Speech sound disorders – overview

Introduction

This guidance is for everyone who is concerned about a child's speech sound development or who has responsibility for looking after or providing services for children in the UK. This includes:

- parents/caregivers and other family members
- health care professionals e.g. health visitors, children's nurses, school nurses, Allied Health Professionals (AHPs), doctors
- educational practitioners e.g. teachers, teaching assistants*, early years practitioners, educational psychologists
- educational leaders and managers e.g. head teachers, special/additional educational needs coordinators, leadership team members, school governors
- those responsible for commissioning speech and language therapy services.

Please also see the sections on **Sources of Support** and **References**.

If you're a speech and language therapist (SLT), please **sign up** or **log in** to access **the full version of this guidance aimed at SLTs**.

*In this guidance the term 'teaching assistant' will be used to refer to individuals who provide additional support to children in classrooms, acknowledging that in different educational settings these jobs have different titles.

Typical speech development

When people talk they are using two complex systems:

- **Language** – which puts words into sentences to make meaning
- **Speech** – which puts the individual sounds (vowels and consonants) into words so that we can hear and understand what people are saying.

Children develop speech and language from soon after they are born from the languages they hear around them. Children usually grow up sounding like the other people in their family and local community when they talk. Most speech and language develops in early to mid-childhood. People continue to develop language knowledge all their lives, e.g. learning new words related to their interests or work.

In every language there is a typical pattern of speech sound development **(see Speech development in languages other than English)**. Children vary in their speech sound development. Some children develop speech sounds earlier than other children. For English, the typical pattern of speech development in the UK is shown in the table below. Most sounds are established when children are about three years old. Some sounds develop later and children may be about 6-7 years old before they use all sounds correctly.

This table is based on the most up to date information on UK English sound development. Development of speech sounds in other countries where English is the majority language (e.g. Australia, America) may differ slightly from the UK but will be similar.

Table showing development of English speech sounds

Before children are about 3 years old they sometimes make predictable errors in their speech sounds. These errors typically resolve as the child starts to use the correct sound. Examples of these are:

- Before they start using ‘k’ properly, they typically say ‘t’ instead, e.g. ‘cat’ sounds like ‘tat’.
- They may miss out a part of the word e.g. ‘tomato’ sounds like ‘mato’, ‘banana’ sounds like ‘nana’
- They miss off the last sound in a word e.g. ‘bus’ sounds like ‘bu’, truck sounds like ‘tru’.

Approximate Age	Sounds used in speech	Examples
9-24 months	p, b, t, d, m, n, w (k, g may be used sometimes) vowels may be limited in number compared to adults	Babies' babble becomes more meaningful from about 9 months. At first, they repeat parts of words e.g. *dada* instead of *daddy*, *nana* instead of *banana*. These gradually sound more like words and sound the same each time they say them. By 2 years, children will be rapidly learning new words and starting to put two words together into sentences. The last sound is often missed off a word e.g. *bus* sounds like *bu*. Sequences of two or more consonants are said as one consonant e.g. *splash* will sound like *pa*; *tree* will sound like *tee*; *blue* will sound like *bu*.
2-3 years	p, b, t, d, k, g, m, n, f, s, w, h most vowels	Children are now using 'k' and 'g' in words, although some may still say 't' and 'd' instead e.g. *can* might sound like *tan*. They are starting to use 'f' and 's' but it may be inconsistent, e.g. *sun* might sound like *sun* or *tun.* Sometimes the last sound in a word is present e.g. *can* might be *ca* or *can*. Sequences of two or more consonants are still said as one consonant.

