Nuclear Medicine Dictation Standards	
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- To begin the presentation today we are going to review our disclaimer
- Read bullets



- Today's program is focusing on the top 10 Nuclear Medicine Scans performed since June 2013 and what dictations must contain in order for a coder, auditor, or payer to understand exactly what the radiologist performed on that patient.
- Coders and billers appreciate and understand that there are two primary purposes for a radiology report is to:
 - describe what was seen and found in the radiology study to help decide upon the appropriate course of treatment,
 - to communicate with referring physicians and other colleagues.
- Radiologist must realize that the documentation in their reports must support medical necessity, coding, billing and legal requirements.
- Today's presentation will help radiologists, coders and other medical professionals understand and identify dictation standards in Nuclear Medicine reports



- Many of us participating in this webinar are aware that Wilhelm Roentgen discovered X-rays or Roentgen rays on November 8, 1895.
- But you might not be aware that a French physicist named Antoine-Henri Becquerel discovered "spontaneous radioactivity" with uranium salts and became the co-recipient (along with his students Marie Curie and Pierre Curie) of the 1903 Nobel Prize in physics.
- 1976 John Keyes developed the first general purpose single photo emission computed tomography (SPECT) camera.
- Ronald Jaszczak developed the first dedicated head SPECT camera. **1980s** The development of single photon emission tomography led to threedimensional reconstruction of the heart and establishment of the field of Nuclear
 - Cardiology.
- **1983** Henry Wagner carried out the first successful PET imaging of a neuroreceptor using himself as the experimental subject.
- **1995** ADAC Laboratories shipped the first SPECT camera to offer coincidence detection capable of FDG/PET imaging.



Read slide



Read slide



- Technetium was the first element (element 43 on the periodic table shown here) to be produced artificially. It was discovered by C. Perrier and Emilio Gino Segrè in Italy in 1937 and all its isotopes are radioactive.
- It is named after the Greek word technetos, meaning "artificial".



- As demonstrated by this list, Technetium-99m is the most utilized element in Nuclear Medicine and is employed as the base radiopharmaceutical for a wide variety of <u>Nuclear Medicine</u> imaging studies that we are going to discuss today
- Pictured here are some of the most frequently utilized radiopharmaceuticals and the potential anatomic area(s) that can be imaged.
- You will notice that some radiopharmaceuticals can be used on multiple anatomic areas This is not an all-inclusive list of radiopharmaceuticals, so be sure to check with the nuclear medicine department if any site specific questions arise.
- Read



Because there are so many different nuclear medicine procedures, this presentation addresses the Nuclear Medicine procedures that are most commonly referred to vRad's radiologists.



In January of this year (2013), the AMA deleted the old series of Nuclear Medicine thyroid uptake and/or imaging CPT codes and replaced them with codes 78012-78014.

Of these three new CPT Codes, 78014 was most often performed and read by our radiologists

This CPT change split the codes out based upon if it was an uptake only, a scan only, or an uptake and a scan.

Thyroid uptake is defined as "the measurement of the fraction of an administered amount of radioactive iodine that accumulates in the thyroid at selected times following ingestion."

- The radioactive material that is absorbed allows the radiologist to identify whether the gland is overactive, underactive, or functioning normally.
- Uptake measurements may be obtained anywhere from 2 to 24 hours after the administration of a radiopharmaceutical.
- However, most frequently, uptake measurements are performed at 4-6 hours and 24 hours post radiopharmaceutical administration.
- When either single or multiple uptake measurements are obtained, code 78012 should only be reported once.

Also listed are the HCPCS codes for the radiopharmaceuticals commonly used for thyroid imaging.



- The dictation must support medical necessity by always dictating any and all related signs & symptoms, including any pertinent lab test values obtained.
- Read bullet two again some scans may utilize radiopharmaceuticals that could also be used on another body area...Dictating the anatomical area of the scan will help alleviate any confusion to the coder, biller, payer, and/or auditor.
- Read bullet three
- Read bullet four
- Read bullet five



Next we will review lymph system scans:

This scan is primarily performed on breast cancer patients to determine if the cancer has metastasized and if so, through what lymph channel did it spread. It has also become more common to perform this scan on patients diagnosed with malignant melanoma for staging purposes.

Diagnostic nuclear lymphatic and lymph node imaging is a tool for studying diseases involving nodal tissue and evaluating lymphatic transport.

- The patient is placed in a supine position and sulfide colloid is injected according to the lymph node to be visualized.
 - For axillary and apical lymph nodes, for example, the injection is into the medial two interdigital webs of the hand and imaging is done two to four hours later.
 - For the internal mammary lymph nodes, the injection is into the posterior rectus sheath below the rib cage and imaging is dependent upon the study.
 - For the iliopelvic nodes, injection is into the perianal region with the patient in a knee to chest position.

A scintillation or gamma camera takes planar images of the study area on computer screen or film by detecting the gamma radiation from the radiopharmaceutical in the lymphatic tissue as it "scintillates" or gives off energy when coming in contact with the camera's detector.

