



Dysfluency, Stammering, Getting Stuck

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information

What can we do about Dysfluency, Stammering, Getting Stuck?

Many people who have Down's syndrome have trouble in maintaining the smooth flow and rhythm of speech, resulting in noticeable interruptions to fluent speech. Speech and language therapists use the term "dysfluency"; this may also be described as "getting stuck" or "stammering", or "stuttering" (an American term). People with Down's syndrome and their families tell us that dysfluency can cause concern because of stress experienced by both the speaker and the listener, and because it may make speech harder to understand.

Researchers have found that around 1 in 2 people who have Down's syndrome regularly have difficulty in maintaining fluency. For many children and adults, dysfluency is a feature of their speech that does not have a big impact on how effectively they can communicate. When dysfluency presents as more of a problem, there are a number of strategies that can support people to achieve more fluent speech and communicate more effectively.

This article explains:

- what dysfluency is, why people who have Down's syndrome may experience dysfluency, and different ways in which dysfluency may impact on communication.
- how, with support to develop language skills, and support to deal with stammering, people who have Down's syndrome can reduce the impact of stammering and achieve more fluent speech. Strategies to address dysfluency are described in more detail at the end of the leaflet, and symbol master sheets are provided.

What is dysfluency?

All of us experience occasions when we can't put our ideas into language quickly enough to produce continuous speech. By the time we are adults, most of us have developed sophisticated language skills, and we are able to pause our sentences without disrupting the smooth co-ordinated movements of the speech production mechanism: breathing, voice, mouth, lips and tongue. We hesitate as we take more time to think of words and construct sentences, and fill these hesitations with um's, er's, "let me think", or just brief silences. As listeners, we don't particularly notice these breaks.

Language skills take time to develop. When we listen to children who are developing their skills at putting ideas into language, we can hear how tricky this is. We may notice that the flow of speech is interrupted while they work out how to say what they want to convey:

"When my mum says she won't be long, she always.... be's long".

Between the ages of 2 and 6 years, about 80% of children will go through a period known as "normal non-fluency". This is a stage of development associated with rapid growth in language skills. During this period, children's speech may be interrupted by many of the features that we recognise as stammering:

- repeating sounds, *"I got new w, w, w, w, watch"*
- repeating words, *"My, my, my, my, my brother does that"*
- repeating parts of a word, *"My grapes were pur, pur, pur, pur, purple"*
- prolonging sounds, *"I had a lllllolly"*

- stopping, and starting the sentence again, “I went to, I went to, I went to Victoria Park”

There may be some associated actions such as blinking or holding breath very briefly.

The majority of children outgrow this phase. Some children, particularly those who have more difficulty in developing speech and language skills, will continue to experience dysfluency.

Down’s syndrome and dysfluency

Speech and language difficulties are part of the profile of challenges faced by people with Down’s syndrome, who often find it hard to understand more complex language, put ideas into language, and produce clear speech. In addition to this, people who have Down’s syndrome tend to need extra time to process information. As with young children who are developing their language skills, people with Down’s syndrome have particular difficulty with fluency when they endeavour to:

- use some of the more complex language structures
- convey more complex ideas; use vocabulary that they find hard to say;
- communicate about topics that provoke strong emotions.

Many people go through phases when they experience more dysfluency, and other times when their speech is more fluent. With children, dysfluency may increase when they are mastering new skills. Dysfluency may increase at times of stress, for example when moving house or going through other life changes. It’s worth considering whether it’s helpful to do some work on dysfluency at these times: some people may find this supportive, while in some circumstances it may not be appropriate to introduce any extra demands on time and energy.

For many people who have Down’s syndrome, some dysfluency is part of the experience of speaking, and is not identified as a particular problem: their dysfluency can be viewed as a symptom of their struggle to put ideas into spoken language. Some people who have Down’s syndrome encounter similar difficulties to those experienced by people who identify as having a stammering problem. The chart below describes some features that we would consider when evaluating whether dysfluency has become a stammering problem.

