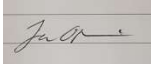



Referral Guidelines for Nuclear Medicine Studies at Midland Metropolitan University Hospital

The service accepts referrals from all doctors. SWB doctors should refer using Unity (except for therapies – please call 0121 507 4427 to discuss).

Non-SWB referrers should complete the form below and email to [swbh.nuclear\\_medicine@nhs.net](mailto:swbh.nuclear_medicine@nhs.net).

Non-Medical referrers can only refer is authorised to do so. Contact the department to discuss.

Department of Physics & Nuclear Medicine, Midland Metropolitan University Hospital (MMUH)		Sandwell & West Birmingham Hospitals NHS Trust	
Referral Guidelines for Nuclear Medicine Studies at Midland Metropolitan University Hospital		Document Number	NM/RG/001
Effective Date	22/06/2026	Review Date	22/06/2029
	Signature:	Print Name:	Date:
Author:		Joseph O'Brien	22/06/2026
Approver		Dr Manish Pandit	22/06/2026

Investigation	Indications	Patient preparation	Effective dose (mSv)	Equivalent background duration
Amyloid Scan	<ul style="list-style-type: none"> <li>Assess DPD uptake in the myocardium or to exclude it.</li> <li>Exclusion of a diagnosis of ATTR.</li> <li>Heart failure.</li> </ul>	<ul style="list-style-type: none"> <li>None</li> </ul>	5.6	25 months
Bone scan	<ul style="list-style-type: none"> <li>Follow up of patients with symptoms suspicious of cancer spread post removal of the primary tumour (Ca Breast and Prostate for example).</li> <li>Primary or metastatic tumours</li> <li>Trauma</li> <li>Sports injuries</li> <li>Arthritis/facet joint disease</li> <li>Metabolic disorder</li> </ul>	<ul style="list-style-type: none"> <li>Good hydration</li> </ul>	2.9 mSv – 3.9 mSv + CT dose if SPECT-CT applied	1 year and 10 months (3.9mSv)

Investigation	Indications	Patient preparation	Effective dose (mSv)	Equivalent background duration
Bone scan 2 / 3 phase dynamic	<ul style="list-style-type: none"> <li>• infection and inflammation imaging</li> <li>• Pain around prosthetic joint</li> <li>• TMJ pain/asymmetric bite.</li> <li>• Complex spine surgery</li> <li>• Avascular necrosis</li> </ul>	<ul style="list-style-type: none"> <li>• Good hydration</li> </ul>	2.9 mSv – 3.9 mSv + CT dose if SPECT-CT applied	1 year and 10 months (3.9mSv)
Brain DaTSCAN	<ul style="list-style-type: none"> <li>• To rule out or confirm a diagnosis of Parkinson's disease,</li> <li>• Parkinson's plus syndromes (eg MSA) and to rule out or confirm DLB.</li> <li>• To confirm a diagnosis of essential tremor or drug induced Parkinsonism.</li> <li>• Differential diagnosis of movement disorders.</li> <li>• Tremor, bradykinesia, reduced facial expressions, cogwheeling.</li> </ul>	<ul style="list-style-type: none"> <li>• Thyroid blockade &gt;1 hour prior to injection</li> <li>• List of medications needs to be provided</li> <li>• Should be able to lie flat on their back for half an hour.</li> </ul>	4.6 mSv	2 years

Investigation	Indications	Patient preparation	Effective dose (mSv)	Equivalent background duration
Colonic Transit	<ul style="list-style-type: none"> <li>To quantify Colonic transit time accurately.</li> <li>To exclude or confirm delayed colonic transit.</li> <li>To localise the site of delay in colonic transit.</li> <li>Assess chronic constipation, or overflow diarrhoea.</li> </ul>	<ul style="list-style-type: none"> <li>None</li> </ul>	1.6 mSv	7 months
Dacrosclintigraphy	<ul style="list-style-type: none"> <li>Assessment of lacrimal duct drainage in patients with persistent unilateral/bilateral eye watering</li> </ul>	<ul style="list-style-type: none"> <li>Excessive tear production may mean we cannot perform the test</li> </ul>	0.05	7 days
DMSA (Kidney scan)	<ul style="list-style-type: none"> <li>To assess split relative function of the kidneys</li> <li>Assess for scarring</li> <li>Pre-renal surgery for Renal Cancer.</li> <li>Cyst/mass/stone in kidney</li> <li>Antenatally detected MCDK</li> <li>Atrophy kidney seen on other imaging modalities.</li> </ul>	<ul style="list-style-type: none"> <li>None</li> </ul>	0.7 mSv	4 months

