

CAMPERDOWN PROGRAM TREATMENT MANUAL

2003

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PART ONE

OVERVIEW OF THE CAMPERDOWN PROGRAM

The Camperdown Program (CP), named after Sydney the suburb in which it was developed, is a behavioural treatment for adults who stutter. It is based on individual weekly 1-hour clinic visits and one 8-hour group practice day. The treatment technique used is Prolonged Speech (PS) which is taught without reference to traditional descriptions of speech targets such as “gentle onsets” and “soft contacts.” Instatement of stutter-free speech involves no programmed instruction, no speech rate targets, and no speech naturalness targets. Instead, clients are encouraged to use whatever features of the PS pattern they require to control their stuttering, and are free to individualise their speech pattern. The program contains no structured or hierarchical transfer phase.

The program consists of four separate stages. During the *Individual Teaching Sessions* clients learn to produce the PS pattern and to evaluate their stuttering severity using a 9-point rating scale. This is followed by a *Group Practice Day*, usually involving three clients and three clinicians, where clients learn to gain consistent control over their stuttering within the clinic, while sounding as natural as possible. The *Individual Problem Solving Sessions* are designed to help clients to develop strategies for generalising their stutter-free speech across different situations beyond the clinic environment. Using self-evaluation techniques, responsibility for managing and controlling stuttering is transferred to the client, under the guidance of the clinician. Clients move into the *Performance Contingent Maintenance Stage* when they have shown evidence of maintaining speech skills in a variety of situations over time.

Three publications provide information about the rationale and development of the program as well as preliminary outcome data. These articles are referenced in the bibliography. At the time of writing (January 2003) the most recent empirical publication about this treatment method is:

O’Brian, S., Onslow, M., Cream, A., & Packman, A. (in press). The Camperdown Program: Outcomes of a new prolonged-speech treatment model. *Journal of Speech, Language, and Hearing Disorders*.

PART TWO

ESSENTIAL COMPONENTS OF THE CAMPERDOWN PROGRAM

Acquisition of the Prolonged-Speech (PS) pattern

PS replaces stuttering behaviour with a speech pattern which is incompatible with stuttering. In the teaching of this pattern, no attempt is made to define or describe the features of the pattern: for example soft or hard contact sounds, gentle beginnings to words, or the prolongation of vowel sounds. Instead, clients watch a video of an adult demonstrating PS in a slow and exaggerated manner in connected speech. Then they attempt to reproduce that speech pattern as closely as possible either in unison with the video or immediately after watching it.

Clinical Speech Measures

Severity Rating Scale (SEV)

A 9-point severity rating scale is used by clinicians and clients both within and beyond the clinic to replace instrumentation for stutter-count measures. Clients are taught to use the scale (1 = no stuttering, 9 = extremely severe stuttering) from the first clinic visit. Agreement between client and clinician ratings is established over the first few visits. Ratings from within and beyond clinic speech samples are compared and discussed each week during the *Individual Teaching Sessions* until reasonable agreement occurs between the client and clinician's scores. "Reasonable agreement" is when the client and clinician scores differ by no more than one scale value. Clients also use the scale in this stage to practise graphing average (or best and worst) daily SEV ratings.

The scale is used during the *Group Practice Day* to evaluate stuttering severity in tasks that occur in cycles of three phases. If the client attains a rating of 2 or less, the next phase involves experimenting with the use of the PS pattern to control stuttering. If the client attains a rating greater than 2, the next phase involves more practice with the PS pattern. In this sense, the rating scale is used to maintain a performance contingent routine. The scale also forms the basis for evaluation of stuttering severity beyond the clinic during the *Individual Problem Solving Sessions*. It can provide different ratings for different purposes: for example, for a particular situation, daily average, best or worst for a given period, or for rating practice conversations. Clients are able to use the scale to report their speech outcome both in terms of a global measure (for example, average across the day, or worst for the week) and for many individual situations which would otherwise not easily be amenable to reliable measurement. This feedback is used to foster discussion between clinician and client about establishment and modification of appropriate generalisation strategies. Finally the scale is used to evaluate stuttering severity in relation to program criteria for the *Performance Contingent Maintenance Stage*.

