Speech Sound Disorders 101

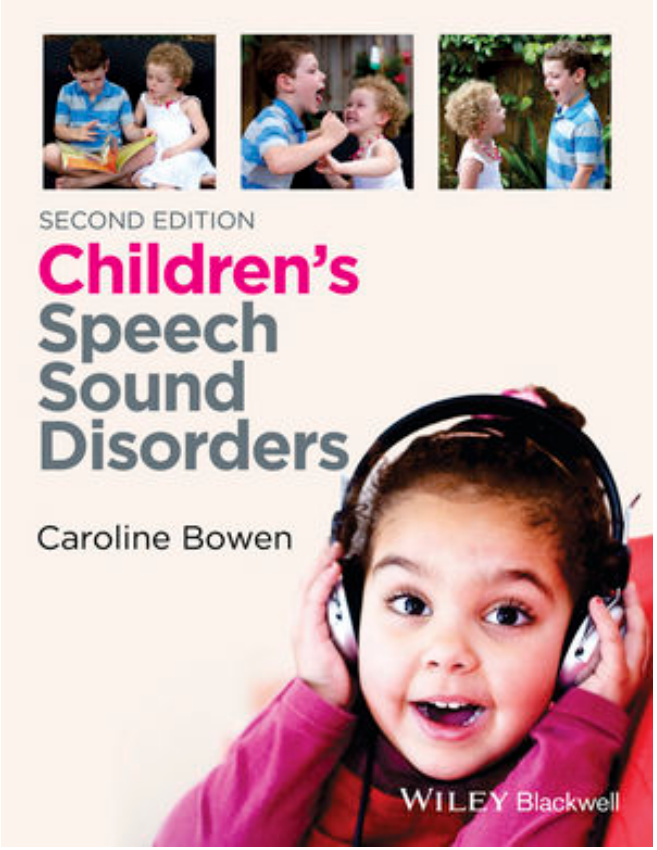
PART 5

Caroline Bowen

Controversial

non-evidence based

Practices



Readings

Hodge, M. M. (2015). What can we learn about clinical practice from SLP' experience using NS-OME in children's speech therapy? In C. Bowen, *Children's speech sound disorders (2nd ed.)*. Oxford: Wiley-Blackwell, pp. 232-6.

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Non-Speech Oral Motor Exercises are used by <u>some</u> Speech-Language Pathologists / Speech and Language Therapists because they believe, despite evidence to the contrary, that these exercises will facilitate speech development, or improve a client's speech intelligibility.

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People ask,
'Which method do you use for SSD?'

- There is a range of treatment approaches and a range of commercially available materials and programs for speech sound disorders.
- Not all treatments are suitable for every child.
- All treatments must be individually tailored.
- In that sense there is no ‘best method’.
- A ‘good method’ is one that is adaptable to changes in the child, and flexible over time, and across settings, and across conditions…

