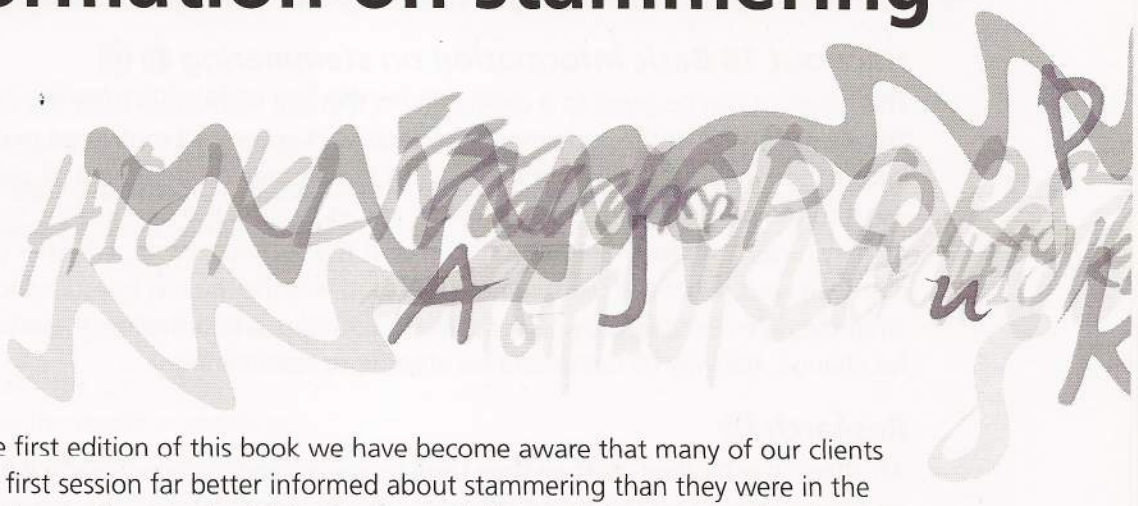
# 3 | Information on stammering



Since we wrote the first edition of this book we have become aware that many of our clients now come to their first session far better informed about stammering than they were in the past. This is mainly due to the growth of information available on the internet, and in the UK especially, on the British Stammering Association's website www.stammering.org. The number of reasonably priced self-help books both on stammering and on mental health issues has also increased considerably.

Despite this, there are still some clients who arrive at the clinic having researched very little. They may, however, have been exposed to social myths and popular misconceptions about stammering or have watched television programmes on 'therapy' that claim to 'cure' stammering.

We would advise clinicians to start from the knowledge base of the client: to find out what he knows and doesn't know and then fill in the gaps as necessary. In our experience many clients are interested in knowing as much as possible about stammering. There are a number of key areas about which they may request information and clarification:

- the causes of stammering
- genetic/heredity factors
- personality and intelligence factors
- myths about stammering
- sex ratio
- incidence/prevalence data
- factors which may affect stammering, for example tiredness, stress, alcohol
- how others perceive stammering and a person who stammers
- treatments (including drug therapy, hypnotherapy, any current fads or trends and, increasingly, altered auditory feedback (AAF) devices)
- whether there is a cure.

## *Activities for providing information on non-fluency*

### *Handout 18 Basic information on stammering*

This handout can be given to a client early in therapy, sometimes after the first session. The client may be at the contemplation stage of change: well motivated to read the information in order to find out more about the nature and treatment of stammering and to use it to move into action. We suggest he comes back to the next session with any questions he may have. It is always interesting to see, at the second session, whether or not the handout has been read, what the client remembers of it, whether he has questions to ask, and if so, what they are. This can provide the clinician with much information about the client's readiness for change, the way he learns and his attitude to stammering.

### *Research*

An alternative method that we have used on occasions in group therapy is for clients to select an area of interest and carry out their own research on the topic. The results can then be presented to the group in a formal or an informal way and discussed.

# Normal communication

## Speech production

Along with many other clinicians we find it useful to give our clients information on how speech is normally produced. The philosophy behind this practice is that people need to know how their speech mechanisms ought to work in order to spot those aspects which are not functioning as they should.

