RESTART-DCM Method

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[1] This method was developed in close cooperation with all the speech therapists (fluency experts) who participated in the RESTART study.

Preface

From 1980-2000, various American speech language pathologists – Jeanna and Glyndon D. Riley, Edward G. Conture, Charles W. Starkweather and Hugo H. Gregory- gave workshops in the Netherlands on their treatment methods for children who stutter. While these experts each had their own distinct treatment focus, their overall approaches could be characterized as a 'Demands and Capacities Model' treatment approach, in which stuttering is viewed as the expression of an imbalance between the 'Demands'; i.e., the expectations with regard to fluent speech, and the 'Capacities': the abilities or skills for fluent speech (Starkweather & Franken, 1991). The philosophy of these experts differs strongly from an operant-based method, such as that of the Lidcombe Programme (LP, Onslow et al, 2003).

By the late eighties, the Demands and Capacities Model (DCM) approach had emerged as the standard treatment in the Netherlands for young children who stutter. It is this approach that has been taught to Dutch students of speech therapy for the past 25 years. After giving his first workshop in the Netherlands, Starkweather returned a number of times to teach courses. He also spent a year working and living in this country. In 1990, Starkweather and his colleagues Gottwald and Halfond described their method in a book entitled *Stuttering Prevention; a clinical method*. A Dutch translation of this book appeared in 1991. An information booklet that was written by Starkweather especially for the parents of young children who are beginning to stutter, was also translated and adapted for the Dutch situation (Beerthuizen-van Giesen, Franken & Nijhuis-Louwerens, 1991).

In Dutch practice, however, the exact procedure followed according to the DCM treatment model varied extensively. In some cases, parents were only given advice (e.g. to speak to their child more slowly, to use short sentences and not to ask many questions), while in other cases, speech therapists (fluency experts) gave, instead of advice, training to parents to achieve actual behavioural change. Some focused solely on reducing 'demands', i.e., the expectations, while other also worked on promoting the capacities of the child. Moreover, the DCM continued to be further developed over the course of time both by Starkweather and his immediate colleagues, as well as by other practitioners.

Within the scope of the research project *Cost-effectiveness of the Demands and Capacities Model based treatment compared to the Lidcombe programme*, known as the RESTART-study, a treatment protocol has been developed based on the DCM treatment model. The aim was for all the speech therapists (fluency experts) participating in the project to follow a similar treatment approach based on the DCM. Durdana Putker-de Bruijn and Marie-Christine Franken prepared a preliminary, rough version of the RESTART-DCM Method. Then, during the initial stage of the project, all the participating speech therapists (fluency experts) gave their feedback on the manual, which resulted in the treatment protocol that was used during the study. In the final stage of the project, it was decided to make the protocol generally accessible. To this end, the treatment protocol once again underwent textual revision, this time by a smaller group, in order to ensure its readability by speech therapists (fluency experts) from outside the project. Crucially, the description of this method is no substitute for a course in which the methods and skills described are taught and trained.

We have just a few remaining remarks about the protocol as a whole.

In the first place, there are authors other than those we mentioned, whose work may also be considered to come under the heading of the DCM approach. However, the method we describe draws primarily on the work of the said authors. Secondly, if specific expertise should be required for certain parts of the diagnostic evaluation performed prior to the treatment - e.g. a differential diagnosis of phonological and/or dyspractic disorders, an evaluation of

cognitive, socio-emotional and/or behavioural-social abilities - a referral for evaluation by a specialist should be seriously considered. In addition, a speech therapist/fluency expert may be consulted if there is a need for supervision or coaching during ongoing therapy. Consultation with or referral to a fellow speech therapist/ fluency expert should also be seriously considered if no progress is noted after three months of treatment.

In conclusion: the RESTART-DCM Method, above all, is the result of a group effort - and we would like to express our grateful thanks to everyone who helped to achieve this.

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Appendices
1 Parent-child interaction form
2 If your child starts to stutter
3 Communicating with children: a different approach
4 Visualizing speech rules

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[2] The names of the speech therapists/fluency experts who revised the treatment protocol together with DP and MCF are in italics.

1 Introduction

The treatment approach based on the Demands and Capacities Model (DCM, inter alia Starkweather et al., 1990; Starkweather & Franken, 1991; Starkweather & Givens-Ackerman, 1997; Hill, 2003; Riley & Riley, 1999; Conture, 2003) is premised on the idea that positive changes in the motoric, linguistic, socio-emotional and/or cognitive function in a child who stutters and/or in the environment will lead to a reduction of or recovery from stuttering. The DCM treatment model aims to achieve a balance between the demands on the toddler or preschoolers to communicate and the child's motor, linguistic, socio-emotional and/or cognitive capacities. During the evaluation stage, the speech therapist/fluency expert[3] strives to identify the communication moments that cause the child to feel pressure.

The RESTART-DCM approach is never limited to simply providing advice to the parents. Depending on what is found to be necessary, the speech (stuttering) therapy provided will focus on behaviour changes, coping with emotions and skills training. If lowering the demands and promoting the capacities should fail to resolve the stuttering problem to a satisfactory extent, speech fluency may be worked on directly by *modelling* slower, more relaxed, smoother speech (see paragraph 6, page 15).

Each therapy program starts with addressing the environment of the child, with a view to reducing demands. These demands may be imposed by the child's communication environment or be self-imposed by the child himself. The fluency demands that are found to apply to the specific child are reduced through counselling and *training* of the parents, the child himself, siblings, teachers, caregivers and other important figures with influence on the child. The aim is to create, on a structural (more frequent) basis, conditions in which the child can speak fluently according to *his capacities at that moment*, and to encourage the child to speak in those conditions, as a result of which a learning process is initiated.

Explicit training of the *capacities* of the child or fluent speech may be added to the therapy after the relevant demands have been addressed. However, during the capacities training stage, the speech therapist/ fluency expert must also maintain what has been achieved in terms of reducing demands. To this end, she functions as an example of a Fluency Enhancing speech model for the parents, until explicitly fading out this example. Parents are known to comment that the adjustments that they are asked to make in their communication - such as articulating exceptionally slowly - are abnormal. Indeed, these are abnormal: they are temporary adjustments that are intended to restore a balance in the child.

2 Evaluation

In the evaluation prior to therapy, both the capacities and the demands are assessed.
a. The child is administered a number of regular tests and standardized assessments:
  - the Schlichting Test for Language Comprehension
  - the Schlichting Test for Language Production II (sentence production and word production)
  - the Peabody Picture Vocabulary Test
  - screening of the articulation skills and, if necessary, more extensive testing, using e.g. Logoart and Metaphon.
  - the OMAS (Riley & Riley, 1985).

b. A videotape is made of the communication between parent and child, referred to briefly as parent-child (PC) interaction, during two different speaking situations, each lasting around 10-

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[3] In accordance with prevailing conventions, 'he' is used in the description of the RESTART-DCM Method to refer to the child, and 'she' to refer to the speech therapist/ fluency expert).

15 minutes. One or both parents are invited to participate in the baseline recorded interaction. If the case history shows that it is important to observe the interaction with both parents in order to analyse any communicative pressures, or with (a) sibling(s), they might also be invited to take part, either early on in the evaluation stage, or at a later stage.

Parent(s) and child are asked to play together, just as they normally would do at home. They are given materials for free play (Playmobil), and play together for ~15 minutes while being videotaped. They are subsequently given a number of puzzles at various skill levels, and videotaped for ~15 minutes while doing the puzzles

The videotaped parent-child interaction is analysed and scored with the help of the Parent-Child Interaction Form (see Appendix 1 Restart-DCM Method). The left-hand column shows the relevant 'demand': L (linguistic), C (cognitive), M (motor) or E (emotional). In the right-hand column, the degree to which or the frequency with which this behaviour occurs or is observed during the interaction is noted. If the speech therapist/fluency expert has relatively little experience in assessing parent-child interactions, it is a good idea to write out the middle five minutes of free play and the middle five minutes of the puzzle situation in full (the first five minutes of the recording are skipped in connection with acclimatization of the participants to the situation). Notes are made on the type of interaction (e.g. 'open question, adequate within the situation'). The speech rate of the parent(s) and that of the child is always calculated. Frequency, type(s) and severity of stuttering are analyzed during these two interactions. The SSI-score (Riley, 1994) is calculated to determine the severity rating.

3 Brief therapy structure

The parents and the child initially attend weekly therapy sessions of an hour. The frequency of the contact can vary over the course of the treatment, and the length of the session may be reduced to a half an hour during the maintenance phase. After four sessions with parent and child, as a rule a parent session will take place at which the child is not present; both parents are invited to attend.

3.1 The first parent session

The first appointment following the evaluation by the speech therapist is the parent session. In preparation for this session, the speech therapist/fluency expert has reviewed and edited the videotape of the parent-child interaction (see Appendix 1Restart-DCM Method *Parent-Child Interaction Form*) and the test data.

