

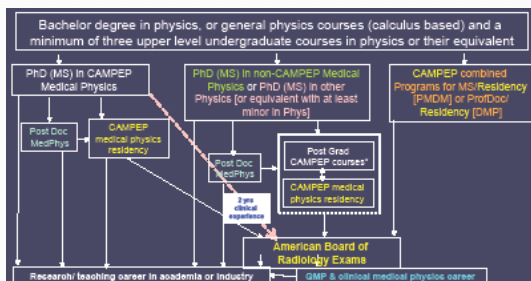
## ABR 2014 Trained for Competence: Physics Residency Programs – Importance For Our Profession and Funding Methods

Eric E. Klein, Ph.D.  
Residency Program Director, Washington University  
Former Chair of Residency Program Review Committee

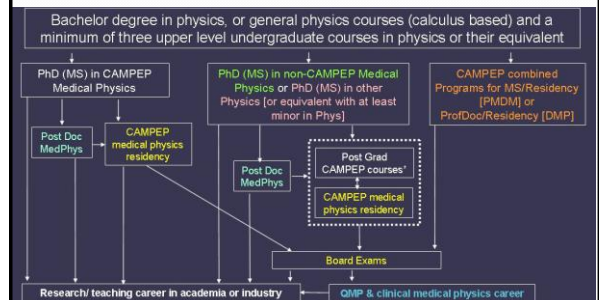
## History

- The advent of formalizing training of Medical Physicists came to fruition in the mid-1990s.
- Necessary to ensure properly trained physicists entering the profession, with training beyond graduate and/or post-doctoral training.
- The AAPM published an initial training elements guide, which was recently updated. (Report 90, and ongoing *Work Group on Periodic Review of Medical Physics Residency Training*)

## Career Pathways: Current



## Career Pathways: 2014



## Importance of Residencies

- In light of the recent New York Times articles and subsequent Congressional Hearings, it is clear that well-trained physicists are vital to Radiotherapy.
- Physicians were recently encouraged to hire only well-trained physicists, as evidenced by graduation from an accredited residency program.  
(ASTRONews Spring 2011)

## NYT Series Included Medical Physicist Fraud

### THE RADIATION BOOM

*They Check the Medical Equipment, but Who Is Checking Up on Them*

By WALT BOGDANICH and KRISTINA REBELO

Published: January 26, 2010

*In the eyes of those who hired him, Norman Fenton was a model medical physicist — diligently protecting patients from the hazards of too much medical radiation or too little.*

***Patients Deserve the Best Trained Physicists = Residents***

## With Residency as THE Path, Licensure Qualifications Cleaned Up

### Confusing NY Requirement:

**In principle, medical physics residents in the state of NY must have a Limited Permit to start the clinical training under the supervision of a Full Licensed Medical Physicist**

#### Experience Requirement:

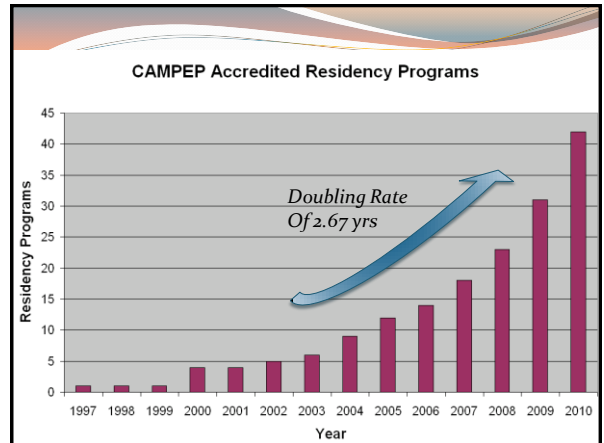
To meet the experience requirement for licensure, you must present evidence of completion of at least two years of full-time work experience or its equivalent in the medical physics specialty for which you seek licensure, including at least one year of full-time work experience or its equivalent within the five years preceding the date of application. The work experience must be within the practice of a medical physics specialty in accordance with definitions of the specialty and the practice of medical physics in Education Law. A year of full-time work experience or its equivalent means a minimum of 1,200 clock hours in the medical physics specialty.

