RAMPS Spring Symposium
2010
Error Prevention and Patient Safety for Radiation Treatment and Diagnosis
INTRODUCTION

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Sponsors

• The Radiological and Medical Physics Society of New York (RAMPS)

• The Greater New York Chapter of the Health Physics Society
In light of recent medical errors in radiation therapy reported in the NY Times and the increasing complexity of new technologies both in radiotherapy and diagnostic imaging, RAMPS and Greater NY Chapter of HPS organized this symposium.
Radiation Therapy Incidents

- Technical failures
- Human errors from the treatment team
  - Physicians
  - Medical physicists
  - Dosimetrists
  - Therapists
The FDA, "as a part of an ongoing effort to improve radiation safety and prevent under-dosing and overdosing of patients, is considering changes to both the premarket and 510K approval process for high-risk radiation devices."
Treatment Team

• Qualifications
  Residency program in medical physics
  Board certification
  State licensure

• Accreditation
  CAMPEP (education and training)
  ACR, ACRO (practice)
Why are we particularly interested in CT?

Frequency of CT scans per year

USA

UK

CT scans per year in US (millions)

Number of CT scans per person / year

CT scans per year in the UK (millions)

Number of CT scans per person / year

Year

Year


Mean individual total radiation dose in the US: 1980 vs. 2007

1980: 3.6 mSv
2007: 6.3 mSv

1990 data: NCRP Report 93
2007 data: Mettler et al. 2008, IMV 2008
CT Dose

AAPM CT Dose Summit
(April 29-30, 2010, Atlanta, GA):

An interdisciplinary approach to optimizing image quality and managing patient dose.