There are four categories of mental retardation: mild, moderate, severe, and profound. The roughly 80% of retarded persons who are classified as mildly retarded have an IQ between 50 or 55 and 70. Mild retardation, which may not be detected in early childhood, usually involves little sensorimotor impairment. Persons in this category can be educated up to a sixth-grade level. With adequate vocational guidance, they can live and work productively in the community as adults, either independently or with some degree of supervision.

About 10% of retarded persons are classified as moderately retarded, with IQs generally between 35 and 50. Although they usually do not progress beyond the second-grade level academically, as adults they can take care of themselves within supervised settings and perform unskilled or semiskilled work.

Persons with severe retardation, who account for 3-4% of the retarded population, have serious language and motor impairment. They usually do not speak in early childhood but can learn communication and basic self-care during the school years. Their language skills may be limited to the most basic functional words necessary to meet their daily needs. As adults, they live either with their families, in group homes, or, when necessary, in facilities that can provide skilled medical or nursing care.

Profound retardation, which accounts for 1-2% of the retarded population, is usually associated with a neurological condition. It is characterized by severe sensorimotor difficulties beginning in early childhood and serious long-term limitations on both communication and the ability to care for oneself. Some profoundly retarded individuals are never able to speak or to be toilet trained. Most need constant care throughout their lives.

In addition to the categories of mild, moderate, severe, and profound retardation, separate categories are sometimes used to designate those retarded persons who can benefit from some degree of academic training. Those designated “educable mentally retarded” (EMR) can handle academic work at a third- to sixth-grade level, and usually have IQs that fall between 50 and 75. The “trainable mentally retarded” (TMR) have IQs of between 30 and 50 and can progress as far as second-grade level work. It is important to note that IQ scores are not foolproof ways of detecting the abilities and potential of mentally retarded children. Some children with lower IQs ultimately prove to be more capable of leading independent, productive lives than others who score higher. Factors such as emotional support, medical attention, and vocational training can play as great a role as IQ in determining the future of a retarded child.

Causes of mental retardation

There are many different causes of mental retardation, both biological and environmental. In about 5% of cases, retardation is transmitted genetically, usually through chromosomal abnormalities, such as Down syndrome or fragile X syndrome. Down syndrome occurs when there is an extra chromosome in the 21st pair of chromosomes (known as trisomy 21). People with Down syndrome have 47 chromosomes instead of the normal 46. The disorder occurs in one out of every 600-700 births worldwide. Women over 35 are at greater risk of bearing a child with Down syndrome than younger women, and Down syndrome births are over 20 times more likely in women over 45 than in those under the age of 30. Children and adults with Down syndrome demonstrate both mental and motor retardation. Most are severely retarded, with IQs between 20 and 49, and prone to a number of physical problems, including poor vision, hearing and heart defects, and low resistance to respiratory infections. Individuals with Down syndrome (formerly called mongoloidism) also have distinctive physical features, including upward-slanting, almond-shaped eyes and a short, stocky build with a short neck and a smaller than average skull, which is usually flat in back.

Besides Down syndrome, the chromosomal condition that most commonly causes mental retardation is fragile X syndrome, in which a segment of the chromosome that determines gender is abnormal. Fragile X syndrome primarily affects males, in whom the incidence of the condition is 1 in 1,000, as opposed to 1 in 2,500 for females. Males with fragile X syndrome tend to have long, thin faces with prominent ears and jaws, and they often have characteristics of autism. Some researchers suspect that as many as 15% of people diagnosed with autism actually have fragile X syndrome. About 20% of genetically caused mental retardation results from single gene mutations, including Down syndrome, phenylketonuria (PKU), and metachromatic leukodystrophy.

Mental retardation may be caused by problems that occur during pregnancy and birth, including maternal nutritional deficiencies, toxemia, infections such as rubella, maternal phenylketonuria (even if the fetus doesn’t have the condition), use of drugs or alcohol, maternal injury during pregnancy, extreme prematurity, low birth weight, perinatal injury, or lack of oxygen at birth. Retardation can also be the result of medical conditions and injuries that occur after birth, including metabolic disorders, severe childhood malnutrition, prolonged high fever, near drowning, lead poisoning, severe mental disorders such as autism, and infections such as meningitis that affect the brain. Environmental factors influencing mental retardation include deprivation of physical or
emotional nurturance and stimulation. Altogether, there are hundreds of possible causes of, or factors contributing to, mental retardation.

