

August, 1998 - Version I

# Disability Awareness

## *Contents*

<b>What is a Disability</b>	1
<b>Description of Common Disabilities</b>	
1. Acquired Brain Injury	2
2. Amputations	7
3. Asthma	8
5. Cerebral Palsy	10
6. Diabetes	12
7. Epilepsy	17
8. Hearing Impaired	19
9. Heart Disease	22
10. Intellectual Disability	24
11. Multiple Sclerosis	27
12. Paraplegia & Quadriplegia	29
13. Spina Bifida	31
14. Vision Impairment	32

## ***WHAT IS A DISABILITY:***

One in every ten people in Australia has a disability. This means that the chances are high that you will have contact with at least one person with a disability every day. The disability may or may not be obvious to you. The disability can be of a physical, mental or intellectual nature, or a combination of one or more and caused by genetic, medical or an accident.

No two people have a disability that is exactly the same. At first glance or without knowing very much about disabilities, it is quite easy to assume that everybody with cerebral palsy is affected the same way or that all quadriplegics have to use electric wheelchairs. This is not the case. Everyone is affected in varying degrees, some more seriously than others. To further confuse you, everyone with a disability learns to cope with it in different ways; some better than others. Therefore, one person may be far more independent than the other person, even though they both may have a very similar disability.

The following material is included with the aim of facilitating personal interaction between people. It is not a detailed analysis of particular disabilities and as with any material you may read on specific impairments, should only be regarded as guidelines - as there will always be individual variation in impairments, disabilities, preferences. Details of specific impairments are not relevant to social interactions (if the person with a disability wishes to talk to you about his/her disability she/he will).

# 1. Acquired Brain Injury

## ***WHAT IS AN ACQUIRED BRAIN INJURY (ABI) ?***

An acquired brain injury is a loss of brain function as a result of damage to the brain which occurs after birth. It refers to injuries to the brain caused by trauma such as from an external force, which may result in unconsciousness or a diminished or altered state of consciousness.

## ***CAUSES***

The term Traumatic Brain Injury (TBI) refers to those injuries to the brain caused by an external force. This may result from –

Conditions which may result in damage to the brain (Acquired Brain Injury) include –

Motor Accidents

- Sporting Accident
- Assault
- Tumour
- Stroke
- Infection
- Substance abuse
- Medical mistake
- Accidents

The term Acquired Brain Injury (ABI) encompasses all injuries which occur to the brain after birth.

## ***HOW LONG DOES IT LAST?***

The effects of ABI can be temporary or permanent. The period of rehabilitation and the outcome of a brain injury will vary from person to person depending on the degree of damage that has occurred and the area or part of the brain affected. For this reason, some people who acquire a brain injury may incur multiple disabilities. It should be stressed that people with ABI differ considerably from people with an intellectual disability. People with brain injuries usually retain their intellectual abilities but may have difficulty controlling, co-ordinating and communicating their thoughts and actions.

## ***TRAINING TECHNIQUES***

An injury to the brain can result in partial or total impairments of cognitive, physical and/or sensory function. Whilst recovery from physical conditions might indicate minimal impairment of athlete, there is often a change in the behavioural and emotional functioning as a person adapts to the changes in their life. For this reason, ABI is often referred to as the "hidden disability".

## **INSTRUCTIONS**

A person with ABI usually retains their intellectual capacity after their injury, however, depending on the area of the brain which has been affected, there may be a problem in learning new skills because of the difficulty in processing information. Also, a person often has a problem in recognising their own limitations due to lack of insight as a result of damage to the frontal lobes.

With regards to instruction the following guidelines are recommended:

- Always talk slowly and clearly - do not provide too much information in any one session.
- Break down task into components.
- Be prepared to repeat procedures the following session.
- Use of visual aids both during lessons and on the boat if possible (i.e. use of picture cards and visual cues).
- Ensure written material is in large type wherever possible (in font 14 plus etc.) as people with ABI often have difficulty reading written material.
- Ensure that sailor keeps a diary for planning, including training sessions and race schedules.

## **CHARACTERISTICS**

### **PHYSICAL & SENSORY**

Physical considerations may include:

- an increased degree of spasticity,
- poor co-ordination and mobility,
- muscle weakness and
- susceptibility to fatigue.
- Often a person might experience a loss of sensory function, such as a decrease in visual acuity.

### **COGNITIVE**

Cognitive factors will vary for each individual but problems can occur with:

- spatial orientation
- motivation
- judgement
- memory loss
- difficulty in transferring information.

Each coach will need to determine the amount of information that can be processed by an athlete, including the capacity of short and long term memory.

### **OTHER CONSIDERATIONS**

In some instances, people with ABI might often exhibit inappropriate social behaviour. Whilst this is minimal, it is an aspect of brain injury which people should be aware, to ensure minimum offence to others, especially considering the social aspect of sailing.

