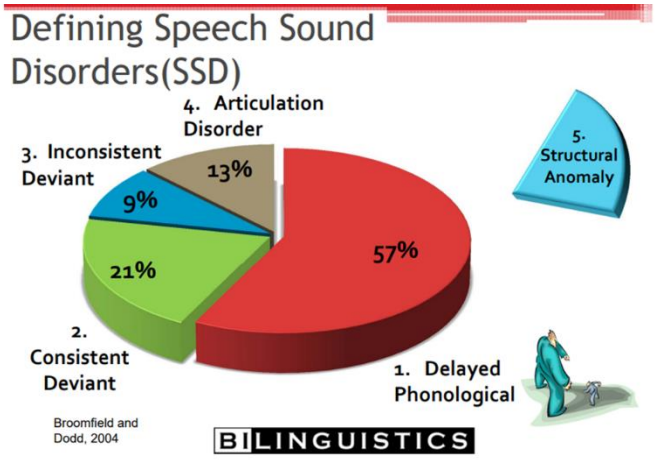
Speech Sound Disorders



'Speech' refers to the way we make the sounds in words, using different parts of our mouth, and nose.

A **Speech Sound Disorder** (SSD) is when someone isn't using the speech sounds that other people their age are using. Their speech is often hard to understand.



Around 9% of children aged 3-17 have a SSD.

There are five main *patterns* of SSD:

1. Phonological Delay

Phonological Delay is the most common type of SSD (57% of people with an SSD). The child makes an error that is normal, but which most children their age have grown out of. For example, a three-year-old who says "I weally want de doo dup" instead of "I really want the blue cup" this is normal for their age. But if a six-year-old says it that way, it shows some difficulty. It is then a phonological delay.

In a phonological delay, the child can often *copy* the sound with help. But they don't use it in words and sentences in the right way. They often use a simpler sound instead. They haven't learned to easily make the sound and they haven't learned the rules of English about which sounds are used when.

There are many patterns to these errors. Speech pathologists give names to these patterns to describe them. Some of these are: *fronting, final consonant deletion, gliding,* (and many more).
These errors are more about knowing **when** to use the right sounds, and less about the **ability** to use them.

2. Articulation Disorder

In an Articulation Disorder, the child *cannot* say certain speech sounds that we would expect for their age. This means they can't copy a sound that is too tricky (such as /k/), or they may always say a sound with the wrong incorrect motor pattern (such as an interdental lisp). These errors are more about the physical difficulty of making that particular movement. We can also describe these errors, for example *distortion*, *substitution*, *omission* or *addition*. This is much less common: about 13% of SSDs are Articulation Disorders.

3. Consistent Deviant Phonological Disorder

In a Consistent Deviant Phonological Disorder, a child has errors that are more unusual. We call these **atypical** errors. They are "deviant". We need to see at least 5 *atypical* errors in an assessment to use this diagnosis. Atypical errors are not seen in children going through the usual stages of development. Examples include: *changing vowel sounds*, or *missing sounds at the start of words*. Even though the errors are unusual, the child has made their own rules about when to use the sounds and they always use them the same ways. This makes them **consistent**. This means we can often work out what they mean. These errors can be mixed up with other types of delayed error patterns. Children with this kind of difficulty need help to make change. They are less likely to grow out of it on their own.

4. Inconsistent Deviant Phonological Disorder/Inconsistent Speech Disorder

In an Inconsistent (Deviant) Phonological Disorder, words are said *differently* a lot of the time. They do not follow a pattern, so they are **inconsistent**. We need to see this happen in 40% or more of the words in an assessment to make this diagnosis. Errors can be typical or atypical. For example, a child might say "I saw the cat" then "I taw

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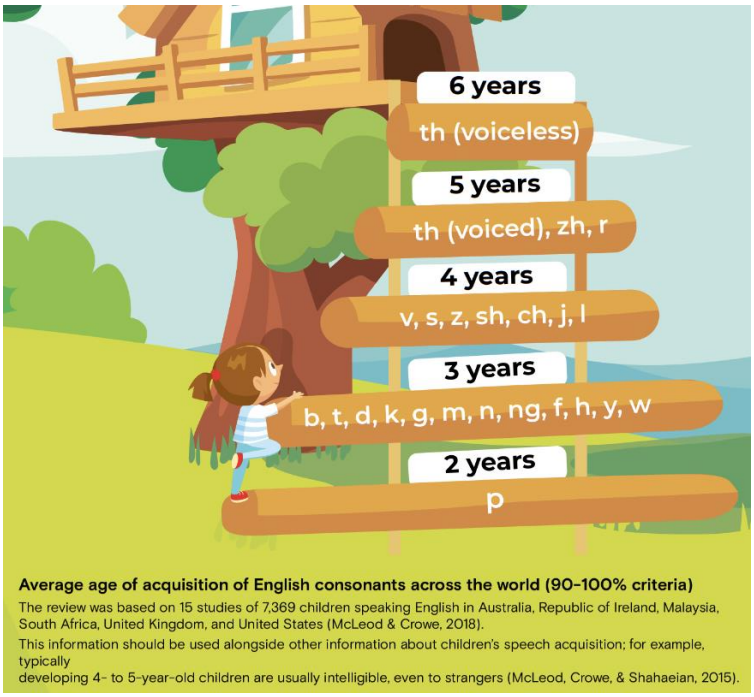
me tac" then "I doo da gat" then "I saw ve tat". These children do not realise they are saying words differently. They have difficulties setting up a mental "rule system" about speech patterns. This inconsistency sets this type of SSD apart from other types. It needs to be treated in a specific way.

