



Illawarra Nuclear Imaging



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Details www.snig.com.au



Update on Illawarra Nuclear Imaging (89 Smith St, Wollongong)

We have completed a successful implementation of provision of Web Based Access to Images and reports at our four practices (Wollongong, Bankstown, Nowra and Batemans Bay). Over **700 referrers are registered** for access to their patient's **Southern Nuclear Imaging (SNIG), e-record** (more below). A poster has been accepted by the 2011 ANZSNM Scientific Meeting documenting the conception of the idea; the assessment (and rejection) of available commercial PACS and e-film options; the development and evolution of the concept into a working solution and finally the implementation. One future direction may be a system to deliver an email when e-records become available?

I would now like to monitor our Web based solution's use and general acceptance (or otherwise) by referrers. If you have any feedback that you feel could help us to improve this system please don't hesitate to call me (Gary 0418763528) or send an email to garym@snig.com.au.

You will notice a new name appearing on reports from Illawarra Nuclear Imaging, we are pleased to introduce Dr. Hans Van Der Wall. Hans has been at the forefront of nuclear medicine's evolution with numerous peer reviewed articles (<http://sydney.edu.au/medicine/people/academics/publications/hansv.php>) being published to a wide range of specialities ranging from Cardiology and Rheumatology to Journals on Endocrinology and Psychiatry. Notably, Hans has recently published on the utility of radionuclide imaging in sporting injuries, osteoporosis and the use of Adenosine as the stress agent in Myocardial Perfusion Imaging. A paper he is about to publish looks at the utility of swallowing studies to access gastric reflux in the erect and supine positions. Importantly the study can also detect the presence aspiration into the lungs (more on this subject below).

Filmless Nuclear Medicine through Web Access to Your Patient's SNIG e-record.

A number of the larger medical practice groups have chosen to go "**Filmless**" (as well as trying to be **paperless**). The robust nature and ease of use of Southern Nuclear Imaging's (SNI) Web based access combined with ARGUS Connect Secure email is helping making this possible. SNI practices are also planning to go as filmless as possible. Reporting of digital images has numerous advantages which we hope to embrace. Generation of hard-copy will therefore, in the majority of patients, become unnecessary.

As from the 1st of September 2011 we will no longer be routinely sending out hard-copy scans and reports unless we receive a specific request. A survey will provide the opportunity to convey your preference.

The options to be considered will include:

1. I am happy to access images and reports via the SNIG Web portal and ARGUS Connect Secure email and do not require any hard-copy unless specifically requested on the referral.
2. I will require the hard-copy of the patient's report only as we do not have ARGUS Connect secure email delivery or Web Access.
3. I require both hard-copy of the images and reports at all times until future notice.

Keep in mind that we can easily produce hard-copy (film and report) at a later date should the patient be sent to a different practitioner or we can quickly add the patient's e-record to another doctors patient list (folder on our server) if the patient's approval is obtained (privacy regulations).

Importantly, **ARGUS Connect** secure email will always continue to provide access to the final report within your Patient Management System whilst a copy of the report (as a .pdf file) is added to all Web based patient e-records. The advantage of the Web access is that it is available 24/7 and does not require an application for access. All that is required is a Username and Password (we will have provided) and any workstation (including i-Pad as the easily manipulated viewing device) with a browser and internet access.

Further notification will be provided before this initiative is implemented.

V/Q Lung Scanning has Evolved to Include Low Dose CT; Why and With What Affect?

As we have established previously in this forum, diagnostic confidence in nuclear medicine interpretation has been greatly increased through the use of Hybrid Images for both attenuation correction and localisation. The use of Hybrid imaging for lung scans is a classic example of this. Recent articles strongly advocate the use of low dose CT along with V/Q lung scanning to provide increased specificity. For example Gutte et al, 2009, pp. 1987 to 1992 suggest for V/Q SPECT a specificity of 88% whilst when low dose CT is added the specificity increased to 100%, each had an equal sensitivity of 97%. They conclude:

“Lung scintigraphy performed as V/Q SPECT in combination with low dose CT without contrast enhancement has excellent diagnostic performance and should probably be considered the first-line imaging test in the workup of PE in most cases” (Gutte et al, 2009, p. 1992).

SNIG practices do V/Q SPECT with low dose CT routinely in keeping with good evidence based practice.

Myocardial Perfusion Imaging: One Day or Two Day protocol?

Myocardial perfusion scanning continues to be at the forefront of cardiac imaging due to the unique data that it provides, the fact that it is a non-invasive test and the reliable prognostic information obtained.

One potential challenge for the patient can be the time taken to perform the test. Please be aware that your patient has the option of having the study performed over two days; the “Two Day Protocol”. On each day they would only be required for less than 90 minutes versus up to five hours straight for the “One Day Protocol”. Another advantage of the two day protocol is that the patient can be assessed and fully prepared on day one to ensure that they are ready for their Stress test which will be on the next day or soon after the resting study. This is just something to keep in mind.

Swallow Studies to Assess Gastric Reflux and Aspiration to the Lungs

This is a simple test that evaluates the possibility of oesophageal reflux in the supine and erect position after swallowing a standardised low-dose of 99m-Technetium. The frequency, severity and grade of reflux can be quantitated graphically. The test also detects non-acid reflux. A delayed image is obtained at two hours that allows assessment of aspiration of tracer into the lungs. These results have been validated against oesophageal manometry and pH monitoring with a high degree of correlation. The test is useful in patients undergoing fundoplication or where fundoplication may have failed. It is a good non-invasive method of screening for oesophageal reflux.

References:

Gutte, H., et al, Detection of Pulmonary Embolism with Combined Ventilation-Perfusion SPECT and Low-Dose CT: Head-to-Head Comparison with Multidetector CT Angiography, *Journal of Nuclear Medicine*, 2009; 50: pp. 1987-1992.