The goals of this initial parent session are:
   A. to provide the parents with an opportunity to express their concerns
   B. to provide oral and, optionally, written information about stuttering and about the results of the evaluation by the speech therapist
   C. to introduce the 15-minute parent-child 'special times' and the log book

(A). Provide the parents with an opportunity to express their concerns (thoughts and feelings). The speech therapist/fluency expert asks the parent(s) how they feel about their child, particularly when he stutters. She explores whether the parent is experiencing feelings of guilt regarding the child's stuttering and the parent's worries about the child. If the parent(s) are feeling guilty, this will be the first issue to be addressed during the parent session. The goal is to arrive at a situation where the parents realize that stuttering arises from both inherited/congenital factors and from developmental factors ("The knife that causes the cut", Conture, 2001, p. 89) and that environmental influences can subsequently aggravate or

ameliorate the problem ("The salt in the cut versus a band aid for the cut"). The parents are told that there is no scientific evidence whatsoever that parents cause their child to stutter.

(B). Providing oral and written information: chapter 1-3 of the booklet for parents called *How to help if your child starts to stutter* by Beerthuizen-van Giesen et al. (1991; see Appendix 2 Restart-DCM Method). At the very least, the following issues are addressed:

- What is stuttering?
- What are normal disfluencies or cognitive-linguistic disfluencies ?(See chapter 2 of *How to help...)*
- What is known about the prognosis, risk factors, and options to effectuate changes in how children communicate.
- Starkweather's DCM treatment model is explained as described in *How to help....* On page 14-15.
- Together with the parents, the results of the speech language assessment are reviewed within the framework of the DCM model. Parental behaviours that promote calm communication are identified, with as goal to reinforce these. Stressful aspects in the interaction are also examined and the parents are told that they will learn how to change these aspects in the course of the therapy.
- How does their child stutter (frequency, type, always/inconsistently)?
- What demands and capacities are important in their child's specific treatment plan? This includes addressing any imbalance in the language profile.
- Goals and structure of their child's therapy, possibly also teacher counselling.

(C). The parents are given a homework assignment requiring them to spend a quarter of an hour every day (*minimally* 5 days a week) giving the child their undivided attention: the so-called Parent Child special time. These special times serve to provide the child with a fixed moment during the day in which he feels heard and seen. As the treatment progresses, these special times are also used to practice skills; initially, parental skills (in order to lower demands) and eventually later, also the child's skills (to reinforce capacities).
The parents are also asked to start keeping a *logbook*, in which, at the beginning of the therapy, they record the time and length of the special time spent with the child. The parent may also note down observational entries. Parents who are excessively focused on their child's disfluent speech may be asked to write down every day five fluent sentences spoken by the child[4]. In virtually every case, the parents will discover that, most of the time, their child actually speaks fluently. Later on in the therapy, when specific demands and capacities are being worked on, the parents use the log to keep track of the answers to the following questions:

- When and what was practiced for how long?
- How did it go? What was the result? How did you experience this? What did you notice about your child?
- Questions to ask the speech therapist (fluency expert)?

Depending on the estimated capacity and capabilities of the parent, he or she is given an assignment after the first parent session to take home and to perform during the Parent Child 'special time'. This assignment is always directed at creating a *fluency enhancing environment,* which is the basis and beginning of every therapy. An example of such an assignment is: allow

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[4] The authors gratefully acknowledge the contribution of Lia Tieleman

generous pauses between the end of the child's turn and the start of the parent's turn to speak.

3.2 What happens during a treatment session with the child present
Typically, a session will proceed as follows:
- The speech therapist/fluency expert observes the interaction and fluency (frequency and type of disfluencies) for approximately 8 minutes while the parent plays and talks with the child.
- The speech therapist/fluency expert reads the notes from the past week, which the parent has entered in the log.
- The parent and the speech therapist/fluency expert briefly discuss how things went during the past week and how the parent child special times/practice sessions went.
- The parent demonstrates how the therapy was implemented during the past week.
- The parent and the speech therapist/fluency expert extensively discuss the treatment procedures of the past week.
- The speech therapist/fluency expert and the parent discuss the changes in the procedures for the coming week.
- The speech therapist/fluency expert demonstrates the changes in the procedures (modelling); the parent takes notes in the logbook.
- The parent attempts to copy the example of the speech therapist/fluency expert, applying the changed procedures; while the parent does this, the speech therapist/fluency expert applies principles of learning (i.e., acknowledgement/praise, if necessary incidental corrections).
- The speech therapist/fluency expert summarizes what is expected during the coming week.
- The speech therapist/fluency expert encourages the parent to ask questions, or engages in further discussion with the parent about relevant issues. If necessary, solutions are sought for problems in connection with practice at home.

During the second parent session (which will take place after the next four sessions together with the child) the changes in the behaviour of parents and child are discussed. Child-rearing issues may also come up during this second session, as may the emotional demands on the parents. The following training sessions are then again together with the child.

4 Content of the treatment: reducing demands
4.1 Reducing *motoric* demands
Indication: the parent articulates faster than the child does in fluent sentences; both parent and child have a relatively rapid rate of articulation (> 3.5 syllables per second, see Kloth et al. 1995); the parent uses brief interaction times or interrupts the child; the family has a chronically high pace of life/is rushed; habitually speaks at a rapid pace at moments when time is short.
Also see Appendix 1 Restart-DCM Method *Parent-child interaction form*, analysis points 2, 4 and 5.

Goal: reducing the communication pressure and rate of speech to lessen the chance that the child's planning and execution of his speech and language production will outpace the scope of his capacities at such moments. The parent learns to take the time to listen, to allow the child the time he needs to communicate what he wants, when and with whom, in whatever reasonable manner (Conture, 2007).

The parent:

- Inserts generous pauses during interactions between conversation turns (between 1-2 seconds), definitely no overlapping speech.
- Allows the child enough time to tell his story.
- Can respond non-verbally to facilitate calm speaker changes/turntaking, e.g. by giving a stop sign if the child talks through the conversation; parents can also use non-verbal cues to uphold the rules of conversation, such as placing a finger against the lips to signal quiet, cupping their ear as a sign to listen, etc. see Appendix 4 Restart-DCM Method).
- Speaks with calm, relaxed and fluent speech movements in a natural manner as a model for the child. A rule of thumb to establish the right speed is to speak just as slowly as the child does when speaking fluently, unless the child has a relatively rapid rate of speech, i.e., > 3.5 syll /sec. In that case, the parent must learn to speak at slow-to-normal speed via an internal model, which can sometimes require a lengthy practice period. An effect that is often seen when the parents reduce their speech rate is that the child relaxes; this, too, may be helpful feedback.
  After the parent has practiced, the speech therapist/fluency expert once again measures the parent's speech rate cf. the interaction analysis during the evaluation: the average articulation speed (without pauses), possibly in addition to speech rate (including pauses) calculated across at least five utterances.
- Maintains normal eye contact, appropriate to the customs of the culture/family. Making eye contact helps to apply calm interaction times and to avoid overlapping speech turns: you see when the other person has finished talking, or is still talking or has something else to say.
- At moments when there is too little time to talk, the parent signals that now is not a good time for a story and postpones this until a later, more suitable moment.
- Monitors the general pace of life in the family (calm transitions from one to the next activity, sufficient "empty" time).

4.2 Reducing *linguistic* demands

Indication: the number of questions posed by the parent is relatively high; the number of affirmative utterances is relatively low, the number of parental utterances *per conversation turn* is much higher than the number of utterances made by the child during his turn; the language used by the parent is far too complex (compound and complex sentences, sentences with inversion, passive sentences, relatively advanced vocabulary, sentence length) for the age and development of the child; the parent frequently introduces a new topic. See also Parent-child interaction form analysis points 1, 2 and 4 (Appendix 1 Restart-DCM Method).
Goal: close alignment with the child's language level, no overstimulation of the language development, no (excessively) high demands on language processing.
The parent:

- Speaks in sentences and uses vocabulary which is consistent regarding length and complexity with the child's developmental age and language profile (according to the preliminary measurements).
- Ensures a good balance between the number of spoken utterances by the parent and by the child (approximately 1:1).
- Starts to use parallel talk if the child remains silent, even if the parent has allowed a generous number of pauses (for an explanation of this, see Appendix 3, Restart-DCM Method)

- Follows the child's initiative as far as possible with attention and supportive language.
- Primarily asks forced-choice or closed questions instead of questions in an open form, if the child is found to stutter more when answering open questions.
- Often recasts the child's sentences, sometimes with a slight, relevant addition. (Child: "Pat dog". Parent: "You want to pat the dog. You like the dog."). The parent *tries* always to do this if the utterance is ungrammatical, calmly and in a neutral tone of voice, without explicitly correcting the child ("I choosed the girl". "OK, you chose the girl.").
- Does not explicitly ask the child to repeat a phrase that he is not yet able to pronounce correctly.
- Models not always being able to think of the *exact* name for something, and then describing it ("A kind of horse with stripes"), so that the child will put less pressure on himself.
- Spends several sentences on a piece of information in the conversation. The child is given the linguistic information a number of times and in a slightly varied form (cf. TenT, Schlichting & de Koning, 1998), **without** asking the child to do this, as well. The parent only provides the model. Examples of minimal changes in sentence structure are: (a) "The dog is going to sleep. The cat is going to sleep." (b) "The dog is going to sleep. The dog is tired." In this so-called redundant speech, the same words and sentence structures recur more frequently. This decreases the information density of the conversation. The child is offered the same word in different contexts, which will promote the storage according to form and content. Something similar applies to the sentence structure. By consciously making minimal changes to the sentences, sentence structure is also practised.
- Recognizes the need for "less talking" in certain situations. On days when the stutter is worse, activities may be sought that require little to no talking, such as activity games, puzzles, colouring, playing with clay, bicycling, cutting with scissors, listening to music.