	<i>Dysfluency as a non problematic symptom of language difficulties</i>	<i>Dysfluency that is a stammering problem: features in one or more area would suggest that dysfluency presents as a problem</i>
<i>Speech mechanism</i>	Breathing, voice production, and movements of the mouth, lips and tongue may be disrupted, but it does not become very difficult to make the movements to produce speech.	It takes a lot of effort to get words out, there may be tension in stomach/chest, mouth, face; the speech mechanism may become “blocked” before being released.
<i>Associated actions</i>	Some blinking, and small head movements may occur.	More noticeable and unusual actions are associated with dysfluency, for example, body jerking forwards or particular arm movements.
<i>Pattern of when dysfluency occurs</i>	Occurs when the speaker is attempting to talk about more complicated ideas; use complex language; talk about emotionally charged topics; and increases when speaker is tired or unwell.	Occurs throughout speech; perhaps with particular words or sounds; or at particular places in sentences (e.g. on first word). Dysfluency will probably increase under circumstances listed opposite.
<i>Disruption to</i>	Provided that others listen carefully and	Dysfluency has a big impact on

<i>communication</i>	wait for the speaker to finish, there is little disruption to communication and speech does not become much more difficult to understand when dysfluency occurs.	communication, so that it takes a very long time for the speaker to finish their message and listeners continually feel challenged as to how to respond.
<i>Feelings about stammering</i>	The speaker may show no awareness of dysfluency, or may be aware of dysfluency but relaxed about it, or may view dysfluency as a nuisance that can be tolerated.	Speaker feels fed up, distressed, embarrassed, or ashamed about dysfluency. There may be anxiety about or avoidance of certain words or situations where the speaker feels s/he might stammer.

Dealing with dysfluency

This section includes:

- advice on how to respond to dysfluency in conversation
- other areas of communication skills that can be developed to reduce dysfluency
- advice about programmes of intervention to reduce stammering

What you can do to support people who experience dysfluency

Whether dysfluency presents as a non-problematic feature of speech, or whether the speaker has a stammering problem, it's important that the speaker doesn't feel under pressure when speaking. This allows the speaker to take the time needed to overcome the dysfluency, and to work through difficulties without other people's reactions causing further stress and pressure. Speech and language therapists who are experienced in working with fluency problems can support carers and families to identify strategies and to put them into place.

Strategies you can use in response to dysfluency

1. Give the speaker as much time as s/he needs to complete what s/he is saying, and continue to listen in the same way as you would if there was no dysfluency. Don't look away when you hear dysfluent speech: just wait for the speaker to pass through the dysfluency. Focus on what the speaker is saying, rather than how s/he says it.
2. Avoid interrupting each other in conversation: make sure that everyone gets a turn and is given the time they need to think through their ideas and to finish what they want to say.
3. When it's your turn to speak, speak naturally. It's helpful to use your slow rate of speech, so that the conversation is less rapid and everyone has more time to put his or her ideas into language.
4. Make sure there are some times each day when you give the speaker your undivided attention while you have a conversation. With children, get down to their level and follow their lead, so that they get some time to involve you in their own choice of activity, and to talk about the things that interest them.
5. Don't comment on the dysfluency as it occurs, unless this has been recommended as part of a treatment programme. If the speaker wants to talk about the dysfluency, then it's helpful if you listen to their opinions and feelings, and acknowledge that dysfluency occurs and may not feel nice. Alongside this, remind the speaker of the things that s/he is good at! If the dysfluency is causing distress to the speaker or to you, then seek support from a speech and language therapist.
6. Calm environments are helpful. If life around the speaker is hectic, rushed and stressful, then it's important to recognise that this may contribute to the dysfluency and you should take whatever steps possible to reduce the stress.

