**Objectives**

- Review importance of quality and safety in radiation oncology.
- Discuss the role radiation therapists have in maintaining quality and safety in radiation oncology.
- Inform audiences of the resources available from the International Atomic Energy Agency.
- Discuss highlights of recent reports and publications highlighting radiation safety and quality.
- Discuss future trends regarding quality and safety in radiation oncology.

**The Stories**

**The New York Times**

- Radiation Offers New Cures, and Ways to Do Harm
- As Technology Surges, Radiation Safeguards Lag
- Radiation Errors Reported in Missouri
- A Pencil Beam Strays Invitantly, Hurting Instead of Healing

**The Buzzwords Since 2010**

- Culture of Safety
- Program Accreditation
- Error Reporting
- Pre-Treatment QA

**Key Trends**

- Teamwork
- Trust
- Communication
- Error Reporting
- Standard Operating Procedures
- Creating, maintaining and supporting a culture of safety

**Resources Available**

- ASTRO Initiatives/Publications
  - Target Safety Initiative
  - Safety White Papers
  - National Study to Determine the Comfort Level of Radiation Therapists and Medical Dosimetrists to Report Errors
- Safety is No Accident
- International Atomic Energy Agency Resources
- Health Care Industry Advisory Council Subcommittee on Patient Safety and Quality in Radiation Oncology
Target Safely

- Goal is to improve patient safety and reducing the chances of medical errors during radiation therapy treatments
  - How?
    - Support the development of a national medical error reposting database and patient safety database for radiation oncology
    - Improve integration of equipment used in radiation treatments
    - Improve practice accreditation – encourage all radiation oncology practices to participate
    - Pass the CARE Act
    - Incorporating quality and safety content into meetings and self-assessment modules

ASTRO Safety and Quality Publications

- Series of Patient Safety White Papers
  - Quality and Safety Considerations in Intensity Modulated Radiation Therapy
  - Quality and Safety Considerations in Stereotactic Radiosurgery and Stereotactic Body Radiation Therapy
  - QUANTEC
    - Users Guide
    - Specific Reports
  - Coming soon: Best Practices

Quality and Safety Considerations in Intensity Modulated Radiation Therapy

- Safety concerns
  - Unsafe to deliver IMRT for emergency cases
  - Required components of IMRT program
  - Responsibilities of team members
    - Radiation therapist
      - Before primary treatment:
        - Review treatment plan
        - Check to make sure all pre-treatment quality assurance tasks are complete

Quality and Safety Considerations in Intensity Modulated Radiation Therapy

- Radiation Therapist responsibilities, cont.
  - Before treatment each day
    - Check prescription to ensure no changes
    - ASRT recommends time out be performed prior to beam on each day, verifying right patient and right isocenter
    - Obtain images and seek approval of images per Standard Operating Procedure
    - Monitor conditions and patients
    - Notify physicist of machine or software problems

Quality and Safety Considerations in Intensity Modulated Radiation Therapy

- Department environment
  - Currently there are no regulations for training of non-physician staff regarding the application of IMRT
  - It is recommended:
    - 2 radiation therapists per treatment machine for IMRT patients
    - One to focus on the patient, one to focus on the console to verify MLC movement
    - All plans be independently reviewed by 2nd physicist or dosimetrist prior to treatment
    - Peer review of treatment volumes and plans by physicians, as well as offering continuing education workshops regarding image segmentation

Quality and Safety Considerations in Intensity Modulated Radiation Therapy

- Event tracking
- Training and appropriate personnel
  - Training should educate therapists how IMRT is different than static, and what to monitor (ie leaf motion)
  - Must have standard operating procedures
  - Guidelines of what should be included are in the document
  - Practice accreditation
    - In July of 2011, only 9% of practices were accredited
Quality and Safety Considerations in Intensity Modulated Radiation Therapy

- Common problems with IMRT and how to handle
- In table format
- Quality Assurance
- Pretreatment IMRT
- Monitoring the QA program
  - Ask yourself – if this change is made to the machine, what impact does that have on patients who are receiving IMRT? Does any patient specific QA need to be completed?