4.3 Reducing *emotional* demands

Indication: on the basis of the observations and the parent session, it would seem wise to teach the parent to react more calmly or to be less demanding, as the case may be, regarding the child's behaviour in general or his speech in particular, given the developmental level of the child. Also see the Parent-Child interaction analysis form, items 4 -14.

Goal: for the parent to accept the child and the child's speech in word and deed: the parent realizes that the child is doing the best he can at this moment. The parent learns to respond to the child's specific temperament, has regard for the child's self-confidence, reacts in a neutral and tolerant fashion to his stuttering and reduces his sensitivity to disfluencies. The parent encourages the child and reassures him. The child imposes realistic demands on himself. These issues will mainly be discussed during the parent sessions. Whenever possible, the speech therapist/fluency expert will model during the sessions.

The parent will (where applicable):
- Prevent or reduce strong emotional reactions around the child and offer structure, and hence safety and predictability.
- Take the child's particular temperament into account in so far as this is relevant to the extent to which this aggravates or alleviates the child's stutter. (Riley & Riley, 2000; Conture, 2007, Bezemer et al. 2006). This is primarily about recognizing a *reactive* (sensitive) temperament: the child is easily fearful/upset if something is out of the ordinary/new, easily excited if something fun is going on, cries easily/easily feels pain, is highly sensitive to sense stimuli and has difficulty *regulating* this reactivity. The latter

refers to, for example: how long does the child *remain* excited about the prospect of a fun outing or that Dad's coming home from work, how long does he *stay* angry or shocked. The speech therapist/fluency expert helps to increase the problem-solving capacity of the parents to enable them to cope as well as possible with this reactivity or the child's regulating capacity, as the case may be. Modifications are sought, together with the parent that could accomplish a favourable change. The parent is given plenty of opportunity to come up with solutions; the speech therapist/fluency expert also makes suggestions to give the parents a few more ideas. Some examples:

* If fun outings cause too much excitement and aggravate stuttering, a possible suggestion would be: try to see whether it helps if the child is told about a fun outing only briefly in advance, if the parents don't heighten the child's excitement, and if they talk about it later in a calm voice, identifying the emotions being talked about or if, in the first instance, a drawing is made which can then be talked about. This toning down and the visual support can have a regulating effect.

* If special events or changes often induce extra stuttering, these events can be marked in a calendar, or in a holiday or weekly schedule, as a visual chart often has a calming effect.

* If putting out his shoe for St. Nicholas aggravates a child's stutter - probably due to the tension/excitement this creates - parents can try delimiting the number of times the shoe may be put out combined with an announcement of this in advance, to see whether this reduces the child's stuttering: "You're allowed to put out your shoe three times, and mummy/daddy will tell you when that is."

* A child can regulate a high degree of excitement/arousal more easily if the emotions are identified in an empathetic, controlled tone, or if a moment is taken to acknowledge these before calmly moving on to the normal daily routine. If the child remains stuck in his emotional state, e.g. anger, the parent might say in a calm, neutral voice that "he needs to go to his room, where he can be angry all he likes." The child should not feel that he is being sent to his room as a punishment for expressing his anger; it prevents his anger from being reinforced by the attention it might receive in the social situation.

Regarding this point, the speech therapist/fluency expert picks up as far as possible on situations and examples, which the parent describes.

- Leave room for emotional reactions and identify these "punctuated by a full stop" (acknowledgement of receipt); this helps the child remain in touch with his emotion and to allow room for this. See Appendix 3 Restart-DCM Method *Communicating with children: a different approach*

- Offer structure in conflict situations among children, which cause excitement and usually, therefore, also more stuttering ("We have a problem here; you both want to sit in the same chair to watch television."); the parent models how a solution can be devised and encourages the child to help think of one ("How can we solve this? Maybe you could take turns to each sit in the chair for five minutes; or one of you can sit on the chair today, and the other tomorrow; can you guys think of another solution?"). An example of a book about this subject is that of Shure en DiGeronimo (1994).

- *Not* advise in any way about the way the child speaks.

- Model normal disfluencies (word repetitions) in a calm, relaxed way.

- Change their own excessively perfectionist tendencies and attempt to diminish this in the child, if necessary (Riley & Riley, 2000; see written information for parents in

Appendix 7.2 from Bezemer et al., 2006, 2010 2^{e}nd edition). "Good is good enough", "Mistakes are allowed".

- Model how to deal with things they can do well, things they are average at doing and things they are not (yet) good at: "I'm learning how to do that", "I'm not very good at that", "That's hard for me to do", "I'm glad I'm OK with that" (when they don't know something, can't do something or have made a mistake).
- Make extra sure the child gets enough sleep (if necessary, parents make adjustments to the daily or weekly program).
- Are made aware of his/her non-verbal reactions to disfluencies (such as frowning, looking away, leaving, 'freezing' the conversation, etc.). The parents' feelings about their child's stuttering are discussed with them; the speech therapist/fluency expert responds empathetically. If parents can acknowledge and accept *their own feelings* about the child's stutter, the next step is to acknowledge and accept the stuttering behaviour and to modify possible unhelpful non-verbal behaviour.
- Can discuss the child's stuttering in a neutral, non-judgmental way, letting the child know that talking can be difficult for everyone at times. The parent reassures the child that stuttering is allowed: "You're learning how to talk".

4.4 Reducing *cognitive* demands
Indication: if it has been observed that the cognitive demands of the parent exceed the child's developmental level. See also Parent-Child interaction analysis form, item 1 and item 15. Goal: the parent is alerted to excessive cognitive demands placed on the child, and modifies this behaviour where necessary. Clinical practice has taught that excessive cognitive demands exacerbate stuttering.

The parent will (if applicable):
- Ask questions of conceptual complexity that is age-appropriate (no questions outside the "here and now" context if the child is found not to respond to these or his stuttering worsens when asked these questions). Note that this type of relatively complex question often goes unrecognized by the parent as such: "Tell mummy what you did at school today"; Tell Daddy what you told me about the little girl at playschool". (Examples from Starkweather & Givens-Ackerman, 1997, p. 121). The parent strives to omit such questions as far as possible.
- Focus on the *content* of what the child is saying.
- Ask one question at a time - if it is necessary to ask questions - tailored as far as possible to the child's cognitive level, and calmly wait for the answer.
- Follow the child's initiative with his or her full attention instead of suggesting new subjects and asking the child to pay attention to these.
- Converse with the child during play and read books with the child that are appropriate to his language/cognition relationship level (see e.g. Van den Dungen, 2007).
- Provide age-appropriate knowledge about the world - preschoolers only need to know the headlines, not all the details.
- Request the child to 'speak on demand' (recite rhymes, tell stories) as little as possible, if this should cause the child to stutter more.

We would like to conclude this section on lowering the demands with the following general comment. If the speech therapist/fluency expert has doubts about whether the therapy is

being (properly) implemented at home, she should ask the parent (as often as may seem supportive) to tape a recording of a relevant situation at home - preferably on video, or otherwise, audio only.

5 Content of the therapy: capacities reinforcement

As the fluency enhancing environment starts to take sufficient shape, attention can be given to reinforcing the child's fluency capacities.

Note: The fluency enhancing environment *remains* the basis for the therapy and constitutes a fixed component of each therapy session.

5.1 Reinforcement of the *speech motor* capacity

Indication: if an oral motor assessment (OMAS, Riley & Riley, 1985) should reveal that the oral motor skills are insufficient, reinforcement of the motor skills is a relevant therapy goal.

Goal: sequencing fluent speech movements will reinforce the coupling between auditory and speech motor systems; based on this reinforcement the feedforward motor planning and execution will improve, as evidenced by an improved accuracy, fluency and speed of the speech movements. Also see Riley and Ingham (2000).

