



Columbus Speech & Hearing Center

2424 Double Churches Road
Columbus, Georgia 31909
(706) 324-6112 / (706) 596-8259 fax

Diagnostic Vestibular Testing for Dizzy Patients

Columbus Speech & Hearing Center now provides **videonystagmography (VNG)** testing. VNG testing allows our audiologists to assess problems of dizziness and balance through a battery of tests. During testing, video goggles with infrared cameras record the eye movements of the patient, revealing abnormalities in the balance system.

Previously, eye movement was recorded using electrodes placed on the face around the eyes, known as **electro-nystagmography (ENG)**. Advances in technology have given the VNG several key advantages over the ENG. The use of infrared goggles during VNG testing eliminates confounding physical and environmental noises that confound results obtained with ENG surface electrodes. This allows for a “cleaner” tracing, which is more easily interpreted. The data tracings, normative data and statistical analysis can be sent to the physician for a comprehensive diagnostic picture of the patient’s balance problems.



Testing typically takes place in a ninety minute appointment. First, a thorough case history is taken to better understand the patient’s symptoms. During the test session, a diagnostic audiological evaluation is performed to assess the functioning of seven main tests: gaze, saccades, horizontal tracking, optokinetic nystagmus, positional, Dix-Hallpike maneuvers, and calorics.

- **Spontaneous Gaze/Nystagmus Test**

The Spontaneous Gaze/Nystagmus Test is designed to determine if a patient's eye-motor system, or the specific reflexes between the inner ear and the eye, is normal. The first portion of this test is performed by having the patient track a moving target by only moving their eyes. During the second portion of the test, the patient holds their eyes on a target while moving their head in a specific pattern. The third portion of this test is performed by evaluating a patient's ability to hold their eyes straight forward when their eyes are shut.

- **Saccade Test**

The Saccade Test is designed to observe the velocity, accuracy, and latency of rapid eye movements from one target to another.

- **Optokinetic Nystagmus Test**

The Optokinetic Nystagmus test evaluates a patient's ability to track moving objects with their eyes. This test evaluates functions of the brain to determine if this damage may cause an abnormal influence on the balance systems and the brainstem.

- **Bithermal Caloric Testing**

The Bithermal Caloric Testing exam is used to determine if one ear has a weaker balance canal than the other, or if both sides have an impaired response causing dizziness or imbalance. The test is administered with the patient in a reclining position. Each ear canal is alternately irrigated with cool and warm air for 60 seconds, which causes the lateral semicircular canal of the inner ear to be stimulated. The stimulation normally results in beating eye movements called nystagmus, which occur since the brain is tricked into thinking the patient is rotating. The responses of the balance mechanism are calculated through the strength of the beating eye movements (nystagmus).

- **Positional Testing**

The Positional Test is used to evaluate the balance system by recording the patient's eye movements as they are placed in certain positions and/or moved into different positions. These tests aid the physician in determining the stability of the balance system as it adapts to new positions. This test is also useful in identifying signs of benign paroxysmal positional vertigo (BPPV), one of the more common types of vertigo.

The audiologist may also work with the physician, otolaryngologist or other professionals to develop and direct individual vestibular rehabilitation programs. There are several types of vestibular disorders that may be helped by vestibular rehabilitation.

Please contact me if you have any suggestions on how we may better serve your patients receiving VNG assessments. We want our services to be coordinated with your and seamless for the patients. As always, we appreciate your support.



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Balance Testing Preparation

Patient: _____ Appointment date: _____ Time: _____

You have been scheduled for a test of your balance mechanism. The examination is a simple, painless procedure requiring about an hour. The test will involve moving the head and body into different positions, as well as stimulating the ears with cool and warm water. If you have any problems with your neck or back, please inform us prior to the beginning of the evaluation. This test will likely cause some dizziness that generally passes within a few minutes. In rare instances, the dizziness lasts a little longer, making it inadvisable to drive for a short time. You should make arrangements for someone to be available to come drive you home in the event you are unable to do so. Instructions below are intended to prepare you for the testing so you will be as comfortable as possible, and to avoid anything that may interfere with the test results. Please read them carefully. Call our audiologists (706-327-7592) if you have questions.

- It is imperative that you **DO NOT** take any anti-vertigo and anti-dizziness medications for 48 hours (2 days) prior to testing. These medications include Antivert, Meclizine, Bonine, Dramamine, Scopolamine and antihistamines – both over the counter and prescription forms of these medications.
- Please **DO NOT** discontinue any prescription medication without checking with the physician who prescribed it. If you cannot go without a medication listed above, please call one of our audiologists at (706) 327-7592 to discuss this prior to coming to the evaluation.
- Abstain from alcohol for 48 hours before testing. **All** alcoholic beverages affect the results of this test.
- No eating drinking, or smoking for 3 hours prior to the time of your appointment.

