Important skills for a clinical medical physicist

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My background

- Ph. D. in Medical Physics from University of Wisconsin Madison
  - May 2016
  - Did not do a residency
- Worked as a solo physicist at a satellite clinic for ~1 year
  - Part of the UW system
  - 1 Elekta, 1 CT, 1 dosimetrist, 1 MD
- Currently at UW Main campus
  - 2 Truebeams, 2 Tomotherapy, brachytherapy program
  - 1 CT scanner, 8 dosimetrists, 17 MDs
Relevant skills

• Technical
• Project Management
• Social
• Analytical

Technical Skills

• The science behind what is done in the clinic every day
• The necessary knowledge and ability to use and implement the technology
  • This knowledge base is expanding rapidly
• Where are these skills learned?
  • Graduate classes
  • Training on the equipment/software being used
  • Publications
  • Residencies

Project Management Skills

• How to handle and balance the various tasks and projects that all overlap
• Prioritize needs and projects and address them thoroughly and efficiently
• Where are these skills learned?
  • Graduate school – thesis work on top of classes, etc.
  • Residency
Social Skills

• Communication, collaboration, teamwork, leadership
• No physicist works on an island
• Constant interaction with dosimetrists, therapists, and physicians
• Important to be able to effectively and efficiently communicate and collaborate with all of these other professions

• Where are these skills learned?
  - Residency
  - Other

Analytical Skills

• Problem solving – applying your technical knowledge to the clinical environment
• The ability to think quickly is an essential part of being a clinical physicist
• Can be put under pressure to deal with uncommon scenarios
  - Will need to draw on your other skill sets to help solve them
  - Identify the problem
  - Develop a plan
  - Take action accordingly

• Where are these skills learned?
  - Graduate school
  - Residency

My personal experience

• Strengths
  - Technical and project management skills
• Weaknesses
  - Analytical/Problem solving and Communication
• Residency or not?
  - Residency program definitely would have helped develop skills I was deficient in
  - Would not have taken any job – UW was a great opportunity
Conclusions

- A variety of skills are necessary to be a clinical medical physicist
  - Technical
  - Project Management
  - Social
  - Analytical
- These skills are learned in different places and are stressed to different degrees