

# Things that you can no longer say Nobody Ever Told You

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GWS c. 1980

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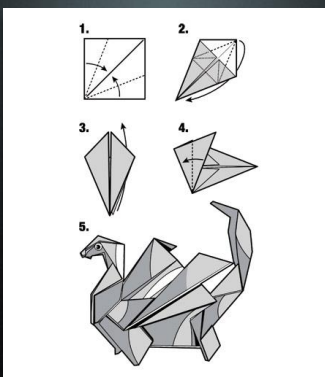
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# Thing 1: Clinical Medical Physics is a Medical Specialty.

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## Medical Specialties

- There is an American Board of Medical Specialties. 
- It is an umbrella organization for 24 medical specialty boards that certify physicians in the US.
- The American Board of Radiology is a member of ABMS

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## Medical Specialties

- There are two ABMS boards that certify non-physicians – *in all of Medicine*.
- One of those considers PhD, OD and MD equivalent (subspecialties of Medical Genetics).
- ABR Medical Physics subspecialties are the only exclusively non-physician medical specialty certificates.

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Board Certified doctors voluntarily meet additional standards beyond basic licensing. They demonstrate their expertise by earning Board Certification through one of the 24 Member Boards that are part of the not-for-profit American Board of Medical Specialties (ABMS). Before a doctor can become Board Certified, each must complete four years of premedical education in a college or university, a course of study leading to an MD or DO degree from a qualified medical school and three to five years of full-time experience in an accredited residency training program.

<http://www.certificationmatters.org/about-board-certified-doctors/about-board-certification.aspx>

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**Standards for the ABMS Program for Maintenance of Certification (MOC)**

For Implementation in January 2015

Approved by the Board of Directors  
of the American Board of Medical Specialties (ABMS)  
January 15, 2014

<http://www.abms.org/pdf/Standards%20for%20the%20ABMS%20Program%20for%20MOC%20FINAL.pdf>

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Thing 2:  
Nobody knows what  
you do.

That's good except  
when it's bad.

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## Neither fish nor fowl...

- Medical physics is a little bit science, a little bit engineering, a little bit technical
- ... a little bit craft, a little bit trade, a little bit profession, a little bit trained seal
- ... a little bit biology, a little bit physics, a little bit mathematics
- ... a little bit about machines, a little bit about individual patients

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What is your professional identity?

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## Platypus (*Ornithorhynchus anatinus*)

- Genetic sequencing reveals both reptilian and mammalian elements, as well as two genes found previously only in birds, amphibians and fish
- Bill like a duck but rubbery, broad flat tail like a beaver, webbed feet like an otter
- Mammal, lays eggs mid-gestation, has no teats
- Semi-aquatic
- Senses electric fields generated by prey's muscles
- Cute, with venomous spurs on ankles, not fatal but debilitating
- Emits a low growl when disturbed
- Stores fat in its tail
- No agreement as to plural of "platypus"

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## Being a Medical Specialist

- Your job is to render care to people. Rule One is, "Do no harm."
- Your degree did not prepare you. All medical specialty boards require formal clinical residency. You *cannot* self-train by reinventing clinical medical physics.
- Many of you will work solo. You will be the local authority in your specialty. And the one to blame.
- Physicians are your peers. Others look to you for guidance.

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## The money...

- MDs are explicitly paid per procedure ("professional component"). They are seen as revenue sources.
- Hospitals are explicitly paid per procedure ("technical component").
- Medical physics reimbursement is buried in the technical reimbursement. The facility owner decides how to split that money with you. You are an expensive expense.
- When the clinic gets busy the facility and MD make more money. You work harder for the same salary.
- I recommend you learn all you can about the reimbursement system. But avoid giving advice.

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## How much should you get paid?

- The Professional Survey is useful but not prescriptive.
- Remember it gives statistics on what those who chose to participate decided to report.
- A "boards bump" is not a given.
- The quality of jobs and of employers varies widely.

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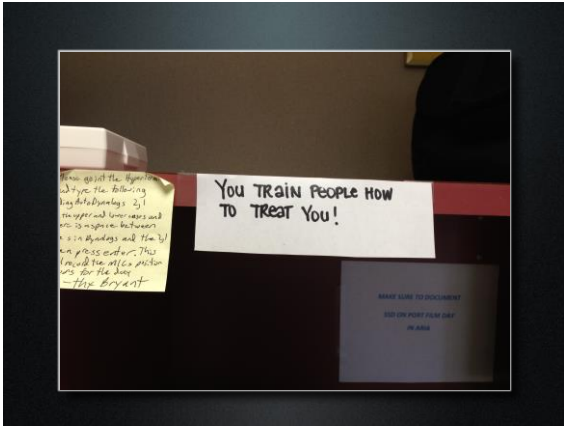
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## How you act sets the tone.

- Know your trade. Don't bluff. Stay within your competence.
- If you are a doormat, people will wipe their feet on you. Whoever replaces you will suffer.
- If you never leave your office, people will be sure they don't need you.
- If you are a tyrant, you will be overthrown. Respect cannot be demanded.
- "Following orders" is never an excuse for unethical or unsafe practices.

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## People skills matter.