Do not wear any eye make-up, including eyeliner or mascara.

Please dress comfortably. Women may wish to wear slacks. If you wear contact lenses, please bring your glasses with you in case you need to remove your lenses. You may also wish to bring your eyeglass holder.



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Patient Name: _____ **Birthdate:** _____

Referral Source: _____ **Test Date:** _____

DIZZY QUESTIONNAIRE

Check all that apply

DOES DIZZINESS FEEL LIKE	ASSOCIATED EAR SYMPTOMS	TIME PERIOD	PAST HISTORY
<input type="checkbox"/> Motion <ul style="list-style-type: none"> <input type="checkbox"/> Spinning <input type="checkbox"/> Turning <input type="checkbox"/> Falling <ul style="list-style-type: none"> <input type="checkbox"/> Left <input type="checkbox"/> Right <input type="checkbox"/> Forward <input type="checkbox"/> Backward <input type="checkbox"/> Lightheaded <input type="checkbox"/> Faintness <input type="checkbox"/> Wooziness <input type="checkbox"/> Tilting/swaying <input type="checkbox"/> Loss of balance <input type="checkbox"/> Difficulty walking <input type="checkbox"/> Falling <input type="checkbox"/> Shortness of breath _____ _____ _____ _____	SYMPTOMS <ul style="list-style-type: none"> <input type="checkbox"/> Ringing in ears <input type="checkbox"/> Popping in ears <input type="checkbox"/> Fullness or pressure <input type="checkbox"/> Hearing loss WHICH EAR <ul style="list-style-type: none"> <input type="checkbox"/> Right <input type="checkbox"/> Left <input type="checkbox"/> Both OTHER ASSOCIATED SYMPTOMS <ul style="list-style-type: none"> <input type="checkbox"/> Nausea/vomiting <input type="checkbox"/> Headache <input type="checkbox"/> Loss of consciousness <input type="checkbox"/> Weakness or numbness of arms, legs or face <input type="checkbox"/> Visual disturbance <ul style="list-style-type: none"> <input type="radio"/> Wear glasses? <input type="radio"/> Wear contacts? <input type="checkbox"/> Difficulty with speech 	First time I was dizzy _____ How often? _____ How long does it last? _____sec _____min _____hrs _____days Last episode? _____ <input type="checkbox"/> Warning before attack starts <input type="checkbox"/> Free of dizziness between attacks <input type="checkbox"/> Time of day <ul style="list-style-type: none"> <input type="checkbox"/> Morning <input type="checkbox"/> Afternoon <input type="checkbox"/> Evening <input type="checkbox"/> Bedtime <input type="checkbox"/> Awaken from sleep 	<input type="checkbox"/> Head injury <input type="checkbox"/> Ear injury <ul style="list-style-type: none"> <input type="checkbox"/> Left Right <input type="checkbox"/> Scuba diving <input type="checkbox"/> Ear surgery /_/_ Left Right <input type="checkbox"/> Sinus trouble <input type="checkbox"/> Allergies <input type="checkbox"/> Stroke <input type="checkbox"/> Diabetes <input type="checkbox"/> Abnormal heart beat <input type="checkbox"/> Heart disease <input type="checkbox"/> Circulation problem <input type="checkbox"/> Thyroid disease <input type="checkbox"/> Neck pain <input type="checkbox"/> Back pain <input type="checkbox"/> Whiplash PREVIOUS TESTS <input type="checkbox"/> MRI <input type="checkbox"/> Head CT Results: _____ _____

<p>What improves your dizziness?</p> <p><input type="checkbox"/> Eyes closed</p> <p><input type="checkbox"/> Eyes open</p> <p><input type="checkbox"/> Lying down</p> <p><input type="checkbox"/> Medication</p> <p>_____</p> <p><input type="checkbox"/> Other</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>MEDICATIONS/DRUGS</p> <p><input type="checkbox"/> Caffeine</p> <p><input type="checkbox"/> Alcohol</p> <p><input type="checkbox"/> Tobacco</p> <p><input type="checkbox"/> Nerve medicine</p> <p><input type="checkbox"/> Sedatives</p> <p><input type="checkbox"/> Other: _____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>What makes your dizziness worse?</p> <p><input type="checkbox"/> Head movements</p> <p><input type="checkbox"/> Getting up from sitting or lying position</p> <p><input type="checkbox"/> Fatigue</p> <p><input type="checkbox"/> Hunger</p> <p><input type="checkbox"/> Exertion</p> <p><input type="checkbox"/> Menstrual period</p> <p><input type="checkbox"/> Stress</p> <p><input type="checkbox"/> Irritating fumes</p> <p><input type="checkbox"/> Position</p> <p><input type="checkbox"/> Other _____</p>
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