Investigation	Indications	Patient preparation	Effective dose (mSv)	Equivalent background duration
	<ul style="list-style-type: none"> <li>Evaluation of renal transplant</li> </ul>			
Gastric Emptying and small bowel transit study	<ul style="list-style-type: none"> <li>Suspected gastroparesis in diabetic patients</li> <li>After gastric surgery</li> <li>When taking medication that affects gastric motility</li> <li>Other situations where gastric motility is affected (drugs for example). Vomiting, nausea, delayed emptying seen in endoscopy, bloating</li> </ul>	<ul style="list-style-type: none"> <li>Nil by mouth for 4 hours (inc. smoking)</li> <li>Certain drugs stopped two days prior to scan: <ul style="list-style-type: none"> <li>Opiates</li> <li>Prokinetic agents</li> <li>Atropine, Nifedipine, Progesterone, Octreotide, Theopyline, Benzodiazepine, Phentolamine</li> </ul> </li> </ul>	0.9 mSv	5 months
Gastrointestinal bleed	<ul style="list-style-type: none"> <li>Evaluation of upper and lower gastrointestinal bleeding</li> </ul>	<ul style="list-style-type: none"> <li>Contraindicated in patients receiving blood products</li> </ul>	4 mSv	1 year and 10 months

Investigation	Indications	Patient preparation	Effective dose (mSv)	Equivalent background duration
Glomerular Filtration Rate	<ul style="list-style-type: none"> <li>To quantify glomerular filtration rate especially as a baseline and prior to chemotherapy.</li> <li>Abnormal/unstable eGFR results.</li> </ul>	<ul style="list-style-type: none"> <li>eGFR is useful to share at referral</li> </ul>	0.05 mSv	7 days
Hepatobiliary (HIDA) for Gallbladder assessment	<ul style="list-style-type: none"> <li>To quantify gallbladder ejection fraction (Sincalide / Calshake HIDA).</li> <li>Pain in RUQ with negative US findings.</li> <li>Acute cholecystitis</li> <li>Obstructive jaundice</li> <li>Detection of biliary leak after surgery or trauma</li> <li>Biliary atresia</li> <li>Duodeno-gastric reflux</li> </ul>	<ul style="list-style-type: none"> <li>Nil by mouth for 6 hours</li> <li>Patient must have a gallbladder</li> </ul>	1.3 mSv	6 months

Investigation	Indications	Patient preparation	Effective dose (mSv)	Equivalent background duration
Hepatobiliary HIDA (liver uptake and excretion)	To diagnose or exclude Sphincter of ODDI syndrome in post cholecystectomy patients (Morphine HIDA assesment). Pain in RUQ.	<ul style="list-style-type: none"> <li>Nil by mouth for 6 hours</li> </ul> Patient must not have a gallbladder	2.6 mSv	12 months
Lung V/Q scan	<ul style="list-style-type: none"> <li>Rule out Pulmonary embolism. Symptoms include: Chest pain, SOB, tachycardia, raised D-dimer, syncope, haemoptysis.</li> <li>Diagnosis of pulmonary embolism</li> <li>Assessment of regional ventilation and perfusion</li> </ul>	<ul style="list-style-type: none"> <li>A recent chest X-Ray must be made available.</li> </ul>	2.7 – 3.0 mSv	1 year and 4months (3.0 mSv)
Lung Quantification	Quantification of regional lung perfusion and ventilation fields prior to surgery	<ul style="list-style-type: none"> <li>None</li> </ul>	4 mSv (3.0 for NM and 1.0 for CT element of SPECT/CT)	2 years

Investigation	Indications	Patient preparation	Effective dose (mSv)	Equivalent background duration
MAG3 Kidney Renogram scan	<ul style="list-style-type: none"> <li>• To rule out PUJ obstruction.</li> <li>• Evaluate split renal function.</li> <li>• Continued assessment of renal function.</li> <li>• Post renal pyeloplasty.</li> <li>• Flank pain, suggestion of PUJO on other imaging modalities, ureteric injury during surgery.</li> <li>• Assessment of outflow obstruction</li> <li>• Urinary tract infection</li> <li>• Renovascular disorders</li> <li>• Evaluation of renal failure</li> <li>• Renal transplant evaluation</li> <li>• Captopril test in suspected renovascular hypotension</li> </ul>	<ul style="list-style-type: none"> <li>• Good hydration</li> <li>• For reflux studies, patient should be toilet trained</li> <li>• For captopril studies, please contact the department first</li> </ul>	0.7 mSv	4 months

