

# **Types of Physical Handicaps, Causes, Characteristics and Interventions**

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## **1.0 Introduction**

A physical handicap is a physical or mental disability making participation in certain of the usual activities of daily living more difficult according to Noel (2010). There are many types of physical handicaps that people can acquire. They come in all shades, shapes and sizes. Some examples of handicaps can result from a disability such as blindness, deafness or injuries that can lead to paralysis or amputations. Noel (2010) tells us that some physical handicaps are not always a hindrance to someone's everyday lifestyle. This paper analyses this aspect of humanity in six sections. First is a brief discussion on physical handicaps. Second are the causes and characteristics of common physical disabilities. Third is the educational intervention towards physical handicaps while fourth comes a section discussing methods of prevention of these disabilities. Lastly, the paper draws a conclusion that after all, disability is not inability.

People who have a handicap can still have a normal life. They may not be able to do what they would like to do much less do regular activities like others. However, they are capable of being happy and productive. Many face discrimination or get treated as second class citizens or worse seen as a "poor soul." As a result, there were reportedly over 19,000 charges filed in 2008 claiming discrimination from disabled workers. People often mistake being disabled as handicapped and vice versa. Although both refer to someone being at a disadvantage, they are not the same. Noel (2010) is clear in his definition that a disability is the limitations of a function due to injury or illness such as being paralyzed or blind. Examples of someone with a handicap are not having the speed to make a track relay squad or the size and power to make a football team. A person suffering from a physical handicap that severely impairs someone's judgment and ability can become a hazard to themselves as well as others.

## **2.0 Various types of physical handicaps, their causes and characteristics**

This section presents various types of physical handicaps, their causes and characteristics.

## **2.1 Causes and characteristics**

### ***Skeletal impairments***

This include joint movement limitations (either mechanical or due to pain), small limbs, missing limbs, or abnormal trunk size. Some major causes of these impairments can be explained as follows.

### ***Arthritis***

Arthritis is defined as pain in joints, usually reducing range of motion and causing weakness. Rheumatoid arthritis is a chronic syndrome. Osteoarthritis is a degenerative joint disease. The incidence of all forms of arthritis is now estimated at 900,000 new cases per year<sup>10</sup>.

### ***Cerebral Palsy (CP)***

Cerebral palsy is defined as damage to the motor areas of the brain prior to brain maturity (most cases of CP occur before, during or shortly following birth). CP is a type of injury, not a disease (although it can be caused by a disease), and does not get worse over time; it is also not "curable." Some causes of cerebral palsy are high temperature, lack of oxygen, and injury to the head. The most common types are: (1) spastic, where the individual moves stiffly and with difficulty, (2) ataxic, characterized by a disturbed sense of balance and depth perception, and (3) athetoid, characterized by involuntary, uncontrolled motion. Most cases are combinations of the three types.

### ***Spinal Cord Injury***

Spinal cord injury can result in paralysis or paresis (weakening). The extent of paralysis/paresis and the parts of the body affected are determined by how high or low on the spine the damage occurs and the type of damage to the cord. Quadriplegia involves all four limbs and is caused by injury to the cervical (upper) region of the spine; paraplegia involves only the lower extremities and occurs where injury was below the level of the first thoracic vertebra (mid lower back). Car accidents are the most frequent cause (38%), followed by falls and jumps (16%) and gunshot wounds (13%)<sup>12</sup> as recorded by Connor, F. (1988).

### ***Head Injury (cerebral trauma)***

The term "head injury" is used to describe a wide array of injuries, including concussion, brain stem injury, closed head injury, cerebral hemorrhage, depressed skull fracture, foreign object (e.g., bullet), anoxia, and post-operative infections. Like spinal cord injuries, head injury and also stroke often results in paralysis and paresis, but there can be a variety of other effects as well.

