

EVIDENCE OF EFFICACY: ULTRASOUND SPEECH THERAPY STUDIES (Oct 2016)

| Study | N | Age | Dx | Speech Targets | +ve Result | Mixed Result |
|---|----------|------------|-----------------|---|-------------------|---------------------|
| <i>Shawker & Sonies (1985)</i> | 1 | 9 | DSSD | r | ✓ | |
| <i>Bernhardt et al. (2003)</i> | 4 | 16 to 18 | HI | s, ʃ, r, l, i, ɪ, u, ʊ | ✓ | |
| <i>Bernhardt et al. (2005a)</i> | 4 | 16 to 18 | HI | s, ʃ, r, l, i, ɪ, u, ʊ | | ✓ |
| <i>Adler-Bock et al. (2007)</i> | 2 | 12, 14 | DSSD | r | ✓ | |
| <i>Bacsfalvi et al. (2007)</i> | 3 | 18 | HI | i, u, ʊ, ɪ, ε | ✓ | |
| <i>Bernhardt et al. (2008)</i> | 13 | 8 to 15 | RSSE | r | | ✓ |
| <i>Fawcett et al. (2008)</i> | 3 | 21 to 27 | DS | r | ✓ | |
| <i>Modha et al. (2008)</i> | 1 | 13 | DSSD | r | ✓ | |
| <i>Bacsfalvi (2010)</i> | 3 | 15 to 18 | HI | r | ✓ | |
| <i>Bacsfalvi & Bernhardt (2011)</i> | 7 | 14 to 19 | HI | N/A | | ✓ |
| <i>Klein et al. (2013)</i> | 2 | 5, 6 | DSSD | r | ✓ | |
| <i>Lipetz & Bernhardt (2013)</i> | 1 | 15 | DSSD | s, z, ʃ, tʃ | ✓ | |
| <i>Preston et al. (2013)</i> | 6 | 9 to 15 | CAS | sequences e.g. re, kr | | ✓ |
| <i>McAllister Byun & Hitchcock (2014)</i> | 4 | 6 to 10 | DSSD | r | | ✓ |
| <i>McAllister Byun & Hitchcock (2014)</i> | 4 | 7 to 15 | DSSD | r | ✓ | |
| <i>Preston et al. (2014)</i> | 8 | 10 to 20 | RSSE | s, z, θ, ʃ, tʃ, r ; Clusters: r, s, l | ✓ | |
| <i>Preston et al. (2014)</i> | 1 | 59 | AoS | r | | ✓ |
| <i>Cleland et al. (2015)</i> | 7 | 6 to 10 | DSSD | k, g, r, ʃ, t | ✓ | |
| <i>Hitchcock & McAllister Byun (2015)</i> | 1 | 11 | DSSD | r | ✓ | |
| <i>Lee et al. (2015)</i> | 1 | 13 | DSSD | r | ✓ | |
| <i>Blyth et al. (2016)</i> | 2 | 53, 59 | Glossec tomy | s, t Participant 1; s, l, tʃ Participant 2 | ✓ | |
| <i>Bressmann et al. (2016)</i> | 4 | 7 to 10 | DSSD | r | ✓ | |
| <i>Heng et al. (2016)</i> | 2 | 4 | DSSD | k,g Velar Fronting | | ✓ |
| <i>Melo et al. (2016)</i> | 1 | 5 | DSSD | k,g Velar Fronting | ✓ | |
| <i>Preston et al. (2016)</i> | 3 | 10 to 13 | CAS | r | | ✓ |
| <i>Preston et al. (2016)</i> | 12 | 10 to 16 | RSSE | r | ✓ | |
| <i>Preston et al. (2016)</i> | 3 | 10 to 14 | CAS | r (two participants), sibilants (1 participant) | | ✓ |
| <i>Roxburgh et al. (2016)</i> | 2 | 6, 9 | CLP | n for one participant; k,g for another | ✓ | |
| <i>Sjolie et al (2016)</i> | 4 | 7 to 9 | DSSD | r | | ✓ |

| | |
|-------------|-------------------------------------|
| DSSD | Developmental Speech Sound Disorder |
| RSSE | Residual Speech Sound Error |
| CAS | Childhood Apraxia of Speech |
| HI | Hearing Impairment |
| DS | Down syndrome |
| CLP | Cleft Lip and Palate |

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