Critical review

Palin Parent Child Interaction and the Lidcombe Program: Clarifying some issues

Mark Onslow [a,*], Sharon Millard [b]

[a] Australian Stuttering Research Centre, The University of Sydney, Australia
[b] The Michael Palin Centre for Stammering Children, London, United Kingdom

A R T I C L E   I N F O

A B S T R A C T

Purpose: The authors used the "1000-bites" format (Onslow & Yaruss, 2007) to discuss two therapies used with preschool children who stutter: Palin Parent Child Interaction and the Lidcombe Program. The aim is to provide background to the therapies and to explore the differences and similarities between the approaches and research plans for them.

Method: The format is designed to give the reader the feeling of contemporaneous observation of conversation between the authors. To that end, the format guidelines are as follows: (1) alternating responses from two authors with no response greater than 100 words, (2) a maximum of 1000 words per author, (3) when one author has used 1000 words the other may complete 1000 words in a final response or opt to not issue a final response, (4) debate may be controversial and vigorous but must be collegial, and (5) a non-contemporaneous edit by an author to a response requires the agreement of the other author.

Conclusions: The "1000-bites" format achieved a collegial exchange between two discussants with differing opinions by creating a single work of shared authorship. Arguably, this format is more informative to clinicians than independent essays and rebuttals in a sequence of letters to the editor. One of its advantages is that it provides insights into the issue at stake by means of short and contemporaneous segments of spontaneous interaction.

Educational objectives: At the end of this activity the reader will be able to (1) outline the different theoretical backgrounds of Palin Parent Child Interaction Therapy and the Lidcombe Program, (2) describe the different goals of the two treatments, (3) contrast the different methods for the two treatments, and (4) explain any commonalities between the two treatments.

© 2011 Elsevier Inc. All rights reserved.

Contents

* Corresponding author. Tel.: +61 2 9351 9061; fax: +61 2 9351 9392.
  E-mail address: mark.onslow@sydney.edu.au (M. Onslow).

1. Prologue

There is a broad agreement that stuttering affects approximately 5% of children by the age of five or six (Bloodstein & Bernstein Ratner, 2008), although there is evidence from a recent community ascertained cohort study that the 3-year cumulative incidence of stuttering could as high as 8.6% (Reilly et al., 2009) and possibly higher over a longer period. Up to approximately 75% of children who start to stutter will resolve the problem without intervention (for summary see Bloodstein & Bernstein Ratner, 2008), leaving clinicians having to determine whether to provide intervention or not. It has been suggested that therapy can be delayed until it is clear that the problem will not resolve of its own accord (Curlee & Yairi, 1997). But delaying intervention until it is clear that the problem is chronic increases the likelihood that overt stuttering behaviours become intractable and the affective, cognitive and behavioural responses to the stuttering become negative. Evidence from longitudinal studies exploring factors that would indicate a higher risk of persistent stuttering (Mansson, 2000; Yairi & Ambrose, 2005) may help in the decision making process (Conture, 2001; Kelman & Nicholas, 2008; Manning, 2001). However, there are a number of difficulties with over-reliance on this data to make decisions clinically, including: (1) the factors identified across studies are not entirely consistent, (2) the risk factors identified alter as longer periods of stuttering are studied, (3) the data from observations of these particular non clinical populations do not necessarily translate to other populations, and (4) group data cannot necessarily be applied to individuals. These limitations mean that there remains potential for children who do not need therapy to receive it and children who do need therapy to not receive it. We do not yet know whether clinical risk profiles can successfully guide such decisions.

If early stuttering is not resolved, either with or without intervention, some children will continue to stutter into adulthood and may experience long term educational, emotional, social, vocational and mental health issues associated with it (Craig, Blumgart, & Tran, 2009; Crichton-Smith, 2002a; Davis, Howell, & Cook, 2002; Klein & Hood, 2004; Klompas & Ross, 2004; Kraaimaat, Vanryckeghem, & Van Dam-Baggen, 2002; Langevin, 2009).