The speech therapist/fluency expert trains the speech motor skills using Speech Motor Training (SMT, Riley & Riley, 1985; 1999). The goal of this is: automatization of accurate, fluent, smoothly produced and sufficiently rapid speech movements; first with a model, then, as the therapy proceeds, without. Homework (approximately 10 minutes daily) is assigned at the level of fluency just mastered by the child, i.e., for a minimum of 8/10 practise sequences, the speech sounds are produced correctly.

5.2 Reinforcement of *linguistic* capacity

Indication: tests have revealed an imbalance in linguistic development due to a delay/disorder (a difference of approximately one standard deviation or more compared to the majority of components) in one or two linguistic components (sentence comprehension, word comprehension, sentence production, word production, sound production) or a *delayed availability* of words or sentence structures during spontaneous speech became apparent during assessment by the speech therapist, during the naming task or was evident from information provided by the parents. A delay in the availability of the word form can appear in normal linguistic disfluencies such as: /umba, umba, umbrella/. A delayed availability of the word as a whole (lexical-semantic) can be evidenced by long (filled) pauses prior to a content word, by descriptions or by remarks made by the child himself, e.g.: "My head knows it but my mouth doesn't." Delayed availability or problems with planning the grammatical structure can be apparent from long (filled) pauses, word repetitions or sentence part repetitions, revisions or false starts.

Note: Normally developing children have acquired all consonants by age four, with the exception of the /r/. Identify pragmatic problems - problems with language use - based on observation, screening instruments or testing.

Goal: the elimination of an imbalance; the hypothesis is that this will contribute to improving speech fluency (Anderson et al, 2005; Coulter et al, 2009).

Note: all language and speech exercises are performed using a calm, relaxed way of speaking, during which the speech therapist/fluency expert models all previously learned interaction modifications. Care must be taken to ensure that training the language capacities does not lead to higher demands. The speech therapist/fluency expert works together with the parents towards the following goals:

- Eliminating an eventual imbalance in the child's linguistic profile through appropriate language stimulation
- Improving word retrieval by means of training word retrieval skills (including practicing semantic categories and/or learning to use same sound cues) and/or by coping strategies ('the thingy to..')
- Improving or automatizing sentence production through the automatization of relevant sentence structures through play (e.g. by means of TenT (Schlichting & De Koning, 1998).
- If working on phonological skills is indicated, the speech therapist/fluency expert should exercise restraint in respect of a rapid growth in phonological development. Suitable methods are Hodsen and Paden (Williams Hodsen & Pagel Paden, 1991) and Metaphon (Howel & Dean, 1998), with an emphasis on auditory training and elicitation within facilitating contexts, if necessary automatization via OMAT – SMT. Phonological problems are never treated through direct stimulation of the sound production. So the speech therapist/fluency expert should not try to have the child experience more specifically the place or manner of articulation by asking him to intensify the articulation pressure, such as "hiss loudly like snake".
- Improve the pragmatic skills (see Van den Dungen, 2007; Bezemer et al 2006, 2010 2nd edition).

5.3 Reinforcement of the *emotional* capacity

Indication: the child seems to be relatively insecure (difficulty with saying goodbye, cries easily, is shy, seeks reassurance) and/or is extremely sensitive about speaking or stuttering (reacts in an angry or frustrated way, reacts with tension, avoids talking or stuttering). This information is culled from observations and from feedback from parent and/or teachers.

Goal: to strengthen the child's emotional resilience to desensitize the child to fluency destabilization.

The speech therapist/fluency expert works together with the parents towards the goals set out below. If a target behaviour is concerned that is to be applied by the parent at home as well, this target behaviour should always first be modelled by the speech therapist/fluency expert for the parent - as far as possible - after which the parent demonstrates this in practice. Only after the speech therapist/fluency expert is satisfied that the parent has achieved an acceptable mastery of the relevant behaviour, is this assigned to be practiced at home.

- Reinforcing the child's *feeling of security* by responding to initiatives of the child with an 'acknowledgement of receipt' and parallel talk, possibly followed by a 'second step' (see Appendix 3 Restart-DCM Method *Communicating with children: a different approach)* to ensure the child feels seen and heard. Parents who may generally tend to respond somewhat passively to their child might be invited to respond more explicitly, and more enthusiastically; the child will consequently feel more seen and heard.
- Reinforcing the child's *self-confidence*; help the parents to determine the optimum quantity and, in particular, quality of attention, which the parent should give the child: enough for the child and not too exhausting for the parent. Sometimes parents learn to provide more and better quality attention to the child; sometimes they learn to put more distance between themselves and the child and to let the child do age-appropriate things for themselves, such as washing and dressing themselves, tying their own shoelaces, etc. The parents encourage their child to confront challenges that he can successfully overcome, particularly where speech is concerned ("I know you can tell me/ask/explain that…).

- Reinforcement of the child's *self-esteem* by teaching the parent to model self-esteem. ("You must be so happy/satisfied/proud"). The parent writes down the sentences they used to boost the child's self-esteem in the log.
- Reinforcement of a calm, acknowledging attitude towards the child's disfluencies: if the child stutters and becomes distressed, the parent acknowledges the stutter in a calm, empathetic tone of voice ("Oops, I think I heard a stutter", "That was a sticky word", "That was hard for you, wasn't it") followed by a second step to put the occurrence into perspective ("That happens, you're learning how to talk", "It's gone again", "Have another go").
- In children who have strong negative feelings about talking and stuttering, who like to listen to stories, it can be helpful in teaching them to respond neutrally to their stutter to make use of stories (e.g. Kerseboom, 2004; *Het eendje dat moeilijk praten kon*).
- If children exhibit negative emotions about their stuttering, such as fear, shame and anger: the speech therapist/fluency expert can voluntarily produce disfluencies resembling those of the child, modelling mild feelings and supportive thoughts to show there is no need to be afraid of stutters; e.g. something like: "Oh, that was pretty sticky there for a moment", "Goodness, my tongue stumbled over itself", "Oops, that was a bumpy bit, it scared me but it's gone now; I guess that can happen when you're learning to talk." The object is *not* to reduce the frequency of the child's stuttering but to reassure the child, to neutralize any fearful reaction, to avoid the development of a classic conditioning response.
- Desensitisation to stuttering: parents are asked to model *easy* disfluencies when talking with the child (1 - 2 x per day), adapted to the child's age and to his specific type of stutter. Parents only start to apply this in the home environment when they feel comfortable doing so. Parents practice speaking disfluently with the speech therapist/fluency expert until they are able to model this for their child without self-consciousness. If parents (still) feel awkward doing this, they will model awkwardness about disfluencies, which is precisely the opposite of what we aim to achieve.
- If the therapy has entered a final phase: desensitization to environmental factors that cause excitement or a degree of stress in the child, with as risk the fact that his fluency may become unstable. In other words: the child is gradually desensitized to communication pressures. The parents learn how to taper off the modifications made during the therapy if the child's fluency stability permits. The speech therapist/fluency expert incorporates a brief, perhaps two-minute pressure-creating element into the treatment, e.g. by reducing the interaction times and once or twice perhaps even inserting an overlap with the child's utterance, or a slightly higher speech rate, more listeners, interruptions, open questions, etc. In principle, all the elements employed to lower demands may be used. This carefully metered increase in pressure is gradually expanded if the child's fluency is stable enough to allow this. Hence the speech therapist/fluency expert adds an element of this kind for a few minutes, and then returns to her fluency enhancing speech manner, bringing the pressure back down. A little later, the same or perhaps a different element is briefly inserted if the child's capacities for fluency are able to cope; i.e., the child maintains fluent speech despite the increase in pressure. The parent gradually incorporates this at home during the daily Parent and Child 'special time. If the child's fluency remains stable, the parents gradually start to increase the pressure at moments throughout the day as well, and are taught to consistently return to the fluency enhancing manner of speech if the elevated pressure is found to affect the fluency.

5.4 Reinforcement of the cognitive capacities
Indication: the child demonstrates inadequate turn-taking behaviour, the child does everything quickly, makes a perfectionist impression, the child thinks he is doing something wrong when he stutters.
Goal: to teach the child age-appropriate concepts to promote easy and carefree communication.
The speech therapist/fluency expert works together with the parents to teach the child:
- The concept of turn taking and the rules for conversation (Conture, 2007; see Appendix 4 Restart-DCM Method for relevant images for visual):
  * Listen when others are talking (ears open)
  * Don't talk when it's someone else's turn (wait your turn)
  * Don't interrupt other people (mouth shut).

