Mentoring Skills for Faculty Who Supervise Medical Students and Residents in Research

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CARILION CLINIC RESEARCH SERIES
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Session Objectives

- Define the **responsibilities** of research mentors and mentees.
- Recognize the **resources** necessary for effective mentoring.
- Implement strategies for **maintaining effective communication** as a research mentor.
- Implement strategies for **assessing understanding** in a research mentee.
- Implement strategies for **fostering independence** in a research mentee.
Many ideas come from an excellent resource for mentors:
http://www.researchmentortraining.org/intro/index.aspx

- Research Mentor Training is housed within the Wisconsin Center for Education Research at the School of Education, University of Wisconsin-Madison.

Additional references provided on last slide
Responsibilities of research mentors

- Guide a trainee’s professional development
Responsibilities of research mentors

Guide a trainee’s professional development

- Technical skills
- Professional skills
- Networking opportunities
- Research ethics
- Mentor, not friend

Working with:
- administrative offices
- departments
- institutions

Time management
Responsibilities of research mentors

Guide a trainee’s professional development

- Technical skills
- Professional skills
- Networking opportunities
- Research ethics
- Mentor, not friend

Scientific integrity
Ethics of human or animal research
Responsibilities of research mentors

- Technical skills
- Professional skills
- Networking opportunities
- Research ethics
- Mentor, not friend

Guide a trainee’s professional development

Effective communication
Assessing understanding
Fostering independence
Responsibilities of research mentors

- Guide a trainee’s professional development
- Provide an environment conducive to meeting a trainee’s (and mentor’s) goals
**Responsibilities of research mentors**

- Provide an environment conducive to meeting a trainee’s goals
  - VTCSOM graduation requirement?
  - Residency requirement?
  - Publication?
  - Presentation?

Each trainee’s goals will differ.
Responsibilities of research mentors

- Provide an **environment** conducive to meeting a trainee’s goals
  - Mentorship style ("hands-off" vs. directive)
  
- Resources
  - More on this in a few slides

Appropriate environment will differ for each trainee and project
Responsibilities of research mentors

- Guide a trainee’s professional development
- Provide an environment conducive to meeting a trainee’s goals
- Recognize that each trainee is a big commitment
• Recognize that **each trainee** is a big commitment

**Responsibilities of research mentors**

- Resources
- Mentorship style
- Goals

Good fit? Should I commit?
Resources for Effective Mentoring

- **Time**
  - Other trainees
  - Protected
  - Outside of normal working hours
- **Money**
- **Background**
- **Collaborators**
- **Infrastructure**
## Resources for Effective Mentoring

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### Collaborators
- Broaden background
- Provide expertise
- Mentorship team

### Infrastructure
# Resources for Effective Mentoring

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## Infrastructure
- Tangible (space, equipment)
- Intangible (e.g., research SOPs, organizational connections)
Maintaining effective communication

Expectations
- Specific
- Avoid “unspoken” expectations

How much time?
Milestones?
Behavior?
Level of involvement?
Authorship?
Letters of recommendation?
Job placement?

Team effort
- Co-mentors
- Collaborators
- Program faculty

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Maintaining effective **communication**

**Expectations**
- Specific
- Avoid “unspoken” expectations

**Feedback**
- Concrete, actionable, and documented
- Positive and negative
- Prompt

- Redirection is needed
- Goals are not being met
- Required skills are lacking

- Sooner rather than later!
Maintaining effective communication

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- Specific
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Feedback
- Concrete and preferably actionable
- Positive and negative
- Prompt

Modality
- Texts? Email? Through an assistant?
- Planned? Spontaneous?
- Frequency?
Maintaining effective communication

**Expectations**
- Specific
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**Team effort**
- Co-mentors
- Collaborators
- Program faculty

Diverse perspectives
Neutral party
Assessing understanding

How do you know if your trainee understands something?

Which question do you frequently use when checking your trainee’s understanding?

1) Does everything make sense?
2) Do you have any questions?
3) Is there anything else you need from me?
4) What do you hope to accomplish before we meet again?
Assessing understanding

• Immediately
  o Ask trainees to describe in their own words:
    ▶ the content of a meeting
    ▶ the goal of the project
    ▶ the analysis to be done
Assessing understanding

- After reflection
  - Written form
    - Summary of a meeting
    - Flowchart of next steps
    - Outline of research goals
  - Oral presentation to appropriate group
    - “lab” meeting
    - research interest group
    - collaborators
  - Reading the literature
    - Does the trainee identify relevant literature?
    - Can they come prepared with a list of questions related to the literature they’ve read?
Fostering independence

What skills indicate growing independence?

- Able to find answers to questions on own
- Able to find new/relevant literature related to ongoing project
- Able to propose next steps
Fostering independence

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Assess the trainee’s developmental level appropriately

Early
- Propose next steps
- Set up meeting with collaborators

Mid
- Identify appropriate conferences
- Outline paper, IRB proposal, grant

Mature
- Write paper with input from mentor and collaborators
- Write funding proposal
- Develop project for a more junior trainee and lead the mentoring effort
- Establish/lead journal club or research interest group
Fostering independence

- How do you foster independence?

- How do you determine WHY a trainee constantly asks for advice or guidance?

- Can you give a trainee too much independence? How do you know?
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References

- “Entering mentoring”
  [http://www.hhmi.org/programs/resources-early-career-scientist-development/making-right-moves](http://www.hhmi.org/programs/resources-early-career-scientist-development/making-right-moves) (Burroughs Wellcome Fund & Howard Hughes Medical Institute)