

New Tools for Assessment that Account for Comorbidity

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Overview

- Sensory impairment in clinic setting
- Screening tools to determine sensory impairment
 - Hearing
- Cognitive assessment tools to account for sensory impairment
 - Vision
- Knowledge gaps and research opportunities

Sensory Impairment in the Memory Clinic

- Accuracy of testing
- Difficulty in communicating with the patient
 - Patient in the periphery of discussion

Clinic Setting



Finger Rub Test



Tuning Fork Test

Whispered voice test, ticking watch test

Clinic Setting



Finger Rub Test

Sensitivity 98%, Specificity 75%



Tuning Fork Test

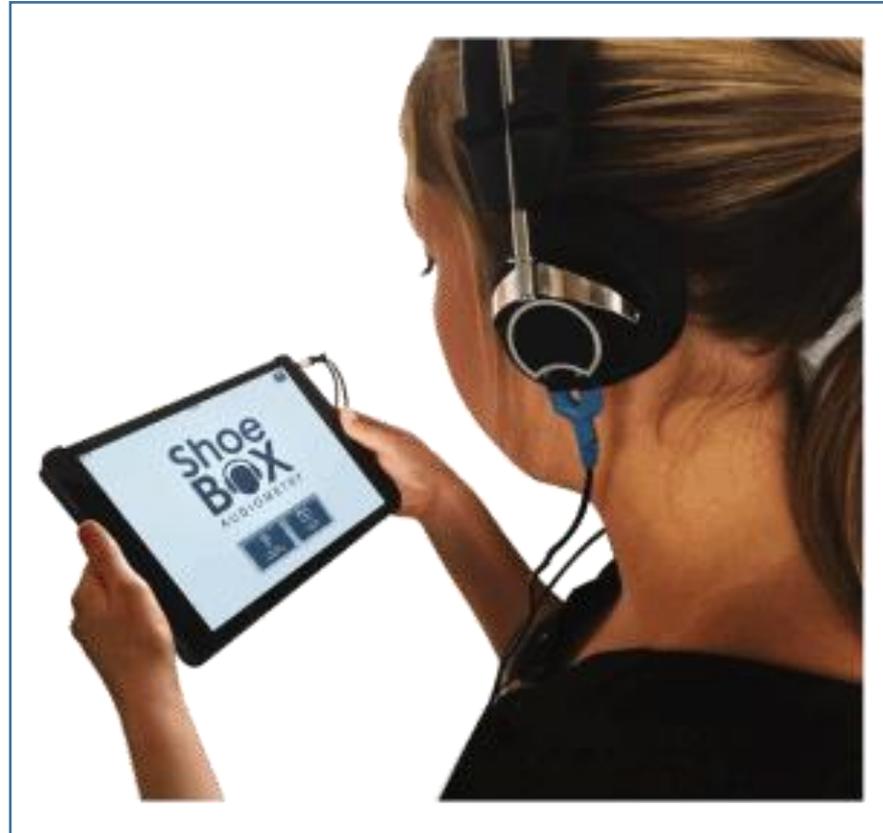
Rinne Test

Sensitivity 60-90%, specificity 95-98%

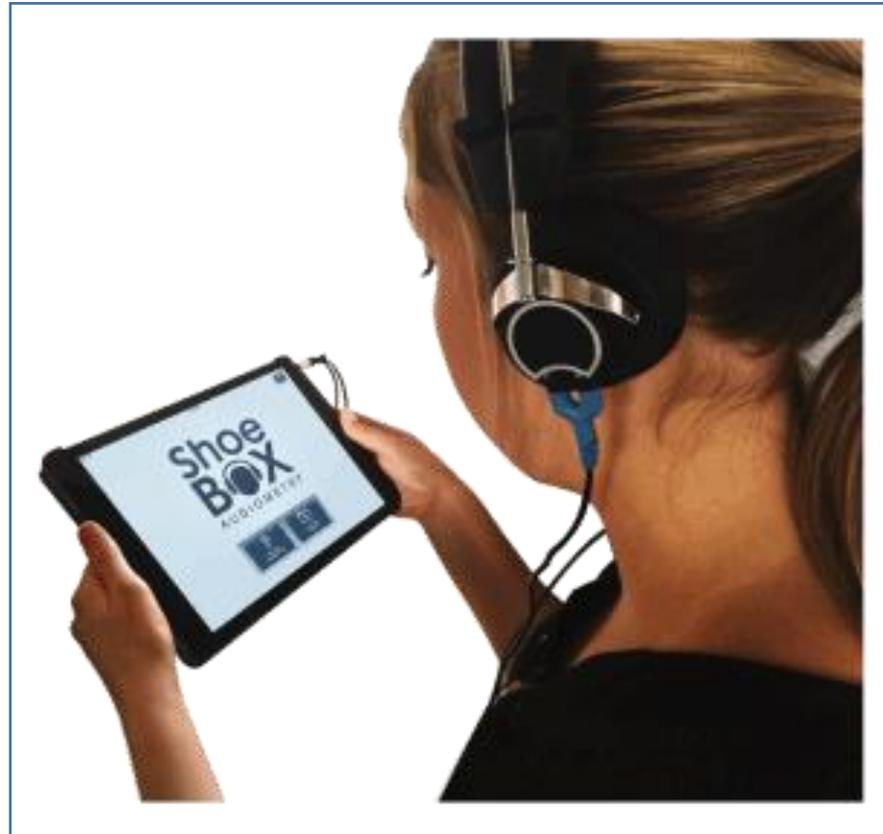
Research Setting

- No instructions regarding assessment of sensory impairment prior to testing
- No specific cognitive tool to account for sensory impairment

New Screening Tool



New Screening Tool



Not consistently reliable for self administration in patients with MMSE < 26
Administration time 5-20 minutes

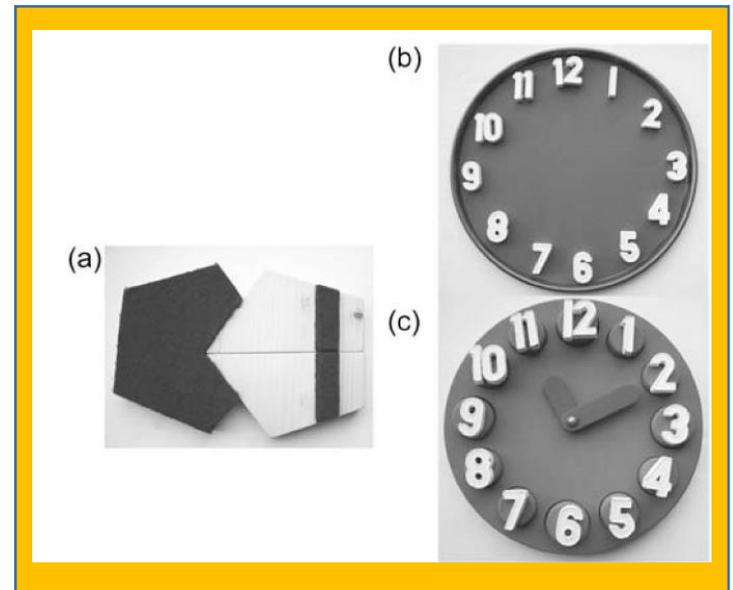
Barriers to Screening for Sensory Impairment

- The U.S. Preventive Services Task Force (2011) (hearing) 2016 (vision)
 - Insufficient evidence for screening
- Memory Clinic
 - New patient: Nursing time – 45 minutes; Physician time – 45 minutes
 - Follow up patient: Nursing time – 30 minutes; Physician time – 30 minutes
 - Much of the nursing time spent on taking history, medication reconciliation, cognitive testing, counseling, documenting on the computer



New Cognitive Assessment Tools

- Killen et al. Age Ageing 2013
 - Individuals with vision impairment performed poorly on vision dependent items on Mini Mental Status Exam (MMSE) and Clock Drawing Test
 - Vision independent (VI) items on MMSE and Clock Test for the visually impaired



Knowledge Gaps and Research Opportunities

- **Lack of knowledge about test characteristics of screening tools in patients with cognitive impairment**
 - Further understanding of sensitivity, specificity, etc. of widely used clinical tools in individuals with cognitive impairment (ex. ipad based portable audiometer)
- **Lack of understanding about important clinical outcomes related to sensory impairment in individuals with cognitive impairment**
 - Further research about what patients with cognitive impairment and their caregivers value as important clinical outcomes
 - Conducting larger, good quality studies of screening and treating sensory impairment with the above outcomes
- **Lack of knowledge about cognitive assessment tools that account for sensory impairment in clinic and research settings**
 - Determining ideal, standardized assessment tools for dissemination