

ONLINE SUPPLEMENTAL MATERIALS – TABLE S1

Table S1

State of the Evidence Pertaining to SLP Treatment for Individuals with PVFM: Participant Demographics and Treatment Characteristics

Study design	Citation	N (gender: M/F)	Age(s)	Treatment type	Service delivery	Co-occurring txs
Randomized controlled trials	Nacci et al. (2011)	20 (4M/16F)	(Mean=44.2; SD=9.6)	Respiratory retraining therapy	45 min 5x/wk for 2-3 wks/cycle Group A received 1 cycle every 12 mo. for 2 yrs (3 cycles) Group B received 1 cycle every 3 mo. for 2 yrs (9 cycles)	Benzodiazepine for anxiety
	Vertigan et al. (2008)	83 (22M/61F)	19-84 (Mean=54.5; SD=17.1)	Treatment Group: SPEICH-C Control Group: Healthy lifestyle education	30 min. sessions, NFD	NR
Single-subject	Mathers-Schmidt & Brilla (2005)	1 (F)	18	Inspiratory muscle training	30 min, 5x/wk for 5 wks (for each study phase)	NR
Pre-post designs	Murry et al. (2006)	20 (7M/13F)	18-87 (Mean=54)	Respiratory retraining therapy	3-5 sessions (Mean=3.9) over 3 wks-4.1 mo.	Proton-pump inhibitor
	Ryan et al. (2009)	10 (of 14) attended speech therapy sessions (NR for subgroup)	NR for subgroup	Education, hygiene, cough suppression and breathing exercises, and psychoeducational counseling	4 sessions; 1x/wk	Nasal continuous airway pressure, inhaled corticosteroid/ long-acting beta agonist, proton-pump inhibitor antireflux diet, postural modification, oral antihistamine, nasal corticosteroid spray, or antihypertensive
Case series	Chiang et al. (2013)	64 (NR for subgroup)	NR for subgroup	Laryngeal control therapy	1 session: 21 patients 2 sessions: 27 patients 3 sessions: 13 patients 4(+) sessions: 3 patients	NR

Christopher et al. (1983)	5 (1M/4F)	14-68 (Mean=32.8; SD=20.9)	Breathing techniques and oropharyngeal muscle relaxation	NR	Psychotherapy, inhalation of 80% helium and 20% oxygen gas mixture
Doshi & Weinberger (2006)	8 (3M/5F)	8-16	Speech therapy, NFD	NR	Anticholinergic aerosol
Maturo et al. (2011)	56 (NR for subgroup)	NR for subgroup	Laryngeal control, desensitization, and breathing techniques	1-10 sessions (Mean=3.7) Duration: Mean=10.3 wks (for those needing more than 1 session)	Proton-pump inhibitors, biofeedback
Murry et al. (2010)	16 (NR)	29-69	Respiratory retraining therapy	2-13 sessions (Mean=5.7)	Proton-pump inhibitor
Murry et al. (2004)	5 (1M/4F)	42-67	Respiratory retraining therapy	2-6 sessions (Mean=4)	Proton-pump inhibitor, night-time histamine type 2 (H ₂) antagonist, and lifestyle modification
Powell et al. (2007)	14 (0M/14F)	11-18 (Mean=15.3; SD=1.44)	Breathing techniques and cognitive-behavioral approach	0-8 sessions (Mean=3.4)	NR
Rameau et al. (2012)	22 (6M/16F)	7-20 (Mean=13.4)	Breathing and relaxation techniques, "Quick Sniff" technique	1-4 sessions (Mean=1.3)	Inhalers, proton-pump inhibitors, histamine 2 receptor blockers, Cetirizine, Fexofenadine, Melatonin, Methylphenidate, Sertraline
Sullivan et al. (2001)	20 (0M/20F)	12-17 (Mean=14.1)	Education, thoracic-abdominal breathing	1 session	Asthma medication, antidepressant
Towey (2012)	7 (0M/7F)	11-38 (Mean=17.4;	Voice facilitation and	1-4 sessions (Mean=1.9)	NR

			SD=9.2)	performance techniques	mostly conducted via telepractice	
Case studies	Altman et al. (2000)	2 (1M/1F)	12, 19	Visual biofeedback + speech therapy involving relaxation maneuvers and breath control	NR	Botulinum toxin injection, medical management of psychiatric disorders, intubation
	Archer et al. (2000)	1 (F)	22	Speech therapy, NFD	NR	Diazepam and chlorpromazine
	Bahrainwala et al. (2001)	1 (F)	16	Speech therapy, NFD	NR	Psychological counseling
	Barnes et al. (1986)	1 (M)	15	Speech therapy and breathing exercises	NR	Psychiatric consultation, relaxation therapy, self-hypnosis, nebulized bronchodilators and steroids
	Bittleman et al. (1994)	1 (F)	16	Speech therapy, NFD	NR	NR
	Campaignha et al. (2012)	1 (F)	41	Speech therapy including patient education	NR	Psychotherapy
	Chawla et al. (1984)	1 (F)	23	Speech therapy, NFD	NR	Psychotherapy
	Chiang et al. (2008)	1 (F)	9	Speech therapy, NFD	NR	None
	Corren & Newman (1992)	1 (F)	20	Speech therapy, NFD	Several weeks, NFD	NR
	Craig et al. (1992)	1 (F)	43	Speech therapy	NR	Psychotherapy, inhaled albuterol
	Earles et al. (2003)	1 (F)	26	Speech therapy	7 weeks	Biofeedback + self-regulation
	Echternach et al. (2008)	1 (F)	41	Voice therapy	NR	Antacid therapy, psychotherapy

Harbison et al. (2000)	1 (F)	47	Speech therapy, NFD	NR	NR
Hatzelis & Murry (2012)	1 (F)	24	Respiratory retraining therapy	1x/ week for 1 month	None
Hayes et al. (1993)	3 (0M/3F)	28, 24, 33	Speech therapy, NFD	NR	Psychotherapy, hypnotherapy, steroids, beta-agonists, anticholinergics, theophyllines, biofeedback
Kayani et al. (1998)	2 (F)	11, 12	Speech therapy, NFD	NR	NR
Kivity et al. (1986)	1 (F)	15	Speech therapy, NFD	NR	NR
Koester & Amundson (2002)	1 (F)	17	Speech therapy, including corrective breathing techniques	Several sessions, NFD	None
Leo & Konakanchi (1999)	1 (F)	32	Speech therapy	NR	Psychotherapy
Marsh et al. (1994)	1 (F)	33	Speech therapy, to improve awareness of vocal fold position	NR	Psychiatric counseling
Maschka et al. (1997)	2 (0M/2F)	15, 11	First case: Speech therapy and behavioral modification; Second case: speech therapy to relax the throat and improve respiratory control	NR	NR
Mathers-Schmidt (2001)	2 (1F, 1NR)	15, 50	Education, muscle tension reduction, relaxed throat breathing	NR	NR
Mobeireek et al. (1995)	2 (0M/2F)	40, 24	First case: breathing exercises;	NR	Psychotherapy, steroids, bronchodilators

