



# HIRING QUALIFIED DIAGNOSTIC IMAGING PHYSICISTS: BEFORE AND AFTER 2014

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# A BRIEF HISTORY OF THERAPY PHYSICS INC.

- 1984: Originally incorporated by single ABR Certified Physicist in Radiological Physics providing External Beam and Brachytherapy Physics Services and Gamma Knife Shielding Design
- 1992: Added second ABR Certified Physicist (myself) as 50% owner – expanded services to include Diagnostic Imaging Physics – Mammography

# A BRIEF HISTORY OF THERAPY PHYSICS INC.

- 1995: Original physicist retired – sold remaining 50% of company to remaining physicist. Original physicist replaced with a second physicist certified by the ABR in Diagnostic Imaging Physics only. Expanded Diagnostic Imaging Physics services significantly, especially Mammo & Fluoro.
- 1992 – Continued development of strong consulting practice in therapy shielding designs, particularly gamma-knife units and linear accelerators

# A BRIEF HISTORY OF THERAPY PHYSICS INC.

- 2003 – Present– Continued growth of staff and services. Group now consists of 7 QMPs, office manager and technical support staff with some additional consultants as needed.
- All QMPs volunteer their time to teach at State Radiological Health Branch training days annually. Also, work with State Inspectors at sites to train them on proper equipment testing methods

# HIRING PRACTICES PRIOR TO 2014

- Other than the first two ABR Certified Physicists, the next 7 hires were either straight from graduate school or within the first two years out of grad school. All clinical training was done by the QMPs in the company.
- Certifications achieved in Diagnostic Imaging and Nuclear Medicine Physics.

# HIRING PRACTICES PRIOR TO 2014

- Hired a mix of M.S. and Ph.D. graduates without differentiation as to degrees relative to salary or benefits as the job was the same regardless of final degree. Eventually trained 10 new graduates through the ABR certification process with excellent success. All completed the written tests on the first attempt. First 2 required a second round to complete the orals. Last 8 completed all three parts of the exam on the first attempt.

# HIRING PRACTICES PRIOR TO 2014

- Advantages: Allowed a diversity of physics and engineering backgrounds to enter the practice with each bringing their own strengths to the group. Hired graduates from different Medical Physics Graduate programs.
- Training by consulting QMPs exposed new employees to a diverse set of equipment including all brands and generations of CT's , MRI's and Rad/Fluoro equipment. Trained on receptors from Film/ Screen to CR to Direct Digital.

# ENTRY TO BOARD EXAM PROCESS PRIOR TO 2014

- Applicant must have completed M.S. or Ph.D. with the equivalent of at least a minor in physics
- Have completed at least 3 years of clinical training under the supervision of a QMP (Board Certified Physicist)
- Obtain letters from a Radiologist and Physicist stating that in their view, the applicant was competent to practice medical physics.



# ATTRIBUTES NEEDED FOR A SUCCESSFUL CAREER IN CONSULTING MEDICAL PHYSICS

- **Lessons Learned in Hiring Consulting Physicists:**
- #1: Must be personally responsible – show up on time and do the job!
- #2: Must follow the lessons learned in kindergarten on how to get along with people: RESPECT for all staff
- #3: ATTITUDE toward other physicists in the group and with all customers (some are definitely easier than others). Is the customer always right????

# MP 3.0 GOALS FOR CONSULTING PHYSICISTS

- The Physicist is the Resource for Information that will be used by the facility to comply with Regulations and Accreditation
- Attitude and Accessibility by the client facilities and staff is crucial to success. Arrogance by the physicist will destroy the relationship between the facility and the consulting group.
- Some medical physicists do not have the personality needed to be a consultant: flexibility is not a strong point of some medical physicists.

# THE HIRING SCENE POST 2014

- Demand for medical physics services has increased significantly due to increased requirements for Accreditation and regulation.
- AAPM has close working relationships with The Joint Commission, the American College of Radiology, the Intersociety Commission on Accreditation, and the Conference of Radiation Control Program Directors to ensure that the Medical Physicist is a vital part of the team of experts at each facility in each modality. Increased interest and emphasis on Safety in all Imaging and Therapy procedures.

