Supplementary table: Key characteristics of included studies, in alphabetical order

Legend: * Subgroup of a larger population; ** Not reported, communication with author; ***combined calculation, based on reported data

Abbreviations: *Ref* reference; *SD* standard deviation; *ACQ* Asthma control questionnaire; *ACT* Asthma control test; *SLT* Speech and language therapy; *VCDQ* Vocal cord dysfunction questionnaire; *ILO* Inducible laryngeal obstruction; *CT* Computerised tomography; *GP* General practice; *ED* Emergency department; *DI* Dyspnea Index Questionnaire*; RTMV* Respiratory tidal minute volume*; HR* heart rate*; $ETCO_2$* End tidal carbon dioxide; *NR* not reported; *NB* note well; *D12* Dysponoea 12*; HAD* Hospital Anxiety and Depression Scale*; 6MWT* six-minute walk test *;AQLQ* Asthma quality of life questionnaire; *MIP* maximal inspiratory muscle strength; *COPD* Chronic obstructive pulmonary disease; *EMG* electromyography

Study (Ref)	Study design and setting	Sample size	Population demographics [% female; mean (SD) age years, unless specified]	Intervention (as named by study authors)	Outcome measure(s)	Key findings
Baxter et al, 2019 [34]	Observational (non-randomised uncontrolled before-after), hospital clinic setting	56*	74% female, age 60.29 (13.12) years	Laryngeal retraining therapy	Validated questionnaires (ACQ; ACT; Nimegen); laryngeal imaging; healthcare utilisation	• No significant improvement in questionnaire data [mean(SD) ACQ 2.50 (1.32) pre intervention, 2.05 (1.14) post, p=0.19; mean(SD) ACT 13.21 (4.73) pre intervention, 14.69 (4.94) post, p=0.28; mean(SD) Nijmegen 28.04

						(11.88) pre intervention, 26.73 (12.17) post, p=0.68] • Mixed outcome in laryngeal imaging [laryngoscopy ILO present in 72% pre intervention, 60% post, p=0.98; CT ILO present in 38% pre intervention, 11% post, p=0.02. *NB un-blinded assessment*] • Significant reduction in visits to healthcare settings [GP visits mean (SD) 12 months pre intervention 10.17 (9.09), 12 months post intervention 5.26(5.36), p<0.001; ED/hospital admission mean (SD) 12 months pre intervention 4.20 (4.66), 12 months post intervention 2.40(5.53), p=0.001]
Haines et al, 2016 [35] (Abstract)	Observational (non-randomised uncontrolled before-after), hospital clinic	16	69% female**, age 47.2 (14.5) years**	SLT	VCDQ	Improvement in VCDQ from median (range) 46 (20-60) pre SLT to 38 (12-15) post SLT, p=0.017

	setting					
Halevi-Katz, 2019 [36]	Observational (non-randomised uncontrolled before-after), hospital clinic setting	12	92% female, age 28 (16) years Exercise-induced ILO	Buteyko Breathing Technique	DI; RTMV; HR; $ETCO_2$	• Significant improvements in DI [$X^2(3) = 18.741$, p<0.001], RTMV [$X^2(3) = 9.480$, p=0.024], $ETCO_2$ [$X^2(3) = 8.657$, p=0.034] over time • No improvement (decrease) in HR over time [$X^2(3) = 2.844$, p=0.024]
Hatzelis et al, 2012 [37]	Case report, hospital clinic setting	1	Female, age 23 years	Respiratory retraining	Laryngoscopy; In-house patient reported severity rating scale for breathing difficulty	Laryngoscopy pre intervention = >50% vocal fold adduction, end of/one-month post/three month post intervention = <50% vocal fold adduction; severity rating reduce from 4.5 pre intervention to 1 one-year post intervention (where 5 maximum severity)
Kramer et al, 2017 [33]	Observational (non-randomised controlled before-after), hospital clinic	66	85% female, age median (range NR) 42 years	Laryngeal control therapy	In-house asthma medication score; patient reported symptom improvement (polar question)	• Significant reduction in asthma medication score [mean 4.85 pre intervention, 2.40 post, p<0.001] • No significant difference in reduction of asthma medication