			Second case: speech therapy, breathing exercises, and education		
Mullinax & Kuhn (1996)	1 (F)	18	Speech and behavioral therapy to increase laryngeal control	NR	Racemic epinephrine nebulizer, benzodiazepine
Murry (1998)	1 (F)	51	Breathing exercises	~2x/wk for 11 wks	Antireflux medication, restricted diet, and lifestyle modifications
Nacci et al. (2007)	3 (0M/3F)	50, 35, 47	Speech therapy, including reduction of laryngeal muscle contraction, breathing exercises, pneumophonic coordination exercises, and “laryngeal gymnastics”	Case 1: Course lasted ~20 days and was repeated each month. Cases 2&3: NR-	relaxation exercises, psychological approaches, proton pump inhibitor
Niven et al. (1992)	3 (0M/3F)	21,18,31	Speech therapy	NR	Steroids, nedocromil, salbutamol, ipratropium, prednisone
Pinho et al. (1997)	1 (M)	36	Speech therapy including reassurance, behavioral breathing exercises, diaphragmatic breathing, “wide-open throat breathing,” increasing self-awareness, and teaching breathing techniques during physical activity	30 min, 1x/wk for 4 wks -	NR
Reisner & Nelson (1997)	4 (1M/3F)	40, 60, 24, 38	Speech therapy	NR	Psychosocial consultation, nasal saline irrigation, beclomethasone dipropionate nasal spray, albuterol MDI, triamcinolone

Renz et al. (2000)	2 (0M/2F)	22, 77	Speech therapy, NFD	Case 1: NR Case 2: 2 sessions NR	Cefuroxime, steroids
Rhodes (2008)	1 (M)	16	Speech therapy, including exercises and a trial of biofeedback	NR	Lansoprazole (for reflux), psychotherapy
Rogers & Stell (1978)	2 (0M/2F)	30, 19	Speech therapy, NFD	NR	Steroids (tapered off)
Ruddy et al. (2004)	1 (M)	15	IMST and behavioral breathing exercises	IMST: 5x/wk for 6 wks. Behavioral treatment: 40 min, 1x/wk for 10 wks	NR
Rusakow et al. (1991)	1 (F)	13	Speech therapy consisting of breathing techniques	Initial 2 hr session + additional sessions, NFD	Theophylline, triamcinolone, albuterol, cromolyn sodium, bronchodilators, corticosteroids, supplemental oxygen, and antibiotics
Sandage & Zelanzy (2004)	1 (F)	15	Breathing exercises + visual feedback and attention/relaxation exercises	Initial evaluation + 1 session	Reflux medication, nasal steroid
Sette et al. (1993)	1 (M)	16	Breathing techniques and oropharyngeal muscle relaxation	At least 5 months, NFD	Psychological therapy
Shao et al. (1995)	1 (M)	13	Speech therapy + guidance on using breathing muscles appropriately	NR	Antibiotics, allergic desensitization, corticosteroids
Sharma & Singh (2007)	1 (M)	11	Speech therapy including patient assurance, education, vocal hygiene, diaphragmatic breathing and episode control, relaxation and breathing techniques. Treatments were initially conducted while the patient was at rest and gradually acclimated the patient to increased activity demands.	1x/wk for 6 wks	NR

Skinner & Bradley (1989)	1 (F)	11	Speech therapy, NFD	NR	NR
Smith et al. (1993)	1 (F)	16	Speech therapy including behavioral breathing exercises, prevention of episodes, and treatment of hyperfunctional voice disorder	NR	Nebulization treatments, steroids, antibiotics
Suri et al. (2002)	1 (F)	15	Speech therapy, NFD	NR	Psychotherapy (steroids tapered off)
Suttithawil et al. (2006)	1 (F)	36	Speech therapy, NFD	NR	Dietary and lifestyle modifications, proton pump inhibitor, antidepressant, calcium-channel blocker, psychological support
Tajchman & Gitterman (1996)	1 (F)	14	Speech therapy involving breathing exercises	NR	NR
Tan et al. (1997)	1 (F)	62	Speech therapy, NFD	NR	Beta 2 agonists, corticosteroids
Tilles (2010)	1 (F)	13	Speech therapy, NFD	5 sessions over 6 wks	None
Von Berg et al. (1999)	2 (1M/1F)	34, 65	Speech therapy- behavioral management program involving patient education, relaxation of jaw, shoulders, and neck, breathing focus at oral cavity, and reducing precipitating factors.	Case 1: 18 sessions Case 2: 2 sessions	Continuous positive airway pressure, anti-anxiety medications, antireflux counseling,
Walaschek et al. (2010)	1 (F)	15	Voice therapy, NFD	NR	Omeprazole, psychotherapeutic support
Warnes & Allen (2005)	1 (F)	16	Speech therapy- controlled breathing exercises	NR	NR

Weir (2002)	2 (2M/0F)	13, 15	Case 1: Initially treated with speech therapy involving laryngeal relaxation exercises, later treated with voice training, NFD; Case 2: Voice therapy for laryngeal relaxation	NR	Heliox, beta agonists, inhaled anti-inflammatory medication
Wilson et al. (2009)	2 (1M/1F)	16, 15	Case 1: Patient education, training to identify the onset of an attack, breathing techniques and behavioral and dietary modifications, deep nasal sniff technique Case 2: speech therapy and deep nasal sniff technique	NR	Albuterol, proton pump inhibitor, bronchodilators, corticosteroids, steroids,

Note. IMST: inspiratory muscle strength training; NFD= not further described; NR= not reported; SPEICH-C = SPEech Pathology Intervention Program for CHronic Cough.

