



The Ohio State University Medical Center, Division of Cardiovascular Medicine

Research Elective:

Fellowship Training Guidelines and Clinical Responsibilities

General Information

Duration of rotation: Four weeks

Location to report on 1st day: Variable depending on research project

Available Resources:

1. Variable – based on research project
2. American College of Cardiology Recommendations for Training in Adult Cardiovascular Medicine Core Cardiology Training (COCATS 3) – Revised 2008: Task Force 7: Training in Cardiovascular Research

Teaching Methods:

1. Individual construction and execution of a scholarly project.
2. Faculty mentorship.
3. Fellow-directed supplemental reading.

Overall Curriculum Goals During 39-Month Fellowship:

- I. Completion of a scholarly project, with learning focused on the following areas during the process:
 - a. *Literature study*, to ascertain the exact state of knowledge before undertaking new investigation.
 - b. *Formulation of hypothesis and specific goals*, ensuring that the hypothesis is testable, that the goals are appropriate, and that statistical power is achievable.
 - c. *Development of the research plan and the protocol*, including study design, importance of appropriate controls in clinical investigation, and recruitment of subjects, ethical considerations, informed consent and protection of privacy, data collection modes, full description of procedures, and institutional approval of human investigation, where appropriate, and writing a research grant.
 - d. *Data collection*, including preparation of routine data forms.
 - e. *Development of analytic methods or procedural skills*, as required, and particularly the handling of artifacts, missing data, outliers, and statistical inference.
 - f. *Presentation of results*, preferably both oral and written, emphasizing that no investigation is complete until it is reported as a full paper in peer-reviewed journals.
 - g. *Risk–benefit analysis*, regarding both patient (subject) and societal risk–benefit.
 - h. *Research ethics*, recognition of key concepts in the conduction of responsible research including but not restricted to data acquisition/management and protection, conflicts of interest, publication practices, and authorship and scientific conduct.

First, Second and Third Year Fellows in Cardiovascular Medicine (Level 1 Training):

Overall Focus: Completion of a scholarly project

Number of months: 6-12 months during 39 months of training

Objectives:

1. See above objectives, with adherence to the following timeline:
 - a. 1st year
 - i. Make decisions about areas of interest, mentors, projects
 - b. 2nd year
 - i. Execution of research protocol, data analysis
 - c. 3rd year
 - i. Abstract presentation at national meeting
 - ii. Manuscript publication

Mandatory Reading:

Resources appropriate to the specific project

Research Responsibilities:

1. Compete a scholarly project as noted above

Didactic Responsibilities:

Each fellow is required to present their research (either as a proposal or with a completed data set) during a monthly conference for feedback and education of colleagues

Fellows in Cardiovascular Medicine Planning a Commitment to Teaching and Investigation (Level 2 Training):

Overall Focus: Develop a specific investigational interest

Number of months: 18-24 months during 39-52 months of training

Objectives:

1. During an additional year of training, fellows are required to acquire further expertise in research methods and their specific content area, including:
 - a. Successfully obtaining grant support
 - b. Participation as faculty in a local, regional or national conference as an authority in the content area

Evaluations:

Fellows will be assessed and evaluated by their faculty mentor/s based on the 6 core competencies as described above.

Fellows in Cardiovascular Medicine Planning a Substantive Commitment to Basic or Clinically Advanced Cardiovascular Research (Level 3 Training):

Overall Focus: Become an independent and funded investigator

Number of months: 24-36 months during 65-78 months of training

Objectives:

1. During additional years of training, fellows are required to acquire further expertise in research methods and their specific content area, as noted above.

Evaluation:

Fellows will be assessed and evaluated by the collaborating faculty, based on the 6 core competencies and associated Milestones. Examples are listed below:

Competencies	Milestones
Medical Knowledge	<ul style="list-style-type: none">▪ Scholarship
Systems-Based Practice	<ul style="list-style-type: none">▪ Works effectively within an interprofessional team
Practice-Based Learning and Improvement	<ul style="list-style-type: none">▪ Learns and improves via performance audit▪ Learns and improves via feedback
Professionalism	<ul style="list-style-type: none">▪ Has professional and respectful interactions with patients, caregivers and members of the interprofessional team▪ Accepts responsibility and follows through on tasks▪ Exhibits integrity and ethical behavior in professional conduct