There is evidence that these negative consequences of stuttering may be experienced during the preschool and early school years, with the possibility of negative peer evaluations of stuttered speech (Ezrati-Vinacour, Platzky, & Yairi, 2001) and negative reactions to stuttering (Langevin, Packman, & Onslow, 2009). While the data do not suggest that all young children who stutter will experience negative peer reactions, the possibility that peers may react to stuttering with confusion and respond by interrupting, ignoring and walking away, has clear implications for the developing preschool child. There is evidence that stuttering does have an impact on young children and their parents, with children experiencing frustration, worry and speaking less and parents feeling worried, guilty and lacking in confidence and knowledge about how to support the child (Langevin, Packman, & Onslow, 2010; Millard, Edwards, & Cook, 2009).

For these reasons, early intervention is necessary during the preschool years for those children who may be at risk of persistent stuttering and negative peer or parent reactions. There are two treatment models that have been developed and substantiated with what is arguably a clinically meaningful definition of a clinical trial (Onslow, Jones, O'Brian, Menzies, & Packman, 2008): family centred treatment (Palin Parent–Child Interaction Therapy) and verbal response contingent stimulation (the Lidcombe Program).

The Palin Parent Child Interaction (Palin PCI) therapy approach (Kelman & Nicholas, 2008) begins with a comprehensive assessment. That assessment consists of a detailed case history that is conducted with the parents and a child assessment that incorporates language and fluency assessments, as well as an interview to consider the child's awareness and perspective. These two aspects of the assessment process aim to help the therapist and parents to identify the physiological, linguistic, environmental and emotional factors that are supporting or impacting the child's fluency. Therapy is individualized, based on the child's linguistic, environmental and emotional strengths and needs. The therapy is delivered initially as six once-weekly clinic sessions that may include (1) interaction strategies, such as parents increasing pausing. These are identified by parents, through observation of video recordings of each parent playing with the child and are practiced at home during short, regular one-to-one playtimes known as Special Time (2) family strategies, such as building confidence, and (3) child

strategies, such as slowing speech rate. The clinic sessions are followed by a 6-week home consolidation period, during which the parents continue to implement the strategies and skills they have developed during the clinic therapy phase. They maintain a written record of Special Time: the targets and skills they have focused on and return this each week to the therapist. The clinician then provides verbal or written feedback, reinforcement and/or advice to support the parents during this time. Generally, the focus is on parents making changes to begin (interaction and family strategies components), with research suggesting that a reduction in stuttering frequency should be observed by the end of the consolidation phase (Millard et al., 2009; Millard, Nicholas, & Cook, 2008). If this is not the case then more direct components should be considered (child strategies), with the child taking a more active role in the therapy process and making some modifications to his/her own speech and communication (Kelman & Nicholas, 2008).

Replicated single subject clinical trials have been employed to explore the efficacy of Palin PCI when delivered by specialist therapists in a tertiary specialist centre (Millard et al., 2008, 2009). Other studies have explored the treatment when delivered by therapists working in differing clinical environments (Crichton-Smith, 2002b; Matthews, Williams, & Pring, 1997). All published studies have incorporated participants who had been stuttering for more than 12 months in an attempt to reduce the likelihood that improvement could be attributable to natural recovery. The single subject designs and analyses employed provide strong evidence that changes in these individuals were attributable to the therapy provided.

The Lidcombe Program (LP) is a behavioural treatment (Onslow, Packman, & Harrison, 2003). It employs verbal response-contingent stimulation, which is administered by parents under the direction of a clinician. During Stage 1 of the program, the child and parent visit the speech clinic for an hour each week, during which time the clinician teaches the parent how to control the child's stuttering with verbal response contingent stimulation. Parents learn to present three verbal contingencies for the child's stutter-free speech and two verbal contingencies for stuttering. During treatment, the clinician teaches the parent to measure the child's stuttering severity each day on a 10-point scale (1 = no stuttering, 2 = extremely mild stuttering, 10 = extremely severe stuttering). The clinician also measures the child's stuttering frequency in the clinic each week. Stage 1 of the program ends when, for three consecutive weeks, the child meets the treatment targets of below 1.0 percent syllables stuttered (%SS) and parent severity ratings of 1 or 2 with the majority during any week being 1. The maintenance part of the treatment (Stage 2) then begins.

