

THE NATIONAL ACADEMIES

Advisers to the Nation on Science, Engineering, and Medicine

Nuclear and Radiation Studies Board

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2011 GILBERT W. BEEBE SYMPOSIUM

TRACKING RADIATION EXPOSURE FROM MEDICAL DIAGNOSTIC PROCEDURES

December 8-9, 2011

**The National Academies
Keck Center
Room 100, 500 Fifth Street, NW
Washington, DC 20001**

The symposium is open to the public

The 2011 Beebe Symposium explores the need to track radiation exposure from medical diagnostic procedures such as computed tomography, fluoroscopy, and nuclear medicine imaging exams. These procedures have proven clinical benefit, yet there are concerns regarding the potential health risks resulting from the associated radiation exposure and increase in utilization; the magnitude of the increase has not been fully characterized. Several stakeholders, including federal agencies, have realized that a more comprehensive strategy for radiation exposure data collection is needed. This symposium will explore “why”, “what” and “how” to track exposure from medical diagnostics and consider next steps. For the first time in the ten-year history of the Beebe Symposium, presentations and discussions will be summarized in a National Academies report.

For questions or to RSVP for the event, please call us at 202-334-3066 or by email at NRSB@nas.edu. Seating is limited.

Staff involved in this year’s symposium:

Ourania Kosti, Staff Officer
Toni Greenleaf, Administrative Associate
James Yates, Office Assistant

Sponsored by
Centers for Disease Control and Prevention
U.S. Food and Drug Administration
U.S. Department of Health and Human Services

WORKSHOP AGENDA

Chair: Barbara McNeil, Harvard Medical School
Vice-Chair: Hedvig Hricak, Memorial Sloan Kettering

Thursday , December 8, 2011

8:30 am **Welcome and Introduction**

Hedvig Hricak - Memorial Sloan Kettering

8:40 am **Why and how to track radiation exposure**

Donald Miller - U.S. Food and Drug Administration, and Charles Miller - Centers for Disease Control & Prevention

Session 1: National and international efforts in volume and dose tracking

Moderator: Fred Mettler – University of New Mexico

9:05 am **Introduction to Session 1**

Fred Mettler - University of New Mexico

9:15 am **1.1: IAEA activities and overview of global activities**

Madan Rehani - International Atomic Energy Agency

9:35 am **1.2: Radiation exposures in medical imaging: FDA's past and present efforts**

David Spelic - U.S. Food and Drug Administration

10:00 am **1.3: Strategies to Minimize Patient Radiation Exposure in the Veterans Health Administration**

Charles Anderson - Veterans Health Administration

10:25 am **BREAK**

10:45 am **1.4: American College of Radiology (ACR) dose index registry**

Richard Morin - Mayo Clinic

11:10 am **Discussion Session 1**

Session 2: Appropriate Radiation Dose Metrics and Estimation Techniques

Moderator: Richard Morin - Mayo Clinic

11:30 am **Introduction to Session 2**

Richard Morin - Mayo Clinic

11:35 am **2.1: Radiation Metrics in Medical Imaging**

Walter Huda - Medical University South Carolina

11:50 pm **2.2: Patient Dose: What to Record and Track and the Role of Organ Dose**

Michael McNitt-Gray - University of California, Los Angeles

12:10 pm **2.3: Protocol optimization and dose variability for CT-guided interventions**
Raymond Thornton - Memorial Sloan Kettering

12:30 pm **LUNCH BREAK**

1:30 pm **Panel: Physician's perspective on what to report**
Michael Lauer – National Heart, Lung, and Blood Institute and James Brink - Yale University

2:10 pm **Discussion Session 2**

Session 3: Volume - methods for collecting and evaluating data

Moderator: Walter Huda - Medical University South Carolina

2:40 pm **Introduction to Session 3**
Walter Huda - Medical University South Carolina

2:45 pm **3.1: Measuring population utilization of medical diagnostic procedures: data sources and challenges**
Mythreyi Bhargavan Chatfield - American College of Radiology

3:05 pm **3.2: Automated electronic medical record (EMR) dose history extraction and monitoring**
Aaron Sodickson - Brigham and Women's Hospital

3:30 pm **BREAK**

3:50 pm **3.3: Procedure volume trends in the United States and perspectives on large scale data collection**
Ashok Shah and Gail Prochaska - IMV Ltd

4:15 pm **Panel: Manufacturers' perspective on what to report**
Richard Mather - Toshiba Medical Research Institute, Kenneth Denison - GE Healthcare, Christian Eusemann - Siemens Healthcare, and Dominic Siewko - Philips Healthcare

4:55 pm **Discussion Session 3**

5:20 pm **Closing Remarks and Adjournment**
Hedvig Hricak - Memorial Sloan Kettering

Friday , December 9, 2011

8:15 am **Welcome, opening remarks**
Barbara McNeil, Harvard Medical School

Session 4: Risk- What we know and what we need to know

Moderator: Amy Berrington de González - National Cancer Institute

- 8:25 am **Introduction to Session 4**
Amy Berrington de González - National Cancer Institute
- 8:30 am **4.1: Understanding radiation-induced cancer risks at radiological doses**
David Brenner - Columbia University
- 8:50 am **4.2: Non-cancer effects at radiological doses**
Kiyohico Mabuchi - National Cancer Institute
- 9:10 am **4.3: Patient's perspective**
Gwen Darien- Samuel Waxman Cancer Research Foundation
- 9:25 am **Discussion Session 4**
- 9:45 am **Lessons learned from pediatrics**
Donald Frush - Duke University
- 10:10 am **Panel: Next Steps**
Fred Mettler - University of New Mexico, Hedvig Hricak - Memorial Sloan Kettering, Barbara McNeil - Harvard Medical School, David Brenner - Columbia University, and Donald Frush - Duke University
- 10:25 am **Discussion**
- 11:25 am **Closing Remarks and Adjournment**
Barbara McNeil - Harvard Medical School