

Non-word development by  
degree of hearing loss and age

# Non-Word Vowel Dev.- Mild/ Moderate

<b>Vowel</b>	0-6 mon	7-12 mon	13-18 mon	19-24 mon	25-30 mon	31-36 mon	37-48 mon	49-60 mon	61-72 mon
<b>Phone</b>	n=3	n=21	n=18	n=23	n=20	n=16	n=10	n=8	n=1
i	33.3%	52.4%	61.1%	69.6%	85.0%	68.7%	100.0%	87.5%	100.0%
l	100.0%	90.5%	100.0%	95.7%	95.0%	81.2%	100.0%	100.0%	100.0%
ei	0.0%	57.1%	66.7%	60.9%	70.0%	56.2%	50.0%	87.5%	100.0%
short e	100.0%	90.5%	100.0%	95.7%	90.0%	81.2%	100.0%	75.0%	100.0%
ae	100.0%	85.7%	77.8%	82.6%	85.0%	93.8%	90.0%	87.5%	100.0%
a	66.7%	71.4%	88.9%	87.0%	95.0%	87.5%	80.0%	100.0%	100.0%
schwa	100.0%	66.7%	77.8%	73.9%	75.0%	62.5%	90.0%	87.5%	100.0%
^	66.7%	61.9%	83.3%	91.3%	95.0%	87.5%	90.0%	75.0%	100.0%
u	33.3%	19.0%	33.3%	56.5%	60.0%	50.0%	60.0%	50.0%	100.0%
omega	33.3%	42.9%	44.4%	56.5%	70.0%	56.2%	80.0%	25.0%	100.0%
o	0.0%	0.0%	5.6%	43.5%	45.0%	31.2%	60.0%	12.5%	100.0%
aw	0.0%	0.0%	0.0%	13.0%	20.0%	18.7%	10.0%	0.0%	0.0%
er	0.0%	0.0%	0.0%	0.0%	5.0%	6.2%	0.0%	0.0%	0.0%
diphthong aw capital l	0.0%	0.0%	0.0%	0.0%	5.0%	6.2%	0.0%	12.5%	100.0%
diphthong o omega	0.0%	0.0%	5.6%	30.4%	30.0%	37.5%	40.0%	37.5%	100.0%
diphthong a capital l	33.3%	27.3%	38.9%	65.2%	75.0%	43.7%	60.0%	50.0%	100.0%

# Non-Word Vowel Dev.: Moderate-Severe/Severe

<b>Vowel</b>	0-6 mon	7-12 mon	13-18 mon	19-24 mon	25-30 mon	31-36 mon	37-48 mon	49-60 mon	61-72 mon
<b>Phone</b>	n=3	n=21	n=29	n=30	n=30	n=21	n=14	n=7	n=5
i	0.0%	19.0%	34.5%	63.3%	66.7%	71.4%	71.4%	28.6%	100.0%
l	66.7%	71.4%	89.7%	96.7%	93.3%	95.2%	85.7%	71.4%	100.0%
ei	0.0%	28.6%	31.0%	56.7%	43.3%	61.9%	35.7%	42.9%	60.0%
short e	66.7%	85.7%	72.4%	96.7%	86.7%	85.7%	78.6%	42.9%	100.0%
ae	66.7%	71.4%	79.3%	93.3%	90.0%	95.2%	85.7%	85.7%	100.0%
a	66.7%	76.2%	89.7%	93.3%	93.3%	85.7%	71.4%	42.9%	100.0%
schwa	66.7%	71.4%	82.8%	90.0%	80.0%	71.4%	71.4%	42.9%	80.0%
^	33.3%	71.4%	79.3%	93.3%	96.7%	90.5%	78.6%	71.4%	60.0%
u	33.3%	19.0%	31.0%	66.7%	60.0%	71.4%	42.9%	57.1%	60.0%
omega	33.3%	33.3%	37.9%	63.3%	63.3%	71.4%	42.9%	42.9%	60.0%
o	0.0%	9.5%	3.4%	33.3%	40.0%	38.1%	21.4%	42.9%	60.0%
aw	0.0%	4.8%	0.0%	0.0%	6.7%	4.8%	0.0%	0.0%	0.0%
er	0.0%	0.0%	0.0%	0.0%	3.3%	0.0%	7.1%	0.0%	20.0%
diphthong aw capital l	0.0%	0.0%	0.0%	0.0%	3.3%	0.0%	0.0%	0.0%	0.0%
diphthong o omega	33.3%	4.8%	13.8%	20.0%	30.0%	38.1%	21.4%	28.6%	20.0%
diphthong a capital l	0.0%	23.8%	31.0%	50.0%	63.3%	52.4%	35.7%	57.1%	40.0%

