

KNOWLEDGE OF A RANGE OF DISABILITIES

Definitions from the World Health Organisation:

Impairment - is a generic term that embraces any disturbance of, or interference with, the normal structure and functioning of the body, including mental function.

Disability - is the loss or reduction of functional ability and activity that is consequent upon impairment; it can be on at least two planes, functional limitations and activity restriction.

Handicap- reflects the value attached to an individual's status when it departs from the norm.

Thus impairment and disability are assessed with respect to an individual's assets and deficits. Handicap can only be judged relative to circumstances, situation and relationships. A 'handicap' therefore, represents a summary of all the restrictions placed on a person's life chances, by the community and society in which he or she lives.

From: Coaching Disabled People, by Dr Bob Price

PHYSICAL AND INTELLECTUAL DISABILITIES

Cerebral Palsy

A persistent but not unchanging impairment of posture and movement resulting from a non-progressive brain disorder due to hereditary factors, events during pregnancy, delivery, the neonatal period or the first two years of life. (Brett 1992). This manifests itself in a physical way. This may not be obvious at birth. There is a possibility of some intellectual impairment, but this is not to be assumed.

Impairment may be present in different ways:

1) Spasticity- Limb muscle is tight and contracts strongly, there will be reduced mobility. Limbs may become contorted, hands poorly positioned with bent wrists. If leg muscles are affected, may walk on toes or with bent knees and legs crossing.

2) Athetosis - Involuntary purposeless movements, usually floppy and lacking in movement in the first year of life. There is sometimes a delay when initiating voluntary movement, may show patterning. Many will have normal intelligence.

3) Ataxic - Disturbances of balance, as nerves which descend from the equilibrium centre are damaged. Voluntary movements are clumsy and uncoordinated, often over or under reached. There may be a tendency to lurch into movements as they cannot guarantee to control movements.

Limb involvement may be as follows:

i) Monoplegia - One limb

- ii) Hemiplegia - One side movement i.e. leg and arm on same side
- iii) Diplegia - Lower limbs – with some involvement of upper limbs
- iv) Quadriplegia - All four limbs

Additionally there may be deformities of the spine:

- i) Scoliosis - S-shaped deformity
- ii) Lordosis - Sway-back sometimes referred to as gymnastic back.
- iii) Kyphosis - Dowager's hump.

Of these, scoliosis is the most likely to be met.

Cerebral palsy is a congenital condition - that is the condition is present at birth as opposed to an acquired disability, such as paraplegia, which is acquired during life, as a result of accident or disease.

Particular considerations: a b c d f g h i k l m.

Paraplegia

This is a paralysis of the lower body caused through traumatic damage to the spinal column. The degree of severity will depend on where on the spinal column the damage occurs and how much nerve involvement has occurred. Bladder and bowel control will be lost initially and help will be needed to restore function if possible.

Particular considerations: a b c f h k u

Spina Bifida

How and why does Spina Bifida happen?

The nervous system is one of the first parts of the human body to develop; the neural tube is formed within the first 25 days of pregnancy. The brain and spinal cord develop from this neural tube. Spina Bifida is caused by the failure of this tube to develop properly. The reasons why the tube develops incorrectly are not yet known, but it is thought to be connected with both genetic and environmental factors. Spina Bifida is the most common defect present at birth in Britain. The incidence varies from one geographical area to another.

Spine Bifida occurs when one or more vertebrae (the bones that form the backbone) fails to completely enclose the spinal cord. The meninges can stick through the gap and sometimes the nerves underneath the meninges are exposed. Sometimes the circulation of fluid which surrounds the cord is impaired and hydrocephalus develops.

Particular considerations: a b c d e f k m

Hydrocephalus

From the Greek hydro=water, cephalie=brain - is an accumulation of cerebrospinal fluid which arises from an imbalance in the production and drainage of that fluid. The majority of babies born with Spina Bifida also have Hydrocephalus. The shunt drains into the

abdominal cavity or a vein in the neck.
Particular considerations: a b c d e f k u

Amputee

This may be acquired through an accident or by surgery. Also included are congenital deformities such as thalidomide.

