Policy Number	**MED202.048**
Policy Effective Date	**03/15/2025**
Policy End Date	**12/31/2025**

Tilt Table Testing

Table of Contents
Coverage
Policy Guidelines
Description
Rationale
Coding
References
Policy History

Related Policies (if applicable)
None

Disclaimer

Carefully check state regulations and/or the member contract.
Each benefit plan, summary plan description or contract defines which services are covered, which services are excluded, and which services are subject to dollar caps or other limitations, conditions or exclusions. Members and their providers have the responsibility for consulting the member's benefit plan, summary plan description or contract to determine if there are any exclusions or other benefit limitations applicable to this service or supply. **If there is a discrepancy between a Medical Policy and a member's benefit plan, summary plan description or contract, the benefit plan, summary plan description or contract will govern.**

Coverage

This medical policy has become inactive as of the end date above. There is no current active version and this policy is not to be used for current claims adjudication or business purposes.

Tilt-table testing **may be considered medically necessary** for any of the following:

- Individuals who have experienced one or more syncopal episodes, whether or not the medical history is suggestive of neurally mediated (vasovagal) origin; AND
  - There is no evidence of structural cardiovascular disease (based on thorough history and physical, 12-lead electrocardiogram (ECG), echocardiogram and formal exercise testing); or
  - Structural cardiovascular disease is present, but other causes of syncope have been excluded by appropriate testing; OR
- Further evaluation of an individual with syncope in whom an apparent cause has been established (e.g., asystole, atrioventricular block), but in whom demonstration of susceptibility of neurally mediated syncope would affect treatment plans; OR
- Part of the evaluation of exercise-induced or exercise-associated syncope; OR

- Differentiating convulsive (seizure-like movement) syncope, from true seizure activity.

Tilt-table testing **is considered experimental, investigational and/or unproven** for all other indications including, but not limited to:

- Assessing recurrent dizziness or presyncope; OR
- Evaluating unexplained syncope in the setting of peripheral neuropathies or dysautonomias; OR
- Follow-up evaluations to assess therapy of neurally mediated syncope; OR
- Syncope in which an alternative specific cause has been established and in which additional demonstration of a neurally mediated susceptibility would not alter treatment plans; OR
- Identifying individuals with chronic fatigue syndrome and/or evaluating treatment effectiveness of this condition.

Policy Guidelines

None.

Description

Syncope

Syncope is a transient loss of consciousness and postural tone followed by spontaneous recovery. (1) While there are numerous classification schemes used to further identify and manage underlying conditions that may lead to syncope, syncope ultimately results from decreased cerebral perfusion. Syncopal episodes may occur suddenly and without preceding signs or symptoms or may be preceded by dizziness, lightheadedness, diaphoresis, nausea, visual disturbances, or other signs and symptoms. Patients may describe syncopal events in a wide variety of ways, some of which include fainting, blacking out, falling out, having a spell, or losing consciousness. Syncope is responsible for 1%-3.5% of all emergency department visits and 6% of all hospital admissions in the United States. Underlying conditions that may cause decreased brain perfusion and lead to syncope can range from benign to life-threatening.

Syncope is a symptom of an underlying disease process rather than a disease itself. Although syncope mimics a death-like experience eliciting extreme consternation among both patients and their families, most syncopal events have a benign cause. Benign causes of syncope reflect vasovagal (also known as neurocardiogenic), volume depletion, or medication-related etiologies. More ominous causes are related to dysrhythmia and valvular abnormalities such as ventricular tachycardia, atrioventricular (AV) block, or critical aortic stenosis. A history of left ventricular dysfunction (with concomitant degeneration of the conduction system leading toward a propensity for dysrhythmias) has been found to be the most ominous predictor of an adverse etiology of a syncopal event.

