ASTRO/APEx
Accreditation Program for Excellence

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Goal for today

- To dissect APEx assessment evidence indicators into three sources of data and build understanding of its process from surveyor’s as well as preparer’s perspective.

APEx Assessment

- Ensures radiation oncology practice (ROP) has appropriate systems and processes in place (systems, personnel, policies and procedures)
- Built on specific standards of performance derived from white papers and consensus practice guidance of radiation oncology
APEx Standards - 16 standards in 5 pillars

- The process of care (1-3)
  - Patient evaluation, Tx planning, patient specific safety interventions
- RO team (4-6)
  - Shift roles and responsibilities, qualifications, safe staffing
- Safety (7-9)
  - Culture, radiation safety, emergency preparation
- GIH (10-12)
  - Facility and equipment information system, Tx procedures and modalities, peer review
- Patient centered care (14-16)
  - Patient consent, education, performance measurement and outcome reporting

APEx Evidence Indicators (EIs)

- 63 EIs and their sub EIs measured by
  - Medical record abstraction
  - Document upload
  - Facility visit/site interview
  - Secondary EIs
  - Primary and secondary measurement methods

Outline

- Data source 1: Documentation upload
- Data source 2: Medical records abstraction
- Data source 3: Site interview
- A preparer and surveyor’s experience and tips
Standard 3: Threat Specific Safety Interventions and Safe Practices in Treatment Preparation and Delivery

3.1.1 The ROP verifies patient identity

3.4.1 – 3.4.12 The ROP follows written standard operating procedures (SOPs) for each treatment modality

Standard 6: Staff Roles and Accountabilities

6.1.1 to 6.2.1 The ROP has job descriptions

Standard 7: The ROP has an occupational safety program (various SOP requirements)

Standard 8: Radiation Safety program

8.1.1 Requirements by the NRC, Agreement State, and/or locality (mandatory)

8.2.1 Radiation exposure monitoring system (mandatory)

8.3.1 Annual radiation safety training (mandatory)

8.4.1 Pre- and post-treatment radiation surveys for brachytherapy procedures (mandatory)

8.5.1 Imaging protocols for simulation and treatment

Standard 9: Written plan for emergencies

Standard 10: The ROP provides radiation shielding, simulation SOP, and infection control SOP

Standard 11: Information system map and SOPs

Standard 12: QM of Treatment Procedures

12.2 Processes for maintaining system

12.2.1 Routine PMI

12.2.2 SOP for reinstating clinical use

12.2.3 SOP when data deviates from expected findings

12.3 Record review and trend analysis

12.4 Internal validation of machine output accuracy (mandatory)

12.4.1 Prior to clinical use

12.4.2 At least annually for photons and protons and every two years for electrons
Data Source 1: Documentation upload

- Standard 13: Peer Review of Clinical Processes
- Peer review program (Mandatory)
- Standard 14
  - 14.1 Patient consent (Mandatory)
  - 14.2 Communication with patient
- Standard 15: Patient Education
- Standard 16: Performance Measurement and Outcomes Reporting
  - Patient complaints

Outline

- Data source 1: Documentation upload
- Data source 2: Medical records abstraction
- Data source 3: Site interview
- A preparer and surveyor’s experience and tips

Data Source 2: Medical Record Abstraction

- Standard 1: Patient evaluation, care coordination and follow-up
  - 1.1 History
    - Patient history
    - Current medication and dosage
    - Implanted radiation devices (e.g., type, implant date, and plan of care pertaining to the ICD)
    - Pregnancy status
    - Allergies
    - Previous radiation therapy history
  - 1.2 Review of systems
  - 1.3 Physical examination findings
Standard 1: Patient evaluation, care coordination and follow up

1.1 Patient evaluation is documented by the radiation oncologist prior to initiation of treatment

1.1.4 Pathology review
1.1.5 Staging and metastatic disease
1.1.6 Laboratory findings
1.1.7 Imaging studies
1.1.8 Pain intensity assessment
1.1.9 Initial plan of care
1.1.10 Radiation oncologist’s signature and date

1.2 Patient direct evaluation is provided by the radiation oncologist at least once every five patient treatment

1.2.1 Review of cumulative interim dose delivered
1.2.2 Patient examination
1.2.3 Assessment of tolerance and response to treatment
1.2.4 Pain intensity assessment and pain management plan
1.2.5 Radiation oncologist’s signature and date

1.3 Post treatment summary

1.3.1 Site of treatment
1.3.2 Dose per fraction
1.3.3 Cumulative dose delivered
1.3.4 Treatment data range
1.3.5 Concurrent systemic therapy
1.3.6 Assessment of tolerance and response to treatment
1.3.7 Pain management plan
1.3.8 Follow-up visits
1.3.9 Radiation oncologist’s signature and date

1.4 Coordination of care and communication

1.4.1 The ROP communicates with other involved providers (within four weeks)

1.5 Patient follow up (within four months)

Standard 2: Treatment Planning

2.1 The treatment planning process is based on the data from a simulation procedure

2.1.1 Written simulation directive of a radiation oncologist
2.1.2 Simulation directive includes patient positioning, immobilization