Table S2

State of the Evidence Pertaining to SLP Treatment for Individuals with PVFM: Descriptive and Quantitative Outcomes

Study design	Citation	Outcome type (quantitative/ descriptive)	Outcome measure	Pre tx data	Post tx results/ <i>follow-up</i> <i>results</i>	Effect size/ p-value
Randomized controlled trials	Nacci et al. (2011)	Quantitative	# of dyspnea episodes/month	Low frequency tx group (A): M= 9.6 High frequency tx group (B): M= 9.9	A: M= 7.2 B: M= 0.9	Within-group: A: $p < .01$ B: $p < .01$ Between-group: $p < .01$ (favoring B)
		Quantitative	Dyspnea ratings (based on 0-10 scale, 10=severe)	Low frequency tx group (A): M=9.2 High frequency tx group (B): M=9.3	A: M=M=6.2 B: M=M=2.5	Within-group: A: $p < .01$ B: $p < .01$ Between-group: $p < .01$ (favoring B)
	Vertigan et al. (2008)	(See full manuscript, Table 2)				
Single subject	Mathers- Schmidt & Brilla (2005)	(See full manuscript, Table 1)				
Pre-post designs	Murry et al. (2006)	Quantitative	FVC	39 - 129% predicted (M=89.5%)	44 - 127% predicted (M=95.3%) <i>88 - 124% predicted</i> (M=101.2%) (N=9)	NS
		Quantitative	FIV ₁ /FIVC	0.37 - 1.0 (M=0.89)	0.85 - 1.0 (M=0.97) <i>0.96 - 1.0 (M=0.99) (N=9)</i>	NS
		Quantitative	FIV _{.5} /FIVC	0.32 - 0.86 (M=0.62)	0.44 - 0.96 (M=0.81) <i>0.77 - 0.95 (M=0.88) (N=9)</i>	Within-group: $p \leq .001$ (improvement)
	Ryan et al. (2009)	Quantitative	FVC	Median= 99.6% predicted (IQR= 29.1)	Median= 93.1% predicted (IQR=15.0)	NS
		Quantitative	FEV ₁ (% predicted)	Median= 90.8 (SEM=19.3)	Median= 90.7 (SEM=18.3)	NS
		Quantitative	FIF ₅₀	Median=2.97 L (IQR = 1.72 L)	Median= 2.85 L (IQR=1.10 L)	NS

				Median= 78.3% predicted (IQR= 30.0%)	Median= 70.6% predicted (IQR= 24.4%)	
	Quantitative	FEV ₁ /FVC		Median= 0.82 (IQR= 0.08)	Median= 0.82 (IQR=0.011)	NS
	Quantitative	FENO		Median= 13.7 (IQR= 8.8)	Median=12.9 (IQR=7.6)	NS
	Descriptive	Laryngoscopy		10/10 participants observed to show adduction of VF	8/10 participants with resolved PVFM	$p = .039$
	Quantitative	Ratings of laryngeal dysfunction (using LDQ)		Median = 5 (IQR= 4)	Median=3.5 (IQR=4)	Within-group $p = .008$ (improvement)
Case series	Chiang et al. (2013)	Descriptive	Report of PVFM symptoms	64/64 participants demonstrated signs and symptoms of PVFM	48/64 participants demonstrated complete resolution of symptoms	NR, not calculable
	Christopher et al. (1983)	Descriptive	Report of PVFM symptoms	5/5 participants with “dramatic episodes of wheezing”	5/5 participants with reduction in number and severity of PVFM attacks	NR, not calculable
	Doshi & Weinberger (2006)	Descriptive	Report of PVFM symptoms	8/8 participants reported PVFM symptoms	<i>7/8 participants reported being asymptomatic</i>	NR, not calculable
	Maturo et al. (2011)	Descriptive	Report of PVFM symptoms and/or activity level	56/56 participants with symptoms at rest or during exercise	35/56 participants were asymptomatic and/or were able to return to activity. <i>These patients did not report any change in symptom or activity level at follow-up.</i>	NR, not calculable
		Descriptive	Report of PVFM symptoms and/or activity level	Initial speech therapy only group: 38/38 participants presented with PVFM symptoms. Initial PPI only group: 7/7 participants presented with PVFM symptoms at rest or during exercise.	Initial speech therapy only group: 24/38 participants were asymptomatic and/or were able to return to activity. Initial PPI only group: 0/7 participants were asymptomatic and/or were able to return to activity	$p = .001$

	Descriptive	Report of PVFM symptoms and/or activity level	Initial speech therapy only group: 38/38 participants presented with PVFM symptoms. Speech therapy + PPI group: 6 participants presented with PVFM symptoms	Initial speech therapy only group: 24/38 participants were asymptomatic and/or were able to return to activity. Speech therapy + PPI group: 5/6 participants were asymptomatic and/or were able to return to activity	$p = .65$
Murry et al. (2004)	Quantitative	FVC	2.36 -3.76 L (M=3.11 L); 83 – 105% predicted (M=92%)	2.33 – 3.81 L (M=3.18 L); 90 – 99% predicted (M=95%)	NS
	Quantitative	FIV ₅ /FIVC	0.32 – 0.7 (M=0.58)	0.89 – 0.99 (M=0.94)	Significant (p -value not reported)
Murry et al. (2010)	Descriptive	Laryngoscopy	16/16 participants showed PVFM during oral and/or nasal quiet breathing	<i>12/16 participants showed PVFM resolution. 3/16 participants showed improved PVFM. 1/16 participants continued to show PVFM during quiet breathing</i>	NR, not calculable
	Descriptive	Presence/absence of dyspnea	7/16 clients with dyspnea present	<i>2/16 clients with dyspnea present</i>	$p > .01$ NS
	Descriptive	Presence/absence of hoarseness	8/16 with complaints of hoarseness	<i>1/16 with complaints of hoarseness</i>	$p \leq .01$
Powell et al. (2007)	Descriptive	Report of PVFM symptoms	14/14 participants with audible inspiratory stridor and 13/14 with additional PVFM symptoms	14/14 participants achieved resolution or significant improvement of PVFM symptoms	NR, not calculable
Rameau et al. (2012)	Descriptive	Report of PVFM symptoms	22/22 participants with PVFM symptoms either with or without exercise	<i>19/22 participants reported improvement in PVFM symptom frequency or severity</i>	NR, not calculable
Sullivan et al.	Descriptive	Report of PVFM	20/20 participants reported	<i>19/20 participants reported</i>	NR, not calculable

	(2001)		symptoms	PVFM symptoms during exercise	<i>the ability to control symptoms</i> <i>13/20 reported no PVFM episodes</i> <i>6/20 reported one to three uncontrolled PVFM episodes</i> <i>1/20 reported continued frequent PVFM episodes</i>	
	Towey et al. (2012)	Descriptive	Report of PVFM symptoms	7/7 participants reported PVFM symptoms	7/7 participants reported PVFM symptom resolution	NR, not calculable
Case studies	Altman et al. (2000)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	1/2: Symptoms resolved or improved 1/2: No improvement or decline in symptoms	NR, not calculable
	Archer et al. (2000)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	No improvement or decline in symptoms	NR, not calculable
	Bahrainwala et al. (2001)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable
		Descriptive	Flow volume loops	Attenuation of the inspiratory flow volume loop and abrupt drop and rise of the expiratory flow volume loop	Normal flow volume loops	NR, not calculable
	Barnes et al. (1986)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	No improvement or decline in symptoms	NR, not calculable
	Bittleman et al. (1994)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable
	Campaignha et al. (2012)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable
	Chawla et al. (1984)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	No improvement or decline in symptoms	NR, not calculable
	Chiang et al. (2008)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable

