

Instructions and Checklist for the Preparation of Data for the Pediatric Administered Activity Survey

Thank you for agreeing to participate in the Pediatric Administered Activity Survey of the Nuclear Medicine Global Initiative. It is *very important* for the quality of the survey that we have consistency in the data entry because all data will be collected online and automatically consolidated. These instructions and checklist will ensure you have the majority of the data required to complete the online survey. If you have questions about the data that is being collected, please contact your society representative or Rachel Woodson (RWoodson@snmmi.org) at the SNMMI.

The survey collects information about your actual procedures and your typical practices. Please answer the questions based on the majority of the children you perform the procedure on. For example, if you use more than one system for imaging pediatric patients, please answer the imaging system questions based on the system you most commonly use.

Questions marked with an asterisk (*) are compulsory because either the data is critical to the success of the survey or the answer determines other questions that will be asked. Some questions are optional, but please try to complete as many of the survey questions as possible because the more complete surveys we have, the more accurate the observations we can make.

If you perform PET/CT, PET and/or nuclear medicine (gamma camera) imaging, data is collected on both of these imaging modalities. If you only perform PET/CT or PET procedures, the nuclear medicine imaging section can be skipped.

Please note that this survey is for **imaging only**. Please do not enter details for non-imaging procedures such as non-imaging GFR measurements.

Please complete only **one survey per institution**.

Online survey

The online survey uses the SurveyMonkey.com engine. This system uses web browser cookies to track questions. If you need to restart the survey, you will need to clear your browser history. Otherwise the survey will return to the point you last stopped entering data. If you don't want to clear your browser history, you can usually clear cookies and restart your browser to restart the survey.

Patient data collection and privacy

This survey collects information on CT parameters for five recent PET/CT examinations. Although this data is entered anonymously, it is your responsibility to check you satisfy any local or national regulations on the collection of patient information and the protection of patient privacy.

General

- Country – this will help with our analysis of any regional patterns. For example, do most North American institutions follow the North American guidelines?
 - The name of your institution. This optional question may help with troubleshooting if we suspect more than one survey has been completed for a large institution.
 - Decide on the activity units you will use to complete the survey: MBq or mCi
The unit you select must be used for the administered activities in the whole of the survey. Please enter only the number (e.g. “100”) and don’t include units (e.g. “100 MBq”) because the survey expects a numerical answer and thus the units text will not be recognised and you will receive an error “The comment you entered is in an invalid format.”. Please use the conversion factor 1 mCi = 37 MBq to convert between the two units.
 - What is the maximum age at which your facility would still consider a patient to be a pediatric patient?
 - The approximate number of pediatric nuclear medicine imaging procedures that your institution performs each year.
-

Nuclear Medicine (Gamma Camera) Imaging

- Enter your five most common pediatric nuclear medicine **imaging procedures** (starting with the most common), preferably using the classification scheme of:
Bone Scan (e.g. Tc-99m MDP), *Gastro-esophageal Reflux* (e.g. Tc-99m Sulphur Colloid), *Hepatobiliary* (e.g. Tc-99m HIDA), *Meckel's Diverticulum* (e.g. Tc-99m O4-), *Radionuclide Cystography* (e.g. Tc-99m Sulphur Colloid), *Renogram* (e.g. Tc-99m MAG3), *Renal Scarring/Differential Function* (e.g. Tc-99m DMSA), *Neuroendocrine Tumor Imaging* (I-123 MIBG), *Neuroendocrine Tumor Imaging* (I-131 MIBG), *Thyroid Scan* (Tc-99m O4-), *Thyroid Scan* (I-123), *Tumor Imaging* (Ga-67), *Others* (please specify in English)

Note: you are expected to enter **at least one** procedure if you perform nuclear medicine imaging.

Non-imaging measurements are not part of this survey.

If you perform a procedure using two **different radiopharmaceuticals** (e.g. MAG3 or DTPA) please enter the radiopharmaceutical you most frequently use for the procedure. The same applies for I-123 versus I-131 imaging.