## When to use

This work is usually carried out relatively early on in therapy as the resulting increase in an individual's awareness is essential for the identification tasks that usually follow. However, clinicians must be aware that adults who stammer have often had several periods of therapy and some, if not all, of the details of speech production may not be new to them.

## Teaching speech production

It is important that speech production is described in terms which are easily 'digestible' and that the process is demystified. One useful way of checking what clients actually know and then filling in any gaps is to ask them to fill in a questionnaire such as the one shown on Handout 19. In group therapy this can be worked on in pairs or small groups and the knowledge pooled. In one-to-one therapy it may be set as a home-based exercise and reviewed at a subsequent therapy session. In this case we ask clients not to research the subject at this stage but just to answer as best they can. Time can then be devoted to those aspects that were unclear or not understood.

We have structured the information on speech production into three main systems – respiration, phonation and articulation – as we believe these relate most closely to the processes that can break down during stammering.

### Respiration

In discussing respiration it is important to convey the following information:

- terminology
- muscular activity involved in inhalation and exhalation
- process of diaphragmatic breathing for speech
- some aspects of respiration that can cause difficulties in speech production (for example, speaking on exhaled air, reduced vital capacity).

### Phonation

We consider the following to be important information concerning the process of phonation:

- terminology
- the part played by the larynx in speaking
- linguistic implications of laryngeal function (voiced and voiceless phonemes).

### Articulation

The following information on articulation is included:

- terminology
- functions of articulators
- sound production, including place and manner
- discussion of minimal pairs.

### Common problems

- A client still perceives he is being 'tested' and will fail. In a group setting, working in pairs or small groups can help. If the clinician judges that this sense of failure may be too great for a particular client, it may be best not to use the questionnaire but just to give a simple explanation of the processes involved.
- A client may worry that he will not understand the concepts involved. The clinician's role here is to give very clear and simple explanations.
- As for other aspects of identification, looking closely at speech can provoke anxiety. The clinician must always be on the lookout for such a reaction.

## *Activity for work on speech production*

### *Questionnaire*

The questionnaire and answer sheet on Handouts 19 and 20 are examples that clinicians could use in therapy as they stand or as a basis for their own versions. On completion of this questionnaire the client is provided with a full set of answers and a diagram (Handout 21) to keep for future reference.

# Basic information on stammering

NB The words 'stutter' and 'stammer' both mean the same. 'Stutter' is the word most commonly used in the USA and Australasia, while in the UK the word 'stammer' is more common.

## How many people stammer?

- If you were to ask the population at large on any one occasion, approximately 1 per cent will report that they stammer. (You may see this referred to as *prevalence*.)
- The percentage of people who have ever stammered *at any time in their lives* (known as *incidence*) is generally considered to be around 5 per cent.

## What sort of people stammer?

- In older children and adults more males stammer than females. The ratio is about 4:1. In young children the ratio is thought to be nearer to 2:1, suggesting that more girls than boys recover from stammering.
- There is no evidence to suggest that people who stammer are different (in any area other than speech) from people who do not stammer. For example, people who stammer are no more or less intelligent, extrovert, athletic, anxious and so on.
- A number of famous people stammer or have stammered in the past, which shows that there really is very little someone who stammers cannot do. The list includes:
    - heads of government/state: Winston Churchill, King George VI, Emperor Claudius
    - actors: Marilyn Monroe, James Earl Jones (the actor and voice of Darth Vader), Rowan Atkinson, Bruce Willis, Julia Roberts, Hugh Grant
    - singers: 'Scatman', Gareth Gates, Carly Simon
    - newsreaders and presenters: Martyn Lewis, Nicholas Parsons
    - writers: Lewis Carroll, Margaret Drabble
    - scientists: Steven Hawking, Charles Darwin
    - sportsperson: Tiger Woods
    - theatre director: Jonathan Miller
    - composer: Andrew Lloyd Webber
    - and even a spy!: Kim Philby.