Quality and Safety Considerations in Intensity Modulated Radiation Therapy

- End to end testing
  - Complete a test patient from start to finish. How did the process work?
- Independent audits
- Checklists
- Collaboration with vendors
- Appendices
  - Example of workflow
  - Safety checklists

Quality and Safety Considerations in SRS/SBRT

- Safety concerns
- Elements of 'successful' SRS/SBRT QA
  - Program
  - Personnel requirements
    - Radiation therapist
      - Must have ARRT certification, state license as applicable
      - Initial and periodic training with SRS and SBRT
      - Responsibilities – preparing room, patient positioning and immobilization, operating the treatment unit after radiation oncologist and medical physicist have approved the clinical and technical aspects

Quality and Safety Considerations in SRS/SBRT

- Personnel requirements
  - Staff education, training, job description/responsibilities and staffing
- Technical requirements
- Acceptance and commissioning
- SRS/SBRT QA – equipment and patient, should be ongoing
- Time-out
- Appendices
  - Recommendations to guard against failures
  - Examples of quality checklists

National Study to Determine the Comfort Level of Radiation Therapists and Medical Dosimetrists to Report Errors

- In 2011, 1500 radiation therapists and 528 medical dosimetrists were surveyed to answer that question
- Results were recently published in ASTRO’s Practical Radiation Oncology
What Can We Learn?

- Error reporting systems are necessary for safety and quality in radiation oncology
- But…we need to encourage a culture that allows error reporting without the fear of reprimand
- The authors suggest medicine adopt a system like the airlines, whereas the safety of many depends on workers reporting errors promptly

Safety is No Accident

- Replaces 'The Blue Book'
- Over the past twenty years, radiation therapy technology has advanced.
- In addition, treatment planning and delivery have increased in their complexity.
- The goals of these guidelines are to encourage safety through teamwork and simplifying qa procedures
Process of Care

- Framework to ensure appropriateness, quality and safety for all patients
- Recognizes that there are five major operations
  - Patient evaluation
  - Preparing for treatment
  - Radiation treatment delivery
  - Radiation treatment management
  - Follow-up evaluation and care

Patient Evaluation

- Review of patient information by the radiation oncologist
- Also includes patient counseling, informed consent, coordinating care, and making further recommendations regarding care
- Discussions about patient case with a multidisciplinary team

Preparing for Treatment

- Clinical treatment planning
  - Determining where disease is
  - Identifying type of radiation needed and the method
  - Specifying areas treated, dose and fractionation
  - Directive is needed prior to starting treatment planning

Preparing for Treatment

- Therapeutic simulation
  - Patient should be in comfortable and appropriate treatment position with appropriate immobilization
  - Standard operating procedures (SOPs) are essential for all radiation oncology departments
  - Contingency plan for when SOP cannot be followed

Preparing for Treatment

- Dosimetric Treatment Planning
  - Computer integrates patient’s anatomy, desired dose distribution to the tumor and normal tissue, and technical specifications of treatment delivery device
  - MD must define target volumes and OARs prior to planning
  - Everyone must be appropriately trained
Pretreatment Quality Assurance

- Independent calculation of MU’s
- Treatment verification with electronic portal imaging devices (pre IMRT days)
- Patient specific QA is necessary
- You may also include qa to check accuracy of dose calculations and data transfers

Radiation Delivery

- After the treatment plan and treatment portal verification is complete, the patient is ready for treatment
- The physician is responsible for the verification and documentation of the accuracy of the treatment delivery related to the initial treatment planning and set-up
- In addition, with IGRT the physician is responsible for the supervision and review of daily images and shifts, as well as motion management

Radiation Treatment Management

- The overall management of the course of treatment and care for patients
- Requires and includes a minimum of one exam of the patient by the physician each week
- Many people provide care, but the radiation oncologist must provide a personal evaluation at least once per five fractions

Follow-Up Evaluation and Care

- Necessary to manage acute and chronic toxicities, as well as monitor patients for tumor relapse
- Can be by physician or nonphysician provider
- Consultation with other members of the radiation therapy team when there are unexpected toxicities is advised
- Outcomes are dependant on training and board certification

Radiation Oncology Team

- Ensures every patient gets appropriate care
- Requires a collaborative and multidisciplinary environment
- Primary team includes a radiation oncologist, medical physicist, medical dosimetrist, oncology nurse, and radiation therapist
- Additional staff should be either on site or available by consult

<table>
<thead>
<tr>
<th>Role</th>
<th>Clinical Evaluation</th>
<th>Treatment Plan</th>
<th>Treatment Verification</th>
<th>Follow-Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical oncologist</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Medical oncologist</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Radiation oncologist</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Medical physicist</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Medical dosimetrist</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Oncology nurse</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Radiation therapist</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Additional staff</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>
Radiation Oncology Team