  If necessary, games such as Memory, Lotto and any games with dice can be played in preparation, specifically to practice the *turn-taking* aspect. In the second instance, 'talking in turns' is addressed, possibly with the aid of a 'Speech Cup' or 'Mr. or Mrs. Take their turn'(see Beerthuizen-van Giesen et al 1991 p. 36-37).
- The concept of *slow - fast,* by alternately doing things slow and fast, e.g. colouring with crayons, by moving the whole body and with the help of stories (e.g. the fable of tortoise and the hare, with the message: 'the more haste, the worst speed').
- The concept that some things go more smoothly if you don't try so hard (if desired, visually supported by the Chinese finger trap).
- The concept that 'stuttering is allowed'; everybody has 1-3 things that they can do *less well*, next to things that they *do okay* and 1-3 things they can *do really well* (if necessary, draw a diagram in a 'child figure').

6 Direct therapy with children aimed at more fluent speech
Indication: if the above therapy has been completed, but the child, in the opinion of the parents, speech therapist/fluency expert and/or the child, is still exhibiting unacceptable (abnormal) disfluent speech, the next step is to initiate direct treatment of the stuttered speech (see Starkweather et al 1991, *Modification of the behavior of the child* par. 4.3 p. 89).
Goal: for the child gradually to start to use more "normal " disfluencies:
- More relaxed instead of tense
- More repetitions rather than prolongations or blocks
- More often single repetitions rather than multiple repetitions.
Method: modifying stuttered speech occurs in a playful manner and adjusted to the child's developmental level. The changes in speech to be targeted depend on the characteristics of the child's stutter and on what is discovered to lessen the severity and frequency of the stutter.
> - by modelling and perhaps by teaching the child to vary the type of stutter (working back from severe to mild stutter moments, see Beerthuizen Starkweather et al 1991 pp. 90-91)
> - By learning to employ, via play and modelling:
>> - variation in rate, with different kinds of materials
>> - variation in articulation pressure
>> - variation in loudness, melody and intonation

During this phase, too, attention is paid to the cognitive and emotional aspects of the behaviour modification and the tasks and games. The balance between demands and capacities continues to fulfil a pivotal role. The tolerance for stuttering also remains a focus of attention.

The homework assignments are also always discussed, so that it is clear what should be practiced, how and for how long. Preferably a few times a day, but then only briefly and in a casual manner, in a relaxed atmosphere, than long "training" oriented activities. It is important that the parents maintain a low level of communicative pressure and that they don't put the onus for improvement on the child. Parents must learn how to gradually increase the difficulty of the language and complexity of the situation during practice sessions. Parents and child participate equally in the practice sessions: taking turns to use the targeted behaviour.

It goes without saying that the speech therapist/fluency expert observes as far as possible how parents do this in practice; she does not rely solely on how they **say** they do it.

The underlying theme continues to be:

- the child and the parents maintain the stance that "stuttering is allowed", as this attitude is the least provocative of secondary stuttering behaviours.

- the child is not afraid to stutter and tolerates his stuttering without becoming tense (see above).

7 Criteria for tapering off and early termination of the therapy
The treatment will be (gradually) tapered off in the event that the following criteria are met:

- The child has normal-fluent speech (very young children for approximately six weeks and older children [aged 4 1/2 -6] approximately 3-4 months) or exhibits only incidental disfluencies that are minimally abnormal (occasional repetitions with usually one iteration).
- The parents implement a fluency enhancing environment or the speech therapist/fluency expert judges that the parents can maintain the rest of the modification on their own.
- The child's speech is acceptable to the parents, the child and the speech therapist/fluency expert.
- The parents know what to do if a relapse should occur.

Starkweather et al. (1991) describe the tapering off of the therapy as follows:

- For three months, one session of 30 minutes per month
- Once every three months throughout the following 21 months.

Criteria for the early termination of DCM therapy
- The parent desires to terminate the treatment/decides against the treatment/ wants a different approach.
- The DCM therapy approach is not working: the fluency impairment, in the opinion of the speech therapist/fluency expert and in consultation with the parents, has remained for too long at the same level or has even worsened, despite correct implementation of the therapy by the parents.
- The speech therapist/fluency expert decides that the parent is not implementing the therapy correctly; this has not been able to be rectified in four successive sessions.

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Appendix 1 Parent-child interaction form (unfavourable behaviour in italics)

	Parental behaviour	Free play	Doing puzzles
L L E C	**1. Questions parent to child** a. few / *many* b. *open* / closed c. *in a commanding tone, or with little time for the child to answer* d adequately attuned/ within the present context		

L/C
 	
L/C
 	
M
 	
M
	2. Turn-taking behaviour
	a. balanced number of turns
	- proportion number of turns parent-child
	b. even length of turns parent-child
	    - proportion number of utterances per turn parent-child
	c. talking simultaneously / interrupting
	  - parent interrupts - child interrupts
	d. interaction times are too short
	  - parent starts too fast - child starts too fast		

E	**3. Parent response to stuttering** a. *negative verbal reaction to the stuttering* of the child b. *negative non-verbal reaction to the stuttering* of the child (parents look away, hold their breath, go rigid etc.) c. react in a neutral and empathetic way		
L/C E M C/L C/L E	**4. Parent(s) linguistic behaviour** a. *introduce a new topic* b. *correct child's verbal behaviour* c. *make utterances that increase time pressure* d. content is attuned to earlier utterance of the child (lexically redundant) e. form is attuned to earlier utterance of the child (grammatically redundant) f. engage in parallel talk		

M	**5. Articulation and/or speech rate**
	Average calculated across at least five utterances:
	Write out in full and measure with a stopwatch
	       Father _____ lett/sec
	       Mother _____ lett/sec
	       Child _____ lett/sec
	       Sibling _____ lett/sec		

E E E E C	**6. Other parental behaviour** a. ignore undesirable behaviour child or *give negative attention* b. show *directive*/non-directive action ('tone') c. encourage the child d. stimulate the child's self-esteem e. maintain adequate level of play/ cooperative play		

Appendix 2

STUTTERING PREVENTION: A MANUAL FOR PARENTS part 1-3
by Woodruff Starkweather, C.W., Gottwald, S.R. and Halfond, M.,
and slightly revised and extended by Beerthuizen-van Giesen, R., Franken, M.C., and Nijhuis-Louwerens, M. (1991).

1 STUTTERING: WHAT IS IT?

Every parent wants to know the answer to this question. But the answer is complicated and requires some understanding of how speech develops in the normal child. When children are about a year old, they typically say their first words. These are single words, which the child uses for a variety of purposes like "Ball" for "I want the ball" or for " The ball is rolling". By two years, the child has usually begun to put two or three words together, and is producing primitive sentences like "Mommy go?" "Want truck," or "See doggy." Usually, at this stage, the child's pronunciation of sounds is imperfect, the tempo of speech is slow, and each syllable is given equal stress. The sentences given above would be pronounced "Mama go," "Want twuck," "tee dawdaw," or something like that. Between two and three years of age, these primitive sentences become longer and more elaborate, pronunciation improves somewhat, and the children begin to talk more quickly and with a more grownup rhythm. Instead of saying "dawdaw" for doggy," a three year old would be more likely to say dawdy," still mispronouncing the "g" but producing the correct rhythm of the word, with the accent on the first syllable. It is during this stage of development, that children learn to produce unaccented syllables. This development, which goes unnoticed by most parents, enables the child to talk faster, and that is important because it is just at this same time that the child is beginning to use longer and more complex sentences, and it is also just at this time that the child is beginning to notice many complicated things about the world, which the child wants to talk about in those longer sentences, such as "Mommy, I see a crane and a tractor and they almost crashed into each other". The drive to communicate at this age is very powerful, and the child will be frustrated by anything that gets in the way of the communication of ideas.

Quite a few children, at this stage of development, begin to repeat words or syllables, usually at the beginning of a clause or sentence. They say things like "I, I, I, I, I, saw a big, a big truck in the, in the street. And, and, and it, and it, it -- Mommy do trucks do wee wee?" In this sentence, you can see some of the things that make children hesitate -- a confusing thought, uncertainty about some event in the world, a complicated sentence to produce, perhaps a doubt about the politeness of the question. When children hesitate in their speech, they tend to repeat phrases, words, and syllables. Later, when they are older they have more sophisticated ways of hesitating -- saying "well," "like" and "um" for example. But at this age, they just repeat elements. Sometimes, if they are very unsure of themselves or of how to say something, or if they are very excited or nervous, they will continue to repeat for a very long time --- "Mommy Mommy, Mommy, Mommy, Mommy, Mommy I saw a birdy and he, and he, and he, he, he, he, he, he, he wash his bottom in the dirt." These repetitions of whole words or syllables, even the long ones, produced easily and without evident concern, are probably not very abnormal, unless they occur often. They are just the way the child talks who has more to say, or who wants to say more, of who wants to say it more quickly, than his speech

mechanism or language skills can accommodate. But even though they are not too abnormal, these repeated elements, particularly when they are a common feature of the child's speech, mean that there is a risk that stuttering can develop. We believe that any child at risk should be dealt with. If the risk is small, it is easier to deal with, but stuttering is too awful a problem to just "wait and see."

