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What Are Medical Disabilities?

All medical disabilities are similar in that they are caused by disease or health problems prior to, during, or after birth. Federal guidelines place students with medical disabilities under the category of "other health impairments." Students in this category have limited strength, vitality, or alertness that adversely affects their educational performance. These limitations are caused by chronic or acute health problems such as heart conditions, tuberculosis, rheumatic fever, nephritis, asthma, sickle-cell anemia, hemophilia, epilepsy, lead poisoning, leukemia, and diabetes. For the most part, the "other health impairments" category includes chronic diseases that affect the whole body. For example, students with attention deficit hyperactivity disorder (ADHD) are eligible for special education services under the "other health impairment" category if problems of limited alertness negatively affect academic performances.

Identification by Medical Symptoms

The term "other health impairments" tells us little about the educational needs of students. The specific conditions included within the category usually can be identified objectively because of their medical symptoms. Asthma, tuberculosis, and sickle-cell

anemia are medical problems that are identified by specific tests. Although the causes of asthma are unknown, the symptoms of labored breathing, shortness of breath, coughing, and wheezing have medical origins: tightening of the muscles around the bronchial tubes as well as swelling of the tissues and increased secretions in these tubes. Tuberculosis is caused by a bacterium that can be identified. Sickle-cell anemia is easy to identify by the shape of the individual's red blood cells (sickle shaped), which impair circulation and result in chronic illness, long-term complications, and premature death.

Prevalence of Medical Disabilities

About 291,850 students with "other health impairments" receive special education services (U.S. Department of Education, 2002). This number represents a large increase over previous estimates, largely due to the increased identification of students with ADHD. Students with "other health impairments" represent less than 1 percent of school-aged children and adolescents and about 5 percent of students with disabilities. There is little variation in the percentage of these students identified in each of the states.

"Other" Health Impairments

Any illness that interferes with learning can make a student eligible for special services under the category of "other health impairments." This category includes not only those impairments specified in the federal definition (see *Table 1.1*), but also heart conditions, cystic fibrosis, AIDS, and other diseases. Students whose problems are primarily due to alcoholism or drug abuse are not classified with "other health impairments" or any other special education condition even though these problems present special areas of concern for students, teachers, parents, and other professionals.

Table 1.1 Description of Selected Other Health Impairments

Condition	*Description*
Asthma	Chronic respiratory condition characterized by repeated episodes of breathing difficulties, especially while exhaling
Diabetes	A developmental or hereditary disorder characterized by inadequate secretion or use of insulin produced by the pancreas to process carbohydrates
Nephrosis and nephritis	Kidney disorders or diseases caused by infections, poisoning, burns, accidents, or other diseases
Sickle-cell anemia	Hereditary and chronic blood disease (occurring primarily in people of African descent) characterized by red blood cells that are distorted and that do not circulate properly
Leukemia	Disease characterized by excessive production of white blood cells
Lead poisoning	Disorder caused by ingesting lead-based paint chips or other substances containing lead
Rheumatic fever	Disease characterized by painful swelling and inflammation of the joints that can spread to the heart and central nervous system
Tuberculosis	Infectious disease that commonly affects the lungs and may affect other tissues of the body
Cancer	Abnormal growth of cells that can affect any organ system

Heart Conditions

Heart conditions are not uncommon among young people. They are characterized by the heart not circulating blood properly. Some **heart conditions** are congenital (present at birth); others are the product of inflammatory heart disease (myocarditis, endocarditis, pericarditis, rheumatic heart disease). Some students have heart valve disorders; others have disorders of the blood vessels. Recently, students have been returning to school following heart transplants. When heart disorders or the medications necessary to treat them interfere with a student's ability to participate in normal activities, special education services may be provided as a short- or long-term support system.

Cystic Fibrosis

Cystic fibrosis is a hereditary disease that affects the lungs and pancreas. Those who have cystic fibrosis have recurrent respiratory problems and digestive problems, including abnormal amounts of thick mucus, sweat, and saliva. Students with cystic fibrosis often spend a significant amount of time out of school. The disease is progressive, and few who have it live beyond age 20.

Acquired Immune Deficiency Syndrome (AIDS)

AIDS (acquired immune deficiency syndrome) is a potentially fatal syndrome caused by the human immunodeficiency virus (HIV). HIV is transmitted through body fluids (e.g., through transfusions, unprotected sex, sharing of hypodermic needles, birth from an infected mother). The term AIDS is often applied incorrectly. People with HIV do not necessarily have AIDS. AIDS is a late stage in a series of stages of HIV infection.

Acquired means AIDS is not genetically inherited (many diseases of immune deficiency are) but acquired from some substance or microorganism outside the body. **Immunodeficiency** means that the immune system has been weakened. A **syndrome**

is not so much a disease as it is a collection of symptoms. The effects of HIV infection include susceptibility to additional infections, developmental delays, central nervous system damage, motor problems, psychological problems, and death.

