

PROBLEM	ASK ABOUT OR CHECK
Motor	Range of motion examination; scoliosis check; assessment of mobility; interaction with orthopedist, physical medicine and rehabilitation (PM&R), and physical therapist/occupational therapist as needed
Diet	Dietary history, feeding observation, growth parameter measurement and charting, supplementation as indicated by observations, oro-motor therapist as needed
Sensory impairments	Functional vision and hearing screening; interaction as needed with ophthalmologist, audiologist
Dermatologic	Examination of <i>all</i> skin areas for decubitus ulcers or infection
Dentistry	Examination of teeth and gums; confirmation of access to dental care (preferably with ability to use sedation)
Behavioral problems	Aggression, self-injury, pica; sleep problems; psychotropic drug levels and side effects
Seizures	Major motor, absence, other suspicious symptoms; monitoring of anticonvulsant levels and side effects
Infectious diseases	Ear infections, diarrhea, respiratory symptoms, aspiration pneumonia, immunizations (especially hepatitis B and influenza)
Gastrointestinal problems	Constipation, gastroesophageal reflux, gastrointestinal bleeding (stool for occult blood)
Sexuality	Sexuality education, preventing abuse, hygiene, contraception, menstrual suppression, genetic counseling
Other syndrome-specific problems	Ongoing evaluation of other “physical” problems as indicated by known mental retardation/developmental disability etiology
Advocacy for services and enhancing access to care	Educational program, family supports, financial supports, legislative advocacy to support programs

## SELECTED CLINICAL PROBLEMS: THE SPECIAL NEEDS CHILD

### Mental Retardation

MR is defined as significantly subnormal intellectual functioning for a child's developmental stage, existing concurrently with deficits in adaptive behaviors (self-care, home living, communication, and social interactions). MR is defined statistically as cognitive performance that is two standard deviations below the mean (roughly below the 3rd percentile) of the general population as measured on standardized intelligence testing. The last known estimate of the prevalence of MR is that about 2% of the U.S. population is affected. Levels of MR from IQ scores derived from two typical tests are shown in Table 10-6. Caution must be exercised in interpretation because these categories do not reflect actual functional level of the tested individual.

The etiology of the central nervous system insult resulting in MR may involve genetic disorders, teratogenic influences,

LEVEL OF RETARDATION	ICD-10 IQ SCORE	WISC-IV IQ SCORE	EDUCATIONAL LABEL
Mild	50–69	50–55 to 70	Educable mentally retarded (EMR)
Moderate	35–49	35–40 to 50–55	Trainable mentally retarded (TMR)
Severe	20–34	20–25 to 35–50	
Profound	<20	<20–25	

*ICD-10*, International Classification of Diseases (WHO), ed 10; *WISC-IV*, Wechsler Intelligence Scale for children, ed 4.

perinatal insults, acquired childhood disease, and environmental and social factors (Table 10-7). Mild MR correlates with socioeconomic status, although profound MR does not. Although a single organic cause may be found, each individual's performance should be considered a function of the interaction of environmental influences with the individual's organic substrate. Behavioral difficulties resulting from the MR itself and from the family's reaction to the child and the condition are common. More severe forms of MR can be traced to biologic factors. The earlier the cognitive slowing is recognized, the more severe the deviation from normal is likely to be.

The first step in the diagnosis and management of a child with MR is to identify functional strengths and weaknesses for purposes of medical and habilitative therapies. A history and physical examination may suggest a diagnostic approach that, then, may be confirmed by laboratory testing and/or imaging. Frequently used laboratory tests include chromosomal analysis and magnetic resonance imaging of the brain. Almost one third of individuals with MR do not have readily identifiable reasons for their disability.

### Vision Impairment

Significant visual impairment is a problem in many children. **Partial vision** (defined as visual acuity between 20/70 and 20/200) occurs in 1 in 500 school-age children in the United States. **Legal blindness** is defined as distant visual acuity of 20/200 or worse and affects about 35,000 children in the United States. Such impairment can be a major barrier to optimal development.

The most common cause of **severe visual impairment** in children is retinopathy of prematurity (see Chapter 61). Congenital cataracts may lead to significant amblyopia. Cataracts also are associated with other ocular abnormalities and developmental disabilities. **Amblyopia** is a pathologic alteration of the visual system characterized by a reduction in visual acuity in one or both eyes with no clinically apparent organic abnormality that completely accounts for the visual loss. Amblyopia is due to a distortion of the normal clearly formed retinal image (from congenital cataracts or severe refractive errors); abnormal binocular interaction between the eyes as one eye competitively inhibits the other (strabismus); or a combination of both mechanisms. Albinism, hydrocephalus, congenital cytomegalovirus infection, and birth asphyxia are other significant contributors to blindness in children.