- Qualifications
  - Board certified
  - State licensed (when applicable)
- Facilities should have a policy regarding orientation, competency, credentialing and evaluations to ensure continuous quality care
  - Continuing education is necessary because radiation oncology continues to develop and expand

### Table 2.2. Certification and Licensure Requirements

<table>
<thead>
<tr>
<th>Profession</th>
<th>Relevant Certification Body</th>
<th>State Licensure Required?</th>
<th>Information Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiation Oncologist</td>
<td>ABR</td>
<td>Yes</td>
<td><a href="http://www.abbradiology.org">www.abbradiology.org</a></td>
</tr>
<tr>
<td>Medical Physicin</td>
<td>ABM</td>
<td>In 3 states as of 2013</td>
<td><a href="http://www.abmp.org">www.abmp.org</a></td>
</tr>
<tr>
<td>Medical Oncologist</td>
<td>AOCR</td>
<td>No</td>
<td><a href="http://www.aocronc.org">www.aocronc.org</a></td>
</tr>
<tr>
<td>Radiation Therapist</td>
<td>ARRT, ACP</td>
<td>Yes</td>
<td><a href="http://www.arrt.org">www.arrt.org</a></td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>ANP, AHC</td>
<td>Yes</td>
<td><a href="http://www.anp.org">www.anp.org</a></td>
</tr>
<tr>
<td>Oncology Nurse</td>
<td>ANCC, OCNCC</td>
<td>Yes</td>
<td><a href="http://www.ancc.org">www.ancc.org</a></td>
</tr>
<tr>
<td>Clinical Nurse Specialist</td>
<td>ANCC</td>
<td>Yes</td>
<td><a href="http://www.ancc.org">www.ancc.org</a></td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>NCPA</td>
<td>Yes</td>
<td><a href="http://www.ncpanet.org">www.ncpanet.org</a></td>
</tr>
</tbody>
</table>

Radiation Oncology Team

- Staffing
  - Unique to each facility – depends on patient mix, the type and complexity of treatments offered
  - Also depends on the patient load, number of machines, number of affiliates, teaching and vacation time
  - Impossible to put a hard number on staffing levels!

Table 2.3 Minimum Personnel Requirements for Clinical Radiation Therapy

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>STAFFING (See important comments below)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief Radiation Oncologist</td>
<td>One per facility</td>
</tr>
<tr>
<td>Chief Medical Physicin</td>
<td>One per facility</td>
</tr>
<tr>
<td>Department Manager</td>
<td>One per facility (in some departments his function may be filled by a member of team)</td>
</tr>
<tr>
<td>Medical Oncologist</td>
<td>Medical Oncologist* as needed, approximately one per 250 patients treated annually</td>
</tr>
<tr>
<td>Radiation Therapist</td>
<td>Radiation Therapist* as needed, approximately one per 50 patients treated annually</td>
</tr>
<tr>
<td>Radiation Therapy Technologist</td>
<td>Radiation Therapy Technologist* as needed, approximately one per 100 brachytherapy patients treated annually</td>
</tr>
<tr>
<td>Radiation Therapy Technologist</td>
<td>Radiation Therapy Technologist* as needed to provide service</td>
</tr>
<tr>
<td>Social Worker/Dietitian</td>
<td>Social Worker/Dietitian* as needed to provide service</td>
</tr>
</tbody>
</table>

* This number may be higher or lower depending upon the complexity of patients treated by an individual physician or by the complexity of technology.
** It is recommended that a minimum of one qualified individual be present for any routine external beam patient treatment.

Radiation Oncology Team

- Staffing
  - Must have a radiation oncologist on call 24/7
  - Other members of the team must be available to provide urgent treatment off hours
  - The staffing model suggested in this document is based on many studies by many organizations
    - More staff is needed than what the model suggests for research, education and administration
    - More staff is also needed for ‘progressive’ clinics

Safety

- Safe delivery requires coordination of many people with many responsibilities
- Safety and efficiency go hand in hand
- Insufficiencies lead to problems
- Increased efficiency is necessary in the changing environment of healthcare
- Processes and workflows need to continually be reassessed
- All members of the team must be open to raising safety concerns and suggesting change
Team Member Radiation Therapist