Corren & Newman (1992)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable
Craig et al. (1992)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	No improvement or decline in symptoms	NR, not calculable
Earles et al. (2003)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable
Echternach et al. (2008)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable
Harbison et al. (2000)	Descriptive	Laryngoscopy	Vocal fold adduction while breathing	Normal vocal fold motion	NR, not calculable
	Quantitative	PIFR	36% predicted	79%	NR, not calculable
Hatzelis & Murry (2012)	Quantitative	Laryngoscopy	>50% VF adduction on inspiration	>50% VF adduction (at end of treatment) <50% VF adduction (at 1 and 3 mo. follow up)	NR, not calculable
	Quantitative	Dyspnea severity rating (based on 1-5 scale, 5=severe)	4.5	2 (at end of treatment) 1.5 (at 1 mo. follow up) 1 (at 3 mo. and 1 yr. follow up)	NR, not calculable
	Quantitative	FVC	4.82 L	4.89 L	NR, not calculable
	Quantitative	% predicted value	107	109	NR, not calculable
	Quantitative	FIV ₅ /FIVC	.71	.74	NR, not calculable
	Quantitative	FEV ₁ /FVC	.79	.79	NR, not calculable
Hayes et al. (1993)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	3/3: No improvement or decline in symptoms	NR, not calculable
Kayani et al. (1998)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	2/2: Symptoms resolved or improved	NR, not calculable

Kivity et al. (1986)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable
Koester & Amundson (2002)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable
Leo & Konakanchi (1999)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable
Marsh et al. (1994)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable
Maschka et al. (1997)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	1/2: No improvement or decline in symptoms 1/2: Symptoms resolved or improved	NR, not calculable
Mathers-Schmidt (2001)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	1/2: Symptoms resolved or improved 1/2: No improvement or decline in symptoms	NR, not calculable
Mobeireek et al. (1995)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	2/2: Symptoms resolved or improved	NR, not calculable
Mullinax & Kuhn (1996)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable
Murry (1998)	Quantitative	Speaking F ₀ (range)	191 Hz (178-216 Hz)	201 Hz (188-242 Hz)	NR, not calculable
	Quantitative	Sustained /a/	9 seconds	16 seconds	NR, not calculable
Nacci et al. (2007)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	3/3: Symptoms resolved or improved	NR, not calculable
Niven et al. (1992)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	1/3: No improvement or decline in symptoms (Case 1) 2/3: Symptoms resolved or improved (Cases 2 & 3)	NR, not calculable

Pinho et al. (1997)	Descriptive	Laryngoscopy	Atypical movements of the arytenoid cartilages	Paradoxical arytenoid movement controlled	NR, not calculable
	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable
Reisner & Nelson (1997)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	4/4: Symptoms resolved or improved	NR, not calculable
Renz et al. (2000)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	2/2: Symptoms resolved or improved	NR, not calculable
Rhodes (2008)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable
Rogers & Stell (1978)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	2/2 Symptoms resolved or improved	NR, not calculable
Ruddy et al. (2004)	Quantitative	Dyspnea ratings (based on 0-5 scale, 5=severe)	5	1.5	NR, not calculable
	Quantitative	Maximum inspiratory pressure	73 cm H ₂ O	166 cm H ₂ O	NR, not calculable
	Quantitative	Maximum duration of rowing activity	0 minutes	18 minutes	NR, not calculable
Rusakow et al. (1991)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable
Sandage & Zelanzny (2004)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable
Sette et al. (1993)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable
Shao et al. (1995)	Descriptive	Pulmonary function test	Reduced inspiratory flow rate	Normal flow volume curve	NR, not calculable
	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable
Sharma &	Descriptive	Report of PVFM	Symptoms of PVFM	Symptoms resolved or	NR, not calculable

Singh (2007)		symptoms		improved	
Skinner & Bradley (1989)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable
Smith et al. (1993)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable
Suri et al. (2002)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	No improvement or decline in symptoms	NR, not calculable
Suttithawil et al. (2006)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable
Tajchman & Gitterman (1996)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable
Tan et al. (1997)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable
Tilles (2010)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable
Von Berg et al. (1999)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	2/2: Symptoms resolved or improved	NR, not calculable
Walaschek et al. (2010)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	Symptoms resolved or improved	NR, not calculable
Warnes & Allen (2005)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	No improvement or decline in symptoms	NR, not calculable
Weir (2002)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	2/2: Symptoms resolved or improved	NR, not calculable
Wilson et al. (2009)	Descriptive	Report of PVFM symptoms	Symptoms of PVFM	1/2: Symptoms resolved or improved 1/2: No improvement or decline in symptoms	NR, not calculable

Note. cm H₂O= centimeters water; FENO = fractional expired nitric oxide; FEV₁= forced expiratory volume in 1 second; FIF₅₀= forced inspiratory flow at 50% of the vital capacity; FIV.5 (FIV₁)= forced inspiratory vital capacity in the first .5 second (1 second); FIVC= forced total inspiratory vital capacity; F₀= fundamental frequency; FVC= forced vital capacity; Hz= hertz; IQR= interquartile range; L= liters; M= mean; NR= not reported; NS= not significant; PIFR= peak inspiratory flow rate; PPI= proton pump inhibitor;

PVFM= paradoxical vocal fold movement; SEM= standard error of measurement; tx= treatment; VF= vocal folds.

Table S3

State of the Evidence Pertaining to SLP Treatment for Individuals with PVFM: Group Design Critical Appraisal

Citation	Study design	Study protocol	Blinding	Sampling	Allocation	Baseline comparability/ patient description	Treatment fidelity	Significance	Precision	Intention to treat
Chiang et al. (2013)	Retrospective case series	√	X	X	NA	√	X	X	X	NA
Christopher et al. (1983)	Retrospective case series	X	X	X	NA	√	X	X	X	NA
Doshi et al. (2004)	Retrospective case series	X	X	X	NA	√	X	X	X	NA
Maturo et al. (2011)	Retrospective case series	√	X	X	NA	X	X	√	X	NA
Murry et al. (2010)	Retrospective case series	√	X	X	NA	√	X	√	X	NA
Murry et al. (2004)	Retrospective case series	√	X	X	NA	√	X	√	X	NA
Murry et al. (2006)	Prospective pre-post study	√	X	X	NA	X	X	√	X	NA
Nacci et al. (2011)	RCT	√	X	X	Random, ID	√	X	√	X	X
Powell et al. (2007)	Retrospective case series	√	X	X	NA	√	X	X	X	NA
Rameau et al. (2012)	Retrospective case series	√	X	X	NA	√	X	X	X	NA
Ryan et al. (2009)	Prospective pre-post study	√	X	X	NA	√	X	√	X	NA
Sullivan et	Retrospective	√	X	X	NA	√	X	X	X	NA

al. (2001)	case series									
Towey (2012)	Retrospective case series	X	X	X	NA	√	X	X	X	NA

Note. Evaluated using a modification of ASHA’s critical appraisal scheme (Cherney, Patterson, Raymer, Frymark, & Schooling, 2008). Critical appraisal information for Mathers-Schmidt & Brilla (2005) and Vertigan et al. (2008) included in full manuscript, Tables 3 and 4. ID= inadequately described; NA= not applicable; RCT= randomized controlled trial.