Mentally retarded people are more prone to both physical and mental disorders than the general population. Some of the conditions that cause mental retardation may also be characterized by seizures, hearing problems, congenital heart defects, and other symptoms. Mental disorders are much more common among the mentally retarded than among the general population: an estimated one million Americans have some degree of mental retardation as well as a mental disorder of some kind. The most severely retarded appear to be most at risk for mental disorders, and the more severe the retardation the more serious the disorder. Diagnosis and treatment of these disorders can be especially difficult due to communication problems. In addition, mental illness in the retarded may also be caused by the stresses, frustrations, and loneliness they encounter in daily life. Depression, for example, is a common disorder of the mentally retarded, and one that often goes undiagnosed. In spite of their limited intellectual capabilities, retarded children realize that they are different and that other people are often uncomfortable around them. Professional counseling, along with parental love and attention, can help a retarded child maintain a positive self-image, which is crucial to the ability to function effectively with family, peers, and in the larger community.

Preventive measures

Some types of mental retardation can be prevented through genetic counseling to determine the risk of a couple having a retarded baby. Other prenatal preventative measures include ensuring that a pregnant mother has adequate nutrition and immunization against infectious diseases; monitoring to screen for fetal abnormalities that are associated with mental retardation; and reduced use of drugs and alcohol by women during pregnancy. Following the birth of a child, the chances of retardation can be reduced by maintaining good nutrition for both the nursing mother and the young child; avoiding environmental hazards such as lead; and providing the child with emotional, intellectual, and social stimulation.

Another important preventative measure is early detection of certain metabolic and nutritional conditions that result in mental retardation following a period of degeneration. Screening for certain disorders is mandatory in most states. Hypothyroidism, which affects 1 in 4,000 infants born in the United States, can be prevented if a thyroid hormone is administered by the first month of an infant's life. However, if the condition goes untreated, it will cause impaired mental development in 20% of affected children by the age of three months, and in 50% by the age of six months. Phenylketonuria (PKU) prevents an infant from metabolizing the amino acid phenylalanine. Reducing the amount of this substance in an infant’s diet can prevent retardation. Infants with galactosemia lack the enzyme needed to convert the sugar galactose to glucose. Avoiding milk and certain other dairy products prevents galactose from accumulating in the blood and eventually interfering with the child’s normal mental development. However, none of the preceding measures can be taken if the conditions involved are not detected, and most are undetectable without screening.

The symptoms of mental retardation are usually evident by a child's first or second year. In the case of Down syndrome, which involves distinctive physical characteristics, a diagnosis can usually be made shortly after birth. Mentally retarded children lag behind their peers in developmental milestones such as sitting up, smiling, walking, and talking. They often demonstrate lower than normal levels of interest in their environment and responsiveness to others, and they are slower than other children in reacting to visual or auditory stimulation. By the time a child reaches the age of two or three, retardation can be determined using physical and psychological tests. Testing is important at this age if a child shows signs of possible retardation because alternate causes, such as impaired hearing, may be found and treated.

There is no cure for mental retardation once it has occurred. Treatment programs are geared toward helping retarded children reach their own full potential, not toward helping them catch up with their peers who aren’t retarded. Nevertheless, this type of habilitative intervention can prepare most retarded people to lead fulfilling and productive lives as active members of their communities. All states are required by law to offer early intervention programs for mentally retarded children from the time they are born. The sooner the diagnosis of mental retardation is made, the more the child can be helped. With mentally retarded infants, the treatment emphasis is on sensorimotor development, which can be stimulated by exercises and special types of play. It is required that special education programs be available for retarded children starting at three years of age. These programs concentrate on essential self-care, such as feeding, dressing, and toilet training. There is also specialized help available for language and communication difficulties and physical disabilities. As children grow older, training in daily living skills, as well as academic subjects, is offered.

Counseling and therapy are another important type of treatment for the mentally retarded. Retarded children as a group are prone to behavioral problems caused by short attention spans, low tolerance for frustration, and poor im-