At What Age is Stereognosis a Reliable Measure in the Pediatric Population?

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INTRODUCTION: Stereognosis is the skill of identification through touch without the use of visual or auditory information.While it is known that somatosensation matures through childhood and into adolescence, there is a lack of literature surrounding the development of this ability and the age that it can be reliably measured. The purpose of this study is to identify the age at which stereognosis testing can be reliably utilized in the pediatric population.

METHODS: A prospective study was performed to enroll participants ages 3-17 from patients and their siblings.Participants were given a short, voluntary stereognosis test, which asked children to identify 14 common objects using only their hands. The patients closed their eyes, while the researchers handed them objects to identify. Patient demographics and the number of objects presented and identified were recorded. Simple statistics were performed.

RESULTS: One hundred sixty-two participants completed the stereognosis test. The average age of the participants was9.92 years (Range: 3-17 years). The average percentage of accuracy of correctly naming the items assessed increased with chronological age. Patients ages 3 to 7 years scored between 47.9% to 76.7%. At age 8, stereognosis ability increased to a level of proficiency of 84.9%. The average percentage of accuracy increased in participants ages 9-17 ranging from 82.5% to 94.0%.

DISCUSSION AND CONCLUSION: Stereognosis ability can be reliably measured by approximately age 8. Physicians may use this information to guide the assessment of children with potential central nervous and/or peripheral nervous system disorders.