

## Single Photon Emission Computed Tomography (SPECT) of the Brain

Published: 04/01/2019

Next Review: 03/2020

Last Review: 03/2019

Medicare Link(s) Revised: N/A

### IMPORTANT REMINDER

*The Medicare Advantage Medical Policy manual is not intended to override the member Evidence of Coverage (EOC), which defines the insured's benefits, nor is it intended to dictate how providers are to practice medicine. Physicians and other health care providers are expected to exercise their medical judgment in providing the most appropriate care for the individual member.*

*The Medicare Advantage Medical Policies are designed to provide guidance regarding the decision-making process for the coverage or non-coverage of services or procedures in accordance with the member EOC and the Centers of Medicare and Medicaid Services (CMS) policies, when available. In the event of a conflict, applicable CMS policy or EOC language will take precedence over the Medicare Advantage Medical Policy. In the absence of CMS guidance for a requested service or procedure, the health plan may apply their Medical Policy Manual or MCG™ criteria, both of which are developed with an objective, evidence-based process using scientific evidence, current generally accepted standards of medical practice, and authoritative clinical practice guidelines.*

*Medicare and EOCs exclude from coverage, among other things, services or procedures considered to be investigational, cosmetic, or not medically necessary, and in some cases, providers may bill members for these non-covered services or procedures. Providers are encouraged to inform members in advance when they may be financially responsible for the cost of non-covered or excluded services.*

## DESCRIPTION

Single photon emission computed tomography (SPECT) is a type of nuclear imaging that uses a radioactive substance to visualize functional information of body organs, including the brain. Brain imaging requires the use of radiopharmaceuticals that cross the blood-brain barrier. SPECT has been used to determine dopamine and serotonin receptor availability and to study regional cerebral blood flow in the brain. It has also been proposed as a tool to diagnose and estimate treatment response in various conditions, including attention deficit/hyperactivity disorder (ADHD), Alzheimer's disease /dementias, and other psychiatric conditions (e.g., major depression).

## MEDICARE ADVANTAGE POLICY CRITERIA

### Important Notes:

- This policy addresses only single photon emission computed tomography (SPECT) of the brain. This policy does not address the use of SPECT other than SPECT of the brain.
- In addition, this policy does **not** address dopamine transporter imaging with SPECT (DaT-SPECT), which may be considered **medically necessary** for Medicare Advantage.
- Finally, this policy only addresses indications specified in the list below. SPECT of the brain for indications **other than those** listed may be considered **medically necessary**.
  - Behavioral health disorders (including, but not limited to bipolar disorder, major depressive disorder, schizophrenia, and personality disorders)
  - Attention-deficit/hyperactivity disorder (ADHD)
  - Substance-related disorders (including alcohol)
  - Autism
  - Traumatic brain injury
  - Cerebrovascular disease (including stroke, transient ischemic attack, and subarachnoid hemorrhage)
  - Encephalopathy
  - Chronic fatigue syndrome
  - Dementias (including Alzheimer's, vascular dementia, frontal temporal dementia, Pick's disease and dementia with Lewy bodies)
  - Parkinsonian syndromes and essential tremor
  - Motor neuron disorders [including amyotrophic lateral sclerosis (ALS), progressive bulbar palsy, primary lateral sclerosis, and progressive (spinal) muscular atrophy]
  - Multiple sclerosis

<b>CMS Coverage Manuals*</b>	None
<b>National Coverage Determinations (NCDs)*</b>	See References <sup>[1]</sup>  While blood flow analysis to an organ is addressed within the NCD, SPECT imaging of the brain itself is not. The indications that are addressed within the NCD are considered medically necessary and are not reviewed by the health plan. In addition, while Medicare has an NCD for <i>PET scans</i> for dementias, the technology is different, and therefore, not applicable.
<b>Noridian Healthcare Solutions (Noridian) Local Coverage Determinations (LCDs) and Articles (LCAs)*</b>	None

Single Photon Emission Computed Tomography (SPECT) of the Brain, Radiology, [Policy No. 44](#) (see "NOTE" below)

**NOTE:** If a procedure or device lacks scientific evidence regarding safety and efficacy because it is investigational or experimental, the service is noncovered as not reasonable and necessary to treat illness or injury. (*Medicare IOM Pub. No. 100-04, Ch. 23, §30 A*). According to Title XVIII of the Social Security Act, §1862(a)(1)(A), only medically reasonable and necessary services are covered by Medicare. In the absence of a NCD, LCD, or other coverage guideline, CMS guidelines allow a Medicare Advantage Organization (MAO) to make coverage determinations, applying an **objective, evidence-based process, based on authoritative evidence**. (*Medicare IOM Pub. No. 100-16, Ch. 4, §90.5*). The Medicare Advantage Medical Policy - Medicine Policy No. M-149 - provides further details regarding the plan's evidence-assessment process (see Cross References).

## POLICY GUIDELINES

### REQUIRED DOCUMENTATION

The information below **must** be submitted for review to determine whether policy criteria are met. If any of these items are not submitted, it could impact our review and decision outcome:

- History and physical/chart notes
- Diagnosis and indication for testing.

## CROSS REFERENCES

[Investigational \(Experimental\) Services and New and Emerging Medical Technologies and Procedures](#), Medicine, Policy No. M-149

## REFERENCES

1. NCD for Single Photon Emission Computed Tomography (SPECT) ([220.12](#))

## CODING

Codes	Number	Description
CPT	78607	Brain imaging, tomographic (SPECT)
HCPCS	None	

**\*IMPORTANT NOTE:** Medicare Advantage medical policies use the most current Medicare references available at the time the policy was developed. Links to Medicare references will take viewers to external web sites outside of the health plan's web control as these sites are not maintained by the health plan.