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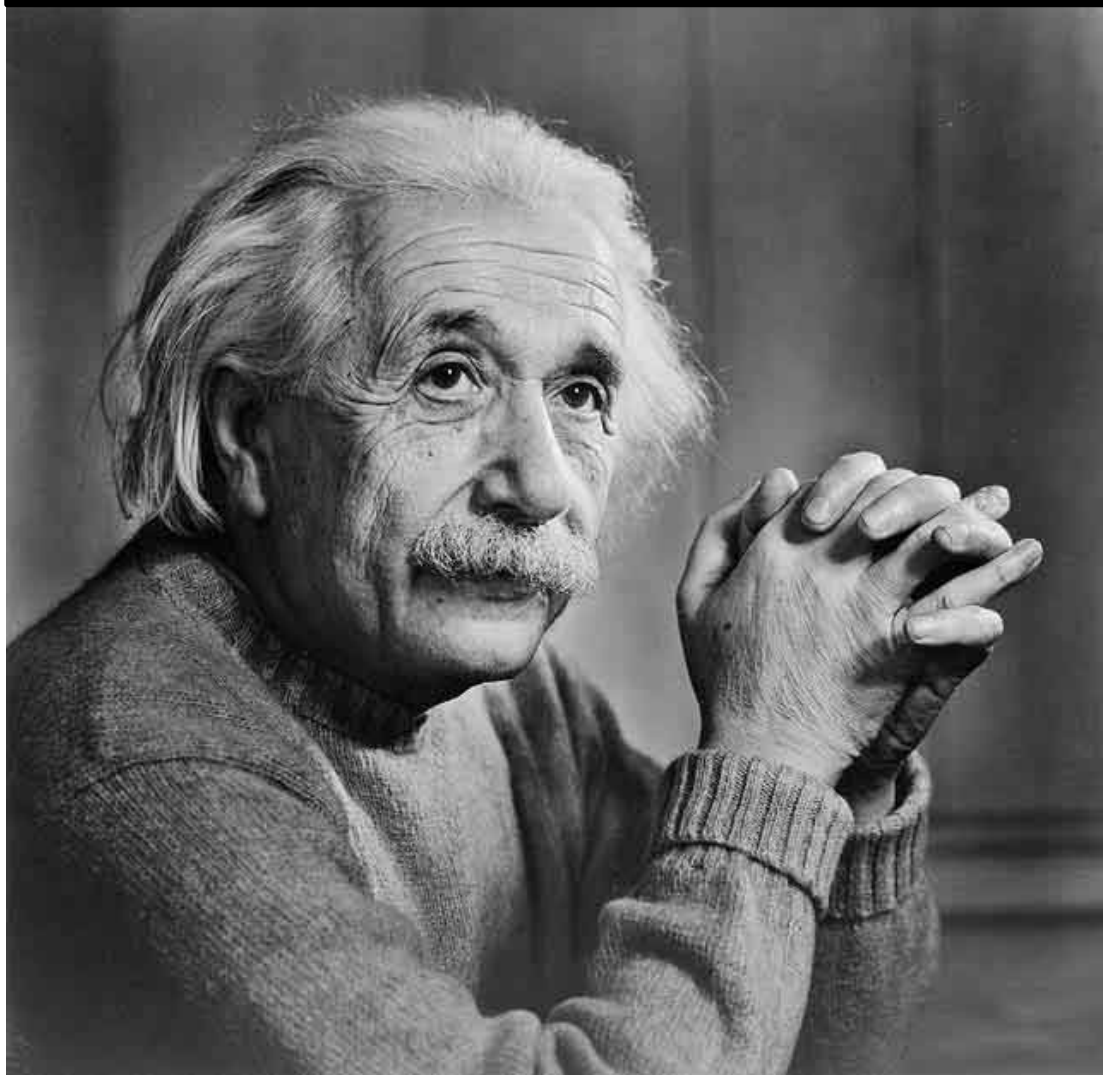
…and is 'scientific'



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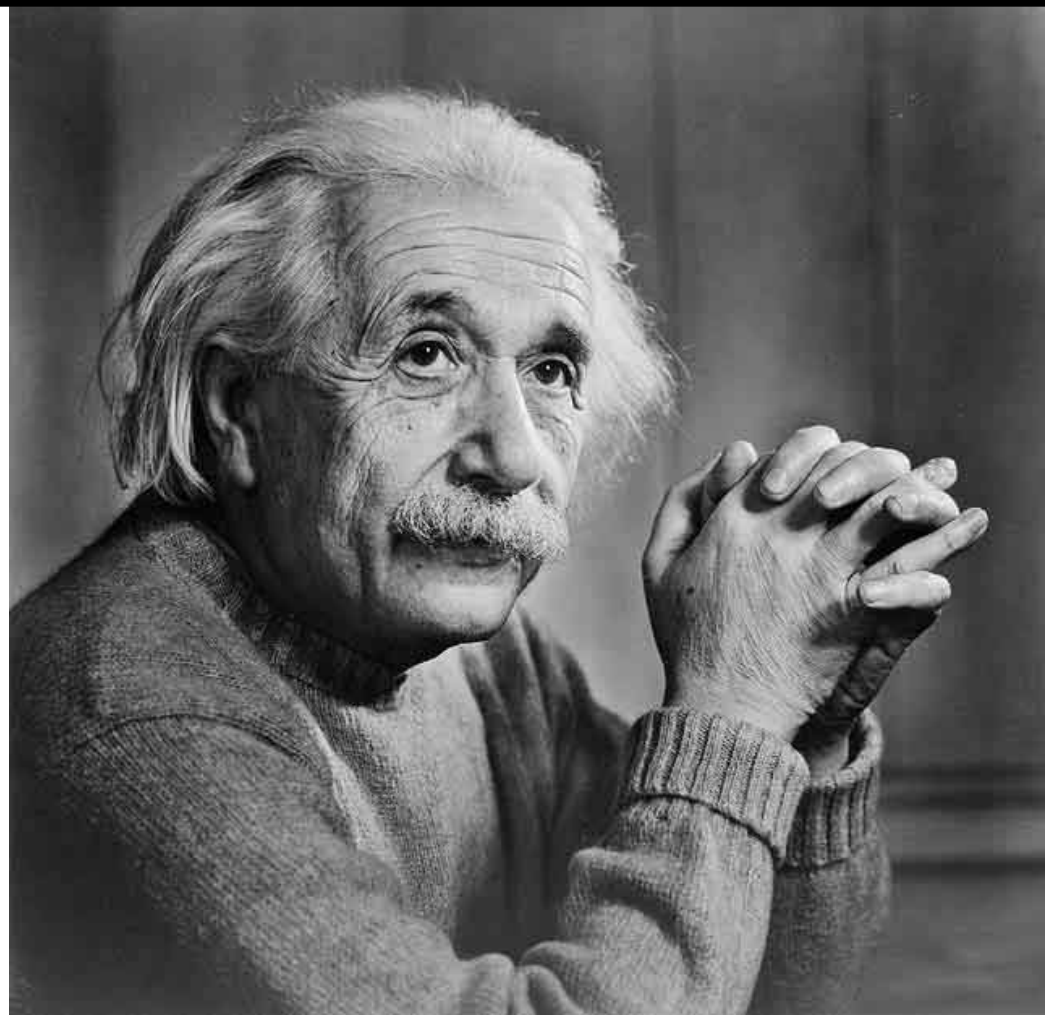
'I want ___’s therapy to be based on the best science.'