Particular considerations: a k

Muscular Dystrophy

This is a progressive weakening of the muscles, characterised by a degeneration of the muscle cells, being replaced by fat and fibrous tissues. Neuromuscular diseases are basically disorders of the central nervous system involving one or more parts of the motor units.

Duchenne muscular dystrophy is the most frequent and severe form. It affects only boys but is transmitted through the female side. Muscle weakness is the common denominator, making the muscles very wasted; not always obvious in the very young due to plumpness. Children will show symptoms of clumsiness, difficulty in moving, feeding or a strange walking gait.

Particular considerations.. a b c f g h k

Multiple Sclerosis

This is caused by scarring of the myelin sheath, which acts as insulation to the nerve fibres and normally helps impulses travel through the central nervous system. The scarring prevents some of these impulses reaching different parts of the body which may then cease to function properly.

The consequent disabilities can vary from impairments of speech, sight or movement to incontinence or complete paralysis.

MS strikes suddenly and without apparent reason. It is variable, unpredictable and often progressive, characterised by a pattern of attacks and remissions. The attacks may be severe but are often wide spaced.

Particular considerations: a b c h j k u

Cystic Fibrosis

A lung disease where there is an abnormally high production of thick sticky mucus. There is also the possibility of involvement of other organs eg. pancreas, intestine, salivary glands and liver. People with cystic fibrosis tend to be very thin, have poor musculature and use most of their energy just to breathe and cough.

Particular considerations: c f m s

Heart defects

Can either be congenital or acquired. Defects in the development of one of the various parts of the heart restricting flow of the blood, usually associated with congenital head defects. Acquired heart disease can result from illness, eg. rheumatic fever, which will leave the heart weak, possibly limiting a person's physical ability, high blood pressure or hypertension resulting from kidney or endocrine disease. Watch out for breathlessness, when a person's colour of either lips or fingers starts to turn blue.

Particular considerations: f

Arthritis

Arthritis describes a whole group of diseases, of which osteoarthritis and rheumatoid arthritis are the most common. Osteoarthritis is common in old age and is caused by the wearing away of the cartilage of the joints, sometimes accompanied by bony outgrowths. It mainly affects hips, knees, fingers and the upper and lower spine, causing pain and stiffness. Rheumatoid arthritis is far more crippling; affecting joints particularly fingers, wrists, feet, ankles, shoulders and sometimes hips. Joints become swollen and painful due to inflammation of the joint linings. Eventually cartilage is destroyed and there is gross deformity and stiffness. Muscles, nerves and other organs of the body may be affected.

Particular considerations: a b c f k

Brain Trauma

Caused by a traumatic event ie. car / motorbike/ horse riding accident, a fall, a brain tumour or a stroke.

Severity of damage will be varied, depending on which part of the brain received the 'assault'. Rehabilitation will be different in each case.

Every brain injury is individual. A brain injured person may have problems with any function controlled by the brain. The person may suffer from a variety of physical disabilities, for example spasticity in limbs or uncontrolled movement. There may also be problems with understanding, memory, concentration, moods, seeing, speaking and thinking. Personality might change like moodiness, depression, anti-social, inappropriate or aggressive behaviour, lack of moral judgment, difficulty in self expression and changes in sexual drive.

Particular considerations: a b c d f g h i k lm

Dystonia

Dystonia is the term used to describe a condition dominated by involuntary sustained muscle spasms which can be extremely painful. These can affect various parts of the

body and cause abnormal movements and postures. The condition is due to malfunction of the central nervous system, probably in those parts of the brain called the basal ganglia.

Dystonia is a movement disorder. Usually other functions of the brain are not affected. There are several types of Dystonia.

Particular considerations: a b d g i k o q r s t v w

Haemophilia

This is a genetically inherited disease in which blood fails to clot or clots very slowly. The untreated haemophiliac bleeds very easily, especially into joints. Most haemophiliacs have classic haemophilia, in which Factor VIII, also known as antihemophilic factor, is also absent. Once treated, it relieves the tendency to bleed for a few days.

