each individual patient in a compassionate manner. Each physician must have and maintain humanistic and ethical attributes of the general internist. Residents are encouraged to cultivate an attitude of scholarship and dedication to continue their education that will remain with them throughout their professional careers.

A. Applicants for residency training in cardiology must:

1. Have graduated from an AOA accredited college of osteopathic medicine.
ARTICLE VI - RESIDENT REQUIREMENTS (cont’d)

2. Have completed a one-year AOA approved internship.

3. Be and remain members of the AOA during residency training.

4. Must have completed a minimum of two years of AOA approved residency training in internal medicine beyond a traditional or specialty internship.

5. Be appropriately licensed in the state in which training is conducted.

B. During the training program, the resident must:

1. Submit a resident annual report to the ACOI within (30) days of completion of the training year. Failure to submit the annual report to the American College of Osteopathic Internists:

   ▪ within sixty days of the completion of the contract year will result in the assessment of a $100 late fee for review of the training year;

   ▪ within one year of the completion of the contract year will result in the assessment of a $500 late fee for review of the training year; and

   ▪ there will be a $250 late fee for each additional residency year that is delinquent for one or more years for review of each training year. If, by completion of the program, all of the annual reports are incomplete, the ACOI Council on Education and Evaluation may require that the resident repeat training.

2. Design and implement, in conference with the program director, at least one scientific paper or research project. A manuscript suitable for publication and based on the research, shall be required for satisfactory completion of the program. This manuscript shall be submitted to the American College of Osteopathic Internists. (see Appendices E & H)

3. The resident must participate directly in the teaching of cardiology and become familiar with the fundamental principles of education, including skills in organization of conferences, lectures and teaching materials. The teaching experience must attempt to relate basic biomedical information with the clinical aspects of cardiology, including integration of clinical management principles. Residents must be familiar with modern concepts of education and effective communication. They must be responsible for teaching and supervising residents in internal medicine, as well as medical students, other cardiology residents and allied health personnel. They must have regularly scheduled experiences in training and must be encouraged to attend and participate in national cardiology meetings.
ARTICLE VII – DOCUMENTATION OF COMPETENCE OF RESIDENTS

A. Evaluation

The evaluation of residents for both clinical and specialized technical skills must be carefully documented. Cardiology program directors must establish procedures for the regular evaluation of the clinical competence of the cardiology residents. This evaluation must include intellectual abilities, manual skills, attitudes and interpersonal relations, as well as specific tasks of patient management, clinical skills, including decision making skills, and the critical analysis of clinical situations.

There must be provision for appropriate feedback of the information to the subspecialty resident. Records must be maintained at all evaluations and of the number and type of invasive laboratory procedures performed by each resident. Examinations given at the end of each year of training are encouraged.

B. Certification

Residents who develop added qualifications in specialized areas of cardiology and who pass an appropriate external examination should receive specialty certification of the added experience and qualifications.

ARTICLE VIII - EVALUATION AND DOCUMENTATION OF THE TRAINING PROGRAM

A training program in osteopathic cardiology must be described in a document that outlines the basic structure of the training program, including educational and clinical service requirements. The core curriculum must be specified, and the assignment of the resident to the various areas of clinical cardiology must be expressed clearly. The weekly educational programs must be held and attendance records kept to document the full participation of the resident, program leadership and supporting staff and faculty. When a significant portion of the program includes training in outside institutions, the type of training received and the relationship between the institutions should be described formally.
APPENDICES A - G

A. CLINICAL CARDIOLOGY

Clinical cardiology should encompass a broad range of cardiac disease states. The trainees should spend a minimum of eight months, or the equivalent in clinical cardiology. This experience should include daily inpatient management of cardiovascular diseases and cardiology consultation. At least three of these months, or the equivalent, should be spent by the trainee in the coronary care unit or the intensive care unit during the trainee’s 36-month program. If the trainee has extensive coronary care unit experience from his/her internal medicine residency, then this requirement can be met by ongoing patient interaction in the CCU supervising medical residents over the three-year period. Each alternative will enable the trainee to gain exposure to hemodynamic monitoring, postoperative patient care, as well as other aspects of critical/acute care cardiology; i.e.: myocardial infarction, congestive heart failure, postoperative coronary artery bypass grafting and transplant.