Table S4

Expanded Keyword Search String

Date	Database	Search String	Yield
3/19/13, 3/20/13, 3/22/13, 3/26/13, 3/27/13, 4/3/13, 4/4/13, 4/12/13, 4/18/13, 4/19/13	PubMed	("Vocal Cords"[Mesh] OR "Laryngeal Diseases"[Mesh]) AND ("Psychotherapy"[Mesh] OR "Treatment Outcome"[Mesh] OR "Gastroesophageal Reflux"[Mesh] OR "Breathing Exercises"[Mesh] OR "Asthma"[Mesh] OR "Respiration Disorders"[Mesh] OR "Rehabilitation of Speech and Language Disorders"[Mesh]) AND (motion OR malfunction OR dysfunction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR cough OR wheez* OR tense OR tension) Mesh: Medical Subject Heading Filters activated: Humans, English	3004
4/19/13	PubMed	("laryngeal dyskinesia" OR "laryngeal dyskinesia" OR (Munchausen AND stridor) OR "irritable larynx" OR "functional airway obstruction" OR "paroxysmal laryngospasm" OR "inspiratory adduction" OR "laryngeal dysfunction" OR "laryngeal wheezing" OR "functional upper airway obstruction") AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff) Same limits	119
4/19/13, 4/22/13, 4/23/13	PubMed	((("vocal cord" OR "vocal fold") AND (movement OR dysfunction OR motion OR malfunction OR obstruction)) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)) Same limits	1918
4/25/13	PubMed	"Cough"[Mesh] AND ("vocal cord " OR "vocal fold") Same limits	72
4/25/13, 4/26/13	PubMed	("chronic cough" OR pseudoasthma OR ((false OR fictitious OR mimic* OR hysteric* OR fake) AND asthma))AND (behavior OR behavioral OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR (breath AND support) OR relax OR sniff) Same limits	885
5/8/13, 5/9/13	CINAHL (EBSCO)	((MH "Vocal Cords") OR (MH "Laryngeal Diseases+") OR (MH "Cough")) AND (motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff) MH: Major Heading Limits: English Language, Peer Reviewed, Human	672

5/9/13	CINAHL	("laryngeal dyskinesia" OR "laryngeal dyskinesia" OR (Munchausen AND stridor) OR "irritable larynx" OR "functional airway obstruction" OR "paroxysmal laryngospasm" OR "inspiratory adduction" OR "laryngeal dysfunction" OR "laryngeal wheezing" OR "functional upper airway obstruction") AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	11
Same limits			
5/9/13, 5/10/13	CINAHL	("vocal cord" OR "vocal fold") and (motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	165
Same limits			
5/10/13	CINAHL	("chronic cough" OR pseudoasthma OR ((false OR fictitious OR mimic* OR hysteric* OR fake) AND asthma)) AND (behavior OR behavioral OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR (breath AND support) OR relax OR sniff)	69
Same limits			
5/10/13, 5/13/13	Health Source: Nursing (EBSCO)	(DE "LARYNX -- Diseases" OR DE "LARYNGEAL edema" OR DE "LARYNGISMUS stridulus" OR DE "LARYNGITIS" OR DE "LARYNX -- Radiography" OR DE "LARYNX -- Stenosis" OR DE "VOICE disorders" OR DE "VOCAL cords" OR DE "VOCAL sac" OR DE "COUGH") AND (motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff) DE: Thesaurus term Limits: Scholarly (Peer Reviewed) Journals	370
5/13/13	Health Source: Nursing	("laryngeal dyskinesia" OR "laryngeal dyskinesia" OR (Munchausen AND stridor) OR "irritable larynx" OR "functional airway obstruction" OR "paroxysmal laryngospasm" OR "inspiratory adduction" OR "laryngeal dysfunction" OR "laryngeal wheezing" OR "functional upper airway obstruction") AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	6
Same limits			
5/13/13	Health Source: Nursing	("vocal cord" OR "vocal fold") and (motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	150
Same limits			
5/13/13	Health Source: Nursing	("chronic cough" OR pseudoasthma OR ((false OR fictitious OR mimic* OR hysteric* OR fake) AND	105

		asthma)) AND (behavior OR behavioral OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR (breath AND support) OR relax OR sniff)	
		Same limits	
5/13/13	Communication & Mass Media Complete (EBSCO)	(DE "VOCAL cords" OR DE "VOCAL sac" OR DE "LARYNX" OR DE "ARTIFICIAL larynges" OR DE "GLOTTIS" OR DE "VOICE" OR DE "AUTOMATIC speech recognition" OR DE "FORMANTS (Speech)" OR DE "NASALITY (Phonetics)" OR DE "NORMAL voice" OR DE "SONORANTS (Phonetics)" OR DE "VOCAL registers" OR DE "VOICE analysis" OR DE "VOICE misappropriation") AND (motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	135
		DE: Thesaurus term Limits: Scholarly (Peer Reviewed) Journals	
5/14/13	Communication & Mass Media Complete	("laryngeal dyskinesia" OR "laryngeal dyskinesia" OR (Munchausen AND stridor) OR "irritable larynx" OR "functional airway obstruction" OR "paroxysmal laryngospasm" OR "inspiratory adduction" OR "laryngeal dysfunction" OR "laryngeal wheezing" OR "functional upper airway obstruction") AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	2
		Same limits	
5/14/13	Communication & Mass Media Complete	("laryngeal dyskinesia" OR "laryngeal dyskinesia" OR (Munchausen AND stridor) OR "irritable larynx" OR "functional airway obstruction" OR "paroxysmal laryngospasm" OR "inspiratory adduction" OR "laryngeal dysfunction" OR "laryngeal wheezing" OR "functional upper airway obstruction")	5
		Same limits	
5/14/13	Communication & Mass Media Complete	("vocal cord" OR "vocal fold") and (motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	68
		Same limits	
5/14/13	Communication & Mass Media Complete	("chronic cough" OR pseudoasthma OR ((false OR fictitious OR mimic* OR hysteric* OR fake) AND asthma)) AND (behavior OR behavioral OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR (breath AND support) OR relax OR sniff)	3
		Same limits	
5/14/13	Communication & Mass Media Complete	("chronic cough" OR pseudoasthma OR ((false OR fictitious OR mimic* OR hysteric* OR fake) AND asthma))	7
		Same limits	

