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Checklist of parent Lidcombe Program administration

Michelle Swift, Sue O’Brian, Mark Onslow, and Ann Packman

KEYWORDS

CHECKLIST

LIDCOMBE PROGRAM

PRESCHOOL

STUTTERING

TREATMENT FIDELITY

THIS ARTICLE HAS BEEN PEER-REVIEWED

This article outlines the development of a checklist to document parent and child behaviours when implementing Lidcombe Program treatment during structured conversations. We present item development and reliability testing and instructions for use by speech pathologists. Finally, we present two case studies to demonstrate use of the checklist to aid clinical decision-making during Lidcombe Program treatment.

The Lidcombe Program is a commonly used treatment for early childhood stuttering. It has a large evidence base that includes a meta-analysis (N = 134) of four sources of randomised, controlled clinical evidence (Onslow, Jones, Menzies, O’Brian, & Packman, 2012). That analysis showed an odds ratio of 7.5, meaning that children treated with the Lidcombe Program have 7.5 more chance of being below 1.0 per cent syllables stuttered (%SS) post-treatment than children who receive no treatment.

Treatment fidelity refers to the degree to which a treatment is delivered as directed by the treatment manual, differs from another treatment or control condition, and is correctly applied by clients beyond the clinic environment (Bellg et al., 2004; Kaderavek & Justice, 2010). A fundamental treatment fidelity issue is the inclusion of core treatment components (Kaderavek & Justice, 2010). For treatments with strong efficacy research such as the Lidcombe Program, it seems logical to assume, until research informs us otherwise, that if treatment is presented as specified by the treatment manual it will contain all the core treatment components.

Studies investigating Lidcombe Program treatment fidelity have found that some clinicians do not strictly adhere to the Lidcombe Program guide (Packman et al., 2011)¹. Recurring issues have been shorter and less frequent clinic visits than prescribed in the guide, and use of adaptations such as combining Lidcombe Program treatment components with components of other treatments (Rousseau, Packman, Onslow, Dredge, & Harrison, 2002; Shenker, Hayhow, Kingston, & Lawlor, 2005). A recent study of the Lidcombe Program with the wider Australian clinical community found that some speech pathologists routinely met efficacy benchmarks for

treatment time and clinical outcomes, while others did not (O’Brian et al., 2011). Additionally, some of these clinicians did not conform to the Lidcombe Program guide available to them.

Reviews indicate that research focusing on *clinician* treatment fidelity is becoming more common for communication disorders, but research investigating *parent* treatment fidelity is scarce (for examples see Romski, Sevcik, Adamson, Cheslock, & Smith, 2007; Williams, 2006). Recently researchers used audio recordings of Lidcombe Program treatment during structured conversations with three parent–child pairs (Swift et al., 2011). They found that those parents did not always do the treatment as a speech pathologist might expect. For example, sometimes parents used incorrect verbal contingencies, such as praising stuttered speech. At other times parents gave contingencies or conducted activities that the children did not enjoy. A larger study with 40 parent–child pairs found similar results (Swift, O’Brian, Packman, Onslow, & Menzies, 2011). These results prompted the development of a checklist of beyond-clinic behaviours that parents might be advised to do during Lidcombe Program treatment in structured conversations. Speech pathologists could use this to aid problem-solving in the event treatment fails to progress to benchmark standards. In other words, the speech pathologist could use the checklist to identify and subsequently rectify what parents are doing incorrectly. Such a checklist could also be useful for preventing long-term problems developing in the first instance. This article outlines the development of the checklist and how its reliability was determined. We then demonstrate its use with two parent–child pairs.

Checklist development

Item development

The checklist was developed from a previous iteration of the Lidcombe Program guide (Packman, Webber, Harrison, & Onslow, 2008) and the Lidcombe Program clinical text (Onslow, Packman, & Harrison, 2003). The wording or inclusion of any of the checklist items is consistent with the current version of the guide (Packman et al., 2011). An initial 15-item version of the checklist was trialled by three independent speech pathologists experienced with the Lidcombe Program. Each completed the checklist for three beyond-clinic recordings of parents doing Lidcombe Program treatment during structured conversations. They



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commented on any responses which were difficult to code. Absolute agreement between the three clinicians was 75%. This was calculated by dividing the number of responses which received an exact match between at least two of the speech pathologists by the total number of responses. Comments associated with each item were then used to refine the items and increase clarity of wording.