Building communication skills and speech and language skills to reduce dysfluency

Addressing four specific areas can have a big impact on dysfluency: -

Enhancing communication skills

All of us can improve our proficiency in communicating, and these skills can be really powerful for people who experience dysfluency and speech and language difficulties. Teachers and speech and language therapists support students to develop these skills in group activities in the classroom, and in social communication skills groups. Coaching can include:

- Enhancing listening skills, turn taking skills, and conversational skills such as joining in and staying on topic.
- Focusing on awareness and use of appropriate behaviour in conversation: looking at the person who is speaking; sitting fairly still; responding when spoken to.
- Becoming a skilled communicator: following social rules like greetings and goodbyes; knowing how to express your feelings, how to negotiate, and how to be assertive.

With support to improve communication skills, people who have Down's syndrome can communicate more effectively and feel more confident about communicating.

As a parent or carer, you can pursue this in everyday situations:

- give lots of praise and reinforcement for good communication skills: "good talking!"; "you explained that well!"; "you remembered to look at Julie when you were talking to her today!".
- identify key areas that need to be addressed- for example, putting hands down rather than holding them in front of the mouth when speaking- and share this with others who work with the speaker.
- gently prompt the speaker to follow the rules, through reminders: "you need to put your hands down when you're speaking"; and praise "you're remembering to keep your hands down, that's great!".

Using syllable marking to reduce dysfluency

Researchers have observed that when people with Down's syndrome speak, the rhythm of speech is often disrupted. Other people become aware of this when these changes make it harder to understand what is said, for example "b'loon" is used instead of balloon, "ho'lo" for Home Alone, "tape 'corder" for tape recorder. Extra syllables may be inserted: "lolilypop lady" in lollipop lady, "sesesembly" for assembly. These difficulties seem to contribute to dysfluency, disrupting the smooth flow of speech when the speaker attempts to include many sounds in one syllable, or adds extra syllables.

Syllable marking is an important tool for improving speech clarity, and also can help to reduce dysfluency. We practise this by clapping or tapping out the syllable structure of words:

Ca-rrot	le-ttuce	sweet-corn
To-ma-to	cu-cum-ber	peas
To-ma-to-ke-chup	chi-ken-nu-ggets	spa-ghe-tti-bo-lo-gnaise

This is a technique that families and support workers can easily introduce and practise with people who have Down's syndrome.

Syllable marking can reduce the jerkiness of speech and occurrence of dysfluency when practised with words that are important to the speaker (e.g. names of friends, family and TV characters, TV soap titles, school topics football teams) and with words that tend to be mispronounced or with dysfluency.

Learning about production of speech sounds

For some speakers, dysfluency may be strongly associated with certain speech sounds, particularly when they occur at the start of a word or syllable. We recommend working on a core set of skills to build speech clarity: people who experience dysfluency with certain sounds benefit from work to address a core set of skills to build speech clarity, even when they achieve good speech clarity overall.

This includes:

- producing the full range of speech sounds,
- knowing what movements to make to produce these sounds,
- using letters or pictures to represent each sound,
- discriminating between speech sounds.

Speech and language therapists work with speakers to support them in building their knowledge about how to produce tricky speech sounds, and then practise production of these sounds in increasingly more complex structures: short words, longer words, phrases and sentences. Coupled with other techniques, increased knowledge and awareness of speech sounds can support speakers to reduce dysfluency associated with certain speech sounds.

Building skills at using sentences

Many people who have Down's syndrome make false starts as they speak, with pauses and changes mid sentence, and jumble words and sentences. These features are sometimes called "mazes" or "cluttering". Researchers have attributed this to difficulties in recalling vocabulary and using sentence structure: addressing these difficulties can be effective at supporting the speaker to reduce the occurrence of false starts and muddled sentences.

Key strategies include:

- developing awareness of sentences using visual representation such as written words and reading, or signing and symbols;
- extending vocabulary skills, with a special focus on verbs and linking words for sentence making.

