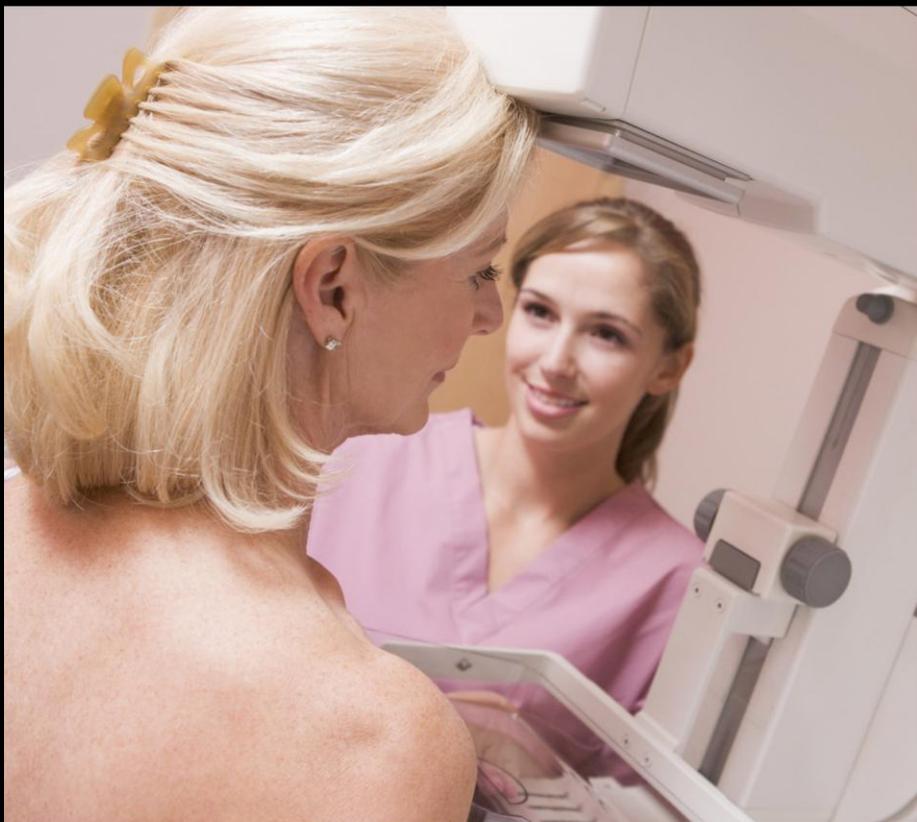


Society of Medical
Radiographers Malta
Newsletter

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Throughout my Masters programme, I gained a special interest in breast cancer and I would like to take this opportunity to share this experience with the reader. An insight to the mixture of research knowledge, patient experiences and prominent issues will be provided in various newsletters to explore the impact of breast cancer on various individuals involved in the cancer journey.

The Meaning of 'Cancer' to the Individual

Before evaluating the consequences of the disease, it is worth understanding the meaning of 'cancer'. Cancer is a highly emotive disease and the word 'cancer' brings with it a sense of potential mortality. Along the years, various studies have shown that women recalled for further investigations following a screening mammogram react as though they have already been diagnosed with 'cancer'. This is so because the belief that they were healthy has been challenged. Despite advances in disease treatment, cancer remains a major threat to life. In fact, although there is a significant reduction in mortality rates, these still remain comparatively high:

'The battle against cancer is far from being won' and 'cure rates for cancer lag significantly behind those for other diseases' (Coumans and Lee, 2008).

'Thousands of patients' have 'incurable cancer' and patients 'lack normal lives' (Audrey et al., 2008).

It follows that the meaning of cancer to the individual will alter the meaning and perception of life, resulting in implications towards family life, social life and most importantly, 'the self-concept', since breast cancer diagnosis brings with it the potential for disfiguring surgery and late effects. This may in turn influence one's perception of how others and society will view and treat individuals with breast cancer.

In other newsletters, the reader will be taken through a journey which will focus on the impact of breast cancer on patients, couples, families and health professionals. These evaluations may be of great value to you personally and towards improved practice and quality of care.