B. CARDIAC CATHETERIZATION AND INTERVENTIONAL CARDIOLOGY

A minimum of four months in cardiac catheterization should be spent by the trainee, or exposure to a minimum of 100 cases. During this time, the trainee will gain exposure to valvular hemodynamics, right and left cardiac catheterization and limited exposure to interventional cardiology. The trainee should participate in a minimum of 300 left heart catheterizations as primary operator to achieve Level II proficiency. (2,3,4) The trainee should also maintain a procedure log for accurate documentation. Level II trainees should also perform at least 10 intraaortic balloon pumps during the 36-month training period to obtain proficiency in that procedure (4).

A minimum of one full additional year should be spent dedicated to interventional cardiology for those individuals wishing to obtain expertise in this area. The training program should expose the trainee to a minimum of 300 interventional procedures with 125 procedures as primary operator.

C. NON-INVASIVE TESTING

1. Exercise Stress Testing, Electrocardiography and Nuclear Cardiology

The trainee should spend at least two months, or the equivalent in the exercise testing facility. This is to expose the trainee to all types of exercise testing. The trainee, at the end of his/her time, should be proficient in performing and interpreting the electrocardiographic portion of the treadmill and pharmacological testing. The trainee should also be proficient in the test protocols and the appropriateness of ordering tests. This exposure does not include interpretation of dobutamine and stress echocardiography or nuclear testing. A minimum interpretation of 100 exercise tests should be performed to obtain proficiency in this area (5,6,7).
APPENDICES A – G (cont’d)

Interpretation of standard 12-lead electrocardiograms should be incorporated in the entire 36-month training period. In order for the trainee to become proficient in interpretation and gain exposure to a wide variety of ECG abnormalities, it is recommended that a minimum of 3,500 studies should be reviewed (4,8).

2. Echocardiography

a) 2 D M Mode echocardiography and cardiac Doppler. The trainee should spend a minimum of four months or its equivalent in the echocardiography lab. During this time, the trainee will gain exposure in performing and interpreting 2 D and M Mode echocardiography and cardiac Doppler. A minimum of six months is required and a minimum of 300 studies should be interpreted to obtain Level II proficiency in echocardiography (4). These studies should be a wide variety of cardiac abnormalities, including valvular heart disease, endocarditis, prosthetic valve evaluation, myocardial ischemia, primary and secondary diseases of the heart, pericardial disease, and diseases of the great vessels (4, 9, 10, 11, 12).

b) Transesophageal echocardiography. The trainee should have attained proficiency in standard 2 D and M Mode echocardiography and cardiac Doppler prior to or parallel with obtaining expertise in transesophageal echocardiography. A minimum of 25 intubations supervised by an experienced transesophageal echocardiographer, as well as performing 50 transesophageal echocardiographs are necessary to achieve proficiency in this area (4).

c) Dobutamine echocardiography/Stress echocardiography. The trainee should obtain proficiency in standard echocardiography prior to or parallel with obtaining proficiency in stress echocardiography and dobutamine echocardiography. A minimum of 100 stress/dobutamine echocardiographic studies beyond Level II training are recommended for proficiency in this area (4, 12).

3. Nuclear Medicine. Individuals wishing certification in nuclear medicine/nuclear cardiology require special training. The Nuclear Regulatory Commission (NRC) has set up specific guidelines for licensure in this field. Trainees interested in obtaining licensure should adhere to these guidelines. (See table) (13).
D. **ELECTROPHYSIOLOGY**

The trainee should have a minimum of two months or the equivalent of electrophysiological exposure. During this time, the trainee should gain exposure to the appropriateness of electrophysiological studies, interpretation of basic electrophysiological studies, technique involved, indication for pharmacological and nonpharmacological management of arrhythmias, indications for temporary and permanent pacemakers, as well as further education of electrocardiographic interpretation.

