



**BASIC UNDERSTANDING
OF THE BODY AND
COMMON DISABILITIES**

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January 2003

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World Health Organisation definitions :

DISABILITY – “ Any restriction or lack of ability to perform an activity in the manner or within the range considered normal for a human being”

HANDICAP – “ A function of the relationship between disabled persons and their environment.handicap is the loss or limitation of opportunities to take part in the life of the community on an equal level to others.” Hence can be physical, social or emotional.

Eg. Two people with same disability, one a married, female successful disabled wheelchair athlete will have a different handicap compared to a Muslim woman with same disability, living in the Afghanistan mountains.

Points to consider before looking at brief notes on some common diseases, which is only a guide but we hope will give you food for thought, and a base of knowledge to build on.

BRAIN

Highly complex. Continuous motor- sensory feedback loop, so brain knows how the body is reacting with its environment. Outcome is modified by previous learnt behaviour, eg. You learn that the sensation of someone holding your hand is ok, and the sensation of your finger being burnt in a fire, is not ok and reflex action will cause rapid withdrawal of your hand from fire.

Brain is adaptable responding to change and stimulation and repetition, the degree of adaptation varies. We learn and can become skilled at tasks with practise, and therapy tries to access this ‘plasticity’ in rehabilitation after an injury.

Despite the above information, we need to remember not to look at a label of a disease or at the type of injury, but to **look for people’s individual abilities and not their disability.**

We are all individuals and like to be treated as such. Have fun and enjoy your time with BDWSA.

MENTAL HANDICAP – very broad term, can affect any areas – see earlier. Often problems with cognition (thinking, planning, memory.....) social skills, interaction with others.....

MUSCULAR DYSTROPHY

There are several different types, all of which are progressive, hereditary and result in muscle weakness.

Duchenne MD is the most common type and usually the most severe form, affecting boys only & with a few rare exceptions is carried in the genes of females. By the time the child is about 10 years old they will need a wheelchair, gradually the arms, face and respiratory muscles become affected. With increasing disability there is usually increasing deformity. The muscles become weaker but the children look increasing plump, as if it were large muscle. Death usually occurs in their teenage years.

Acquired disability, person will have already experienced “normal” movement, and may get emotional/ grieve at their loss. Congenital disabilities will not have experienced “normal “ movement first, but can feel different to others around them.

Science has shown that the brain is like a map, with certain areas influencing, movement, feeling, behaviour, vision, hearing, sleep, memory.... etc and there are many complex intercommunications between different parts, that we don't fully understand, but can see the impact when someone has a problem. Any part can go wrong, with negligible to catastrophic effect.

Front part brain – personality & behaviour. Injury or illness can cause disinhibited behaviour, like when people are drunk, - verbal, physical or sexual. Can be quite emotionally labile - sudden bursting into tears and stops quickly. Can have poor social skills and slow to pick up on others body language etc. can have poor insight to their problems.

If inappropriate behaviour – state calmly and immediately that it was inappropriate and then drop the issue, & quickly distract person by doing different task/conversation. Damage to front & other areas of brain can sometimes give rise to sudden aggressive outbursts, usually verbal, which often subside quickly.

Can have poor short-term memory and planning/execution of tasks. (involves several areas of brain). Can lack initiation to do tasks – not lazy! May need prompting or guidance to do / persist with tasks.

Memory – types = immediate, recent, remote and permanent. Short-term memory loss can be frustrating / embarrassing for person, who may try and hide their difficulties if they are aware. Can make learning new skills very tiring and stressful for the person, be sensitive to this and modify your teaching methods as needed. Distractions, fear, excitement etc. can affect how much information people will retain. Repeat instructions, especially re. safety with patience! Some may normally use diaries/ strategies to help recall information later, but may be embarrassed to use if they think they are the only one, be supportive. Memory loss is common to us all as we get older. Dementia- can be tiring on carers due to constant repetition of questions.

Learning - think of what environment / teaching works best for you when learning a new skill. Many different methods of teaching, try to work out what works best for each individual. Reduce distractions, keep to simple one step instructions, and don't overload person with too much detail, ? demo whole task, then break into stages etc....Overall want safety & fun and not aiming to have perfection. Encourage ability and participation by all, with tasks on/off the water, even though it may take longer.