Approximate Age	Sounds used in speech	Examples
3-4 years	p, b, t, d, k, g, m, n, ng (at the end of words), f, v, s, z, h, w, l, y, ch all vowels	Most sounds are now being used in words. The first sound of a word is always present and most final sounds and sounds within words are present. Some sounds are still not quite right e.g. *fish* might sound like *fiss.* Children start using 'ch' correctly as they approach 4, e.g. *watch* might sound like *wots* when they are 3 but *watch* when they are nearly 4 . Words with sequences of two or more consonants start to appear e.g. *tree*, *drink*, *blue.* All vowels should be correct now.
4-5 years	p, b, t, d, k, g, m, n, ng (at the end of words), f, v, s, z, h, w, l, y, ch all vowels j	Words like *treasure*, *measure*, *joy*, *jump*, *hedge* sound more like the adult version now.
5-6 years	p, b, t, d, k, g, m, n, ng (at the end of words), f, v, s, z, h, w, l, y, ch, j all vowels sh and r	A lot of children are already using these sounds and all of them will now sound like the adult version, e.g. *shout* and *street*
6-7 years	p, b, t, d, k, g, m, n, ng (at the end of words), f, v, s, z, h, w, l, y, ch, j, sh, r all vowels th	*Thing*, *this*, *feather* are now said correctly. In some areas of the UK adults say *fing*, *viss and feava* so we expect children to as well. This is a regional accent feature and not an error.

These are of concern if they persist beyond 3 years and if it is difficult to understand the child in everyday situations (the child is unintelligible). Most children have intelligible speech and good

language skills when they start school between the age of 4 and 5. If there are concerns about a child's speech, it is important to seek help sooner rather than later.

Referrals to speech and language therapy services can be considered at any age but criteria may vary across speech and language therapy services. If the child is not cooing, babbling or using many sounds from 0 to 2 years, then contact a Health Visitor for advice. If parents/caregivers are very concerned about their child's speech they can often contact their local NHS speech and language therapy service directly and refer their child (search online for 'NHS Speech and Language Therapy near me' and choose your local NHS Trust/Board). Some services only accept referrals from health visitors or schools. Speech sound development is complete when the child sounds like the adults in their family or the other children in their school. This can differ across local accents. For example, people in some areas of the UK usually pronounce 'th' in words such as 'teeth' or 'that' as 'f' ('**teef**' and '**fat**').

Speech development in languages other than English

Children who grow up in families where English is not spoken at home will develop speech sounds in a way typical for the language they are learning. Each language has its own set of sounds, although some sounds are the same across different languages. If you are concerned that a child is not developing speech sounds in line with other children of the same age who speak the same language, please refer them to speech and language therapy. Do not refer them if speech sounds in their home language are developing as expected.

Children who grow up speaking two or more languages together will develop speech sounds in all of their languages at about the same time. This depends on how much of each language they hear around them. The language they hear most will usually develop earlier. This may be different from children who just speak one language. This is not a problem as the benefits of being **bilingual /multilingual** far outweigh this. If there are concerns that the child's speech sound development in any of their languages is slow or sounds different to other children speaking that language, refer them to speech and language therapy. If an interpreter is needed, the speech and language therapy service will arrange for one to be present at appointments.

More information about

- the benefits of growing up bilingual
- what to expect from speech and language therapy services
- assessment in home languages

can be found in the **RCSLT Bilingualism Guidance** (2018).

What is speech sound disorder?

When a child's speech is very difficult to understand compared to other children of the same age speaking the same language, the cause may be a speech sound disorder (SSD). Speech sound disorders are diagnosed by speech and language therapists (SLTs) after detailed assessment of all aspects of speech production. There are several different types of SSD which can be diagnosed and treated by SLTs. About 12 children in every 100 will have SSD and about half of them will also have language difficulties.

Articulation disorders

Articulation disorders are due to difficulty making the correct movements for speech. It usually affects only a small number of sounds. Common examples in English are where the 's' sound is said like a 'th' sound e.g. *sing* sounds like *thing* (a lisp) and 'r' sounds like 'w' e.g. '**rabbit' sounds like 'wabbit**'. The child finds it difficult to say the sound on its own and in words. Some children find this impacts on their wellbeing and mental health. Referral to speech and language therapy can help. Some articulation disorders make speech very hard to understand. These children should be referred to speech and language therapy.

