Review of Task Group Reports for Their Impacts on Clinical Practice

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Did You Know?

- How many AAPM reports? 115
- How many new reports per year? > 3

Trend

Filmless Department
Paperless Chart
Textless Presentation

USE LESS Text!

Outline

TG drafts review BY the Professional Council

Why?

State regulators sometimes adopt ENTIRE AAPM TG reports as regulatory requirements

Why?

LIMITED by Available resources & Given range of clinical uses
Who?

Professional Council → Clinical Practice → Practice Guidelines

What?

Balance

GAIN in Quality & Safety VS Time & Effort

Minimum Practice Recommendations (MPR)

MPR Terms

- "Shall" means it is a statutory requirement
- "must" means it is a minimum standard
- "should" means it is a recommendation

MPR for Medical Physics

- External beam
- Brachytherapy
- QA of IMRT, IGRT
- QC of calibration instruments
- QC of equipment and applicators
Review Process

- Selected SPG members
- Assess the IMPACT on professional practice
- Do NOT critique writing style, punctuation, or scientific evidence & analysis
- Submit review to Chairs of CPC, PC, and the TG

Samples of TG Draft Review

- TG-142 (QA on medical accelerators)
- TG-116 (Recommendations for a standardized exposure index...)
- TG-137 (Permanent radioactive seed implants for prostate cancer)

Review of TG-142 Draft Report

- Photon energy check – addition to monthly QA
- Electron energy check – tolerances from 2% to 3%
- OBI QA - “spacial linearity” test from daily to monthly

Preamble in ACR Practice Guideline

“These guidelines are NOT INFLEXIBLE rules or requirements of practice and are not intended, nor should they be used, to establish a legal standard of care...”

Department Responsibilities

AAPM TG reports
ACR/ACRO/CAHO
NRC/RPS/RDS
CRCPD

*Licensee ensures QA done properly

Redundant QA?

Dose Calibration
MLC QA
Mechanical
Patient-specific IMRT QA

PRIORITIZE the most important items to meet MPR
Clinical Examples

- CBCT, Radiation Treatments, QA on Linac, HDR, Applicators

Variability in Professional Interpretation

- IGRT using CBCT
  - Inter-institutional differences
    - Physicians
    - Therapists
  - Intra-institutional differences
    - Auto-registration/minor
    - Auto-registration/major

Adoption of 3D Imaging Tool

- Post-op cavity outlined
- Electron boost cutout

Variability in Dose Calculations

- Metastases (800 cGy single fraction)
  - Normalization & inhomogeneity (8% difference)

To Meet TG-40 Tolerance…

- Gantry Isocentricity (±2mm)

  - Varian: diameter of circumscribed circle
  - Siemens (Primus): diameter of inscribed circle

Differences among Vendors

- Nucletron
- GammaMed
Differences in Treatment Devices

Nucletron HDR vs GammaMed HDR
- Guide-tube to check the applicator length
- Imaging on every fraction of cylinder cases?

QA of Treatment Applicators

15-channel HAM surface applicator to treat skin cancer with HDR

Wrapping Up

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