Movement - large area in the brain for this, with area for sensation lying just behind it. Different area lower in the brain is responsible for co-ordination of movement. We all have a range of tension (tone) in our muscles, as we have to move against gravity. Our tone is low when relaxed / asleep ranging up to a high level in state of alarm / anxiety.

From congenital or acquired damage, a person's tone can be too low (flaccid / hypotonic) making movement hard and can leave joints very vulnerable to damage - ie. stroke victim with a flaccid arm, the weight of the arm hanging down will pull the shoulder partially or fully out of it's socket - hence no lifting a person by the arm and care needed with dressing etc. The level of pain that is felt partly depends on how much the sensation has been affected. If say the right arm is affected, the person will put a shirt or buoyancy aid on by putting the right (affected) arm in first, and undressing taking the left (unaffected) arm out first - hence less trauma to the affected arm.

If tone is too high (spastic / hypertonic), the person has to overcome a great deal of resistance before they can move - like trying to open a lid of a box whilst an elastic band is keeping it closed. Tone can be influenced by position, handling, pain, constipation, mood, emotions, fear, temperature, environment etc. Entering cold water is likely to cause initial spasms which may be quite severe - ask the person how they think their body will react. Some people / carers are aware of specific ways to reduce tone - i.e. moving head or body position. Spasms are involuntary movements.

There are several different drugs that are used to help reduce the high tone, including diazepam, many will make a person more tired or feel slower with their thinking.

DOWN'S SYNDROME

We all have 23 sets of chromosomes in each cell. Down's have an extra number 21 chromosome. There is mental handicap and physical characteristics i.e. distinctive appearance plus associated heart & circulatory problems.

FRIEDRICH'S ATAXIA

Inherited disease of the central nervous system. There is progressive deterioration of co-ordination and muscle control with clumsy, shaky movements, and slurred speech. Intelligence is not affected.

HUNTINGTON'S CHOREA

Hereditary disorder of the central nervous system. Onset is about age 30-40, & is usually fatal within 10-15 years. Involuntary jerking movements, unsteady gait, loss of concentration and possible personality changes, and deterioration of speech & swallowing.

SLOW LEARNERS / CLUMSY KIDS

? due to pre birth or trauma during birth. Pre school children noted to be slightly slower developing or clumsy. Poorer control performing skilled coordinated movements (dyspraxia), in the absence of any defect in movement or feeling.

Apraxia - different types but seen with brain damage esp. after strokes/ head injuries, that with no loss of movement or feeling, there is an inability to perform a task or use an object, even though they recognise what the object or task is. Eg can't get dressed as can't work out how / which way to put shirt on, but they know it is a shirt to wear.

Rheumatoid arthritis – affects joints, tendons & soft tissues. Is a chronic, destructive & often deforming disease, more common in women & often appearing in late 30's to 50's age group. Can also affect heart, lungs and blood vessels. Some need surgery or to wear a hard collar if the ligaments around the second bone in the neck are affected – leaving it more unstable. Care with handling people esp. shoulders and don't shake their hands too hard as joints can be very painful. May not be able to grip well or hold heavy cups etc.

DIABETES mellitus

A complex disorder where body is unable to produce adequate amounts of insulin(by the pancreas), needed for metabolism, leading to blood sugar levels going too high or low. Two main forms, diet controlled (NIDDM) or insulin dependent (IDDM). Sometimes good control of blood sugar levels is difficult even when someone is compliant with treatment.

Aim is not to have large fluctuations in blood sugar levels – hence avoid missing meals, eating sweets & chocolate as get sudden raise in blood sugar, that needs insulin to metabolise it. Can be very ill if uncontrolled blood sugar levels.

Check with person / carer as to their regime and signs to be aware of eg. if becoming aggressive may be due to low blood sugars and need biscuit, drink etc

CEREBRAL PALSY

Caused by damage to, or lack of development in a part of the brain eg. birth injury, premature baby, German measles during pregnancy, or injury shortly after being born. Varies from mild to severe movement problems, sometimes problems with hearing / visual, speech & swallowing. Sometimes associated learning problems, but many can be very bright. 3 main types

Spasticity – high tone (tension) in muscles hampering movement.

Athetosis – frequent involuntary movements

Ataxia – lack of co-ordination & balance

Lower part of brain, cerebellum is the main co-ordination centre for movement. Person may have all muscles working but lack of control makes balance difficult and movements are shaky & inaccurate (ataxia). Speech requires coordination of many muscles, ataxic speech can sound slurred, like when drunk. Intelligence is not affected.