The refined checklist was trialled by two graduate-entry speech pathology students who had completed a Lidcombe Program clinic placement. In addition, the first author who had listened to over 350 recordings of parents conducting treatment at home with their children during the course of the checklist development made adjustments accordingly. This resulted in the addition of seven items. The guide (Packman et al., 2008) and clinical text (Onslow et al., 2003) were consulted to ensure that the new items were consistent with the manualised information.

Coding development

A three-category coding system was developed to capture the use of treatment components. Items could be coded as 1 (*almost never*), the treatment component is either not observed at all during the treatment session or is present but only in a limited number of instances; 2 (*sometimes*), the treatment component is used but is inconsistent or omitted enough times that a designation of “most of the time” is not applicable; and 3 (*most of the time*), the treatment component is used consistently during the vast majority or all of the treatment sessions.

Reliability

Three independent speech pathologists experienced with the Lidcombe Program each completed the updated checklist on three beyond-clinic recordings of treatment in structured conversations. The recordings ranged from 17 to 24 minutes in duration. The overall absolute agreement in ratings was 84%. The majority of items (12/22) had agreement above 80% and seven items had 78% agreement. The remaining three items related to the level of structure during the treatment conversation. Absolute agreement for these items was 22%, 67%, and 71%. A general item, *appropriate amount of structure applied to conversation*, attained 22% agreement only. Therefore it was removed from the checklist. Items attaining 67% and 71% reliability concerned whether the treatment conversation was understructured or overstructured, respectively. For these items, two of the speech pathologists showed exact agreement and the other speech pathologist designated the recording one category higher or lower. These items were retained.

In addition, the first author and a research assistant completed the checklist for 63 recordings from a larger multi-site study designed to investigate parent and child treatment behaviours during the Lidcombe Program. Recordings were selected to provide a cross-section from early, midway, and late in treatment, and the two treatment sites. Identical modal scores were obtained for 18 of the 21 items (86%). The remaining three items differed by one coding level.

Intra-judge reliability was calculated for the first author, who completed the checklist twice, at least one month apart, for 65 randomly allocated recordings. Identical modal scores were obtained for 18 of the 21 items (86%). The remaining three items differed by one coding level.

Clinical application of the checklist

When to use the checklist

Investigation of home treatment delivery should not occur until parents have been taught all key treatment components and have had time to develop their treatment skills. Research suggests that by the end of week 4 a 30% reduction of the median weekly severity rating score² occurs if treatment is progressing normally (Onslow, Harrison, Jones, & Packman, 2002). While this is a median value and some variation either side would be expected, for those parents and children who have not achieved a 30% reduction, the checklist could help identify if any treatment components are not being used as expected. These could be modified early in the treatment process before they cause any problems with treatment implementation.

How to use the checklist

The final checklist is printed in the appendix but as it contains abbreviated items speech pathologists are strongly encouraged to download the full version of the checklist which includes instructions from the Australian Stuttering Research Centre http://sydney.edu.au/health_sciences/asrc/health_professionals/asrc_download.shtml before using the checklist clinically. Table 1 also lists expanded versions of some of the checklist items. When using the checklist it is important to apply it to at least three recordings of home treatment sessions over a 2-week period because during the research it was noted that parents and children occasionally had treatment conversations which differed markedly from their usual ones. Behaviour patterns were defined as usual for a parent-child pair based on their modal checklist scores across multiple treatment recordings. Making clinical decisions on only one beyond-clinic recording is liable to result in biased conclusions and potentially inappropriate clinical responses.