Speech and language therapy addressing stammering

We tackle the dysfluency directly when dysfluency has become a habitual problem with marked tension and struggle, when it frequently occurs with most sentences or particular sounds, or when it causes worry, embarrassment or stress to the speaker. We do not recommend working directly on reducing stammering until the areas described above have been checked out and action is taken to address them.

It's not helpful to aim for totally fluent speech- none of us achieve this! The aim is to give the speaker greater control over their speech so that s/he can take steps to reduce dysfluency and communicate more effectively.

Adapting commonly used techniques

Speech and language therapists can enable people with Down's syndrome to profit from adapted versions of widely used interventions for stammering. These can be modified to take account of learning style of people who have Down's syndrome, by: -

- breaking information down so ideas are delivered step by step;
- teaching key concepts (e.g. smooth and bumpy speech);
- using demonstration, and presenting information in a visual form;

- teaching skills in small steps with clear feedback;
- providing strong reinforcement and plenty of opportunities for practise.

Planning speech and language therapy intervention

First of all, the speech and language therapist should draw up a plan of intervention that supports the speaker to make best use of their speech and language skills, and to develop these further. The therapist will need to:

- carry out a full assessment of communication skills,
- examine the environments in which the speaker communicates,
- note strategies that others adopt in response to dysfluency,
- discuss feelings about dysfluency with the speaker and his or her family or carers.

A speech and language therapist who specialises in working with dysfluency may carry this out. It should include input from a speech and language therapist who has a sound knowledge of the profile of communication skills associated with Down's syndrome and speech and language therapy intervention to address the specific needs.

Approach to address stammering

We recommend taking a problem-solving approach that we have found to be effective at reducing dysfluency. This approach involves looking at stammering as a behaviour that we wish to reduce, and uses what are known as "operant techniques" to reinforce fluent speech. It empowers the speaker to deal with disruptions to the flow of their speech and invites the speaker to practice reducing stammering.

First we support the speaker to identify the "smooth speech" that we aim for, and the "bumpy speech" we wish to reduce. We talk about feelings associated with "getting stuck" and teach and identify techniques to "stop getting stuck".

Next we encourage the speaker to select a technique that s/he finds helpful. We support the speaker to practise using this technique to reduce dysfluency, initially in situations in which s/he can easily experience success. Then we work towards using these techniques with longer sentences or more complicated tasks. We provide feedback on speech, with prompting to support the speaker to use the identified technique. We also identify and deal with any factors that encourage the speaker to use bumpy speech rather than smooth speech. We gradually transfer use of these techniques to everyday conversations.

This is described in more detail in the appendix at the end of this leaflet.

What next?

We hope that this leaflet will support you in identifying a way forward and in sharing information with others: it may be helpful to pass a copy to family, friends and employers, and to teachers and speech and language therapists, so that they are aware of the information as well.

Suggested programme of intervention that speech and language therapists can use to address stammering with people who have Down's syndrome

Working through this programme will require blocks of regular, perhaps weekly, sessions, over many months. It should usually be combined with work on other areas of communication skills listed above.

The symbols illustrated below for use in therapy are included in larger format at the end of this leaflet, to be laminated as symbols charts, and/or cut out. The symbols are from Makaton resources, and can be used with any signing system.

Identifying “smooth speech” and “bumpy speech”

Teaching the speaker to identify “smooth speech” (fluent speech) vs. “bumpy speech” (stammering) can be a first step towards putting the speaker in control. This enables the speaker to get a handle on the problem, and to talk about the problem. *Symbols* are used to represent smooth speech and bumpy speech. The therapist *demonstrates* smooth speech and bumpy speech, imitating the type of dysfluency that the speaker experiences.



