

Things
you won't be able to say
Someone Should've Told
You

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GWS c. 1980



MISTAKES
IT COULD BE THAT THE PURPOSE OF YOUR LIFE IS
ONLY TO SERVE AS A WARNING TO OTHERS.

Professional development, "step by step"...

1.



Get degree

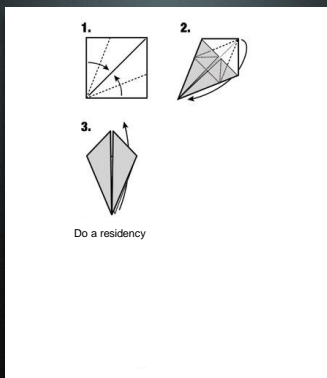
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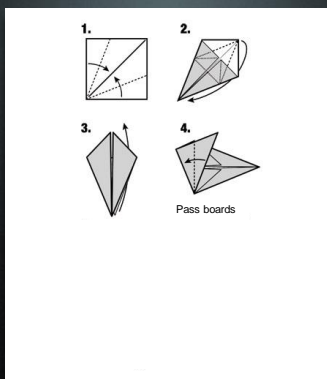


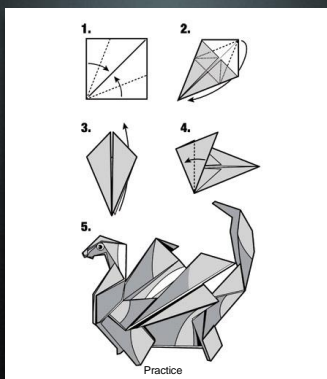
2.



Get another
degree








There is no try.



Thing 1:
Clinical Medical
Physics is a
Medical Specialty.

Medical Specialties

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

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.



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>

QMP

Qualified Medical Physicist is a term of art defined and promoted by the AAPM for use in regulation and reimbursement policy to designate an individual with *minimum* credentials to provide clinical medical physics services.

Thing 2:
Nobody knows what
you do.

That's good except
when it's bad.

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 chemistry, a little bit mathematics
- ... a lot about machines, a lot about individual patients

I like to tell people that I
use rocket science to
perform brain surgery.

The right tool for every job?

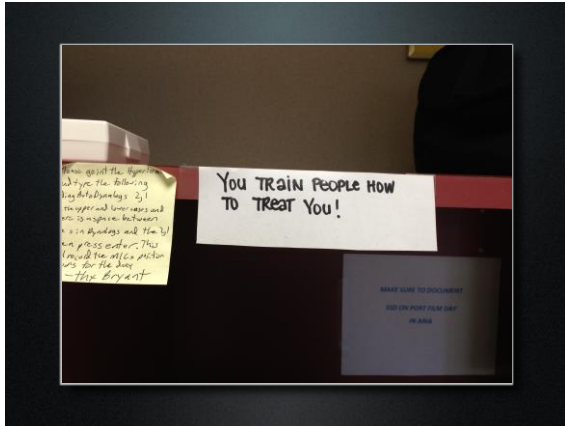


Platypus (*Ornithorhynchus anatinus*)

- 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'

Who are you at work?

- A technician with your name embroidered on your shirt who fixes broken machines?
- One of the technical staff, BFF with all the therapists?
- Department management, cold but fair?
- Medical Specialist bringing unique mission-critical skills and responsibilities, peer to MD, domain expert about complicated stuff.



What is your professional identity?

(what is your elevator speech?)

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.

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.

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 (probably) work harder for the same salary.
- I recommend you learn all you can about the reimbursement system. But avoid giving advice.

Thing 3:
You are empowered to
cause great harm.

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>

"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.

Thing 4:
The AAPM is your
professional society.
(There is no longer a Plan B.)

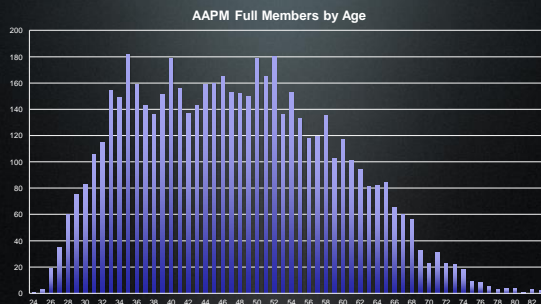
AAPM and the profession

- 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 matters for the profession.

Some approximate AAPM demographics...

- 50% MS, 50% PhD
- 75% male
- 75% therapy
- 80% clinical, 30% academic employer
- 18% solo

More demographics



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.

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

Thing 5:
The norms are
changing rapidly. Right
now.

Some of the forces...

- Clinical training is perceived to be biased toward PhD holders. (Not actually true)
- Clinical training is being gathered into academic programs, expertise from the community lost.
- "Medical Physics Assistant" is gaining momentum.
- Publicly-traded companies are contracting for "commodity" 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 effectively remove QMP visibility in the revenue stream.

Careers Other Than Clinical Practice

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

Thing 6:
You are the AAPM.

AAPM is Volunteer-Driven

- 25% of eligible members sit on a committee
- As of last Sunday there were 289 committees including 44 Committees, 73 Subcommittees, 58 WGs and 85 TGs.

“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 monitor.
- 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.”

Welcome to
Medical Physics
and the AAPM