Investigation	Indications	Patient preparation	Effective dose (mSv)	Equivalent background duration
Meckel's Scan	<p>To find or exclude functioning gastric mucosa in a Meckel's diverticulum.</p> <p>Blood in stool.</p> <ul style="list-style-type: none"> <li>• Meckel's diverticulum</li> <li>• Suspected ectopic gastric mucosa in children with bowel duplication</li> </ul>	<ul style="list-style-type: none"> <li>• Nil by mouth for 4-6 hours</li> <li>• Infants may require sedation and nursing support</li> <li>• A recent barium examination within 24 hours may obscure a small bleeding site so delay Meckel's scans until after this.</li> <li>•</li> </ul>	5 mSv	2 years and 4 months
MIBG Scan for NET	<ul style="list-style-type: none"> <li>• Assessment of potential neuroendocrine tumours</li> <li>• Assessment of adrenal tumours,</li> <li>• Unidentified abdominal mass seen on other imaging modalities</li> <li>• Severe uncontrolled HTN.</li> <li>• As a prelude to MIBG therapy</li> </ul>	<ul style="list-style-type: none"> <li>• Thyroid blockade &gt;1 hour prior to injection</li> </ul>	5.2 mSv	2 years and 5 months

Investigation	Indications	Patient preparation	Effective dose (mSv)	Equivalent background duration
MIBG Scan for Cardiac Assessment, and Parkinson's+ assessment	<ul style="list-style-type: none"> <li>Assessment of the sympathetic innervation of the heart, used in differentiation of potential PD plus syndromes vs IPD and separately in patients with heart failure</li> </ul>	Thyroid blockade >1 hour prior to injection	5.2 mSv	2 years and 5 months
MUGA scan	<ul style="list-style-type: none"> <li>Assessment of left ventricular function before chemotherapy</li> <li>Monitoring cardiac effects of chemotherapy</li> <li>Evaluation of patients with dyspnoea who are poor echocardiography subjects</li> </ul>	<ul style="list-style-type: none"> <li>None</li> </ul>	5.6 mSv	2 years and 7 months
Myocardial Perfusion Scan	<ul style="list-style-type: none"> <li>To check for fixed and reversible ischaemia.</li> <li>To quantify gated cardiac function for prognostication.</li> </ul>	<ul style="list-style-type: none"> <li>Not to be performed within 4 weeks of an MI</li> <li>Patients with severe COPD may not be suitable for pharmacological stressing</li> </ul>	Max 11.9 mSv (130kg patient)	4y 5m

Investigation	Indications	Patient preparation	Effective dose (mSv)	Equivalent background duration
	<ul style="list-style-type: none"> <li>Assess cause of chest pain and SOBOE.</li> </ul>	<ul style="list-style-type: none"> <li>Patient needs to lie down flat for around 25 minutes for the actual scan.</li> </ul>		
Parathyroid	<ul style="list-style-type: none"> <li>Localisation of a parathyroid adenoma prior to surgery.</li> <li>Biochemically confirmed hyperparathyroidism.</li> </ul>	<ul style="list-style-type: none"> <li>Not to be performed within 12 weeks of contrast enhanced CT</li> <li>Patients must pause thyroid medications</li> </ul>	12.1mSv total (8.1 mSv MIBI, 3mSv Iodine, 1mSv CT)	4 years and 7 months
Defecating Isotope Proctogram	<ul style="list-style-type: none"> <li>Assessment of rectal function, evaluation/confirmation of rectocele. Poor/obstructed defaecation, tenesmus, digitation.</li> </ul>	<ul style="list-style-type: none"> <li>None</li> </ul>	0.2mSv	1 month
Red Cell Mass / Red Cell Volume	<ul style="list-style-type: none"> <li>Assessment of polycythaemia rubra vera in patients with raised Hb.</li> </ul>	<ul style="list-style-type: none"> <li>Not to be performed within 4-6 weeks of venesection</li> </ul>	0.02	3 days