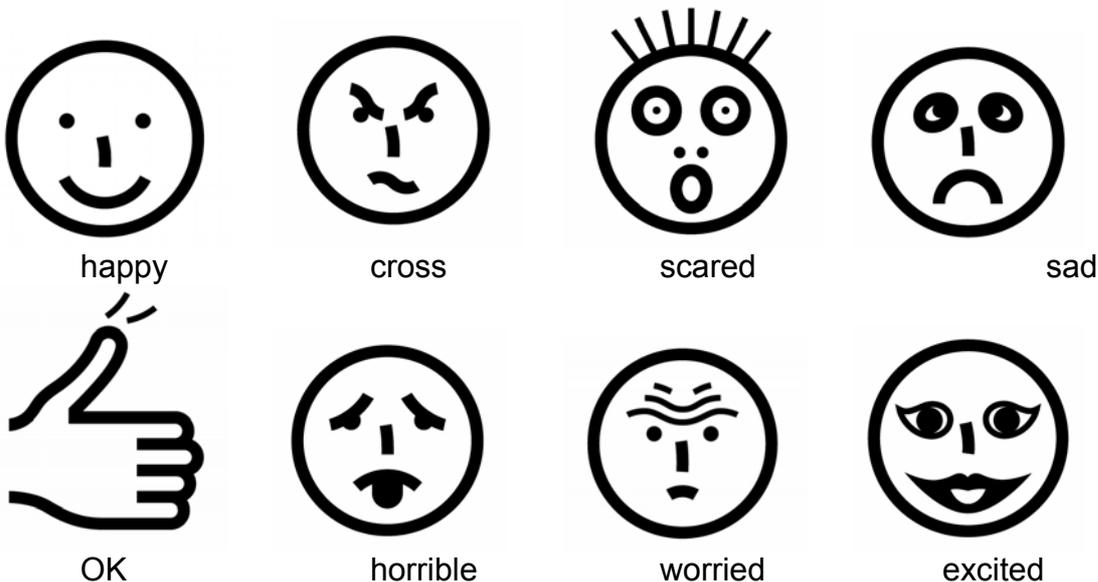
Symbol for smooth speech



Symbol for bumpy speech

We play games where speakers *identify* whether speech produced by the therapist is smooth or bumpy, and *practise producing* both types of speech. In our experience, many people who have Down’s syndrome can immediately produce single words with reduced dysfluency when they copy the use of *syllable marking*, as described above.

While we do this, we also support the speaker to *acknowledge* that s/he experiences dysfluency and to *talk about* how it feels. At the simplest level, we can reflect using the phrases “I like smooth speech” and “I don’t like bumpy speech”. Using symbols to represent key emotions enables more in depth discussion.



Eight emotions symbol chart

We check out with the speaker whether s/he wants to try some work to “stop getting stuck”, and work with the speaker to *overcome anxiety* about doing this work. In our experience, speakers overcome initial resistance when working with others in groups, and when they can start to control whether their speech is smooth or bumpy.

We also *monitor and explore* whether the dysfluency serves any positive purpose for the speaker, for example enabling them to hang on to their turn in conversation, getting people to listen more

attentively, or prompting others to finish off sentences. We then work out how to *remove any reinforcement* for dysfluency and put these strategies in place.

Teaching strategies to achieve smooth speech

We move on to *teaching strategies* to achieve smooth speech. Speech and language therapists should select strategies to try out, taking into consideration individual's speech patterns. This could include:

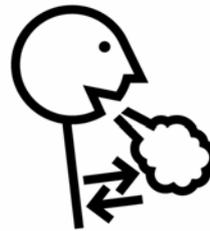
- Tapping out the rhythm of words and sentences while speaking (working towards doing this discreetly, for example, resting hand on table or thigh and tapping the rhythm with fingers).
- Taking time to think before speaking, by pausing or saying "I'm thinking", before replying.
- Addressing breathing patterns, for example teaching how to breathe from the stomach, or practising taking a breath before speaking, rather than breathing out first.
- Talking gently, that is, taking steps to avoid the muscles making strong movements that are held as though in spasm.



