

Table Two

**Some Causes of Childhood Permanent Hearing Loss,
Possible Physical Problems, and Developmental/Psychological Difficulties**

Cause	Possible Co-Occurring Difficulties	References
Genetic Factors (Heredity)	<ul style="list-style-type: none"> • Children whose hearing loss is genetically based are the least likely of all major etiological groups to have multiple disabilities. • However, approximately 1/3 of genetic hearing loss is associated with another trait recognizable as a syndrome (e.g., Down Syndrome, Usher Syndrome, Fetal Alcohol Syndrome) that can negatively affect physical and psychological well being. 	(Brookhouser, Worthington, & Kelly, 1994; Grundfast, 1992; Grundfast, Atwood, & Chuong, 1999; Karchmer, 1985; Vernon, 1969a, 1969b, 1976, 1982)
Complication of Rh Factor	<ul style="list-style-type: none"> • Cerebral palsy • Aphasia • Developmental delay/mental retardation • Multiple disabilities 	(D. F. Moores, 1987; Vernon, 1982)
Meningitis	<ul style="list-style-type: none"> • High incidence of physical and cognitive disabilities (e.g., aphasia, developmental delay/mental retardation, learning disabilities, behavioral/emotional problems). • Children may suffer severe physical and neuropsychological sequelae and have difficulty in educational programs. 	(Dodge, 1992; Karchmer, 1985; D. F. Moores, 1987; Schuyler & Rushmere, 1987; Vernon, 1967)
Maternal Rubella	<ul style="list-style-type: none"> • Physical difficulties may include hearing, vision, urogenital, and endocrine disorders • Major, frequently late-occurring neuropsychological sequelae (such as developmental delay/mental retardation, autism, abnormal behavior patterns, impulsivity, hyperactivity, rigidity and specific learning disabilities). 	(Cunningham, 1992; Hutchinson & Sandall, 1995; D. F. Moores, 1987; Sison & Sever, 1993)
Prematurity	<ul style="list-style-type: none"> • Infants under 3.5 pounds who experience anoxia or intracranial bleeding are at risk for later developmental problems. • Infants with a hearing loss who are born prematurely often have physical and psychological sequelae (e.g., developmental delay/mental retardation, cerebral palsy, and learning and emotional disabilities). 	(American Academy of Pediatrics, 1995; Bergman et al., 1985; Duara, Suter, Bressard, & Gutberlet, 1986; Hille et al., 1994; McCormick, 1997; McCormick, Brooks, Workman-Daniels, Turner, & Peckham, 1992; D. F. Moores, 1987; Vernon, 1969b, 1982)
Syphilis Bacterial Infection	<ul style="list-style-type: none"> • May be asymptomatic at birth, but may later manifest signs of intellectual delay, visual disability and sensorineural hearing loss. 	(American Academy of Pediatrics, 1995; Blackman, 1997)
Herpes Simplex Virus Infection	<ul style="list-style-type: none"> • Approximately two-thirds of all herpes simplex virus infections are body-system pervasive. • More than half of all survivors have permanent neurological impairments (e.g., learning disabilities) and accompanying visual system disturbances and hearing loss. 	(Hutchinson & Sandall, 1995; McCollister, 1988; Sison & Sever, 1993; Stagno & Whitley, 1985)
Cytomegalovirus (CMV) Infection	<ul style="list-style-type: none"> • CMV is a common cause of congenital hearing loss. • One out of 100 infants born with CMV is asymptomatic. • 10% to 15% of affected infants will likely develop central nervous system damage (i.e., hearing loss, developmental and intellectual delays, psychomotor difficulties). • CMV-related learning problems may go unidentified until formal schooling begins. • Schildroth (1994, 31) noted that "CMV has pernicious educational consequences" for children who are deaf or hard of hearing. 	(Bale, Blackman, Murph, & Andersen, 1986; Barbi et al., 2003; Blackman, 1997; D. F. Moores, 1987; Pappas, 1985; Schildroth, 1994; Schuyler & Rushmere, 1987; Sison & Sever, 1993; Stagno, Pass, Dworsky, & Alford, 1982)