

Editorial

Stopping Medications before Vestibular Testing: Evidence-Based or Neuromythology?

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Those of us that routinely see dizzy patients in the clinic understand that the majority of these individuals are taking medications for a variety of reasons. The average age of patients in our dizziness clinic is 57 years and the average age of patients in our falls risk assessment clinic is 76 years of age. Prescription drugs are taken by patients to either treat their dizziness, or some other medical condition. We all have been taught that patients should discontinue medications 2 days before their vestibular assessment. The conventional wisdom was that 48 hours would provide sufficient time for the medications to be metabolized and cleared out of the system. The fear was that if medications were not discontinued then they would become an uncontrolled variable and affect the test results. For example, we were instructed that when assessing ocular motor function, we should be vigilant as to whether a patient is taking anticonvulsants and sedatives. The argument was that these types of medications have been shown to, in some cases, cause gaze-evoked nystagmus on lateral gaze which indicates impairment or dysfunction of the midline cerebellum. This specific recommendation is based on scientific studies and is documented in the literature (McCaslin and Jacobson, 2009). However, there are other medication recommendations that do not seem to be based in fact or supported by scientific studies. One popular recommendation provided by clinics is for patients to stop vestibular suppressants or antiemetics 24–48 hours prior to testing. This would include medications such as Meclizine, Phenergan, and Scopolamine. Patients suffering from an acute attack of vertigo are often prescribed these medications to reduce their symptoms (e.g., vertigo and nausea) until the central nervous system can compensate for the impairment or, in some cases, until normal function is restored. The mechanism of action has been thoroughly described for these rescue drugs however, very little has been published on their direct effect

on the vestibular assessment. These medications target the neurotransmitters acetylcholine, histamine, and gamma-aminobutyric acid (GABA) at the level of the vestibular nerve and nuclei. They act to reduce neural asymmetries in the brainstem (reducing the symptoms of vertigo) and some also have a secondary effect of reducing anxiety that is often accompanied by a spontaneous episode of vertigo (Foster and Baloh, 1996). The primary concern has been that the medications would reduce the gain (i.e., the responsiveness) of the vestibular system and produce a bilateral vestibular hypofunction. However, when one looks closely at the literature there is very little evidence to support this contention. Anecdotally, over my 20+ year career of testing patients, I have found that I get robust caloric responses whether a patient has taken Meclizine or not. The point is that we need more research done in this area so that we can make appropriate recommendations to our patients with regards to which medications may influence our testing and which ones will likely have no substantial effect. There can be a great deal of confusion when patients receive the list of what medications they should not be taking. It is not an uncommon occurrence for a patient to arrive for the appointment and say “I was unclear as to which medications did what so I just stopped taking them all,” which could be problematic if the patient discontinued, for example, antidepressant, antiseizure, or cardiac medications

A great study addressing this issue appears in this issue of *JAAA*. The study was conducted by our colleagues in Buffalo (McNerney et al, 2014a,b). In this issue McNerney et al provide data that begin to answer the question of what the effect of caffeine has on rotational testing. It is common for clinicians to direct patients to not consume caffeine prior to testing; but why? In this study, subjects were tested after they consumed a caffeinated beverage (i.e., condition 1, coffee containing ~300 mg of caffeine), as well as after

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abstaining from caffeinated beverages (i.e., condition 2). The results are compelling and if used as a recommendation those patients used to having a cup of “Joe” in the morning will be much more pleasant and livelier during that early morning test. I encourage you to read this important and scientifically sound study and look forward to other studies evaluating what patients should abstain from before having a vestibular test.

Devin L. McCaslin
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