2.2 Documented, patient-specific planning directive

2.3 (Mandatory) Formal treatment prescription that includes

2.3.1 Anatomic treatment sites
2.3.2 Type and method of radiation treatment delivery
2.3.3 Energy
2.3.4 Total dose
2.3.5 Dose per fraction
2.3.6 Number of fractions
2.3.7 Frequency of treatment
2.3.8 Imaging guidance to be used during the course of radiation treatment
2.3.9 Radiation oncologist’s signature and date prior to initiation of treatment

2.4 Verification of accurate information transfer from simulation to TPS

2.5 Treatment plan

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Standard 3: Patient-Specific Safety Interventions and Safe Practices in Treatment Preparation and Delivery

3.2 (Mandatory) Timeout prior to every patient procedure (Secondary: Interview)
- 3.2.1 Verification of patient identity using at least two patient-specific identifiers
- 3.2.2 Verification of patient treatment site
- 3.2.3 Verification of patient positioning
- 3.2.4 Verification of treatment delivery parameters

3.3 A medical physicist performs an end-of-treatment review within one week

Data Source 2: Medical Record Abstraction

Standard 3: Patient-Specific Safety Interventions and Safe Practices in Treatment Preparation and Delivery

3.5 (Mandatory) A medical physicist initial review before treatment
- 3.5.1 Plan compared to prescription
- 3.5.2 Verification of dosimetric results
- 3.5.3 IMRT QA

3.6 (Mandatory) A medical physicist performs periodic checks at least every five fractions
- 3.6.1 Accuracy of treatment delivery
- 3.6.2 Accuracy of treatment setup parameters

Data Source 2: Medical Record Abstraction

Standard 14: Patient Consent
14.1 (Mandatory) Informed patient consent
- 14.1.1 Information regarding risks and benefits of radiation therapy
- 14.1.2 Obtaining consent before the simulation
- 14.1.3 Verifying consent is within 60 days prior to treatment

Standard 15: Patient Education
15.1 Assesses patient education needs before treatment begins and at least once during the course of treatment
- 15.2.1 Treatment options
- 15.2.2 The intent of treatment and what to expect in the treatment process
- 15.2.3 Management of treatment side effects (pain, skin care, weight loss and self care)
Outline

- Data source 1: Documentation upload
- Data source 2: Medical records abstraction
- Data source 3: Site interview
- A preparer and surveyor’s experience and tips

Data Source 3: Site Interview

- Standard 1: Patient Evaluation, Care Coordination and Follow-up
  - 1.4.3 Multidisciplinary review program, such as tumor board (mandatory)

- Standard 3: Culture of Safety
  - 3.2 Mandatory components of a timeout prior to every patient procedure (mandatory)
    - 3.2.1 Verification of patient identity by at least two patient specific identifiers
    - 3.2.2 Verification of patient treatment site
    - 3.2.3 Verification of patient positioning
    - 3.2.4 Verification of treatment delivery parameters
  - Describe your timeout process
  - 3.3 End of treatment review of medical record within one week of the completion of therapy (physicist)
  - What steps do you take to close out a treatment record?

Data Source 3: Site Interview

- Standard 3: Culture of Safety
  - 3.4 Written clinical/patient treatment SOPs for each treatment modality (mandatory) (physicist and team)
    - 3.4.1 through 3.4.12 (2D/3D, IMRT, IGRT, IORT, SRS, SBRT, Brachytherapy, EBRT, Hyperthermia, electrons, photon, all others)
  - Who is responsible for daily QA?

- Standard 5: Qualifications and Ongoing Training of Staff (team)
  - Review the documentation
  - 5.1 Initial training, orientation and job-specific competency testing process for each team member (mandatory)
Data Source 3: Site Interview

Standard 5: Qualifications and Ongoing Training of Staff (team) review the documentation

- 5.7 Ongoing staff training and competency testing
  - 5.7.1 Annual staff training and competency testing
  - 5.7.2 New equipment and/or procedures
  - 5.7.3 Training and competency testing on the use of treatment machine
  - 5.7.4 Training for patients with special needs

Data Source 3: Site Interview

Standard 7: Culture of Safety (team)

- 7.1 Policy and procedure on patient safety [Mandatory]
  - What do you do if you have a safety concern?
    - It describes how a ROP’s approach to patient safety
    - It describes how patient safety incidents are to be reported and tracked for the ROP
    - It describes the near misses are to be reported and tracked within the ROP
    - It describes the recording for near miss patient safety events and unsafe conditions (including
      - It encourages honest reporting
      - It specifies that near misses are to be reported
      - It identifies that reports are to be shared and tracked within the practice leadership

Data Source 3: Site Interview

Standard 7: Culture of Safety (team)

- 7.2 Interdisciplinary safety rounds
  - Which professional disciplines are presented
  - How does your ROP review patient safety event data
  - How does your ROP proactively assess its structure and processes to promote safety?
  - Describe a recent plan to improve safety at your ROP
  - Patient safety organization (PSO)
    - Does your ROP participate in a patient safety organization?
Data Source 3: Site Interview