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‘Oral-motor exercises are activities that involve sensory stimulation to or actions of the lips, jaw, tongue, soft palate, larynx, and respiratory muscles which are intended to influence the physiologic underpinnings of the oropharyngeal mechanism and thus improve its functions; oral-motor exercises may include active muscle exercise, muscle stretching, passive exercise and sensory stimulation.’

Arvedson, J., Clark, H., Frymark, T., Lazarus, C., Lof, G., McCauley, R., Mullen, R., Schooling, T., & Strand, E. (2007, November). The effectiveness of oral-motor exercises: An evidence-based systematic review. *Paper presented at the annual* convention of the American Speech-Language-Hearing Association, Boston.

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Common abbreviations

- OMT
  Oral Motor Therapy
- OME
  Oral Motor Exercises
- NS-OMT
  Non-Speech Oral Motor Therapy
- NS-OME
  Non-Speech Oral Motor Exercises
- NSOMTs
  Non-Speech Oral Motor Treatments

Other terms

Oro-motor work

Oral placement therapy / ‘TalkTools’

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What it’s not!

<u>Phonemic placement techniques</u> –

- butterfly position
- tongue-up-tongue-down for /l/
- straws to direct airflow for lateral /s/
- use of bite blocks to achieve ‘place’
- etc.

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People ask, 'Why don't you use Oral Motor Therapy?'

There is no evidence to support their use of, and there is no theory to suggest that the evidence might be forthcoming 'eventually', according to:

Systematic Reviews in 2007 and 2015

Arvedson, J., Clark, H., Frymark, T., Lazarus, C., Lof, G., McCauley, R., Mullen, R., Schooling, T., & Strand, E. (2007).

Lee, A. S-Y., & Gibbon, F. E. (2015). 'Non-speech oral motor treatment for developmental speech sound disorders in children'. *Cochrane Database of Systematic Reviews.*

Two Clinical Forums in 2008

1. Language Speech & Hearing Services in Schools
2. Seminars in Speech & Language

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I don't use them, but 85% of US and 85% of Albertan SLPs use NS-OMEs:

1. to increase articulator strength and coordination
2. to facilitate stimulability
3. to improve intelligibility

Lof & Watson, 2008

Hodge, Salonka, & Kollias, 2005

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They are used by many SLPs/SLTs around the world in order:

1. To increase the range, accuracy, strength and speed of oral movements.
2. To develop voluntary control of oral movements.
3. To develop awareness of oral structures.
4. To develop motor programs underlying specific features of speech sounds.
5. To stimulate speech & language development
6. To provide a non-threatening way in to therapy for children wary of direct speech work.

