

International Atomic Energy Agency Scientific Forum

# A Decade of Action on **Cancer Control** and the Way Forward

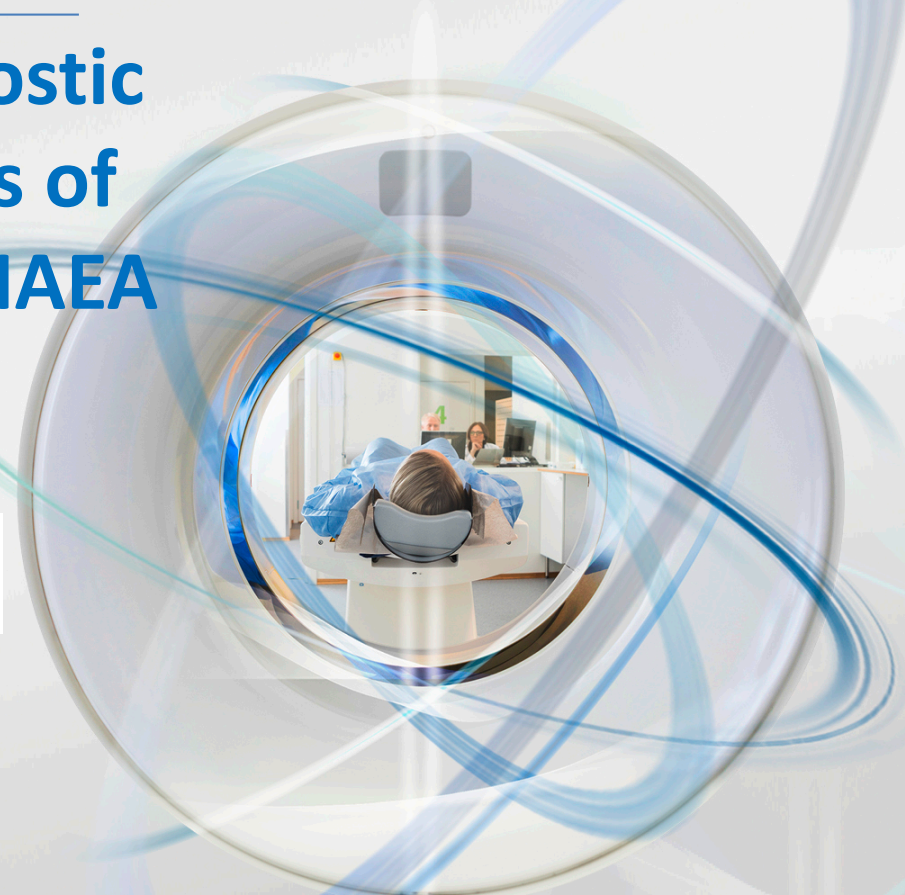


**17 – 18 September 2019**  
Vienna International Centre  
Board Room D, C Building, 4th Floor

**Radiation safety in diagnostic  
imaging in Egypt: 10 years of  
Egyptian experience and IAEA  
support**

**Prof. Dina Hussein Salama**

**Egyptian Atomic Energy Authority**



# History of cancer and cancer control

- ❑ **The first world documented diagnosis of a case of cancer was registered by the ancient Egyptians , 1500 b.c.**
- ❑ **The first cancer surgery in the world (removal of the breast).**
- ❑ **The first to identify the threat of cancer and state that it is a serious disease that has no treatment.**



## The biggest changes in the use of diagnostic imaging in Egypt in the last decade

- ❑ Egypt's diagnostic imaging device market is the second largest in the Middle East region.
- ❑ Medical diagnostic equipment increased in Egypt the last 10 years (6 folds).
- ❑ Medical imaging is an amazing technology, but the overuse, like other things, can be too much of a "good thing."

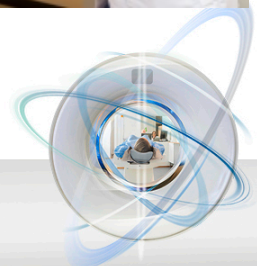


PET/ CT

Digital  
Mammography

Interventional  
No surgery

CT  
Angiography



## Egypt's initiatives towards the implementation of radiation safety in medical imaging



### Clinically

- Better healthcare and diagnostic services.

### Financially

- Avoid Unnecessary National Financial burden



### Radiologically

- Avoid Unnecessary radiation exposure burden

### Ethically

- Enhance the ethical principles in radiology medical practice



# IAEA Technical meetings on radiation safety in Medicine

Guidelines on  
the appropriate  
use of imaging



Dose Reference  
Levels/Dose  
tracking



# Egypt's actions towards radiation safety in medical imaging

Justification

Optimization

Novel National Committee – 5 Years strategic planning- 4 model centers – Adoption of guidelines & DRLs