## **MEDICAL CONSIDERATIONS**

Always attain a medical report or assessment of an individual including medication requirements and medical approval for participation in proposed activities. Consult with individual, doctor and parent or carer to identify any issues, problem areas, medication etc.

### **Epilepsy**

People with ABI are more likely to develop epilepsy after their injury. For this reason, it is essential that coaches, carers etc. have an awareness of epilepsy and a knowledge of how to treat epileptic seizures.

### **Fatigue**

A person with ABI is very susceptible to fatigue. Once a person is fatigued they are more susceptible to accidents, bouts of frustration, become easily stressed and therefore more likely to exhibit negative or inappropriate behaviour.

For this reason, the following guidelines should be implemented to facilitate an easier learning experience for both instructor and trainee.

Plan information or training sessions early in the day.

- Keep sessions short as concentration is often a problem and to minimise onset of fatigue.
- Ensure appropriate rest periods are programmed into training schedules.
- If racing, be prepared to change and distribute responsibilities within the crew.

### **Frustration**

A person with ABI will often remember all the activities they could perform prior to their accident.

Do not always presume that a person is capable of performing a task independently. It is often the case that the person will not be able to acknowledge initially that they are unable to perform certain tasks - the lack of insight is a common issue for people with ABI.

Always provide encouragement and positive reinforcement at all times.

### **Motivation**

People with ABI tend to exhibit a lack of motivation on many occasions. To address this issue, contact person prior to the day, on the day and as transport is often an issue, arrange transport with someone at set times to ensure opportunity for participation sailing or training day.

## **OTHER GUIDELINES**

Always consult with carers prior to beginning an activity. Apart from safety, this will try and eliminate situations where the trainee will be uncomfortable and become stressed. As ABI is a hidden disability, sometimes, the disability is only apparent where there is an inability to cope in stressful situations.

People with ABI wish to live independent and would like to be treated as an individual, be involved and integrated into the club or community wherever possible.

## ***IMPLICATIONS FOR SAILING***

- Balance can often be a problem - this should be taken into consideration, especially when on larger boats.
- Vision - Always check to see if there are any vision problems - people with ABI have problems with visual acuity.
- Depending on the degree of injury , it may be necessary to use modified equipment e.g. electronic controls etc.

## **2. People with Amputations**

For our purposes amputees will include people born with one or more limbs missing as well as people with acquired amputations. Amputations may be of a single limb, they may be double amputations or more. The position of the amputation is important. A person with an above the knee amputation will be more disabled than someone with a below the knee amputation.

### ***CAUSES***

The causes of amputations may include accidents eg.. car, farm, power tools etc, poor circulation due to smoking or diabetes. Cancer, infections, gangrene are all causes of amputations. Drugs taken during pregnancy may lead to children being born without limbs.

### ***IMPLICATIONS FOR SAILING***

- Equipment may need to be adapted to suit the person.
- The instructor should always be on the side of the sound limb.
- There may be difficulty with balance while sailing

## 3. Asthma

Asthma means "difficulty in breathing". It is caused by the narrowing of the small breathing tubes in the lungs. This narrowing is due to the tightening of the muscle in the walls of the tubes, the swelling of their lining and the increased production of mucus.

### **CAUSE**

The actual cause of asthma is unknown however a great deal is known about things that can trigger an attack. Attacks may be brought on by many factors. No two people are alike and it can be very difficult to identify the actual cause of a particular attack. Below is a list of possible triggers for asthma attacks:

- Allergens eg. grass, pollens, house dust mite, pet fur etc.
- Sudden changes in temperature
- Dry hot winds
- Some people may be sensitive to certain types of food eg. preservatives.

### **FIRST AID**

#### **Recognising an Asthma Attack**

Early signs of an attack

- Breathing becomes more difficult and a wheezing sound develops
- Breathing is rapid, sometimes with a gasp
- Person becomes distressed, pale and sweaty with a rapid pulse.

#### **What to do during an Acute Asthma Attack**

- During an attack the person needs quiet surroundings, clean air and treatment.
- Acute attacks need early treatment, the longer you wait the more difficult it is for medication to work.
- The person's medications should be readily available with instructions as to the dose and the order they must be taken in. Generally inhaled beta-agonists are the fastest working.
- **If no medication is available seek medical attention immediately. In an emergency, pharmacists can supply medication.**
- During the attack, if the initial booster dose of medication is helping to control symptoms, continue medication every 4-6 hours.

## ***IMPLICATIONS FOR SAILING***

- There is no reason why a person with asthma should not be fully involved in sailing as long as they have their condition under control.
- If stimuli for attacks is known to be climatic and the sailor and organisers are aware of the possibility of an attack in certain weather conditions then medication can be taken sensibly, participation can be complete.
- Organisers should be aware of medication and correct procedure during an attack and ensure the person has filled out an information sheet about their medications.
- Sailors, organisers & rescue boat assistants should be aware of a common signal given for “immediate assistance required”.