There is randomized, controlled clinical evidence for the LP based on beyond-clinic measures of %SS (Harris, Onslow, Packman, Harrison, & Menzies, 2002; Jones et al., 2005; Lattermann, Euler, & Neumann, 2008; Lewis, Packman, Onslow, Simpson, & Jones, 2008). These reports comprised clinical trials according to the Onslow et al. (2008) definition and randomized, controlled experiments. A recent meta-analysis (N = 134) of this evidence showed an odds ratio of 7.5 (Onslow, Jones, Menzies, O'Brian, & Packman, 2012). This means that children who received the LP in those reports were 7.5 times more likely to have stuttering below 1%SS some time later than children who did not. The body of evidence for the LP involves children from many countries: Australia (Onslow, Andrews, & Lincoln, 1994), New Zealand (Jones et al., 2005), Germany (Lattermann et al., 2008), The United States (Miller & Guitar, 2009), The Netherlands (Franken, Kielstra-Van der Schalka, & Boelens, 2005), Canada (Lattermann, Shenker, & Thordardottir, 2005) and Iran (Bakhtiar & Packman, 2009).

This exchange aims to provide further insight into Palin PCI and the LP from the perspectives of these two authors. While personal communication and discussion has been ongoing for a number of years, this is the first occasion that a joint discussion paper has been presented by representatives of the two groups of researchers and clinicians. We hope that this paper will provide readers with further background to each therapy, as well as a full understanding of the similarities and differences between the approaches and research agendas.

1.1. Onslow

So Palin PCI is derived from the Demands and Capacities Model?

1.2. Millard

Not entirely. There is certainly an emphasis in identifying the individual child's strengths and needs, based on a belief that stuttering is multifactorial, heterogeneous and that the inherent vulnerability to stuttering is influenced by internal and external factors. The therapy itself is influenced by many approaches, including family systems theories, cognitive behaviour therapy, behaviour therapy, and solution focused brief therapy. Where does the LP come from?

1.3. Onslow

The LP is atheoretical in the sense that is not based on causal theory or ideas about early stuttering. It is based on laboratory studies showing the clinical promise of verbal response contingent stimulation with stuttering preschoolers. The LP focus is verbal contingences for stutter-free speech and unambiguous stuttering. With the LP, the clinician always knows what to do: have parents provide verbal contingencies. But with Palin PCI, what happens if none of the physiological, environmental, linguistic or emotional factors you mentioned that are involved with a child's stuttering can be identified?

1.4. Millard

There are always influencing factors, internal and/or external. A comprehensive assessment is necessary (Kelman & Nicholas, 2008) but the approach does require training. The summary chart (Kelman & Nicholas, 2008, Appendix III) offers clear guidance to the clinician about strategies required. So with LP, the therapy is the same in terms of content and methods, whereas with Palin PCI, the therapy is adapted and varies from child to child.

1.5. Onslow

Correct. The LP treatment is the same, but adapted from family to family of course, but Palin PCI is essentially a different treatment for each child. There are LP clinical benchmarks based on progress to zero stuttering per intervention time. What are the Palin PCI clinician performance benchmarks?

1.6. Millard

This is a further difference. Our aim is not zero stuttering during intervention. We seek to establish a decreasing trend in stuttering, reduced parental anxiety, and increased parental confidence in managing the stuttering. Progress should be apparent within the 12 weeks of therapy and consolidation (Millard et al., 2008, 2009) and is measured by clinic observation combined with parent report and evaluation (Millard et al., 2009). If not, then the Palin PCI clinician needs to consider further intervention. How long does the LP clinician continue if a child has not reached zero stuttering?

1.7. Onslow

With the LP, the clinician continues until treatment targets are met (*see Prologue*). There is a problem if a child has not stopped stuttering within our benchmarks (Jones, Onslow, Harrison, & Packman, 2000; Kingston, Huber, Onslow, Jones, & Packman, 2003; Koushik, Hewat, Shenker, Jones, & Onslow, 2009; Rousseau, Packman, Onslow, Harrison, & Jones, 2007). That problem could be a clinician skill deficit, or something unusually problematic about the case. Presumably, having completed Phase I clinical trials of Palin PCI, you will move to Phase II and III trialling. Which of those three outcomes—decreasing trend in stuttering, increased parent confidence, decreased parent anxiety—will be your primary outcome in such trials?