Resting arms on table may help to steady person whilst eating, by stabilizing the body whilst trying to use hands.

Large flinging or wave like movements, especially of limbs, often involuntary are called athetoid movements, and is seen in one of the three types of cerebral palsy, but can also be seen in other neurological conditions.

Sudden / exaggerated movements can also occur with many types of neurological damage, tone is increased by excitement, emotions, effort – watch out if you are close and instructing to avoid being hit or person could easily let go of ski handle.

Balance The higher level of paralysis – especially in spinal injury, less movement and less /no feeling = very poor balance esp. if no active abdominal muscles (T6 and above – see later section). Balance will be much poorer in high spinal injuries than with head injuries- esp. moving trunk forwards/back or sideways – esp. when dressing. However balance and confidence will improve to a certain extent with practise.

Sensation Lots of different types of feeling, pain, pressure, touch, vibration, hot, cold, awareness of body position without looking, etc. Sensory feedback allows us to know how well we have achieved a task, protection against trauma and letting us explore our environment. If sensation is reduced then a greater amount of trauma is needed before pain is felt.

Do NOT lift a person without warning, esp. if they cannot feel where you are holding them, not only unexpected but can throw them totally off balance, especially lifting at the hips or helping lift feet off jetty – will fall backwards.

CUSHIONS - For Spina bifida or spinal injury people who may have no feeling at all in the their bottom or legs, they will be sat on a variety of types of pressure relieving cushions, and it is vital that special care is taken of their

anaesthetic skin. Common types are made from foam, gel (commonly Jay cushions- vital that these are placed in the right way), or Roho cushions - rubber bubbles filled with air & are easily punctured.

If not sitting in their wheelchair for a while, people are advised to sit on padded/soft surface. Those suffering from stroke, multiple sclerosis etc. may not have total loss of feeling but may still be seated on special cushions. Will see many differences between individuals.

Some cushions have removable covers – remind/help newcomers to remove it so it doesn't get wet when they finish skiing. Cushions can also be placed inside plastic bags be for short periods.

If helping do not wear watches, jewellery, rings etc. that could scratch/ damage their skin.

Care must be taken when people are moving up the jetty as the surface can easily damage the skin on their bottom, heels or ankles, and use of protective boots should be encouraged especially for those with no sensation. Do not drag people up the jetty.

Heron Lake has purchased a **Transit sling** that is easy and simple to use, particularly for those skiers unable to help themselves out of the water back into their wheelchair. Ask duty driver / manager for the sling and instructions – it is there to protect helpers back's and skiers' shoulders etc. Please learn how to use any equipment that will reduce risk of injury to people, so you can all carry on enjoying skiing/helping pain & injury free.

Many will be all right sleeping on normal mattresses, or with an overlay mattress. Visual check to see if skin remains unharmed is recommended, by patient or carer, if there is a mark, all pressure needs to be kept off that area, to avoid skin breakdown – it takes a lot longer for anaesthetic skin (no sensation) to heal. If the bottom is marked then person cannot sit up if it is to heal and so bed rest is needed – hence prevention is best.

Temperature control – mainly by blood vessels opening or shutting down (hot flush & sweating / blue skin & shivers), this control mechanism can be severely affected esp. with spinal injuries or extensive paralysis. Often new

With improved initial handling / care and treatment people are now more likely to have incomplete damage – ie. instead of total paralysis with no feeling or movement below the injury site, some messages may be able to get passed the injury site, however this does not always mean that the level of function is improved, ie. may have bits of feeling /pain or be able to twitch a leg a little but not enough to allow use of the leg practically to stand/walk etc. Can have any combination of movement or feeling spared, as they all pass in different 'tracks' through the cord to the brain, and so some 'tracks' may be spared from injury.

Some people with incomplete neck injuries eg. C6 incomplete, may have little or no ability to cock back their wrist, move their fingers and be weak straightening their elbow, but be able to walk, as the nerves supplying their legs are geographically further away from their injury site. However balance will be affected due to poor upper limb control and also trunk & leg muscles won't have totally normal control. Also may have 'hidden' problems with bladder & bowel control.