<table>
<thead>
<tr>
<th>Team Member</th>
<th>Radiation Therapist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Role</td>
<td>• Provide safe and effective delivery of radiation as prescribed • Daily equipment and new patient treatment QA</td>
</tr>
<tr>
<td>Evolving Role</td>
<td>• Assessment of 2-D/3-D images to make decisions concerning patient treatment/ motion/ alignment</td>
</tr>
<tr>
<td>Challenges</td>
<td>• Safe and proper use of additional imaging and treatment delivery systems</td>
</tr>
</tbody>
</table>

### Staffing
- Levels and schedules need to be adjusted according to workload
- Workloads must be realistic
  - Excessive workloads lead to errors, but light workloads are also problematic

### Communication/Facilities
- Look at hand-off’s and interdependent tasks
- Departments should have well-defined charting procedures
- Dosimetry should be centrally located in the facility
- There should be dedicated physician-dosimetry time
- Finally, there should be a well defined communication plan

### Workflow/Efficiency
- Harried workers are prone to errors
- Eliminate nonessential tasks
- Adapt Lean approaches
  - Streamline clinical workflow and alter the work environment when needed
  - Process map tasks
    - Identify wasteful steps
    - Show stressors
    - End result is a streamlined and standardized process

### Standardization
- Standardization decreases not only errors, but confusion too
- Standardization is helpful when many people have their way of doing things
- It is recommended to have reference or guide sheets
  - Policies and procedures
  - These should be regularly updated, have a review committee and be posted for easy access
Hierarchy of Effectiveness

- Because just having P&P are not enough, in order to provide safe and quality care, it is recommended to:
  - Use checklists and time outs
    - Focus on the task at hand
    - User must believe in their utility in order for them to be useful
    - They must be a hard stop

Human Factors Engineering

- Design the workplace to decrease errors
- It has been shown that safety in improved in workplaces that decrease noise, interruptions and clutter
  - This never happens at the treatment console, right?
- Standardize nomenclature, monitor layouts, and shortcuts amongst vendors

Incorporate QA Tools into the Software

- Planning and Record and Verify
  - Recommended that they are embedded into the software
    - User-designed checklists
    - Time-outs
    - Many others
  - Some of these exist, and many other are in the development stage

Peer Review

- Prospective peer review is especially important for IGRT and IMRT techniques
  - Physician to physician review
  - Review of target delineation
  - Review of image segmentation prior to planning
  - Chart rounds
  - Important for other staff members as well

Daily Morning Meetings

- All members of the team should meet daily to review the upcoming clinical day
  - Review all CT patients
  - Review schedule for the day
  - What patients are challenging?
  - What plans need attention?
  - Review treatment census and number of anesthesia cases
  - Raise any concerns, share any announcements
  - Anticipate challenges to avoid chaos
**Safety Rounds**

- Brief meeting lasting 15-20 minutes with the chairman of the department or a member of the quality and safety committee
- Happens at the worksite
  - Ask about near misses and unsafe conditions

**Routine Announcements**

- Regularly report on safety rounds to everyone in the department
- This shows leadership responsiveness and commitment to quality and safety
- Achievements should be acknowledged and celebrated
- Address errors and near misses
  - Near misses should be addressed positively
  - Address near misses with the same rigor as errors

**QA Committee**

- A multidisciplinary team which should meet regularly
- Should develop initiatives in regards to patient safety
- Create mechanisms for error and near miss reporting, watch trends, and have processes for implementing change when needed
- Maintain compliance with local, state and national laws
- Complete a root cause analysis when errors do occur
- Disseminate safety information to the department

**Credentialing**

- Must have institutional policies to ensure staff is trained and credentialed
  - How do you ensure staff are qualified?
  - Especially difficult with new and advanced technologies

**Make Safety Part of Everyday**

**Hierarchical Model**

- Isolated "bad" event or complaint
  - Leads to policies and dictums
  - Departmental Leadership, QA Committee (reactive)

**Collaborative Model**

- CLINIC
  - Integrating facilitators of quality/safety into routine workflow (e.g., peer review, checklists, standardization, lean assessments)
  - Supports/celebrates quality/safety initiative
  - Nurtures culture of safety
  - Empowers others to improve processes
  - Departmental Leadership, QA Committee (proactive)
Collaboration between Users and Vendors

• There are more vendors in radiation oncology, which increases the need for open communication
• Vendors should educate the user for capabilities and limitations of their products
• Users should share their concerns with vendors and work with them to improve their products
• Users should also report potential and actual problems to vendors