Downs Syndrome

Is a genetic condition caused by the presence of an extra chromosome. People with Downs Syndrome will have varying degrees of learning disabilities and will often have shortened limbs, round face, thickened tongue, increased flexibility, low muscle tone and a possible problem at the neck joint - Atlanto-Axial instability.

Particular considerations: c f i n o p q r s t

Fragile X Syndrome

Is a genetically inherited syndrome caused by a fault in the 'X' chromosome. It occurs more often in boys, resulting in varying degrees of intellectual impairment. Symptoms can include speech problems, over activity and repetitive behaviour, while physical features often include a long narrow face with prominent jaw bone and ears.

Particular considerations: b f h i n p q r t

Acute Infection

Meningitis is an example and can be caused by bacteria or virus; causes inflammation of the membranes covering the brain and spinal cord. Children with disabilities may be more susceptible to infections which can cause further damage.

Particular considerations: b c i k n o

Particular Considerations for the Coach

- a) There may be loss of sensation - abrasions/limited awareness of limb positions (use of blankets etc.),
- b) Poor co-ordination.
- c) Hypotonia - loss of muscle tone.
- d) Hypertonia - increase of muscle tone.
- e) Shunts (particularly for hydrocephalus) these may become blocked/dislodged.

- f) Heart defects/poor circulation.
- g) Poor or no head control.
- h) Incontinence.
- i) Communication skills.
- j) Multiple Sclerosis - fatigue when the weather is warm/humid.
- k) Poor balance.
- l) Spatial awareness.
- m) Gastrostomy tube - for feeding.
- n) Memory - may have problems of recall.
- o) Co-ordination - organising themselves to complete the task.
- p) Comprehension - making sense of the requests.
- q) Inappropriate responses.
- r) Inability to follow instruction.
- s) Respiratory problems.
- t) Short concentration.
- u) Colostomy/Ileostomy bag/Catheter/Melome.
- v) Attention seeking.
- w) Discipline - support from staff.

All of the above can present as severe or moderate impairment. For example, the range of ability shown by people with Downs Syndrome can show a complete range from just below average to severe. No assumptions should be made as to the possible level of ability. People may show a combination of both physical and intellectual impairment, - referred to as multiple - this may be multiple profound if the degree of impairment is at the severe end of the scale.

SENSORY IMPAIRMENT

Visual

There are three common vision defects caused by deviations in the shape or structure of the eye. Short-sightedness and Long-sightedness, both may be due to a misshapen eyeball or to a lack of accommodation. Astigmatism is an inability to focus on vertical and horizontal objects at the same time, caused by a defect of the cornea at the front of the eye. Loss of vision may be due to an injury to the eye itself, some abnormality or lesion in the brain or the optic nerve, or due to a disorder such as diabetes. There may be damage to peripheral vision (sometimes referred to as tunnel vision) or to visual acuity (the ability to focus sharply on objects). Infectious diseases can occur during or after birth, ie. rubella. Neurological diseases can affect vision due to the retina and optic nerve being in close contact with the brain. Detached retina. Glaucoma is blindness caused by an increase in pressure of fluid in the eye. Cataract is a cloudiness of the lens of the eye. It is associated with old age. It is also common in diabetics.

Particular considerations: a b d

Auditory

There are two types of deafness - conduction deafness caused by interference with the

transmission of the sound waves from the external ear to the inner ear, perceptible or nerve deafness results from damage or incomplete development in the inner ear (auditory nerve). Conductive deafness may be caused by inflammation, blocking with a boil, wax or fluid. Nerve deafness may be congenital - rubella, rhesus factor, diseases such as mumps or measles. In adults it may be due to infections or head injuries. Hearing defects in the first few years of life may cause developmental damage, impeding intellectual development.

Particular considerations: c

Particular Considerations for the Hydrotherapy provider

- a) Perception of shapes and positions.
- b) Communication (BSL / lip-reading / Makaton).
- c) Communication - co-active signing.