1.8. Millard

Our next phase of research will further explore the effectiveness of Palin PCI in clinical contexts other than the Michael Palin Centre (Robey & Schultz, 1998). Because of our limited objective outcome measures, changes in stuttering frequency will necessarily be the primary measure. Therapy is deemed successful if the stuttering reduces over time relative to pre-treatment and if this reduction is maintained. However, the impact of stuttering on the child and family are important dependent variables, but we need better ways to evaluate these.

1.9. Onslow

What is your next challenge?

1.10. Millard

I think our next challenge is to isolate the clinical markers that would help clinicians choose the most appropriate therapy for an individual early on. We know that neither Palin PCI nor LP are effective in establishing fluency in every child. I am interested in finding out why some do better than others and whether there are factors that would indicate that a child might respond better to one treatment over another. I do not expect that there is one therapy that will meet the needs of all children who stutter. What is driving your team's exploratory work with syllable timed speech (Trajkovski, Andrews, O'Brian, Onslow, & Packman, 2006; Trajkovski et al., 2009, in press)

1.11. Onslow

The development of that program is driven by a quest to find a simpler treatment that is suitable for younger children. A treatment that gets rid of stuttering completely, quickly, permanently, and with uncomplicated procedures useable by any competent clinician.

1.12. Millard

What are the clinical markers that suggest a clinician should implement syllable-timed speech?

1.13. Onslow

Assuming that the efficacy of syllable-timed speech can be established with randomized clinical trials evidence, the answer will probably be age. We now need an efficacious early intervention that can be used for the cohort of children who begin stuttering at 30 months (Reilly et al., 2009). However, neither LP nor Palin PCI are suitable at that age.

1.14. Millard

We do not have evidence that Palin PCI is not suitable, in fact we have considerable success with Palin PCI and children of this age. Why is LP not suitable at 30 months?

1.15. Onslow

Palin PCI is not suitable for very young children, for the simple reason you outlined, that it is not designed to stop stuttering. With Palin PCI preschool children who are stuttering are discharged from therapy. I cannot agree with that clinical strategy. If there is a way to stop stuttering shortly after onset we need to find it. Nor is LP the solution there. Evidence clearly shows that it is most suited to children some time after onset (Jones et al., 2000; Kingston et al., 2003). We need a simpler, briefer intervention that is able to stop stuttering.

1.16. Millard

We do not discharge children who are blocking, prolonging, struggling, avoiding speaking, or concerned. If parents report a continued reduction in stuttering frequency, severity and impact, if neither parent nor child is concerned, and the parents feel confident that they are able to manage any remaining instances of stuttering, then we would discharge even if occasional mild episodes remain. It seems you are changing your previous assertion that therapy can wait for 12 months post onset (Kingston et al., 2003) but are you really suggesting we treat all children at onset?

1.17. Onslow

I certainly am challenging that assertion, in light of research findings that stuttering is far more prevalent than previously thought and that children who begin to stutter may be mocked, walked away from, (see *Prologue*) or even assaulted (Langevin et al., 2009). If that occurs at 30 months, again, neither LP nor Palin PCI is suitable.

1.18. Millard

Then we agree on the need for therapy when the stuttering is having a negative impact on the child, however long the time since onset. But this is not the case for every child and so the decision for therapy needs to be based on the individual needs of the child and family.

1.19. Onslow

Our other different views are clear. You argue that the cause of stuttering guides treatment; I argue that cannot be, because the cause of stuttering is unknown. Palin PCI is not intended to get rid of stuttering, and LP is. You argue that the best way forward is not to seek the best treatment for stuttering preschoolers, and I say it is.