Phonological disorders

Phonological disorders are when the child has difficulty using sounds in the correct place in a word or is using the wrong sounds in words. The child can say the sound on its own but has difficulty saying it in words or misses out sounds e.g. the child can say 'k' and 'g' on their own, but says '**teep' instead of 'keep**' or '**pid' instead of 'pig**'. These can make the child very difficult to understand to people outside their family and sometimes to close family members. These children should be referred to speech and language therapy.

There are also SSD related to **deafness**, **cleft palate**, **Down Syndrome**, **22q11 deletion syndrome, cerebral palsy** and other childhood conditions. It is important to seek the help of an SLT for these children. You may hear the terms 'dysarthria' or 'childhood apraxia of speech' *(CAS)*, both of these are rare speech disorders which are diagnosed and treated by SLTs. **Please see the section on Sources of Support.**

Long term impact of SSD

Speech sound disorders can have a long lasting impact if not treated at the right time. Children with SSD are at risk of literacy difficulties that impact their access to education. SLTs work closely with teachers to reduce this risk and support children's progress. Early support is crucial so that the child is ready to learn phonics which links letters and letter combinations to speech sounds when children learn to read. There are things that parents/caregivers can do to help. **Please see the section on Sources for Support.**

SSD can also last into adulthood with impact on employment opportunities and mental health. Adults with SSD may be able to access speech and language therapy through the NHS or if they wish to access support privately they can contact the **Association of Speech and Language Therapists in Independent Practice** (ASLTIP).

Children with SSD often have difficulty with language too. This means they have difficulty expressing themselves to others. They may not know as many words (vocabulary) as other children; they may have difficulty making correct or long sentences or have difficulty understanding what others say to them. This has an impact on their educational achievement, relationships with others, mental health and future employment. You can find out more on the RCSLT pages about developmental language disorders.

What to expect at the first appointment

What happens after a child has been referred to speech and language therapy service will vary depending upon where they live. Each speech and language therapy service will tell parents/caregivers what to expect. Some speech and language therapy services make first contact by telephone to listen to parents'/caregivers' concerns and provide initial advice. Assessment appointments may take place in the child's home or school, in an NHS health centre or clinic or online.

The parent/caregiver will be asked about the child's development from birth. For school age children they will be asked how the child is getting on at school. The child's school will also be asked for information.

For very young children, the SLT or an SLT Assistant (SLTA) will play with the child and observe how they play. They will use play and pictures to encourage the child to talk. They may use assessments that are designed to prompt the child to say a standard set of words or phrases. The aim of this is to get information that can be compared with typically developing children. SLTs will usually assess speech and language in this first assessment. Parents/caregivers are asked not to help their child during this assessment so that the SLT can see what the child can do on their own.

For school aged children, the SLT will use more formal assessments to assess specific aspects of speech and language. These may still look like the SLT is playing games as it is important for the child to be at ease.

At the end of the appointment the SLT will discuss their observations and the next steps with the parent/caregiver. The SLT will take some time to analyse the information they have collected so may not be able to give a diagnosis immediately. Children with complex SSD will need more assessment time.

Possible next steps include more assessment, some activities for the parent/caregiver to do at home, some group or individual therapy (there will be a waiting list for this) or discharge. Some children need speech and language therapy but are not ready to benefit from it, for example because they have difficulty paying attention or listening. In these cases, parents/caregivers may be given a programme of activities to do at home before therapy starts. These activities play an important role in helping the child benefit from therapy. It is important for the child that they are carried out as suggested.

What to expect from therapy for SSD

Speech and language therapists are the only professionals who have the knowledge and expertise to work with children who have SSD. Speech and language therapy for children with SSD will always be planned by an SLT. Evidence indicates that the SLT should deliver therapy for SSD. Specially trained SLT Assistants (SLTAs) may deliver some sessions under close supervision of the SLT. Extra practice may be given for parents/caregivers or teaching assistants to carry out on a daily basis as appropriate. The SLT will discuss therapy goals and intended outcomes with parents/caregivers and often with teachers. Some areas may experience a shortage of SLTs reducing access to appropriate levels of speech and language therapy. The RCSLT continues to advocate with governments and agencies for adequate speech and language therapy resources and support.

