Optimizing the Resident Research Experience

Panelists:
Fuad Baroody – Program Director University of Chicago
Judy Lieu – Program Director Washington University
John McGinn – Program Director Penn State
Jenna Devare – Resident University of Michigan

Moderator:
Marc Thorne – Program Director Michigan
<table>
<thead>
<tr>
<th>IV.B.</th>
<th>Residents’ Scholarly Activities</th>
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<tbody>
<tr>
<td>IV.B.1.</td>
<td>The curriculum must advance residents’ knowledge of the basic principles of research, including how research is conducted, evaluated, explained to patients, and applied to patient care. (Core)</td>
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<tr>
<td>IV.B.2.</td>
<td>Residents should participate in scholarly activity. (Core)</td>
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<tr>
<td>IV.B.2.a)</td>
<td>The educational program must provide at least three months of a structured research experience for residents. (Core)</td>
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<tr>
<td>IV.B.2.a).(1)</td>
<td>The research experience must include instruction in research methods and design, as well as outcome assessment. (Core)</td>
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<tr>
<td>IV.B.2.a).(2)</td>
<td>The research experience should result in a completed manuscript suitable for publication in a peer-reviewed journal. (Outcome)</td>
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Learning Objectives

• Interactive Format
• Time for Questions and Discussion
• Take Home
  – Be familiar with different approaches programs take to meeting research experience
  – Identify best practices for optimizing the research experience
  – Identify shared challenges for the research experience
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Research Rotation Structure

- Length
- Timing
  - PGY Year
- Preparation
Washington University
Research Rotation
PGY3 Research Rotation at WUSM Structure

• Goals: Complete clinical or PSQI research project

• Timeline
  • Meet with Vice-Chair for Research and potential research mentors early during PGY2 (June to August)
  • Research topic & mentor selected in PGY2 (winter-spring)
  • Written plan/protocol (max 5 pages) to be completed prior to start of research rotation, submitted to PD and Vice-Chair for Research
  • 3 months for research during PGY3
  • Self-directed learning during research rotation
    • Research methodology, Biostatistics, and Critical Appraisal of the Literature
Clinical Methodology
Online Coursework Options

• NIH Online Course: Introduction to the Principles and Practice of Clinical Research (https://ocr.od.nih.gov/courses/ippcr.html)


• Statistics at Square One BMJ.com (http://www.bmj.com/about-bmj/resources-readers/publications/statistics-square-one)
Research Structure

• Research Forum
  • Monthly session
    • Review of active projects and status
    • Problem-solving and brain-storming
    • Sessions on research methodology and biostatistics

• PGY-3 year – 3 month research rotation
  • Free of clinical responsibilities during daylight hours, still in call schedule
  • Preparatory phase of one year leading up to this including major project IR & grants

• All PGY-2 through PGY-5 expected to have active research each year

• Research Track
  • Separate match
  • PGY-1 year (inactive)
University of Michigan: Structure of Research Experience

• Research Rotation
  – 6 months for clinical track residents, PGY-4
  – 18 months for NIH-funded T32 research resident, PGY-3/4 years
    • Separate match slot for research track (1 per year)
    • Begins midway through PGY-3 year

• Resident Research Committee
  – Meets monthly during resident didactic time
  – Structured didactic research education, research presentations
  – Annual research meet-up to pair medical students & residents with faculty
Expectations

- Productivity
- Grant Applications
- Others?
PGY3 Research Rotation at WUSM

• Expectations
  • Presentation at Annual Resident Research Day
  • Oral or poster presentation at national meeting
  • Publication in peer-reviewed journal
Expectations

• Overall
  • Soft expectation of one publication per year (PGY-2-5)
  • PGY-2 to PGY-4 must submit to state meeting yearly

• Research Rotation
  • One major project
  • Additional projects as primary project allows
  • Application for internal and external grant opportunities for animal and tissue studies
  • Regular meetings with research mentor

• Research Track
  • Primary projects based on ongoing genomics
  • Ancillary spinoff projects
  • Clinical research as time allows
## University of Michigan: Resident Research Expectations

<table>
<thead>
<tr>
<th>Year (PGY)</th>
<th>Attend resident research committee meetings</th>
<th>Establish a clinical project</th>
<th>Extramural research presentation</th>
<th>Peer-reviewed publication</th>
<th>Submit grant</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (intern)</td>
<td>If available</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>4</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
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Pearls and Challenges
Pearls & Challenges

• Pearls
  • Adequate large study preparation to start day #1
  • Adequate backup project plans
  • IRB process PRE-rotation

• Challenges
  • Managing expectations of resident AND faculty
  • Accounting for resident’s time
    • In hospital vs at home
  • Variability in productivity – controllable vs non-controllable factors
  • Alter research plan if resident on clinical remediation
University of Michigan: Pearls and Challenges

• Research committee structure: dedicated faculty leads
• PGY-3 grant writing requirement
  – Ensures quality of research during PGY-4 rotation
  – Internal grant opportunity ($10,000 resident research award)
• Resources
  – Research opportunities
  – Support staff
  – Funding for extramural research presentations
• Challenges
  – Tendency to overcommit
  – Ensuring completion of projects
Questions/Comments/Thoughts
Should Research Experience Be Required?
### Academic Appointment
(Residents Completing Training 2007-2016)

<table>
<thead>
<tr>
<th>ACGME-Accredited Specialties and Subspecialties Completed</th>
<th>Professor</th>
<th>Associate Professor</th>
<th>Assistant Professor</th>
<th>Instructor</th>
<th>Other Rank</th>
<th>No Current Faculty Appointment</th>
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<tbody>
<tr>
<td>Otolaryngology</td>
<td>4</td>
<td>78</td>
<td>429</td>
<td>39</td>
<td>2</td>
<td>1,758</td>
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<tr>
<td>Total</td>
<td>76.1%</td>
<td>310</td>
<td>2,310</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Otology-Neurology (Otolaryngology)</td>
<td>1</td>
<td>11</td>
<td>35</td>
<td>1</td>
<td>42</td>
<td>44.2%</td>
</tr>
<tr>
<td>Pediatric Otolaryngology (Otolaryngology)</td>
<td>1</td>
<td>10</td>
<td>76</td>
<td>0</td>
<td>81</td>
<td>48.2%</td>
</tr>
<tr>
<td>Total</td>
<td>168%</td>
<td>95</td>
<td>168</td>
<td>0</td>
<td>81</td>
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Weigh-In
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