Involve Others Beyond Radiation Oncology

<table>
<thead>
<tr>
<th>Radiation Oncology Initiative</th>
<th>Analogous Multidisciplinary Initiative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment team discussion</td>
<td>Team board</td>
</tr>
<tr>
<td>Daily meeting</td>
<td>Regular multidisciplinary meetings to remove patients under treatment</td>
</tr>
<tr>
<td>Determining analogous methods of communication between team members or the radiation oncology team</td>
<td>Determining analogous methods of communication between medical providers in oncology-specific or hospital-wide team</td>
</tr>
<tr>
<td>Safety rounds within radiation oncology</td>
<td>Safety rounds within cancer center</td>
</tr>
<tr>
<td>Departmental safety culture</td>
<td>Cancer center or hospital-wide safety culture</td>
</tr>
<tr>
<td>Discipline-specific training</td>
<td>Team training</td>
</tr>
</tbody>
</table>

Management and Assurance of Quality in Radiation Oncology

• Guidelines similar to the traditional blue book
  • Facilities
  • Program requirements
  • Program Accreditation
  • Required capabilities
  • Policy and procedures
  • Radiation safety
  • Accelerator safety
  • Imaging safety

Management and Assurance of Quality in Radiation Oncology

• Monitoring safety, errors and medical quality
  • Quality and Error Reporting
  • Safety, Morbidity and Mortality Rounds
  • Minimizing time pressures

Process Map

<table>
<thead>
<tr>
<th>Process Step</th>
<th>Minimum Process Time Required for Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td>After imaging: Compilations of target volumes, definitions of planning concepts, and target volume contoured</td>
<td>1 day</td>
</tr>
<tr>
<td>After anatomy review: Planning: 4D CRT Planning: 3D CRT Volumetric Modulated Arc Therapy (VMAT) Planning: IMRT Planning: IMRT</td>
<td>1 day 1 day 1 day 1 day</td>
</tr>
<tr>
<td>Plan evaluation and physician approval</td>
<td>1 week through 2 weeks; must be allocated to schedule doctor's time</td>
</tr>
<tr>
<td>IMRT QA and analysis</td>
<td>To be completed in house before treatment</td>
</tr>
<tr>
<td>Treatment preparation (requires treatment planning prior to treatment management procedures before treatment start): Allow 1 hour</td>
<td></td>
</tr>
<tr>
<td>Final checks before treatment</td>
<td>1 day or less</td>
</tr>
<tr>
<td>Treatment setup and delivery (based on complexity)</td>
<td>1 week or less</td>
</tr>
</tbody>
</table>
Management and Assurance of Quality in Radiation Oncology

- Monitoring professional performance
  - All medical specialties should have maintenance for certification (MOC)
  - ASTRO Safety White Paper on Peer Review
- Ongoing monitoring and evaluation of staff qualifications
  - ASTRO Safety White Paper on IMRT
- Equipment and devices
  - Device QA, maintenance, connectivity, etc

Management and Assurance of Quality in Radiation Oncology

- Patient related quality management
  - General guidelines
    - Patient chart rounds
  - Charting and documentation
  - Outcome assessment
  - Outcome registry

Management and Assurance of Quality in Radiation Oncology

- External Beam Quality Assurance
  - Table 4.6 summarizes all of the patient specific checks that should be completed for each plan

IAEA

- International Atomic Energy Agency
  - One goal of the agency is to protect patients
    - Accidental exposure most often occurs when there is a lack of responsibilities defined, and a lack of a culture of safety
    - RPOP – Radiation Protection of Patients
    - SAFRON – Safety in Radiation Oncology

RPOP – rpop.iaea.org

- Website which offers a variety of information for healthcare professionals and patients
  - Radiotherapy
    - Standards
    - Accident Prevention
    - Information for patients
    - Additional resources
      - Publications
      - Training Materials

SAFRON – rpop.iaea.org/safron

- Web based system designed to share knowledge about incidents and near misses to an international database
  - Users can post their incidents and near misses to an international database
  - You can track your information as a facility, as well as compare it to those reported internationally
  - Anonymous
  - Supports safe and beneficial use of radiation
SAFRON

- Steps to using SAFRON
  - Register your facility
  - Submit your incident report
  - Once you are using the system, you can collect, store and search information about reported incidents
  - The system has the ability to sort incidents by where in the process the incident was discovered, who discovered the error, and how it was discovered.
  - Not only can you learn from others, but you can use the system to evaluate quality and safety at your facility.