5/15/13	Education Research Complete (EBSCO)	(DE "VOCAL cords" OR DE "VOICE Disorders") AND (motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	147
		DE: Subject term Limits: Scholarly (Peer Reviewed) Journals	
5/15/13	Education Research Complete	("vocal cord" OR "vocal fold") and (motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	40
		Same limits	
5/15/13	Education Research Complete	("laryngeal dyskinesia" OR "laryngeal dyskinesia" OR (Munchausen AND stridor) OR "irritable larynx" OR "functional airway obstruction" OR "paroxysmal laryngospasm" OR "inspiratory adduction" OR "laryngeal dysfunction" OR "laryngeal wheezing" OR "functional upper airway obstruction")	3
		Same limits	
5/15/13	Education Research Complete	("chronic cough" OR pseudoasthma OR ((false OR fictitious OR mimic* OR hysteric* OR fake) AND asthma))	33
		Same limits	
5/15/13	Psychology and Behavioral Sciences Collection (EBSCO)	(DE "VOICE disorders" OR DE "LARYNX -- Diseases" OR DE "LARYNGEAL edema" OR DE "LARYNGISMUS stridulus" OR DE "LARYNGITIS" OR DE "LARYNX -- Stenosis" OR DE "COUGH") AND (motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	107
		DE: Subject term Limits: Peer Reviewed Journals	
5/15/13	Psychology and Behavioral Sciences Collection	("vocal cord" OR "vocal fold") and (motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	87
		Same limits	
5/15/13	Psychology and Behavioral Sciences Collection	("laryngeal dyskinesia" OR "laryngeal dyskinesia" OR (Munchausen AND stridor) OR "irritable larynx" OR "functional airway obstruction" OR "paroxysmal laryngospasm" OR "inspiratory adduction" OR	5

		"laryngeal dysfunction" OR "laryngeal wheezing" OR "functional upper airway obstruction")	
		Same limits	
5/15/13	Psychology and Behavioral Sciences Collection	("chronic cough" OR pseudoasthma OR ((false OR fictitious OR mimic* OR hysteric* OR fake) AND asthma))	92
		Same limits	
5/15/13, 5/16/13	PsycINFO (EBSCO)	(DE "Laryngeal Disorders" OR DE "Dysphonia" OR DE "Voice" OR cough) AND (motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	349
		DE: Subject term Limits: Peer Reviewed Journals; English	
5/16/13	PsycINFO	("vocal cord" OR "vocal fold") and (motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	81
		Same limits	
5/16/13	PsycINFO	("laryngeal dyskinesia" OR "laryngeal dyskinesia" OR (Munchausen AND stridor) OR "irritable larynx" OR "functional airway obstruction" OR "paroxysmal laryngospasm" OR "inspiratory adduction" OR "laryngeal dysfunction" OR "laryngeal wheezing" OR "functional upper airway obstruction")	8
		Same limits	
5/16/13	PsycINFO	("chronic cough" OR pseudoasthma OR ((false OR fictitious OR mimic* OR hysteric* OR fake) AND asthma))	58
		Same limits	
5/16/13	PsycINFO	(DE "Speech Disorders") AND (motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	195
		Same limits	
5/16/13	Teacher Reference Center (EBSCO)	("vocal cord" OR "vocal fold" OR voice OR cough) and (motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	66

		Limits: Peer reviewed	
5/16/13	Teacher Reference Center	("laryngeal dyskinesia" OR "laryngeal dyskinesia" OR (Munchausen AND stridor) OR "irritable larynx" OR "functional airway obstruction" OR "paroxysmal laryngospasm" OR "inspiratory adduction" OR "laryngeal dysfunction" OR "laryngeal wheezing" OR "functional upper airway obstruction")	0
		Same limits	
5/16/13	Teacher Reference Center	("chronic cough" OR pseudoasthma OR ((false OR fictitious OR mimic* OR hysteric* OR fake) AND asthma))	2
		Same limits	
5/16/13	ComDisDome (ProQuest)	(SU.EXACT("Subglottic Area") OR SU.EXACT("Vocal Folds") OR SU.EXACT("Laryngeal Structure Involvement") OR SU.EXACT("Chronic Cough")) AND (motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	0
		SU.EXACT: Subject heading Limits: Peer reviewed, English	
5/16/13, 5/17/13	ComDisDome	("vocal cord" OR "vocal fold") and (motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	420
		Same limits	
5/17/13	ComDisDome	("laryngeal dyskinesia" OR "laryngeal dyskinesia" OR (Munchausen AND stridor) OR "irritable larynx" OR "functional airway obstruction" OR "paroxysmal laryngospasm" OR "inspiratory adduction" OR "laryngeal dysfunction" OR "laryngeal wheezing" OR "functional upper airway obstruction") AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	41
		Same limits	
5/17/13	ComDisDome	("chronic cough" OR pseudoasthma OR ((false OR fictitious OR mimic* OR hysteric* OR fake) AND asthma)) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	71
		Same limits	
5/17/13	Linguistics Language Behaviour Abstracts (ProQuest)	(SU.EXACT("Vocal Folds") OR SU.EXACT("Vocal Tract") OR SU.EXACT("Phonation Structures"))	2
		SU.Exact: Subject heading Limits: Peer reviewed	

5/17/13	LLBA	("vocal cord" OR "vocal fold") and (motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	164
		Same limits	
5/17/13	LLBA	("laryngeal dyskinesia" OR "laryngeal dyskinesia" OR (Munchausen AND stridor) OR "irritable larynx" OR "functional airway obstruction" OR "paroxysmal laryngospasm" OR "inspiratory adduction" OR "laryngeal dysfunction" OR "laryngeal wheezing" OR "functional upper airway obstruction") AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	13
		Same limits	
5/17/13	LLBA	(cough OR "chronic cough" OR pseudoasthma OR ((false OR fictitious OR mimic* OR hysteric* OR fake) AND asthma)) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	52
		Same limits	
5/20/13	ERIC (ProQuest)	("vocal cord" OR "vocal fold") and (motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension)	13
		Limits: Peer reviewed	
5/20/13	ERIC	("laryngeal dyskinesia" OR "laryngeal dyskinesia" OR (Munchausen AND stridor) OR "irritable larynx" OR "functional airway obstruction" OR "paroxysmal laryngospasm" OR "inspiratory adduction" OR "laryngeal dysfunction" OR "laryngeal wheezing" OR "functional upper airway obstruction")	0
		Same limits	
5/20/13	ERIC	(cough OR "chronic cough" OR pseudoasthma OR ((false OR fictitious OR mimic* OR hysteric* OR fake) AND asthma)) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	42
		Same limits	
5/20/13	Social Services Abstracts (ProQuest)	("vocal cord" OR "vocal fold") and (motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension)	1
		Limits: Peer reviewed	
5/20/13	Social Services Abstracts	("laryngeal dyskinesia" OR "laryngeal dyskinesia" OR (Munchausen AND stridor) OR "irritable larynx" OR "functional airway obstruction" OR "paroxysmal laryngospasm" OR "inspiratory adduction" OR "laryngeal dysfunction" OR "laryngeal wheezing" OR "functional upper airway obstruction")	0

