



INLAND EMPIRE HEALTH PLAN

**IEHP UM Subcommittee Approved Authorization Guidelines**  
***Vestibular Autorotation Test (VAT)***

**IEHP Policy:**

Based on a review of the currently available literature, there is insufficient evidence to support the use of VAT (Vestibular Autorotation Test) in the diagnosis or management of vestibular disorders or other disorders affecting balance and coordination. The IEHP UM Subcommittee considers this procedure experimental and investigational because its sensitivity, specificity, reproducibility, and clinical utility have not been demonstrated.

**MEDICARE <sup>1</sup>:**

As of July 21, 2014, Medicare does not have a National Coverage Determination (NCD) or a Local Coverage Determination (LCD) for VAT. <http://www.cms.hhs.gov/mcd/search>

According to LCD L33501, vestibular function testing is covered by Medicare only where it is clinically necessary to rule in or rule out diagnoses of vestibular disorders. Medicare covers standard, well-established and validated vestibular function testing including the following:

- CPT code 92540 – Basic vestibular evaluation including spontaneous nystagmus testing, positional nystagmus testing, and optokinetic nystagmus testing.
- CPT code 92541 – Spontaneous nystagmus testing
- CPT code 92542 – Positional nystagmus testing, minimum of 4 positions, with recording
- CPT code 92543 – Caloric vestibular testing
- CPT code 92544 – Optokinetic nystagmus testing, bidirectional, with recording
- CPT code 92545 – Oscillating tracking test, with recording
- CPT code 92546 – Sinusoidal vertical axis rotational testing (a.k.a. Rotational Chair Testing)
- CPT code 92548 – Computerized dynamic posturography
- Various CPT codes regarding hearing testing **when ordered as a basis from which to decide to conduct vestibular testing**

**Note:** None of the above CPT codes are specific to VAT because VAT has no specific identifying CPT code. Providers will likely (and incorrectly) use various combinations of the above CPT codes to justify their request for VAT.

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#### **MEDI-CAL**<sup>2</sup>:

As of July 21, 2014, a search of the Medi-Cal website failed to detect any documents regarding this test such as relevant guidelines, medical reviews or policy statements. <http://www.medi-cal.ca.gov/>

As with Medicare, Medi-Cal appears to cover CPT code range 92540-92548 for standard, well-established and validated vestibular function testing (see previous section on Medicare). As with Medicare, there is no CPT code which specifically described VAT.

#### **Research Review and Summary**<sup>3</sup>:

According to the ECRI Institute's June 2014 Health Technology Assessment Information Service Hotline Response: Vestibular Autorotation Test for Evaluating Chronic Dizziness and Imbalance, which was based on an extensive search of numerous sources (including PubMed, the Cochrane Library, and selected web-based documents) and included a review of abstracts published between January 1, 2007 and June 12, 2014. A total of 11 documents relevant to this topic were found. Among these studies, there was a mixture of positive, negative and inconclusive results regarding the usefulness and effectiveness of VAT in the diagnosis and management of vestibular disorders/diseases. No definitive conclusions could be made based on the results of this extensive literature search.

#### **APOLLO GUIDELINES 2013**<sup>4</sup>:

"The distinction between peripheral and central vertigo usually can be made clinically and guides management decisions. Most patients with vertigo do not require extensive diagnostic testing and can be treated in the primary care setting..." (Swartz, R., Longwell, P.: Treatment of vertigo. *Am Fam Physician* 71:1115-22, 1129-30, 2005). The following describe procedures commonly used to test vestibular function (others may be necessary and indicated): Lists CPT codes 92541-92547 (see previous Medicare section).

