

Radiopharmaceutical Access and Availability
Nuclear Medicine Global Initiative

Information of answering person (Country, affiliation, name, phone, email, address)

Nuclear Medicine Status in Country

Number of Nuclear Medicine Sites in Country:

Nuclear Medicine Sites - Government, Public:

Nuclear Medicine Sites - Private:

Nuclear Medicine Sites – Mobile Cameras:

Manufacturers / Suppliers of ^{99m}Tc -generators:

Manufacturers / Suppliers of kits:

Manufacturers / Suppliers of Therapeutic Radiopharmaceuticals:

Commercial Radiopharmacies:

Radiopharmaceuticals

Diagnostic Radiopharmaceuticals

Please confirm availability of the following radiopharmaceuticals, source and dose

^{99m}Tc -generators

Indicate number of sites that use in-house, or access via external radiopharmacies

Indicate source of ^{99m}Tc -generators, size of generators

Indicate issues relating to access or availability of ^{99m}Tc -generators

In vivo examinations

Brain imaging, CSF studies

- eg ^{123}I IMP, ^{99m}Tc HMPAO, ^{99m}Tc ECD, ^{99m}Tc HSA, ^{99m}Tc DTPA, ^{133}Xe gas, ^{123}I iomazenil, ^{99m}Tc RBC

- Indicate which tracers are available, which tracers are used for brain imaging and CSF studies, and source of tracer or doses and kits

- Typical administered dose (MBq) for each tracer

- Are there any issues that impact on access and availability of these tracers

Salivary gland

- eg ^{99m}Tc pertechnetate

- Indicate which tracers are available, which tracers are used salivary gland imaging, and source of tracer or doses)

- Typical administered dose (MBq) for each tracer

- Are there any issues that impact on access and availability of these tracers

Thyroid gland (including thyroid carcinoma, medullary thyroid carcinoma)

- eg ^{99m}Tc pertechnetate, ^{123}I , ^{131}I , ^{124}I , ^{123}I -MIBG, ^{131}I -MIBG

- Indicate which tracers are available, which tracers are used for thyroid imaging, and source of tracer or doses

- Typical administered dose (MBq) for each tracer

- Are there any issues that impact on access and availability of these tracers

Parathyroid gland

- eg $^{201}\text{Tl-Cl}$, $^{99\text{m}}\text{Tc-99m}$ pertechnetate, ^{123}I , $^{99\text{m}}\text{Tc-MIBI}$
- Indicate which tracers are available, which tracers are used for parathyroid imaging, and source of tracer or doses and kits
- Typical administered dose (MBq) for each tracer
- Are there any issues that impact on access and availability of these tracers

Lung

- eg $^{99\text{m}}\text{Tc-DTPA}$, ^{81}Kr gas, ^{133}Xe gas, $^{99\text{m}}\text{Tc MAA}$, $^{99\text{m}}\text{Tc-Technegas}$
- Indicate which tracers are available, which tracers are used for lung scans, and source of tracer or doses and kits
- Typical administered dose (MBq) for each tracer
- Are there any issues that impact on access and availability of these tracers

Heart (myocardial scintigraphy, blood-pool scintigraphy, first-pass)

- eg $^{201}\text{Tl-Cl}$, $^{99\text{m}}\text{Tc MIBI}$, $^{99\text{m}}\text{Tc tetrofosmin}$, $^{99\text{m}}\text{Tc-RBC}$

- Indicate which tracers are available, which tracers are used for heart scans, and source of tracer or doses and kits

- Typical administered dose (MBq) for each tracer

- Are there any issues that impact on access and availability of these tracers

Liver, Biliary tract

- eg $^{99\text{m}}\text{Tc phytic acid}$, $^{99\text{m}}\text{Tc sulphur colloid}$, $^{99\text{m}}\text{Tc PMT}$, $^{99\text{m}}\text{Tc HIDA}$ (DISIDA, Mebrofenin), $^{99\text{m}}\text{Tc-MAA}$

- Indicate which tracers are available, which tracers are used for liver and biliary scans, and source of tracer or doses and kits

- Typical administered dose (MBq) for each tracer

- Are there any issues that impact on access and availability of these tracers

Spleen, Bone marrow

- eg ^{99m}Tc phytic acid, ^{99m}Tc tin colloid, ^{111}In chloride, ^{99m}Tc -denatured RBCs
- Indicate which tracers are available, which tracers are used for spleen and bone marrow scans, and source of tracer or doses and kits
- Typical administered dose (MBq) for each tracer
- Are there any issues that impact on access and availability of these tracers

