§482.53 Condition of Participation: Nuclear Medicine Services

If the hospital provides nuclear medicine services, those services must meet the needs of the patients in accordance with acceptable standards of practice.

Interpretative Guidelines §482.53

This is an optional hospital service. However, if a hospital provides any nuclear medicine services to its patients, it must comply with the requirements of this Condition of Participation.

The manner or degree of noncompliance with the requirements of this Condition and its component standards must be evaluated to determine whether there is substantial noncompliance with the Condition, warranting a Condition-level citation. However, the regulatory language concerning provision of nuclear medicine services in a manner that meets the needs of the patients in accordance with acceptable standards of practice appears only in the condition "stem" statement of this CoP. This does not mean, however, that deficiencies related to these requirements must automatically be cited at the condition level. To facilitate, when appropriate, citation of deficiencies associated with these requirements at the appropriate level, Tag A-1025 must be used for condition-level citations, while Tag A-1026 must be used for standard-level citations related to the stem statement language.

What is Nuclear Medicine and what is it used for?

Nuclear medicine uses radioactive material to diagnose or treat a variety of diseases and conditions.

Diagnostic Nuclear Medicine

When a diagnostic nuclear medicine study is performed, a patient inhales, swallows, or is injected with a small amount of a radiopharmaceutical that accumulates in a specific organ or area of the body. A radiopharmaceutical is a drug that contains a radioactive component. The energy emitted by the radioactive material is detected by a device, processed and measured by a computer, and then displayed as an image on a screen or on film that is then interpreted by a radiologist specially trained in nuclear medicine or another type of physician with specialized training as a nuclear medicine physician. The image(s) provide details on both the structure and function of organs and tissues.

For some studies, nuclear medicine techniques can be combined with other medical imaging devices, such as CT scans or MRIs, in which the same machine can deliver, detect, and process several types of images at the same time. The technique of combining various imaging modalities is called hybrid imaging. Hybrid imaging can provide more precise information and accurate diagnoses and is predominantly used in the diagnosis and treatment of cancer.

Nuclear medicine diagnostic imaging scans are commonly performed to:

- Visualize heart blood flow and function, e.g., a cardiac stress test or myocardial perfusion scan; this is the most frequent use of nuclear medicine diagnostic imaging.

- Diagnose blood clots in the lungs (pulmonary emboli) with a ventilation/perfusion (V/Q) scan;

- Identify areas of infection, inflammation, or cancer metastases with a bone scan;

- Localize lymph nodes prior to surgery;

- Determine gastrointestinal tract muscle function by measuring time for swallowing and emptying;

- Determine the functioning and perfusion of many other organs, including the thyroid gland, kidneys, brain, and gall bladder

Therapeutic Nuclear Medicine

Nuclear medicine can also be used to treat various diseases and conditions. For these types of procedures, a specific radiopharmaceutical agent is used to deliver a specific amount of radioactivity to a targeted cell type or organ. The energy emitted by the radioactive agent incapacitates or kills the diseased cells of that targeted tissue, and thus limits the exposure of healthy tissue to radioactivity.

Examples of therapies that use nuclear medicine include (but are not limited to):

- Radioactive iodine to treat hyperthyroidism (Graves' disease);
- Radioactive antibodies that target specific forms of lymphoma;
- Radioactive agents to relieve pain in areas of bony metastases.