Interpreting the checklist

When interpreting the results of this checklist it is important to remember that the Lidcombe Program is individualised for every family (Harrison, Ttohari, Rousseau, & Andrews, 2003). Hence the checklist needs to be interpreted differently for each family, in light of the following.

A designation of “*almost never*” most likely indicates a treatment error (unless the parent has been instructed otherwise) which may be having a deleterious effect on treatment efficacy or efficiency. If this is the case, the reasons for this coding need to be discussed and if appropriate the component taught again to the parent, with opportunities for the parent to observe the speech pathologist using the component, with practice in clinic before applying it at home. This component should be prioritised for remedial action.

A designation of “*sometimes*” indicates inconsistent use of a treatment component which may have a negative impact on the efficiency of the program. This component needs to be revisited with the parent in a timely fashion, with its importance emphasised.

A designation of “*most of the time*” indicates a treatment component which is being used appropriately by the parent. The parent should be informed of that success and no further attention to that treatment component is required at the present stage of treatment.

Case study profiles

In this section we present checklist profiles of two parent–child pairs from a larger research project to illustrate its use for clinical decision-making. These cases were chosen because they did not progress according to published benchmarks (Rousseau, Packman, Onslow, Harrison, & Jones, 2007) and it is possible that lack of fidelity in the application of treatment might have been a contributing factor. Upon completion of Stage 1 or withdrawal from the study, the checklist was completed for weekly beyond-clinic recordings across the course of treatment. Reported here are the modal scores on the checklist for all recordings across treatment. These are displayed in Table 1. The clinical implications of items designated as “sometimes” or “almost never” will be discussed.

It is arguable that if this checklist had been available and used early in treatment for these two families, some of the issues with treatment delivery could have been dealt with in a timely fashion, prompting a much more successful and expedient outcome for them.

Case Study 1

Demographics

This boy was 2 years 11 months old when treatment began. His average pre-treatment severity was 7.3 %SS from within- and beyond-clinic conversations with an average severity rating of 4 given within- and beyond-clinic by his mother, the speech pathologist, and a researcher. The within-clinic ratings were collected as part of routine clinical treatment. The beyond-clinic ratings were calculated from two 10 minute recordings, one with a familiar adult

and one with an unfamiliar adult, collected for the research project. Additionally, a typical rating for the previous week was given by the mother as part of the research data collection. He took 27 sessions and 36 weeks to complete Stage 1. At entry to Stage 2 his stuttering frequency within the clinic was 0.5 %SS and his speech pathologist gave a severity rating of 1. This concurred with his mother’s rating of 1 as typical of his severity for the week preceding Stage 2 entry.

Checklist profile

The majority of items, 17 of 21 (81%), received a modal score of 3, “most of the time.” Treatment duration was within the recommended 10 to 15 minutes for the majority of the weekly recordings of beyond-clinic treatment in structured conversations. If using the checklist to aid clinical decision-making, the speech pathologist would have encouraged the mother to continue administering these treatment components in that fashion.

However, Item 13, *non-invasive parent verbal contingencies appropriate to the conversation*, received a modal score of 1, “almost never.” Additionally, items receiving a score of 2 “sometimes” included Item 7, *variety in parent verbal contingency phrasing* and Item 8, *a range of parent verbal contingency types used*. The mother provided parent verbal contingencies at a rate that appeared invasive for the conversation. She praised every stutter-free utterance her son produced and this, combined with her lack of variation in phrasing and range of contingency types used, produced repetitive and monotonous feedback which was likely to rapidly lose any reinforcing properties. If that had been detected, the