Tilt-Table Testing

The tilt-table test is used to diagnose neurocardiogenic syncope while evaluating orthostatic intolerance. The device required for a tilt-table test is a motorized table designed specifically for use in a cardiac catheterization or electrophysiology laboratory. This table differs from tilt-tables used in radiology and physical therapy departments. The tilt-table for syncope testing must change the patient's position from 0-60° in less than ten seconds, must be able to restore the patient equally as quickly to a supine position, and must have proper restraints. The individual is held at a 60° angle for an extended period of time, during which heart rate and blood pressure are monitored and syncope observed should it occur. Syncope is defined as a sudden, transient loss of consciousness accompanied by loss of postural tone.

The tilt-table test has also been used to classify an individual's syncope into different categories, which may aid in determining whether an individual is a candidate for insertion of a pacemaker to treat syncope. Based on the heart rate and blood pressure changes observed during the tilt, syncope can be classified as type 1 mixed, type 2A cardioinhibition without asystole, type 2B cardioinhibition with asystole, or type 3 pure vasodepressor.

Rationale

Syncope

Although tilt-table testing allows confirmation of a diagnosis of neurocardiogenic syncope in many cases, it is not specific enough to rule out life-threatening cardiac causes of syncope, and not sensitive enough to detect most cases of neurocardiogenic syncope. Two randomized clinical trials (RCT) evaluating dual-chamber pacemakers as a treatment for neurocardiogenic syncope in patients with refractory syncope have been published. (2, 3) The entry criteria for these clinical trials required that the patient have a cardioinhibitory or bradycardic response as assessed by tilt-table testing. This criterion exists because the scientific rationale for this treatment is that the pacemaker corrects the slow heart rhythm that is presumably the cause of the syncope in this subset of patients. In the North American Vasovagal Pacemaker Study, 54 patients were evenly randomized to receive a pacemaker or no pacemaker. The trial was terminated early because of a strong effect observed in favor of pacing. Recurrent syncope occurred in 19/27 (70%) of no-pacemaker patients and in 6/27 (22%) of pacemaker patients. The relative risk reduction, as calculated through survival analysis, was 85.4 %. (2) In another study of pacemakers by Sutton and co-workers, 42 patients were randomized to receive pacemaker or no pacemaker. (3) One of 19 (5%) patients in the pacemaker group experienced recurrent syncope, compared with 14/23 (61%) of patients in the no-pacemaker group. Several concerns have been expressed about the results of these clinical trials of pacemaker therapy, such as the lack of a sham control, a no-treatment control group (as opposed to an active no-pacemaker control group), the small sample sizes, and the highly select nature of the populations studied. With respect to tilt-table testing, concern has been expressed as to whether the cardioinhibitory response elicited on a tilt-table test corresponds to the cardioinhibitory response of the syncopal episode.

Evidence is lacking as to whether cardiac pacing is effective among patients with other types of tilt-table test responses or among patients with negative tilt-table tests. Thus, it is unknown whether the tilt-table test is a necessary component of the selection criteria for a pacemaker. However, given the invasiveness and complexity of pacemaker treatment for syncope, it would be reasonable to incorporate the screening criteria used in the clinical trials reviewed above. Thus, for patients whose frequency and severity of neurogenic syncope, and who are refractory to treatment merit consideration for pacemaker therapy, tilt-table testing to evaluate cardioinhibitory response may be considered medically necessary.

Chronic Fatigue Syndrome

Other emerging conditions for which tilt table testing has been proposed include evaluation of chronic fatigue syndrome to determine if neurally mediated hypotension and bradycardia are contributing factors, and evaluation of recurrent vertigo and recurrent transient ischemic attacks. The use of tilt table testing for these indications has not gained widespread acceptance, and the diagnostic utility of tilt table testing to evaluate these conditions has not been demonstrated in the published medical literature. (4)

There is inadequate evidence of the effectiveness of tilt-table testing for identifying chronic fatigue syndrome (CFS) patients who would respond to medications to increase their blood pressure. Several case series have shown that patients with known CFS frequently have abnormal responses to tilt-table testing, and CFS patients in these series frequently appear to respond to anti-hypotensive medications commonly used in patients with neurally mediated hypotension. These case studies fail to demonstrate, however, any value of tilt-table testing in distinguishing CFS patients that would respond to these medications from those who would not.