The type of therapy will depend upon the type of SSD diagnosed by the SLT. Sometimes more than one type of therapy at the same time or in sequence is needed. Some therapy focuses on saying sounds accurately (articulation); some is more about listening to the correct sounds and hearing the difference between two or more sounds before saying those sounds in words (phonology); some is about the way sounds fit together in words (phonological awareness).

The SLT will choose the therapy that is best for your child based on the assessment information and on the evidence base. There are many effective therapies that have been shown by research to help children develop intelligible speech. Some of the therapy will involve the child practicing saying sounds and words, but it will often also involve listening to sounds and words.

Therapy is usually delivered in fun activities/games so that the child is kept engaged and motivated. To be effective, therapy may need to be delivered for many weeks or months depending on the needs of the child. Therapy sessions typically last 30 minutes to an hour, depending on the child's needs. The type of therapy chosen will influence the number, length and spacing of sessions. The frequency of sessions will take into account the amount and type of extra practice outside the therapy sessions. Extra practice makes a valuable contribution to the child's progress (Sugden et al., 2018) and is often one of the activities from therapy.

After a period or block of therapy (also called an episode of care) it is usual to have several weeks with no therapy to see how the therapy has worked. Sometimes during this period children make lots of extra progress but some children make little or none. This is important information to help the SLT plan the next steps.

Children with complex or persistent SSD, including those with childhood apraxia of speech (CAS), will need more therapy for longer. The number of sessions a week and the amount of practice needed will vary according to the child, the severity of their SSD and the way they respond to therapy. There will be more than one period of therapy (or episode of care) with a break of a few weeks in between. Sometimes further assessment will lead to a different diagnosis as they respond to therapy or new information is discovered. This is nothing to worry about but will ensure the child continues to get

the best therapy for their type of SSD.

Children with severe SSD, including those with CAS, may be supported to use Augmentative and Alternative Communication (AAC). This can take the form of signing (e.g. Makaton), symbol based communication mats or books or a voice output device. The aim of AAC in this context is to support the child's participation in education and social and family life, while therapy to improve intelligibility is ongoing. More information about AAC can be found on the RCSLT **AAC guidance pages**.

If a child has language disorder as well as SSD, they will be given therapy for their language disorder too. This can be at the same time as the therapy for SSD or it may start after the child's speech is easier to understand. The SLT will advise on the most effective way of delivering this therapy.

Next steps

Following each block of therapy, the next steps will be discussed with parents/caregivers. When the child's speech is intelligible to different people and specific goals of therapy have been met it is time for the child to be discharged. This will be discussed with parent/caregivers and often with teachers if the school have been involved in supporting the therapy. Sometimes activities are suggested for a short time to help maintain new skills. Children with complex needs in addition to SSD may have increased intelligibility but some people may still find them difficult to understand. Some of these children may use AAC to support their intelligibility. Sometimes family or personal circumstances may make it difficult to provide extra practice at home or to attend therapy. Parents/caregivers should discuss these issues with the SLT so the next steps can be agreed. Children can be re-referred to speech and language therapy at any time until they are 18 if there are further concerns about their speech and/or language. Speech and language therapy services for young people aged over 18 vary across the UK. If you require speech and language therapy during these years, please ask your local children's speech and language therapy service for advice.

Phonological or speech sound awareness

Phonological awareness (sometimes called Speech Sound Awareness or Sound Awareness) is an essential skill for

- learning new words (vocabulary)
- learning to read and spell (phonics)
- using speech sounds in words.

Most children develop all their phonological awareness skills from hearing language around them. Children with SSD or language difficulties often have delayed phonological awareness development. Early Years settings usually do phonological awareness activities with small groups of children to prepare them for learning phonics when they start learning to read. SLTs may give phonological awareness activities to parents/caregivers to do at home when children have SSD or language difficulties.