EMOTIONAL / BEHAVIOURAL

People with learning difficulties are more likely than others to experience behavioural problems. However, behaviour is influenced by the way we are brought up and experiences we have among other factors.

The following may be seen:

Over activity - always rushing about, never still.

Impulsivity - tending to do things first, then think later.

Inattention - marked concentration problems, inability to stay with a task.

Some children have benefited from a diet which avoids certain foodstuffs or additives. People showing these conditions may be on a behaviour programme, in an attempt to modify some of the behaviour.

Autism

For someone to be regarded as having the condition of autism, they may exhibit some or all of the following traits.

Diagnostic criteria

Abnormal language development.

Abnormal social development.

Rigid and restricted patterns of behaviour or interests.

Onset is usually prior to 36 months.

Language

Lack of understanding of non-verbal communication.

Problems of abstract concepts - need concrete examples.

Problem of repetitive, stereotyped language, which can appear to be appropriate,

Social Difficulties

Indiscriminate approaches to adults.
Withdrawal from contact.
Failure to initiate contacts.
Failure to share experiences / pleasure.
Indiscriminate approaches to adults.
Withdrawal from contact.
Abnormal gaze / gesture.
Failure to respond to social 'norms'.
Lack of empathy.
Impaired 'theory of mind'.
Impaired peer relationships.

Patterns of Behaviour

Abnormal sensitivity to changes in routine (eating, sleeping etc.).
Insistence on carrying out specific routines or making others do so eg. set question and answer routine.
Prolonged rituals before eating, bedtime etc.
Bizarre and complex mannerisms.
Severe distress at changes in daily / weekly routines.
Resistance to environmental change.
Obsessions - abnormal interest in objects.
Insistence on touching, counting or making detours to see such objects.
Obsessional collection of objects.
Obsessional collection of facts, lists etc.
Abnormal use (e.g. placing objects in straight lines etc).
Abnormal attachments (constantly carrying around objects etc.).
People with a high intellectual level have a condition known as Asperger's Syndrome in which many of these criteria will be evident.

Particular considerations: c e f g h i j

Dyspraxia

Dyspraxia is a medical term for difficulty in planning and carrying out complex movements. Children with Dyspraxia may have difficulty pronouncing speech, dressing, playing ball games, riding bicycles, using construction toys, writing or drawing and may bump into things, knock things over or drop things. It affects daily life at home, at play and at school, especially in the early years. This can knock a child's self-confidence leading to anxiety, depression, clinging, reluctance to get involved in games and seeking excuses to stay off school, in order to avoid lessons.

Many children with Dyspraxia have other developmental problems such as speech and language difficulties in early years or reading in later years (Dyslexia). Though most children with Dyspraxia are of normal intelligence, children with moderate learning

difficulties often have Dyspraxia.

Twice as many boys are affected as girls. Overall about 2 per cent of children are affected.

Particular considerations: a b d f g k

Particular Considerations for the Coach

- a) Inappropriate response.
- b) Attention seeking.
- c) Coach/pupil relationship.
- d) Discipline - support from staff.
- e) Inability to follow instructions.
- f) Communication.
- g) Short concentration span.
- h) No self identity.
- i) Spatial awareness.
- j) Poor self-esteem.
- k) Poor co-ordination.

INVISIBLE

Epilepsy - A disorder of the nervous system giving rise to alterations of the brain function. May be caused by head injury, infection or birth injury, other cases are of unknown causes. There are many presentations of epileptic activity.

Absences - Momentary loss of consciousness, pupil will not necessarily stop activity, but may do. It is easy to miss them, consequently any requests by you may have been missed by the pupil.

Complex Partial - Pupil may fiddle with clothing, take off clothes, try to climb walls or over objects; they may look as though they are being 'naughty'.

Myo-clonic - Pupil will have single or multiple jerks; may fall.

Tonic - Pupil will jerk into a rigid spasm, head will drop forward, legs and arms will extend forward; pupil may fall over, spasm may not last long.