A minimum of 10 temporary transvenous pacemakers should be inserted during the 36-month training period for proficiency (14) as well as a minimum of eight elective cardioversions in the 36-month training period (15).

Exposure to permanent pacemaker insertion should be available to cardiovascular trainees. NASPE and COCATS guidelines require a minimum of 50 permanent pacemaker implantations and 20 pacemaker revisions for expertise. These requirements are based upon an additional year of electrophysiological study. However, a minimum of 50 permanent pacemaker implantations, including revisions, is acceptable for the general cardiologist (16, 17).

The ability for the trainee to participate in pacemaker follow-up is mandatory for those performing pacemaker implantation. One hundred pacemaker follow-up visits should be performed by those individuals wishing proficiency in pacemaker insertion and follow-up. The pacemaker clinic will allow the trainee to gain experience in a variety of pacemaker programmers, as well as pacemaker follow-up and management.

E. **RESEARCH**

All trainees must participate in research. The trainees should be encouraged to perform original prospective or retrospective studies. The importance of research by trainees cannot be emphasized enough. Therefore, it is imperative that the trainers respect allotted research time and give assistance and guidance to the trainees. (See Appendix H)

F. **AMBULATORY CLINICAL EXPERIENCE**

Ongoing outpatient clinical experience is mandatory for all cardiovascular trainees. At least one-half day per week or its equivalent in an outpatient setting with appropriate supervision throughout the 36-month period should be provided. This will allow the cardiovascular trainee to gain experience and exposure in the management of cardiovascular problems in the outpatient setting.
G. ELECTIVE TIME

Four months elective time should be allotted to the trainee to pursue special interests in other fields of cardiology; i.e., Adult Congenital Disease, Lipid Management, Preventative Cardiology, Transplant/Cardiomyopathy, or to allow extra time in areas in which the trainee may be deficient.

To fill the remaining time period, two months of vacation/conference time should be allotted to the trainee.

The importance of the didactic portion of the cardiovascular training program cannot be over emphasized. Regularly scheduled cardiology conferences directed at the cardiovascular residents and attendings are mandatory to further facilitate the trainee’s education. These conferences should be given by cardiovascular residents, as well as attending or visiting cardiologists at an attending cardiologist level of education. Additionally, the didactic program should include training in preparing and providing regularly scheduled cardiovascular educational conferences to the house staff.
Guidelines for Preparation and Submission of Medical Manuscripts, Research Papers and Progress Reports

I. All manuscripts must be typed and submitted in an appropriate format acceptable for publication in a standard scientific refereed journal.

II. An abstract must accompany each manuscript. The cover sheet must list the program for which credit is to be applied and a statement that the resident is the primary author, or performed substantive participation in the study and that the paper has been reviewed and approved. This must be signed and attested to by the program director. Manuscripts shall be submitted in one of the following formats only:

A. A case presentation of a first reported case or other unusual manifestations of a disease which will add to the medical literature, which should include a review of the literature and discussion (acceptable only if submitted for publication).

B. A report of an original clinical research study approved by the program director and the institutional review authorities.

C. A case presentation and discussion which challenges existing concepts of diagnosis or treatment and thus recommends further investigation.

Initially, the resident should submit a written proposal to the program director for review and approval as fulfilling the writing requirement. All projects must be performed and prepared under the supervision of the program director or another physician approved by the program director.

Effective for residents beginning training on or after July 1, 1991, residents may work jointly on an original clinical research project, provided a progress report and written approval of the program director is included in Part II of the Resident Annual Report. Residents may not work jointly on case reports. Residents shall submit the required manuscript within thirty (30) days of the completion of the second year of training in general internal medicine.

