Prior Authorization Review Panel
MCO Policy Submission

A separate copy of this form must accompany each policy submitted for review.
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Plan: AmeriHealth Caritas Pennsylvania Community HealthChoices	**Submission Date**: 10/1/2024
Policy Number: ccp.1159	**Effective Date:** 7/2015 **Revision Date:** 9/1/2024
Policy Name: Nonpharmacologic treatments for chronic vertigo	

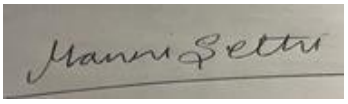
Type of Submission – Check all that apply:

- ☐ **New Policy**
- ☒ **Revised Policy***
- ☐ **Annual Review – No Revisions**
- ☐ **Statewide PDL**

***All revisions to the policy must be highlighted using track changes throughout the document.**

Please provide any clarifying information for the policy below:

See tracked changes below.

Name of Authorized Individual (Please type or print): Manni Sethi, MD, MBA, CHCQM	**Signature of Authorized Individual:** 

Nonpharmacologic treatments for chronic vertigo

Clinical Policy ID: CCP.1159

Recent review date: 9/2024

Next review date: 1/2025

Policy contains: Dynamic posturography; particle (canalith) repositioning maneuvers; transtympanic micropressure; vestibular rehabilitation.

AmeriHealth Caritas Pennsylvania Community HealthChoices has developed clinical policies to assist with making coverage determinations. AmeriHealth Caritas Pennsylvania Community HealthChoices' clinical policies are based on guidelines from established industry sources, such as the Centers for Medicare & Medicaid Services (CMS), state regulatory agencies, the American Medical Association (AMA), medical specialty professional societies, and peer-reviewed professional literature. These clinical policies along with other sources, such as plan benefits and state and federal laws and regulatory requirements, including any state- or plan-specific definition of "medically necessary," and the specific facts of the particular situation are considered by AmeriHealth Caritas Pennsylvania Community HealthChoices on a case by case basis, when making coverage determinations. In the event of conflict between this clinical policy and plan benefits and/or state or federal laws and/or regulatory requirements, the plan benefits and/or state and federal laws and/or regulatory requirements shall control. AmeriHealth Caritas Pennsylvania Community HealthChoices' clinical policies are for informational purposes only and not intended as medical advice or to direct treatment. Physicians and other health care providers are solely responsible for the treatment decisions for their patients. AmeriHealth Caritas Pennsylvania Community HealthChoices' clinical policies are reflective of evidence-based medicine at the time of review. As medical science evolves, AmeriHealth Caritas Pennsylvania Community HealthChoices will update its clinical policies as necessary. AmeriHealth Caritas Pennsylvania Community HealthChoices' clinical policies are not guarantees of payment.

Coverage policy

Particle repositioning maneuvers (either the Epley maneuver or the Semont maneuver) for treatment of benign paroxysmal positioning vertigo is clinically proven and, therefore, and may be medically necessary when all of the following criteria are met (Bhattacharyya, 2017):

- Confirmed by a positive Dix-Hallpike maneuver, characterized by:
    - Vertigo is associated with a mixed torsional and vertical nystagmus.
    - Latency period between the completion of the maneuver and the onset of vertigo and nystagmus.
    - Limited duration of vertigo and nystagmus, typically less than 60 seconds.

For lateral (horizontal) canal BPPV: Confirmed by a positive supine roll test, characterized by:

- Horizontal nystagmus changing direction based on head position.
- Geotropic or apogeotropic nystagmus.

Patient History:

• Reports recurrent, brief episodes of vertigo triggered by changes in head position.

Vestibular rehabilitation may be clinically proven and, therefore, medically necessary when all of the following criteria are met (McDonnell, 2015; Porciuncula, 2012; Wegner 2014):

- Diagnosis of vestibular hypofunction has been confirmed by vestibular function tests.
- Symptoms of vestibular hypofunction have existed for at least one month.
- Rehabilitation is performed by a physical therapist or occupational therapist as part of a therapy plan of care.

Dynamic posturography and tympanic micropressure for treatment of vestibular disorders are investigational/not clinically proven and, therefore, not medically necessary (Ahsan, 2015; Syed 2014, 2015).

