IS YOUR TEAM EVOLVING AT THE PACE OF YOUR TECHNOLOGY?

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“With increasing complexity and even more specialisation [sic] of skills, the current healthcare environment demands effective communication and teamwork to reliably deliver best patient care.”

Weller, Boyd, & Cumin
OUTLINE:

- Evolution of technology and techniques in radiation therapy
- Building strong teams
- Conflict resolution & finding solutions
- Growth and development of individual team members
- Introduction of new technology and procedures
THEN

(Credit: https://www.orau.org/ptp/collection/brachytherapy/needlestubescase.htm)

(Credit: http://www.demosmedical.com/media/samplechapters/9781620700822/mobile/9781620700822_Chapter1.html)
THEN

(Credit: http://www.gettyimages.co.uk/detail/news-photo/the-first-french-cobalt-bomb-was-just-installed-at-henri-news-photo/107409465?the-first-french-cobalt-bomb-was-just-installed-at-henriharmann-on-picture-id107409465)
THEN VS. NOW

- Punch card verification system
- Hand calcs for all single and parallel opposed fields
- Hand-placed (non-­divergent) lead blocks
- Whole brains with tape for immobilization and collimator angle with no block
- Plaster strip for single midplane contour
- Morning QA with Farmer ion chamber
- Cerrobend blocks
- Solid (compensator-based) IMRT

- Electronic record and verify
- MLC
- EPID
- Sectional anatomy standard part of curriculum
- IGRT: ultrasound, kVkV, CBCT
- CT simulation
- PET/CT
- Image fusion/deformable image fusion
- 4D gating
- SRS
- SBRT: lung, liver, spine, prostate
- Surface-guided imaging
What do YOU know about MRI safety?

Do you know what a ferromagnetic material is?
Can you name any?
Is it safe to wear jewelry if you’re entering the room for lift help before the scan starts?
Is it safe to work on an MR Linac if you have an insulin pump or pacemaker?
Is it safe to tattoo patients who are going to be treated on MR Linacs?
THE FUTURE

What additional training and/or certifications do we need to keep up with current and future technology?
AS TECHNOLOGY CHANGES, SO DO OUR TECHNIQUES

(Credit: //aibolita.com/sundries/22676-patient-restraint-and-repositioning-devices.html)
HOW DO WE SAFELY IMPLEMENT NEW TECHNOLOGY & TECHNIQUES?

• By improving the structure, functionality, and performance of our team(s).

• By supporting the growth and development of each team member.

• By having processes in place for everything we do.
WHAT MAKES GREAT TEAMWORK SO IMPORTANT?

“The way a team plays as a whole determines its success. You may have the greatest bunch of individual stars in the world, but if they don’t play together, the club won’t be worth a dime.”

Babe Ruth
Radiation oncology is *intrinsically* a team-based specialty.

By the first day of treatment, a patient (or their plan) will have encountered many distinct professionals within the radiation oncology department.

These groups MUST work together well to ensure the best possible treatment for each and every patient.
WHO ARE THE MEMBERS OF YOUR TEAM?

- Radiation therapists/dosimetrist only?
- Other people in your department?
- Vendors?
- Insurance companies?
- What about local/region/national/international colleagues?
WE SUCCEED OR FAIL TOGETHER

• How we function as a team impacts our performance!
  • Impacts patient satisfaction scores
  • Impacts the ability to deliver high quality care
  • Impacts the ability to prevent errors
WE SUCCEED OR FAIL TOGETHER

(Source: https://www.linkedin.com/pulse/swiss-cheese-theory-what-can-learn-from-aviation-francois-bergeon)
WE SUCCEED OR FAIL TOGETHER

- Therapists are involved in 84% of all treatment errors; physics and dosimetry in 26%*

- Therapists are primarily responsible for 57% of treatment errors; physics/dosimetry for 12%*

*Source: “Treatment Errors: Role of Therapists” by Janaki Krishnamoorthy, PHD, DABR
HALLMARKS OF AN EFFECTIVE TEAM

- Leadership and management engaged and supportive
- Clarity of vision
- Culture consistent with vision
- Excellent communication
- Trust & respect
- Adequate resources
- Appropriate training and P&Ps
- Balance of expertise, skills, strengths, and weaknesses
- Benchmarking/measuring quality and outcomes of care

Adapted from “Ten principles of good interdisciplinary team work” by Nancarrow et al.
ADDRESSING BARRIERS TO EFFECTIVE TEAMWORK

Barrier:
“Us” vs “Them” thinking; lack of appreciation/understanding of everyone’s role

Solution:
Show global picture and individual roles within team framework
ADDRESSING BARRIERS TO EFFECTIVE TEAMWORK

