Radioprotection of the Patients
Moving to an Electronic Era

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International Society of Radiology
About ISR

- Confederation of about 80 National Societies, including the European Society of Radiology and the Inter American College of Radiology
- Started in 1925 and established in 1953
- Parent organization of ICRP and ICRU
- NGO status in IAEA and WHO
International Society of Radiology

World-wide ISR societies

Leading International organization representing Radiologist specialists
Main achievements

- Educational efforts (with WHO)
  - Center of Excellence in Nairobi
    Cameroon – Tanzania – Fiji

- Monographs for education

- Global Study group for the education of diagnostic radiologists
CT Examinations

Huge increase of the number of CT examinations, Recently and in the future

87 millions of CT in 2008 in US
Increase by 10-15% per year since 2000

High level of variability of exposure
Low level of justification
25% to 40% of examinations would be not justified
Pediatric CT

High variability in the rate of utilization
High variability in the rate of dose exposure

↑ Training  ↑ Evidence based practice
↑ Guidance level  ↑ Awareness
Imaging by non specialists

- Operating Room imaging
  - Low level of training
- Self referral (orthopedists, cardiologists, etc...)

↑ Of non justified tests
Referral guidelines

- ACR appropriateness
- Royal College of Radiology and Société Française de Radiologie
- European Society of Radiology / EC

Global Approach
Moving to an Electronic Era

- From guidelines to Evidence Based Practice
  - Embedded guidelines into an electronic system for examination requesting

  Clinical Decision Support

  - Non justified examinations
  - Reporting / Physician / Disease / Institution
Moving to an Electronic Era

- **Technical**
  - DICOM and IHE
  - Automatic recording of the dose exposure

- **Patient**
  - Electronic Patient Record
  - Automatic storage of the dose

- **Population**
  - National Data center
  - Benchmarking, Epidemiological Studies
  - International comparison
Summary

- Development of guidance levels for diagnostic imaging tests
- CDS with embedded referral guidelines
- Automatic recording and storage of the dose
- Action with industry for optimization of the imaging devices