

Supplemental Material S2. Evolution of the secondary outcome parameters pre- to post-therapy in the IVT-I, IVT-G, and TVT groups.

		Baseline 1	Baseline 2	Post	Time * Group	Evolution mean baseline – post
Parameter	Group	EM (95% CI)	EM (95% CI)	EM (95% CI)	<i>p</i> value	EM difference
Maximum performance task						
MPT (s)	IVT-I	15.9 (12.4; 19.5)	16.1 (12.5; 19.7)	18.3 (14.8; 21.9)	.592	+2.3
	IVT-G	17.6 (14.1; 21.1)	17.7 (14.2; 21.2)	18.7 (15.2; 22.1)		+1.1
	TVT	15.1 (11.7; 18.5)	15.6 (12.1; 19.0)	19.1 (15.5; 22.7)		+3.8
Aerodynamic assessment						
VC (cc)	IVT-I	2449 (2161; 2736)	2551 (2296; 2807)	2517 (2276; 2757)	.893	+17
	IVT-G	2544 (2298; 2791)	2519 (2282; 2756)	2512 (2271; 2753)		–20
	TVT	2403 (2170; 2636)	2371 (2139; 2605)	2313 (2062; 2563)		–74
PQ (cc/s)	IVT-I	179.2 (146.4; 211.9)	167.0 (137.9; 196.0)	156.6 (129.3; 183.8)	.438	–16.5
	IVT-G	154.4 (126.5; 182.4)	152.0 (125.1; 178.9)	144.4 (117.0; 171.8)		–8.8
	TVT	184.6 (158.2; 211.0)	170.1 (143.7; 196.5)	141.2 (112.7; 169.6)		–36.2
Acoustic analysis (/a/ vowel, MDVP, CSL)						
f _o (Hz)	IVT-I	194.0 (181.2; 206.9)	191.7 (178.7; 204.7)	194.3 (181.5; 207.2)	.290	+1.5
	IVT-G	204.3 (191.8; 216.9)	203.7 (191.2; 216.3)	211.6 (199.0; 224.1)		+7.6
	TVT	202.9 (190.1; 215.6)	206.1 (193.7; 218.6)	202.9 (190.1; 215.6)		–1.6
Jitter (%)	IVT-I	2.69 (2.15; 3.23)	2.67 (2.12; 3.23)	1.80 (1.26; 2.34)	.723	–0.88
	IVT-G	2.10 (1.56; 2.64)	2.19 (1.65; 2.72)	1.22 (0.68; 1.76)		–0.93
	TVT	2.97 (2.45; 3.50)	2.49 (1.97; 3.01)	2.13 (1.55; 2.71)		–0.60
Shimmer (%)	IVT-I	6.11 (5.16; 7.07)	5.49 (4.50; 6.48)	5.13 (4.17; 6.09)	.722	–0.67
	IVT-G	6.30 (5.34; 7.25)	6.13 (5.17; 7.08)	4.77 (3.81; 5.72)		–1.45
	TVT	5.83 (4.90; 6.76)	5.92 (4.99; 6.85)	4.93 (3.91; 5.94)		–0.95
vf _o (%)	IVT-I	2.68 (2.16; 3.19)	2.40 (1.86; 2.93)	1.80 (1.29; 2.32)	.830	–0.74
	IVT-G	1.95 (1.43; 2.47)	2.10 (1.59; 2.62)	1.22 (0.70; 1.74)		–0.81
	TVT	2.75 (2.23; 3.27)	2.33 (1.83; 2.83)	1.86 (1.31; 2.42)		–0.68
NHR	IVT-I	0.15 (0.13; 0.18)	0.14 (0.13; 0.16)	0.15 (0.14; 0.16)	.023	+0.01
	IVT-G	0.16 (0.14; 0.18)	0.16 (0.14; 0.18)	0.12 (0.11; 0.14)		–0.04 (*)
	TVT	0.15 (0.13; 0.17)	0.15 (0.13; 0.16)	0.14 (0.13; 0.16)		–0.01