Cairo Uni. Faculty of Medicine



Ain Shams Faculty of Medicine



Misr Uni. For Science and Technology hospitals



Armed Forces College of Medicine

## Egypt's achievements in radiation safety in diagnostic imaging

National Diagnostic  
Reference Levels in CT

**2019-2020**

Establishment of national pediatric  
levels

Supporting African IAEA regional TC  
project  
42 countries

Establishment of the Clinical  
Imaging Guidelines

Supporting the mission of  
**Arabsafe -Afrosafe**

**Innovation (2019)**  
Occupational dosimeter and dose  
management systems




# IAEA International Safety Standards


**IAEA Safety Standards**  
for protecting people and the environment

**Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards**

Jointly sponsored by  
EC, FAO, IAEA, ILO, OECD/NEA, PAHO, UNEP, WHO



**General Safety Requirements Part 3**  
No. GSR Part 3



**IAEA**  
International Atomic Energy Agency

# IAEA: Bonn Call for Action



**BONN CALL FOR ACTION**  
10 Actions to Improve Radiation Protection  
in Medicine in the Next Decade

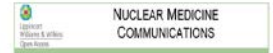




# Egypt's cooperation and IAEA support



Digital paper  
 Establishing national diagnostic reference levels (DRLs) for computed tomography in Egypt  
 Dina Hussein Sabana<sup>1</sup>, Jozsef Vozzseky<sup>2</sup>, Gamal Mandouh<sup>3</sup>, Noora Shawki<sup>4</sup>, Ahmad Sabana<sup>5</sup>, Debbie Gilely<sup>6</sup>, Mazen Monan Retani<sup>7</sup>



Nucl. Med. Commun. 2017 Dec; 38(12): 1115–1123  
 Published online 2017 Oct 1. doi: 10.1053/j.nmcc.2016.09.00731  
 PMID: 28522336  
 Improving women's health in low-income and middle-income countries. Part I: challenges and priorities  
 Giuliana Marletti<sup>1</sup>, Joana Kazianka-Brown<sup>2</sup>, Diana Paez<sup>3</sup>, Miriam N. Mikhail<sup>4</sup>, Dina H. Sabana<sup>5</sup>, Noora Shafiq<sup>6</sup>, Paula A. Edeh<sup>7</sup> and Basit Khalil<sup>8</sup>\*



Nucl. Med. Commun. 2017 Dec; 38(12): 1115–1123  
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Improving women's health in low-income and middle-income countries. Part I: challenges and priorities

Giuliana Marletti<sup>1</sup>, Joana Kazianka-Brown<sup>2</sup>, Diana Paez<sup>3</sup>, Miriam N. Mikhail<sup>4</sup>, Dina H. Sabana<sup>5</sup>, Noora Shafiq<sup>6</sup>, Paula A. Edeh<sup>7</sup> and Basit Khalil<sup>8</sup>\*

Proc Med. 2010 Apr; 40(17):154. doi: 10.1016/j.jmp.2017.12.021. Epub 2010 Mar 26.

Improvement of early detection of breast cancer through collaborative multi-country efforts: Medical physics component.

Maria F<sup>1</sup>, Faulner K<sup>2</sup>, Mahmood AM<sup>3</sup>, Ghanem V<sup>4</sup>, Kamil A<sup>5</sup>, Chazal J<sup>6</sup>, Brandon MC<sup>7</sup>, Karl S<sup>8</sup>, Davdovic J<sup>9</sup>, Sabana DH<sup>10</sup>, Arif E<sup>11</sup>, Odo O<sup>12</sup>, Chaturvedi AC<sup>13</sup>, Sahin T<sup>14</sup>, Wilson S<sup>15</sup>, Paez D<sup>16</sup>, Jelis H<sup>17</sup>.

@ Author information

Abstract

PURPOSE: The International Atomic Energy Agency (IAEA) through a Coordinated Research Project on "Enhancing Capacity for Early Detection and Diagnosis of Breast Cancer through Imaging", brought together a group of mammography radiologists, medical physicists and

### Elaborating Strategy Meetings



### Technical Meetings



### Radiation Protection in Medicine conference



### Triangular Cooperation (NS+ TC)

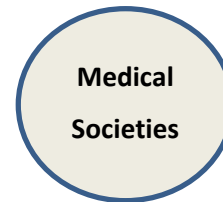




The image shows a screenshot of the IAEA website. At the top left is the IAEA logo with the text "IAEA International Atomic Energy Agency". Below the logo is a navigation menu with "TOPICS", "SERVICES", "RESOURCES", "NEWS & EVENTS", and "ABOUT US". A search bar is on the right. A blue banner below the menu contains the text "Home / News / A New Way of Thinking About Patient Radiation Exposure". The main heading of the article is "A New Way of Thinking About Patient Radiation Exposure" in large black font. Below the heading is the author's name: "Sasha Henriques, IAEA Division of Public Information". On the left side, there is a date box: "OCT 3 2013". The main image shows two people, a woman and a man, looking at a whiteboard in a meeting room.



The image shows the header of an article from "ISRQSA News - July 2017". The top banner is teal and contains the "ISR" logo (The International Society of Radiology) and social media icons for Facebook, Twitter, and YouTube. The article title is "Egypt's proactive leading steps in implementation of imaging guidelines" in blue text. Below the title is a large group photograph of many people in professional attire, seated and standing in a conference room.



# Egyptian Women Scientists



**Women in Nuclear**  
**IAEA-GC**  
**TC Africa**  
**2019**

**Women in Focus**  
**European Congress of**  
**Radiology**  
**2019**



**Thank  
you**

