Overview

• Who are we training?
• How are we training them?
• Are they successful?
Future Pathways to the Profession

- CAMPEP MS, PhD
- Physics PhD
- Physics MS
- CAMPEP Residency
- CAMPEP Certificate
- Postdoc
- OJT
- Non-CAMPEP Residency
- ABR
- Equivalency Stream
- CAMPEP MS, PhD
- Physics PhD
- Physics MS
- CAMPEP Residency
- CAMPEP Certificate
- ABR

Future of the Profession

- Who do we want to enter the profession?
- What degrees/training should they have?
- How many should be certified?
What defines us?

- Pros and cons of standardization of MP education
- Providing appropriate didactic, clinical, and research training

WSU Grad Program Demographics

- ~70% BS in physics (20% engineering)
- >50% with at least one graduate degree
- ~20% of students entering MS program have PhD in physics already

Demographic Changes in MP

- Will the residency requirement change MP demographics?
  - Will the PhD in MP still be appealing?
  - Will PhDs in physics still find it worthwhile?
  - Will more PhDs be ABR certified due to residency selection bias?
Teaching Physicists in Medicine

• First and foremost, we are physicists

• Physics is not about recursive plug-and-chug or memorization and regurgitation

• “Instruction” vs. “Teaching”

Medical Physics Education at WSU

• Practical concepts built on foundational theoretical coursework

• Effective teaching methodology

• Incorporating teaching technology

Curriculum

• AAPM Report #197
  • Rad Phys and Dosimetry
  • Rad Protection and Safety
  • Imaging
  • Radiobiology
  • Anatomy and Physiology
  • Special topics
  • Imaging science, radiation therapy, imaging for treatment guidance and monitoring
  • Laboratory training
Clinical training

- How to provide clinical training?

“...formal academic training can never hope to provide, nor is it necessarily the proper environment for, this clinical training.” (AAPM Report #197)

Skills of the Trade

- Background provided within didactic coursework
- Hands-on laboratories / internships
- Oral review sessions
- Once residencies are required, should clinical training be minimized in education programs?

Ancillary skills

- Seminar course –
  - Research presentation
  - Grant / manuscript writing
  - Leadership skills
  - Effective communication
Ancillary information

- Seminar course –
  - Medical terminology
  - Radiological anatomy
  - Medical / Research ethics

Board Exam Preparation

- Fundamental physics & MP, rad bio, and A&P all prior to August ABR Part I date
- Oral review sessions
- Oral exam preparation and mock orals

Gauging Success

- Success of graduates is a measure of the training program
- MP employment success
- Ability to obtain residency position
  - CAMPEP MP grads: ~10%(MS), ~30%(PhD)
  - WSU PhD program(‘07-‘11): 67%
  - WSU MS program(‘07-‘11): 36%
Where Are We Headed?

Direction of MP Profession

• Is MP a science or a profession? (are we scientists or technicians?)

• What is it that defines us and makes us valuable to medicine?