

SRTT DETECTOR



Volume 1, Issue 1

Support Your Society: Renew or Join Today! ...Founded Since 1973.

01-March-2009

The third stated Objective of the Society of Radiographers according to its Memorandum of Association is:

- "To facilitate the exchange of information, ideas and research concerning all matters affecting the Science and practice of Medical Imaging and Radiotherapy and allied disciplines and subjects."

AGM 2009

COSTAATT Trincity Campus
No. 1 College Drive, Trincity

14th March 2009
Time: 1:00 pm

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Forensic Radiography

By Niqueda Baptiste RRR

To many the term Forensic Radiography may never have been heard of or is vague, which is understandable since it was also unheard of to me until I took the job as a Radiographer in forensics four years ago. As the first full time and only Radiographer at the Forensic Science Centre, I had to rely on my prior skills and training in radiography and my subsequent research into its application to the forensic discipline.

Forensic radiography is simply the application of medical imaging techniques to legal problems.

At the local Forensic Science Centre radiographic images are used to assist the Pathologist in determining the potential cause of death, to locate bullets for retrieval, in cases of suspected child abuse for

provision of evidence of both acute and chronic injury and body identification. With a spiraling murder rate it is evident that the number of cadavers to be x-rayed is increasing.

In other parts of the world such as the United Kingdom and the United States of America, forensic radiography also plays a very significant role in cases of mass fatalities such as the Oklahoma City bombing in 1995, the destruction of the world trade centre, Hurricane Katrina and the tsunami that devastated the Thailand coast. In such cases post mortem medical images were used for comparison to pre-mortem images for identification of victims.

While the same imaging modalities that are used in the hospital, such as CT, MRI, digital fluoros-

copy and dental x-rays, are used by the forensic radiographer some unique circumstances test their skills and emotions. With a living patient the problems incurred are usually with cooperation and movement however that is not the case with a cadaver (or one would hope). The condition of the body such as insect activity, varying states of decomposition, burnt bodies, or bodies that have been submerged in water presents some challenge and so modification of the x-ray technique and exposure factors has to be employed. It's very important that the postmortem image is done as closely to the antemortem image for comparing them properly.

The road is still very long for Trinidad in terms of education, awareness and resources in this area of radiography to meet international standards but at least the journey has begun.

From the Executive

Welcome to our Newsletter entitled

"SRTT Detector".

We hope this form of communication will help to capture views and ideas throughout the radiological community.

The SRTT Detector is one mode of Continuous Professional Development (CPD) and a source of information we hope will be useful to all.

We invite input and participation from all our colleagues in the profession.

If you would like us to feature what's happening in your work place, a brief case study, an article for the front page or any of the sections, email us or give us a call at

soradtt@yahoo.com
460-0785

Digital Imaging

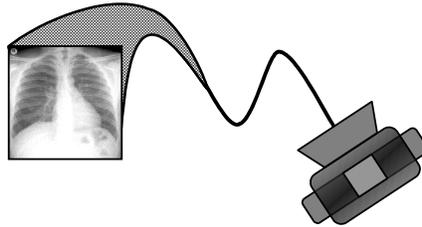
by Aleth Bruce RRR, ALH, Petrotrin

The introduction of computed radiography and direct digital radiography has created an environment friendly atmosphere for staff and patients in medical imaging departments. This is due to the fact that chemical fumes from automatic processors are eliminated. Two methods are used for digital imaging in radiography are:

- Computed Radiography (CR)
- Direct Digital Radiography (DDR)

In CR the existing x-ray apparatus (the oldest x-ray equipment can be used) is used with cassettes with imaging plates to record the image and an imaging plate reader or digitizer to scan the recorded image from the plate. The radiograph is then displayed on a computer monitor. The image can then be printed on laser type film with the use of a la-

ser printer and/or can be stored/archived in a Picture Archiving and Communicating System (PACS). It is less expensive to convert to digital imaging utilizing CR than DDR.



In DDR, a totally new x-ray apparatus is needed. Once the image is taken it is displayed directly onto a computer monitor. There is no cassette with imaging plates or digitizer. It is much more expensive to convert to digital imaging with the use of DDR. This method is more efficient for workflow.

One can argue that with both methods when compared to film-screen radiography there is the potential for the loss for the art of radiography with regards to skills of setting a perfect exposure factor. Density and contrast can be manipulated in both CR and DDR. There is concern for overexposing patients with the use of digital x-ray systems unless proper Quality Assurance Programs are in place.

Quite a number of radiology departments in Trinidad and Tobago are converting to digital imaging with the use of CR. Some departments have DDR in the form of computed or digital fluoroscopy. This is good news; personally the high point of this technology is the elimination of reactions to chemical fumes. The long-term goals among other benefits are for departments to become film-less/paper-less, more efficient and healthier staff free of dark-room disease.