OSTEOPOROSIS

Thinning of the bones, seen in many post menopausal women, sedentary or immobilised individuals, those with certain thyroid problems and those on long term steroid therapy. May cause severe back pain, and can get fractures due to weaker bones with loss of stature and various deformities. Care needed when handling / helping people.

ARTHRITIS

A general term meaning inflammation of joint(s). Osteoarthritis is more common & is mainly due to wear & tear of the joints. Joints can become swollen, stiff & painful. Emotional stress can aggravate the condition; cause is unknown but may include mechanical, chemical, genetic & metabolic factors. Arthritis in spine, hips & knees joints tend to cause more disability. Movement & relative rest usually recommended. Can occur in children – juvenile arthritis.

Nerves emerge between each cervical to lumbar vertebra, and are numbered in descending order ie. C1, first neck bone/nerve, and nerves branch through the body to supply appropriate areas of feeling and movement. ie.

C4 supplies feeling around shoulders (like a cape)

T4 circles trunk around nipple line area

T10 belly button

L1 groin area (lower knicker line)

L5 front of shin and big toe

S3-5 area around anus/bottom

Movement- commonly 2or 3 adjacent nerves will supply a particular muscle

Biceps C5,6. (main muscle that bends /flexes elbow)

Triceps C7 (extend elbow)

Wrist extension(cocked back) C6

Wrist flexion C7

Finger extensors C7

Finger flexors C8

Abdominal muscles T6–T12 (above T6 balance/trunk control will be worse, and cough & sneeze very weak)

Diaphragm C3,4,5 (main breathing muscle)

Muscles between ribs (intercostals) help with breathing T1-12

Hip flexors (bend) L1,2

Knee extensors (straighten) L3,4

Lifting up ankles L4,5

Curl toes S1,2

Bladder and bowel control Sacral nerve roots

‘Level’ is given as bony level of injury and/or neurological level (the lowest level with normal strength and feeling) as people may or may not break bones and the nerves may be affected at a higher or lower level. No two people with same level of break will be identical in their disabilities / abilities.

skiers, particularly those newly injured are unaware how hot/cold they are and when they do realise, they will take a very long time to recover. Heads loose two-thirds of the body’s heat, so hats for cold or sun are vital, & to go indoors if windy or person too cold. Encourage people to use layers of clothing, particularly upper body, if they are going to be waiting around for next ski and still have wetsuit half on.

Be aware of people over heating in dry-suits esp. tetraplegics, and need for good sunscreen esp. on anaesthetic skin, and drinking plenty of fluids to avoid dehydration.

Bladder – is a muscle with different sphincters controlling emptying of bladder, which is under control of the brain/spinal cord. Many different methods of bladder management; some people may have catheters, tubes that go into the bladder and collect into a leg bag. Men can also wear conveens (like a condom attached to leg bag tubing). Bags can break, taps knocked open, conveens fall off (esp. if in wetsuits for a while or taking off suits can dislodge conveen & people need to sort themselves out all quickly).

Care not to tug the tubing when adjusting clothing and keep a discreet eye if person suddenly appears to have large leg – bag may need emptying (harder if they are in dry-suit!). Others may need to go to the toilet frequently - so if on residential courses or person planning to ski several times in a day then discussion as to choices re. type of wet/dry suit may help.

Due to the position of the seated skier and the bumpy ride, new skiers, tempted to hide catheter esp. if in short wetsuits should be discouraged from disconnecting their leg bag and spigotting (blocking off) their catheter, as for higher spinal injuries, T6 & above, this can quickly make people become very unwell with headaches, sweating and high rise in blood pressure (autonomic dysreflexia). Symptoms may also occur if the catheter tubing has become kinked – need to keep free drainage.

Bowels – Some people have very regular bowel habits and some don’t. Even in paralysis with a certain amount of training / timings plus appropriate bowel care, continence can be achieved. Some people need to take medicines or suppositories and may need help by trained carer. Some people have had

surgery and have a stoma bag; this is usually hidden below belt line and can be on left or right side. Care with handling person/lifting or tightening clothing/lifejackets etc. as bags can be damaged.

Time needed to do bowel care can vary considerably, from a few minutes to an hour, and should not be rushed if accidents are to be prevented. Naturally people are very anxious about being incontinent particularly if they have no sensation of needing to go/or having been.