Danika Attard

*BSc (Hons.), MSc (Lond.), MLJ, LRSM
Senior Radiographer
National Breast Screening Programme*

Review of a study which links frequent dental x-rays with brain tumors

A study conducted in the U.S shows that ionizing radiation is the primary environmental risk factor for developing meningioma, for which dental x-rays were the most common artificial source of exposure to the individuals in the study.

Over a lifetime patients with meningioma were reported to have more than twice having a bitewing exam. An increased risk of meningioma was also linked to panorex exams especially those taken at a young age or on a yearly/frequent basis. The researchers also noted that individuals receiving such exams at a young age (younger than 10



years) have an increase risk for developing meningioma.

The authors noted that previous studies have also reported similar findings. However no recent large-scale studies exists, now that doses for dental procedures have decreased and that new radiography procedures have been introduced. This was noted as today dental patients receive lower doses of radiation than in the past.

Other researchers argued that ‘the only way that bitewing x rays can cause brain tumors is through scatter radiation’ and if scatter reaches the brain and cranium howcome tumors are not found in other organs such as the thyroid, eye, parotid or oral epithelium?

This study presented an ideal opportunity to increase the



Orthopantomogram

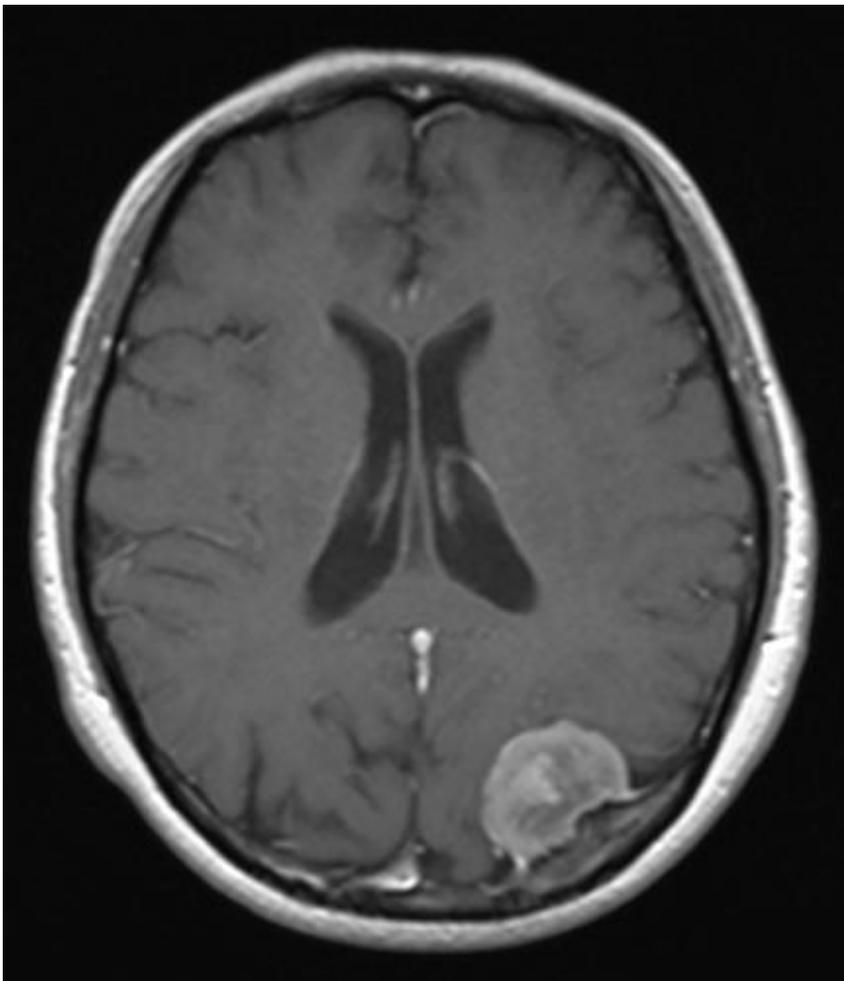
awareness for the optimal use of dental x rays and to remind clinicians including dental

practioners that x-ray radiation is defined as a carcinogen and that x-rays should only be made following professional prescription and professional judgment after taking patient history and clinical inspection and to increase the awareness that we should start and image wisely.