Taboos & Misconceptions

Ever notice the interesting things the public and patients say about procedures and the profession.

For instance:

- Your relatives may have told you never to get involved in the x-ray business because your eyebrows might fall off.
- X-rays would stop you from having children.
- "Ah feeling better since ah get that x-ray"

What about those favorite mispronounced words:

- X-ray: "ex-stray"
- Fibroid: "fire-ball", "fry-ball" or even "fry-boy".
- Barium: "bay-rum", "bar-rum"
- Ultrasound: "Ultra-song"
- MRI: "M-I-R"

Just to name a few.

If there are any of the taboos or misconceptions you've heard about tell us about it.

"Oh Goosh gyull!
Go study som ting else!
Yuh Hair goh drop off and yuh
go cyah ha chirren!"

Council for the Professions Related to Medicine / Radiographers' Board: A Quote from Act No. 35 of 1985

"Section 12.

(1) A person who is registered shall be entitled to use the title of Registered Physiotherapist or Registered Radiographer (and similarly for the other professions) according to the profession in respect of which he is registered.

(2) Any person who—

(a) practices or advertises his service as a physiotherapist, and similarly as respects

the other professions, when his name is not on the register established under this Act in respect of that profession;

(b) takes or uses either alone or in conjunction with any other words, the title of Registered Physiotherapist, or Physiotherapist and similarly as respects the other professions, when his name is not on the register established under this Act in respect of that profession; or

(c) takes or uses any name, title, addition or description falsely implying, or otherwise pretends that his name is on a register established under this Act,

is liable on summary conviction to a fine of five thousand dollars, and in the case of a second or subsequent conviction, to a fine of ten thousand dollars"



Notice: Radiographers' Registration Deadline with the Council/Board is 31st March 2009

Case Study: Early Stage Breast Cancer

By Vernessa Gaines RRT, National Radiotherapy Centre, St James

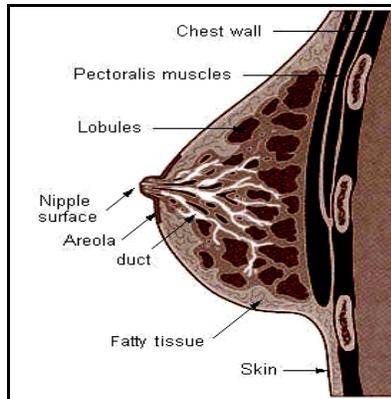
Forty year old Mary discovered a lump in her breast while taking a shower. She waits hoping it will go away.

Three months later the lump is still there, along with some pain.

Finally, she visits the doctor who does a physical breast examination. The doctor observes that the lump is firm, hard, causing chronic intermittent pain.

She is sent to have a core needle biopsy. This is where a large needle is inserted into the tumor to retrieve a core of tissue.

The pathology reports state she has an infiltrating ductal carcinoma, and is ER/PR positive. This means the cancer



Anatomy of the Breast

(http://training.seer.cancer.gov/ss_module01_breast/unit02_sec01_anatomy.html)

was found in a duct and is infiltrating the area around it. Being ER/PR posi-

tive indicates she will respond very well to hormone therapy.

The next step is to have an excisional biopsy, lymph node biopsy and lymph node dissection. In this surgery the entire tumour and some normal tissue is removed, along with some lymph nodes.

The results show that the cancer is confined to breast tissue and has not spread. Since there is no spread, she will not be given chemotherapy at this time.

Her prescribed treatment is radiation therapy for 34 days and a course of hormone therapy using the drug Arimidex.

Funnies

A truck driver who had been delivering radioactive waste for the local reactor begins to feel sick after a few years on the job. He decided to seek compensation for his ailment. Upon his arrival at the workers' compensation department, he is interviewed by an assessor.



Assessor: I see you work with radioactive materials and wish to claim compensation.

Trucker: Yeah, I feel really sick.

Assessor: Alright then, Does your employer take measures to protect you from radiation poisoning?

Trucker: Yeah, he gives me a lead suit to wear on the job.

Assessor: And what about the cabin in which you drive?

Trucker: Oh yeah. That's lead lined, all lead lined.

Assessor: What about the waste itself? Where is that kept?

Trucker: Oh, the stuff is held in a lead container, all lead.

Assessor: Let me see if I get this straight. You wear a lead suit, sit in a lead-lined cabin and the radio-active waste is kept in a lead container.

Trucker: Yeah, that's right. All lead.

Assessor: Then I can't see how you could claim against him for radiation poisoning.

Trucker: I'm not. I claiming for lead poisoning.

