

**Supplemental Material S5.** Pairwise comparisons of lexical tone pitch contours (slope and curvature) between groups (NH = 3, CI\_Imp 1-2, CI\_Imp 2-3, CI\_Imp 3-4 and CI\_Imp 4-5) for each tone.

Tone	Group difference	Parameter	$\beta$	SE	df	t	p
T1	NH = 3 – CI_Imp 1-2	Slope	-0.54	1.20	593	-0.45	.992
		Curvature	0.06	1.14	777	0.05	1.000
	NH = 3 – CI_Imp 2-3	Slope	0.49	0.71	621	0.17	.979
		Curvature	0.26	0.68	811	0.39	.995
	NH = 3 – CI_Imp 3-4	Slope	0.72	1.06	593	0.68	.961
		Curvature	-0.32	1.01	777	-0.31	.998
	NH = 3 – CI_Imp 4-5	Slope	-1.64	2.87	592	-0.57	.979
		Curvature	0.40	2.73	775	0.15	1.000
	CI_Imp 1-2 – CI_Imp 2-3	Slope	2.02	1.32	599	1.54	.538
		Curvature	0.20	1.25	784	0.16	1.000
	CI_Imp 1-2 – CI_Imp 3-4	Slope	1.26	1.53	591	0.82	.924
		Curvature	-0.37	1.45	775	-0.26	.999
	CI_Imp 1-2 – CI_Imp 4-5	Slope	-1.10	3.08	591	-0.36	.997
		Curvature	0.34	2.92	775	0.12	1.000
	CI_Imp 2-3 – CI_Imp 3-4	Slope	-0.76	1.19	600	-0.64	.968
		Curvature	-0.58	1.13	786	-0.51	.986
	CI_Imp 2-3 – CI_Imp 4-5	Slope	-3.12	2.93	593	-1.07	.823
		Curvature	0.14	2.77	777	0.05	1.000
	CI_Imp 3-4 – CI_Imp 4-5	Slope	-2.36	3.03	591	-0.78	.937
		Curvature	0.71	2.87	775	0.25	.999
T2	NH = 3 – CI_Imp 1-2	Slope	-0.83	1.20	592	-0.70	.958
		Curvature	-0.30	1.14	776	-0.27	.999
	<b>NH = 3 – CI_Imp 2-3</b>	<b>Slope</b>	<b>2.69</b>	<b>0.70</b>	<b>594</b>	<b>3.82</b>	<b>&lt; .01**</b>
		Curvature	-0.30	0.67	778	-0.45	.992
	<b>NH = 3 – CI_Imp 3-4</b>	<b>Slope</b>	<b>5.57</b>	<b>1.06</b>	<b>593</b>	<b>5.25</b>	<b>&lt; .001***</b>
		Curvature	-1.54	1.01	776	-1.53	.542
	<b>NH = 3 – CI_Imp 4-5</b>	<b>Slope</b>	<b>2.02</b>	<b>1.87</b>	<b>591</b>	<b>2.82</b>	<b>&lt; .01**</b>
		Curvature	-0.19	2.73	775	-0.07	1.000
	<b>CI_Imp 1-2 – CI_Imp 2-3</b>	<b>Slope</b>	<b>3.52</b>	<b>1.31</b>	<b>591</b>	<b>2.69</b>	<b>&lt; .05*</b>
		Curvature	0.00	1.24	775	0.00	1.000
	<b>CI_Imp 1-2 – CI_Imp 3-4</b>	<b>Slope</b>	<b>6.40</b>	<b>1.53</b>	<b>591</b>	<b>4.18</b>	<b>&lt; .001***</b>
		Curvature	-1.24	1.45	775	-0.85	.914
	CI_Imp 1-2 – CI_Imp 4-5	Slope	0.86	3.08	591	0.28	.999
		Curvature	0.11	2.92	775	0.04	1.000
	<b>CI_Imp 2-3 – CI_Imp 3-4</b>	<b>Slope</b>	<b>2.88</b>	<b>1.19</b>	<b>591</b>	<b>2.42</b>	<b>&lt; .05*</b>
		Curvature	-1.24	1.13	775	-1.11	.804

