

Speech Development

Age	Mechanisms	Articulation
0 - 6 months	All structures are in place. No teeth appear. (22)	Cry varies in pitch, length and volume to indicate needs such as hunger or pain. Coos open vowels (aah), closed vowels (ee), diphthongs (oy). Babbles chains of "baba-baba." Reacts to music by cooing. (8)
6 - 12 months	8 mo: First tooth appears. Lower central incisors 10 mo: Upper central incisor appears 11 mo. Upper lateral incisor appears (20) Mean length of soft palate is 22.2 mm. Mean thickness of soft palate is 7.2 mm. (14)	6-9 mo: Uses /m,n,t,d,b,p,y/ in babbling multiple syllables, reduplicative babbling (bababababa). Variety of sound combinations including non-English words. Intonational patterns heard during vocal play. 9-12 mo: Vocalizes to mirror. Jabbers loudly. Uses most sounds. May acquire first word. Combines different syllables in vocal play. (20)
12 -18 months	Eruption of Maxillary lateral incisors and cuspids (canines) occurs at this time. Mean length of soft palate is 22.6 mm to 24.1 mm. Mean thickness of soft palate is 7.5 mm at 12 mos. to 7.2 mm at 18 mos. Mean measurement of vertical growth of the nasopharynx is 16.0 mm at 12 mos. to 16.9 mm at 18 mos. Mean horizontal measurement of the nasopharynx is 15.4 mm at 12 mos. and 14.9 mm at 18 mos. (15)	Speech is 25% intelligible. Speech consists of vocables, jargon, first true word learning, learning classes of sounds. Phonemic inventory consists of: Consonants: /p,b,t,m,n,d,k,g,w,h/ Vowel distribution: front vowels, 62%, middle vowels, 16%, back vowels, 22%. (24)

18 - 24 months	During this stage children normally have from 6 to 8 primary teeth.	Speech is 25% intelligible increasing to 60% intelligible by the end of this stage. This stage is characterized by the deletion of unstressed syllables and all vowels are learned except the vocalic /r/. The front consonants continue to develop.
24 - 30 months	Children normally have 20 teeth by the time they are 30 months (21).	All vowels are mastered except vocalic /r/. The front consonants are mastered. Emergence of back sounds. Numerous substitutions of mastered sounds for those sounds not yet mastered may be noted such as /w/ for /r/ and /l/, and /d/ for /th/. Phonological processing may be evident and normal at this stage. Intelligibility is approximately 50% at 24 months and may be anywhere from 80-100% intelligible by age three (25).
30 - 36 months	All primary teeth are in place.	Uses all vowels except for the "er" in "bird" and "mother". Uses all diphthongs /ai/, /au/, /ou/, /ei/ except /ju/. Uses consonants /p/, /b/, /m/, and /w/. They are approximately 75% to 80% intelligible. (24)
36 - 42 months	All primary or deciduous teeth are in place. Soft palate length for males is 25.2 mm and for females is 24.6 mm. Thickness of soft palate is 7.8 mm (15).	Uses all English vowels. Acquisition of "m", "n", "ng", "p", "f", "h", "wh", "b", "t", "k", "g", and "d". Some stops are substituted for fricatives. Disappearance of phonological processes of final consonant deletion, stopping of "v" and "s", and fronting of "k", "ng", and "g" (24).
42 - 48 months	All primary teeth are in place. (10)	The following consonants are learned: [n], [ng], [j], [t], [d], [k], [g]. (24) Some stops are substituted for fricatives. (24) The following sounds are mastered by age 3: [b], [k], [g], [d], [f], [j]. (21) The child seeks ways to clarify and correct misunderstandings. (21)

48 - 54 months		Speech is 95% intelligible (marotz)The following consonants are learned [n], [ng], [w], [h] (Weiss)
54 - 60 months	Thickness of soft palate = 7.7 mm Length of soft palate = 25.7 mm to 26.5 mm (15)	Articulation is approximately 80% correct. Final position /s/ is developed. Double consonant blends "ch" and "sh" are developed in medial position. Double consonant blends "fr" and "gr" are developed in initial position. Double consonant blend "lf" is developed in final position. (11)
60 - 66 months	Thickness of soft palate = 7.7 mm Nasopharynx = 19.9 mm Dentition nothing happening at this time. (15)	The two new sounds, at the 50% correct level, are the two /th/ sounds, the voiced and unvoiced cognates. Developmental mastery of 75% correct of speech-sound clusters are / gl, fl, fr, str/ in the initial position. In the final position / lb, lf, rd, rf, rn, & lk/. Siblants remain difficult for most. At 5-years-old, speech should be nearly completely intelligible. Vocabulary is still developing (life-long task). (20)
6 years 72 - 84 months	Begins to get permanent teeth (19). Length of soft palate: Boys= 27.5 mm, Girls= 27.4 mm Thickness of normal soft palate: 7.9 mm (15).	Acquires soft th / / as in "thin" and / / as in "treasure" (15).
8 years	Shedding of primary maxillary central and lateral incisors and mandibular lateral incisors and the eruption of those same teeth as permanent teeth. Soft Palate Length: Male: 28 mm Female: 28 mm (15)	Can produce all English speech sounds. Sounds in longer words or blends may still be difficult (19)
10 years	Oral cavity is adequate for the production of sounds. Soft Palate Length Males: 30 mm Females: 30.2 mm (15).	All English sounds are well-established and well-produced (19).