- Most people, including patients and administrators, don't know what your job is. Tell them. Show them. Often.
- Show people what you know and how it matters. Be present, responsive and visible.
- Make a personal connection to patients, and to everyone in the workplace. Remember you are professional leadership, not one of the guys.
- Project the confident air of a professional medical specialist.
- If you can, get credentialled as Medical Staff.

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## What do you do when you disagree?

- If you never disagree then they didn't need you.
- Do not compromise ethics, quality or safety.
- Express your opinion, accept acceptable decisions.
- Respect the prerogatives of ownership.
- Sometimes it's just the wrong job.

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Thing 4:  
You are empowered to  
cause great harm.

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### News Release

For immediate release  
Feb. 24, 2010

#### **CoxHealth announces some BrainLAB stereotactic radiation therapy patients received increased radiation dose**

Springfield, MO - CoxHealth today announced that it has discovered that 76 patients who had received a very specific type of treatment for brain tumors and other difficult-to-treat conditions using its BrainLAB stereotactic radiation therapy system, were accidentally exposed to radiation in amounts that exceeded the intended, therapeutic dose. The average variation of all the treatments of the 76 patients exceeded the prescribed dose by approximately 50 percent. A variation on the delivered dose of up to 10 percent is not significantly different than the prescribed dose and is considered no more risky than the prescribed treatment.

<http://www.coxhealth.com/body.cfm?id=3701>

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"In the simplest of terms, when the BrainLAB stereotactic system was put into service in 2004, we believe that the CoxHealth chief physicist responsible for initially measuring the strength of the radiation beam and gathering the data used to calibrate the equipment, chose the wrong measurement device - called a chamber," said John Duff, MD, senior vice president of hospital operations. "The area radiated is called the field size. For these small tumors, the area radiated is referred to as a

"This is a very complex process, and unfortunately in spite of this physicist's experience and training, an error was made," said Duff.

"We are deeply sorry for our error and how it has affected these patients and their families. CoxHealth takes full responsibility and is doing all we can to care for and support our patients and their families," said Robert Bezanson, president and CEO of CoxHealth.

The chief physicist who made the initial calibration error is no longer working for CoxHealth.

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Thing 5:  
The AAPM is your  
professional society.  
(There is no longer a Plan B.)

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## Some AAPM demographics...

- 50% MS, 50% PhD
- 78% male
- 77% therapy
- 80% clinical, 30% academic employer
- 18% solo

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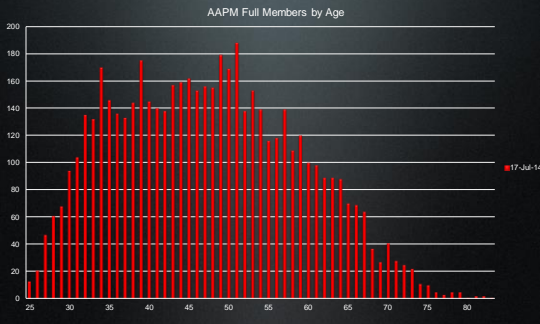
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## More demographics



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## AAPM and the profession

- AAPM has been the scientific and educational organization for medical physics for over 55 years.
- ACMP was spun off as the professional society but failed to thrive. It is now folded back into AAPM.
- Administrative Council is the locus of regulatory affairs that affect practice.
- Professional Council is the locus of clinical practice-related work for the profession.

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## We are a very small village.

- There are something like 3200 clinical medical physics jobs in the country, 3:1 therapy.
- There are probably churches in your hometown with that many members.
- You are no more than 2 degrees separated from anyone.

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## Some helpful resources...

- AAPM Professional Council
  - New Professionals Subcommittee
  - Women's Professional Subcommittee
  - Ethics Committee
  - Placement Service
  - Annual Professional Survey
- AAPM.org
  - Virtual Library
  - AAPM Forums - Don't air laundry on MEDPHYS

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Thing 6:  
The norms are  
changing rapidly. Right  
now.

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## Some of the forces...

- Clinical training is being gathered into academic programs, expertise from the community lost.
- Trending bias toward PhD-holders?
- "Medical Physics Assistant" is gaining momentum.
- Publicly-traded companies are contracting for staffing in bulk on a national scale.
- Formerly independent facilities are rapidly being gathered into systems with more centralized decision-making.
- Medicare is moving to a reimbursement model which will further suppress MP visibility.

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## By the way...

According to survey of graduate program directors for years 2009-2013:

- Total number of all grads is up ~30% (210 to 288) over those 4 years, delta is mostly PhD.
- ~25% of both MS and PhD grads went directly to therapy residency, down from 32% PhD, up from 12% MS.
- 3-4% each to imaging residency.
- ~55% of therapy residency spots for new grads went to MS holders.
- ~15% of MS grads went on for another degree.
- ~10% of both MS and PhD still looking for a position.

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## Alternatives

- There are good jobs in industry, government, teaching and academic research for people with graduate degrees but not certified to practice.
- Those can be very fulfilling careers for folks who *choose* them as the path of their bliss.

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Thing 7:  
You are the AAPM.

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## “The AAPM should do X about Y.”

- Above is a magical incantation that causes lightning bolts to shoot from my finger tips directly out of your computer display.
- Correct formulation is, “I see an underserved problem and I’d like to organize and chair a small group to address it in a thoughtful, definitive and timely manner.”

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## Welcome to Medical Physics and the AAPM

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