Naturalness Rating Scale (NAT)

Because the Camperdown Program involves the use of a novel speech pattern, a 9-point speech naturalness scale (Martin Harrison & Triden, 1984) is used by clinicians and clients to evaluate and document the client's speech quality throughout the program. In this scale, 1 = extremely natural sounding speech and 9 = extremely unnatural sounding speech. The ultimate aim is for the client to finally achieve a naturalness score of 3 or lower, because this range has been shown in previous studies (Ingham, Gow & Costello, 1985; Martin et al, 1984; Runyan, Bell & Prosek, 1990) to be generally within the range for normal speakers.

The scale is initially introduced during the afternoon of the *Group Practice Day*, so that the clients are able to have practice at comparing their scores with those of the clinicians before using it to report on their beyond clinic speech. The scale is not introduced at the beginning of the day because the use of two similar scales (SEV and NAT) could be confusing to clients. Instead, the clients begin the day reporting the amount of stuttering using the 9-point SEV scale and evaluating the sound of their speech qualitatively for “amount of pattern” and “acceptability of the sound of the pattern”. This is later translated into values on the 9-point NAT scale when the clients become familiar with the task.

The scale is used in the *Individual Problem Solving Sessions* to report on the amount of PS being used in beyond clinic situations, and hence speech quality produced. Strategies are then discussed to address the balance between speech quality and stuttering severity. If stuttering severity remains low, then clients are always encouraged to increase their speech naturalness. On the other hand, if a reported increase in stuttering severity seems related to low speech naturalness, clients are encouraged to experiment with the amount of pattern being used. In these sessions, the NAT scale is also used to establish different “speech practice patterns” as a strategy to assist generalisation. For example, clients may decide to practice speech at a NAT of 4, or even 5, before attempting a particularly difficult phone call.

The NAT scale has been shown to be reliable for clinicians giving feedback to clients about their speech and also for clients’ self-evaluation of speech quality (Ingham, Ingham, Onslow & Finn, 1989). However, it is the experience of clinicians involved in this program that most clients tend to rate their speech more according to how natural it “feels” than how natural it “sounds.” Hence on-line client ratings are nearly always reported as higher (i.e. more unnatural) than the clinician’s ratings, although client off-line ratings are often comparable. This problem is best addressed by having clients regularly listen to and evaluate tape recordings of their speech for speech quality.

Audio Tape Recording

Audio tape recording of speech within and beyond the clinic is routinely used to help clients improve self-evaluation skills.

Self-Evaluation

Self-evaluation refers to the monitoring and evaluation of various aspects of a client’s own speech according to certain criteria. This procedure has often been recommended as a useful technique in treatment programs (Harrison, E. Onslow, M. Andrews, C. Packman, A. & Webber, M., 1998; Onslow, M., Costa, L., Andrews, C., Harrison, E. & Packman, A., 1996). Self-evaluation of stuttering severity and how natural speech sounds are techniques emphasised from the beginning of therapy. Clients use the above scales both on-line and off-line to critically evaluate, report, and modify both aspects of their speech on a regular basis in many situations beyond the clinic environment. The two scales form the basis of problem-solving techniques throughout the *Individual Problem Solving Sessions*. Self-evaluation techniques are seen as the most important strategies for empowering the client to be responsible for maintenance of speech gains following therapy.

Programmed Maintenance

The *Performance Contingent Maintenance Stage* is designed to maintain the low level of stuttering that is achieved during the *Individual Problem Solving Sessions*. The client attends the clinic less frequently provided that stuttering remains at a low level.