1.20. Millard

My intentions and your interpretations also differ! I said therapy is based on what *influences* the individual child's fluency, not its *cause*. Our difference is that Palin PCI is based on theory, whereas LP is not. In Palin PCI, zero stuttering is not the *only* successful outcome of therapy, whereas it is for LP. I do not argue we should not seek the best treatment, but that "best treatment" may differ from child to child. I consider stuttering to be multifactorial and heterogeneous and so believe there is no "one size fits all" cure, something, which I think, explains the differences in both our therapy methods and our research agendas.

1.21. Onslow

It certainly does.

1.22. Millard

Perhaps the success that we are finding with intervention with preschool children is more to do with the commonalities between therapies, rather than the differences. There are some common themes across Palin PCI and LP, such as working with parents, making changes in the linguistic/communicative context, developing fluency enhancing interactions between parents and child, empowering parents to manage their child's stuttering, encouraging parents to use more positive reinforces. Wampold (2001) would also argue that the clinicians' attributes, belief in the program and the therapeutic alliance are also critical. What do you think?

1.23. Onslow

Overall, I think you are going where I do not want to follow. It is a place where early stuttering interventions are more similar than different, where getting rid of stuttering is not important, and regardless, it is clinician attributes and client rapport that are the most critical treatment components. What worthwhile progress could occur from there? No treatment could ever be superior to another.

1.24. Millard

We both know that our therapy programs are efficacious, but we do not know what the critical components are, or understand the mechanisms for change. I am suggesting that *maybe* we could be replicating these across the different therapies and *maybe* considering any similarities in our methods, or the factors that the clinician and/or client bring to therapy, could help us understand what, why and how therapy works. Building on what works seems a logical way forward for progress.

1.25. Onslow

I can certainly agree with you that building on what works seems a logical way forward for progress.

CONTINUING EDUCATION

Early stuttering treatment: clarifying issues

QUESTIONS

1. Palin Parent Child Interaction Therapy
   a. is based exclusively on the Demands and Capacities Model
   b. is based on Self Efficacy Theory
   c. incorporates various theoretical positions
   d. is essentially a cognitive behaviour therapy
2. The Lidcombe Program
   a. is built from several causal theories of stuttering
   b. relies on no causal theory of stuttering
   c. incorporates Self Efficacy Theory predominantly
   d. sometimes amounts to behaviour therapy
3. Palin Parent Child Interaction Therapy
   a. is designed to attain zero or near-zero stuttering
   b. is designed to attain a decreasing stuttering trend
   c. is designed to remove 50% of stuttering
   d. has several goals
4. The Lidcombe Program
   a. has flexible speech treatment goals
   b. has speech and nonspeech treatment goals
   c. has a goal based on stuttered words per minute
   d. has standard, nonflexible treatment goals
5. Palin Parent Child Interaction Therapy and The Lidcombe Program
   a. both involve programmed instruction
   b. both involve work with families
   c. both involve intensive pre-treatment assessment
   d. both draw on Rational Emotive Therapy

References

Bakhtiar, M., & Packman, A. (2009). Intervention with the Lidcombe Program for a Bilingual School-Age Child Who Stutters in Iran. *Folia Phoniatrica et Logopaedica*, *61*(5), 300–304.

Bloodstein, O., & Bernstein Ratner, N. (2008). *A handbook on stuttering* (6th ed.). New York: Delmar.

Conture, E. (2001). *Stuttering: Its nature, diagnosis and treatment*. Boston: Allyn and Bacon.

Craig, A., Blumgart, E., & Tran, Y. (2009). The impact of stuttering on the quality of life in adults who stutter. *Journal of Fluency Disorders*, *34*, 61–71.

Crichton-Smith, I. (2002a). Communicating in the real world: Accounts from people who stammer. *Journal of Fluency Disorders*, *27*, 333–351, quiz 352.

Crichton-Smith, I. (2002b). Changing conversational dynamics: A case study in parent–child interaction therapy. In *Proceedings of the sixth oxford dysfluency conference* (pp. 129–136).

Curlee, R., & Yairi, E. (1997). Early intervention with early childhood stuttering: A critical examination of the data. *American Journal of Speech-Language Pathology*, *6*, 8–18.

Davis, S., Howell, P., & Cook, F. (2002). Sociodynamic relationships between children who stutter and their non-stuttering classmates. *Journal of Child Psychology and Psychiatry*, *43*(7), 939–947.