### ***Stroke (cerebral vascular accident - CVA)***

The three main causes of stroke are: thrombosis (blood clot in a blood vessel blocks blood flow past that point), hemorrhage (resulting in bleeding into the brain tissue; associated with high blood pressure or rupture of an aneurysm), and embolism (a large clot breaks off and blocks an artery). The response of brain tissue to injury is similar whether the injury results from direct trauma (as above) or from stroke. In either case, function in the area of the brain affected either stops altogether or is impaired.

### ***Loss of Limbs or Digits (Amputation or Congenital)***

This may be due to trauma (e.g., explosions, mangle in a machine, severance, burns) or surgery (due to cancer, peripheral arterial disease, diabetes). Usually prosthetics are worn, although these do not result in full return of function.

### ***Parkinson's Disease***

This is a progressive disease of older adults characterized by muscle rigidity, slowness of movements, and a unique type of tremor. There is no actual paralysis. The usual age of onset is 50 to 70, and the disease is relatively common - 187 cases per 100,000<sup>15</sup> as sourced from Connor (1988).

### ***Multiple Sclerosis (MS)***

Multiple sclerosis is defined as a progressive disease of the central nervous system characterized by the destruction of the insulating material covering nerve fibers. The problems these individuals experience include poor muscle control, weakness and fatigue, difficulty walking, talking, seeing, sensing or grasping objects, and intolerance of heat. Onset is between the ages of 10 and 40.

### ***ALS (Lou Gehrig's Disease)***

ALS (Amyotrophic Lateral Sclerosis) is a fatal degenerative disease of the central nervous system characterized by slowly progressive paralysis of the voluntary muscles. The major symptom is progressive muscle weakness involving the limbs, trunk, breathing muscles, throat and tongue, leading to partial paralysis and severe speech difficulties. This is not a rare disease (5 cases per 100,000). It strikes mostly those between age 30 and 60, and men three times as often as women. Duration from onset to death is about 1 to 10 years (average 4 years).

### ***Muscular Dystrophy (MD)***

Muscular dystrophy is a group of hereditary diseases causing progressive muscular weakness, loss of muscular control, contractions and difficulty in walking, breathing, reaching, and use of hands involving strength.

### **3.0 Educational Interventions**

Education for physically impaired is special depending on the disability in question. Some students have no restrictions on what they can do and learn, while others are extremely limited in their activities and require intensive medical and educational help says Fraser (1983). A physical problem can hamper a student's mobility, coordination, stamina, communication, or learning abilities to such an extent that educational objectives are difficult to accomplish and special education intervention is required. For example, children with cerebral palsy typically have deficits in gross and fine motor development as well as speech and communication problems. Some children have extremely debilitating physical conditions that result in low intellectual functioning, serious limitations in activities, and multiple primary handicaps. Others function in the average or gifted range intellectually and participate full time in regular classes.

According to Reynolds and Clark (1983), examiners must have a broad base of skills in order to measure adequately the functional and cognitive abilities of students who are physically disabled or health impaired. In addition to the areas traditionally evaluated in the assessment of children with mild handicaps, measures should be included in the areas of gross motor, fine motor, and daily living skills; perception; recreation and leisure skills; augmentative communication; and sensory input. Competent diagnosticians recognize their personal limitations and seek help from therapists, educators, physicians, nurses, social workers, and others to gather appropriate data. (Reynolds and Clark, 1983) tells us that developing a comprehensive pre-assessment plan ensures that the information necessary for establishing programs and setting priorities for intervention will be available when needed.

One of the main considerations is the use of the team approach in developing and carrying out a child's educational program. The team generally includes the parents, teachers, medical professionals, and health-related professionals such as a physical therapist. Parents are critical members of the team and should be involved in all educational decisions. Sirvis (1988) noted

that the team should design a program that meets the needs of the student in five basic goal areas: "(a) physical independence, including mastery of daily living skills; (b) self-awareness and social maturation; (c) communication; (d) academic growth; and (e) life skills training" (p. 400). Interdisciplinary services such as occupational and physical therapy and speech and language therapy are of prime importance for youngsters who have physical disabilities.