Health Care Industry Advisory Council Subcommittee on Patient Safety and Quality in Radiation Oncology

- Founded by the ASRT Education and Research Foundation
- Meet annually to discuss issues and identify solutions to support radiological technologists and radiation therapists
  - The meeting in 2011 focused on application training processes to improve the quality of radiation therapy treatments
  - Subcommittee was formed

The Critical Role of the Radiation Therapist in Patient Safety

- Workplace staffing
  - As of February 2012, 15 states do not regulate radiation therapists
  - Accreditation programs address radiation therapist certification and staffing
    - Recommend minimum of 2 therapists per machine regardless of patient volume
    - A 2010 staffing survey found:
      - Most facilities schedule 2 RTTs per linac
      - 41% of facilities schedule 1 RTT per linac 1-8 hrs per day (most were 1 hr instances)
      - 10% of facilities schedule 1 RTT for an entire 8 hr day

The Critical Role of the Radiation Therapist in Patient Safety

- Workplace staffing – Best Practices
  - All radiation therapists should have ARRT certification in order to practice
  - All sites should staff 2 therapists per machines at all times

- Workplace staffing – Recommendations
  - Support the CARE Bill!
  - Sites should evaluate workflow and staffing to determine whether (and if so when) there are fewer than 2 therapists at a machine and correct as soon as possible

The Critical Role of the Radiation Therapist in Patient Safety

- Workplace culture
  - The radiation therapist is the gatekeeper of delivery of radiation to a patient
  - In order to promote a culture of safety, it is necessary that radiation therapists are viewed as professionals
  - Radiation therapists must continually promote and practice our profession’s standards and ethics
    - Time-outs and double checks

The Critical Role of the Radiation Therapist in Patient Safety

- Workplace culture
  - Minimizing distractions while delivering treatments
    - Primary distraction is interruptions from other people (physicians, nurses and even fellow therapists)
    - Work together to develop policies, procedures, communication standards or physical barriers if necessary to minimize distractions while the beam is on
The Critical Role of the Radiation Therapist in Patient Safety

• Workplace culture
  • Remember our existing standards
    • Ethical violation to not report an error when you know one occurs
    • It is in our scope of practice to withhold treatment due to safety concerns
  • Radiation therapists must be able to feel they can report errors without fear of repercussions
  • Error reporting should not be tied to performance evaluation

• Ethical violation to not report an error when you know one occurs

• Workplace culture – Best Practices
  • All members of the team should embrace a culture which supports radiation therapist professionalism
  • Radiation therapists should adhere to professional standards and ethics
  • Reporting of errors should be expected and encouraged

• Workplace culture – Recommendations
  • ASRT and its members should support mandatory error reporting
  • Implement changes to encourage a systematic approach to error and near miss reporting, tracking and correcting
  • Radiation therapists should embrace professionalism through lifelong learning, error reporting and process improvement

• Skills Assessment
  • ACR and AAPM facilitate peer-to-peer review to share best practices
    • Similar assessment could be used for radiation therapists, which would minimize problems with communication and fear of reprisal among staff
  • Training and continuing education is an ongoing process
    • Post training assessments and competency assessments should be used to identify areas in which staff can learn and grow
    • ARRT’s CQR

• Skills Assessment – Best Practices
  • Preassessments of skills of the radiation therapists should be completed prior to applications training, as well as follow-up assessments
  • Radiation oncology providers should continue peer-to-peer assessment

• Skills Assessment – Recommendations
  • Sites should work with vendors to create pre and post assessment checklists
  • Therapists should use the assessments to identify gaps in skills and opportunities for continued professional development
The Critical Role of the Radiation Therapist in Patient Safety

- Applications Training and Support
  - Challenges are time constraints for training, increased time needed to cover complex modalities and inconsistencies to commitment to training
  - The goal of applications training?
    - Often viewed as an interruption
    - Necessary that staff make time to attend the entire applications training session
      - View as ‘safety time’
    - Multivendor training

- Practice Accreditation
  - ACR/ASTRO program split in September 2012
  - Still offered by ACR
  - ASTRO will be rolling their program for public comments this spring
    - Beta testing in late 2013
    - Full roll out in 2014