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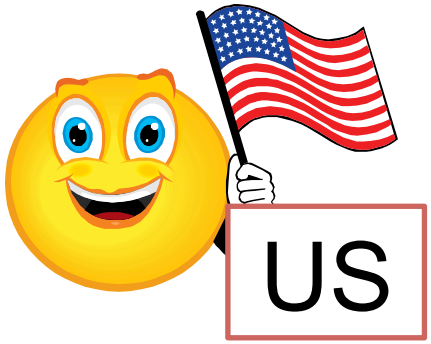

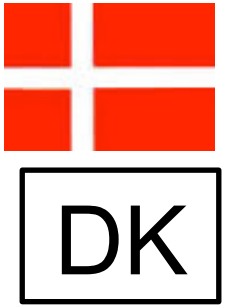

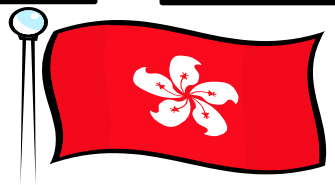

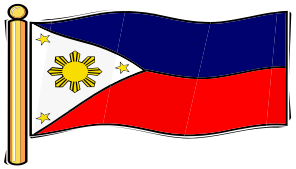

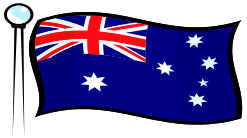

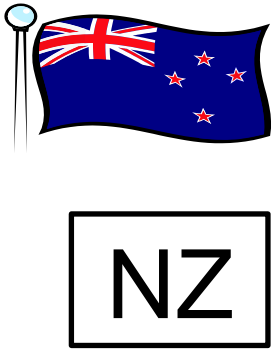

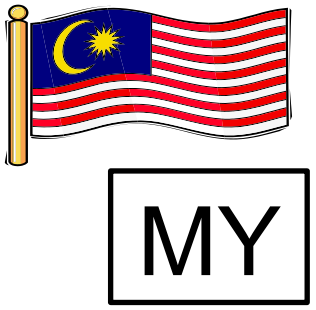

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So there is lots and lots of

sucking

chewing

blowing

biting

s t r e t c h I n g

tickling and

vibrating

going on wherever

SLPs/SLTs purport to work on speech.

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sucking

chewing

blowing

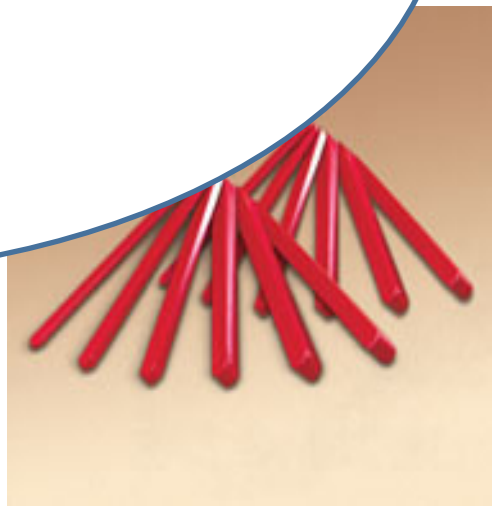
biting

stretching

tickling and

vibrating

What is the evidence?



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ASHA 2004

Levels of evidence

Level	Description	
Ia	Meta-analysis of >1 RCT	
Ib	Randomised controlled study	
IIa	Controlled study without randomisation	
IIb	Quasi-experimental study	
III	Non-experimental studies: correlational and case studies	
IV	Expert committee report, consensus conference, clinical experience of respected authorities	

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Level	Description (ASHA, 2004)	
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III	Non-experimental studies: correlational and case studies	
IV	Expert committee report, consensus conference, clinical experience of respected authorities.	Not even this much

SORRY

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Level	Description (ASHA, 2004)	
Ia	Meta-an	
Ib	Ran	
IIa	C	
IIb		
III	c	
IV	Exp sus co ience of respe ities.	Not even this much

OK

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sucking

chewing

blowing

biting

stretching

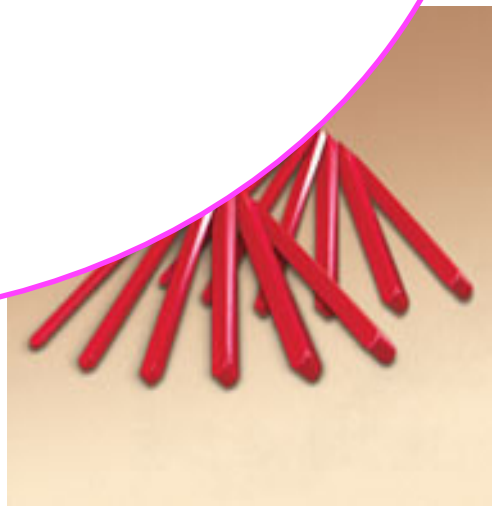
tickling and

vibrating

SHOULD

Oral Motor Therapy work?