Limitations

All other uses of particle repositioning maneuvers (the Epley maneuver or the Semont maneuver) or vestibular rehabilitation are not medically necessary, including:

- For particle repositioning maneuvers, benign paroxysmal positioning vertigo is usually in remission within two visits. Beyond two visits, there should be justification in the medical record for continued treatment. Beyond four visits with no remission, there should be consideration of referral back to the attending physician.
- For vestibular rehabilitation:
    - Members with certain comorbidities may not be appropriate candidates or may need specialized, individually tailored vestibular rehabilitation protocols. Examples of such comorbidities include cervical stenosis, Down syndrome, severe rheumatoid arthritis, cervical radiculopathies, Paget's disease, morbid obesity, ankylosing spondylitis, low back dysfunction, and spinal cord injuries (Bhattacharyya, 2017).
    - One visit per week for six weeks is considered medically necessary. Six additional visits are considered medically necessary if, upon medical review, there is evidence of clinically significant improvement. If there is no evidence of improvement after 12 visits, additional visits are not considered medically necessary.

Alternative covered services

- Surgical treatment.
- Medical treatment such as antiepilepsy pharmacologics, antivertigo drugs, beta-receptor blockers, betahistine, ototoxic antibiotics, corticosteroids, calcium-channel blockers, carboanhydrase inhibitors and serotonin reuptake inhibitors.

Background

The vestibular system uses sensory input from the eyes, muscles and joints, and inner ear to maintain balance and stable vision (Vestibular Disorders Association, 2023). Vestibular disorders can result from disease or injury that damages the processing areas in the inner ear and brain. The most common causes of vestibular disorders in adults are head trauma and age-related degeneration of the otolithic membrane, but in many cases the cause is unknown (Vestibular Disorders Association, 2023). In children, the most common disorders known to cause dizziness and vertigo are benign paroxysmal vertigo of childhood, migraine, trauma, vestibular neuritis and otitis media (Gioacchini, 2014, McCaslin, 2011).

Common symptoms of vestibular disorders include imbalance or unsteadiness, dizziness, blurred or bouncing vision, nausea, hearing changes, problems with coordination, and vertigo (Vestibular Disorders Association, 2023). Symptoms of vestibular dysfunction may be mild, lasting perhaps only seconds or minutes, or they may be severe, resulting in total disability.

There is no consensus on the precise definition of vertigo, but it is generally recognized as a distinct type of dizziness with the sense of rotation, rocking, or of the world spinning, even when the person is perfectly still, also known as illusion of motion (Strupp, 2013). In the United States, 1.7% of ambulatory medical care visits recorded vertigo or dizziness among the chief complaints (Nguyen-Huynh, 2012).

The most common vestibular disorder is benign paroxysmal positioning vertigo (Vestibular Disorders Association, 2023). Subtypes of benign paroxysmal positioning vertigo are distinguished by the particular semicircular canal involved (anterior, posterior, or horizontal) and whether the detached otoconia are free-floating within the affected canal (canalithiasis) or attached to the cupula (cupulolithiasis). Benign paroxysmal positioning vertigo is typically unilateral, and the most common form is canalithiasis in the posterior semicircular canal.

In most cases, the symptoms diminish or disappear without treatment as the vestibular system heals or the nervous system learns to compensate for the disorder (Strupp, 2013). Watchful waiting may be preferred, but the time to resolution of symptoms varies considerably across diagnoses. Some patients or providers may wish to expedite recovery and avoid further risk of injury. When symptoms persist, treatment can provide a complete cure or only control the symptoms. Treatment for vestibular disorders varies according to the diagnosis and may consist of positional head maneuvers, dietary changes, vestibular rehabilitation therapy, prescribed drugs or equipment, or, in some cases, surgery.

Findings

Guidelines:

The Clinical Practice Guideline on Benign Paroxysmal Positional Vertigo from the American Academy of Otolaryngology—Head and Neck Surgery strongly recommends the use of particle repositioning maneuvers, such as the Epley maneuver or the Semont maneuver, for the treatment of benign paroxysmal positional vertigo. The guidelines strongly recommend the Epley maneuver as the first-line treatment for posterior semicircular canal benign paroxysmal positional vertigo based on high-quality evidence from randomized controlled trials and systematic reviews cited in the guideline. The Epley maneuver has been shown to be significantly more effective than placebo or alternative treatments like Brandt-Daroff exercises for resolving symptoms and converting the Dix-Hallpike test to negative. Multiple studies cited in the guideline demonstrate high success rates with additional Epley maneuvers for patients not fully cleared after initial treatment. Serious adverse effects are rarely reported. While alternative maneuvers like the Semont maneuver may be effective, the Epley maneuver is more commonly referenced in the guidelines as the primary particle repositioning procedure (Bhattacharyya, 2017).

