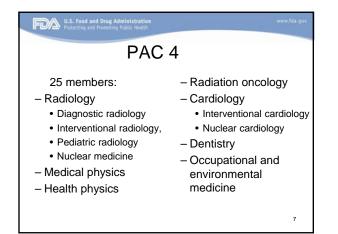


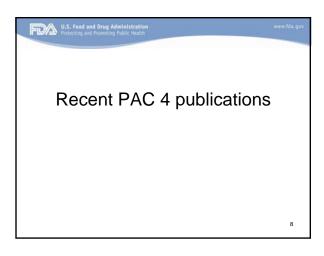
Compared and Proceeding Product P

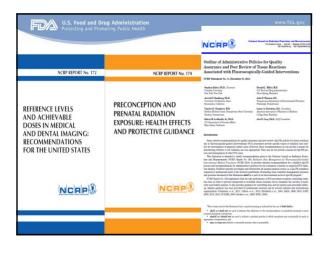
PAC 4 Responsibilities Radiation protection in medicine

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- Radiation protection of patients in medical, dental, and chiropractic practice
- Examining and evaluating techniques and procedures to eliminate unnecessary radiation exposure to the patient
- Examining and evaluating training of medical personnel in radiation protection









Defines purposes and values of Diagnostic Reference Levels (DRL) and Achievable Doses in Medical and Dental Imaging: Recommendations for the United States Defines purposes and values of Diagnostic Reference Levels (DRL) and Achievable Doses (AD) Provides numerical values for U.S. DRLs and ADs

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Diagnostic Reference Level

- QA/QI tool for controlling radiation dose
- Designed to reduce the risk of stochastic effects
- DRL value = 75th percentile of survey data
- When doses exceed the DRL value the reasons should be investigated.

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Diagnostic Reference Levels

- DRL values are not.
 - An indicator of optimum performance
 - Dose limits
 - Regulatory (use of the DRL process may be)
- DRL values *do not apply* to individual patients or individual cases

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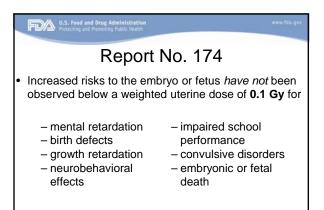
Achievable Dose

- A dose that serves as a goal for optimization efforts and is achievable with standard techniques and technologies in widespread use, while maintaining clinical image quality adequate for the diagnostic purpose.
- AD value = 50th percentile of survey data (median)

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Report No. 174 (2013)

- Preconception and Prenatal Radiation Exposure: Health Effects and Protective Guidance
- General misconception that any amount of ionizing radiation is much more detrimental to the embryo or fetus than is actually the case
- Diagnostic radiological procedures necessary for the care of the mother, embryo, or fetus can be performed at any time during pregnancy



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Statement No. 11 (2014)

 Outline of Administrative Policies for Quality Assurance and Peer Review of Tissue Reactions Associated with Fluoroscopically-Guided Interventions

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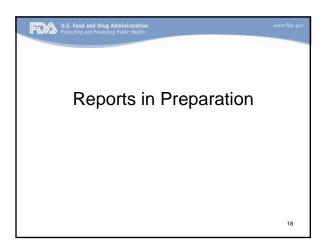
 Structured recommendations for QA processes for review of radiation use in fluoroscopicallyguided interventional (FGI) procedures

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U.S. food and Drug Administration Protecting and Promotion Public Praim Statement No. 11

- Provides Tables that summarize
 - Model policies and processes for the management of radiation dose for FGI procedures
 - Essential elements of a QA-peer review program
 - Criteria for evaluation of tissue reactions relative to recognized practice parameters
 - Outcomes and actions after QA-peer review evaluation of a clinically important tissue reaction.



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- Scientific Committee 4-5, Chairs: Alan Lurie and Mel Kantor. Radiation Protection in Dentistry
- Scientific Committee 4-7, Chair: Julie Timins. Evaluating and Communicating Radiation Risks for Studies Involving Human Subjects: Guidance for Researchers and Reviewing Bodies
- Scientific Committee 4-8, Chair: Manudeep Kalra. Improving Patient Dose Utilization in Computed Tomography

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Radiation Protection in Dentistry

- Update of NCRP Report No. 145, Radiation Protection in Dentistry (2003)
- Intended as comprehensive, self-contained guide for dental facilities
- New material: cone beam CT, digital radiography, hand-held dental radiography devices
- · Data from 2014-2015 NEXT dental survey

Radiation Risks: Guidance for Researchers and IRBs

- Guidance for researchers and IRBs in preparing and reviewing research protocols that include radiation exposure to human subjects
- Cites relevant regulatory requirements
- Discusses estimation of radiation dose and risk in research protocols

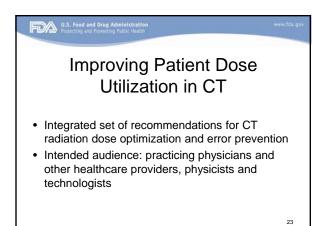
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Radiation Risks: Guidance for Researchers and IRBs

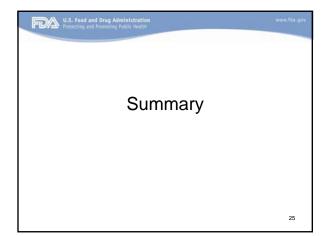
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- Discusses the ethical considerations involved in human studies research
- Provides advice on presenting radiation risk information to subjects as part of the informed consent process



Program Components for Error Prevention in Radiation Therapy Radiation Effects on Implantable and Other Medical Devices Radiation Protection for PET-CT and other Multimodality Imaging Systems

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- In NCRP, PAC 4 has oversight of activities in the field of radiation protection in medicine
- 25 members, with diverse areas of expertise, including medical physics
- Three recent publications of interest:
 - Diagnostic Reference Levels and Achievable Doses
 - Preconception and Prenatal Radiation Exposure
 - QA and Peer Review of Tissue Reactions Associated with FGI

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• Work in progress:

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- Radiation Protection in Dentistry
- Evaluating and Communicating Radiation Risks for Studies Involving Human Subjects: Guidance for Researchers and Reviewing Bodies
- Improving Patient Dose Utilization in Computed Tomography
- Several possible topics for future reports