#### **INDEPENDENT PHYSICIAN REVIEW (IPR), July 17, 2014: ProPeer Resources, Inc.:**

Three cases in which VAT was requested by a pain management specialist (secondary to patient complaints of dizziness and balance problems) were sent out for further evaluation and commentary regarding the medical necessity of this diagnostic test and whether or not ordering of VAT was consistent with community standards. The three cases were each individually reviewed by a Pain Management IPR (fellowship trained in pain medicine and Board-Certified in Anesthesiology and Pain Medicine from the American Board of Anesthesiology) and a Neurologist IPR (Board-Certified in Neurology by the American Board of Psychiatry and Neurology).

#### **Outcome:**

- Both IPR reviewers concluded that the requesting provider was not acting within the community standard of care as he had not initiated an appropriate work-up for the member's complaints which would include, at the very least, a thorough history

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- regarding the member's complaints, physical exam testing specific to the member's complaints, laboratory tests and perhaps imaging tests as well
- Both IPR reviewers concluded that VAT had little or no role in the work-up of the member's complaints given the unreliable nature of the test and the availability of other more appropriate standardized tests used in the diagnostic work-up of vestibular disorders

### **AETNA**<sup>5</sup>:

"Aetna considers vestibular autorotation test (VAT) experimental and investigational for the diagnosis of individuals with vestibular disorders or any other indications because its sensitivity, specificity, reproducibility, and clinical utility have not been demonstrated".

[http://www.aetna.com/cpb/medical/data/400\\_499/0467.html](http://www.aetna.com/cpb/medical/data/400_499/0467.html)

### **HealthNet**<sup>6</sup>:

"Health Net, Inc. considers either of the following diagnostic tests not medically necessary due to insufficient evidence from well-controlled prospective clinical trials demonstrating that such tests alter management or improve clinical outcomes: 1. Computerized Dynamic Posturography or 2. Vestibular autorotation test.

<https://www.healthnet.com/static/general/unprotected/pdfs/national/policies/VestibularFunctionTesting.pdf>

## **BACKGROUND**<sup>5,7</sup>:

### **The Vestibular-Ocular Reflex (VOR)**

The VOR is a reflex that functions to stabilize gaze by countering movement of the head. In VOR the semicircular canals of the inner ear measure rotation of the head and provide a signal for the oculomotor nuclei of the brainstem, which innervate the eye muscles. The muscles counter-rotate the eyes in such a way that a rightward head rotation causes an equal leftward rotation of both eyes, with the result that gaze direction stays stationary. VOR works in conjunction with the optokinetic reflex (OKR), which is a feedback mechanism that ensures that the eye moves in the same direction at almost the same speed as an image. Together, the VOR and OKR keep the image stationary on the retina, with VOR compensating for fast movements and OKR for slower ones.

Impairment of the vestibular-ocular reflex (VOR) may result in chronic dizziness and imbalance. The vestibular autorotation test (VAT) is a high-frequency, active head rotation (AHR) test to subjectively evaluate the VOR and its function. Patients wear a light-weight head-strap with a velocity sensor on the back. They follow instructions to shake their head, first side-to-side, and then up-and-down. Conventional electro-oculogram electrodes placed around the eyes measure patient's eye movements.

Although some published studies have suggested that the VAT may be useful in evaluating patients with vestibular disorders/diseases, there are few studies that examined the sensitivity and

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specificity of the VAT in evaluating patients with suspected vestibular abnormalities. Furthermore, there is a lack of data supporting the value of VAT in the management of patients with vestibular disorders/diseases.

Additional drawbacks of the VAT include: 1. Slippage of the head velocity sensor at high frequencies and accelerations during testing, 2. Contribution of the cervico-ocular reflex to the compensatory eye movement response, and this contribution may be increased significantly in the presence of bilateral, peripheral vestibular pathology, 3. Results of different head autorotation tests may not be directly comparable, and 4. Poor test-retest reliability. In an assessment on vestibular testing techniques in adults and children, the American Academy of Neurology (Fife et al, 2000) stated that AHR testing is not an established technique.

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<b>Revised:</b>

**Bibliography:**

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7. Encyclopaedia Britannica online. <http://www.britannica.com/EBchecked/topic/626984/vestibulo-ocular-reflex-VOR>

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