UpToDate

The upright tilt-table test is a component of the evaluation of selected patients with syncope. (5) The role for tilt-table testing is limited since the initial diagnostic evaluation (without tilt testing) is often diagnostic in patients with vasovagal syncope, and tilt-table testing has limited reproducibility and diagnostic accuracy. With the understanding that tilt table testing is an imperfect diagnostic test requiring experienced interpretation and that clinical practice varies, tilt table testing may be included as part of the complete syncope evaluation for selected patients.

Professional Guidelines and Position Statements

Heart Rhythm Society

In the 2015 Heart Rhythm Society Expert Consensus Statement (reaffirmed November 18, 2020) (6), the following recommendations were made about tilt table testing:

- Tilt-table testing can be useful for assessing patients with suspected vasovagal syncope who lack a confident diagnosis after the initial assessment.
- Tilt-table testing is a reasonable option for differentiating between convulsive syncope and epilepsy, for establishing a diagnosis of pseudosyncope, and for testing patients with suspected vasovagal syncope but without clear diagnostic features.

- Tilt-table testing may be considered to identify patients with a hypotensive response who would be less likely to respond to permanent cardiac pacing.

American College of Cardiology, American Heart Association and the Heart Rhythm Society (ACC/AHA/HRS) (7)

In 2017, ACC/AHA/HRS updated the guidelines for the evaluation and management of patients with syncope.

Executive summary recommendations specific to tilt table testing:

- If the diagnosis is unclear after initial evaluation, tilt-table testing can be useful for patients with suspected vasovagal syncope (VVS).
- Tilt-table testing can be useful for patients with syncope and suspected delayed orthostatic hypotension (OH) when initial evaluation is not diagnostic.
- Tilt-table testing is reasonable to distinguish convulsive syncope from epilepsy in selected patients.
- Tilt-table testing is reasonable to establish a diagnosis of pseudosyncope.
- Tilt-table testing can be useful for pediatric patients with suspected VVS when the diagnosis is unclear.
- Tilt-table testing is not recommended to predict a response to medical treatments for VVS.

European Society of Cardiology (ESC)

Task Force for the Diagnosis and Management of Syncope: ESC guidelines for the management of syncope were updated in 2018. (8) After a careful history and physical examination, tilt-table testing is particularly helpful in confirmation of the etiology of syncope dysfunction of the autonomic nervous system, encompassing primary or secondary dysautonomias, postural orthostatic tachycardia syndrome (POTS), and vasodepressor or vasovagal syncope. Other venues of investigation, such as a 12-lead electrocardiogram, orthostatic blood pressure readings, Holter/event recording, serum glucose and electrolytes, echocardiography, and psychiatric and/or neurology consultation should be considered prior to tilt-table testing to rule out malignant dysrhythmic, metabolic, cardiac mechanical, or psychological/neurological etiologies of syncope.

Indications and levels of evidence are classified in the ESC guideline as follows:

- Class I: Evidence and/or general agreement that a given treatment or procedure is beneficial, useful, effective. Is recommended/is indicated.
- Class II: Conflicting evidence and/or a divergence of opinion about the usefulness/efficacy of the given treatment or procedure:
  - IIa: Weight of evidence/opinion is in favor of usefulness/efficacy. Should be considered.
  - IIb: Usefulness/efficacy is less well established by evidence/opinion. May be considered.
- Class III: Evidence or general agreement that the given treatment or procedure is not useful/effective and in some cases, may be harmful. Is not recommended.

- Level of evidence A: Data derived from multiple randomized clinical trials or meta-analyses.

- Level of evidence B: Data derived from a single randomized clinical trial or large non-randomized studies.
- Level of evidence C: Consensus of opinion of the experts and/or small studies, retrospective studies, registries.