Also listed here are radiopharmaceuticals HCPCS codes that are commonly used for lymph system imaging



- The dictation must support medical necessity by always dictating any and all related signs & symptoms, including any pertinent lab test values obtained
- Read bullet two again some scans may utilize radiopharmaceuticals that could also be used on another body area...Dictating the anatomical area of the scan will help alleviate any confusion to the coder, biller, payer, and/or auditor
- Title of study should define if this was an injection only, or if it was injection with subsequent imaging
- For lymphatic system imaging If injection only, then code 38792. If injection and imaging, code just 78195. If imaging only just report 78195
- Technique should specify if the injection was performed with or without imaging guidance. If imaging guidance (typically ultrasound) is provided, the coder will assign CPT 76942 in addition to 78195.



- The purpose of this scan is to assess the hepatocellular function and biliary duct patency. Images are obtained of the liver gallbladder, biliary ducts and small intestine. The tracer is followed from the liver through the biliary tree and into the small intestine.
- Often times this scan is to determine if a patient has cholecystitis (acute or chronic).
- Nuclear imaging is performed of the hepatobiliary ductal system, including the gallbladder if present.
- Special radiolabeled aminoacetic acids that are rapidly cleared by hepatocytes and excreted in the bile are injected into a peripheral vein.
- A scintillation or gamma camera takes planar images of the ductal system on computer screen or film by detecting the gamma radiation from the radiopharmaceutical in the body tissue as it "scintillates" or gives off energy in a flash of light when coming in contact with the camera's detector.

This imaging may be done with or without pharmacologic intervention to aid in visualizing the gallbladder and/or measuring its function.

An oral agent is administered that concentrates in the gallbladder after being absorbed in the intestine and excreted by the liver.

The resulting opacification or even nonvisualization of the gallbladder can diagnose disease such as stones, polyps, and cholesterolosis.

And here is a list of the HCPCS codes for the radiopharmaceuticals commonly used for hepatobiliary imaging.



- Support medical necessity by always dictating related signs & symptoms, and any pertinent lab test values.
- Title the exam with the anatomical name of the scan and not by the radiopharmaceutical utilized for the scan.

Some common agents used for pharmacologic intervention during a hepatobiliary scan that some of you might recognize are:

Cholecystokinin (CCK) Sincalide Kinevac Morphine Sulfate (MS)



This scan is typically done on patients that are diabetic, anorexic, or that have some type of gastric outlet obstruction.

There are two potential phases to this study:

Solid –Sulfer Colloid (mixed with scrambled eggs typically) Liquid – DTPA (a beverage to drink)

Once ingested the patient lies down and scans are taken by the gamma camera for the next one to two hours.

Calculations are made to determine what percentage of radioactive material is emptied from the stomach into the duodenum, and what percentage does not get emptied and stays in the stomach.

If both phases are obtained on the same date of service, only bill 78264 one time (consider adding modifier 22).

- Support medical necessity by always dictating related signs & symptoms, and any pertinent lab test values
- Title the exam with the anatomical name of the scan and not by the radiopharmaceutical utilized for the scan.
- And here is are two radiopharmaceuticals commonly used for Gastric Imaging.



- The name of this test tells us what the purpose is...to identify if a patient has an acute GI hemorrhage and where it is located.
- Detection of a hemorrhage depends on the localization of radiotracer that has filtered out of the blood vessel and into the surrounding bowel lumen. Different angle images may be necessary to rule out bleeding that may be obstructed by other organs, such as the liver and spleen.
- If this scan is performed over multiple days, submit the charge only once.
- This CPT is for 2D or planar imaging...if SPECT CT imaging 3D is done along with planar imaging, the CPT code 78299 should be billed for SPECT CT and 78278 should be billed for the planar images



- Another Nuclear Medicine procedure that is commonly interpreted is the Myocardial Perfusion Scan.
- For tomographic myocardial perfusion imaging, the patient receives an intravenous injection of a radionuclide, usually thallium or technetium-99m, which localizes only in nonischemic tissue. SPECT (single photon emission computed tomographic) images of the heart are taken immediately to identify areas of perfusion vs. infarction. SPECT imaging differs from planar imaging by using a single or multiple-head camera that rotates around the patient to give three-dimensional tomographic imaging of the heart displayed in thin slices. In the non-stress version of the procedure, radionuclide is injected and images are taken without stress induction.
- In <u>78451</u>, a single study is performed at rest or stress. If the test is to be done at a stress condition, it is induced with the standard treadmill exercise test or pharmacologically with the infusion of a vasodilator.
- In <u>78452</u>, multiple studies are done at rest and/or stress with a second injection of radionuclide given again in the redistribution and/or resting phase just prior to resting images being taken.
- And here is a list of the HCPCS codes for the radiopharmaceuticals commonly used for myocardial perfusion imaging.