Melanie Grech
Radiographer

Airport Security X-rays – Whole Body Imaging

I knew I wasn’t carrying anything illegal, but my heart was pounding and I was slightly nervous as I entered airport security at Manchester airport. It seemed that I was selected to pass through the body scanner machine. Without any explanation, or even being asked if I was pregnant, the security officer told me to stand still with my arms over my head, while the scanning machine did its job. So, if you are feeling a little lost as to what the body scanner actually does, here is some information about X-ray radiation given at airport security.



A body scan, as part of airport security, involves having an individual stand inside a full-body x-ray machine that takes a quick head-to-toe scan. It creates an image of a person's naked body through their clothing to look for hidden objects without physically removing their clothes or making physical contact.

There are two types of body scanners. One relies on **Millimetre Wave Technology**, which uses extremely high frequency radio waves to produce images. These scanners direct millimetre wave energy at the subject and then interpret the reflected energy. The image quality resembles a fuzzy photo negative.

Backscatter Technology is based on the X-ray Compton scattering



effect of X-rays, a form of ionising radiation. Unlike a traditional X-ray machine which relies on the transmission of X-rays through the object, backscatter X-ray detects the radiation that reflects from the object and forms an image.

An average adult receives 0.0001 mSv of radiation from a backscatter body scan. Compare this dose to that of medial X-rays such as a chest X-ray - 0.1 mSv, an intraoral dental X-ray - 0.005 mSv, and a brain CT - 2 mSv. Also, a person is exposed to around 3.6 mSv of background radiation a year. It is argued that an individual undergoing a backscatter body scan will be exposed to as much radiation as one would during two minutes of a flight due to high altitude radiation.

While these scanners are regarded as safe due to the relatively low radiation dose given to the individual, it is always important to be cautious when it comes to any kind of radiation exposure. It is emphasised that any irradiation may involve some degree of risk and doses should be kept as low as reasonably achievable and any unnecessary radiation exposure must be avoided. The Health Physics Society, and the American College of Radiology, have stated that they are "not aware of any evidence" that full-body scans are unsafe, however recommend against using ionising radiation on certain populations like pregnant women and children.

New airport security scanners could become a popular alternative to body searches, but have also prompted some privacy concerns about what is seen by the person viewing the scan. Since these body scanners allows screeners to see the nude surface of the skin under clothing, some worry that viewing the image violates confidential medical information, such as the fact a passenger uses a colostomy bag, has a missing limb or wears a prosthesis, or is transgender. It

Upcoming Events:

August 2012

3rd: Radiographers
Go HAWAIIAN –
pasta night

should be noted that the person viewing the image cannot see the individuals they are screening and the scanner blurs facial features and images cannot be stored.

Two advantages of full-body scanners over a physical strip search are that it is quicker (takes only 15 seconds) and that people do not have to physically remove their clothes. However, these scanners are being used to perform routine, virtual strip searches without probable cause which opponents claim are illegal unreasonable searches that violate basic human rights.

Passengers at airport security may refuse to go through the scanner, whether over concerns of being subjected to radiation or because the scanners produce a three-dimensional outline of a person's naked body, and would have the option of being subjected to a pat-down search instead.

Daniella Zammit
Senior Radiographer

Congratulations to the new graduates! We welcome you to the Radiography community.

Best of luck to the rest of the students who are going to make it soon.

We invite you all to come celebrate your achievement with us at the **Radiographers Go Hawaiian** – a relaxed evening by the sea with a Hawaiian Twist! Everyone is welcome.

Radiographers go
HAWAIIAN

FRIDAY 3.08.2012 • 8 PM
GHAJN TUFFIEHA BAY

€10 TICKETS INCLUDE: WELCOME DRINK, APPETISERS,
SELECTION OF PASTA AND A HAWAIIAN THEMED GIFT



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