- What guideline for administered activity do you usually follow for these procedures?
Choices: North American Consensus Guidelines, European Association of Nuclear Medicine (EANM), Administration of Radioactive Substances Advisory Committee (ARSAC), Japanese Society of Nuclear Medicine, specified by a local regulatory agency, specified by a local nuclear medicine society, a combination of the above, developed independently by your service.

Note: If you mostly follow a single guideline, then select that guideline. If you use a hybrid of a number

of guidelines (e.g. age/weight scaling from a guideline, but activities from another source), then please enter “a combination of the above”.

- For **each** of your five (or fewer) pediatric nuclear medicine imaging procedures, you will be asked the following:
 - Whether you adjust the radiopharmaceutical activity administered to pediatric patients.
 - If you adjust the administered activity, whether you:
 - Scale by weight (linearly), use the EANM dosage card, body surface area, age, or scale by another method (please specify).
 - If you scale by weight (linearly), please have available the scaling factor you use in MBq/kg or mCi/kg.
 - The maximum administered activity for a large pediatric patient.
 - The minimum administered activity for a small pediatric patient, if you use one.
 - The type of gamma camera you use for the procedure (single or multiple head/detector) and the type of collimator (general purpose, high resolution, high sensitivity, ultrahigh resolution, or medium energy). If you use a pinhole collimator, please enter **Pinhole** under ‘other’.
 - Whether you **mostly** perform SPECT imaging for this procedure and whether you **sometimes** perform SPECT/CT imaging.
 - Example administered activities for the procedure:
 - For a 5 year old boy weighing 20 kg and 110 cm tall
 - For a 10 year old girl weighing 30 kg and 140 cm tall

See the end of this document for a table that may be useful for your data collection

PET/CT Wholebody FDG Imaging

- What guideline for administered activity do you usually follow for wholebody FDG imaging?
 Choices: North American Consensus Guidelines, European Association of Nuclear Medicine (EANM), Administration of Radioactive Substances Advisory Committee (ARSAC), Japanese Society of Nuclear Medicine Guidelines, specified by a local regulatory agency, specified by a local nuclear medicine society, a combination of the above, or developed independently by your service.
- Whether you adjust the FDG activity administered to pediatric patients?
- If you adjust the administered activity, whether you:
 - Scale by weight (linearly), use the EANM dosage card, body surface area, age, or scale by another method (please specify).
- If you scale by weight (linearly), please have available the scaling factor in MBq/kg or mCi/kg:
- The maximum activity for a large pediatric patient:
- The minimum activity for a small pediatric patient, if you use one:
- Example administered activities:
 - For a 5 year old boy weighing 20 kg and 110 cm tall
 - For a 10 year old girl weighing 30 kg and 140 cm tall
- The make and model of the PET/CT system that you typically use for pediatric PET/CT imaging.

CT Imaging as part of PET/CT

- Do you normally use dose modulation and/or automatic exposure control for pediatric imaging? (e.g. AutomA, Care Dose, D-DOM, Adaptive mA, SURE Exposure, etc)
- Do you acquire a diagnostic CT examination?
- Do you use CT contrast in conjunction with PET/CT.
- Do you acquire an **additional** low-dose CT for PET attenuation correction?
- CT parameters and patient characteristics (age, weight, kVp and DLP) for the last five (5) pediatric diagnostic CT examinations **or** if you don't perform a diagnostic CT examination, then please enter the CT parameters for the attenuation correction CT examination:

Age	Weight (kg)	kV or kVp	Dose length product (DLP) [†] in mGy-cm for this age

[†]If you don't know the dose length product (DLP) values, it is possible to calculate the DLP by multiplying the 'volume' CT Dose Index (CTDI_{vol}) in mGy by the typical scan length in cm for a sample of patients. Most modern scanners report these values in the patient imaging results or onscreen.

Data Collection Form for Nuclear Medicine Imaging Procedures

Using these forms is optional, but they may be useful for data collection for the online survey. It can also be useful to tick or cross off the procedures as you enter them online so you don't lose track of where you are in the survey.