Table 1. Modal scores for the two case studies

Checklist item	Case 1	Case 2
1. Parent verbal contingencies provided immediately after response	2	2
2. Parent verbal contingencies provided with a neutral, natural, non-punitive tone	3	3
3. Parent verbal contingencies provided by the trained parent only	3	3
4. Parent verbal contingencies applied to conversations rather than speech known to induce fluency, such as counting	3	3
5. Parent verbal contingencies clearly for stutter-free or stuttered speech and not another child behaviour	3	3
6. Parent verbal contingencies accurate for child response (e.g., parent verbal contingencies for stutter-free speech not given for stuttering)	3	3
7. Variety of parent verbal contingency phrasing	2	1
8. A range of parent verbal contingency types used	2	2
9. Only Lidcombe Program guide parent verbal contingencies used	3	3
10. More parent verbal contingencies for stutter-free than stuttered speech	3	3
11. Child appears to enjoy parent verbal contingencies for stutter-free speech	3	3
12. Parent verbal contingencies for stuttered speech are not received negatively by the child	3	3
13. Parent verbal contingencies non-invasive to the conversation	1	3
14. Treatment conversation is a positive experience for child	3	3
15. Primary focus of conversation is stuttering treatment, not correct pronunciation or the rules of the game	3	2
16. Parent and child engaged and focused on treatment, not distracted by others	3	3
17. Therapy given during an everyday activity a child and parent would conduct together	3	3
18. Activity results in an interactive conversation	3	3
19. Child stutters only occasionally	3	2
20. When the child responses range in length, parent verbal contingencies are primarily given for longer rather than shorter stutter-free utterances	3	2
21. Treatment duration 10–15 minutes (or as directed by clinician)	3	1

For Items 1 to 20, 3 = most of the time, 2 = sometimes, 1 = almost never. For Item 21, 3 = yes, 2 = no – shorter, 1 = no – longer.

speech pathologist might have encouraged the mother to use contingencies slightly less often and helped her to discover potential wording variations. Opportunities for speech pathologist and parent demonstration would have been provided in the clinic before the mother continued with the Lidcombe Program treatment at home.

The final item to receive a modal score of 2 “sometimes” was Item 1, *parent verbal contingencies provided as soon as possible after response*. This score indicates a delay or intrusion of parent speech between the child’s response and the contingency which, conceivably, could impair treatment efficiency. With such information, the speech pathologist might model contingency presentation again, and emphasise the importance of pairing the contingency promptly with a specific child response consistently throughout treatment.

Case Study 2

Demographics

This boy was 3 years 4 months old when treatment began. His average pre-treatment severity was 4.6 %SS within- and beyond-clinic with an average severity rating of 4.3 given within- and beyond-clinic by his mother, speech pathologist, and a researcher. Severity was determined in the same fashion as for Case Study 1. The child did not reach Stage 2. His mother withdrew him from treatment after 58 sessions and 89 weeks in Stage 1. At time of withdrawal the child’s stuttering frequency was 3.0 %SS and his speech pathologist gave a within-clinic severity rating of 3.

Checklist profile

Fifteen items (71%) received a modal score of 3 “most of the time.” Five items (24%) received a modal score of 2 “sometimes” and one item received a modal score of 1 “almost never”.

Item 7 *variety in parent verbal contingency phrasing* received a modal score of 1, suggesting it would have benefited from immediate investigation. The lack of variety in the mother’s phrasing of the parent verbal contingencies might have been because the child preferred a particular phrase or because the mother had developed a habit of using only the one phrase. Lack of variation in phrasing, combined with a lower range of contingency types used (Item 8), potentially might prompt a child to “tune out” and subsequently ignore the contingencies. Parent verbal contingencies being provided after a delay instead of immediately (Item 1) is also a potential impairment to the valence of the contingencies. A speech pathologist could respond to this similarly to Case Study 1 by explaining, demonstrating and helping the parent to problem-solve, then watching the parent demonstrate and providing appropriate feedback before the parent attempted treatment delivery at home during the coming week.

Receiving a modal score of 2, Item 19 *child stutters only occasionally* and Item 20 *parent verbal contingencies given for longer rather than shorter stutter-free utterances* indicate that the speech pathologist should address the level of structure during the conversation. The checklist indicated that the child’s speech sometimes contained more stuttering than is recommended (Item 19). On the other hand, although he also produced some longer stutter-free utterances his mother did not always provide contingencies for them and instead directed her contingencies to the shorter ones. Both under- and overstructured conversations

might hinder progress through Lidcombe Program treatment (Harrison et al., 2003). Speech pathologists faced with this checklist profile might demonstrate and provide feedback to parents about methods to achieve an appropriate level of structure. Conversational structure can be varied through the activity chosen and conversational forms used. Providing a range of activities in clinic with which to demonstrate treatment and asking the parent to explain the rationale for the activity chosen can also help the parent transfer these skills into the home environment (S. Lees, personal communication, 27 September 2010).