## 4. *Cerebral Palsy*

Cerebral Palsy is the result of an injury to part of the brain before it has finished developing. It is non-progressive, it doesn't get worse. This injury affects parts of the brain that control and coordinate the muscles which move the body. Therefore people with cerebral palsy have difficulties with movement and posture.

### **GENERAL INFORMATION**

There are three main types of cerebral palsy:

1. **Spasticity** - These people find that when they try to move, certain muscles contract and go stiff. Then the muscles suddenly release. These people also have abnormal posture and poor hand function with a certain amount of sensory loss.
2. **Athetosis** - People with athetosis have their movements hindered by lots of unintentional, uncontrollable extra movements. These actions tend to increase with excitement or nervousness. Athetosis generally affects the whole body but one side may be more affected.
3. **Ataxia** - Usually people with ataxia have a degree of spasticity or athetosis as well. These people have difficulty in walking or moving steadily. They have trouble making controlled movements with their hands and feet so they appear clumsy and uncoordinated.

### **Difficulties Associated with Cerebral Palsy**

Some people with cerebral palsy may also have an intellectual disability. However it is important to realise that many people have normal or above normal intelligence, this is most likely with athetoids. Cerebral palsy may also be associated with vision or hearing loss and epilepsy.

People with Cerebral Palsy may not have perfect control over the muscles of their mouth and throat so that speaking and eating may be difficult. Some may have trouble controlling their facial expressions. The brain injury which causes cerebral palsy does not get worse as the person gets older. However the effects of the cerebral palsy on the person will change over the years.

### **CAUSES**

There are many possible causes of cerebral palsy. The most significant aspect is that the damage occurs to the brain before it has fully developed. This may happen if the birth is premature, prolonged or difficult. Sometimes the damage occurs in early childhood through brain infections (meningitis) or through actual brain injury of the sort that may be sustained in a car accident. Cerebral palsy is not inherited. It is extremely rare for there to be more than one case in a family.

## ***IMPLICATIONS FOR SAILING***

- Many people with cerebral palsy will need lifting in and out of boats.
- Sailors with CP may tire easily.
- Poor circulation means they will get cold quickly and therefore shouldn't be out on the water too long and will need appropriate clothes in cold weather.
- Sailors with CP often have difficulty with control of limbs and are prone to bumps and bruising. It is highly recommended that these sailors keep their feet at all times covered to avoid injury.

## 5. *Diabetes*

Diabetes is a disorder of the system which regulates the amount of sugar in the blood. Diabetics risk long term complications due to high blood glucose. These complications may affect eyes, kidneys, and nerves. Arteries, especially those supplying the heart, brain and legs may also be affected. Often blindness and amputations are due to diabetes. Diabetes is an inherited disease. A person who has a family history of the disorder has the tendency to develop it carry it on to their off spring.

There are two types of diabetes.

- **Insulin Dependent Diabetes.** This type is most common in children or young adults. These people produce little or no insulin. The treatment is daily insulin injections, diet and exercise.
- **Non Insulin Dependent Diabetes.** This generally affects middle aged or elderly people. These diabetics are able to produce some insulin, they don't need insulin injections. Diet alone or diet and tablets may be the treatment used.

### **CAUSES**

It is caused by a failure of the pancreas to produce a sufficient supply of the hormone Insulin. Insulin allows the sugar to leave the blood and enter the body cells to fuel them. Without insulin the sugar in the blood rises far beyond normal.

### **DIABETIC REACTIONS**

There are two possible reactions from which diabetics may suffer Insulin Reaction.and Diabetic Coma.

#### **1. INSULIN REACTION**

This is the most common complication of diabetes and is due to a drop in the blood sugar level. Cause of Insulin Reaction:

- Delaying/missing meals
- Delaying/missing afternoon or morning tea
- Insulin injected was more than needed dose
- Unusual strenuous exercise
- Emotional shock
- Alcohol
- Choice of injection site eg. changing from abdomen to leg
- Injecting insulin into a muscle or blood vessel, this can increase the blood insulin level rapidly.

## **Symptoms**

- sweaty (cold & clammy)
- pale
- trembling
- headache
- dizziness
- dilated (widened) pupils
- blurred vision intense hunger
- unusual behaviour eg. bad temper
- poor co-ordination
- staggering walk
- convulsion
- coma

Symptoms depend on the severity of the reaction. The signs vary between people. A diabetic should know his warning symptoms.