Kidney, Urinary system

- eg ^{99m}Tc DTPA, ^{99m}Tc DMSA, ^{99m}Tc MAG3
- Indicate which tracers are available, which tracers are used for kidney and urinary system scans, and source of tracer or doses and kits
- Typical administered dose (MBq) for each tracer
- Are there any issues that impact on access and availability of these tracers

Adrenal gland

- eg ^{131}I adosterol, ^{131}I MIBG, ^{123}I MIBG
- Indicate which tracers are available, which tracers are used for lung scans, and source of tracer or doses and kits
- Typical administered dose (MBq) for each tracer
- Are there any issues that impact on access and availability of these tracers

Bone, joints

- eg $^{99\text{m}}\text{Tc}$ MDP, $^{99\text{m}}\text{Tc}$ HMDP, $^{99\text{m}}\text{Tc}$ pyrophosphoric acid (PYP)
- Indicate which tracers are available, which tracers are used for bone and joint scans, and source of tracer or doses
- Typical administered dose (MBq) for each tracer
- Are there any issues that impact on access and availability of these tracers

Digestive tract

- eg ^{99m}Tc pertechnetate, ^{99m}Tc RBC, ^{99m}Tc sulphur colloid (gastric emptying)
- Indicate which tracers are available, which tracers are used for GI tract scans, and source of tracer or doses and kits
- Typical administered dose (MBq) for each tracer
- Are there any issues that impact on access and availability of these tracers

Tumor

- eg ^{67}Ga citrate, ^{201}Tl chloride, ^{99m}Tc -(V) DMSA, ^{123}I -MIBG, ^{131}I -MIBG
- Indicate which tracers are available, which tracers are used for tumor scans, and source of tracer or doses and kits
- Typical administered dose (MBq) for each tracer
- Are there any issues that impact on access and availability of these tracers

Inflammation

- eg ^{67}Ga citrate, ^{111}In WBC, $^{99\text{m}}\text{Tc}$ WBC
- Indicate which tracers are available, which tracers are used for inflammation scans, and source of tracer or doses and kits
- Typical administered dose (MBq) for each tracer
- Are there any issues that impact on access and availability of these tracers

Lymph nodes, sentinel lymph nodes

- eg $^{99\text{m}}\text{Tc}$ HSA, $^{99\text{m}}\text{Tc}$ antimony sulphur colloid, $^{99\text{m}}\text{Tc}$ phytic acid, $^{99\text{m}}\text{Tc}$ -nanocolloid
- Indicate which tracers are available, which tracers are used for lung scans, and source of tracer or doses and kits
- Typical administered dose (MBq) for each tracer
- Are there any issues that impact on access and availability of these tracers

In-vitro studies

- eg ^{51}Cr chromate, $^{99\text{m}}\text{Tc}$ DTPA, ^{14}C urea

- Indicate which tracers are available, which tracers are used for in vitro studies, and source of tracer or doses and kits

- Typical administered dose (MBq) for each tracer

- Are there any issues that impact on access and availability of these tracers

Other examinations

- Indicate which tracers are available, which tracers are used for different scans, and source of tracer or doses and kits

- Typical administered dose (MBq) for each tracer

- Are there any issues that impact on access and availability of these tracers

Please identify any diagnostic radiopharmaceuticals required but not available in your country, and indicate issues that prevent use eg access, shipping, cost, regulatory, facilities, training etc.

Therapy by unsealed Radiopharmaceuticals

Hyperthyroidism

- eg ^{131}I - indicate which therapeutic radiopharmaceuticals are used, and source

- Typical administered dose (MBq) for each therapy

- Are there any issues that impact on access and availability of these therapeutic tracers

Thyroid Carcinoma

- eg ^{131}I - indicate which therapeutic radiopharmaceuticals are used, and source

- Typical administered dose (MBq) for each therapy

- Are there any issues that impact on access and availability of these therapeutic tracers

Phaeochromocytoma

- eg ^{131}I MIBG - indicate which therapeutic radiopharmaceuticals are used, and source

- Typical administered dose (MBq) for each therapy

- Are there any issues that impact on access and availability of these therapeutic tracers

Neuroblastoma

- eg ^{131}I MIBG - indicate which therapeutic radiopharmaceuticals are used, and source

- Typical administered dose (MBq) for each therapy

- Are there any issues that impact on access and availability of these therapeutic tracers