Finally, a modal score of 2 for Item 15, *primary focus of session is stuttering treatment*, indicated that the mother was not always focusing on stuttering during the treatment conversations. At times she insisted upon correct pronunciation of words and playing games by the correct rules, to a degree that these things took precedence over treatment. In order to receive what is thought to be an appropriate dose, it is important that stuttering treatment remains the focus throughout the entire 10–15 minute structured conversation. These issues might not be obvious during the within-clinic demonstrations because they often are shorter than at home and the clinic environment naturally provides a focus entirely on stuttering treatment. With this information about focus, a speech pathologist can discuss with the parent the purpose of the treatment during structured conversations.

Final comments

For treatments such as the Lidcombe Program, where the parent delivers the treatment in the natural environment, there is value in documenting how treatment is in fact being delivered. This is particularly the case because research suggests that not all community speech pathologists are achieving Lidcombe Program outcomes consistent with the available evidence base. A reason for this may be departures from the treatment guide which provides instruction about best practice delivery of the Lidcombe Program. This article has documented the development and application of a clinical checklist which can help speech pathologists to gain more information about how parents are conducting Lidcombe Program treatment. Future research using the checklist could include a comparison of parent treatment delivery during the within-clinic demonstration with that provided beyond the clinic, and an investigation into the clinical benefits of using the checklist with prospective cases. Clinically, this resource is now available for speech pathologists to use during their daily clinical practice from http://sydney.edu.au/health_sciences/asrc/health_professionals/asrc_download.shtml.

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Appendix. Lidcombe Program Checklist: Treatment in structured conversations

Recording ID / Client name _____				
	Almost never	Sometimes	Most of the time	Comments
1. PVCs provided as soon as possible after response				
2. PVCs provided with a neutral, natural, non-punitive tone				
3. PVCs provided by the trained parent only				
4. PVC applied to conversations rather than fluency-inducing speech				
5. PVCs clearly for stutter-free (SF) or stuttered speech				
6. PVCs accurate for child speech (e.g. SF PVCs only given for SF speech)				
7. Variety of PVC phrasing				
8. A range of PVC types used				
9. Only use of PVCs listed in the LP manual				
10. More PVCs for stutter-free than stuttered speech				
11. Child perceives PVCs for SF speech as rewarding				
12. PVCs for stuttered speech are not received negatively				
13. Non-invasive PVCs appropriate to conversation				
14. Treatment is a positive experience for child				
15. Primary focus of session is stuttering treatment				
16. Parent & child engaged and focused on treatment				
17. Therapy in everyday environment				
18. Session is an interactive activity				
19. Child stutters only occasionally				
20. PVCs given for longer rather than shorter stutter-free utterances				
21. Treatment duration 10–15 minutes (or as recommended by clinician)	No – longer	No – shorter	Yes	

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- 1 The guide is downloadable free of charge from the Australian Stuttering Research Centre: http://sydney.edu.au/health_sciences/asrc/docs/lp_manual_2011.pdf
- 2 1 = no stuttering, 2 = extremely mild stuttering, and 10 = extremely severe stuttering

Michelle Swift is undertaking her PhD with the Australian Stuttering Research Centre. She lectures in stuttering at Flinders University. **Sue O'Brian** is senior research officer at the Australian Stuttering Research Centre. **Mark Onslow** is director of the Australian Stuttering Research Centre. **Ann Packman** is senior research officer at the Australian Stuttering Research Centre.

Correspondence to:

Mark Onslow

Director

Australian Stuttering Research Centre

The University of Sydney, PO Box 170, Lidcombe 1825, NSW Australia

phone: +61 (0)2 9351 9061