PART THREE

THE TREATMENT PROGRAM

Individual Teaching Sessions

During Individual Teaching sessions clients:

Learn how to produce Prolonged-Speech (PS) in spontaneous speech for a minimum period of 3 minutes;

Begin training in the use of the 9-point severity rating scale for self-evaluation of stuttering severity (1 = no stuttering, 9 = extremely severe stuttering).

There are four levels to be achieved in this stage. There is no formal association between levels and number of sessions. It is possible, for example, that each level may require more than one session or that the last two levels may be combined into one session.

LEVEL 1

Speech Measurement

- Clinician introduces 9-point severity rating scale (SEV).
1 = no stuttering, 9 = extremely severe stuttering (video exemplars, if required).
- The clinician records 5 minutes of conversation between clinician and client.
- Client assigns SEV score to pre-treatment sample, according to above scale.
- Clinician and client discuss rating.
- Client listens to segments of pre-treatment recordings and assigns and discusses SEV ratings for these samples.

LEVEL 1

Prolonged-Speech (PS) Technique

- Client watches a video exemplar of PS demonstrated in a slow and exaggerated manner in connected speech. This is accompanied by written text. Client attempts to produce a similar pattern by imitation or reading in unison.
- Clinician gives feedback about the accuracy of the client's imitation of PS without reference to the specific targets, such as "soft contacts," "gentle onsets," "continuous vocalisation." Feedback directs client back to the demonstration video to try to imitate the exemplar (or sections of the exemplar) more closely. Clinician may break the passage into smaller units for imitation and feedback if necessary.
- Client to establish practice partner for future daily speech practice.

LEVEL 1

Home Assignments

- Client to graph average daily SEV ratings until next visit.
- Client to tape record several 1-2 minute conversations beyond the clinic (no pattern to be used) and assign SEV ratings.
- Client is given an audiotape copy of the video exemplar and is instructed to:
 - Listen to the exemplar daily;
 - Practise reading the passage with and without the exemplar attempting to match the training tape as closely as possible;

- Record five readings of the passage over several days attempting to match the training tape as closely as possible.

LEVEL 2

Speech Measurement

- Clinician tape records 5 minutes of spontaneous conversation between clinician and client (no pattern to be used).
- Client rates SEV of the sample. Client and clinician compare and discuss rating of sample.
- Clinician and client listen to tape recordings made during Level One Home Assignments and discuss client's SEV ratings for these samples.
- Clinician records and discusses client's graphed average daily (HA1) SEV ratings.

LEVEL 2

Speech Technique

- Clinician and client listen to the Level One Home Assignment recordings of PS and the clinician decides whether the pattern was acceptable. Further training with exemplar may be given if required.
- Client uses PS pattern to produce a 1-minute stutter-free monologue similar to the training video. This monologue is audio recorded.
- Client evaluates pattern and clinician provides feedback on 1-minute monologue.

LEVEL 2

Home Assignments

- Client to graph average daily SEV ratings until next visit.
- Client to tape record several 1-2 minute conversations beyond the clinic (no pattern to be used) and assign SEV ratings to these recordings.
- Client to practise PS daily using audio exemplar tape as model, and to evaluate accuracy of exemplar imitation. Client to tape record five 1-minute monologues imitating the PS exemplar.

LEVEL 3

Speech Measurement

- Clinician records a 5 minute spontaneous conversation between clinician and client (no PS pattern to be used).
- Client rates SEV of the sample. Client and clinician compare and discuss rating of sample.
- Clinician listens to Level Two Home Assignments and discusses client's SEV ratings for these samples.
- Clinician records and discusses client's graphed average daily SEV ratings.

LEVEL 3

Speech Technique

- Clinician discusses Level Two Home Assignment recordings in terms of whether the PS was acceptable. Further training may be given if required.
- Client produces a 3-minute stutter-free monologue using the PS pattern. This is audio tape recorded.
- Client evaluates PS pattern and clinician provides feedback on 3-minute monologue.