Some children start to stutter when they receive speech therapy for incomprehensible speech or because of a failure to use age-appropriate sentences. This was what happened to Niels, as his mother's story shows.

"Niels was delivered normally, without complications. He reached all his milestones a little later than expected, but was a sweet, quiet baby. He was also slower to talk than our other two children. I wasn't terribly concerned about it, I thought, it'll come. At nursery school, however, they advised me to get in touch with a speech therapist, as it was very difficult to understand his speech and because he almost old enough to go to kindergarten. Niels was about 3 ½ at the time.

He started speech therapy once a week. As the therapy progressed, he started to stutter. When Niels' incomprehensible speech turned into stuttering, I felt powerless, there was nothing I could do to help."

As long as a child's speech and language is developing at a normal rate, it's as if this happens by itself. But just as soon as a child's speech clearly starts to deviate from that of his peers, this development proves to be a complicated process. The task of the speech therapist is by no means an easy one.

After terminating the speech therapy, we received the following description of their experience from one set of parents.

"The speech of our very boisterous and otherwise healthy son of approximately three years of age was a matter of concern. He was (and is) an energetic and lively young fellow in everything he does. When he talks, he often has a hard time getting the words out and he clearly got stuck on some words. He would go red and often take it out by stamping his feet and throwing a tantrum. It seemed clear that his thoughts were going faster than he could keep up with in words.

What was striking was that he had no problems when he was singing. Because the blocks didn't occur, he went around singing a lot. Normal fluent speech was steadily becoming more difficult for him and, at a certain moment, according to our observation as well, was no longer possible. We were very concerned, despite the reassurances from people around us, all the more because we, as parents, aren't exactly calm and relaxed speakers ourselves. People were always telling us "Oh, he's still so young", or "It's common in little boys, it'll go away by itself."

We nonetheless decided that action as needed, and, after consulting with his nursery teacher, who also saw no improvement, took our son to see an ENT specialist. After some insistence on our part, the ENT specialist referred us to the Voice and Speech Disorder clinic. There, our son was tested and he - and we - were referred to a speech therapist who was specialized in treating stuttering.

During the period in which our son received speech therapy, we followed a course, together with the parents of other children who stuttered, in which we were taught to recognize the causes of stuttering and how we as parents could contribute to the treatment.

These days, our son is completely fluent. We are extremely glad, in retrospect as well, that we

actively took initiative instead of adopting a 'wait and see' attitude. It was to everyone's advantage."

The word fluency is used to refer to the ease with which speech is produced. The three year old who is highly fluent will say "But, but Daddy, if I, if I can have the candy now, I'll still eat my dinner." The less fluent child, less sure of which words to use, less sure of the grammar, and not so quick at moving his tongue, lips, jaw, and voice might say "But, but, but, but Da-daddy, if, if,, I have the ca-candy now, I, I, I, I'll still, still eat my dinner."

We like to think of two aspects of speech development that affect the child's fluency -- the demands for fluency, and the child's capacity for fluency. By capacities, we mean the skills and abilities that are required to talk -- the ability to move the speech mechanism to make sounds, the ability to choose the right words, the ability to compose the sentences so that others will understand, and the ability to know what is an appropriate thing to say under the circumstances. Naturally as children grow, these capacities for talking fluently are also maturing, and the child finds it easier and easier to say what he wants to say. We can tell that children find it easier to talk because they take less time to produce sounds, to find words, and to construct sentences. As a result they talk faster and with fewer hesitations and repetitions. However, these capacities for speech differ from child to child.

Demands for fluency come from the people the child talks to -- parents, brothers and sisters, friends -- and from the child too. As children grow, more is expected of them, and a child who is smart enough to think of the argument that he or she will eat dinner even if some candy is eaten now, is expected to be able to speak easily enough to utter the argument without too much hesitation and at a rate of speech that is age-appropriate. Not all of the demands for fluency come from the people the child is talking to. Some of them come from within the child. Just as parents expect a child to produce speech that is appropriately fluent for the child's age, intelligence, and linguistic sophistication, so too does the child have some sense of how easy it should be to talk. The child himself is not always aware of this.

Some children have a lot to say but lack the capacity to say it easily, and they may become very frustrated because they expect more, demand more, of their speech mechanisms than it has the capacity to produce. As long as children's capacities for fluent speech are developing fast enough to meet the increasing demands that are made on them, including those they make on themselves, they will not hesitate, repeat sounds, stutter, or stumble in speaking very often. But when too much is asked of the mechanism, children will try to make it do what it lacks the capacity to do. And as a result, their speech will contain more than the usual amount of repetition of words, syllables, and phrases. Almost 50% of children between the ages of four and seven go through a period in which they speak disfluently. About half of them recover from these disfluencies without therapy.

If, in addition, they find the presence of those repeated elements too time-consuming, or if they come to believe that these repetitions are bad, that they shouldn't talk that way, they will try to force the repeated words out, they will try to repeat the words and syllables faster so as to get to the rest of the sentence, and they will start to struggle when they talk. This struggle to talk, manifested by an unusual amount of repetition, by the repetition of smaller elements of speech such as syllables and sounds, by the presence of vocal strain and tension, and by the presence of muscular tension in the speech mechanisms, is stuttering

Unfortunately, we don't know very much about why stuttering develops in some children but not in others. There is clearly a tendency for stuttering to run in families, and some of this tendency seems to result from inheritance. Genes do make a difference, but it is also clear that they do not make the entire difference, since there are many children whose parents stutter but who develop normal speech, and there are many children who stutter despite having no one in the family who stutters. Besides, the way in which stuttering develops is clearly a result of the child's interaction with his or her immediate environment.

We do know that stuttering is not caused by tickling the child, nor is it acquired by imitation of some other child who stutters. We also know that the child who stutters is not retarded or mentally ill, and that he or she does not have a personality disorder. Sometimes children who stutter are socially withdrawn, shy, or nervous, but these are probably reactions to the disorder. Nevertheless, these reactions probably do make the problem worse.

Some children do not follow the gradual path of development described above. Instead, they begin to stutter suddenly, usually under circumstances that involve emotional distress, either sudden or prolonged -- absence of one or both parents, moving to a new location, starting a new school, death or serious illness in the family, hospitalization of the child or of a sibling. Typically also, the emotional distress is somehow related to speaking, and there is sometimes a period of not talking at all (mutism) before the child begins to stutter. Stuttering can also develop suddenly following a head injury, but this is quite rare in children.
Stuttering can also develop suddenly, with no special circumstances occurring at the onset. The child's stuttering can cause feelings of uncertainty, distress and guilt in parents, as this mother's story shows:

"When I heard my son (aged almost eleven) stutter for the first time, I was startled. He had never stuttered before, so I wondered: how is this possible all of a sudden, there must be some cause? Because I had also stuttered as a child, and had often been upset about this, those feelings came flooding back. I had always hoped that my children would be spared from this, and now here was my son starting to stutter. Had he inherited this weakness from his mother? I never let my feelings show towards our son. He wasn't at all distressed by it, so I didn't want him to know that I was. I was afraid I'd only make it harder for him.

Sometime a significant event can cause a child with a mild stutter, who stutters only at certain times, to develop a permanent severe stutter. This is described in the case below.

"Emilie is the second daughter in our family of three children. She was a "late talker'. She was nearly three before she started talking comprehensibly. She soon started stuttering as well. As a family, we paid little attention to this. We blamed it on her late talking, having "stored up" too many words and then wanting to say too much all at once. We hoped it would disappear on its own. She exhibited different forms of stuttering, such as repetitions and prolongations of parts of words. It went in phases.
Sometimes her speech was reasonable okay. For us, a reason not to do anything structural about it. We always listened patiently and attentively to what she said. Her sister, two years her senior, did this as well. It was such a normal thing for her that Emilie talked the way she did that we didn't even have to tell her to.
After the birth of our third child, when Emilie was almost four, her speech suffered a serious relapse. She could no longer complete her sentences. It became so bad that she started using

gestures, and if she used sentences, they consisted of only three words. She also thought up tricks to make talking easier, such as stamping her foot or clapping her hands on parts of words. It was then that we contacted a speech therapist. After an afternoon's observation at our home, she concluded that the best thing was to do nothing at all, as Emilie herself was in no way hindered by her handicap. The only advice she could give up was to go on doing what we were doing and to read aloud to her as much as possible."