Some people are aware of particular situations that increase the risk, other than nerves, alcohol & eating new food ! But also skiing can give people water enemas or even the stimulation of water under pressure just around the buttock area may trigger bowel activity– so some may prefer to ski in dry-suits rather than wetsuits because of this. Sensitive issues and naturally most may not be comfortable in saying that is the main reason for wanting a dry-suit.

Joints – in limbs or spine can be immobile, stiff, painful, swollen etc. Think before helping someone to move or ? position you are asking them to adopt, which type of ski to use & ? for how long can they tolerate position. Stop and ask first, maybe less help needed than you first anticipate, maybe just time to do task and a steadying hand is all that the person actually wants.

For a painful arm, get dressed with that arm going in sleeve/buoyancy aid first, and take good arm out of sleeve first when undressing.

If one leg is bad, try steps one at a time with “ good leg up to heaven and bad leg down to hell ”.

Limb disabilities can be congenital, eg. missing part of arm – body will have naturally adapted as growing up and person likely to be more agile in other areas. Many choose not to use artificial arms as they are heavy and cumbersome, although some may use a lighter cosmetic arm prosthesis, but is not able to use this for functional tasks.

Amputations traumatic or elective. Can have a lot of problems with pain, and often hypersensitive around original line of stitches. Particularly with legs, due to weight bearing can have problems with skin break down. Depending

SPINAL CORD INJURY

From trauma, inflammation, infection, tumour, blood clot, narrowing of spinal canal by extra bone growth – as in severe arthritis.

Muscle power, sensation,(including bladder and bowel) is affected in varying degrees below the level of the lesion. Paralysis can be total (-plegia), or partial (-paresis).

Monoplegia = one limb affected ,

hemiplegia = one side of body affected.

Diplegia or paraplegia = 2 limbs paralysed (T1 level and below)

Tetra or quadriplegia = 4 limbs affected. (C1 -C7 level)

Common to hear people talking about “what level” they are, this relates to where the injury is from, and gives people a guideline as to what level of functional can be expected. However great variations exist according to age, associated injuries, previous illnesses, body build/proportions, height, spasms, male / female – different physique and arm strength

Brain tapers down into spinal cord, which passes down your back through a protective bony canal, formed in the vertebra (back bones). Bones numbered for identification. ...

Cervical (neck) bones 1 – 7, (but actually 8 cervical nerves)

Thoracic 1 – 12 (upper back where ribs are attached),

Lumbar 1 - 5

Sacral 1 – 5 (fused together with your coccyx bone at the end, and pelvic/hip bones attached at the side).

EPILEPSY

Due to sudden discharge of electrical energy in the nerve cells of the brain. Different types and degrees, may be frequent & can be hard to control despite regular medication. Some people have pre-fit warnings and try to lie down, others get no warning.

With petit-mal fits they may just become vacant for a few moments, or have mild shaking and may or may not be aware absence episode.

With grand-mal fits violent shaking is seen, do not try and stop this, ideally person to be on their side as soon as possible, to maintain open airway. Person often very self conscious afterwards and don't want a fuss being made. Often get severe headaches and can feel totally shattered for a few hours or rest of the day, and may need to rest quietly.

Talk to person / carer re. individual warning signs and appropriate action / medication. Some may have additional medication – often diazepam – a relaxant, to take if they start to feel unwell. Common triggers are strobe/ flashing lights, stress, fatigue, over heating, alcohol, or if unwell with infection (cold/ bladder etc.) they are more likely to have a fit.

SPINA BIFIDA

A congenital disorder where the spinal column fails to develop correctly, allowing the spinal cord, which carries nerves to be affected. Commonly results in flaccid (low toned) paralysis of both legs (total or partial) and incontinence and loss of sensation. Some use wheelchairs, others can walk with crutches and callipers supporting their legs.

Hydrocephalus (water on the brain) can occur as well with spina bifida or head injury. Pressure from accumulation of cerebral spinal fluid can be relieved by insertion of an internal drain 'shunt', which can often be felt behind the ear or in the abdomen.

on level of amputation and other injuries, some may hop or use crutches to get to jetty or others have an artificial leg that is ok to get wet.

Brachial plexus lesions Nerves emerge between each of the bones in the neck then as they pass down from the neck to the arm, they converge for a short distance (brachial plexus) before splitting up and going to their separate areas. Trauma from delivery at birth or accidents such as motorbikes or speed skiing behind a boat can stretch or totally sever the nerves, commonly resulting in a thin, withered floppy arm.