Barrier:
   Lack of trust

Solution:
   Build/rebuild trust
ADDRESSING BARRIERS TO EFFECTIVE TEAMWORK

Barrier:
   Don’t have the skills/training/personality to work as part of a team

Solution:
   Model/teach(expect/reward) effective teamwork
CONFLICT RESOLUTION

(Credit: http://onemanswalk.com/work/2010/07/15/how-do-you-handle-conflict/)
CONFLICT RESOLUTION

- Avoid blame, keep it professional and solution oriented
- Clearly identify the issue(s)
- Stick to the issue at hand
- Be open to all ideas and possible solutions
- If needed, ask for outside help
A BOAT DOESN’T GO FORWARD IF EACH ONE IS ROWING THEIR OWN WAY

SWAHILI PROVERB
IS THERE A DIFFERENCE BETWEEN BEING A GOOD EMPLOYEE AND BEING GOOD AT YOUR JOB?
Good Employee Traits

• Dependable
• Reliable
• Motivated
• Punctual
• Helpful
• Hard worker
• Cheerful
• Good teamwork
• Passionate

Poor Employee Traits

• Undependable
• Unreliable
• Unmotivated
• Late
• Resistant
• Lazy
• Moody
• Poor teamwork
• Apathetic
GOOD RTT/CMD VS. POOR RTT/CMD

• Good RTT/CMD Traits
  • Competent
  • Intellectual Curiosity
  • Good communicator
  • Critical thinker
  • Analytical thinker
  • Current technical skills
  • Problem solver
  • Professional polish
  • Detail oriented & organized

• Poor RTT/CMD Traits
  • Incompetent
  • Resistant to change
  • Poor communicator
  • Rigid thinker
  • Take things at face value
  • Outdated technical skills
  • Complacent
  • Unprofessional behavior
  • Unorganized
CRITICAL THINKING SKILLS
REALITY: BREAST CASE NOT SETTING UP

- Do we check the immobilization devices?
- Do we re-set the patient up?
- Do we take a port film and make needed shifts?
- Do we ask dosimetrist for help?
- Do we engage the patients and look for clues?
CRITICAL THINKING SKILLS

“Critical thinking skills requires one to analyze, evaluate, and synthesize situations to determine a course of action most beneficial to the patient.”

Kowalczyk & Leggett
CHARACTERISTICS OF CRITICAL THINKERS

• Raise questions
• Solve problems
• Gather & interpret info
• Have an open mind
• Communicate Effectively
CAN THESE SKILLS BE TAUGHT?
TRADITIONAL WAY OF TEACHING

- Lecture-based
- Didactic instruction
- Encourages memorization
- Lacks participation
STRATEGIES FOR TEACHING CRITICAL THINKING

• Journal writing
• Group learning
• Problem based learning (PBL)
• Laboratory/simulation
• Case studies
• Role playing
What have we learned?
PROCESS TO IDENTIFY, IMPLEMENT, & EVALUATE CHANGE
PRE-IMPLEMENTATION

- Identify goals of new technology & techniques
- Build excitement & team buy-in
- Product introduction
- Network with current users
- Decision making process
- Evaluate current skill sets and identify gaps
- Training
- Identify needs & answer questions
IMPLEMENTATION

• Go-Live Support
• Evaluate and revise P&P’s as a team
• Adjust clinic schedules to promote effective learning environment for training
• Utilize or create vendor training checklist to document all training needs are met
• Continue to utilize outside resources for troubleshooting
POST-IMPLEMENTATION

- Has goal been met?
- Post-offsite/onsite support
- Post-online support
- Review of training checklists
- Adjust p&p’s to maintain workflow efficiencies
- Refresher courses
- Yearly competency checklists
- New Hire training
- Vendor User Meetings
OUR EXPERIENCE: PRE-IMPLEMENTATION

• Identify goals of new technology & techniques
• Build excitement & team buy-in
• Product introduction
• Network with current users
• Decision making process
• Evaluate current skill sets and identify gaps
• Training
• Identify needs & answer questions
**OUR EXPERIENCE: WEEK OF GO-LIVE**

- Go-Live Support
- Building P&P’s as a team
- Adjust clinic schedules to promote effective learning environment for training
- Utilize or create vendor training checklist to document all training needs are met
- Continue to utilize outside resources for troubleshooting
OUR EXPERIENCE: 3 MONTHS POST-UPGRADE

- Has goal been met?
- Post-offsite/onsite support
- Post-online support
- Review of training checklists
- Adjust p&p’s to maintain workflow efficiencies
- Refresher courses
- Yearly competency checklists
- New Hire training
- Vendor User Meetings
WRAP UP

• Evolution of technology and techniques in radiation therapy
• Building strong teams
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• Introduction of new technology and procedures
“The achievements of an organization are the results of the combined effort of each individual.”

Vince Lombardi
REFERENCES


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