

# Autism Linked to Brain's 'Fear Center'

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(HealthDay News) - Autistic male teens and young men with severe social impairment tend to have an abnormally small amygdala - the brain's "fear center" - U.S. researchers report.

The almond-shaped amygdala is located deep within the brain. Reporting in the December issue of the Archives of General Psychiatry, a team at the University of Wisconsin used MRI to examine the study participants' brains, specifically the amygdala.

They found that autistic teens and young men who had the most difficulty distinguishing between emotional and neutral expressions and were also least likely to look at another person's eyes - indicators of social impairment - had a smaller-than-normal amygdala.

They also concluded there is an association between a small amygdala and impaired nonverbal social behavior in early childhood.

The researchers said their findings suggest that social fear in children with autism may initially trigger a hyperactive, abnormally enlarged amygdala. However, over time, a "toxic adaptation" occurs that results in the death of amygdala cells and shrinkage of this brain structure.

The study was funded by the U.S. National Institute of Mental Health and the National Institute on Child Health and Human Development.

In a related study, another University of Wisconsin research team found that autism-free siblings of people with autism share some of the same differences in amygdala size and in the way they look at faces and activate social/emotional brain circuitry - particularly in a brain area that plays an important role in processing information about faces.

That study was published in a recent online issue of Biological Psychiatry.

"Together, these results provide the first evidence linking objective measures of social impairment and amygdala structure and related brain function in autism," Richard Davidson, who led both studies, said in a prepared statement.

"Finding many of the same differences, albeit more moderate, in well siblings helps to confirm that autism is likely the most severe expression of a broad spectrum of genetically-influenced characteristics," Davidson said.

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