Sometimes there is movement spared in the hand but has limited use as there is no control at the shoulder or elbow to position the arm for practical tasks. Severe pain is a common problem. Arm needs to be strapped to body whilst skiing to prevent further trauma.

Blind – guiding person, tell about steps / obstacles ahead etc, but don't forget if person taller than you to warn re. branches, sun umbrellas etc. to duck for, or walk around!

Partially sighted people - many variations,? See only poor outlines or contrast colours.

? unable to see in one half of an eye, or tunnel vision.....

Deaf - can affect balance. Partially deaf people, or those with hearing aids often find group conversation a lot harder. Tend to pick up all the background noise. Be aware of best place to be for giving lots of instructions.

STROKE (Cerebral vascular event)

A part of the brain is damaged suddenly as a result of a blood clot or bleed (haemorrhage). Transient ischaemic attacks (TIAs) are mild temporary strokes that usually fully resolve.

Vast array of disabilities seen, and amount of recovery achieved depends on area involved. Can have weakness down one side (hemiparesis) or dense paralysis (hemiplegia). Comprehension of speech or the articulation of words

can be affected, can become quite emotional; have balance problems; or difficulty planning / thinking through some tasks eg. dressing. Etc. . . .

TRAUMATIC BRAIN INJURY (TBI)

A blanket term for head injury, most commonly due to road traffic accidents. Scarring and evidence of brain surgery may be seen. Scarring to surface of brain may start to trigger epileptic fits, and many people are often put on anti epileptic medication as a precaution. Depending on site of injury, some people may hardly be affected physically but the thinking / cognitive side can be greatly affected, leading to inappropriate behaviour at times.

PARKINSON'S DISEASE

The basal ganglia, a group of brain cells malfunction, affecting the production of dopamine, a chemical necessary for the transmission of messages. Usual characteristics are tremor, rigidity, stiffness of muscles and slowness of movement. Gait can be in hurried steps with freezing when trying to turn or go through doors. Balance often affected with a tendency to fall backwards or leaning too far forwards. Faces can be very expressionless but intelligence is not affected. Timing of drug regimes are vital and need to be given on time. Hard to get good control of drugs so as not leaving person too stiff or from having excessive writhing movements, "on/off periods".

MULTIPLE SCLEROSIS

Passage of nerve impulses is interrupted due to scarring or loss of myelin sheath surrounding nerves. Can attack anywhere in brain or spinal cord, hence can present with a large variety of symptoms. Initially a lot of swelling in area and then subsides leaving scar tissue. Depending on areas affected there may not be obvious signs of disability. Some have more cognitive (comprehension, judgement, memory & reasoning) problems.

Progression of disease is unpredictable, some may only ever have one or two attacks, or can have long periods of remission in between relapses or others show a pattern of steady decline. Normally fatigue easily and do not tolerate heat.

MENINGITIS / ENCEPHALITIS

-itis = inflammation of . . . brain or linings of the brain. Sometimes left with permanent damage eg. deafness, tinnitus (ringing noises in ear), paralysis etc

TRANSVERSE MYELITIS

Inflammation of the spinal cord, can be left with paralysis/ problems with movement or sensation. Cause often unknown.

POLIOMYELITIS

Viral infection damaging brain or part of spinal cord responsible for controlling voluntary muscle, damage to these nerves leads to paralysis. Can vary from affecting one limb to others needing a ventilator if breathing muscles paralysed.

GUILLAIN -BARRE DISEASE

Unknown cause, but commonly onsets occurs 1 –3 weeks after a mild episode of fever associated with viral infection or immunization. Inflammation of the nerves peripherally (after they have left the spinal cord) with severe pain & weakness, can leave degree of permanent paralysis in some people. Sensation intact. Course and severity of disease is variable, symptoms start in the limbs and can ascend to affect breathing muscles and may need temporary ventilatory support/intensive care unit. The quicker the onset of symptoms usually the better the prognosis. Some may develop relapses, usually milder recurrences of symptoms.

MOTOR NEURONE DISEASE

The motor neurones in the brain and spinal cord are destroyed, causing progressive weakness & paralysis. Can progress rapidly and is fatal. Men affected more, onset usually in middle age.

ALZHEIMERS DISEASE

Most common form of dementia, cause unknown but related to blood supply to the brain. Progressive decline in ability to remember, to talk, to reason plus associated physical decline.