

# WHAT'S THE EVIDENCE FOR ORAL MOTOR THERAPY?

## A response to Bowen 2005

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In the field of developmental speech disorders, the evidence base for treatment approaches remains in its infancy (Pring, 2004). When standard, phased models for clinical-outcome research (Robey, 2004) are applied to our current evidence base, it is clear that we are only at phase 1 of the five phases. This is the phase at which therapies are defined and single case studies or small-scale intervention studies take place to demonstrate a treatment effect (Garrett & Thomas, 2006). Single case studies and/or small-scale intervention studies (Gierut, 1998) cannot be taken as definitive proof that a therapy approach does or does not work. Since we are far from knowing unequivocally what works and for which group(s) of children, it is far too early to consider “condemning” an individual therapy approach.

Clinician surveys in United States (Pannbacker & Lass, 2002) and United Kingdom (Joffe & Pring, 2003) have identified that oral motor activities are one of the treatments practising speech and language clinicians use when working with children with speech disorders. Oral motor therapy is not discretely defined – it is an umbrella term, used to cover a whole variety of different approaches and techniques. This lack of definition, combined with the heterogeneous nature of the participants and the small numbers included in studies, has limited how study results can be interpreted. Complicating the picture still further is the fact that some studies (mirroring typical clinical practice) have employed an eclectic approach, utilising a combination of different therapy approaches (Lancaster, 1991; Almost & Rosenbaum 1998; Bowen & Cuppels 1999; Broomfield & Dodd, 2005). Although eclectic approaches have shown a treatment effect (i.e., a change in speech profile compared to the baseline performance), it is difficult to know how the different components of the approach contributed to the overall change.

As Bowen (2005) has identified, there are few studies published in the peer-reviewed literature which provide evidence of therapy effectiveness using oromotor approaches. However, this must be seen in the context of a very limited research field – there are equally very few treatment outcome studies demonstrating the ineffectiveness of therapy using oromotor therapy and those that there are involve very small numbers of participants (Forrest & Peabody, 2003, cited in Lof, 2003) or are contaminated by methodological issues (Braislin & Cascella, 2005). Acquiring an evidence base can be a lengthy process (Garrett & Thomas, 2006). Studies currently in process are likely to take some years before they are disseminated in the peer-reviewed literature.

Some evidence is emerging from previously unexplored fields that indicates oromotor work may well have a part to play. Studies using electropalatography (EPG) have shown that school-age children with persisting articulation/phonological disorders may have a speech motor constraint affecting their tongue control, which hampers their remediation (Gibbon, 1999). In addition, studies of dysarthric

children (Cerny, Panzella & Stathopoulos, 1997) have indicated vocal performance can be improved through muscle conditioning.

Theoretical arguments (eg Forrest, 2002; Lof, 2003), although of interest, are subject to alternative interpretation and/or are yet to be proven in the domain of speech.

One of the aims in publishing the third edition of the *Nuffield Centre Dyspraxia Programme (NCDP3)* (Williams & Stephens, 2004) was to define the complex therapy approach in considerable detail. In the 248-page manual, the therapy approach is explained in chapter 4 and described in detail in chapter 5 (Connery, Williams & Stephens, 2004). We wish to stress that NCDP3 is not an oral motor therapy. Although oromotor therapy may be included at the early stages (as required by the individual child), NCDP3 offers a complete remediation program for children with verbal dyspraxia (apraxia of speech) right up to connected speech level. As an illustration, only 35 of the 565 therapy worksheets are concerned with oromotor aspects.

Our overriding aim when working with children with speech disorders is to improve their production of speech and we use a variety of techniques and strategies in order to achieve this aim. This may include oromotor work.

At the Nuffield Centre, we have carried out some small-scale intervention studies (e.g., Williams & Corrin, 1998) and have another study currently in progress. Such studies look at the effect of using the NCDP3 as a whole treatment approach and do not specifically compare using oromotor work with not using it.

Two specific ways in which we employ oromotor work warrant consideration in this response. We use oromotor approaches:

- with young non-verbal and in extreme cases, non-vocal children. Along with recommending a variety of other interventions (e.g., signing to provide a communication system, development of play skills, attention, listening and verbal comprehension), we would use oromotor therapy to try to develop the basic foundations of speech, e.g., an oral airstream, basic laryngeal movement on an airstream, tongue movement, lip shaping, etc. This is in keeping with the “you must start somewhere” approach described by Campbell (n.d.).
- in promoting acceptable production of speech sounds, when children have reduced consonant and vowel phonetic inventories, even at a single sound level, and are unable to imitate or follow verbal instructions to produce particular sounds. In this scenario, elements of an individual vowel or consonant (e.g., lip rounding for vowels; placement of tongue for specific consonants) may be practised as an oromotor exercise and then incorporated into speech. The case studies in chapter 7 of the program illustrate how we use oromotor techniques to help children learn the necessary motor programs for individual consonants and vowels.



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Bowen (2005) expresses concern that parents are advised, via articles written for consumer groups (e.g., Williams 2002), to carry out oromotor exercises. This suggestion must be seen in context of (a) the advice in the article that parents should request referral to a speech and language therapist, if they have significant concerns about their child's speech and language; (b) the NHS services in the UK, where some children wait for very protracted periods to see a therapist; (c) the fact that the advice specifically refers to children who may have verbal dyspraxia (apraxia of speech), rather than other articulation or phonological difficulties; and (d) oromotor exercises are commonly recommended by speech and language therapists in the UK for this client group.

In our view, it is far too early to "outlaw" treatment approaches in the field of speech disorders, given the current state of knowledge. We should not stop using treatments that we have seen to be effective through years of clinical practice just because there is as of yet no peer-reviewed published evidence to support their use. Of course, we need to be mindful of what the evidence base is saying, but we cannot wait for absolute proof that something works – we have to continue clinical work, alongside informing the research process. It is likely to be many years before we know exactly what works and for which groups of children.

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