Clinical research projects which are prospective in nature, may require ongoing accrual of patients to provide sufficient numbers to assure statistical validity. Patient accrual, performance of the study, data analysis, and writing of the paper may represent a long-term project of more than two (2) years. In such a situation, with the approval of the program director, the resident may submit a substantive progress report of the project with a summary of data collected so far and indicating the ongoing nature of the study. This progress report shall be accepted in lieu of the required final manuscript for the second year in a three (3) year program. Final credit will be granted with the submission of an acceptable paper within thirty (30) days of completion of the fourth year of training.
This medical writing and research paper entitled:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

is being submitted/in progress by:

________________________________________________________________________, DO

(name of resident)

for the ____________ program, training dates ____ to ____

(name program, e.g. IM, or GI, etc.)

________________________________________________________________________, DO

(signature of resident) (date)

________________________________________________________________________, DO/MD

(signature of program director) (date)

The above signatures attest to the fact that the attached work has been performed by the resident noted, and has been reviewed and approved by the program director.
APPENDIX I

Internal Medicine Residency
Work Hours and Supervision Policy

The ACOI recognizes the primary objective of a residency program in internal medicine is the structured and supervised education of the trainee in appropriate and recognized standards of diagnosis, management and continuity care of patients. However, while the proper care of patients continues, both in the ambulatory and hospital settings, service is also provided simultaneous to the educational exposure and experience. This cumulative process requires simultaneously, adequate supervision and appropriate study, work and rest environment within a well structured work hours schedule. It is to be recognized that many of the assigned duty hours are not spent in patient care, but rather in the education process including conferences, research and library time. Therefore, the following policy regarding educational supervision and resident work hours is established. This policy will be reviewed and its adherence evaluated at the accreditation inspection and utilized in determination of program reapproval.

WORK HOURS

Internal medicine residents shall not be assigned to patient care responsibilities in excess of 84 hours per week averaged over any consecutive four-week period. The resident shall not be scheduled in excess of thirty-two (32) continuous hours including continuity clinic assignment. He/she shall not be scheduled for night call responsibilities more frequently than twice per seven (7) day period or nine (9) times per 30-31 day calendar month. These work hour limits will include all hours on-call, either in the hospital or on-call from home. When on-call for at least twenty-four (24) hours, the resident should be provided with adequate opportunity and facilities for rest or sleep when possible during that work period.

Residents shall have at least alternate forty-eight (48) hour weekend periods (Saturday and Sunday) off duty or one twenty-four (24) hour period off each weekend (Saturday or Sunday). A minimum of twelve (12) hours shall be assigned off all responsibilities between assigned duty shifts.

The training institution shall provide an on-call room for residents which is clean and comfortable so as to permit rest during call. A telephone shall be present in the on-call room. Toilet and shower facilities should be present in or convenient to the room. Nourishment shall be available during the on-call hours of the night.

Adequate back-up shall be provided by a senior internal medicine resident and/or assigned attending internist. This will provide an increased assurance of quality of patient care and resident supervision. Lines of communication shall be established and maintained and availability assured, between the internal medicine residents and the attending internists on a continuum basis with the ultimate accountability resting with the assigned attending internist. The residency program director must define specific lines of responsibility for trainees and is the accountable person for development of and adherence to these policies.
APPENDIX I: Internal Medicine Residency
Work Hours and Supervision Policy (cont’d)

At no time shall a resident abandon care responsibilities unless a patient's care can be continued and maintained in an appropriate fashion. The resident physician's ultimate responsibility is to ensure his/her patient's welfare at any clock hours.

SUPERVISION

Each internal medicine training department shall have a sufficient number of clinical trainers available to assure the resident's exposure to appropriate educational philosophies in the diagnosis and management of the patient.

This faculty will also participate in the supervision and evaluation of the resident's clinical and professional performance as well as counseling residents when indicated and requested.

Throughout the training program, residents in internal medicine will receive supervision which will be progressive and adjusted to their training and qualification (performance) levels. At the conclusion of each training year, the program director, in conjunction with the faculty, will determine whether each resident may progress to the next training year level. Each residency year level involves progressive clinical responsibility. Responsibility may vary among residents in a program at the same educational level, depending on individual rates of progress and qualifications. However, supervision shall be available at all times throughout the entire residency program.

