



*A newsletter by TST Cognitive  
Development Centre*

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## ***Auditory Processing Disorder***

Auditory processing disorder (APD) is a hearing problem which affects 5% of school-aged children. Kids with this condition are unable to process what they hear as their ears and brain have troubles coordinating properly, which causes them to struggle in recognizing and interpreting sounds, especially speech. It is thought that these difficulties arise from dysfunction in the central nervous system.

Kids with APD can usually hear sounds that are delivered one at a time in a quiet environment, but they do not recognize slight differences between sounds in words. These problems arise when there is background noise, which is often the case in social situations. Kids with APD have trouble in understanding what is being said to them in noisy places such as school, playgrounds, and cafeteria.

Many children with APD also have dyslexia, ADHD as well as other conditions, and APS is thought to be a contributing factor to dyslexia. It is also suggested by recent study that some children are misdiagnosed with ADHD when they actually have APD. Both conditions cause attention issues but APD is an inability to process the sounds that people are saying, while ADHD is more on the underlying issue with focus.

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## Symptoms of APD

1. Auditory figure-ground problems  
The child can't pay attention if there's noise in the background. A noisy, loosely structured classroom could be frustration to the child.
2. Auditory memory problems  
The child has difficulty in remembering information such as directions, lists, or study materials.
3. Auditory figure-ground problems  
The child can't pay attention if there's noise in the background. A noisy, loosely structured classroom could be frustration to the child.
4. Auditory memory problems  
The child has difficulty in remembering information such as directions, lists, or study materials.
5. Auditory discrimination problems  
The child has difficulty in hearing the difference between words or sounds that are similar. This affects reading, spelling and writing skills.
6. Auditory attention problems  
The child has problem staying focused on listening long enough to complete a task. They have trouble maintaining attention.
7. Auditory cohesion problems  
The child has problem with higher-level listening tasks such as drawing inferences from conversations, comprehending verbal math problems, and understanding riddles.



## 3 Strategies to Help Kids with APD

1. **Compensate**  
When talking to the child, repeat the instructions a few times until the child gets the information. Alternatively, provide visual materials for the child and always check for the child's understanding. Use simple instructions and have the child look at you when you are speaking. Speak at a slightly lower rate and at a slightly higher volume.
2. **Change the environment**  
Make the child's learning environment easier for listening. The parents can request for the child to sit at the front of the class. Use assistive technology, such as an amplification system which reduces background noise. The parents can also minimize outside noise by closing doors and windows.
3. **Directly train auditory processing skills**  
Compensating and changing the environment will make things easier for the child, but they will not fix the auditory processing problem. The brain must be rewired to process the sound correctly and quickly. Brain training program which can improve auditory processing and retraining it for listening is a good option for the child.

## Brain *Shrinkage*

Brain shrinkage is the loss of brain cells called neurons. Loss of neurons is the root of loss of memory and learning. Even a physically healthy person may be losing as much as 0.4% of the brain mass every year. This is a silent threat to our health and longevity. Dementia is one of the syndromes that causes by brain shrinkage. This syndrome may affect cognitive abilities, performance of daily activities, and communication abilities.



The symptoms appear years earlier before the damage to the brain begins. The brain shows significant shrinkage when the connections between cells are lost and they begin to **die**. Fortunately, similar to other symptoms of aging, brain shrinkage can be hindered through a combination of brain training and healthy lifestyles.

### *Use your brain*

Some research shows that brain shrinkage can be diminished with brain training. The human brain grows new neurons and creates new pathways well into golden age. It also eliminates unused circuits, so in a way it's rather like a muscle. Training your brain keeps it bigger and stronger. The brain is made up of grey matter and white matter. The grey matter is where the actual processing of information goes on, and white matter, which determines how fast messages are sent and received.

A study from Germany's University of Regensburg assigned 16 healthy volunteers to learn on how to decode Morse code. The result shows that the volume of the grey matter has increased. In 2010, Japan's Tohoku University found that working memory training increased white matter in two brain areas.

### *Keep some meat in your diet*

According to a study in the journal of Neurology, being a vegan makes you six times more likely than your meat-eating friends to have brain shrinkage. Researchers speculate that the increased shrinkage seen in vegetarians and vegans may be due to lack of vitamin B-12. Vitamin B-12 occurs naturally in animal products.

### *Stop smoking*

Smokers have the thinnest cortex on the MRI scans. Researchers at Canada's McGill University and at the University of Edinburgh tested the brains of 244 male and 260 female volunteers. The result shows that the cortex which stores memory, language and perception, is smaller than in non-smokers. There is no clear relationship between nicotine and other chemicals to brain thinning. This may be due to lung damage caused by smoking as it impedes our ability to take in oxygen, and lack of oxygen is the vital element damaging the cortex. However, the cortexes of former smokers increased in thickness each year they stayed off the smokes.

Student's *Shoutout!*



"The training helped me in gaining confidence. I am more confident in class especially in presentation. Before this I am scared to present in front of my classmates as I am scared they will judge me. Now after doing brain training, I am more confident talking in front of people."

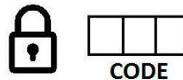
Edward, 18 years old

**Brain Food** of the Month  
(Cashew Nuts)



Cashews significantly supply the brain with plenty of necessary vitamins to enhance its ability to memorize, remember, grasp and improve cognitive function. It give the body more ability to boost a good amount of oxygen and this in turn enhances its power to memorize and keep many things it learned. Cashews are healthy for the brain as it also prevents the ability of the brain to fall prey to mental disorders. Copper content in cashews ensures production of dopamine and serotonin.

Crack the *Code!*



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 One number is correct and well placed
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 One number is correct but wrong place

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