

Attachment 1a

National Health and Nutrition Examination Survey (NHANES) Balance / Vestibular/Visual Function Pilot Study Description

Eligibility: All NHANES participants 40 years and older are eligible for the Balance, the Vestibular Function and the Vision exams. The maximum number of respondents would be 250.

Informed Consent: No additional consents other than the regular NHANES consents are needed.

Exclusion Criteria:

- Unable to stand
- Currently dizzy or lightheaded AND had a fall in the last 12 months due to dizziness.
- Has lower extremity amputation (more than toes)
- Weight more than 315 pounds (exceeds the limits of test equipment)
- Has corrected vision worse than 20/70 (exclusion for Vestibular function test only)

Data Collection: The study will take place in the MEC during the regular NHANES examination. Component specific information is as follows.

Balance: The Modified Romberg Test of Standing Balance involves the participant standing with feet together and arms across their chest for 20 seconds for each element of the test. First while on firm surface with eyes open, then shut, then on a foam surface with eyes open, then shut, then on foam surface, eyes shut, and head moving side to side. If the person can remain erect, they pass; if they fall or loses their equilibrium in any way, they fail. A safety belt around the waist will keep the person from falling.

Vestibular Function: The Dynamic Visual Acuity test is performed by first measuring visual acuity with the head still (static visual acuity or SVA), using an eye chart projected in front of the participant. Optotypes (the letter “E” in different orientations) will be displayed on the screen starting at a size equivalent to 20/80 vision and increase or decrease in size until a visual acuity level is reached, in which either three out of five optotypes are correctly identified or the smallest size is reached (equivalent to 20/10 vision). After SVA is measured, visual acuity is measured again with the same eye chart while the health technician is slowly moving the participants head from side to side at approximately 0.33 Hz (120°/second). This measure is called dynamic visual acuity or DVA. The visual acuity results are then compared between the SVA and DVA tests. When SVA and DVA are the same then inner ear problems are unlikely. When dynamic acuity is significantly worse than static acuity then inner ear problems are likely.

Contrast sensitivity: This test will be conducted on participants 40 years and older. They will be seated directly in front a Pelli-Robson Chart. Wearing their vision correction lens, participants will be asked to make a single attempt to name each letter on the chart, starting with the dark letters in the upper left hand corner and reading horizontally across the entire line. As the person read each line down the letters become less dark. The person’s contrast sensitivity is indicated by

the total number of letters read correctly, as tallied on a scoring card. Participants will be tested up to three times.

Report of Findings: No results will be reported to the participants during the pilot.