

Building, Maintaining and Improving a Physics Residency Program

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Our Therapy Physics Program

- First accredited in 1997
- Re-Accredited in 2003, 2008, and 2014
- For the 45 individuals that have entered our program, 14 had been post-doctoral fellows, 16 had graduated non-CAMPEP programs (2 Certificate graduates), 11 graduated from CAMPEP accredited programs, and 4 had established careers.
- Thirty-six physicists have graduated (28 PhD, 8 MS), 3 failed to complete the program, and one departed due to medical issues.

Initial Momentum

- **Secure commitment of**
 - Program director;
 - Physics faculty
 - Physicians
 - Key technical personnel
 - Administration,
- **Ultimate goal to build a strong clinical physicist.**
- **Find right balance of training, empowerment, and effort they contribute back to the clinic.**
- **This may also be part of the equation in obtaining finances.**

Funding Options

- Don't Pay Them
- Pay Two for the Price of One
- Trade in Physics Position for Two Residents
- Negotiate for a Hospital **Residency** Slot
- Use Grants to Fund Research + 2 years of Residence
- Use T-32 Training Grant
- Increase Clinical Contract to Include Resident(s)

- Establish CMS Funding via Paramedical Education
- Establish CMS Funding via GME Route



Barnes-Jewish Hospital • Washington University School of Medicine • National Cancer Institute • National Comprehensive Cancer Network

CMS Funding

- An assured way to obtain funding is to obtain proper ACGME classification to allow for CMS reimbursement.
- Fortunately, the ASTRO Board recognizes this need and issued an important statement to SCAROP, supporting CMS reimbursement and asked Department Chairs to “lobby for sustained funding for physics residency programs within their institution.”

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Recruitment of Resident Candidates

- Where the residents are coming from:
- Educational background
 - Previous Life ?
 - **(Read Between the Lines) References**
 - **During interviews, how to gauge what makes an ideal resident.**

Applicant Background (2008-2013): 777 applicants

Post Doctoral Fellows	Recent Graduates from non-CAMPEP accredited programs	Accredited CAMPEP Program Graduates	Established in Physics Related Career	Outside North America
213	310	141	67	46

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Maintenance of Program

- To not allow stagnation
- Constantly update
- Evolution of didactic and clinical rotational components.
- How to allocate resident developmental work, whether it be clinical or benchmark, without disrupting training.

Maintenance of Program

- CAMPEP 5-Year re-Accreditation cycle is ideal to ensure internal scrutiny
- Twice yearly meetings with involved Review Committee vital
- Annual self-evaluation including reports to AAPM/CAMPEP
- Resident Evaluations: How to keep anonymous ?

Rotation Changes:

Some changes we've made over the years include; more customized and advanced rotations (i.e. IMRT, IGRT, Protons, ViewRay), and increase in testing frequency.

Month	1999 1 st Year Rotation	2007 1 st Year Rotation	2013 1 st Year Rotation
July	Treatment Planning & Dosimetry	Imaging for Planning & Conventional Treatment Planning	Orientation + Imaging
Aug.	"	"	External Beam Rotation
Sept.	"	"	"
Oct.	"	IMRT Planning	IMRT Rotation
Nov.	"	"	"
Dec.	"	"	"
Jan.	Brachytherapy	"	Brachytherapy Rotation
Feb.	"	Brachytherapy	"
Mar.	"	"	"
Apr.	3D TP and Virtual Simulation	"	Specials/IGRT/ESRT
May	"	Specials & Patient QA	Patient QA
June	"	"	"

Track Residents Post-Graduation

- Type of Position Held (Academic vs. Hospital)
- Board Certification
 - You can help them (Skype mock orals)
 - Success
- Achievements
- Help Answer Questions
- Hire them !

Lessons Learned

- Look for **Red** Flags during interviews.
 - **Small things matter.**
- Short lectures during interviews help
- No such thing as being over organized
- Routine testing is vital
- Ensure all faculty are engaged and annually evaluated for effort.

Lessons Learned

- A Residency Program is only as good as it's worst Resident.
- We must keep the door open for non-Medical Physics Graduates.
- A strong Resident makes a Strong Clinical Faculty Physicist.
