AHRA

7 Requirements for an Enterprise Dose Program

Jen Ireland
Ascendian’s Experience and Knowledge

Â Over a dozen Enterprise Dose Mgmt.
Solutions delivered:

The Children’s Hospital of Philadelphia®
Hope lives here.

Walter Reed National Military Medical Center

Baptist Health
Depend On Us For Life.

Continuum Healthcare
Bon Secours Health System
Vanderbilt University Medical Center
Ascendian’s Experience and Knowledge

Â Whitepapers and wide publication on Radiation Safety topic:
Topics of Discussion

- Dose: History and Urgency
- Importance of a comprehensive solution
- Seven Requirements for dose program
- Leveraging your work
- Questions & Discussion
Media Vortex & Public Awareness

\[ \text{1,400 dental X-rays} + \text{240 five-hour flights} + \text{70,000 back-scatter airport scans} \] = 7 mSv

OR

19 years of smoking a pack of cigarettes per day

*Time Magazine, 2012*
Dose History and Sense of Urgency

The year 2008...

Mad River Community Hospital
- 1 patient (ped. - 23 months)
- 151 brain scans in 65 minutes
- CA-DPH fined $25,000
- One scan - 50 to 80mGy (CTDi)

Cedar Sinai (2008-2009)
- 206 patients overexposed over 18 months
- CT Brain Perfusion Scan
- One scan - 300 to 600mGy (CTDi)
Existing Radiation Dose Legislation

**California**
- Main focus on CT dose management
- Incident reporting and management
- Dictating dose values in final report
- Took effect July 1, 2012

**Texas**
- CT and Fluoro dose management
- Establish dose threshold for CT and Fluoro
- Radiation Safety Committee and Program
- Took effect May 1, 2013
Existing Radiation Dose Legislation

*legislations cont’d…*

**Connecticut** (considered but not applied…yet!)

- CT and Rad Therapy
- Awaiting hearing in CT House
Compliance and Accreditation

Joint Commission Accreditation Healthcare Org.

- 2014 standards released
  - Technologist’s must be certified by July 1, 2015
  - Annual performance evaluations of imaging equipment by a medical physicist
  - Documentation of CT radiation dose in the patient’s clinical record
  - Considering patient size when establishing imaging protocols
  - Management of safety risks in the MRI environment
  - Collection of data on incidents where pre-identified radiation dose limits have been exceeded
Radiation Safety Program Components
Radiation Safety Committee

- Include organization's key stakeholders
  - C-suite sponsor, chief legal counsel, radiology directors, IT staff, physicist and radiologist

- Advocates of organization’s radiation safety objective

- Committee drives the successful development and implementation of patient radiation safety program
  - Ensure key resources on board
Radiology or Enterprise?

- Take the lead...
- Embrace Cardiology
- Bring I.S. along for the ride
Clinical & Technical Workflow

- Complete full current state assessment
  - Clinical and technical workflows
- Adoption of automated radiation dose system
  - Understanding of new clinical routines
- Allows for all procedural components to be evaluated for efficiency & best practices
CT Protocol Review

- Evaluate imaging protocols
  - Are they standardized throughout the enterprise?
  - Updated to meet ACR/AAPM recommendations
  - Implement CT radiation dose thresholds based on good image quality and delivering the lowest dose to patient
Automated Dose Management Solutions

*What to look for:*

**System Integration**
- Inbound and Outbound information transfer
- Integration with existing technology

**Patient Dose Management**
- Aggregate dose management
- Dose values and types
- Dose management reports
- Proactive dose reduction capabilities
Automated Dose Management Solutions

Leading vendors in the market:

- **eXposure** - Bayer (Radimetrics)
- **DoseMonitor** - PACSHealth
- **Dosewatch** - GE Healthcare
- **Dosetrack** - Sectra
- **Imalogix** - Imalogix
Policies, Procedures & Risk Management

Policies & Procedures
- Imperative to develop defined roles and responsibilities
- Processes requiring attention
  - Image low dose protocol standards
  - Maximum low dose with image quality
  - Dose thresholds
  - Dose incident management
  - Physician and Patient communication
  - Tracking and reporting events of dose exposures that exceed thresholds by regulation (state or federal)

Risk Management
- Followed to ensure all patient incidents are properly addressed and in a timely manner
Communication, Education & Training

- Consistent ongoing education and training is imperative
- Stay compliant with Joint Commission
- Benchmark organization with ACR trend reports
- Continuously update workflows and thresholds based on any published guideline changes
Market Your Program

- Leverage program within community
  - Billboards
  - Patient channel
  - Patient bill of rights

- Competitive market
Dose Assets available on Request:

- Whitepaper
  - Radiation Dose Monitoring – Call to Action

- Dose Templates
  - Radiation Safety Program Methodology
  - Radiation Safety Program Policies & Procedures Template

- Relevant Articles
  - Driving Dose Safety...Best Practices in Compliance...Patients and Dose...etc.

- Executive Briefing PPT
Resources

www.acr.org
www.aapm.org
www.pedrad.org
www.imagewisely.org