# Non-Word Vowel Development: Severe-Profound/Profound

Vowel	0-6 mon	7-12 mon	13-18 mon	19-24 mon	25-30 mon	31-36 mon	37-48 mon	49-60 mon	61-72 mon	73-85 mon
Phone	n=4	n=12	n=17	n=13	n=20	n=16	n=9	n=7	n=4	n=3
i	0.0%	16.7%	29.4%	30.8%	60.0%	50.0%	33.3%	71.4%	75.0%	66.7%
l	75.0%	91.7%	82.4%	84.6%	90.0%	81.2%	100.0%	85.7%	75.0%	66.7%
ei	0.0%	33.3%	35.3%	46.2%	50.0%	25.0%	44.4%	28.6%	0.0%	0.0%
short e	100.0%	100.0%	94.1%	92.3%	100.0%	81.2%	77.8%	85.7%	75.0%	33.3%
ae	75.0%	83.3%	82.4%	69.2%	80.0%	81.2%	66.7%	85.7%	50.0%	66.7%
a	50.0%	83.3%	52.9%	46.2%	65.0%	81.2%	66.7%	85.7%	75.0%	100.0%
schwa	25.0%	83.3%	58.8%	69.2%	75.0%	81.2%	66.7%	71.4%	75.0%	33.3%
^	100.0%	100.0%	70.6%	69.2%	80.0%	75.0%	88.9%	100.0%	100.0%	66.7%
u	25.0%	8.3%	52.8%	30.8%	65.0%	68.7%	55.6%	57.1%	50.0%	33.3%
omega	25.0%	25.0%	41.2%	38.5%	45.0%	50.0%	55.6%	85.7%	75.0%	33.3%
o	0.0%	0.0%	5.9%	7.7%	20.0%	6.3%	11.1%	57.1%	25.0%	0.0%
aw	0.0%	0.0%	0.0%	0.0%	5.0%	12.5%	0.0%	0.0%	0.0%	0.0%
er	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
diphthong aw capita ll	0.0%	0.0%	0.0%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%
diphthong o omeg a	25.0%	8.3%	5.9%	0.0%	15.0%	12.5%	11.1%	28.6%	25.0%	0.0%
diphthong a capita ll	50.0%	25.0%	5.9%	15.4%	30.0%	18.7%	22.2%	57.1%	25.0%	33.3%

# Non-Word Vowel Development:Cochlear Implant

<b>Consonant</b>	0-6 mon	7-12 mon	13-18 mon	19-24 mon	25-30 mon	31-36 mon	37-48 mon	49-60 mon	61-72 mon
<b>Phone</b>			n=1	n=8	n=9	n=8	n=3	n=4	n=4
i			0.0%	37.5%	88.9%	75.0%	33.3%	75.0%	75.0%
l			0.0%	100.0%	100.0%	100.0%	33.3%	75.0%	100.0%
ei			0.0%	25.0%	66.7%	50.0%	0.0%	25.0%	50.0%
short e			0.0%	100.0%	88.9%	62.5%	33.3%	50.0%	50.0%
ae			0.0%	75.0%	88.9%	62.5%	66.7%	25.0%	50.0%
a			100.0%	75.0%	100.0%	87.5%	100.0%	75.0%	75.0%
schwa			0.0%	87.5%	88.9%	87.5%	66.7%	50.0%	100.0%
^			0.0%	75.0%	88.9%	100.0%	100.0%	75.0%	50.0%
u			0.0%	37.5%	88.9%	75.0%	100.0%	50.0%	75.0%
omega			0.0%	37.5%	55.6%	87.5%	33.3%	25.0%	75.0%
o			0.0%	0.0%	44.4%	37.5%	33.3%	75.0%	50.0%
aw			0.0%	0.0%	22.2%	0.0%	33.3%	25.0%	0.0%
er			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
diphthong aw capital l			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
diphthong o omega			0.0%	25.0%	55.6%	37.5%	33.3%	75.0%	25.0%
diphthong a capital l			0.0%	37.5%	88.9%	62.5%	66.7%	50.0%	75.0%