5. Childhood Apraxia of Speech

Childhood Apraxia of Speech (CAS) is a neurological (brain) condition that makes it hard for the child to plan and do movements in speech. It is very rare. The term **apraxia** means 'difficulty with movement'. A child with CAS has errors in getting sounds "right" each time they say them. Their errors change, but the child knows what sound they are *meant* to say. This is different from Inconsistent Phonological Disorder.

What age should my child say their sounds?

This picture shows us the ages most children learn to say speech sounds.



Average age of acquisition of English consonants across the world (90–100% criteria)
The review was based on 15 studies of 7,369 children speaking English in Australia, Republic of Ireland, Malaysia, South Africa, United Kingdom, and United States (McLeod & Crowe, 2018).
This information should be used alongside other information about children's speech acquisition; for example, typically
developing 4- to 5-year-old children are usually intelligible, even to strangers (McLeod, Crowe, & Shahaeian, 2015).

Remember that they may still find it hard to know *when* to use those sounds in words.

Common phonological patterns and ages of development include:

- **Fronting** back sounds to the front e.g. 'tea' for 'key': usually resolved by 3.5 years old.
- **Stopping** long sounds e.g. 'pat' for 'sat', with different sounds resolving at different ages.
- **Cluster reduction** of 2 or 3 consonants to 1, e.g. 'cool' for 'school' or 'sing' for 'spring'. This is usually resolved before 5 years, or earlier for easier sounds.
- **Gliding** refers to errors with /l, r, y, w/, for example 'wed' for 'red'. This is usually resolved between 5 and 6 years.
- **Final consonant deletion** for example 'ca' for cat. This is usually resolved by 3 years 3 months.

Polysyllables

Polysyllables are words with three or more **syllables**. Syllables are the beats, or chunks, in words. For example, *wa/ter/me/lon* is a polysyllable word with four syllables. Polysyllables can be harder to remember and say than short words. This is even harder for people that have had an SSD. Children often try to make these tricky words easier. They may miss or swap, or repeat sounds, or make pauses in the word. *All* children will make errors while learning to say long words. The types of errors they make also changes with time. Over time they find it easier to use stress patterns, and timing. Most children learn say new, polysyllables easily as they get older. School-age children who still have difficulties with polysyllables have a higher risk of difficulties learning to read and write. Other difficulties that increase this risk are:

- Atypical speech errors
- Not growing out of speech sound errors, even if they are mild
- Also having a language impairment

We need to help children with speech sound disorders as early as we can.
We want them to meet their potential with literacy, learning, and life.

Speech sound disorders that are not supported can lead to social, emotional, learning and behavioural difficulties.

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References

- Anthony JL, Greenblatt-Aghara R, Dunkelberger MJ, Anthony TI, Williams JM, and Zhang Z. (2011). What Factors Place Children with Speech Sound Disorders at Risk for Reading Problems? *Am J Speech-lang Pat* 20, 2, 146–160.
- Broomfield, J. Dodd, B. Children with speech and language disability: caseload characteristics. *Int J Lang Commun Disord* 39(3):303-24 (2004)
- Gozzard, H., Baker, E. & McCabe, P. Requests for clarification and children's speech responses: Changing `pasghetti' to `spaghetti'. *Child Lang Teach Ther* **24**, 249–263 (2008).
- Hayiou-Thomas M, Carroll J, Leavett R, Hulme C, & Snowling M (2016) 'When does speech sound disorder matter for literacy? The role of disordered speech errors, co-occurring language impairment and family risk of dyslexia'. *Journal of Child Psychology and Psychiatry* 58: 197–205.
- Holm A, Sanchez K, Crosbie S, Morgan A. & Dodd B (2021) Is children's speech development changing? Preliminary evidence from Australian English-speaking 3-year-olds. *Int J Speech-lang Pa 1–10*
- Holm, A., Farrier, F. & Dodd, B. Phonological awareness, reading accuracy and spelling ability of children with inconsistent phonological disorder. *Int J Lang Comm Dis* **43**, 300–322 (2008).
- Larrivee, L. S. & Catts, H. W. Early Reading Achievement in Children with Expressive Phonological Disorders. *Am J Speech-lang Pat* **8**, 118–128 (1999).
- Raitano N, Pennington BF, Tunick RA, Boada R, & Shriberg LD. (2004). Pre-literacy skills of subgroups of children with speech sound disorders. *J Child Psychol Psyc* 45, 4, 821–835.
- McLeod, s. & Crowe, K. Children's Consonant Acquisition in 27 Languages: A Cross-Linguistic Review. Am J Speech-lang Pat, 21 (2018)
- McLeod, S., Crowe, K., Shahaeian, A. Intelligibility in Context Scale: Normative and Validation Data for English-Speaking Preschoolers. Lang Speech Hear Serv Sch. 46(3):266-76 (2015)
- Morgan, A. et al. Who to Refer for Speech Therapy at 4 Years of Age Versus Who to "Watch and Wait"? *J Pediatrics* 185, 200-204.e1 (2017).
- NIDCD (2016) *Quick statistics about voice, speech and language*. Available at: https://www.nidcd.nih.gov/health/statistics/quick-statistics-voice-speech-language (Accessed September 2017).

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