## When does stammering start?

- In children, non-fluent speech can occur as part of normal speech and language development. This can happen at any time from the beginning of talking up to five or six years of age. Sometimes it is difficult to differentiate this normal non-fluent speaking from stammering.
- Stammering itself most commonly begins between the ages of approximately two and five years, the average age being around three and a half. There are very few reported cases of stammering starting in adolescence.

Continued on Handout

← Continued from Handout 18.1



- There is a tendency for children to recover spontaneously, although this likelihood decreases with age. More girls than boys recover.
- Sometimes stammering starts in adulthood, usually as a result of some sort of brain (neurological) problem such as a head injury or stroke. Occasionally, it is associated with a traumatic event or period of extreme stress. There were a number of cases of acquired stammering linked to 'shell shock' in World War 1.

## Does stammering run in families?

- There is quite a lot of evidence to suggest that stammering can run in successive generations of the same family. One study estimated that the incidence of stammering among close relatives of those who stammer is more than three times that of the population as a whole.
- Research is ongoing to find specific genes that may be responsible for stammering.
- It also seems likely that heredity may play a part in whether someone will recover from stammering or whether their stammering will persist into adulthood.
- Heredity cannot be regarded as the whole story. There are several cases documented of identical twins reared apart where one stammered and one did not. This suggests that environmental factors must also play a part.

## What causes stammering?

The short answer is that we do not yet know. However, research evidence over the last decade is leading us to believe that there is some difference in activity levels in the brains of people who stammer compared with those of fluent speakers. Some researchers have hypothesised that the difference may lie in the function of a part of the brain called the basal ganglia (Alm, 2004)[1].

## Factors which often reduce stammering

- Speaking in an altered way. This includes using a different accent or voice, speaking more slowly, changing pitch, whispering and speaking in a monotone. Some people also report not stammering when on stage playing a role.
- Speaking at the same time as another person or group of people.
- Reading (for some people), perhaps because the words are already provided.
- Reading the same passage a few times. (This is sometimes called the 'adaptation effect'.)
- Saying something immediately after another person has said it.
- Speaking to small children and animals.
- Singing. We have very rarely met adults who stammer when singing. Singing requires continuous vibration of the vocal cords, controlled breathing and activity in a different part of the brain. It is also a more automatic behaviour, with an inbuilt rhythm that does not require the 'singer' to formulate what he has to sing (ie construct the sentences, choose the words, and so on). Most experts consider these differences as significant for maintaining fluent speech.
- Talking when alone or when feeling relaxed.

[1] 'Stuttering and the basal ganglia circuits', *Journal of Communication Disorders*, 37, pp325–69.

Continued on Handout 18.3 →

← Continued from Handout 18.2



- Alcohol reduces stammering for some people. Perhaps it relaxes them.
- Distractors. Some people find that carrying out behaviours (such as tapping a pencil) while speaking helps them not think about their speech, and this seems to reduce stammering.

## Factors which often make stammering worse

- Talking on the telephone.
- Talking in front of a group of people, especially if the speaker does not know them well.
- Being required to give specific information, for example name, address, date of birth.
- Speaking to authority figures.
- Reading (for some people) because they cannot easily avoid words.
- Stressful situations such as interviews.
- Alcohol (for some people, but see above). It maybe that alcohol takes away control over speech for this group of people.
- Increased emotion, for example, feeling anxious.

## Treatments available for stammering

### 1 Speech and language therapy

This may include:

- psychological approaches such as counselling, personal construct psychology, cognitive behavioural therapy, solution-focused brief therapy
- desensitisation and avoidance reduction
- fluency-enhancing and stammering modification techniques
- relaxation and anxiety control
- assertiveness
- social and communication skills training.

### 2 Hypnotherapy

### 3 Drug therapy

Some family doctors prescribe tranquillisers for adults who stammer as a short-term treatment.

### 4 Psychotherapy

### 5 Altered auditory feedback (AAF) devices

In recent years a number of devices have come on to the market for people who stammer which change the feedback or the sound of their speech which they hear. These devices are worn in either one or both ears and enable people to hear their own speech but with a slight delay and with a change of pitch (ie either a lower or higher sounding voice).