Phonological awareness is an auditory skill, developed through hearing and listening to people speaking around us. It is our knowledge of how sounds fit together to make words. It develops in two stages.

Stage one must be learnt before stage two. Stage one is the knowledge of large segments which are words and syllables e.g. 'The girl runs' has three words; 'greenhouse' and 'picnic' both have two syllables; 'hippopotamus' has five syllables.

Stage two is the knowledge of small segments which are the sounds (or phonemes) in words e.g. 'on' has two sounds (phonemes) o-n; 'cat' has three sounds (phonemes) c-a-t, 'rabbit' has five sounds (phonemes) r-a-bb-i-t.

Letters and sounds (phonemes) are not always the same, for example in 'rabbit' the single sound 'b' is represented by two letters, which is why it is important to hear words and not read them when learning phonological awareness.

Children who speak languages other than English (LOTE) develop phonological awareness in the same way, from large to small segments. Because different languages are structured differently, phonological awareness skills vary slightly from language to language. Phonological awareness skills in a child's home language can support its development in other languages.

Ask your SLT

During assessment and therapy if you don't understand what is happening or why, it is OK to ask the SLT. It is OK to:

- ask for an explanation of the diagnosis you are given if you are not sure what it means
- ask about how long and how often the SLT thinks your child will need therapy
- say you are keen to be a part of the child's therapy
- talk to your therapist if you are having difficulty supporting therapy at home e.g. if you are overly busy, if it's not the right time for your family or you are worried that your child won't do therapy activities with you at home
- ask "Why are you doing that?" if the point of an activity is not clear
- ask "What does that assess?" if it is not obvious
- ask "Why are you saying things and not my child?" if your child is not saying much in the therapy
- say that you are worried about your child
- ask if your child's nursery or school will be involved with speech and language therapy.

Parents/caregivers and schools should get written reports from SLTs after assessment and intervention. If there is anything in the report that you don't understand you can ask the SLT for clarification.

How to talk to children with SSD

When talking with children with SSDs, it is helpful if you support their speech by giving them a good clear model of speech to listen to. Explain to the child that sometimes you don't understand what they say so sometimes will ask them questions to help you understand. If you have not understood what they said you could try the following:

- Ask them to show you what they mean/want, then you say the words to them e.g. if they point to the Lego you say "OK you want to play with the Lego?"
- Give them two words that you think might be what they are saying e.g. "Do you want the rabbit or the elephant?"
- Instead of saying "What did you do at school today?", ask a question that gives them a choice e.g. "Did you play football or rounders at school today?"
- You can guess at what they said, "Is it in the garden or the kitchen?" to draw their attention to the word you didn't understand.

Do not ask the child to repeat what you said (no matter how tempting it is). This is not helpful to them and may lead them to avoid talking or saying certain words.

Dummy/soother use

Parents/caregivers know that using a dummy or soother can be helpful in getting their child off to sleep and calming them when they are upset. The use of dummies for this purpose does not affect speech development. However, we all know how hard it is to talk when we have something in our mouth. When a child is talking, remember to remove the dummy from their mouth. Excessive use of a dummy during the day can interfere with speech sound development. It is advised that dummies are not used for long periods during the day when the child is starting to talk alongside their play.

Tongue tie

Children born with a **tongue tie** (the medical term is ankyloglossia) may have restricted movement in the tip of their tongue. If this interferes with suckling it will take longer to feed the child in the early days and weeks. If there is a severe impact on feeding in the first few weeks of life, there may be a medical recommendation for the tongue tie to be cut. At this stage it can be done without general anaesthetic. There is no evidence that tongue tie affects speech development, so this is not a reason to cut a tongue tie at any age.

‘Growing out of it’

A small number of children with SSD will “grow out of it”, that is they will catch up with children the same age without any help. For young children, it is not always clear which children will need speech and language therapy and which will not. SLTs will advise on the best course of action. For school age children it is unlikely they will progress without therapy. If there is concern about a child’s speech development, it is always advised to refer to speech and language therapy.