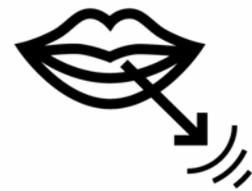
Tapping symbol



Thinking symbol



Breathing symbol



Talk gently symbol

Many people who have Down's syndrome are able to talk about these strategies, supported by modelling and symbols. If this is not possible, then teaching through modelling, and through prompting practise, can be successful without reflection and discussion about the techniques.

Having tried out these techniques, the speaker and therapist should *select* one, or perhaps two, strategies to focus on, and *practise* these in sessions until they become easy to use and well established.

Using techniques

Initially, the therapist should select a situation in which the speaker usually experiences a good degree of fluency. This may be in answering questions about an event, or in greetings, or perhaps in a "quiz" of questions with familiar answers, such as "what is the name of your rabbit?" The therapist can indicate that s/he is going to give feedback by displaying the symbols for smooth speech and bumpy speech, and indicate the techniques selected for practise by displaying these symbols as well.

The therapist listens and *gives feedback* on speech, before responding to the message:

- Praise/congratulation: "that was smooth speech" or "that was lovely smooth speech" + *point to smooth speech symbol + smiley facial expression*
- Acknowledgement of stammering: "that was bumpy speech" or "I heard some bumpy speech" or "(word, with imitation of the speakers production) was a bit bumpy" + *point to bumpy speech symbol + neutral facial expression*
- Ask the speaker to evaluate their speech: "was that smooth speech?" + *indicate choice of smooth speech symbol and bumpy speech symbol for speaker to select.*
- Suggest self-correction: "try it again with smooth speech" + *point to smooth speech symbol.*

The therapist *monitors* which form of feedback is most acceptable to the speaker and best supports the speaker to achieve fluency. For example, some speakers will try to repeat their message with

smooth speech, on hearing “that was bumpy speech”, and show pleasure that they can modify their speech without prompting when feedback is given. Others may become discouraged on hearing that they produced “bumpy speech” and appear happier on being given a direct prompt that refers to smooth speech: “try it again with smooth speech”.

The therapist may *prompt* use of the selected technique by *modelling* (demonstrating the target strategy and correction), and/or by pointing to the symbol. Some speakers are able to *experiment* with trying out the different techniques that have been practised. The therapist can support this by displaying the symbols for several techniques, indicating the one that the speaker has selected by pointing to the corresponding symbol. The therapist gives feedback on whether it was effective e.g. “you tapped out the words and you did smooth talking”, or “you did good breathing but that was still a bit bumpy”.

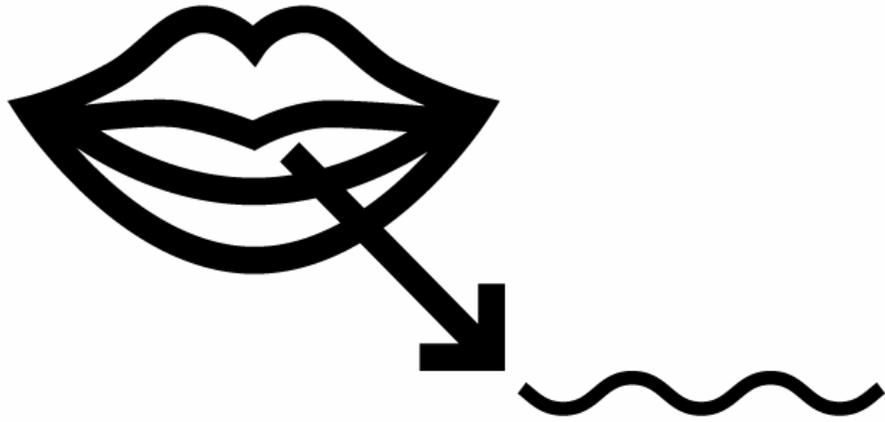
The therapist follows the speaker’s lead as to whether to move on in the conversation, or to practise further, after the first set of feedback. Unless the speaker wants to practise further, the therapist should respond to the speaker’s message and continue the activity or conversation, so that *the focus of the session remains on communicating* rather than just practising techniques!

