

Childhood apraxia of speech

Childhood apraxia of speech (CAS) is a **rare speech condition**.

It is caused by problems with the way the brain plans movements for speech. It is a lifelong condition.

It is very different to the common speech problems children can experience.

It is sometimes called **developmental verbal dyspraxia**.

About CAS

People with CAS have a **movement-based speech problem** that starts in childhood.

They have difficulty planning the muscle movements they need to use for speech. However, people with CAS know what they want to say and they can move their face and mouth well for facial expressions and eating.

Speech is complex and involves movement of the lips, tongue, jaw, voice and back of the mouth.

CAS makes their speech very hard to understand.

Their speech can be inconsistent and jumbled. It can sound too loud, or broken and robotic.

People with CAS have trouble remembering how to make the movements for new words. This means they need to work out the movements for the same words again and again.

We still don't know what causes CAS in most people.

Some people with CAS have a genetic or chromosome variation. Less commonly, they may have problems with brain development or a brain injury.

Living with CAS

People with CAS find the condition very frustrating. They know what they want to say, but it comes out the wrong way. People have trouble understanding them.

Families describe how heartbreaking it is when their child is desperate to tell them something, but they can't make themselves understood.

People with CAS find it hard to express their needs and wants, communicate with friends, and form connections with others.

They are often able to understand others well, but they have difficulty expressing their own thoughts and ideas. This means people can underestimate their skills.

People with CAS might have trouble learning to spell and read. They need help at preschool, school and in the workplace to communicate effectively. They may have lifelong social, educational or work limitations and difficulties with mental health.

People with CAS may have other communication difficulties. They might have dysarthria, developmental language disorder, social communication difficulties and stuttering or voice issues.

They might also have other difficulties. These may include sensory processing difficulties, developmental coordination disorder, general problems with learning or mental health issues. This means they might need care from different health professionals like paediatricians, occupational therapists and psychologists.

How you can get help

People with CAS can get help for their communication from speech pathologists.

The type of assessment and treatment will depend on the person's individual needs and there are research-based options available.

The specific assessments and treatments depend on a person's age and their strengths and needs at the time.

Speech pathologists diagnose CAS by assessing a child's speech across at least three tasks and listening for key CAS features. They also check the person's hearing, mouth movements and functional communication.

Treatment should involve therapy to help improve the movements required for speech. Evidence-based options include Dynamic Temporal and Tactile Cueing (DTTC), the Nuffield Dyspraxia Programme – 3rd edition (NDP3), the Rapid Syllable Transition (ReST) treatment and Ultrasound biofeedback. Integrated Phonological Awareness intervention can help with speech and early spelling and reading problems.

Young people with CAS may also use another form of communication like sign language, picture supports or a talking device to help them communicate short-term or long-term.

They also benefit from communication strategies to use with their families, friends and educators or colleagues.

Treatment can take many years, depending on the person's goals.

Research shows that the best way to do CAS therapy is in intensive clinic or online sessions 2–5 days a week for periods of at least 12 sessions per block.

Caregivers and families play a crucial role in helping their child in therapy sessions and practicing at home. Allied health assistants could also support the speech pathologist deliver a person's treatment.

People with CAS may be eligible for NDIS funding and supports.

How speech pathologists can help

Speech pathologists assess, diagnose and treat CAS. People with CAS can ask a speech pathologist if they work with CAS and about their training in research-based services. They can then see if those services are suitable for their goals.

They can also offer support and empathy, and help you find other health professionals, support groups and ways to get help.

People with CAS can get better at using clear speech and communicate functionally with intensive, longer-term speech pathology treatment.

Find out more

The latest state of the evidence:

https://rest.sydney.edu.au/wp-content/uploads/2022/07/CAS_evidence_brief_2022.pdf

Genetic and neurological causes of CAS:

https://www.mcri.edu.au/sites/default/files/media/documents/cres/fact_sheet_childhood_apraxia_of_speech.pdf

Information and support for families and speech pathologists:

<https://www.apraxia-kids.org/>

<https://childapraxiatreatment.org/>