Table 8-2 Rules of Thumb for Speech Screening

AGE (YR)	SPEECH PRODUCTION	ARTICULATION (AMOUNT OF SPEECH UNDERSTOOD BY A STRANGER)	FOLLOWING COMMANDS
1	One to three words		One-step commands
2	Two- to three-word phrases	One half	Two-step commands
3	Routine use of sentences	Three fourths	
4	Routine use of sentence sequences; conversational give-and-take	Almost all	
5	Complex sentences; extensive use of modifiers, pronouns, and prepositions	Almost all	

with an interview algorithm is indicated to distinguish normal variant behaviors from those children needing a referral for definitive testing. The test is freely distributed on the Internet (see Chapter 20).

Language screening correlates best with cognitive development in the early years. Table 8-2 provides some rules of thumb for language development that focus on speech production (expressive language). Although expressive language is the most obvious language element, the most dramatic changes in language development in the first years involve recognition and understanding (receptive language).

Whenever there is a speech and/or language delay, a **hearing deficit** must be considered. The implementation of universal newborn hearing screening detects many, if not most, of these children in the newborn period, and appropriate early intervention services may be provided. Conditions that present a high risk of an associated hearing deficit are listed in Table 8-3. Dysfluency (*stuttering*) is common in a 3- and 4-year-old child. Unless the dysfluency is severe, is accompanied by tics or unusual posturing, or occurs after 4 years of age, parents should be counseled that it is normal and transient and to accept it calmly and patiently.

After the child's sixth birthday and until adolescence, developmental assessment is initially done by inquiring about school performance (academic achievement and behavior). Inquiring about concerns raised by teachers or other adults who care for the child (after-school program counselor, coach, religious leader) is prudent. Formal developmental testing of these older children is beyond the scope of the primary care pediatrician. Nonetheless the health care provider should be the coordinator of the testing and evaluation performed by other specialists (e.g., psychologists, psychiatrists, developmental pediatricians, and educational professionals).

OTHER ISSUES IN ASSESSING DEVELOPMENT AND BEHAVIOR

Ignorance of the environmental influences on child behavior may result in ineffective or inappropriate management (or both). Table 8-4 lists some contextual factors that should be considered in the etiology of a child's behavioral or developmental problem.

Building rapport with the parents and the child is a prerequisite for obtaining the often sensitive information that is essential for understanding a behavioral or developmental issue. Rapport usually can be established quickly if the parents sense that the clinician respects them and is genuinely interested in listening to their concerns. The clinician develops rapport with the child by engaging the child in developmentally appropriate conversation or play, perhaps providing toys while interviewing the parents, and being sensitive to the fears the child may have. Too often the child is ignored until it is time for the physical examination. Similar to their parents, children feel more comfortable if they are greeted by name

Table 8-3 Conditions Considered High Risk for Associated Hearing Deficit

Congenital hearing loss in first cousin or closer relative
Bilirubin level of ≥20 mg/dL
Congenital rubella or other nonbacterial intrauterine infection
Defects in the ear, nose, or throat
Birth weight of ≤1500 g
Multiple apneic episodes
Exchange transfusion
Meningitis
Five-minute Apgar score of ≤5
Persistent fetal circulation (primary pulmonary hypertension)
Treatment with ototoxic drugs (e.g., aminoglycosides and loop diuretics)

Table 8-4 Context of Behavioral Problems

CHILD FACTORS
Health (past and current)
Developmental status
Temperament (e.g., difficult, slow to warm up)
Coping mechanisms
PARENTAL FACTORS
Misinterpretations of stage-related behaviors
Mismatch of parental expectations and characteristics of child
Mismatch of personality style between parent and child
Parental characteristics (e.g., depression, lack of interest, rejection, overprotective)
Coping mechanisms
ENVIRONMENTAL FACTORS
Stress (e.g., marital discord, unemployment, personal loss)
Support (e.g., emotional, material, informational, child care)
Poverty
Racism