- **Standard 8: Radiation Safety (physicist)**
  - 8.4.1 The ROP conducts radiation surveys pre- and post-treatment for brachytherapy and radiopharmaceutical procedures (Mandatory)

- **Standard 9: Emergency preparation and planning (team)**
  - 9.1.1 The ROP has a written plan for patient clinical emergencies
  - 9.2.1 The ROP identifies and plans for power failure
  - 9.2.2 The ROP identifies and plans for information system failure
  - 9.2.3 The ROP identifies and plans for radioactive material release
  - 9.2.4 The ROP identifies and plans for external threats

- **Standard 10: Facility and Equipment (physicist and team)**
  - 10.1 The ROP provides radiation shielding for each radiation area
  - 10.2 The ROP provides functional audio and video patient monitoring system in all treatment rooms (Mandatory)
  - 10.3 The ROP performs radiation therapy simulations, including at a minimum CT simulation
  - 10.4 The ROP has an infection control program (Mandatory)

Data Source 3: Site Interview

- **Standard 8: Radiation Safety (physicist)**
  - 8.4.1 The ROP conducts radiation surveys pre- and post-treatment for brachytherapy and radiopharmaceutical procedures
  - 8.4.2 The ROP utilizes imaging protocol for simulation and treatment

- **Standard 9: Emergency preparation and planning (team)**
  - 9.1.1 The ROP has a written plan for patient clinical emergencies
  - 9.2.1 The ROP utilizes imaging protocol for pre-clinical simulations

- **Standard 10: Facility and Equipment (physicist and team)**
  - 10.1 The ROP provides radiation shielding for each radiation area
  - 10.2 The ROP provides functional audio and video patient monitoring system in all treatment rooms
  - 10.3 The ROP performs radiation therapy simulations, including at a minimum CT simulation
  - 10.4 The ROP has an infection control program (Mandatory)
Standard 11: Information System
- 11.2 The ROP designates authorized users (team)
- How are access rights to information systems differentiated among types of users?
- How is unauthorized access to information systems prevented?

Standard 12: QM of Treatment Procedures (physicist)
- 12.1 Equipment QA (Mandatory)
  - review documentation
  - 12.1.1 EBRT QA: dosimetry checks, mechanical checks, safety checks, and respiratory management checks
  - 12.1.2 Brachytherapy QA: dosimetry checks, mechanical checks, safety checks.
  - 12.1.3 QA of measurement equipment
  - 12.1.4 Acceptance testing, clinical commissioning and clinical release
  - 12.1.5 End-to-end dosimetry system testing
  - 12.1.6 Simulation QA: dosimetry checks, mechanical checks, safety checks, and respiratory management checks

Standard 13: Peer Review of Clinical Processes (team) (Mandatory)
- 13.1.1 Objective of peer review program
- 13.1.2 Frequency of peer review
- 13.1.3 Number, type and frequency of cases for peer review
- 13.1.4 Professional feedback and future learning

Standard 15: Patient Education (team)
- Who is responsible to provide patients about the cost of treatment, and what process do they follow to obtain and provide the information
- Review written and online education materials
- What therapeutic interventions do you provide to manage side effects, and what do you refer to another specialist?

Standard 16: Performance Measurement and Outcomes Reporting (team)
- 16.1.1 The ROP measures and evaluates, at least annually, the patient experience

Data Source 3: Site Interview
Outline

- Data source 1: Documentation upload
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APEx-Preparer's perspective

- City of Hope National Medical Center
  - A comprehensive cancer center designated by NCI, includes Beckman Research Institute, Helford Clinical Research Hospital, and a biomedical graduate school.
  - Resides on 110 acre of land northeast of Los Angeles, with 5,000 employees.

- Department of Radiation Oncology has 1,200 new start patients annually.

Self Assessment Process

- Medical records abstraction: 20 charts, 94% Level 1 and 76% Level 2
- Current medication, pregnancy status, communication to outside providers, treatment planning directive...
- Document upload: 87% Level 1 and 90% Level 2
- SOP SRS, Xoft IORT, physicist/dosimetrist staffing level, tracking PHI changes, QMP trend analysis

- Interview preparation: 97% Level 1 and 100% Level 2

Preparer's Perspective

- ROP will improve through the self assessment process.

APEx-Surveyor's perspective

- 5 facility visits: 2 in 2016, 1 in 2017 and 2 in 2018
  - Facility A: a major academic radiation oncology department
  - Facility B: a regional community cancer center with 5 locations
  - Facility C: a national recognized top radiation oncology program with proton modality
  - Facility D: a regional academic radiation oncology department
  - Facility E: a regional community cancer center with 5 locations

- APEx physics retreat (2017)

Surveyor's Perspective

- A medical physicist should be involved in the preparation for APEx.
- Each evidence indicator should be addressed in the self assessment process.
Summary

- APEx uses document upload, medical record abstraction and onsite interview to assess ROP to ensure appropriate systems and processes are in place.
- A medical physicist should play a leading role in APEx preparation.
- ROP will improve through self-assessment process. Working at each and every evidence indicator will get the ROP ready for accreditation.