Systematic Reviews

Vestibular Rehabilitation

There is sufficient evidence to support the use of vestibular rehabilitation for the treatment of chronic vertigo. Moderate- to strong-quality evidence indicates that vestibular rehabilitation is a safe and effective treatment for individuals with unilateral peripheral vestibular dysfunction, as shown by multiple high-quality randomized controlled trials (McDonnell, 2015). Vestibular rehabilitation has been shown to resolve symptoms and improve functioning in the medium term (standardized mean difference -0.83, 95% confidence interval -1.02 to -0.64). The minimum symptom duration prior to treatment ranged from at least one week to at least 12 months

(McDonnell, 2015).

For persons with benign paroxysmal positioning vertigo, the evidence for improved outcomes with vestibular rehabilitation is less conclusive (McDonnell, 2015; Porciuncula, 2012; Wegner, 2014). Vestibular rehabilitation may be more appropriate as adjunctive therapy rather than as a primary treatment modality for benign paroxysmal positioning vertigo. Subsets of patients with preexisting balance deficits, central nervous system disorders, or risk for falls may derive more benefit from vestibular rehabilitation than the patient with isolated benign paroxysmal positioning vertigo (Bhattacharyya, 2017).

Particle Repositioning Maneuvers

There is sufficient evidence to support particle repositioning maneuvers as a first-line treatment for the specific diagnosis of benign paroxysmal positioning vertigo (Hilton, 2014; Hunt, 2012; Reinink, 2014; Wegner, 2014). Moderate to strong evidence from multiple randomized controlled trials indicates that the Epley maneuver is a safe and effective therapy for posterior canal benign paroxysmal positioning vertigo. There is less convincing evidence supporting the use of the Semont maneuver in persons with posterior canal benign paroxysmal positioning vertigo (Hilton, 2014), and guidelines provide weaker recommendations as a “possibly effective” treatment (Bhattacharyya, 2017; Fife, 2008).

A systematic review/network meta-analysis of 41 randomized controlled trials found benign paroxysmal positioning vertigo was effectively treated (eliminated nystagmus) after one month using only the Semont (76.1%) and Epley maneuvers (65.3%) were effective, of 12 treatments studied (Li, 2022).

A systematic review of nine studies (n=325) found a 95.2% success rate for canalith repositioning maneuvers to treat benign paroxysmal positional vertigo. The mean number of treatments was 2.9 and the recurrence rate was 19.8% (Karamy, 2022).

A systematic review and meta-analysis on particle repositioning maneuvers for benign paroxysmal positional vertigo analyzed 20 studies (n=2,597) participants (Pauwels, 2023). The findings showed that compared to those in the control population (n=1,581), the benign paroxysmal positional vertigo patients (n=1,016) exhibited impaired gait and increased fall risk prior to treatment. However, after benign paroxysmal positional vertigo patients (n=517) underwent particle repositioning maneuvers, there were significant improvements in level gait velocity and reduced number of fallers and fear of falling, demonstrating the efficacy of this treatment. In a separate meta-analysis of 22 studies, benign paroxysmal positional vertigo patients (n=5,196), 58.9% saw symptom resolution after one session of canalith repositioning procedures, while 18.3% and 4.4% required two or three sessions (Alfarghal, 2023).

Additionally, a systematic review and meta-analysis of 27 randomized controlled trials (n=1,629) of benign paroxysmal positional vertigo patients found that the Epley maneuver was effective in reducing vertigo symptoms and producing negative Dix-Hallpike test findings across primary care and subspecialty settings (Saishoji, 2023). This further supports the implementation of repositioning treatments for benign paroxysmal positional vertigo beyond referral centers.

Transtympanic Micropressure Therapy

There is insufficient evidence to support the use of transtympanic micropressure therapy for the treatment of vertigo associated with Ménière’s disease (Syed, 2014). Low-quality evidence suggests that transtympanic micropressure therapy using the Meniett® Low-Pressure Pulse Generator (Medtronic Inc.; Minneapolis, Minnesota) is safe when used for persons with Ménière’s disease who are refractory to medical therapy, but the evidence of any health benefit is inconclusive.