## **2. DIABETIC COMA - KETOSIS**

Ketosis is a serious complication due to insufficient insulin

### **Causes**

- Omission of a dose of insulin
- Insufficient insulin in dose
- Infections eg. flu
- Gastric upset
- Neglect of diet
- Injury
- Severe injury
- Excessive alcohol consumption

### **Symptoms**

- heavy urine glucose
- ketones in the urine
- thirst
- frequent urination
- hunger
- fatigue
- blurred vision
- deep rapid breathing
- vomiting
- coma - if untreated death

## ***TREATMENT***

- Give drinks sweetened with 2 full tablespoons of sugar or glucose.
- If dramatic recovery occurs it is an "Insulin Reaction" - give more sugar every 15 minutes for an hour.
- If it is "Ketosis" giving sugar will not harm them but you must SEEK URGENT MEDICAL ATTENTION if recovery isn't obvious.
- **If unconscious** put the person in the coma position and SEEK MEDICATION ATTENTION IMMEDIATELY.

## ***DIET***

It is important that diabetics are very conscious of their diet for a number of reasons. Diet can help to control the blood glucose level and diabetics need to maintain a desirable body weight.

Important points about diet:

- Meals and snacks should be eaten at approximately the same time every day.
- Meals must not be missed.
- Meals should be planned to provide an even food intake.
- Added sugars should be limited, alternative sugars are advised.
- Foods which contain a high amount of sugar should be avoided.
- Alcohol should be had in moderation. Alcohol is high in kilojoules and it may react adversely with some medications

## ***IMPLICATIONS FOR SAILING***

- Unusual amounts of exercise or excitement may require the adjustment of treatment or an insulin reaction may occur.
- Sensory impairment reduces the diabetics perception of pain, injuries may go unnoticed or be perceived as minor.
- Sailors with diabetes are very susceptible to infections and they tend to have poor healing capacities. Infections through cuts, blisters etc. should be avoided. As their skin is so sensitive it may be useful to wear and socks. Circulatory restrictions should also be avoided. Tight wet suits may not be suitable.
- Sunburn can cause infections, it also affects blood sugar levels.
- Sailors may desire privacy when testing their sugar level or when administering injections.
- Organisers should be aware that diabetics cannot miss or delay meals. Insulin needs to be kept in a cool place, preferably a refrigerator. Fast acting sugars eg. lollies and orange juice should be readily available in case of an insulin reaction.

- 

## **6. EPILEPSY**

Epilepsy is a disorder which takes the form of recurring seizures. A seizure or convulsion is a sudden excessive discharge of electrical energy in the brain. Epilepsy affects people of all levels of intelligence and from all age groups. Approximately one person in every hundred has some form of epilepsy. Generally seizures can be controlled by medication.

### **CAUSE**

Often the reason for an individual's epilepsy is not known. However, possible causes are stroke, head trauma, lack of oxygen in the brain, brain infections, birth damage, pre-natal infections.

### **TYPES OF SEIZURE**

#### **GRAND MAL SEIZURES**

Seizure usually lasts for less than five minutes and usually the person will sleep for half an hour or more afterwards. After 1-2 hours the person should be completely recovered with no memory of the seizure.

#### **TEMPORAL LOBE SEIZURES**

These seizures differ from Grand Mal Seizures in that the whole brain is not necessarily involved in the increase in electrical energy. An aura or premonition up to a day before may warn the person of the seizure to come. This can take the form of nausea, headache, strange smells or tastes, auditory hallucinations, fear. Attacks can involve a great range of confused, inappropriate behaviour eg. lip smacking, running around in circles, accompanied by a vacant look and an inability to respond to directions. The seizures usually last from 5-15 minutes.

#### **PETIT MAL SEIZURES**

Usually only children up to 15 years of age have this form of epilepsy. These seizures usually involve:

- Sudden staring, blinking,
- Loss of consciousness that lasts less than 30 seconds the person being unaware of the seizure

### **MEDICATION**

Anti-Convulsant Drugs

## **TREATMENT FOR GRAND MAL SEIZURES**

1. Keep calm
2. Roll the person on to their front with their head turned to one side. If the convulsions are very violent wait until they slow down before turning the person over.
3. Only move the person if they are in physical danger - it is better to move objects from around them so they have nothing to injure themselves on.
4. NEVER put anything in the person's mouth - you may break teeth or have fingers bitten.
5. Let the seizure run its course - you can't stop it.
6. Watch the person for signs of breathing.
7. Offer support and reassurance when the person regains consciousness, he may be confused and embarrassed. A change of clothes may be needed.
8. Help the person to a place close by where he can rest or sleep for a while to recover from the seizure.

**If the seizure goes for more than 10 minutes or another seizure begins - get medical help.**

## ***IMPLICATIONS FOR SAILING***

- Strict precautions must be taken if a person is known to have epileptic seizures. If a seizure were to occur whilst sailing the biggest danger would be that of the person falling out of the boat and drowning.
- The person must be closely watched at all times when involved in water activities.
- The person must have medical permission to participate in any activity involving water.
- It is important that the person fill out an information sheet on his epilepsy so organisers understand the condition and can take appropriate action in the event of a seizure.
- If a seizure occurs the sailor should not continue sailing for the rest of that day, even if they appear to have made a full recovery.