Supervision requirements apply equally to hospital and continuity clinic training sites.
APPENDIX J

Model Hospital Policy on
Academic and Disciplinary Dismissals

In July, 1993, the Board of Trustees of the American Osteopathic Association adopted the following policy:

The hospital and department have clearly defined procedures for academic and disciplinary action. Academic dismissals result from a failure to attain a proper level of scholarship or non-cognitive skills, including clinical abilities, interpersonal relations, and/or personal and professional characteristics. Institutional standards of conduct include such issues as cheating, plagiarism, falsifying records, stealing, alcohol and/or substance abuse, or any other inappropriate actions or activities.

In cases of academic dismissal, the hospital and department will inform trainees, orally and in writing, of inadequacies and their effects on academic standing. The trainee will be provided a specified period in which to implement specified actions required to resolve academic deficiencies. Following this period, if academic deficiencies persist, the trainee may be placed on probation for a period of three (3) to six (6) months. The trainee may be dismissed following this period, if deficiencies remain and are judged to be unremediable. In accordance with institutional policy, the trainee will be provided an opportunity to meet with evaluators to appeal decisions regarding probation or dismissal. Legal counsel at hearings concerning academic issues will not be allowed.

In cases of disciplinary infractions that are judged unremediable, the hospital and department will provide the trainee with adequate notice, in writing, of specific ground(s) and the nature of the evidence on which the disciplinary action is based. The trainee will be given an opportunity for a hearing in which the disciplinary authority will provide a fair opportunity for the trainee's position, explanations and evidence. Finally, no disciplinary action will be taken on grounds which are not supported by substantial evidence. The department and/or hospital intern training committee, or house staff education committee, or other appropriate committees will act as the disciplinary authority. Trainees may be allowed counsel at hearings concerning disciplinary issues. Pending proceedings on such disciplinary action, the hospital in its sole discretion may suspend the trainee, when it is believed that such suspension is in the best interests of the hospital or of patient care.

The above policies are a model. Programs should adhere to institutional disciplinary procedures where they exist.
**TABLE 1**

ROTATIONAL GUIDELINES FOR THREE-YEAR (36 MONTHS) GENERAL CARDIOLOGY RESIDENCY

<table>
<thead>
<tr>
<th>Duration</th>
<th>Rotation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 Months</td>
<td>Clinical Cardiology</td>
<td>Including active inpatient management and consultation, three months ICU/CCU.</td>
</tr>
<tr>
<td>4 Months</td>
<td>Echocardiography</td>
<td>Including performance and interpretation of 2 D-M Mode and colorflow Doppler, nuclear medicine, peripheral vascular, etc.</td>
</tr>
<tr>
<td>4 Months</td>
<td>Stress Testing</td>
<td>Including exposure to physiologic and pharmacologic (Dobutamine, Persantine, Adenosine) modalities. Also echo and nuclear imaging techniques.</td>
</tr>
<tr>
<td>4 Months</td>
<td>Cardiac Cath Labs</td>
<td>Including RHC, LHC, interventional techniques, IABP, and endomyocardial biopsy.</td>
</tr>
<tr>
<td>2 Months</td>
<td>Electrophysiologic Studies</td>
<td>Including Pacemaker implantation, follow-up, programmed ventricular stimulation studies and exposure to radio-frequency ablation and AICDs.</td>
</tr>
<tr>
<td>12 Months</td>
<td>Research and Specialized Areas of Training</td>
<td>Including additional cath, echo, nuclear; preventative cardiology, congenital heart disease, etc.; Lipids, Cardiology, Transplant, Pediatric, Rehab, Peripheral Vascular.</td>
</tr>
<tr>
<td>2 Months</td>
<td>Vacation/Conference</td>
<td></td>
</tr>
</tbody>
</table>
TABLE 2

REQUIREMENTS FOR NRC LICENSOR

200 HOURS DIDACTIC TRAINING INCLUDING:

Radiation physics, radiation safety and radiopharmaceutical chemistry.

1000 HOURS OF EXPERIENCE WITH RADIATION INCLUDING:

Ordering, receiving, unpacking and preparing radioactive materials. Also selecting, ordering, performing and interpretation of studies.