LEVEL 4

- Clinician explains the procedure for the “Practice” and “Training” phases on the *Group Practice Day*.
- Clinician facilitates production of stutter-free PS at various naturalness levels using the following instruction:

“I want you to experiment now with the Prolonged-Speech technique that you have learned. Use whatever features of the technique you need to remain in control of your stuttering. While remaining stutter-free, see if you can make your speech sound more acceptable.”
- Client and clinician evaluate SEV and acceptability of speech pattern.
- The client is required to practise a PS pattern similar to the exemplar, daily with his practice partner until entering the *Group Practice Day*.

Criteria for moving into the Group Practice Day

The client must:

- Use a PS pattern that approximates the video exemplar to control stuttering, with SEV 1, during a 3-minute period of spontaneous speech;
- Demonstrate ability to vary the amount and the way the PS pattern is used while remaining stutter-free.

Group Practice Day

During the Group Practice day clients:

Gain consistent control over their stuttering using as natural a sounding PS pattern as possible;

Practise self-evaluation of stuttering severity and the amount and acceptability of PS pattern used;

Develop self-evaluation and problem solving skills to assist generalisation of stutter-free speech.

Method

A group of three clients attends from approximately 8.00 AM to 5.30 PM. During the day, clients rotate through 14 speech cycles. Each cycle consists of three 5-minute phases. There are two speaking phases, named *Practice Phase* and *Trial Phase*, and one *Evaluation Phase*.

The *Practice Phase* consists of 3 or 4 minutes of clinician-supervised monologue practice using exaggerated stutter-free PS similar to the video exemplar, with or without the exemplar tape as a model as appropriate. This allows time within the 5-minute period for feedback and discussion of PS with the clinician. Feedback by the clinician is given in the same manner as when teaching the pattern in the *Individual Teaching Sessions*. No attempt should be made to experiment with more natural sounding speech. The aim is to establish a correct speech pattern.

The *Trial Phase* consists of 3 or 4-minutes of clinician-supervised speaking in monologue, with the client instructed to use whatever features of the PS pattern that are needed to control stuttering. During this phase, the client is instructed to attempt to achieve three goals in the following order of priority:

- Maintain a SEV rating of 1-2;
- Sound as natural as possible;
- Match on-line self-evaluation of SEV ratings to those of the clinician.

Each of these *Trial Phases* is tape recorded by the client. At the end of each *Trial Phase*, the clinician records a SEV and a NAT score for the client's speech on a data collection graph (see Appendix C). NAT is evaluated according to the 9-point naturalness scale where 1 = highly natural speech and 9 = highly unnatural speech. The purpose of these scores is for the clinician to evaluate progress towards the goal of stutter-free, natural sounding, speech and to guide the client accordingly. The client records a SEV score only (see Appendix B) although the client is asked to comment on how much PS was being used and how socially acceptable the speech pattern sounded. This is in anticipation of the client learning to use the NAT scale later in the day to evaluate acceptability of speech pattern. If the SEV rating for this trial (as determined by the clinician) is greater than 2, the client is required to return to a *Practice Phase*, because it is assumed that the client needs to use more or different features of the pattern to control stuttering, and so more practice is given. The clinician and client together work out a strategy for the next cycle.

The *Evaluation Phase* is an opportunity for the client to listen to the recordings of the previous two speaking phases, in order to:

- Re-evaluate stuttering severity off-line (particularly if there was disparity between client and clinician scores);
- Consider the acceptability of the speech pattern during that phase;
- To decide on a strategy for using PS in the next phase.

For example, if the SEV rating was too high, then the client would look at either changing the features of the PS pattern used or introducing more PS pattern generally. If the speech pattern sounded unacceptably unnatural although stutter-free, the client might gradually reduce the amount of pattern during the next trial. This establishes a procedure which will be encouraged as a technique during *Individual Problem Solving* sessions for assisting generalisation of stutter-free speech.