Procedure 1 (the most common procedure)

Imaging procedure type		
Is the administered activity adjusted for pediatric patients? (Yes/No)		
If yes:	How do you adjust the activity? (linearly by weight, EANM dosage card, body surface area, age, or other)	
	If by weight: What is the scaling factor in MBq/kg or mCi/kg?	
	Maximum administered activity for a large patient?	
	Minimum administered activity for a small patient?	
Example administered activities for the procedure: For a 5 year old boy weighing 20 kg and 110 cm tall For a 10 year old girl weighing 30 kg and 140 cm tall		
What type of gamma camera do you typically use for the procedure? (single or multiple head/detector)		
What type of collimator do you typically use for this procedure? (General purpose, high resolution, high sensitivity, ultrahigh resolution, medium energy or other).		
Do you mostly perform SPECT imaging for this procedure?		
Do you sometimes perform SPECT/CT imaging for this procedure?		

Procedure 2

Imaging procedure type		
Is the administered activity adjusted for pediatric patients? (Yes/No)		
If yes:	How do you adjust the activity? (linearly by weight, EANM dosage card, body surface area, age, or other)	
	If by weight: What is the scaling factor in MBq/kg or mCi/kg?	
	Maximum administered activity for a large patient?	
	Minimum administered activity for a small patient?	
Example administered activities for the procedure: For a 5 year old boy weighing 20 kg and 110 cm tall For a 10 year old girl weighing 30 kg and 140 cm tall		
What type of gamma camera do you typically use for the procedure? (single or multiple head/detector)		
What type of collimator do you typically use for this procedure? (General purpose, high resolution, high sensitivity, ultrahigh resolution, medium energy or other).		
Do you mostly perform SPECT imaging for this procedure?		
Do you sometimes perform SPECT/CT imaging for this procedure?		

Procedure 3

Imaging procedure type		
Is the administered activity adjusted for pediatric patients? (Yes/No)		
If yes:	How do you adjust the activity? (linearly by weight, EANM dosage card, body surface area, age, or other)	
	If by weight: What is the scaling factor in MBq/kg or mCi/kg?	
	Maximum administered activity for a large patient?	
	Minimum administered activity for a small patient?	
Example administered activities for the procedure: For a 5 year old boy weighing 20 kg and 110 cm tall For a 10 year old girl weighing 30 kg and 140 cm tall		
What type of gamma camera do you typically use for the procedure? (single or multiple head/detector)		
What type of collimator do you typically use for this procedure? (General purpose, high resolution, high sensitivity, ultrahigh resolution, medium energy or other).		
Do you mostly perform SPECT imaging for this procedure?		
Do you sometimes perform SPECT/CT imaging for this procedure?		

Procedure 4

Imaging procedure type		
Is the administered activity adjusted for pediatric patients? (Yes/No)		
If yes:	How do you adjust the activity? (linearly by weight, EANM dosage card, body surface area, age, or other)	
	If by weight: What is the scaling factor in MBq/kg or mCi/kg?	
	Maximum administered activity for a large patient?	
	Minimum administered activity for a small patient?	
Example administered activities for the procedure: For a 5 year old boy weighing 20 kg and 110 cm tall For a 10 year old girl weighing 30 kg and 140 cm tall		
What type of gamma camera do you typically use for the procedure? (single or multiple head/detector)		
What type of collimator do you typically use for this procedure? (General purpose, high resolution, high sensitivity, ultrahigh resolution, medium energy or other).		
Do you mostly perform SPECT imaging for this procedure?		
Do you sometimes perform SPECT/CT imaging for this procedure?		

Procedure 5

Imaging procedure type		
Is the administered activity adjusted for pediatric patients? (Yes/No)		
If yes:	How do you adjust the activity? (linearly by weight, EANM dosage card, body surface area, age, or other)	
	If by weight: What is the scaling factor in MBq/kg or mCi/kg?	
	Maximum administered activity for a large patient?	
	Minimum administered activity for a small patient?	
Example administered activities for the procedure: For a 5 year old boy weighing 20 kg and 110 cm tall For a 10 year old girl weighing 30 kg and 140 cm tall		
What type of gamma camera do you typically use for the procedure? (single or multiple head/detector)		
What type of collimator do you typically use for this procedure? (General purpose, high resolution, high sensitivity, ultrahigh resolution, medium energy or other).		
Do you mostly perform SPECT imaging for this procedure?		
Do you sometimes perform SPECT/CT imaging for this procedure?		