# HOW MANY PHYSICISTS DO WE NEED?

- AAPM has five committees or subcommittees looking at this question in different ways.
- What we do know is that we have a problem meeting the identified need for Diagnostic Imaging Physicists with Qualified Medical Physicists.
- So – proposed ways to solve the problem:
  - Create more residencies to train more diagnostic imaging physicists
  - Problem: Where is the funding to do this??? Is this the only solution??
  - Justification for becoming a QMP in Diagnostic Imaging Physics??

# WHAT CHANGED IN 2014?

- No longer can a candidate become ABR eligible without completing at least a 2 year residency prior to sitting for Parts 2 and 3 of the Oral Board Exam.
- There are currently approximately 35 Diagnostic Imaging Residency positions.
- The estimated need is for at least 50 Diagnostic Imaging Physicists to enter the field per year.
- There are currently 2 Nuclear Medicine Residency programs.
- Therefore, we have a problem!!

# CURRENT WAYS TO FILL THE VOID OF DIAGNOSTIC AND NUCLEAR MEDICINE PHYSICISTS

- MPPG on Medical Physicists Assistants recently published by the AAPM.
- When there are not enough QMPs to provide the needed services, much of the testing is now to be done with lesser trained personnel (additional benefit is lower costs). The testing will still be done but the additional value of having a QMP in a department will be gone. The QMP is only required to be on site once per year. Is this adequate?

# CURRENT CHALLENGES IN PROVIDING DIAGNOSTIC IMAGING PHYSICS SERVICES

- Contracts are now negotiated by Purchasing Managers many times at the Corporate Level. Strictly a business decision made on price. No value seen to the MP 3.0 input of a QMP. Bottom line compliance with minimal requirements is seen as “good enough”
- Minimum Qualifications by TJC and Accrediting Bodies is a M.S. degree in any Science discipline.

# IS THERE A NEED FOR QMPS?

- We must demonstrate the value added of a QMP to a department. This is being accomplished in most academic medical centers but there are many imaging centers and hospitals that are not affiliated with an academic center.
- Most residency programs are funded by academic centers and therefore train medical physics residents in the academic roles of a clinical department.
- What do we do with the many facilities that need imaging physics services that are not academic or large enough to employ a full time medical physicist????



# WHY WOULD ANYONE WANT TO BE A CONSULTING MEDICAL PHYSICIST????

- Positives:
  - More control over their time
  - More flexibility and variation in assignments
- Negatives:
  - Time on the road
  - No place to call home

# WHAT DOES THE CONSULTING PHYSICIST BRING TO A FACILITY?

- Expertise
- Wide Range of Experiences with Different Equipment
- Range of Experience with State Regulators in Different Settings
- Ability to interact with a range of individuals at a facility to answer questions at all levels of expertise.

# RECRUITING DIAGNOSTIC MEDICAL PHYSICISTS POST 2014

- Short supply of candidates with necessary credentials
- Sometimes compromises must be made: Is it time to make the transition from only staffing QMPs to using MPAs? Which facilities no longer get QMPs?
- Most newly trained residents want to stay with academic type practices: Who serves the rest of the world that needs medical physics services?

# RECRUITING DIAGNOSTIC MEDICAL PHYSICISTS POST 2014

- Shift from M.S. degreed individuals to majority of Ph.D. individuals. Over 50% of the AAPM membership is now Ph.D.'s and the percentage increases as the age bracket decreases.
- Do you really need a Ph.D. to provide Clinical Medical Physics to non-academic centers with no research programs involved?

# RECRUITING DIAGNOSTIC MEDICAL PHYSICISTS SINCE 2014

Is the role of the consulting medical physicist going the way of the General Practice MD?

Do we really need to be experts in each area of imaging to provide adequate services to our facilities?

Is it better to hire modality experts or multi-purpose physicists?

# RECRUITING DIAGNOSTIC MEDICAL PHYSICISTS SINCE 2014

- How do you recruit candidates?
  - Advertise on AAPM Job placement service
  - Use a professional recruiting service
  - Linked In and/or List Serve
  - Contact all of your friends
  - Contact directly Residency Directors

# CHALLENGES IN FINDING DIAGNOSTIC PHYSICISTS

- After advertising position, no responses
- Limited Supply of Younger Diagnostic Physicists
- Balancing Family Demands on Time with a Consulting Role
- Increasing services while keeping employees happy.

# CONCLUSIONS

- Life is not easy!!
- Supply is very limited
- Hire for attitude and people skills (assuming professional qualifications).



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- Thank you for your attention today.

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