

FALLS IN THE ELDERLY

Year Two

FACTS

- Falls account for a significant amount of morbidity and mortality in the elderly.
- 40% of those over 65 fall at home at least once a year.
- 2.5% of those over 65 will be hospitalised each year because of a fall.
- >10% of those living in an institution will be hospitalised after a fall, usually for a significant fracture.
- \$1.4 billion is spent on the health care of elderly patients who fall each year throughout Australia
- Women aged 70 are twice as likely as men to fall, but by 85 they are three times more likely to fall.

CAUSES

Sudden falls in the elderly may be due to a multiplicity of conditions, and often a combination of different medical and environmental factors.

Environmental factors eg. loose rugs, steps, furniture (low coffee tables), pets, appliances (electric heater, power cords), slippery floors etc., are the most common cause. Poor footwear (eg. loose slippers) must also be avoided.

Poor vision and balance are common in older people, and may combine to cause falls, particularly when in unfamiliar surroundings. Many elderly people do not update their spectacles regularly, resulting in blurred vision. Multifocal glasses may also blur floor features. Cataracts are another very common cause of poor vision in the elderly. In a young person, postural sway increases 20% with closed eyes, but in the elderly this may increase to 70%.

Anaemia, and narrowing and hardening of the arteries (**arteriosclerosis** from cholesterol deposits in arteries) may be causes of dizziness and instability.

Postural hypotension may cause faints or loss of balance with sudden changes in position.

Transient ischaemic attacks are a temporary blocking of a small artery in the brain by a blood clot, piece of plaque from a cholesterol deposit in an artery, or spasm of an artery, which results in that part of the brain failing to function for a short time.

Parkinson disease causes poor muscle coordination and tremor. The limbs may not do what they are told to do as quickly as the person may wish, leading to an abnormal and unsteady style of walking.

Dementia caused by brain degeneration (eg. Alzheimer disease) may lead to inappropriate expectations of the individual, and trying to do too much too quickly.

Arthritis may affect major joints in the limbs and back, and sudden stabs of pain or poor function may result in a fall.

Muscle weakness from general deterioration with age obviously makes it more difficult to remain upright. Various diseases (eg. multiple sclerosis) may cause muscle weakness in far younger people.

Vitamin D deficiency. The elderly often do not get much direct sunlight, and may also have a poor diet. A vitamin D deficiency causes bone and muscle weakness. Vitamin D supplements of 700 to 1000 IU a day have been shown to reduce falls in the elderly.

Narcolepsy and cataplexy are uncommon causes of a sudden fall.

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Poor nutrition may lead to inadequate energy to walk and move properly, and predispose to falls.

Medications can have increased side effects in the elderly, and may lead to confusion, weakness and falling. Sedatives, blood pressure lowering medications and drugs to treat anxiety and depression are particularly likely to cause these problems.

Excess **alcohol** intake can cause anyone of any age to fall unexpectedly.

EFFECTS

SOFT TISSUE INJURIES

WOUNDS

Falls may result in soft tissue injury that can vary from bruising and strains, to grazes, sprains and open wounds requiring suturing.

Almost all these wounds require some form of medical attention, and may adversely affect the patient's further mobility or have psychological effects.

SPRAIN

A sprain is tearing of ligaments that support a joint due to excessive force being applied to the joint. Pain, swelling and bruising occur in and around the joint. X-ray may be performed to exclude any possible fracture, but will not demonstrate a sprain.

The first aid of a sprain involves the RICE principles: -

- Rest - place the victim in a comfortable position (if possible with the injured limb supported with pillows) and advise them to stay quietly
- Ice - apply cold packs (with the ice in damp material so that it does not come in direct contact with the skin)
- Compression - apply a firm bandage to the injured part
- Elevation - if possible, elevate the injured limb to reduce pressure and swelling using pillows or a sling.

Medical treatment involves immobilisation of the joint to allow ligaments to heal by use of bandages or plaster, and a sling or crutches. If healing is poor, there may be permanent slackness in the ligaments, allowing excessive movement in the joint and increased risk of further injury and premature arthritis.

