

**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



# Technology

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**

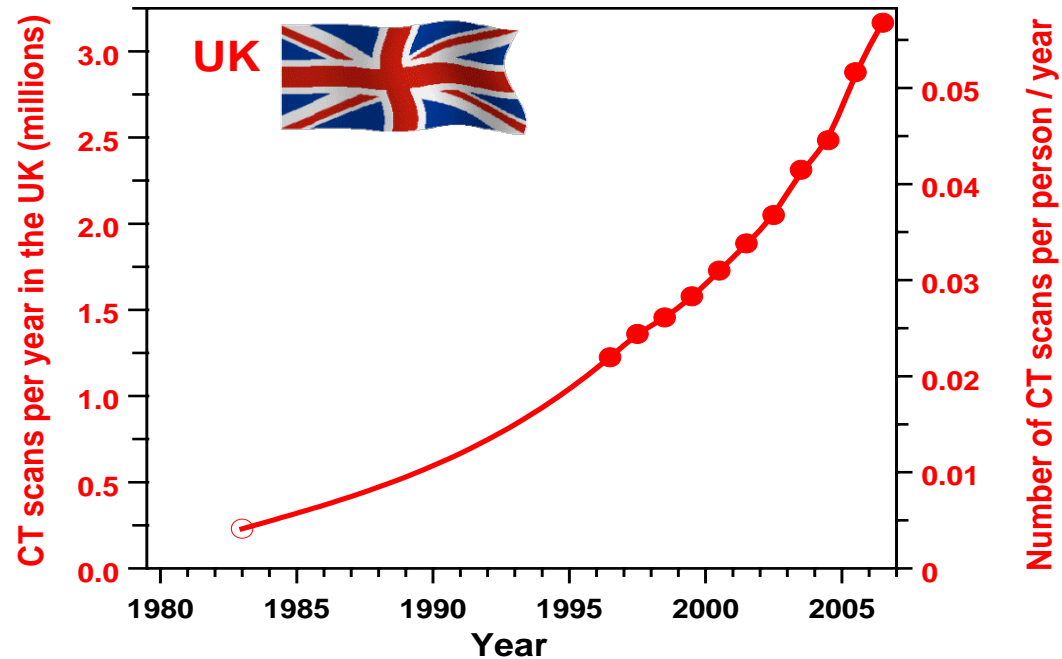
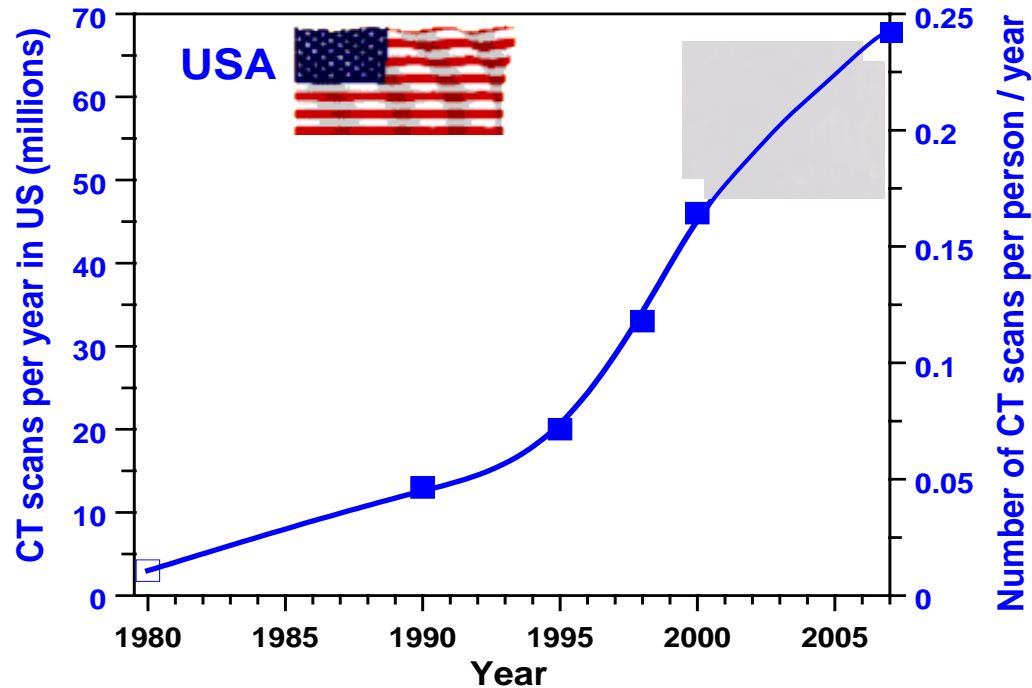
CAMPEP (education and training)

ACR, ACRO (practice)



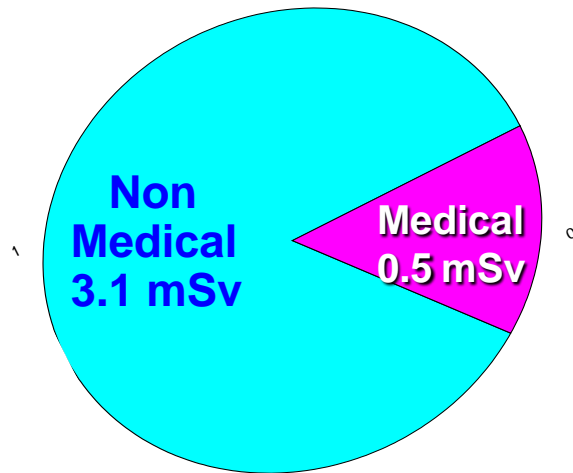
# Why are we particularly interested in CT?

## Frequency of CT scans per year

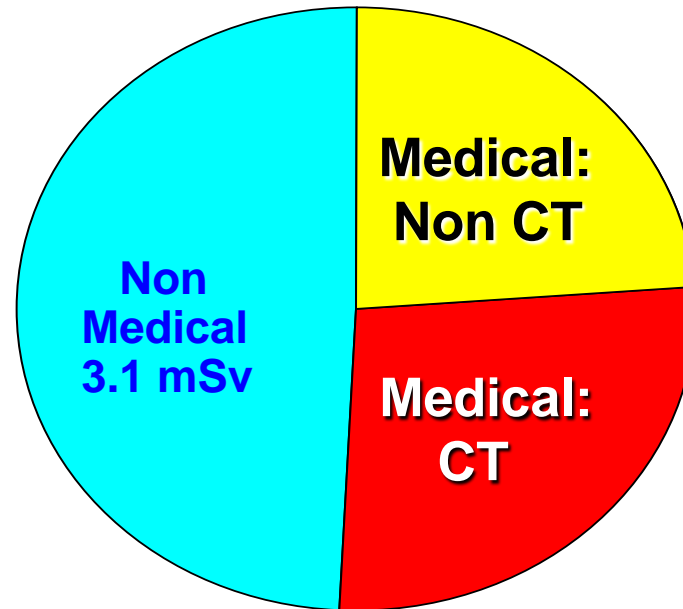




# Mean individual total radiation dose in the US: 1980 vs. 2007



**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.**