### 6 Other

From time to time 'independent' individuals will advertise courses, usually for adult stammerers, although increasingly these are including children. These courses are often based

Continued on Handout 18.4 →

← Continued from Handout 18.3



on the leader's own experience of stammering and their own 'cure'. These courses tend to use the same approach for all clients.

## Society's view of stammering

In the course of our group therapy programmes, clients have surveyed views on stammering in Leeds (further described in Chapter 7 'Desensitisation'). We continue to be surprised by the suggested causes of stammering. Some of the less informed responses suggest it is caused by:

- anxiety or 'nerves'
- a physical cause, such as 'short tongue' or brain damage
- imitation of another person who stammers (usually in childhood)
- consuming hot and/or cold food or drinks
- lack of religious faith and prayer.

## Is there a cure?

The short answer is 'no'. However, it is well documented that it is very easy to increase an adult's level of fluency with a direct, intensive approach within a short space of time. (Our experience has been of dramatic improvements in 80 per cent of clients over a weekend!) The research and our practice also show that such rapid improvement is generally not well maintained and fluency frequently breaks down within a matter of months. For changes to be meaningful and maintained over a period of some years our recommendation is that change is made slowly and at the client's pace.

# Normal speech production: questionnaire

This questionnaire is designed to help you find out what you know about how speech is produced – not something most people normally think about. It is not a test! Your answers will be used to help your therapist fill in any gaps in your understanding.

Understanding the 'normal' speech mechanism can help you to understand what might be happening when things go wrong with your own speaking.

## Breathing

1 Another name for breathing is .....

2 Breathing has two phases. What are they called? .....

3 Put your hands flat on your lower ribs with the fingers meeting at the breastbone. Breathe in. What happens to your fingers? .....

4 Breathe out. What is happening now? .....

.....

5 While you are talking, are you breathing out or in? .....

6 If you only fill part of your lungs when you breathe in, what problems might this create?

.....

7 Try to keep speaking without a breath: what happens? .....

.....

.....

## Making sound (in the throat)

1 What do you call the place (organ) where you produce sound? .....

2 What do the vocal cords do? .....

.....

3 Say the words 'Sue' and 'zoo' several times slowly. What do you notice about the difference between the 's' and 'z' sounds? (Clue: try putting your finger on your Adam's apple.)

.....

.....

Continued on Handout 19.2

← Continued from Handout 19.1



4 Can you find any other pairs of sounds that behave in the same way as 's' and 'z'?

.....

.....

## Articulation (making sounds in the mouth)

1 Which parts of your mouth do you use to make sounds? .....

.....

2 The letters of the alphabet can be divided into two main categories. What are they?

.....

3 What is the difference in the way these two kinds of sounds are made? .....

.....

.....

.....

4 Name one or more sounds you make by:

(a) putting your lips together .....

(b) putting your top teeth over your bottom lip .....

(c) putting your tongue tip behind your teeth and letting it go. .....

5 Say 't' and then say 's'. Can you identify one main difference between them in the way they are made?

.....

.....

.....

.....

6 What parts of your mouth are involved in making the sounds (i) 'k' and (ii) 'm'?

.....

.....

# Normal speech production: answers to questionnaire

## Breathing

1 Respiration

2 Inhalation/inspiration, exhalation/expiration

3 They are pushed outwards and upwards

4 Your fingers return to the original position: they move inwards and downwards

5 Out

6 Running out of air frequently, poor phrasing, low volume, tense posture

7 The sound becomes quieter until it stops altogether, the voice becomes more and more strained and the pitch of the voice may rise. You get more and more tense

## Making sound

1 Voice box or larynx

2 They vibrate when air is forced between them, causing a sound to be made

3 The vocal cords vibrate and produce sound for 'z' and not for 's'. 'S' is known as a voiceless sound and 'z' as a voiced sound for that reason

4 p and b, t and d, k and g, f and v, ch and j. There are others but they are hard to write down!

