



Fact Sheet - Speech disorders

Phonological disorder

Phonology refers to the sound contrasts of our language. This means the pattern of how sounds are put together in words to give meaning. Each language has it's own phonology.

Children with phonological disorders know what they would like to say but have problems using sounds in the correct pattern.

While it is common for young children to use some speech error patterns when they learn to talk, children with phonological disorders are difficult to understand compared to most children their age.

What are the signs of phonological disorder?

Often children can physically make sounds correctly but might use them in the wrong word (e.g., 'doe' for 'go'), or leave a sound out (e.g., 'tie' for 'time'). These are examples of speech error patterns called '**phonological processes**' (see table overleaf).

Some phonological processes are typical during speech development until a certain age. When a child uses a process beyond the usual age range this is called a '**phonological delay**'.

Children with **phonological disorders**, however, use speech error patterns that are not typically used by other children during speech development.

Some examples of these error patterns include:

- sound preference (using a favoured sound in place of many other sounds e.g., 'dup' for 'cup' 'dife' for 'knife', 'doo' for 'shoe')

- backing (when a sound typically made at the front of the mouth is made towards the back of the mouth, e.g., 'guy-guy' for 'bye-bye')
- initial consonant deletion (leaving off the first sound of a word, e.g., 'at' for 'cat')

As a result, children with phonological disorders often have speech that is difficult to understand.

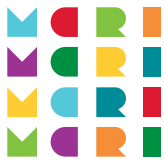


Phonological disorders have been linked to later language and literacy difficulties, so targeted speech therapy is important in the early years.

Many children with phonological disorders also have phonological delay (that is, they use some patterns that are disordered and some patterns that are delayed for their age). Phonological disorder may also occur alongside other speech disorders (such as articulation disorder or childhood apraxia of speech) or may occur on its own.

What are the types of phonological disorder?

- **Consistent phonological disorder:** children use error patterns that are the same/predictable across words (i.e., saying 'at' for 'cat' across 3 different tries)
- **Inconsistent phonological disorder:** children use errors patterns that different/inconsistent across words (i.e., saying 'bat', then 'gat', then 'at' for 'cat' across 3 different tries)



It is important to determine the type of phonological disorder so that the appropriate therapy approach can be used during treatment.

How are phonological disorders diagnosed?

Qualified speech pathologists (also known as speech-language pathologists or speech therapists) assess children's speech to determine whether they have a phonological disorder, another type of speech disorder (e.g., articulation disorder), or a combination of these.

Assessments usually involve observing the child's oral structures at rest and during movement and examining speech by naming pictures which are designed to elicit all the sounds of the child's language.

How are phonological disorders treated?

Speech pathologists can identify the type of phonological disorder, and plan treatment with your child and family. Treatment may include regular appointments and exercises for you to do with your child at home.

With appropriate speech therapy, many children with phonological disorders will have improvement in their speech.

References

Dodd, B., et al. (2003). Phonological development: a normative study of British English-speaking children. *Clinical linguistics & phonetics*, 17(8), 617-643. <https://doi.org/10.1080/0269920031000111348>

Morgan, A., et al. (2017). Who to Refer for Speech Therapy at 4 Years of Age Versus Who to "Watch and Wait"? *The Journal of paediatrics*, 185, 200-204.e1. <https://doi.org/10.1016/j.jpeds.2017.02.059>

Phonological process	Description	Examples	Pattern is typical until age:
Voicing	When voiced sounds (e.g., 'b', 'd', 'g') are replaced with unvoiced sounds (e.g., 'p', 't', 'k')	"pik" for "pig"	2 years, 11 months
Stopping	When long, continuous sounds (e.g., 's', 'f') are replaced with short, stopped sounds (e.g., 't', 'd')	"dun" for "sun"	3 years, 5 months
Weak syllable deletion	When weak/unstressed syllables in words are omitted	"ephant" for "elephant"	3 years, 11 months
Fronting	When sounds are moved to a more forward position in the mouth	"tar" for "car"	3 years, 11 months
Cluster reduction	Omitting a sound when two or three consonants occur together	"bed" for "bread" "pider" for "spider"	3 years, 11 months
Deaffrication	When affricate sounds 'ch' and 'dge' are reduced to 'sh' or 'ts', and 'zh' or 'dz'	"wash" for "watch" "wits" for "witch" "bridz" for "bridge"	4 years, 11 months
Gliding	When liquid sounds 'l' and 'r' are replaced with glide sounds 'w' and 'y'	"wabbit" for "rabbit" "yight" for "light"	5 years, 11 months

Table adapted from Dodd et al. (2003)