	setting					score between no therapy and therapy groups (mean 3.44, 2.60, 2.68, p=0.71) • No significant difference in reported improved symptoms between therapy and no therapy groups (87% vs 66%, p=0.17)
Marcinow et al, 2015 [18]	Observational (non-randomised uncontrolled before-after), hospital clinic setting	34*	91% female, age median (range) 46 (27-73) years Irritant-induced ILO	Laryngeal control therapy	Patient reported level of improved dyspnoea symptoms (none, partial, complete)	Reduction and elimination of dyspnoea symptoms reported in 29% after 1 intervention session and in 100% after ≥ 2 intervention sessions *(NB. no statistical analysis or p values reported)*
Mathers-Schmidt & Brilla, 2005 [22]	Case report, hospital clinic setting	1	Female, age 18 years Exercise-induced ILO	Inspiratory muscle training	MIP; In-house patient reported 4-point severity rating scale for dyspnoea; physiological measures of maximal exercise effort; laryngoscopy	• MIP improved 77% after intervention phases, mean (SD) increase of 120.7 (0.9) cm H_20 • Severity rating decreased from 2.5 pre intervention, to 1.3 post • Pre intervention laryngoscopy abnormal adduction of vocal cords during inspiration, post

						laryngoscopy normal examination • Minimal changes in physiological measures pre post intervention
Murry et al, 2010 [38]	Observational (non-randomised uncontrolled before-after), hospital clinic setting	16	Gender demographic NR, age (range) 29-69 years	Respiratory retraining	RSI; RSI-7 (question 7 only troublesome of annoying cough); laryngoscopy for ILO assessment; laryngoscopy with sensory testing; patient reported symptom presence (polar question) for cough, throat clearing, hoarseness	*(NB. reported results in figure and text contradictory)* • Significant reduction in laryngeal sensory response, RSI-7 (n=12) and patient reported symptoms of cough, throat clearing and hoarseness, pre and post intervention, p<0.01 (mean/SD NR) • 19% improved/75% resolved ILO on pre and post intervention laryngoscopy • No significant reduction in overall RSI scores pre and post intervention (p value/mean/SD NR)
Nacci et al, 2011 [39]	Observational (non-randomised uncontrolled before-after),	20	80% female***, age 44.2 (9.6) years***	Respiratory retraining	In-house patient reported dyspnoea severity rating scale; number of dyspnoeic episodes in last month	• Significant improvements in severity scores and reduced number of episodes pre and post intervention, regardless of the

	hospital clinic setting					number of intervention cycles received, p<0.01 • Greater significant difference in both severity scores and reduced number of episodes between those receiving 9 cycles of intervention compared to those receiving 3 cycles of intervention, p<0.01
Olley et al, 2013 [40] (Abstract)	Observational (non-randomised uncontrolled before-after), hospital clinic setting	8	Gender demographic NR, age 38.3(21.1) years	Physiotherapy delivered breathing and laryngeal retraining	D12; HAD; 6MWT;AQLQ	*(NB. reported results for n=4)* • Improvements in quality of life measures (D12 & AQLQ) and exercise capacity (6MWT), reported as clinically significant but p values NR
Pargeter & Mansur, 2016 [41] (Abstract)	Observational (non-randomised uncontrolled before-after), hospital clinic setting	249	80% female, mean (range) age 45 (24-77) years	SLT	In-house patient reported ILO questionnaire; hospital admission	Mean (SD) patient reported ILO questionnaire improved pre intervention 15.57 (3.96) to post intervention 7.75 , p<0.0001; mean (SD, range) hospital admissions 12 months reduced pre intervention 2.44 (4.84, 0-31) to 12 months post

						intervention 0.31 (1.01, 0-7), p<0.0001
Pinho et al, 1997 [42]	Case report, hospital clinic setting	1	Male, age 36 years	SLT	Laryngoscopy	Pre intervention severe supraglottic obstruction during respiration, post intervention normal abduction during respiration
Shin et al, 2018 [43] (Abstract)	Observational (non-randomised uncontrolled before-after), hospital clinic setting	46	Gender demographic NR, median (range NR) age 54 years ILO and COPD	Laryngeal control therapy	Patient reported level of symptoms (improvements, no, worsening)	50% of population reported improved symptoms, 22% no or worsening symptoms, 28% lost to follow-up
Warnes et al, 2005 [44]	Case report, hospital clinic setting	1	Female, age 16 years	EMG biofeedback	µV criterion level; ILO pain visual analogue scale (0-10); adaptive functioning severity scale (0-6)	• Laryngeal muscle tension levels reduce by 60% post intervention, no pain reported after intervention 6, post intervention no interference of ILO in day to day life