Ezrati-Vinacour, R., Platzky, R., & Yairi, E. (2001). The young child's awareness of stuttering-like disfluency. *Journal of Speech Language and Hearing Research*, *44*(2), 368–380.

Franken, M. C. J., Kielstra-Van der Schalka, C. J., & Boelens, H. (2005). Experimental treatment of early stuttering: A preliminary study. *Journal of Fluency Disorders*, *30*, 189–199.

Harris, V., Onslow, M., Packman, A., Harrison, E., & Menzies, R. (2002). An experimental investigation of the impact of the Lidcombe Program on early stuttering. *Journal of Fluency Disorders*, *27*, 203–214.

Jones, M., Onslow, M., Harrison, E., & Packman, A. (2000). Treating stuttering in young children: Predicting treatment time in the Lidcombe Program. *Journal of Speech, Language, and Hearing Research*, *43*, 1440–1450.

Jones, M., Onslow, M., Packman, A., Williams, S., Ormond, T., Schwarz, I., et al. (2005). Randomised controlled trial of the Lidcombe programme of early stuttering intervention. *British Medical Journal*, *331*, 659–661.

Kelman, E., & Nicholas, A. (2008). *Practical intervention for early childhood stammering: Palin PCI Approach*. Milton Keynes: Speechmark Publishing Ltd.

Kingston, M., Huber, A., Onslow, M., Jones, M., & Packman, A. (2003). Predicting treatment time with the Lidcombe Program: Replication and meta-analysis. *International Journal of Language and Communication Disorders*, *38*, 165–177.

Klein, J. F., & Hood, S. B. (2004). The impact of stuttering on employment opportunities and job performance. *Journal of Fluency Disorders*, *29*, 255–273.

Klompas, M., & Ross, E. (2004). Life experiences of people who stutter, and the perceived impact of stuttering on quality of life: Personal accounts of South African individuals. *Journal of Fluency Disorders*, *29*, 275–305.

Koushik, S., Hewat, S., Shenker, R., Jones, M., & Onslow, M. (2009). North American file audit of the Lidcombe Program: Replication and meta-analysis. *Journal of Fluency Disorders*, *34*, 279–290.

Kraaimaat, F. W., Vanryckeghem, M., & Van Dam-Baggen, R. (2002). Stuttering and social anxiety. *Journal of Fluency Disorders*, *27*, 319–330.

Langevin, M. (2009). The peer attitudes toward children who stutter scale: Reliability, known groups validity, and negativity of elementary school-age children's attitudes. *Journal of Fluency Disorders*, *34*, 74–86.

Langevin, M., Packman, A., & Onslow, M. (2009). Peer responses to stuttered utterances. *American Journal of Speech Language Pathology*, *18*, 264–276.

Langevin, M., Packman, A., & Onslow, M. (2010). Parent perceptions of the impact of stuttering on their preschoolers and themselves. *Journal of Communication Disorders*, *43*, 407–423.

Lattermann, C., Euler, H. A., & Neumann, K. A. (2008). Randomized control trial to investigate the impact of the Lidcombe Program on early stuttering in German-speaking preschoolers. *Journal of Fluency Disorders*, *33*, 52–65.

Lattermann, C., Shenker, R. C., & Thordardottir, E. (2005). Progression of language complexity during treatment with the Lidcombe Program for early stuttering intervention. *American Journal of Speech-Language Pathology*, *14*, 242–253.

Lewis, C., Packman, A., Onslow, M., Simpson, J. A., & Jones, M. (2008). A Phase II trial of telehealth delivery of the Lidcombe Program of Early Stuttering Intervention. *American Journal of Speech Language Pathology*, *17*, 139–149.

Manning, W. H. (2001). *Clinical decision making in fluency disorders* (2nd ed.). San Diego: Singular.

Mansson, H. (2000). Childhood stuttering: Incidence and development. *Journal of Fluency Disorders*, *25*, 27–57.

Matthews, S., Williams, R., & Pring, T. (1997). Parent–child interaction therapy and dysfluency: A single-case study. *European Journal of Disorders of Communication*, *32*(3), 346–357.