- Support medical necessity by always dictating related signs & symptoms, and any pertinent lab test values.
- Title the exam with the anatomical name of the scan and not by the radiopharmaceutical utilized for it.
- Technique: read bullet three.

If Stress study is performed, bill the applicable code from 93015-93018 separately.



MSK imaging is another one of vRad's frequent Nuclear Medicine studies. These scans are performed for a variety of reasons, including:

Discovering malignancy Diagnosing stress fractures

3 Phase scans are primarily for differentiating cellulitis vs. ostemyelitis.

And again, we have provided a list of the HCPCS codes for the radiopharmaceuticals commonly used for musculoskeletal imaging.



- Support medical necessity by always dictating related signs & symptoms, and any pertinent lab test values.
- Title the exam with the anatomical name of the scan and not by the radiopharmaceutical utilized for the scan.
- Read bullet 3
- Read bullet 4



- Pulmonary ventilation and perfusion scans are performed frequently. The primary indication for these scans is shortness of breath (S.O.B.). This scan will identify if the S.O.B. is being caused by a pulmonary embolism.
- Nuclear ventilation imaging of the lungs is designed to show the regional distribution of inspired air throughout the lung tissue and the uptake and clearance dynamics of the lungs.
- In CPT code 78582, Ventilation and perfusion imaging of the lungs is used to detect pulmonary embolisms and the percentage of total perfusion and ventilation attributable to each lung.
- Perfusion imaging is done after a venous injection of radioactive macroaggregated albumin is given to the patient. The albumin particles are too large to pass through the pulmonary capillary bed and accumulate there as they are strained out. This localization of particles is proportional to the blood flow and thereby maps lung perfusion.
- A nuclear ventilation image is obtained to complement the perfusion image. For a single breath image, a posterior view of the thorax is taken as the patient inhales radiolabeled Xenon gas in a single breath and holds it as long as possible. This image obtained from the gamma camera that detects the radioactivity from the gas in the lungs shows well-ventilated areas having uniform activity and poorly ventilated areas with decreased or absent radioactivity.
- And once again, we have provided a list of the HCPCS codes for the radiopharmaceuticals commonly used for pulmonary imaging .



Again our top two dictation requirements are supporting medical necessity and providing the coders with an anatomical description of the area imaged, and not the radiopharmaceutical that was used in the scan.

Read bullet 3

Perfusion = following IV injection of MAA radioactive material mixes within the blood flow and serves as a map for blood supply supporting lung perfusion.

Ventilation = inhalation of an aerosol or gas that demonstrates the well ventilated areas with consistent radioactivity and poorly ventilated areas with little or no radioactivity.



The next Nuclear Medicine procedure that we will cover is Kidney imaging. This study is sometimes call a renogram or a triple phase renal scan.

In CPT code 78707, the radiopharmaceutical injection takes place followed by immediate images showing the tracer flow into the kidneys. Over the next ½ hour, scans are taken to watch the flow excreted by the kidneys and flowing down the ureters to the bladder.

CPT code 78708 is the same procedure as the one I just described, but an additional drug is given either before or during the scan (Captopril/Lasix).

CPT code 78709 is billed when two or more studies are performed, including with and without pharmacologic intervention.

And here is a list of the HCPCS codes for the radiopharmaceuticals commonly used for genitourinary (kidney) imaging.



Again our top two dictation requirements are supporting medical necessity and providing the coders with an anatomical description of the area imaged, and not the radiopharmaceutical used for the scan.

Read bullet 3



CPT code 78815 represents the most common body area scanned in Positron Emission Tomography (PET) procedures today – skull base to mid thigh. The CT portion of the PET CT scan is for anatomical localization of the scanned area and the two are layered together to better differentiate any areas identified for a more detailed examination

Positron emission tomography (PET) produces thin slice images of the body that can be reassembled into three-dimensional representations by detecting positron-emitting radionuclides from a radiopharmaceutical introduced into the body.

Computed tomography (CT) directs multiple narrow beams of x-rays around a body structure to produce thin, cross-sectional views of anatomical layers (or slices) of the body.

The PET scan is highly sensitive to metabolic activity of the tumor while CT provides a detailed internal picture of the size, shape, and location of the tumor. PET alone has a definite limitation with respect to spatial resolution and physiological uptake of the radiopharmaceutical tracer. In some areas, PET alone can be underestimated or misinterpreted without accurate, anatomical correlations to the CT scan.

Scanners that concurrently utilize PET with CT imaging correct for this limitation of PET, by fusing the data for precise anatomical location together with highly sensitive metabolic imaging.

Report <u>78814</u> for concurrently acquired PET/CT imaging of a limited area, such as the head and neck alone; <u>78815</u> for imaging from the skull base to the mid-thigh; and <u>78816</u> for whole body scanning.



Again our top two dictation requirements are supporting medical necessity and providing the coders with an anatomical description of the area imaged, and not the radiopharmaceutical that was used for the PET scan.

Read bullet 3

This concludes today's presentation on Nuclear Medicine dictation standards. Thank you for attending today's webinar.