The revised guidelines focused on known knowledge and realizing no therapy can be effective for all patients:

- Video recordings of spontaneous events and increased role of prolonged ECG monitoring, although this is often not available or realistic.
- Only a few small RCTs have been conducted on treatment of syncope. In addition, syncopal recurrences are unpredictable and often decrease spontaneously after medical assessment, even in the absence of a specific therapy.
- Blood pressure recording is crucial for the majority of clinical transient level of consciousness situations and will yield important information for the treatment of syncope. Unfortunately, current long-term BP (or surrogate) recording systems are not optimal for diagnostic use in the syncope evaluation setting.
- There is wide variation in the practice of syncope evaluation, and wide variation in the adoption of recommendations from published guidelines.

Summary of Evidence

Although, tilt table testing is used in the evaluation of patients with syncope, it has not been evaluated in randomized controlled trials and remains experimental, investigational and/or unproven for all other indications; including but not limited to presyncope, peripheral neuropathies or dysautonomias, neutrally mediated syncope and chronic fatigue syndrome.

Coding

Procedure codes on Medical Policy documents are included **only** as a general reference tool for each policy. **They may not be all-inclusive.**

The presence or absence of procedure, service, supply, or device codes in a Medical Policy document has no relevance for determination of benefit coverage for members or reimbursement for providers. **Only the written coverage position in a Medical Policy should be used for such determinations.**

Benefit coverage determinations based on written Medical Policy coverage positions must include review of the member's benefit contract or Summary Plan Description (SPD) for defined coverage vs. non-coverage, benefit exclusions, and benefit limitations such as dollar or duration caps.

CPT Codes	93660
HCPCS Codes	None

*Current Procedural Terminology (CPT®) ©2024 American Medical Association: Chicago, IL.

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Centers for Medicare and Medicaid Services (CMS)

The information contained in this section is for informational purposes only. HCSC makes no representation as to the accuracy of this information. It is not to be used for claims adjudication for HCSC Plans.

The Centers for Medicare and Medicaid Services (CMS) does not have a national Medicare coverage position. Coverage may be subject to local carrier discretion.

A national coverage position for Medicare may have been developed since this medical policy document was written. See Medicare's National Coverage at <https://www.cms.hhs.gov>.

Policy History/Revision

Date	Description of Change
12/31/2025	Document became inactive.
03/15/2025	Document updated with literature review. Coverage unchanged. References updated.

04/01/2024	Reviewed. No changes.
03/15/2023	Document updated with literature review. Coverage unchanged. References 1, 4 and 5 added; others removed.
07/01/2022	Reviewed. No changes.
05/01/2021	Document updated with literature review. Coverage unchanged. No references added.
04/01/2020	Reviewed. No changes.
04/15/2018	Document updated with literature review. Coverage unchanged. References 11, 12 and 13 added.
04/15/2017	Reviewed. No changes.
04/15/2016	Document updated with literature review. The following was added to the listing of medically necessary indications: Differentiating convulsive (seizure-like movement) syncope, from true seizure activity.
10/01/2015	Reviewed. No changes.
06/01/2014	Document updated with literature review. Coverage unchanged.
03/01/2013	Document updated with literature review. The following was added to the listing of experimental, investigational and unproven indications: "Identifying patients with chronic fatigue syndrome and/or evaluating treatment effectiveness of this condition."
09/15/2010	Document updated with literature review. The following was changed: Tilt-table testing may be considered medically necessary when criteria are met, regardless of the number of syncopal episodes or the patient's risk level. Also, "This policy is no longer scheduled for routine literature review and update" was removed.
05/15/2008	Policy reviewed without literature review; new review date only.
12/01/2006	Revised/updated entire document
08/01/1999	Revised/updated entire document
06/01/1999	Revised/updated entire document
05/01/1996	Revised/updated entire document
07/01/1993	New medical document