Millard, S. K., Edwards, S., & Cook, F. M. (2009). Parent–child interaction therapy: Adding to the evidence. *International Journal of Speech-Language Pathology*, *11*, 61–76.

Millard, S. K., Nicholas, A., & Cook, F. M. (2008). Is parent–child interaction therapy effective in reducing stuttering? *Journal of Speech Language and Hearing Research*, *51*, 636–650.

Miller, B., & Guitar, B. (2009). Long-term outcome of the Lidcombe Program for early stuttering intervention. *American Journal of Speech-Language Pathology*, *18*, 42–49.

Onslow, M., Andrews, C., & Lincoln, M. (1994). A control/experimental trial of an operant treatment for early stuttering. *Journal of Speech and Hearing Research*, *37*, 1244–1259.

Onslow, M., Jones, M., Menzies, R., O'Brian, S., & Packman, A. Stuttering. (2012). In P. Sturmey, & M. Hersen (Eds.), *Handbook of evidence-based practice in clinical psychology*. Hoboken, NJ: Wiley, in press.

Onslow, M., Jones, M., O'Brian, S., Menzies, R., & Packman, A. (2008). Defining, identifying, and evaluating clinical trials of stuttering treatments: A tutorial for clinicians. *American Journal of Speech Language Pathology*, *17*, 401–415.

Onslow, M., Packman, A., & Harrison, E. (2003). *The Lidcombe Program of Early Stuttering Intervention: A Clinician's Guide*. Austin, TX: Pro-Ed.

Onslow, M., & Yaruss, J. S. (2007). Differing perspectives on what to do with a stuttering preschooler and why. *American Journal of Speech-Language Pathology*, *16*, 65–68.

Reilly, S., Onslow, M., Packman, A., Wake, M., Bavin, E., Prior, M., et al. (2009). Predicting stuttering onset by age 3 years: A prospective, community cohort study. *Pediatrics*, *123*, 270–277.

Robey, R. R., & Schultz, M. C. (1998). A model for conducting clinical-outcome research: An adaptation for use in aphasiology. *Aphasiology*, *12*, 787–810.

Rousseau, I., Packman, A., Onslow, M., Harrison, L., & Jones, M. (2007). An investigation of language and phonological development and the responsiveness of preschool age children to the Lidcombe Program. *Journal of Communication Disorders*, *40*, 382–397.

Trajkovski, N., Andrews, C., O'Brian, S., Onslow, M., & Packman, A. (2006). Treating stuttering in a preschool child with syllable timed speech: A case report. *Behaviour Change*, *23*, 270–277.

Trajkovski, N., Andrews, C., Onslow, M., O'Brian, S., Packman, A., & Menzies, R. A Phase II trial of the Westmead Program: Syllable-timed speech treatment for preschool children who stutter. *International Journal of Speech-Language Pathology*, in press.

Trajkovski, N., Andrews, C., Onslow, M., Packman, A., O'Brian, S., & Menzies, R. (2009). Using syllable-timed speech to treat preschool children who stutter: A multiple baseline experiment. *Journal of Fluency Disorders*, *34*, 1–10.

Wampold, B. E. (2001). *The great psychotherapy debate: Models, methods and findings*. London: Lawrence Erlbaum Associates.

Yairi, E., & Ambrose, N. G. (2005). *Early childhood stuttering: For clinicians, by clinicians*. Austin, Texas: Pro-Ed.

Mark Onslow is the Director of the Australian Stuttering Research Centre at The University of Sydney. He is a Principal Research Fellow of the National Health and Medical Research Council of Australia. His core research interests are clinical trials of innovative methods for the treatment of stuttering, treatment outcome measures in stuttering, and theoretical explanations for the onset and development of stuttering.

Sharon Millard is a clinician and researcher at the Michael Palin Centre for Stammering Children, the largest specialist centre for the treatment of stuttering in the United Kingdom. She is involved in treatment of stuttering children and adults, professional development of speech-language therapists, and research about the condition. She received her PhD in 2008 from the University of Reading, United Kingdom.