Investigation	Indications	Patient preparation	Effective dose (mSv)	Equivalent background duration
SeHCAT for Bile Acid Malabsorption	<p>To quantify SeHCAT retention so as to diagnose or exclude Bile Acid Malabsorption syndrome.</p> <p>Chronic diarrhoea, particularly post cholecystectomy.</p>	<ul style="list-style-type: none"> <li>• Patient is required to stop anti-diarrhoea medications, or potential false negative scan may occur</li> </ul>	0.3 mSv	1.5months
Sentinel Lymph Node	<p>To define and localise sentinel lymph nodes prior to surgery (Breast / Vulval SLN for example).</p> <ul style="list-style-type: none"> <li>• Pre-operative localisation of the sentinel node</li> </ul>	<ul style="list-style-type: none"> <li>• Surgical team must discuss directly with department</li> </ul>	Up to 0.5 mSv	2 months
Thyroid (I-123)	<p>To check for hyperthyroidism, hypothyroidism.</p> <p>To rule out Thyroiditis.</p> <ul style="list-style-type: none"> <li>• Goitre and evaluation of palpable nodules</li> </ul>	<ul style="list-style-type: none"> <li>• Thyroid medication should be stopped prior to tracer injection: <ul style="list-style-type: none"> <li>○ Carbimazole: 2 weeks</li> <li>○ Propylthiouracil: 2 weeks</li> <li>○ T3: 2 weeks</li> </ul> </li> </ul>	3.7 mSv	16 months

Investigation	Indications	Patient preparation	Effective dose (mSv)	Equivalent background duration
	<ul style="list-style-type: none"> <li>• Differential diagnosis of anterior neck masses</li> <li>• As a potential check of thyroid uptake as a prelude to radio-iodine therapy in thyrotoxic patients</li> </ul>	<ul style="list-style-type: none"> <li>○ T4/thyroxine: 2 weeks</li> <li>• No CT scans within 12 weeks</li> </ul>		
White Cell Scan	<ul style="list-style-type: none"> <li>• Localisation of infection in patients with PUO (pyrexia of unknown origin)</li> <li>• Assessment of potential joint prosthesis infection following a 2 phase bone scan.</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>	2.2	10 months

## Nuclear Medicine Request Form, Midland Metropolitan University Hospital

<b>Patient SURNAME</b>		Please complete all sections of this form.  Completed form should be sent by email. Incomplete forms may be rejected upon receipt. Please use the following telephone number or email address for any queries:  Nuclear Medicine appointments +44 (0) 121 507 4427 swbh.nuclear_medicine@nhs.net t Monday-Friday 09:00-17:00  <i>Please note that this form cannot be used for PET-CT referrals.</i>			
<b>Patient Forename</b>					
<b>Patient Date of birth</b>					
<b>Sex</b>					
<b>Home Address (incl. Post code)</b>					
<b>Phone no (preferably mobile)</b>					
<b>NHS Number</b>					
<b>Referring Consultant or GP (print name)</b>					
<b>Requested by (print name) and job title</b>					
<b>Hospital/Practice Address</b>					
<b>Hospital/Practice Results email</b>	<i>(If an urgent email result is required you must provide a secure email address)</i>				
<b>Examination Requested</b>	Click box to select study: Bone: <input type="checkbox"/> Renogram: <input type="checkbox"/> HIDA: <input type="checkbox"/> DMSA: <input type="checkbox"/> VQ: <input type="checkbox"/>				
	Other, please type name to specify:				
<b>Relevant clinical details</b>					
<b>Specific clinical question to answer</b>					
<b>Medications</b>					
<b>Is the patient pregnant?</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<b>Does the patient have allergies? (please specify _____)</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<b>Is the patient breastfeeding?</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<b>Infection Risk (please specify _____)</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<b>Is the patient weight &gt;150kg?</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<b>Does the patient have disabilities/mobility issues?</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<b>Does the patient require hospital transport?</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<b>Does the patient require BSL or foreign language interpreter? (please specify _____)</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<b>Walking</b> <input type="checkbox"/> <b>Chair</b> <input type="checkbox"/> <b>Trolley</b> <input type="checkbox"/>					
<b>Hoist required</b> <input type="checkbox"/>					

Please note there is no provision for childcare; children under the age of 16 cannot be left unattended in the Department.

**VERSION CONTROL**

<b>Date</b>	<b>Comment / Major Change</b>	<b>Name</b>
22/06/2026	New inhouse referral guidelines produced due to iREFER system not being implemented for nuclear medicine.	Joseph O'Brien