Another important educational consideration is placement. Educational services are provided in a variety of settings including regular classrooms, resource rooms, special classes, and other, more restrictive settings including hospital and homebound programs. Approximately 8% of students with orthopedic impairments and 18% of students with health impairments are served in home and hospital environments (Tenth Annual Report to Congress, 1988). Since educational services may include extensive medical and health-related support, arrangements often need to be made to provide these services in diverse educational settings. The need for support services is often a vital consideration in fitting a program to an individual student. Most common among the related services are transportation, physical therapy, occupational therapy, diagnostic services, school health services, counseling, and school social work services (Tenth Annual Report to Congress, 1988).

It is often necessary to modify and adapt the school environment to make it accessible, safe, and less restrictive. Accessibility guidelines are readily available, and when these guidelines are followed the environment becomes easier for the child to manage independently. It is important that modifications be no more restrictive than absolutely necessary so that the student's school experiences can be as normal as possible. Many authorities stress the importance of avoiding overprotection of students with physical or health impairments. It is also important to permit students with disabilities to take risks just as their able-bodied cohorts do.

Recent advances in technology have helped to make life more nearly normal for students with physical disabilities. For example, students with cerebral palsy can use computer terminals to aid in communication. Through technology, even a person with the most severe handicaps can have greater control over communication and daily living skills.

Modifying the environment may mean providing special adaptive equipment such as specially designed desks, positioning devices, wedges, or standing tables. Adaptations also may include establishing procedures for dealing with medical emergencies when students have serious medical problems.

Though seemingly impossible, physical disabilities can be prevented. Many physical disabilities do not have cure. Also, scientist do not know causes for many physical disabilities. But, there are some things that can be done to prevent some physical disabilities. Here are some ways that people can try to prevent having physical disabilities. Prenatal care is when women visit doctor and lives healthy when they are expecting a baby. It is very important that women who are going to have a baby visit a doctor. Doctor can figure out if the women and the baby are healthy. The can also prescribe vitamins and medicine to keep a baby healthy. Another thing that doctor can do is inform people about their genetics. For example he can study family history to find out if a baby is at risk of inheriting some disorders. Prenatal care can lower risks of baby being born with disorders. Thomas (2008) says that healthy lifestyle includes nutrition and exercise, as well as staying away from alcohol and drugs. Alcohol and drugs can cause disorders for baby. So they should not be used when a person is pregnant. Also, smoke from cigarettes may make babies very little ad born to early. Premature babies are more likely to have a disability because their organs are not completely developed.

According to Meyer (2008), vaccination is another very important prevention. It prevents diseases for happening. Using vaccination means that diseases may not spread around in schools or community. Some disabilities may be prevented by simple shot or a pill. For example, Polio has been eradicated in the entire Western world. this is because al children are required to get a Polio vaccine .Because most of the people are vaccinated the polio virus cannot spread.

Accidents are a major cause of physical disabilities. We cannot always stop accidents from happening. But we can try. Many accidents happen on the roads. People have to make sure that they are wearing seat belts and that babies are in their car seats. In many poor countries people may not be able to afford this safety equipment, so it is important to make people aware and raise equipment or money to buy equipment in these countries. Also, roads in some countries are dangerous because they are old or not constructed well or not made for the cars. This is very

expensive to fix, but could prevent many accidents. In addition to car accidents, there are many other accidents that people, especially kids, can get in. For example riding a bike without helmets may be dangerous. Therefore, always wearing safety equipment that is made for the activity can help prevent accidents that cause physical disabilities.

### **3.0 Conclusion**

To conclude, we have observed that physical disability is part of humanity. No one is its victim out of choice. Therefore, we can not use it as a basis of discrimination to those that suffer from it. Instead, we should make effort on how we can empower those few that are disadvantaged, as we all deserve a life. Indeed, disability is not inability.

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