For the first six of these P-T-E cycles, phases are each 5 minutes long. The *Practice Phase* and *Trial Phase* are conducted individually with a clinician and the *Evaluation Phase* occurs independently. For the remaining eight cycles, the *Practice* and *Evaluation Phases* remain 5 minutes long, but a 20-minute group conversation replaces the individual *Trial Phase* monologue with the clinician. Clients are encouraged to engage in conversation in the group rather than continuing to monologue. The three goals for the group sessions remain identical to those of the individual *Trial Phase*. Each client is paired with a clinician for the *Practice Phase* and *Evaluation Phase*. In the *Practice Phase*, clients practise PS and also plan strategies for using PS in the group. In the E phase, the client evaluates and discusses with the clinician, his speech in the last group session and plans a strategy for the next cycle.

The program contains no hierarchical progression through the day, however, the following guidelines apply to the speaking phases:

- The *Practice Phase* is always followed by a *Trial Phase* during the next speaking phase.
- A *Trial Phase* with SEV 1-2, leads to a choice of a subsequent *Practice Phase* or *Trial Phase* during the next speaking phase.
- A *Trial Phase* with SEV > 2, is always followed by a *Practice Phase* during the next speaking phase.
- Every 3rd cycle begins with a *Practice Phase* regardless of previous outcomes.
- After six cycles, if the client is consistently producing speech at NAT 6 or greater (that is, consistently using an exaggerated speech pattern), the 9-point NAT scale will be introduced and movement towards more natural sounding speech will be facilitated.

In the afternoon, the 9-point NAT rating scale is introduced to the client; 1 = highly natural speech and 9 = highly unnatural speech. This provides the client with a means of measuring and documenting PS pattern use. The NAT scale (along with the SEV scale) forms the basis for discussion of beyond-clinic speech in subsequent problem solving sessions.

Home Assignments

- Client records average (or best and worst) daily SEV and NAT ratings on a chart (see Appendix D) until next visit.
- Client audio tape records 2-3 Beyond Clinic (BC) conversations, preferably in a variety of situations, and assigns SEV and NAT scores to these.

Clients are encouraged to formally practise PS for about of 10 minutes each day: 5 minutes practise with the exemplar and 5 minutes with a practice partner. Clients are also encouraged to try to use PS, at an acceptable naturalness level, in as many situations as they can beyond the clinic.

Individual Problem Solving Sessions:

During Individual Problem Solving Sessions the client develops strategies to assist in generalising stutter-free speech.

Method

No formal transfer strategies are used.

- Clinician records 5 minutes of conversation with the client. The client evaluates speech and assigns SEV and NAT scores. If SEV is greater than 2, client is required to practise the PS pattern at a more unnatural level and gradually increase naturalness without increasing stuttering severity.
- Clinician and client discuss the graphed daily SEV and NAT scores required in the Group Practice Day Home Assignment.
- Clinician and client discuss the beyond-clinic speech recordings required in the Group Practice Day Home Assignment.
- Clinician and client together develop an individualised PS practice schedule.
- The remainder of the 1-hour visit is used by the clinician to review progress, identify and solve problems with the generalisation and maintenance of stutter-free speech, and provide guidance for client to problem solve as needed. The focus of these meetings is on client speech evaluation using the SEV and NAT scales, and design of strategies to improve control of stuttered speech: For example, changing type, amount or timing of practice schedule, or altering the use of the PS pattern in conversations as necessary.

Home Assignments

- Client graphs average and best/worst daily SEV and NAT ratings.
- Client collects three recordings of BC speech in a variety of situations, rated for SEV and NAT.

Criteria for moving into the Maintenance Stage

In order to move into the Maintenance Stage, clients will produce, on three consecutive weeks:

- One within clinic, 10-minute conversational speech sample with SEV 1-2, and NAT 1-3.
- Three beyond-clinic 10 minute recordings of speech in different situations with SEV 1-2, and NAT 1-3.