## ABR Oral Pass Rates

- 340 Individuals Took Part III in 2010 for Radiotherapy Physics
- 60% Pass Rate (typical) – 204 passed
- ABR does not (yet) track Residents vs. others
- My Survey of Accredited Programs had 55 Resident Graduate takers, with 54 passing (98%).
- Therefore 150 of the remaining 285 (non Residents) passed for a 53% pass rate

## ABR Oral Pass Rates

- With Pass Rates in the Upper 90%, we can raise the bar for the exam.
- A good thing for our profession !



## Recent CAMPEP Numbers

	Therapy	Imaging
Accredited Programs	46	6
Programs in CAMPEP vote	1	1
Programs in active review	8	1
Programs <i>awaiting review</i>	8	0
Total	63	8
Projected by 2014	90	15
Projected yearly graduates	140	23

## Assumptions - Positive Demand

- One half of all new cancer patients are treated with radiation therapy (ACS)
- The median number of new cancer patients managed by a FTE Radiation Oncology Physicists was measured as;
  - **424 in 1995,**
  - **325 in 2002, and**
  - **304 in 2007**
- A working ROP is assumed to spend  $\frac{3}{4}$  time on clinical service. Therefore the ratio of working ROPs to Clinical FTEs is 1.33333 (Abt)

### Projected Demand/Supply

- Currently ~100 Graduating Residents per Year
- Projected to 140 by 2014
- Currently ~250 Graduating Medical Physics Students
- Most Programs have **not**/will **not** Reduce
- Of the 250, 175 are MS Students

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- 96 respondents began full-time employment during 2010.

## Advertisement c2000

**POSITION:** Faculty Radiation Oncology Physicists

**LOCATION:** Division of Physics  
Department of Radiation Oncology  
Washington University School of Medicine  
Barnes-Jewish Hospital  
Mallinckrodt Institute of Radiology  
St. Louis, Missouri

*We are seeking applications for clinically-oriented radiation oncology physicists. The position requires an M.S. or Ph.D. with a minimum of three years of clinical experience. The candidate should have Board certification in radiation oncology physics or be in the certification process.*

Responsibilities include .....

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- ***Certification process:** Applied for Part I*

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***We are seeking applications from Graduating Physics Residents.***

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Though the weakened job market maybe overriding that momentum.

## 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 Residency  
 Use T-32 Training Grant  
 Increase Clinical Contract to Include Resident(s)

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

Terrible

Optimal

## CMS Funding

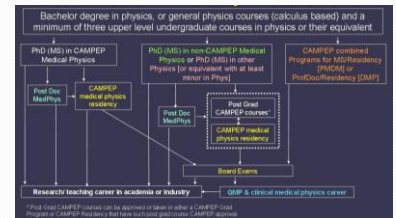
- An assured way to obtain funding is to obtain proper ACGME classification to allow for CMS reimbursement.
- Fortunately, the ASTRO Board recognizes this need and issued an important statement to SCAROP, supporting CMS reimbursement and asked Department Chairs to “lobby for sustained funding for physics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

## Funding Options: CMS Funding via GME Route:

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Good News: Very positive in terms of recognition and funding.

Bad News: They don't want to Fund before then (2013).



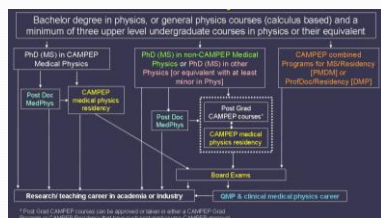
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**WE CANNOT CONSIDER POSTPONING THE 2014 CHANGE**



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- Taken over Treatment Planning Coordination
- Received Commercial Grant

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