

Scientific Committee 4-3 Meeting

October 27-28, 2009

NCRP Office
7910 Woodmont Avenue, Suite 400
Bethesda, MD 20814

Committee Members:

James Brink (Chairman)	John Boone
Kate Feinstein	Jeff Michalski (not able to attend)
Robert Pizzutiello	David Spelic
Stuart White	Joel Gray (Technical Staff Consultant)
Judy Yee (not able to attend)	

October 27, 2009

8:30 am	Welcoming remarks by NCRP President and SC 4-3 Chairman
8:40 am	Committee member introductions
8:45 am	Review of committee charge and draft outline
9:15 am	Update on draft submissions to date -- successes and challenges
10:00 am	Break
10:15 am	Review of ACR CT data and reference levels
10:45 am	Review of NEXT CT data Review of NEXT cardiac cath data
12:15 pm	Lunch at NCRP
1:15 pm	Plan for discussing areas with paucity of data: <ul style="list-style-type: none">• Pediatric Fluoroscopy• Interventional Radiology• Nuclear Medicine
3:00 pm	Break

3:15 pm Break out into topical writing groups:

- Radiography / Fluoroscopy
- CT
- Peds
- IR
- Nucs

4:15 pm Report out (15 min per working group)

5:00 pm Schedule for next draft of report sections and next committee meeting

5:20 pm Adjourn

6:30 pm Dinner (optional)

October 28, 2009

8:30 am Writing Group breakout sessions

10:00 am Break

10:15 am Writing Group breakout sessions (continued)

10:45 am Report out (25 min per working group)

12 noon Adjourn

Lunch available at NCRP

Working Groups:

Adult Radiography, Fluoroscopy, CT, Interventional Procedures

Judy Yee (adult radiologists)

Stuart White (dentist)

David Spelic (physicist)

Pediatric Radiography, Fluoroscopy, CT, Interventional Procedures

Kate Feinstein (pediatric radiologist)

John Boone (physicist)

Joel Gray (physicist – ex officio)

Nuclear Medicine

James Brink (adult radiologist)

Jeff Michalski (radiation therapist)

Robert Pizzutiello (physicist)

Minutes
NCRP SC 4-3 Meeting
October 27-28, 2009

T. Tenforde, J. Brink, K. Feinstein, R. Pizzutiello, D. Spelic, J. Gray *Attendees*

The meeting started with an overview of the project by Drs. Brink and Tenforde.

Drafts of materials provided by committee members were reviewed and discussed. See the following “Current Drafts”.

Dr. Brink reviewed the ACR CT data. The difficulty with these is that these are patient data. The committee decided previously to use phantom data in place of patient data as the latter contain significantly more variability. Technically, DRLs (under the ICRP definition) should be derived for phantom data. *ACR CT Data vs Phantom Data*

Dr. Spelic provided a discussion of the NEXT cardiac catheterization data. This is a 2008-2009 study so the data are preliminary. The 2006 NEXT CT data are not available at this time. *NEXT CT and Cardiac Cath. Data*

Time was provided for the working groups to meet and discuss their progress. A summary of issues and progress was provided for each. Working Groups are listed below. *Working Group Activities*

The SC 4-3 report outline (see below) was discussed and updated. *NCRP SC 4-3 Report Outline*

A teleconference will be scheduled the morning of March 2, 2010. A meeting in Bethesda will be scheduled for mid-April. *Next Meeting*

Current Drafts

The following draft material is available and will be included in the draft report:

Historical Background
Phantom versus Patient Exposures
Approach for Use of DRLs in the US
Data Sources—Discussion of sources of dose information including CRCPD, NEXT, IMV
 Medical Information Division
Phantoms for Radiographic Projections of Chest, Abdomen, and Lumbosacral Spine
Phantoms for Surveys of Fluoroscopy
Display of Dose Indicators on Fluoroscopic Equipment
Interventional and Cardiac Invasive Fluoroscopy
Methods for Characterizing Patient Dose, Units of Measure, Kerma

Image-guided therapy

Methods, Phantoms, and Units	BP, DS (in progress)
Phantom vs. Patient Measurements	
Units	
SI vs. Conventional Units	
Free in air exposure	
Air Kerma	
CTDI	
Phantom design	
Patient equivalence	
Data sources	
Radiography/Fluoroscopy	DS (in progress)
NEXT	
Computed Tomography	DS, JBoone (will provide ACR Data Sum)
NEXT / ACR	
Interventional Procedures	BP (will summarize Rad-IR data source)
RAD-IR study	
Nuclear Medicine	NM Consults, JB (Joel to call Zach, David to ask Orhan Suleman, Tom will check on IMV (Marv Rosenstein)
ICRP, SNM Guidelines, ACR Guidelines	
Pediatrics	
Children's Hospital Survey	KF, JG (Kate to summarize literature to date, but ultimately concludes that ACR 5yr old abd CT, and NEXT Pedi Chest are only peds data of relevance)
Recommended DRLs for specific imaging procedures	
Radiography (NEXT data)	
Adult	
PA Chest	JY, DS (in progress)
AP Abdomen	
AP Lumbar Spine	
Dental	SW, DS (in progress)
Bitewing	
Lateral Cephalometric	
?Panoramic (?European data)	
Pediatric	KF, DS (in progress)
AP Chest	
Fluoroscopy	
Adult	JY, DS (in progress; Bob and Dave to address broad range of number of images from NEXT data, and influence of digital fluoro on number of images)

Upper GI (NEXT data)
Pediatrics KF, BP (?NCI Epidemiology Data, ?delete)
?VCUG (technique self-assessment)

Computed Tomography

Adult JB, JY, DS, JBoone (Jim to draft ACR CT)
Head CT (NEXT and **ACR**, ?NRDR data)
Body CT
Chest CT (?NEXT Data)
Abdomen CT (NEXT and **ACR** data)
Abd/Pel CT (?NEXT Data)
Pediatric KF, JBoone
Abdomen CT (5 year old) – ACR data
Head, Chest, AbdPel, both 1yr and 5yr old (?NEXT Data)

Interventional Procedures JB, BP, IR Consults
Up to 21 ‘classic’ interventional procedures (RAD-IR data)

Cardiac catheterization (Preliminary NEXT data) (+Cardiologist, DS)

Nuclear Medicine JB, JG, JM, Nucs Consults

Administered activity
Data source -- ?Society of Nuc Med Tech (2004)
Standard Doses (NCRP 160, ICRP 1998, ACR guidelines)
Clinical justification for increased activity

Adult
Cardiac perfusion
HIDA scintigraphy
Bone scan

Pediatric
Bone scan
Renogram

Conclusion and Recommendations

How to compare individual doses to the DRLs.
? Phantom measurements, use of Medical Physicist.

Appendices

Consultants:

Nuclear Medicine (Jerry Bushberg)
Interventional Radiology Physicist (Steve Balter)
Interventional Radiologist (Don Miller)