5/20/13	Social Services Abstracts	Same limits (cough OR "chronic cough" OR pseudoasthma OR ((false OR fictitious OR mimic* OR hysteric* OR fake) AND asthma)) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	46
5/20/13, 5/21/13, 5/22/13, 5/23/13	Web of Knowledge (Thomson Reuters)	Same limits Topic=("vocal cord" OR "vocal fold") AND Topic=(motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension) AND Topic=(treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff) Limits: Languages=(ENGLISH) AND Research Domains=(SCIENCE TECHNOLOGY OR SOCIAL SCIENCES) AND Research Areas=(OTORHINOLARYNGOLOGY OR PSYCHIATRY OR PEDIATRICS OR LIFE SCIENCES BIOMEDICINE OTHER TOPICS OR AUDIOLOGY SPEECH LANGUAGE PATHOLOGY OR EMERGENCY MEDICINE OR PHYSIOLOGY OR HEALTH CARE SCIENCES SERVICES OR ALLERGY OR BEHAVIORAL SCIENCES)	1,457
5/20/13, 5/21/13, 5/22/13, 5/23/13	Web of Knowledge	Topic=((("laryngeal dyskinesia" OR "laryngeal dyskinesia" OR (Munchausen AND stridor) OR "irritable larynx" OR "functional airway obstruction" OR "paroxysmal laryngospasm" OR "inspiratory adduction" OR "laryngeal dysfunction" OR "laryngeal wheezing" OR "functional upper airway obstruction")) AND Topic=(treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff) Limits: Languages=(ENGLISH)	193
5/20/13, 5/21/13, 5/22/13, 5/23/13	Web of Knowledge	Topic=((cough OR "chronic cough" OR pseudoasthma OR ((false OR fictitious OR mimic* OR hysteric* OR fake) AND asthma))) AND Topic=((behavior OR behavioral OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR (breath AND support) OR relax OR sniff) AND Topic=((treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)) Refined by: Research Domains=(SCIENCE TECHNOLOGY OR SOCIAL SCIENCES) AND Research Areas=(HEALTH CARE SCIENCES SERVICES OR GENERAL INTERNAL MEDICINE OR PSYCHOLOGY OR BEHAVIORAL SCIENCES OR PHYSIOLOGY OR ALLERGY OR OTORHINOLARYNGOLOGY) AND Document Types=(ARTICLE OR ABSTRACT OR CASE REPORT OR REVIEW OR CLINICAL TRIAL) AND Languages=(ENGLISH) Timespan=All years. Search language=Auto	5,736
7/3/13, 7/5/13	ScienceDirect	TITLE-ABSTR-KEY("vocal cord" OR "vocal fold") and TITLE-ABSTR-KEY(motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension)[Journals(Medicine and Dentistry,Nursing and Health Professions,Psychology,Social Sciences)]	583
7/3/13, 7/5/13	ScienceDirect	TITLE-ABSTR-KEY("laryngeal dyskinesia" OR "laryngeal dyskinesia" OR (Munchausen AND stridor) OR "irritable larynx" OR "functional airway obstruction" OR "paroxysmal laryngospasm" OR "inspiratory adduction" OR "laryngeal dysfunction" OR "laryngeal wheezing") and TITLE-ABSTR-KEY(treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness	23

		OR control OR train* OR support OR relax OR cough OR sniff)[Journals(Medicine and Dentistry,Nursing and Health Professions,Psychology,Social Sciences)]	
7/3/13, 7/5/13	ScienceDirect	TITLE-ABSTR-KEY("functional upper airway obstruction") and TITLE-ABSTR-KEY(treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)[Journals(Medicine and Dentistry,Nursing and Health Professions,Psychology,Social Sciences)]	2
7/3/13, 7/5/13	ScienceDirect	TITLE-ABSTR-KEY("chronic cough" OR pseudoasthma OR ((false OR fictitious OR mimic* OR hysteric* OR fake) AND asthma)) and TITLE-ABSTR-KEY(treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)[Journals(Medicine and Dentistry,Nursing and Health Professions,Psychology,Social Sciences)]	384
7/5/13	Campbell Library	All text =(vocal fold)	6
7/5/13	Campbell Library	All text =(vocal cold)	9
7/5/13	Campbell Library	All text =(laryngeal dyskinesia)	0
7/5/13	Campbell Library	All text =(laryngeal dyskinesia)	0
7/5/13	Campbell Library	All text =(munchausen's stridor)	0
7/5/13	Campbell Library	All text =(stridor)	0
7/5/13	Campbell Library	All text =(irritable larynx)	1
7/5/13	Campbell Library	All text =(functional airway obstruction)	49
7/5/13	Campbell Library	All text =(paroxysmal laryngospasm)	0
7/5/13	Campbell Library	All text =(inspiratory adduction)	0
7/5/13	Campbell Library	All text =(laryngeal dysfunction)	22
7/5/13	Campbell Library	All text =(laryngeal wheezing)	1
7/5/13	Campbell Library	All text =(functional upper airway obstruction)	91
7/5/13	Cochrane Collaboration Library (Wiley)	"Vocal Cords"[Mesh]	89
		Yield: Cochrane Reviews 2 Other Reviews 2 Trials 82 Methods Studies 0 Technology Assessments 2 Economic Evaluations 1 Cochrane Groups 0	
7/5/13	Cochrane Library	"Laryngeal Diseases"[Mesh]	718
		Yield: Cochrane Reviews 16 Other Reviews 45 Trials 633 Methods Studies 0 Technology Assessments 9	

		Economic Evaluations 15 Cochrane Groups 0	
7/5/13	Cochrane Library	("vocal cord" OR "vocal fold") and (motion OR movement OR malfunction OR dysfunction obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	99
		Yield: Cochrane Reviews 30 Other Reviews 2 Trials 65 Methods Studies 0 Technology Assessments 0 Economic Evaluations 1 Cochrane Groups 1	
7/5/13	Cochrane Library	("laryngeal dyskinesia" OR "laryngeal dyskinesia" OR (Munchausen AND stridor) OR "irritable larynx" OR "functional airway obstruction" OR "paroxysmal laryngospasm" OR "inspiratory adduction" OR "laryngeal dysfunction" OR "laryngeal wheezing" OR "functional upper airway obstruction") AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	6
		Yield: Cochrane Reviews 2 Other Reviews 0 Trials 4 Methods Studies 0 Technology Assessments 0 Economic Evaluations 0 Cochrane Groups 0	
7/5/13	Cochrane Library	("chronic cough" OR pseudoasthma OR ((false OR fictitious OR mimic* OR hysteric* OR fake) AND asthma)) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	349
		Yield: Cochrane Reviews 145 Other Reviews 7 Trials 182 Methods Studies 2 Technology Assessments 2 Economic Evaluations 8 Cochrane Groups 3	
7/5/13	Centre for Reviews and	"Vocal Cords"[Mesh]	5