# **7. HEARING IMPAIRMENT**

## **CLASSIFICATION**

Hearing loss is categorized by its severity.

### **MILD HEARING IMPAIRMENT**

- speech is normal
- conversation is easy
- has difficulty hearing distant noises

### **MODERATE HEARING LOSS**

- speech is impaired
- has difficulty hearing normal conversation

### **SEVERE HEARING LOSS**

- cannot participate in conversations although he/she may catch the occasional word.
- hearing aids are helpful

### **PROFOUNDLY DEAF**

- cannot use hearing to help communication
- hearing aid may help but it is limited in its ability to permit normal speech.

## **CAUSES**

The cause of approximately 50% of hearing loss is unknown however common causes include:

- Ear infections
- Genetically inherited conditions
- Noise pollution
- Intra-uterine infections (during pregnancy) eg. rubella
- Birth trauma

## **POINTS TO NOTE**

## **HEARING AIDS**

Amplify sounds they don't clarify them much. Background sounds also get amplified and this makes it difficult for the person to isolate sounds. So background noises should be kept to a minimum. Continuous loud sounds may cause headaches.

## **LIP READING**

Try to be on the same level as the person you are speaking to as it is difficult to look up or down at a person and read their lips. Poor lighting also makes lip reading hard. The hearing impaired person's back should be towards the sun. Lengthy conversations should be kept to a minimum to avoid confusion. People who talk quickly, move their head or smile when they speak may be difficult to lip read. Beards and moustaches can make lip reading difficult. Lip reading is tiring so the person may not be as good at understanding late at night.

## ***INSTRUCTION TECHNIQUES***

When giving instructions in the presence of persons with hearing impairment the following points are important for effective communication:

- Be sure you have the person's attention so they can ascertain the whole message.
- See and be seen. Position yourself where you can be seen face on, at close range and in good light. The person needs to be able to lip read and see your facial expression.
- Hand gestures and facial expressions help make the meaning clear. However, keep hands away from the face.
- Avoid background noise.
- Speak naturally and clearly.
- Keep instructions short and simple - don't use unnecessary words or long sentences.
- Check that you have been understood.
- Rephrase the message if it is not understood.
- Encourage other members of the team to learn to communicate.
- Instructors should be precise and uncomplicated with signals.

- Aim to give all the necessary instructions before the activity has begun, using visual aids and demonstrations where possible.
- Use demonstration as the most important cue.
- Consider environmental conditions ie. wind and sun.
- During the activity, signs such as the wave of a nag, flick of lights, or a tap on the shoulder may be required if the person is unable to hear a whistle.
- Use standard movements/body language which hearing impaired people understand.
- Be patient.

## ***GENERAL***

If you have difficulty being understood either through lip reading or a hearing aid repeat what you have said in a different way - change the phrases you used. If there is still a problem, write it down. There is a danger of social isolation because of difficulty in participating in conversations so efforts must be made to include a hearing impaired person. A profoundly deaf person may be hesitant when speaking as he is unable to hear his own voice to know if it is loud or soft.

## ***IMPLICATIONS FOR SAILING***

- It may be easier for a hearing impaired person to understand instructions and explanations if visual cues are used eg. maps, charts, labels on equipment, etc.
- It is essential that visual signals between instructor and hearing impaired person and clearly understood.

## **9. HEART DISEASE**

Generally, there is no reason why people with heart disease should not participate in sailing. In fact, being physically fit is thought to improve one's resistance to heart disease. The issue at hand is the work intensity and the ability of the individual to cope with the physical stress.

### **HEART ATTACK**

Sudden and complete oxygen shortage to the heart muscle causes tissue damage and if it is not relieved some of the heart muscle dies. This is a heart attack.

The warning signs:

- Squeezing, discomfort or pain in the centre of the chest or behind the breast-bone lasting more than 10-15 minutes.
- Pain spreading to the shoulders, neck or arms.

These may be accompanied by:

- Sweating, shortness of breath
- A sick feeling in the stomach.

Far too many Australians die each year because they failed to recognise a heart attack. Modern medical treatments for heart attack can save lives and prevent serious heart damage.

#### **Don't waste vital moments!**

1. Dial 000
2. Ask for ambulance service
3. Report a possible heart attack
4. In an ambulance is not rapidly available, ask somebody to drive you to hospital.

Sudden pain or discomfort in the chest can be frightening. It is natural for all involved to "hope" it is something else - like indigestion, or a pulled chest muscle - and delay taking action. In a heart attack, every minute counts in getting to hospital.