2 NORMAL FLUENCY DEVELOPMENT

The ability to speak fluently is a skill that develops as children grow. All children, especially between the ages of two and six, occasionally stumble or hesitate as they begin to put sounds, words, and sentences together. These normal disfluencies are different from stuttered speech, both in the number of times they occur and in the way in which they are produced. The following are examples of normal disfluencies:

1. Whole word and phrase repetitions -- "My, my ball is on the roof." I want, I want to get up."

2. Revising sentences -- It went, My ball went on the roof."

3. Pauses filled with um, ah, uh -- "I want my, um, ball."

4. Silent pauses such as hesitations -- Daddy, I want (pause) my ball."

5. Infrequent, easy, single, part-word repetitions -- Y-you said you'd get it."

Children vary widely in the number and types of normal disfluencies they produce. Some children will remain quite fluent except for an occasional hesitation or pause. Others are obviously disfluent, showing the entire range of normal disfluencies described above. In general, the most common normal disfluencies are whole-word repetitions, and these occur most frequently at the beginnings of sentences. Boys seem to show more word repetitions than girls, but both boys and girls show fewer repetitions as they grow.
In the following, a mother describes a normal period of disfluency of her son.

"Our family spent a year living abroad. Our children, a five-year old boy and a girl of three, were to attend 'school', just as they had done in the Netherlands. For our eldest, this meant attending kindergarten five mornings a week, from 8:00 to 12 noon. He ended up in a class with 12 other five and six year-olds, and an extremely experienced kindergarten teacher. By naming everything he came across in the classroom situation, our son fast started learning the foreign language. Within two months, he was fluent in this language. In order to create a clear and familiar language environment, especially for our younger daughter, Dutch was spoken at home, unless the children themselves used the foreign language or they explicitly asked questions about the other language.
During the period our son was learning the new language, my husband and I noticed that our son was making more mistaken when he spoke Dutch and exhibited many more repetitions and hesitations in his speech than had previously been the case. The number of /uhs/ clearly increased, as did the number repetitions of words and parts of words. We consciously took

more time when talking with him. After two months of living abroad, his speech was back at its former fluency level.

On returning to the Netherlands, when he was expected to speak Dutch at home and at school, the number of disfluencies increased, as did the language mixing with the other language. After about a month, this disappeared again and his speech returned to its former level of fluency.

You may notice that these normal disfluencies occur more frequently in your child's speech at certain times. Normal disfluencies seem to increase under some conditions. When your child is excessively tired, excited, if he is in more formal speaking situations such as speaking with and adult, or, as this mother's story illustrates, a bilingual environment, disfluencies will typically increase.

Talking with a partner who speaks much faster than the child or who is non-attentive may make it more difficult for the child to remain fluent. Likewise, when the child interrupts, tries less familiar vocabulary words or attempts more form language, the number of normal disfluencies can be expected to rise.

3 SYMPTOMS OF RISK

There are three general areas of risk -- the amount of repetition in the child's speech, the amount of struggle in the child's speech, and the parents' attitudes toward and reactions to the child's behavior.

Children who have more repetition and hesitation in their speech are more at risk than children who have less. The more hesitant and repetitive the child is, the more likelihood that he or she will begin to be frustrated by these barriers to rapid and easy communication and the more likely that speech will begin to be struggled, forced, and tense.

Children who are already beginning to struggle in their speech are of course more at risk than those who are not showing any signs of muscular tension. However, the development of this struggle and tension is usually (there are exceptions -- see below) quite slow, and the earliest signs are quite subtle. One of the early signs is a rising pitch of the voice during the repetition of a word or syllable. As the word or syllable is repeated, the vocal pitch rises almost like a siren. This rise in pitch is a sign that the vocal cords themselves are becoming increasingly tense, like tightening a guitar string while playing a note.

Another early sign is shortening of the repeated element. If a child who has been repeating whole words, like "But, but, but, but...." starts to begin sentences with "bu-, bu-, bu-,..." cutting each word off before it is completed, or even b-, b-, b-,b,, trying to push through the repetition, to get it over with, to get to the rest of the sentence. Similar to this sign, is an increase in the tempo with which the repeated element is produced. Many children start out saying "Can, can, can, can I..." progress to "Ca-, ca-, ca-, can I ..." then to "C-,c-,c-,c-, can, I" and finally to "cccccan I."

Another early sign is a change in the vowel itself. The child who says "Mom, mom, mom, mommy" is less at risk than the child who says "muh, muh, muh, mommy."

Once a child has begun to show evident signs of struggle, tension in the facial muscles, body movements, gasping for breath, hard blinking of the eyes, or using a very loud voice, he is not simply at risk but really is stuttering, perhaps severely. Similarly, the child who shows, by his attitude toward speaking and toward social situations that he is afraid or embarrassed to talk, or who abandons sentences that he has begun is also well along in the development of stuttering.

A third category of risk is the parent's attitude. Parents who are worried about their child's speech react differently to it. They almost always feel badly when the child stutters, although exactly how they feel varies. Some parents have told us that they freeze, even stop breathing, and then visibly relax when the stuttering moment ends. Others have said that the stuttering behavior is so painful to watch, that they turn away until the child finishes stuttering. Some parents try very hard not to react at all. The disfluency may make them upset, nervous, angry, or depressed. It may be almost feel painful to watch a child struggling to talk. These reactions are perfectly normal, in most cases, and usually stem from the parents' love and concern. They are mostly worried that their child's hesitant speech will develop into a life-long stuttering problem, carrying with it social, emotional, and even educational or occupational limitations. But often, in spite of their good intentions, the way the parents react to disfluent speech communicates inadvertently to the child that the way he or she is talking is wrong and consequently may try very hard not to stutter. He or she feels that disfluent speech is to be avoided at all costs. The child reacts to this by struggling more and struggling harder, to speak "well": without disfluencies. The increased effort that is required to avoid stuttering also increases the muscle tension in the mouth, face and neck. If you have tried to play a sport when you were very tense, you will understand why speech fluency is more likely to break down under these tense circumstances.
Thus, a vicious cycle is created. The child has some disfluent speech, which triggers negative feelings in the parents. These negative feelings are received by the child, who then tries very hard to speak in what he or she thinks is a better way. The increased muscle effort may cause the child to struggle and force through words, only renewing the anxious feelings in the parents.

The child who receives frequent messages that the way he or she is talking is "bad" or "not right" may begin to lose confidence in his or her ability to communicate at all. For a young child, difficulty talking is easily generalized to difficulty doing anything successfully.

The fact that a child is aware that he has problems with talking does not particularly arouse our concern. What is important is that children are not aware of their speech problems in a negative, but in a neutral, manner. By this we mean that, to the child, his speech problems are similar to not yet being able to color inside the lines or hop on one leg. Some children simply take a little longer to master how to do these things than others. For building up this kind of neutral awareness, it is extremely important that listeners don't react differently to stuttered speech than to fluent speech. In this way, the child won't become frustrated because of the fact that he can't manage to do what his surroundings expect of him (namely, speak fluently). In time, the child can feel rejected by others, lose his self-confidence or even become afraid to talk. What started as brief moments of confusion can ultimately lead to a fear of specific words, speaking situations, and people. This reaction may vary from mild uneasiness to panic and can lead to the child avoiding speaking.

In this way, the concern of the parents may end up contributing to the problem. Knowing this, it should therefore be treated as a risk factor. The vicious circle described above can be broken if parents learn to react to their child's problem in such a way that it makes it easier for the child to speak fluently. This is anything but easy. Suggestion to achieve this are provided in Part II of this booklet.

Beerthuizen-van Giesen, R., Franken, M.C., and Nijhuis-Louwerens, M. *Hoe te helpen als uw kind begint te stotteren.* Assen: Dekker en van de Vegt, 1991.

Appendix 3 Communicating with children: a different approach

M.C. Franken and C. de Sonneville-Koedoot[5]

Part I: Affirming the child

This document is divided into two parts. The first part explains how we, as caregivers, can clearly demonstrate to a young child that he/she is explicitly seen and heard, or, in other words: how we can affirm a child. The second part discusses the next step that can be taken.

The child's initiative

Anything a child says, does, feels, wants or thinks, that he comes up with himself is called an **initiative.** A child can take initiative in different ways: by making a sound (such as a baby, who cries because he/she is hungry), pointing to something (e.g. a toddler, who can't yet use words to make his or her meaning clear), making a facial expression (e.g. looking surprised or startled). It is important that a caregiver show the child that he sees his or her initiatives. By noticing (**="acknowledging"**) the child's initiatives, a child feels seen and heard. This is important: it gives the child a sense of belonging and sends the message that he or she is worthwhile. A sense of belonging (also called the right to exist) constitutes a basis for the development of the child's self-concept, (self) confidence and to form a secure attachment.

Three ways to affirm a child

1. Affirmation without words

If a child takes initiative, the caregiver can respond in various ways: by making eye contact, a friendly facial expression, leaning towards the child, winking, saying "uhhum" (small children) saying "ahah" (slightly older children). Through all these responses, the caregiver shows the child that his/her initiative has been noticed (acknowledged).