After practising over several sessions, most speakers will start to use the techniques that they have learned and correct their own bumpy speech in general conversation with the therapist, and in other situations. The therapist and family can support this process by starting to use spoken prompts in other situations as well.

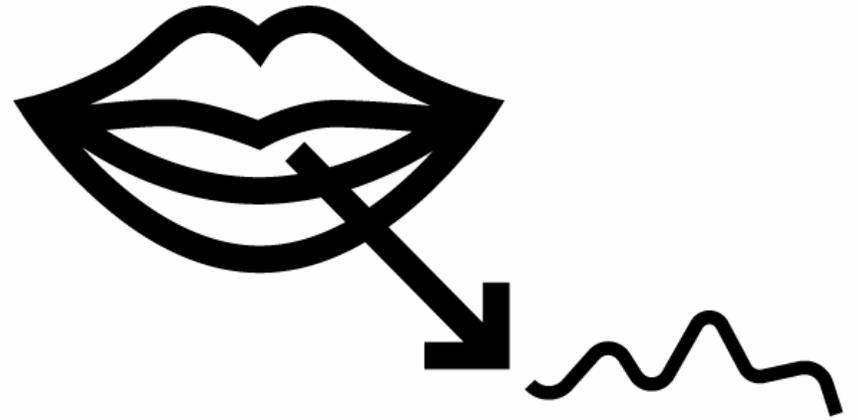
Increased fluency sometimes is achieved in a matter of weeks; it often takes many months to establish an acceptable level of fluency across most situations. Further blocks of therapy reviewing and building on techniques can support people who have Down’s syndrome to maintain fluency.

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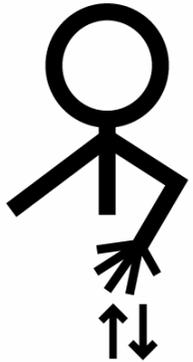
The symbols contained in this article are provided courtesy of the Makaton Vocabulary Development Project. For more information on Makaton go to www.mvdp.org.uk.



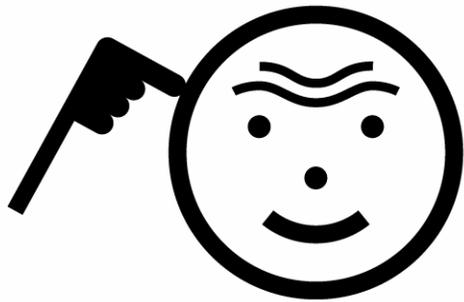
smooth speech



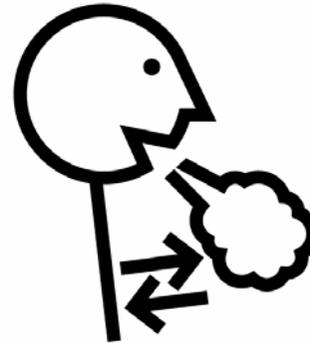
bumpy speech



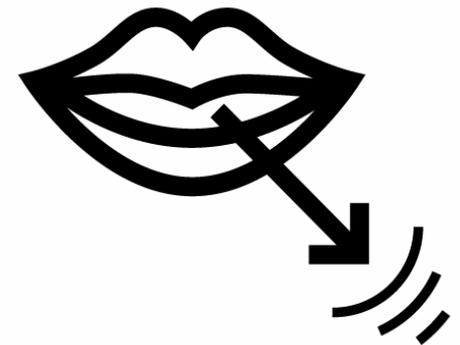
tap the words



think, then speak



good breathing



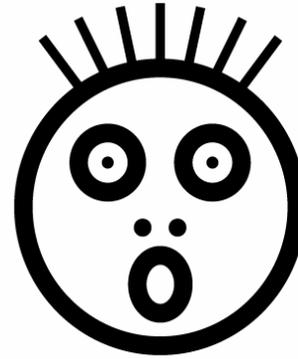
talk gently



happy



cross



scared



sad



OK



horrible



worried



excited