Many teachers are concerned about the risk of working with students with AIDS and other transmittable diseases. Generally, people with medical disabilities require treatments to protect their health and that of those around them. Extreme concern is usually unwarranted, and a few general, common-sense considerations are all that is required beyond the ongoing medical treatments being administered by physicians and other health personnel. Although medical guidelines for preventing the transmission of HIV may continue to be refined, Crocker and Cohen (1988) offer the following relevant tips for allaying concerns about HIV and AIDS:

1. Transmission of HIV in the course of providing usual developmental services should not be a concern.
2. Activities and handling of people with HIV should involve normal interactions consistent with their developmental status and personal health.
3. Caution is required relative to susceptibility to other diseases by people with HIV infection.
4. Good hygienic practices appropriate in all situations of disease or infection require improved attention relative to HIV.

Hemophilia

Hemophilia is a hereditary disease in which the blood clots very slowly or not at all. The disorder is transmitted by a sex-linked recessive gene and nearly always occurs in males. Those who have hemophilia bleed excessively from minor cuts and scrapes and suffer internal bleeding when they are bruised. In recent years, children with hemophilia and their families have faced increasing problems as a result of the potential contamination of blood and blood products with HIV. Students with hemophilia should be protected from contact sports and school

activities in which they might suffer a physical injury, but normal physical exercise should be encouraged.

Special Health Problems

Special health problems related to alcoholism and drug abuse are not considered disabilities even though they may adversely affect school performance.

Fetal Alcohol Syndrome

Fetal alcohol syndrome occurs in babies born to mothers who drink alcoholic beverages before and during pregnancy (Conlon, 1992). Children born with **fetal alcohol syndrome** have low birth weight and height, have unusual facial features, and evidence mental retardation. Some also have heart problems and varied learning problems.

Alcohol consumed during pregnancy affects the fetus because it crosses the placental membrane. This means that when the mother drinks, the fetus drinks. Some effects of drinking alcohol are decreased protein synthesis, impaired cellular growth, decreased production of essential metabolic products, and inhibited development of nerves (Conlon, 1992). These effects explain the growth retardation, abnormal physical appearance, and other problems of children with fetal alcohol syndrome.

Maternal Cocaine Use

Although not as common as maternal alcohol use, cocaine use during pregnancy receives a great deal of press because it places pregnant mothers as well as their babies at risk for a variety of serious, sometimes life-threatening health problems. Problems for the mothers include seizures, shortness of breath, lung damage, nasal membrane burns, respiratory paralysis, cardiovascular problems, anorexia, and premature labor (Smith,

1988). Although data are limited, it appears that children born of cocaine-addicted mothers experience a variety of problems with significant ramifications for success in school, including increased irritability, elevated respiratory and heart rates, neurological damage, low birth weight, and disturbed sleep patterns. Current information on the long-term effects of maternal cocaine use on children is equivocal: Some argue the effects are permanent and irreversible, and others believe the initial problems can be successfully treated without lasting damage. One thing is sure—babies are being born to mothers who use cocaine, and concern for them and others with health impairments touches every school district in the U.S.

Medically Fragile and Technology Dependent Groups

In recent years, two new groups of students have emerged, each with unique educational needs confounded by serious medical problems. The first group, direct recipients of advances in health care that have improved survival rates, are sometimes referred to as **medically fragile**. The Council for Exceptional Children (1988) defined this group as "those who require specialized technological health care procedures for life support and/or health support during the school day" (p. 12). The second group, sometimes called **technology dependent**, relies on life-sustaining medical equipment and complex nursing care to avoid death or further disabilities (Levy & Pilmer, 1992; Liles, 1993). Four groups of children have been identified as being technology dependent, but the boundaries can be blurred (Liles, 1993):

Group I Dependent at least part of each day on mechanical ventilators (machines that help them breathe).

Group II Require prolonged intravenous administration of nutritional substances or drugs.

Group III Daily dependence on other device-based respiratory or nutritional support, including tracheotomy tube care, suctioning, oxygen support, or tube feeding.

> Group IV Prolonged dependence on other medical devices that compensate for vital body functions, daily or near-daily nursing care. (p. 2)

The diversity of responses to medical problems sometimes makes it difficult to distinguish technology dependent students from the larger group of students with special health problems or other medical disabilities. Generally, as the level of a student's disability improves and the intensity of medical intervention decreases, how the student is classified depends on the response to treatments. For example, should a student whose breathing problems improve over time be called "technology dependent" because he once needed a ventilator to overcome a problem with breathing? Similarly, some students require minimal medical equipment but a great deal of nursing care (e.g., for uncontrolled diabetes), while others may need specialized equipment but limited supervision (e.g., overnight intravenous therapy). Deciding in what group to classify a student also presents problems. Regardless, three key components appear to be prominent in school programs that successfully include students with medical disabilities and special health problems (Liles, 1993):

> Clear and open communication to share information about resources and reduce fears.
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> Collaboration between school personnel and representatives from other agencies dealing with health care issues.
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> Flexibility to accommodate the often highly individualized needs of these students. (p. 1)