Maintenance

During Maintenance the client will sustain treatment gains for a clinically significant period.

Method

The maintenance stage follows a performance contingent schedule. The client attends 1-hour clinic visits which become less frequent, according to a progression schedule, dependent on meeting program criteria. At each visit, the client is required to

- Engage in one 10-minute, within-clinic conversation with the clinician.
- Present three conversations recorded in different situations.
- Meet program criteria on the above tasks: SEV 1-2, and NAT 1-3.

Progression Schedule

The progression schedule will be 2/52, 2/52, 4/52, 4/52, 8/52, 3/12, 6/12. Failure to meet program criteria at any scheduled clinic visit incurs a repeat of that level.

Discharge Criteria

Clients are discharged if they complete the progression schedule outlined above, do not comply with program requirements, or withdraw from the treatment program.

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APPENDIX A

Prolonged-Speech Exemplar Text

When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colours. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon.

APPENDIX B

Client Evaluation Form for Group Practice Day

Client Evaluation Form for Group Practice Day

TIME	CLIENT:	DATE:						
8.00	Introduction							
		SEV			SEV			PLAN
1	P			T			E	
2	P / T			P / T			E	
3	P / T			P / T			E	
4	P			P / T			E	
5	P / T			P / T			E	
6	P / T			P / T			E	
	Morning Tea							
7	P			Group			E	
8	P / T			Group			E	
9	P / T			Group			E	
	Lunch							
10	P / T			Group			E	
11	P			Group			E	
12	P / T			Group			E	
	Afternoon Tea							
		SEV	NAT		SEV	NAT		
13	P / T			Group			E	
14	P / T			Group			E	
	Discussion of homework assignments							

APPENDIX C

Clinician Evaluation Form for Group Practice Day

Clinician Evaluation Form for Group Practice Day

TIME	CLIENT:	DATE:					
8.00	Introduction: orientation, expectations of the day, maintenance, homework						
		SEV	NAT		SEV	NAT	COMMENTS
8.30	P			T			E
8.45	P / T			P / T			E
9.00	P / T			P / T			E
9.15	P			P / T			E
10.00	P / T			P / T			E
10.15	P / T			P / T			E
10.30	Morning Tea						
		SEV	NAT		SEV	NAT	COMMENTS
11.00	P			Group			E
11.30	P / T			Group			E
12.00	P / T			Group			E
12.30	Lunch						
		SEV	NAT		SEV	NAT	COMMENTS
1.00	P / T			Group			E
1.30	P			Group			E
2.00	P / T			Group			E
2.30	Afternoon tea						
2.45	Introduce Naturalness / PS rating scales						
		SEV	NAT		SEV	NAT	COMMENTS
3.00	P / T			Group			E
3.30	P / T			Group			E
4.00	Discussion of use of PS beyond clinic, appointment schedules						

APPENDIX D

Beyond Clinic Record Form

Beyond Clinic Record Form

Name:

Page:

NAT: o 1 2 3 4 5 6 7 8 9
 Very natural speech Very unnatural speech

SEV: x 1 2 3 4 5 6 7 8 9
 No stuttering Extremely severe stuttering

S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S

___/___/___.

S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S

___/___/___.

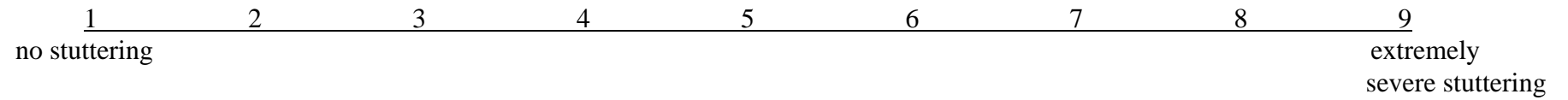
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S

___/___/___.

APPENDIX E

Severity and Speech Naturalness Scales

STUTTERING SEVERITY



SPEECH NATURALNESS

