

# Gerstmann's Syndrome

National Institute of Neurological Disorders and Stroke (NINDS)

## Source

National Institute of Neurological Disorders and Stroke (NINDS). *Gerstmann's Syndrome Information Page*.

Gerstmann's syndrome is a cognitive impairment that results from damage to a specific area of the brain -- the left parietal lobe in the region of the angular gyrus. It may occur after a stroke or in association with damage to the parietal lobe. It is characterized by four primary symptoms: a writing disability (agraphia or dysgraphia), a lack of understanding of the rules for calculation or arithmetic (acalculia or dyscalculia), an inability to distinguish right from left, and an inability to identify fingers (finger agnosia). The disorder should not be confused with *Gerstmann-Sträussler-Scheinker disease*, a type of transmissible spongiform encephalopathy.

In addition to exhibiting the above symptoms, many adults also experience aphasia, (difficulty in expressing oneself when speaking, in understanding speech, or in reading and writing).

There are few reports of the syndrome, sometimes called *developmental Gerstmann's syndrome*, in children. The cause is not known. Most cases are identified when children reach school age, a time when they are challenged with writing and math exercises. Generally, children with the disorder exhibit poor handwriting and spelling skills, and difficulty with math functions, including adding, subtracting, multiplying, and dividing. An inability to differentiate right from left and to discriminate among individual fingers may also be apparent. In addition to the four primary symptoms, many children also suffer from constructional apraxia, an inability to copy simple drawings. Frequently, there is also an impairment in reading. Children with a high level of intellectual functioning as well as those with brain damage may be affected with the disorder.