STRAIN

A strain is an over stretching of a muscle or tendon by excessive stress being placed on the muscle or tendon, often during sport. The symptoms include pain, swelling and inability to use the muscle without discomfort. Bruising usually indicates a sprain rather than a strain.

Weakness in an affected muscle may make future injury easier.

X-rays and ultrasound scans are sometimes necessary to exclude a sprain or fracture.

Rest, ice, compression and elevation are the initial treatments. Strapping, pain killers and anti-inflammatory medications may be necessary later. Full recovery in a few days is usual.

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FRACTURES

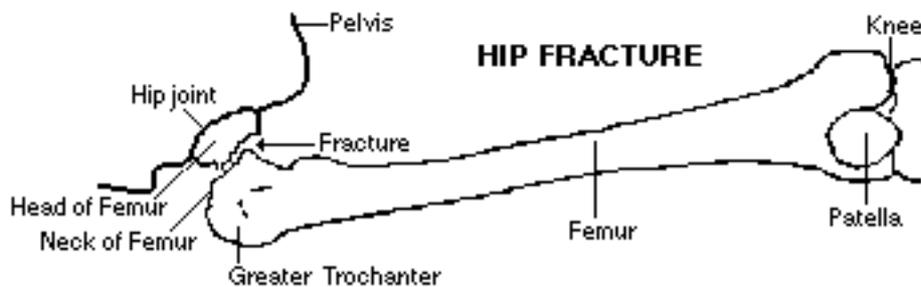
Falls in the elderly may result in a fracture, most commonly of the neck of femur, followed by vertebral compression fractures, Colles fractures and skull fractures.

FRACTURE NECK OF FEMUR

A hip fracture is actually a fracture of the neck of the femur that normally does not directly involve the hip joint itself. It usually occurs in elderly people, particularly women when falling on the side, often when the bone is thinned by osteoporosis.

There is pain and loss of function of the hip, but some patients manage to disguise the injury remarkably well. An x-ray is used to confirm the diagnosis.

Orthopaedic surgeons usually totally replace the hip joint and the ball at the top of the femur, and patients are mobile again in only a few days. In other cases, surgery to fix the fracture in position with steel pins (Smith-Petersen nail) or screws, or many weeks in traction in bed, are required to allow healing.



Failure to heal is common when the fracture is pinned and screwed and death of a fragment of bone due to an inadequate blood supply may occur (aseptic necrosis). Infection is a rare possible complication with a hip replacement, and most hip replacements are very successful, but results are affected by the general health of the patient.

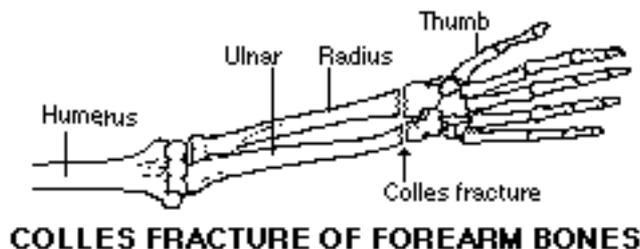
COLLES' FRACTURE

A Colles' fracture is a common fracture of the forearm bones (ulna and radius), which are bent back and broken just above the wrist. It is usually caused by landing on the outstretched hand during a fall. The fracture is diagnosed by an X-ray.

Symptoms include pain, swelling, tenderness and a backwards deformity of the forearm bones just above the wrist.

The bones must be put back into place under an anaesthetic if the deformity is significant, and held in position by plaster. Persistent deformity will occur if the bones are incorrectly aligned.

The fracture normally heals well after six weeks in plaster in an adult, or three to four weeks in a child.