Is it theoretically sound?



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sucking

chewing

blowing

biting

stretching

tickling and

vibrating

no

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STRENGTH

We don’t need strength for speech.

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STRENGTH

If we did need strength, the exercises would not 'strengthen' because they are not done

(a) frequently enough or

(b) with enough 'repeats' or

(c) against resistance.

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TRANSFER

Practicing non-speech movements won’t transfer to speech movements.

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There are differences in nervous system organization for non-speech vs. speech movements.

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PRECURSOR TO SPEECH

The small 'broken down' bits that oral motor exercises represent will not automatically integrate into speech behaviours.

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We have known for a long time that:

'For training to be effective, there cannot be disintegrating of the muscle movements that need to occur in smooth concert with each other.'
Forrest, 2002

All highly integrated tasks must be taught as a whole, not as isolated parts.
Lof, 2003

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WARMING UP THE SPEECH MUSCULATURE

'Warm up drills' *may* be beneficial in creating a "fun start" to a therapy session, and keeping a child engaged and interested, but there is no evidence to support their use in terms of speech outcomes, even for 'oral awareness' training.

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CHILDREN WITH Down syndrome

CHILDREN WITH Autism

CHILDREN WHO ARE Late Talkers

FOUNDATION FOR SPEECH

The evidence indicates that non-speech behaviours are NOT a precursor to later speech learning, so they are not a 'foundation' for speech.

CHILDREN WITH Developmental Delay

CHILDREN WITH TBI

CHILDREN WITH CLEFTS

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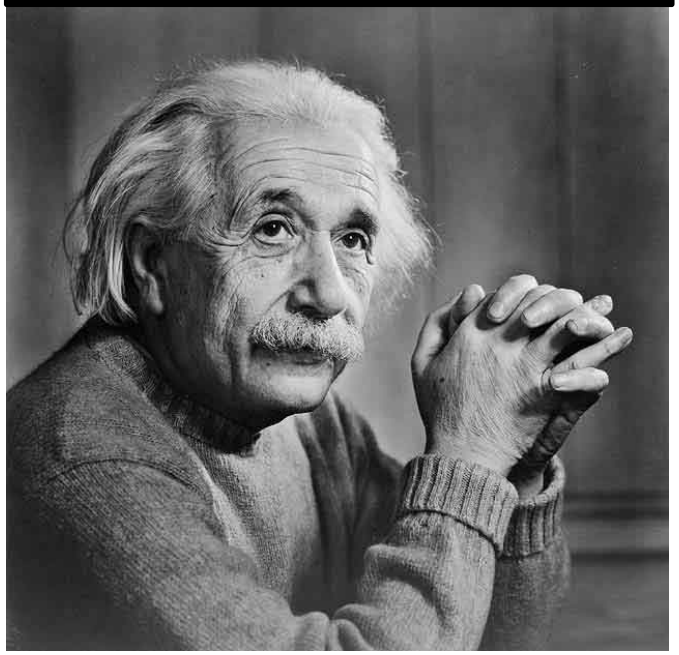
Other controversial practices

and
science



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How would you advise a parent regarding:

- Auditory Integration Training (Sound Therapies, The Listening Program, Tomatis, BioWaves, Samonas, etc.)?
- NutriiVeda?
- NourishLife speak, or “SPEAK”?
- “Apraxia Diet”?

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We have many theoretically sound, evidence based interventions to choose from when we treat speech sound disorders in children.

As Speech-Language Pathologists / Speech and Language Therapists we are uniquely qualified to select appropriate therapies for individual children, and to appreciate and critically evaluate the science that underpins them.

Equally, we are in a strong position to say 'no' to interventions that lack scientific support, to resist the aggressive marketing associated with many of them, and to accurately and responsibly inform our clients. Indeed, it is our ethical responsibility to do so. ~Caroline Bowen

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Summing up

1. NS-OMEs are widely used and controversial.
2. Research Carefully designed studies must be conducted to evaluate OMTs systematically across target populations, and published in the refereed literature. Such studies must comply with accepted ethical practices, including informed consent.
3. Implications for practice Until such data become available, SLPs are urged to use treatments with stronger scientific support.
4. Take home message To improve an individual's speech, don't do mouth exercises, don't work on non-speech movements, and do work on speech.

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Cochrane Review (open access)

http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD009383.pub2/abstract

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