## ***STROKE***

Stroke is an interruption of the blood supply to the brain. Symptoms depend on the part of the brain affected. They can include headache, unconsciousness, weakness or numbness on one side of the body, impaired speech and partial loss of sight. Onset of symptoms is usually sudden.

## ***IMPLICATIONS FOR SAILING***

- Sailor will become fatigued readily and requires frequent rest periods.
- If a person with a heart condition collapses, get medical help immediately.

## **10. INTELLECTUAL DISABILITY**

Intellectual disability is present from birth or early childhood, or occurs during the developmental period (conception to 18 years). Special education, training and adequate support and medical treatment can help lessen its effects, but it is not curable. However, most people with intellectual disabilities are capable, with assistance, of learning about new situations and adapting to them. People with intellectual disabilities experience things which make us all human, but they learn and develop intellectually at a slower rate than average.

Three factors in combination determine whether or not a person has an intellectual disability.

1. Significantly below average intelligence
2. Shortcomings in everyday life skills
3. Disability appears in the developmental period.

### **CAUSES**

- Brain injury due to lack of oxygen at birth
- Brain injury during or after birth
- Disorders of metabolism, growth or nutrition
- Chromosome abnormalities
- Extreme prematurity
- Poor diet and inadequate health care
- Drug misuse during pregnancy (included excessive consumption of alcohol and smoking)

### **INSTRUCTION**

An instructor needs to be aware of some common denominators amongst the population of people with an intellectual disability. Any one individual may not display all of the following characteristics, but rather, some of these to varying degrees:

- Inability to think in abstract terms.
- Lack of decision making ability.
- Poor short term memory.
- Learning difficulties and generally few literacy/numeracy skills.
- Poor co-ordination and mobility skills (often due to lack of appropriate opportunity).
- Inconsistent concentration spans.

An instructor should be recognise that:

- People with intellectual disabilities may range from borderline to profound in their impairment.
- A number of physical disabilities are often aligned with intellectual disabilities.
- Often where there is no accompanying physical disability, this is some delay in physical development. The sailor may take longer to master physical skills.
- Patience and understanding are needed.
- People with an intellectual disability like other people, express frustration and anger. Because they so often find it difficult to do this verbally, it often takes the physical form eg. clenched fists, foot stamping, withdrawal, tears, sitting down and refusing to get up. Their frustration need not be feared, rather, they should be recognised, accepted and channelled into appropriate actions.

Those involved with instructions sailors with an intellectual disability should consider the following points:

- Make all sessions fun and enjoyable.
- The level of expectation is crucial. Generally not enough is expected of people with intellectual disabilities both physically and socially.
- The greatest area of difficulty and frustration for both instructor and sailors is communication. Keep verbal instructions basic and brief. Be clear, precise, deliberate and sequential, then reinforce your message.
- When demonstrating an activity be clear and participate so the person has visual examples to model the performance on.
- Don't presume a nod or shake of the head means the person has understood your instruction. Seek understanding of the instruction from the person.
- People with an intellectual disability learn more by doing than looking and listening. When teaching new skills move the sailors through the desired motion.
- Be specific in praise and encouragement.
- Break down skills into small teaching components, ensuring each part is learned fully before progressing. Review and repeat skills, and drill in many different ways and situation. Then reinforce. Remember also that reinforcement should be spontaneous and immediate.
- Be prepared to teach basic skills. Many people sailors will not have had the opportunity to learn or understand these skills.
- Keep practice time on specific activities short to avoid loss of concentration and boredom. Be sure to vary your activities and drills.
- Don't assume that these sailors will automatically know the inherent etiquette of sailing. Etiquette should be taught and practised regularly.
- Observe and talk with the person to become familiar with his/her individual physical and intellectual abilities.

- Activities and techniques can then be developed to provide challenges to meet individual needs.
- People with an intellectual disability may have little or no understanding of correct clothing.
- As for any instruction session, introduce new activities early in practice sessions before the individual becomes tired and vary the tempo of training to reduce the fatigue factor. Also, motivate with appropriate devices, positive feedback, points, individual recognition.
- Encourage the sailor to compete, above all, against personal performances.

## ***IMPLICATIONS FOR SAILING***

- Many sailors with intellectual disabilities will be fully mobile. It is imperative to ascertain level of water safety skill they have and if necessary the sailor may need to wear a life jacket continually whilst at the sailing venue.
- While sailing a person with an intellectual disability may become fearful and react in an unexpected manner. These sailors should be monitored closely until their level of confidence is ascertained.
- On the other hand, a sailor with an intellectual disability may show no concern for their own personal safety or the safety of others. Again initial close monitoring should be instigated.