## Articulation

1 Lips, teeth, roof of the mouth (hard/soft palate), tongue

2 Vowels and consonants

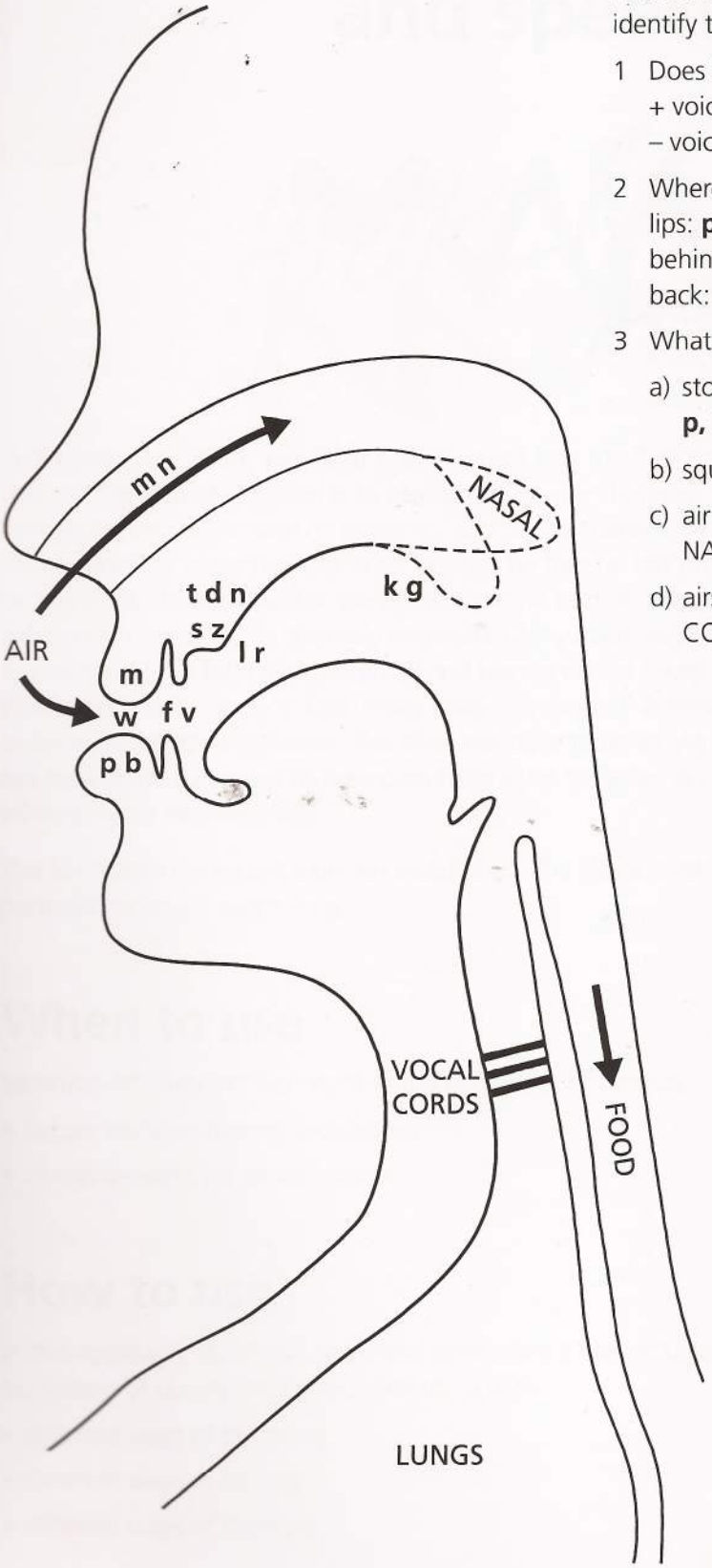
3 Vowels are made through a free opening of the mouth and are not stopped by the organs of articulation. In consonants some kind of obstruction is made to the free passage of sound

4 (i) p, b, m
(ii) f, v
(iii) t, d

5 There is a different way of producing the sound: 't' produced quickly following a build-up of air pressure in the mouth, 's' produced by air being forced through a narrowing in the mouth