(Adopted from www.a1classjokes.com)

A Student's Journey

By Marilyn Mohammed & Laurel Best (Rad Sci I)
College of Science, Technology and Applied Arts of Trinidad and Tobago

Anticipation within our hearts, the first year Radiography students were preparing for our first Clinical Practicum, January 2009. However, we realized the application of theoretical knowledge is imperative. At first, it was challenging to utilize the knowledge in the clinical environment. Sometimes, we felt discouraged



but that did not diminish our enthusiasm and spirit to excel in our respective fields of Radiography and Radiation Therapy. Midway into our practicum, we felt a sense of purpose, and appreciated the knowledge we received from a theoretical aspect, which enabled us to perform at an optimal level. Most impor-

tantly, we learnt perseverance pays off and to always aim for excellence in everything you do.

To our present and future Radiography / Radiation Therapy students, we urge you to always strive to overcome the obstacles that may hinder your progress and success will be evident.

We would like to thank everyone who assisted us in our transition into the clinical environment.

Activity Page



Match ups:

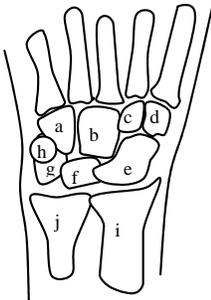
Match the **Quantity** on the left with the **SI Unit** on the right:

- | | |
|--------------------|---------------------------|
| 1. Radioactivity | a. C/Kg (Coulombs per kg) |
| 2. Dose Equivalent | b. Gy (Gray) |
| 3. Absorbed dose | c. Sv (Sievert) |
| 4. Exposure in air | d. Bq (Becquerel) |

(Answers: 1.d; 2.c; 3b; 4d)

Anatomy

Name the bones of the wrist/distal forearm:



- | | |
|---------------|-------|
| 1. Lunate | _____ |
| 2. Triquetral | _____ |
| 3. Radius | _____ |
| 4. Hamate | _____ |
| 5. Pisiform | _____ |
| 6. Trapezoid | _____ |
| 7. Capitate | _____ |
| 8. Trapezium | _____ |
| 9. Scaphoid | _____ |
| 10. Ulna | _____ |

(Answers: 1.f; 2.g; 3i; 4a; 5h; 6c; 7b; 8d; 9e; 10j)

Word Sleuth

Can you find the following words?

Anode	Cathode	Fixer	Developer
Radiation	Therapy	Darkroom	Ultrasound
Sievert	Gray	Rem	Radiography
Mammogram	Fluoroscopy	ISRRT	Magnet
Forensic	Dose	Tube	Film
Roentgen	Detector	Nuclear	

T U B E X F M U R K F I S R R T
 R P I D E T E C T O R J U R S H
 E Z V O H Y S T R O D U L B R E
 V U G N E W E E N E G T N E O R
 E L R A Y R N J D I R O M X O A
 I T V C T S A A U M A Q U M M P
 S R A D I O G R A H Y K A Y A Y
 Q A K C P S E K N I O G S I M L
 I S S M A R G O I G N A E Z M F
 X O Z W A D I L B E O O R R O P
 R U E R C T C A T L D H X A G O
 F N S V A F D E V E L O P E R C
 I D O I Q B I B J R I J H K A S
 X H D W N U C L E A R Z F T M Y
 E A J A R O B R M O O R K R A D
 R F L U O R O S C O P Y P Z I C

Post Test

Complete the Post Test questions, email the answers or submit the answer sheet And you can win a **Medium Pizza!** The winner will be drawn randomly and will be announced by email and published in the next SRTT Detector Newsletter.
 Deadline: 31st March 2009 (One submission per Radiographer).



Name: _____

Phone: _____

Date: _____

Answers:

1. _____

2. _____

3. _____

4. _____

5. _____

- What does the term "Forensic Radiography" mean:
 - The application of medical imaging techniques to legal problems
 - The practice of radiography in the tropical forests
 - Mortality due to radiation fallout
 - Medical problems faced in radiography
- What does CR and DDR stand for in Digital Imaging, respectively:
 - Central Ray and Digital Display Receptor
 - Cathode Reaction and Dual Dose Reciprocity
 - Computed Radiography and Direct Digital Radiography
 - Computerized Radiology and Digital Directed Radiographs
- The respective fines of a summary and a subsequent secondary conviction for any person who practices or advertises his service as a Radiographer when his name is not on the register are:
 - \$500.00 and 1,000.00
 - \$3,00.00 and 20, 000.00
 - \$1,000.00 and 100, 000.00
 - \$5,000.00 and \$10, 000.00
- A patient with infiltrating ductal breast carcinoma will respond well to hormone therapy when:
 - The patient reacts to Arimidex
 - The patient does not feel any more lumps over six months
 - The patient is ER/PR positive
 - The patient is EB/RP positive
- The Society of Radiographers of Trinidad and Tobago was founded since:
 - 1885
 - 1972
 - 1973
 - 1985