Dissemination Database (CRD)			
7/5/13	CRD Database	"Laryngeal Diseases"[Mesh]	76
7/5/13	CRD Database	Any Field =("vocal cord" OR "vocal fold") AND Any Field = (motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension) AND Any Field = (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	5
7/5/13	CRD Database	Any Field = ("laryngeal dyskinesia" OR "laryngeal dyskinesia" OR (Munchausen AND stridor) OR "irritable larynx" OR "functional airway obstruction" OR "paroxysmal laryngospasm" OR "inspiratory adduction" OR "laryngeal dysfunction" OR "laryngeal wheezing" OR "functional upper airway obstruction") AND Any Field = (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	0
7/5/13	CRD Database	All Field =("chronic cough" OR pseudoasthma OR ((false OR fictitious OR mimic* OR hysteric* OR fake) AND asthma)) AND Any Field =(treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	68
7/5/13	Latin American and Caribbean Health Sciences Literature (LILACS)	Words = ("vocal cord" OR "vocal fold") AND Words = (motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm OR asthma OR stridor OR croup OR dystonia OR adduction OR adduct OR wheeze OR wheezing OR tense OR tension)	46
7/5/13	LILACS	Words = ("laryngeal dyskinesia" OR "laryngeal dyskinesia" OR (Munchausen AND stridor) OR "irritable larynx" OR "functional airway obstruction" OR "paroxysmal laryngospasm" OR "inspiratory adduction" OR "laryngeal dysfunction" OR "laryngeal wheezing" OR "functional upper airway obstruction")	0
7/5/13	LILACS	Words = ("chronic cough" OR pseudoasthma OR ((false OR fictitious OR mimic* OR hysteric* OR fake) AND asthma))	0
7/5/13	REHABDATA	"vocal cord"	15
7/5/13	REHABDATA	"vocal fold"	21
7/5/13	REHABDATA	"laryngeal dyskinesia"	0
7/5/13	REHABDATA	"laryngeal dyskinesia"	0
7/5/13	REHABDATA	"Munchausen's stridor"	0
7/5/13	REHABDATA	"irritable larynx"	0
7/5/13	REHABDATA	"functional airway obstruction"	0
7/5/13	REHABDATA	"paroxysmal laryngospasm"	0
7/5/13	REHABDATA	"inspiratory adduction"	0
7/5/13	REHABDATA	"laryngeal dysfunction"	0
7/5/13	REHABDATA	"laryngeal wheezing"	0
7/5/13	REHABDATA	"functional upper airway obstruction"	0
7/5/13	REHABDATA	"chronic cough"	3
7/5/13	REHABDATA	pseudoasthma	0

7/5/13	REHABDATA	(false OR fictitious OR mimic OR hysteric OR hysterical OR fake) AND asthma	0
7/5/13	speechBITE	Target Area = Voice (All) AND Intervention = Voice Therapy	348
7/5/13	Trip Database	("vocal cord") and (motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	750
		All Secondary Evidence	
		-Evidence-based Synopses 11	
		-Systematic Review 17	
		-Guidelines	
		--Aus & NZ 2	
		--Canada 2	
		--UK 24	
		--USA 34	
		--Other 1	
		Clinical Q&A 0	
		Key Primary Research 1	
		Controlled Trials 80	
		Extended Primary Research 245	
		Case reports 16	
		eTextbooks 317	
7/5/13	Trip Database	("vocal fold") and (motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR dystonia OR adduct* OR wheez* OR tense OR tension) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	328
		All Secondary Evidence	
		-Evidence-based Synopses 3	
		-Systematic Review 1	
		-Guidelines	
		--Aus & NZ 0	
		--Canada 0	
		--UK 2	
		--USA 0	
		--Other 0	
		Clinical Q&A 0	
		Key Primary Research 0	
		Controlled Trials 15	
		Extended Primary Research 240	
		Case reports 2	

7/5/13	Trip Database	eTextbooks 65 ("laryngeal dyskinesia" OR "laryngeal dyskinesia" OR (Munchausen AND stridor) OR "irritable larynx" OR "functional airway obstruction" OR "paroxysmal laryngospasm" OR "inspiratory adduction" OR "laryngeal dysfunction" OR "laryngeal wheezing" OR "functional upper airway obstruction") AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff) All Secondary Evidence -Evidence-based Synopses 1 -Systematic Review 0 -Guidelines --Aus & NZ 0 --Canada 0 --UK 0 --USA 2 --Other 0 Clinical Q&A 0 Key Primary Research 0 Controlled Trials 10 Extended Primary Research 17 Case reports 3 eTextbooks 15	45
7/5/13	Trip Database	("chronic cough" OR pseudoasthma OR ((false OR fictitious OR mimic* OR hysteric* OR fake) AND asthma)) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff) All Secondary Evidence -Evidence-based Synopses 58 -Systematic Review 65 -Guidelines --Aus & NZ 37 --Canada 33 --UK 120 --USA 155 --Other 28 Clinical Q&A 6 Key Primary Research 22 Controlled Trials 135 Extended Primary Research 446 #381, p.8 Case reports 27 eTextbooks 496	1,628
7/8/13, 7/9/13, 7/10/13	GoogleScholar	("vocal cord" OR "vocal fold") AND (motion OR movement OR malfunction OR dysfunction OR obstruction OR syndrome OR paradoxical OR irritable OR spasm* OR asthma OR stridor OR croup OR	~15,600 Unable to view

		dystonia OR adduct* OR wheez* OR tense OR tension) AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	results beyond 1,000
7/9/13	GoogleScholar	("laryngeal dyskinesia" OR "laryngeal dyskinesia" OR (Munchausen AND stridor) OR "irritable larynx" OR "functional airway obstruction" OR "paroxysmal laryngospasm" OR "inspiratory adduction" OR "laryngeal dysfunction" OR "laryngeal wheezing" OR "functional upper airway obstruction") AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	469
7/9/13, 7/10/13	GoogleScholar	("chronic cough" OR pseudoasthma OR ((false OR fictitious OR mimic* OR hysteric* OR fake) AND asthma)) AND ("vocal cord" OR "vocal fold") AND (treatment OR therapy OR exercise OR biofeedback OR technique OR rehabilitation OR awareness OR control OR train* OR support OR relax OR cough OR sniff)	~3,860 Unable to view results beyond 1,000