6 (i) tongue, soft palate (lower jaw)
(ii) lips (nose)

# Speech production



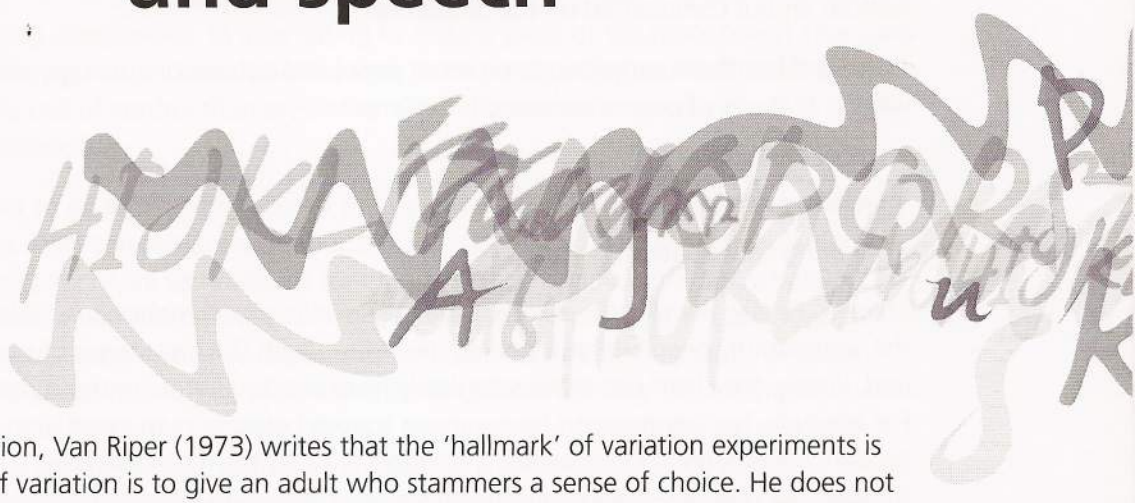

There are 3 main points that we can use to identify the character of a sound:

1 Does it have VOICE or not?
+ voice: **vowels, d, g, m, l, z, v**
– voice: **s, f, p, k**

2 Where is the main place of articulation?
lips: **p, b, m, w**
behind teeth: **t, d, s, z, n**
back: **k, g**

3 What is happening to the airstream?
a) stopped altogether = PLOSIVE/STOP **p, b, t, d, k, g**
b) squeezed = FRICATIVE **s, z, f, v, th, sh**
c) air passing freely through nose = NASAL **m, n**
d) airstream not obstructed = CONTINUOUS **r, l, w, y, vowels**

# 4 | Variation: non-speech and speech



In discussing variation, Van Riper (1973) writes that the 'hallmark' of variation experiments is change. The aim of variation is to give an adult who stammers a sense of choice. He does not have to behave in the way he behaves, nor indeed stammer in the manner he does, but can choose another pattern of behaviour. It may be that he has progressively reduced the choices he has in his life until he is at the point when he sees no other options but the routine types of behaviour in which he is currently engaged. Many adults we have met talk vehemently about not being able to fulfil their potential and having choice taken away from them because of their speech difficulties. In fact, many have 'imprisoned' themselves as a way of hiding from and concealing their stammer. This does not have to be so. As Kelly (1991) says, individuals do not have to be a product of their own biography. Variation is a process that can enable adults who stammer to realise this.

The foundation of recent work on variation, in the UK at least, owes much to the influence of personal construct psychology.

## When to use

Variation activities are best used at the beginning of therapy:

- before work on fluency techniques
- alongside work on identification.

## How to use

In this approach, which we described earlier (see Chapter 1), a client is encouraged to 'loosen' his system of construing by experimenting with:

- different ways of behaving
- different ways of feeling
- different ways of thinking.

The person can choose subsequently to accept, reject or modify these options, but the experiment will have illustrated that he has a choice. Change is introduced in as unthreatening a way as possible.