A systematic review of 25 randomized controlled trials (n=1,248) concluded no effective and well-tolerated

treatment – positive pressure therapy, medicinal, or surgical - exists for Ménière's disease (van Esch, 2022).

Microvascular Decompression

A systematic review (van den Berge, 2017) of 572 patients with longstanding tinnitus and/or vertigo found microvascular decompression of the cochleovestibular nerve was modestly effective in patients who underwent treatment. A low rate of complication (11%) was noted. The quality of the evidence presented, however, was low, and the authors urged further study of this modality.

Transtympanic Micropressure Therapy

In 2016, an updated systematic review (Syed, 2015) of four randomized controlled trials (n=123) compared the efficacy of the Meniett device versus a placebo device in patients with Ménière's disease as defined by American Academy of Otolaryngologists-Head and Neck Surgeons criteria. There was a significant overall 61% reduction in the frequency of vertigo in both groups (mean no vertigo days per month of eight versus three). The reduction was not significantly different between the two groups in any study or on meta-analysis (mean difference in vertigo-free days between Meniett and placebo device of 0.77 days over a one-month period, 95% confidence interval 0.82 to 1.83, P=.45). There was no substantive data to support a greater reduction in the severity of the vertigo or any other outcome with the Meniett device compared with the placebo device.

Meta-Analysis

Particle Repositioning Maneuvers

A meta-analysis of 20 studies (n=2,597 participants) found that compared to those in the control population (n=1,581), benign paroxysmal positional vertigo patients (n=1,016) exhibited impaired gait and increased fall risk prior to treatment. However, after benign paroxysmal positional vertigo patients (n=517) underwent particle repositioning maneuvers, there were significant improvements in level gait velocity and reduced number of fallers and fear of falling, demonstrating the efficacy of this treatment (Pauwels, 2023).

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Other Evidence

Randomized Control Trial

The randomized controlled trial with participants diagnosed with posterior canal benign paroxysmal positional vertigo (PC-BPPV) (n = 234) aimed to compare the effectiveness of the traditional Epley repositioning maneuver with the newer Gans repositioning maneuver. The participants were split into two groups, with 118 patients in the Epley group and 116 in the Gans group, ensuring balanced demographics across both groups, including age, gender, and vertigo onset characteristics. The study found that both maneuvers led to significant

improvement in vertigo symptoms, with 82.20% (n=97) of patients in the Epley group and 78.44% (n=91) in the Gans group showing a negative Dix-Hallpike (DH) test result 24 hours post-treatment, indicating the absence of vertigo and nystagmus. Furthermore, the one-month follow-up demonstrated that 95% of patients in both groups maintained improvement, with only a small percentage experiencing recurrence (4.12% in the Epley group and 2.19% in the Gans group). These findings suggest that the Gans maneuver is not only effective but also a viable alternative to the traditional Epley maneuver, particularly for patients with cervical spine disorders who may struggle with the positional requirements of the Epley technique (Dhiman et al., 2023).

In 2023, we removed the Centers for Medicare & Medicaid Services article and reference.

In 2024, we revised the coverage section to better align with a clinical guideline by American Academy of Otolaryngology—Head and Neck Surgery (Bhattacharyya, 2017). We also reorganized the findings section thematically and by study type. We also added a new randomized control trial (Dhiman et al., 2023).

References

On August 16, 2024, we searched PubMed and the databases of the Cochrane Library, the U.K. National Health Services Centre for Reviews and Dissemination, the Agency for Healthcare Research and Quality, and the Centers for Medicare & Medicaid Services. Search terms were “transtympanic micropressure treatment” (MeSH), “physical therapy modalities” (MeSH), “vestibular diseases” (MeSH), “Dizziness” (MeSH). We included the best available evidence according to established evidence hierarchies (typically systematic reviews, meta-analyses, and full economic analyses, where available) and professional guidelines based on such evidence and clinical expertise.

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Policy updates

2/2015: initial review date and clinical policy effective date: 7/2015

3/2016: Policy references updated.

3/2017: Policy references updated.

3/2018: Policy references updated.

3/2019: Policy references updated. Policy ID changed.

4/2020: Policy references updated.

4/2021: Policy references updated.

4/2022: Policy references updated.

4/2023: Policy references updated.

8/2024: Policy references updated.