Tonic-clonic

Classic seizure - Pupil will jerk as above followed by rhythmic jerking, likely to fall down so will need to be protected from banging against furniture. The head will need to be protected. Pupil may be able to carry on or may need to rest for a short while

Atonic (Drop) - Pupil will go down with no saving reflexes, either forwards or backwards. Pupil will probably wear a helmet, which may be removed whilst on the trampoline but needs to be put back on as soon as they are off.

Simple - Localised twitching or the sensation in one area of the body.

Photosensitivity - Sunlight or artificial light may trigger seizures in some people.

Status - This is when a pupil has continuous seizures without regaining consciousness. The pupil needs to be accompanied, the coach should be informed and of the circumstances of when the pupil needs to be hospitalised.

In all cases apart from 'Status', there is little to be done except protect the pupil from abrasions and contusions. Maintain good levels of supervision, particularly off the trampoline. If seizures last more than 5-8 minutes, then the pupil should be hospitalised, as there is a danger of brain damage.

Particular considerations: a c d

Diabetes

An inability by the body to produce sufficient or any insulin, which controls the use of sugar within the body. The glucose accumulates in the blood and is passed in the urine. This causes the person to pass large quantities of urine and to drink a lot; there may be weight loss. It may be genetically inherited. Treatment may be by diet, tablets or both, usually for adults, especially if obese or old and sometimes in pregnancy (temporarily), or by injection of insulin for children or young people. Where there is a sudden fall in blood sugar level - hypoglycaemia - the person may become weak, confused or tremble or sweat. Treatment is to take in sugar, either as sugar lumps or a sweet drink or a 'Mars' bar, providing the person is conscious. Hypoglaecemia may arise when the food intake does not match insulin injected or an increase in exercise.

Hyperglycaemia is raised blood sugar levels, takes longer to develop, and like the severe cases of hypoglaecemia, needs immediate hospitalisation. Generally people with this condition will be able to check their own levels by a simple urine or blood test.

Particular considerations: b c d

Asthma

A common chronic inflammation of the airways of the lungs. The cause is not completely understood. As a result of the inflammation the airways are twitchy or irritable and they narrow easily in a wide range of provoking triggers. This gives rise to the coughing, wheezing, chest tightness and shortness of breath and these symptoms are often worse at night.

The airway narrowing is usually reversible; but for some people with chronic asthma, the inflammation may lead to some of the airway narrowing becoming fixed. Most people's asthma is through an allergy, eg. smoky atmosphere, cats and dogs, pollen, certain foods/drinks.

Some asthma is exercise induced or can be stress related.

Particular considerations: c e f g h I j

Particular Considerations for the coach

- a) Epilepsy - supervision.
- b) Diabetes - food intake, duration of exercise.
- c) Duration of exercise.
- d) Communication.
- e) Respiratory problems.
- f) Face turning blue.
- g) Difficulty in speaking.
- h) Fast shallow breathing.
- i) Difficulty in breathing out.
- j) Wheezing and coughing.

Particular Considerations for All Groups

Conceptual
Perceptual
Low esteem
Poor self-image
Spatial awareness
Body awareness
Attention Span
Fatigue
Inability to process the spoken word.
Sequencing
Memory
Directionality
Laterality
Timing
Rhythm
Comprehension
Balance

OTHER SPECIFIC CONDITIONS

Marfan's Syndrome

This is an inherited connective tissue disorder characterised by skeletal, ocular and cardiac abnormalities. The gene is located in the long arm of chromosome 15 and encodes the glycoprotein fibrillin. The prevalence based on clinical criteria is 1 in 5000. Affected patients are excessively tall, have chest wall abnormalities, kyphoscoliosis, arachnodactyly and high arched palates. Lens dislocation is common. Cardiac involvement is almost always characterised by mitral valve prolapse with or without

mitral regurgitation. Aortic root dilation is a potentially serious cardiac manifestation and sudden death is usually from aortic dissection or rupture. There may be a family history of sudden death. Physical examination should raise suspicion of Marfan's syndrome

Websites:

<http://www.marfan.org/marfan/>

Physical activities guidelines:

<http://www.marfan.org/marfan/2728/Physical-Activity-Guidelines#classification>