CI_Imp 2-3 – CI_Imp 4-5	Slope	-2.66	2.92	591	-0.91	.893
	Curvature	0.11	2.77	775	0.04	1.000
CI_Imp 3-4 – CI_Imp 4-5	Slope	-5.54	3.03	591	-1.83	.358
	Curvature	1.35	2.87	775	0.47	.990
NH = 3 – CI_Imp 1-2	Slope	1.46	1.20	595	1.05	.147
	Curvature	1.43	1.14	780	1.18	.119
NH = 3 – CI_Imp 2-3	Slope	1.11	0.71	603	1.57	.517
	<b>Curvature</b>	<b>4.48</b>	<b>0.67</b>	<b>789</b>	<b>6.68</b>	<b>&lt; .001***</b>
NH = 3 – CI_Imp 3-4	Slope	0.36	1.06	596	0.34	.997
	<b>Curvature</b>	<b>6.46</b>	<b>1.01</b>	<b>781</b>	<b>6.41</b>	<b>&lt; .001***</b>
NH = 3 – CI_Imp 4-5	Slope	4.47	2.88	592	1.56	.527
	<b>Curvature</b>	<b>9.73</b>	<b>2.73</b>	<b>776</b>	<b>3.57</b>	<b>&lt; .01**</b>
CI_Imp 1-2 – CI_Imp 2-3	<b>Slope</b>	<b>3.57</b>	<b>1.31</b>	<b>591</b>	<b>2.72</b>	<b>&lt; .05*</b>
	Curvature	0.05	1.24	775	0.04	1.000
CI_Imp 1-2 – CI_Imp 3-4	<b>Slope</b>	<b>2.82</b>	<b>1.53</b>	<b>591</b>	<b>1.84</b>	<b>&lt; .05*</b>
	Curvature	2.03	1.45	775	1.40	.631
CI_Imp 1-2 – CI_Imp 4-5	Slope	-2.01	3.08	591	-0.65	.966
	Curvature	5.30	2.92	775	1.82	.366
CI_Imp 2-3 – CI_Imp 3-4	Slope	-0.75	1.19	591	-0.63	.970
	Curvature	1.98	1.13	775	1.76	.401
CI_Imp 2-3 – CI_Imp 4-5	<b>Slope</b>	<b>-5.58</b>	<b>2.92</b>	<b>591</b>	<b>-1.91</b>	<b>&lt; .05*</b>
	<b>Curvature</b>	<b>5.25</b>	<b>2.77</b>	<b>775</b>	<b>1.89</b>	<b>&lt; .05*</b>
CI_Imp 3-4 – CI_Imp 4-5	Slope	-4.83	3.03	591	-1.60	.502
	Curvature	3.27	2.87	775	1.14	.786
NH = 3 – CI_Imp 1-2	Slope	-4.30	2.87	591	-1.49	.567
	Curvature	-0.92	1.14	776	-0.81	.927
NH = 3 – CI_Imp 2-3	<b>Slope</b>	<b>-2.15</b>	<b>0.70</b>	<b>593</b>	<b>-3.05</b>	<b>&lt; .01**</b>
	<b>Curvature</b>	<b>-1.38</b>	<b>0.67</b>	<b>777</b>	<b>-2.06</b>	<b>&lt; .05*</b>
NH = 3 – CI_Imp 3-4	<b>Slope</b>	<b>-2.62</b>	<b>1.06</b>	<b>592</b>	<b>-2.47</b>	<b>&lt; .05*</b>
	Curvature	-1.76	1.01	776	-1.75	.403
NH = 3 – CI_Imp 4-5	<b>Slope</b>	<b>-3.62</b>	<b>1.20</b>	<b>592</b>	<b>-3.03</b>	<b>&lt; .01**</b>
	Curvature	0.83	2.73	775	0.31	.998
CI_Imp 1-2 – CI_Imp 2-3	Slope	1.47	1.31	591	1.13	.793
	Curvature	-0.45	1.24	775	-0.37	.996
CI_Imp 1-2 – CI_Imp 3-4	Slope	1.01	1.53	591	0.66	.966
	Curvature	-0.84	1.45	775	-0.58	.978
CI_Imp 1-2 – CI_Imp 4-5	Slope	-0.67	3.08	591	-0.22	1.000
	Curvature	1.76	2.92	775	0.60	.975

CI_Imp 2-3 – CI_Imp 3-4	Slope	-0.47	1.19	591	-0.40	.995
	Curvature	-0.39	1.13	775	-0.34	.997
CI_Imp 2-3 – CI_Imp 4-5	Slope	-2.15	2.92	591	-0.73	.949
	Curvature	2.21	2.77	775	0.80	.932
CI_Imp 3-4 – CI_Imp 4-5	Slope	-1.68	3.03	591	-0.55	.982
	Curvature	2.60	2.87	775	0.90	.896

*Note.* NH = normal hearing; CI = cochlear implant.