# **11. MULTIPLE SCLEROSIS**

## **GENERAL**

Multiple sclerosis, or MS, is a disease affecting the central nervous system in the brain and spinal cord. It is the most common chronic neurological condition amongst young adults. MS has no standard pattern of symptoms. The type and severity of its symptoms depend on the parts of the central nervous system affected. MS can present as either a remitting or a progressive course.

The remitting course is characterised by attacks or exacerbations of symptoms. In the beginning, the average interval between attacks is two years. However, it may vary and some people can experience long remissions (even up to 20 years), while others can experience more frequent bouts. At least two-thirds of the people who have MS start off with the remitting course. Of those, about 60% later develop a slowly progressive course.

The progressive course, which is more common later in life, is characterised by the symptoms steadily becoming worse. In some cases, earlier bouts may have been too trivial to notice. In very rare cases, MS can present at any age as a severely progressive course from the outset.

## **SYMPTOMS**

Symptoms of MS vary greatly from person to person - from time to time in the same person. It should be noted that many people who have MS have an increase of symptoms during hot weather.

Symptoms might include:

- Loss of co-ordination
- Extreme fatigue or unusual tired feeling
- Numbness or pins and needles
- Loss of bladder or bowel control
- Staggering or loss of balance
- Dragging of feet
- Eye trouble
- Speech difficulties
- Shaking of hands

## ***IMPLICATIONS FOR SAILING***

- Because symptoms can vary so greatly it would be unwise to presume that each person with MS should be treated the same. Nevertheless all safety precautions should be practised and as with all disabled people, ask them the best way to approach any situation.
- These sailors may be more prone to hyperthermia and heat exhaustion.
- Reduced sensation in limbs may lead to injuries of the feet and therefore it is advisable to have feet covered while sailing.

## ***12. PARAPLEGIA AND QUADRIPLEGIA***

### **PARAPLEGIA**

is defined as paralysis of the lower limbs and part or whole of the trunk - usually a result of an injury to the back.

### **QUADRIPLEGIA**

is paralysis of all four limbs and the trunk - usually a result of an injury to the neck.

### **CAUSES**

The major causes of spinal cord injury are:

- Motor vehicle accidents
- Diving accidents
- Falls
- Football accidents

The majority of accident victims are young males aged 17 to 25 years. Human factors such as risk taking and other careless or dangerous behaviour predominate in spinal accidents.

### **CLASSIFICATION**

DESCRIPTION OF IMPAIRMENT USING INTERNATIONAL SPORTING CLASSIFICATIONS ACCORDING TO LEVEL OF INJURY

#### **QUADRIPLEGICS**

CLASS 1A - Weak hand and upper arm muscles.

CLASS 1B - Arm and wrist muscles functioning but fingers unable to grasp.

CLASS 1C - Arm and wrist muscles functioning, fingers able to grasp but inability to spread the fingers and close them.

#### **PARAPLEGICS**

CLASS 2 - Impaired balance in sitting position

CLASS 3 - Good balance in sitting position

CLASS 4 - Thigh muscles not functioning

CLASS 5 - Thigh muscles functioning but hip, knee and ankle muscles not functioning or not functioning optimally.

CLASS 6 - The same as in Class 5 but functioning to a greater degree.

### ***IMPLICATIONS FOR SAILING***

- Depending on the level of disability, most people with quadriplegia and paraplegia will need assistance with lifting.
- Quadriplegics unused to physical exercise with tire easily.
- These sailors may be more prone to hyperthermia and heat exhaustion.
- The paralysed areas of the body are usually insensitive to heat, cold or pain and will have reduced circulation. These areas need to be protected from hard surfaces by cushioning and other protective clothing. It is important for quadriplegics and paraplegics to have their feet protected at all times.
- The sailor may experience difficulty with balance whilst sitting in a boat, depending on level of disability.

## **13. SPINA BIFIDA**

The term Spina Bifida refers to a group of conditions in which there is failure of development of structures around the spinal cord. In the usual situation the lower part of the spine is involved. The severity of the condition varies considerably from person to person, with some being minimally affected and other having multiple severe problems. The lower part of the spinal cord controls voluntary bladder and bowel function and most people with spina Bifida have problems in these areas. Usually with medical and surgical treatment, appropriate appliances and personal care these can be overcome, however occasional leakage of urine and faeces does occur. There may also be associated renal tract damage, and renal infections which cause periodic illness.

Spina bifida is associated with an additional malformation at the base of the brain which causes obstruction to the circulation of fluids in the interconnected cavities which normally occur within the brain. This results in increased pressure and expansion of these cavities - or hydrocephalus.

In general the average IQ of people with spina bifida is below that of comparable groups - slightly more so for those with shunts. However the average IQ is within the normal range.

### **CAUSES**

The cause is partly genetic and partly environmental. Families with one child with spina bifida have an increased risk of having spina bifida in further children. There is an increased risk in the offspring of people with spina bifida. Smaller risks apply to close relatives. Other known facts such as social class, seasonal and geographical variations point to environmental factors. Many possibilities including vitamin deficiency have also been postulated but not proven. There is no evidence linking drugs taken during pregnancy with spina bifida.