Acoustic analysis (/a/ vowel + continuous speech, Praat, AVQI)						
CPPs	IVT-I	10.52 (9.67; 11.36)	11.02 (10.24; 11.79)	12.09 (11.32; 12.87)	.664	+1.32 (*)
	IVT-G	11.46 (10.63; 12.30)	11.53 (10.78; 12.28)	12.33 (11.56; 13.09)		+0.84
	TVT	10.72 (9.93; 11.51)	10.64 (9.89; 11.38)	11.40 (10.59; 12.21)		+0.72
HNR (dB)	IVT-I	15.36 (14.04; 16.68)	15.91 (14.71; 17.11)	17.09 (15.89; 18.29)	.832	+1.46
	IVT-G	16.22 (14.91; 17.54)	15.67 (14.51; 16.83)	17.04 (15.85; 18.23)		+1.10
	TVT	16.08 (14.85; 17.31)	15.67 (14.52; 16.83)	17.05 (15.78; 18.32)		+1.18
Shimmer Local (%)	IVT-I	7.45 (6.27; 8.63)	6.23 (5.18; 7.29)	5.23 (4.18; 6.29)	.149	−1.61
	IVT-G	5.57 (4.39; 6.75)	6.19 (5.16; 7.21)	4.73 (3.67; 5.78)		−1.15
	TVT	6.17 (5.08; 7.26)	7.32 (6.30; 8.34)	5.90 (4.77; 7.04)		−0.85
Shimmer Local (dB)	IVT-I	0.69 (0.58; 0.79)	0.59 (0.50; 0.69)	0.52 (0.43; 0.62)	.405	−0.12
	IVT-G	0.54 (0.43; 0.64)	0.58 (0.49; 0.68)	0.46 (0.37; 0.56)		−0.10
	TVT	0.63 (0.54; 0.73)	0.70 (0.61; 0.79)	0.59 (0.49; 0.69)		−0.08
Slope of LTAS (dB)	IVT-I	−21.99 (−24.38; −19.60)	−20.51 (−22.72; −18.31)	−19.61 (−21.81; −17.41)	.834	+1.64
	IVT-G	−20.40 (−22.77; −18.03)	−19.13 (−21.26; −17.00)	−19.17 (−21.35; −17.00)		+0.60
	TVT	−21.26 (−23.51; −19.02)	−19.79 (−21.92; −17.76)	−20.58 (−22.89; −18.28)		+0.06
Tilt of trendline through LTAS (dB)	IVT-I	−9.64 (−10.37; −8.91)	−9.90 (−10.56; −9.23)	−9.82 (−10.49; −9.15)	.486	−0.05
	IVT-G	−10.04 (−10.76; −9.31)	−9.75 (−10.40; −9.10)	−9.74 (−10.41; −9.08)		+0.16
	TVT	−9.05 (−9.73; −8.36)	−9.45 (−10.10; −8.80)	−9.73 (−10.43; −9.02)		−0.48
Voice Range Profile						
I-low (dB)	IVT-I	60.9 (59.3; 62.6)	59.8 (58.1; 61.5)	55.7 (54.1; 57.4)	.336	−4.7 (*)
	IVT-G	59.0 (57.3; 60.6)	59.2 (57.6; 60.9)	55.1 (53.4; 56.7)		−4.0 (*)
	TVT	58.8 (57.1; 60.4)	59.1 (57.4; 60.7)	56.3 (54.6; 58.1)		−2.7
I-high (dB)	IVT-I	99.2 (96.6; 101.8)	98.4 (95.7; 101.0)	101.1 (98.5; 103.7)	.354	+2.3
	IVT-G	97.0 (94.4; 98.6)	98.9 (96.4; 101.5)	100.5 (98.0; 103.1)		+2.6
	TVT	98.9 (96.4; 101.5)	98.7 (96.2; 101.2)	101.0 (98.3; 103.7)		+2.2
F-low (Hz)	IVT-I	145.9 (133.8; 158.0)	146.5 (134.3; 158.8)	142.4 (130.3; 154.5)	.891	−3.8
	IVT-G	155.6 (143.7; 167.5)	157.6 (145.7; 169.4)	149.9 (138.0; 161.7)		−6.7
	TVT	152.5 (140.8; 164.2)	153.5 (141.8; 165.2)	152.0 (139.8; 164.1)		−1.0
F-high (Hz)	IVT-I	643.5 (551.7; 735.4)	592.9 (500.0; 685.8)	729.4 (637.6; 821.3)	.037	+111.2
	IVT-G	613.7 (523.5; 703.8)	665.4 (590.3; 755.6)	824.0 (734.0; 913.9)		+184.5 (*)
	TVT	559.0 (470.1; 648.0)	554.5 (465.6; 643.5)	741.9 (649.6; 834.2)		+185.2 (*)

Note. *Significant effect ($p < .001$). IVT-I = individual intense voice therapy; IVT-G = group intense voice therapy; TVT = traditional voice therapy; EM = estimated mean; MPT = maximum phonation time; VC = vital capacity; PQ = phonation quotient; MDVP = Multi-Dimensional Voice Program; CSL = Computerized Speech Lab (Model 4500, Kay PENTAX); f_0 = fundamental frequency; vf_0 = variation in fundamental frequency; NHR = noise-to-harmonics ratio; AVQI = Acoustic Voice Quality Index; CPPs = cepstral peak prominence measures; HNR = harmonics-to-noise ratio; LTAS = long-term average spectrum; I-low = lowest intensity; I-high = highest intensity; F-low = lowest frequency; F-high = highest frequency.