GRAFTON NUCLEAR MEDICINE & BONE DENSITOMETRY

Low Radiation Scans Now Available

Our new low-radiation protocol has successfully completed the testing phase, and is now in standard use for our cardiac, bone and thyroid scans.

By changing our imaging parameters, we have been able to reduce the radiation dose by 40 to 50% without sacrificing diagnostic accuracy.

This compares favourably with standard nuclear medicine imaging (see Table 1 below).

Our dose reductions are possible with the use of equipment enhancement and attention to image optimisation techniques.

In some cases this may result in a slight increase in the total imaging time, but we believe this is more than compensated for by the significant reductions in radiation dose.

A quick note on bone scans

One of the advantages of a bone scan is that a single isotope injection allows multiple scans to be done within 24 hours without additional radiation dose.

For this reason it is standard practice for some patients to proceed to whole body imaging if clinically indicated (typically in cases of suspected metastatic skeletal disease). This will avoid the possibility of them having to return for a repeat scan later.

Procedure	Reference Dose	Fractional DRL	Reduction
Bone Scan	1.00	0.60	**40.0%**
Thyroid Scan	1.00	0.50	**50.0%**
Sestamibi Cardiac Scan	1.00	0.55	**45.4%**

Table 1: Significant reductions in radiation dose with our nuclear medicine procedures

Expanded PBS Eligibility for Osteoporosis Treatment

The PBS eligibility criteria for osteoporosis therapy have been expanded. Patients who are aged 70 years and over now have access to osteoporosis treatment under the PBS if they are shown on bone mineral densitometry to be osteo-porotic (T-score ≤ –2.5). Patients who are on glucocorticoids in excess of 7.5 mg prednisolone for more than 3 months will also qualify if they are seen to be osteopaenic (T-score ≤ –1.5; Authority prescriptions available for oral bisphosphonates if T-score ≤ –1.0). This determination is based on a cost-benefit analysis by the PBS board.

It is recommended that all patients who are 70 years old and over, and patients commencing long-term glucocorticoids, have a DXA scan to determine their fracture risk. At our Practice, we have a policy of bulk billing all DXA scans, even in patients under the age of 70.

GRAFTON NUCLEAR MEDICINE & BONE DENSITOMETRY

We would like to wish all our referring doctors and patients a Merry Christmas and Happy New Year.

Our Office will be closed from 23rd December to 8th January inclusive. Voice messages and bookings may be directed to 02 9419 6559, and we shall be checking for emails at regular intervals (reception@graftonnmb.com.au).

Treadmill Exercise Stress Testing

Exercise stress testing is available at our practice two days a week.

Depending on the clinical indication, most patients will be requested to discontinue beta blockers and calcium channel blockers for 24 to 72 hours. They should wear loose comfortable clothing. No other preparation is required.

For patients who are unable to exercise, a pharmacological sestamibi myocardial perfusion scan (MIBI scan) is the recommended alternative.

All our diagnostic tests are routinely bulk billed.

Low Radiation Lung Scans

Patients with chest pain and dyspnoea may be suspected of having pulmonary embolism.

A V/Q lung scan is a well-established modality for the detection of small pulmonary emboli, and offers the same diagnostic accuracy as a CTPA scan. It has the advantage of a markedly reduced radiation dose to the breast compared to CT (see Table 2 below).

There is concern that a chest CT may increase the lifetime risk of breast cancer in young women. This is estimated at 5% for a 20-year-old female.

For this reason many gynaecologists and reproductive health physicians consider V/Q lung scans the preferred imaging modality for the diagnosis of pulmonary embolism in young women.

Diagnostic Accuracy	VQ SPECT	CTPA
Sensitivity	97%	86%
Specificity	91%	98%
Accuracy	94%	93%
Radiation Dose	**VQ SPECT**	**CTPA**
Overall	2-3 mSv	2-7 mSv
Breast	1.0-1.1 mGy	10-60 mGy
Lung	6-13 mGy	40 mGy

Table 2: V/Q scans offer significant reductions in radiation dose to the breast compared to CTPA