Screen time

Using the TV, computer, tablet or phone together with a child to watch programmes, play games, read or listen to stories can all be good opportunities to share good language and speech models. You can talk about things you have seen and new words you have heard, giving the child a chance to learn new words. If no one is actively watching the screen it is best to turn off the device and not have it on in the background. Some children with SSD will find it hard to hear speech over background noise. If the TV or music are on when they are playing or talking it will be harder for them to hear good speech models and will slow their progress.

Apps

There are lots of Apps available that claim they help children's speech development. Some of these will be helpful but most will not be. Some can be harmful. Before getting an app to help a child with SSD it is important to talk to an SLT to check it will be helpful and not do harm.

Non-speech oro-motor exercises (NSOMEs)

There are several types of therapy for SSD offered on the internet or in Apps that say they will strengthen a child's tongue and mouth and help their speech development e.g. chewing on tubes or doing mouth exercises. Often these cost money and appear to offer cures for SSD. There is no research that supports the effectiveness of this type of therapy. In some cases they can be harmful. It is advised to check with an SLT before starting any type of alternative treatment for SSD. If you are waiting for therapy for a child, ask the SLT what you can do to help while you are waiting, it could be as simple as reading or listening to books together. It will never be doing mouth, lip or tongue physical exercises.

Hearing

Good hearing helps speech sound development. All babies born in the UK are offered a hearing test within a few weeks of birth. For babies born in hospital, hearing can be checked before they go home. This is to rule out permanent deafness. It is an important test for all babies. Discovering deafness at this early age will help their speech, language and communication development.

Children are offered hearing tests at several times in the preschool years. If your child is offered hearing tests it is important to go along, even if you have no concerns about their hearing.

Children can have periods when their hearing is reduced due to infections or blockages in their ears e.g. **bad colds, otitis media (glue ear)**. It is important to go to all hearing tests offered to children. If you have concerns about your child's hearing talk to your GP or Health Visitor.

RCSLT Position Paper on Childhood Apraxia of Speech 2024

The RCSLT Position Paper on Childhood Apraxia of Speech (CAS) has been developed primarily for the speech and language therapy workforce. Other professional groups and organisations together with parents, families and carers will find this to be a useful, relevant and informative resource. Speech and language therapy specific terminology has been used in this document and if further explanation or guidance is needed, please discuss this with a speech and language therapist.

Some of the resources linked in this document are only accessible to RCSLT members. For further information on the purpose of RCSLT guidance, please see: **how we develop our guidance**.

The aim of this document is to offer guidance regarding children with CAS for:

- SLTs and managers of SLT services in order to influence commissioning arrangements and plan service delivery
- Higher Education Institutions (HEIs) for the purposes of pre-registration and postgraduate education and academic research
- Organisations committed to providing or determining appropriate provision and support for individuals with CAS

This paper, published in 2024, replaces the 2011 Policy Statement on Developmental Verbal Dyspraxia.

Sources of support for families of children with SSD

Some of these link to activities that are good for all children to support their speech and language development. They include information for bilingual children.

- **ASLTIP Therapy for children**
- **BBC Tiny Happy People**
- **Better Health Start for Life. Learning to Talk 1-2 years**
- **Better Health Start for Life. Learning to Talk 2-3 years**
- **Better Health Start for Life. Learning to talk 3-5**
- Welsh Government's **Talk with Me**
- **A video on RADiSSD dosage**

These links are for organisations that offer information and support for families of children with SSD, including CAS.

- **Afasic**
- **Apraxia Kids**
- **Dyspraxia Foundation**
- **Mikey's Wish**
- **Speech and Language UK**

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Typical speech development in languages other than English (LOTE)

http://www.csu.edu.au/research/multilingual-speech/speech-acq-studies This website is curated by Professor Sharynne McLeod at Sturt University, Australia (2024)

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