Bone pain

- eg ^{89}Sr choride, ^{153}Sm EDTMP, ^{223}Ra chloride - indicate which therapeutic radiopharmaceuticals are used, and source

- Typical administered dose (MBq) for each therapy

- Are there any issues that impact on access and availability of these therapeutic tracers

Neuroendocrine Tumors

- eg ^{177}Lu DOTATATE, ^{177}Lu DOTATOC - indicate which therapeutic radiopharmaceuticals are used, and source

- Typical administered dose (MBq) for each therapy

- Are there any issues that impact on access and availability of these therapeutic tracers

Lymphomas

- eg ^{131}I Tositumumab, ^{90}Y Ibritumomab tiuxetan - indicate which therapeutic radiopharmaceuticals are used, and source
- Typical administered dose (MBq) for each therapy
- Are there any issues that impact on access and availability of these therapeutic tracers

Liver Tumors

- eg ^{90}Y SIRspheres, ^{90}Y glass spheres, ^{188}Re spheres - indicate which therapeutic radiopharmaceuticals are used, and source
- Typical administered dose (MBq) for each therapy
- Are there any issues that impact on access and availability of these therapeutic tracers

Polycythemia Rubra Vera

- eg ^{32}P - indicate if used, and source

- Typical administered dose (MBq) for each therapy

- Are there any issues that impact on access and availability of these therapeutic tracers

Joint Therapy

- eg ^{90}Y , ^{188}Re - indicate which therapeutic radiopharmaceuticals are used, and source

- Typical administered dose (MBq) for each therapy

- Are there any issues that impact on access and availability of these therapeutic tracers

Please identify any therapeutic radiopharmaceuticals required but not available in your country, and indicate issues that prevent use eg access, shipping, cost, regulatory, facilities, training etc.

¹⁸F- other PET tracers (dementia)

- eg ¹⁸F-Florbetapir, ¹⁸F-Flutemetamol, ¹⁸F-Florbetaben, ¹⁸F-Tau agents
- indicate number of sites that use other ¹⁸F-tracers (dementia)

- Indicate which tracers are available

- Typical administered dose (MBq) for dementia ¹⁸F-PET tracers

- Clinical Indications funded for ¹⁸F-PET tracers in dementia

- Are there any issues that impact on access and availability of ¹⁸F-PET tracers in dementia

¹¹C-PET tracers

- eg ¹¹C-PIB, ¹¹C-methionine, ¹¹C-choline, ¹¹C-flumazenil, ¹¹C-raclopride
- indicate number of sites that use ¹¹C-tracers

- Indicate which tracers are available, and indications

- Typical administered dose (MBq) for ¹¹C-PET tracers

- Clinical Indications funded for ¹¹C-PET tracers

- Are there any issues that impact on access and availability of ¹¹C-PET tracers

⁶⁸Ga-PET tracers

- eg ⁶⁸Ga-DOTATATE, ⁶⁸Ga-PSMA
- indicate number of sites that use ⁶⁸Ga-tracers

- Indicate which tracers are available, and indications

- Typical administered dose (MBq) for ⁶⁸Ga-PET tracers

- Clinical Indications funded for ⁶⁸Ga-PET tracers

- Are there any issues that impact on access and availability of ⁶⁸Ga-PET tracers

¹⁵O-PET tracers

- eg ¹⁵O-O₂ gas, ¹⁵O-CO gas, ¹⁵O-H₂O
- indicate number of sites that use ¹⁵O-tracers

- Indicate which tracers are available, and indications

- Typical administered dose (MBq) for ¹⁵O-PET tracers

- Clinical Indications funded for ¹⁵O-PET tracers

- Are there any issues that impact on access and availability of ¹⁵O-PET tracers

¹³N-PET tracers

- eg ¹³N-NH₃, ¹³N-other tracer
- indicate number of sites that use ¹³N-tracers

- Indicate which tracers are available, and indications

- Typical administered dose (MBq) for ¹³N-PET tracers

- Clinical Indications funded for ¹³N-PET tracers

- Are there any issues that impact on access and availability of ¹³N-PET tracers

other PET tracers

- Indicate which other PET tracers are available, which clinical indications they are used for, and source of tracer or doses and kits

- Typical administered dose (MBq) for each tracer

- Are there any issues that impact on access and availability of these tracers

Please identify any PET tracers required, but not available in your country, and indicate issues that prevent use eg access, shipping, cost, regulatory, facilities, training etc.