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2. Affirmation with words

<u>Young children</u>: repeat, as literally as possible (using a grammatical sentence), what the child has said. For example, if the child says: "Bus go grandma", the parent repeats: "We're going to grandma's on the bus."

<u>Older children</u>: using slightly different words, repeat or summarize what the child has said. For example: the child says, "I have to do a presentation". Parent: "It's your turn to give a presentation" (repeating). Or the child says: "First we played football then we played with Lego and we also watched TV." Parent: "You did a lot of different things" (summarizing).

N.B. Parents often have a natural tendency to repeat things in the form of a question. An affirmation should however not be a question, but a declarative statement, i.e., concluded with a full stop, not a question mark, and said in a friendly tone of voice. Repeating or summarizing in the form of a question can give the child the idea that what he/she said is being called into question, which would create the opposite effect. Example: A child says: "I did it." Parent: "You did it, well done", instead of "You did it?"

3. Parallel talk

Parallel talk is used to verbalize, in an accepting or approving manner, what the child is doing, thinking, wants or feels at that particular moment.

Doing: "You're drawing with a green crayon."

Thinking: "You're thinking: I hope mummy thinks it's ok".

Wants: "You don't want to go to bed yet."

Feels: "You're worried that the party will be cancelled" / "You're disappointed that grandma's not coming."/ "You're upset that we're not going to the zoo after all."

Parallel talk verbalizes what is **actually** taking place at the present moment. Talking about what is going on in the moment makes the situation clear, comprehensible and predictable. The child knows what to expect, which makes him or her feel safe and secure. Example: "You picked up the blue block" (instead of "You're playing"). Or: "You were disappointed you weren't invited' (instead of: "You were really angry yesterday"). Like an affirmation, parallel talk occurs in a friendly tone of voice in the form of a statement, not a question. When describing the child's feelings or thoughts, the caregiver enters the child's world or emotions. Sometimes their interpretation of what the child is feeling or thinking is wrong. It doesn't matter when this happens, as the child, precisely because of the caregiver's parallel talking, will

feel welcome to "correct" the caregiver's interpretation. What is important is how well the caregiver is attuned to the child. Example: if the child does not immediately start to eat, the parent may interpret this as "You're not hungry yet". Child: "I am hungry, but I don't feel like spinach."

Parallel talk should be neutral, free of any value judgements. This means that negative behaviour is named, without the use of judgemental language. Instead of "You're being annoying", describe what is actually happening: "You're kicking against my chair". Parallel talk contains no compliments or opinions, i.e., not: "That's a lovely drawing you're making", but "You're drawing". Parallel talk always starts with "you". That way, it's always about the child rather than yourself.

Parallel talk, like affirmations with words, not only reinforce the child's self-confidence; both also stimulate the child's language development.

Why is affirming the child so important?

By affirming the child, you send the child the 'message' that you are interested in him/her. The child feels worthwhile, has a feeling of security. In addition, it also helps the child to develop (self) confidence.

By using parallel talk, a caregiver holds, as it were, a non-judgemental mirror up to the child. As a consequence, the child not only feels seen, he or she also realizes what they are doing at that particular moment. Parallel talk can suppress or prevent impulsive or excited behaviour on the part of the child. Using parallel talk increases a child's perception of himself, allowing him to develop (more) self-awareness and own identity. As a result, the child, as he matures, will find it easier to remain himself in a group.

Conflict situations

Experience has taught that explicitly remarking on (repeating or summarizing) the child's initiative works particularly well in (imminent) conflict situations.

At times when emotions (impatience, disappointment, fatigue, irritation, anger) are involved, caregivers often forget to repeat/summarize what the child says. Understandably, the response is unthinking and often contains a correction or "rejection". The child adapts, does what is expected of him/her, or the conflict escalates.

If caregivers can succeed in repeating or summarizing, even during a difficult moment the conflict will be more subdued or perhaps even avoided altogether.

The idea behind this is that a child who is secure in the knowledge that he or she is heard and understood will in turn be more willing and better able to heed what the caregivers are asking of him or her.

Giving an affirmation, and then what?

Repeating, summarizing or describing what a child says is not the same as agreeing with what he or she says or letting him have his own way. After repeating or summarizing what the child said or describing what he or she is doing, a 'second step' will often follow; something the caregiver then says or asks.

Example: a child doesn't feel like cleaning up and coming to the table to eat. A parent often responds as follows: "Put your toys away, we're about to eat". The child diddles around and says, "I'm not hungry" and doesn't do as he or she is asked. An approach, which fosters the child's feeling of being heard and understood, which therefore also increases the willingness to do as the parent asks, is e.g.: "You don't feel like eating yet (=repeating). You'd rather go on playing; you're having good fun, aren't you? (= using parallel talk). But it's just about time to eat (= opinion). Tell you what, I'll help you tidy up" (= proposal) Or: "Move your things over to there, then you can go on playing after we've eaten" (=positive motivation).

This second step, which follows after affirming a child, is discussed in detail in part II.

Communicating with children: a different approach

M.C. Franken and C. de Sonneville-Koedoot[6]

Part II: The second step

In the first part, it was discussed how caregivers can affirm a child. This second part deals with the step that often follows the affirmation.

Giving an affirmation, and then what?

In all cases, first: an affirmation is always given. Then, a second step may follow. This may take two different forms, i.e., A and B.

A. Deepening: the caregiver offers his opinion, makes a proposal, makes an agreement or asks a question**.**

Make sure that this second step does not turn into an "interrogation": the main consideration is the contact with the child. Below are examples of how parallel talk could be followed up in the second step:

Parent: "You want to shower first and then watch some TV." (=parallel talk). "I think that's a good idea" (=giving an opinion).

Parent: "You're hungry" (=parallel talk). "Let's have pancakes today" (=make a proposal).

Parent: "You feel like having a piece of candy" (=parallel talk). "When we have coffee, you can have a treat" (=making an agreement).

Parent: "You are angry" (=parallel talk). "Can you tell me why you're so angry?" (=asking a question).

B. The caregiver motivates using positive words.

If a child exhibits undesirable behaviour, we use neutral parallel talk as a first step, e.g. "You took another cookie". The second step involves motivating the child, using positive words, to cooperate, e.g. "Put it back quickly." Positive motivation means that caregivers don't say what they don't want, but instead what they do want.

It also helps to identify the positive intentions behind a child's behaviour - if possible, give your child the benefit of the doubt, e.g. "You really felt like having another cookie. That's why you took another one."

Another example: if a child keeps tattling on his or her little brother: Parent: "You want to keep an eye on/ take good care of your brother " (describe the intention). "It's ok, I'm watching him. You go play with your puzzle/try to find all the blue pieces in the puzzle" (positive motivation). Instead of "Would you quit tattling on your little brother"?

Using positive motivation, a caregiver provides clarity, direction, structure and sets limits. This makes children feel safe and secure, as they know what they may do.

Why is the second step important?

As a child matures, he or she must develop in a number of areas. A child must learn to talk. He must learn to engage in age-appropriate activities. A child must learn to make and maintain contact with others. In other words: a child has several developmental tasks. A child largely performs these developmental tasks in relation to his/her caregivers. Were caregivers to affirm the child and nothing else, the child would not develop adequately. By adding an opinion, proposal, agreement or question, a child learns to become aware of others' feelings. It teaches perspective taking and can help in learning that other people also have needs.
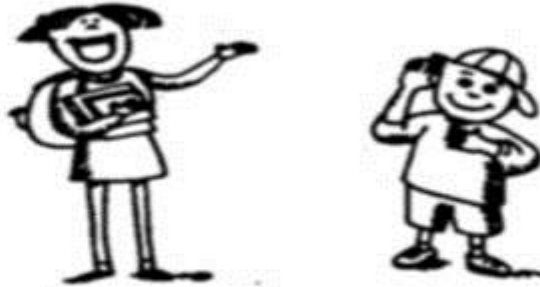
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Appendix 4 Conversation rules by Conture (2007) without and with covering text.
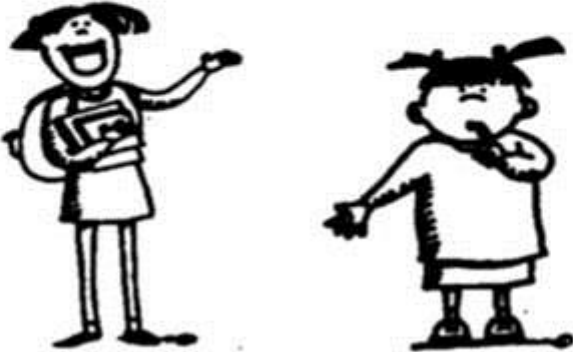
Listen While Others Are Talking

Wait Your Turn While Others Are Talking

Be Quiet While Others Are Talking