### **IMPLICATIONS FOR SAILING**

- General the person's lower limbs are fragile and therefore more likely to fracture or suffer soft tissue damage. These areas need to be protected from hard surfaces by cushioning and other protective clothing. It is important for these sailors to have their feet protected at all times.
- Care must be taken not to press or bump on the valve of the shunt which controls hydrocephalus. This valve is under the skin behind the ear - beware of booms!
- If a urinary bag is worn, it should be emptied every 3-4 hours and before any physical activity.

## **14. VISION IMPAIRMENT**

Blindness or vision impairment does not necessarily mean that the person cannot see anything. No more than 5% of “blind” people are completely unable to see. Most can see some light. A legally blind person is someone who cannot see, with visual aides, at 6 metres, what person with normal vision can see at 60 metres, or if the width of a person’s vision is 20 degrees or less.

### **CAUSES**

There are many possible causes of vision impairment:

- Diabetes
- Cataracts
- Glaucoma
- Aging
- Prenatal infections
- Eye malformations
- Trauma - eg. car accident
- Infections
- Tumours
- Oxygen treatment after birth

### **COMMUNICATING WITH A PERSON WITH VISION IMPAIRMENT**

- Speak distinctly and directly towards the person.
- Don’t speak louder than you normally do.
- Say something that announces your presence or intention to leave.
- Identify yourself when you approach a VI person and introduce any people with you.
- When speaking to a VI person address him by name or touch so he knows you are talking to him.
- Speak naturally, don’t worry about using words like “look” and “see”.
- Be specific with directions ie. direct him to the left from his position instead of saying “over there”.
- Unobtrusively explain what is happening when in public.
- Talk to the person you are guiding and give directions to avoid difficulties.
- Never take a person’s arm and put him in front of you. Hold your arm to your side, so he can take it and walk 1/2 a pace behind you.

- Don't leave a VI person alone in the middle of a room. Make sure he has contact with something eg. a table.
- Don't completely fill glasses or cups.
- Discreetly tell a VI person if his clothes are dirty or untidy.
- Return objects to correct places so the VI person can find them easily.
- A half open door or any unusual object left where a VI person may walk can be very dangerous.
- Warn a VI person to any possible dangers eg. wet floors.

## ***INSTRUCTION TECHNIQUES***

- The instructor must be articulate and willing to give the fullest description of technique and correction of poor technique. Use key words to assist.
- Sometimes it may help if the person feels the instructor performing a particular movement or the instructor moves the person through the movement.
- Don't grab their arms unexpectedly. If you are going to touch the person tell them first where and what you are going to do.
- Constantly correct style manually - do NOT push or prod those being instructed.
- Demand an accepted technique irrespective of the disability - adaption to techniques must be carefully evaluated to fall within an accepted limit - poor compromises inevitably lead to low standards of performance and injury.
- Familiarise the person with obstacles in the area (describe obstacles in their direct path of travel, let them feel the area and give them time to 'explore' the area).
- Use other participants to assist with guidance and direction.
- A 'buddy' system may be helpful
- Give VI people constant feedback on the progress of an activity which may be naturally observed by people with vision.
- Acoustic signalling may be required in some activities to aid in direction and/or distance. Instructors should also develop cue/key words, eg communicating direction by referring to the hands of a clock.
- Develop a good level of spatial awareness.
- Work in a well lit area. Shadows and dark areas may be dangerous and will reduce visibility.

## **GENERAL NOTES**

When in the company of a Vision Impaired person:

- If he wishes to sit, put his hand on the back of the chair.
- Let the VI person take YOUR arm. This allows him to walk one step behind you and judge which way you are turning. When you come to a step, pause and say whether it is a step up or down.
- Approaching public transport or steps, place the VI person's hand on the handrail.
- Do not be afraid to offer assistance to a VI person who is travelling alone. It is then up to him to say whether or not he needs assistance.
- Direct questions for a VI person to him and not to his companion.
- Use his name at the beginning or at the end of a sentence. He will then know that you are speaking directly to him.
- Always leave a door open or closed, never ajar.
- If entertaining a VI person, ask him if he would like any of his food cut up.
- There is no need to tell him what type of food you are serving or where it is positioned on his plate. He will ask all he needs to know. It is most important not to make a fuss.
- Hand him his drink, he can then place it where he can find it easily. A VI smoker will appreciate not having to ask for an ashtray.

## ***IMPLICATIONS FOR SAILING***

- A VI sailor should be aware of the location of the water, direction and location of facilities and have assistance until he becomes familiar with the area.
- Audible aids will assist the VI sailor with direction and distance of buoys and other craft and countdown for race starts.