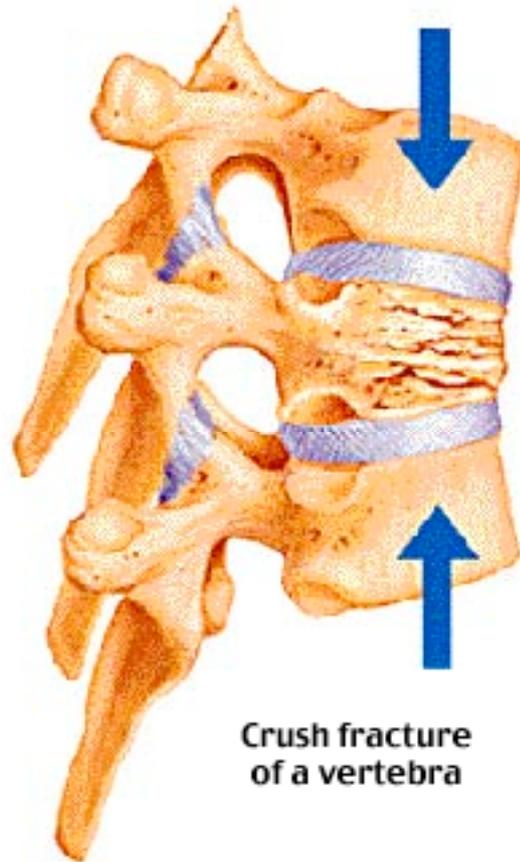


VERTEBRAL FRACTURE

A heavy fall may result in a crush fracture of a vertebra in which the body of the vertebra collapses, sometimes to less than half its original height.

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These fractures are far more common in the elderly, and in women with osteoporosis. The patient experiences sudden severe pain at the point of the fracture if it is caused by an injury, but in patients with osteoporosis, the vertebra may collapse slowly over many years, and the pain may be intermittent and gradual in onset.



Treatment involves prolonged rest, with adequate pain relief, while continuing to keep the patient as mobile as possible. Any osteoporosis must also be treated.

SKULL FRACTURE

Elderly people who fall and fracture their skull are basically stuffed (to use the technical term). It is rare for them to recover and return to their previous lifestyle.

A skull fracture is a break in any one or more of the bones forming the skull, but usually refers to the bones forming the cranium (brain box). The fracture may be a hairline crack, a wide fissure or a piece of skull bone may be depressed into the tissue (brain) beneath causing serious secondary damage.

Fissures and cracks can be treated by merely time and rest, while depressed fractures must be treated surgically to raise or remove the displaced piece of bone.

Any underlying damage to the brain or blood vessels must also be treated appropriately.

All patients with a skull fracture of any sort must be observed in hospital for at least 24 hours to detect any brain injury or bleeding inside the skull (subdural haematoma) or brain.

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PSYCHOLOGICAL EFFECTS

A significant loss of confidence and therefore mobility may occur after a significant fall, leading to the patient becoming more dependent on others and possibly even the necessity of moving out of home and into a sheltered environment (eg. hostel, nursing home). They may become anxious and/or depressed.

ANXIETY

Anxiety may be natural or unnatural. Natural anxiety is the type we all experience while expecting or experiencing a stressful event (eg. exam, job interview, dangerous journey), and may be eased by counselling, distraction (doing something else) or as a last resort using medication.

There are numerous causes of unnatural anxiety.

Depression is one common cause of anxiety. It may be a reaction to circumstances (eg. loss of job, death in the family), or may have no apparent cause (endogenous depression). Patients with endogenous depression have an imbalance of chemicals that normally occur in the brain to control mood. If too much of one chemical is produced, the patient becomes depressed. Postpartum depression occurs in some women after childbirth as a response to the effect on the brain of sudden changes in hormone levels. The symptoms may be the same as endogenous depression, but excessive anxiety about the infant, or neglect of the child, may also occur.

Hormonal effects may also come into play in the menopause and with premenstrual tension. Women may find that they become inappropriately anxious just before their periods, or for no reason during menopause as their sex hormone levels fluctuate dramatically.

A neurosis is an illness of the personality that may cause excessive anxiety, phobias (an inappropriate fear of something or some place), and physical distress (eg. shortness of breath, palpitations, nausea, abdominal pain, headache, faint). It is usually not possible to define the cause of the anxiety in patients with neuroses, and their phobias have no rational explanation.

As well as social and work disruption, long term alcoholism may result in neuroses, phobias, depression, irrational behaviour, poor coordination, difficulties in walking and performing simple tasks, and insanity.

Patients who have a serious disease, or who have had a near-death experience, may become excessively anxious. This is particularly common in patients who have had a heart attack, and who have some ongoing symptoms of heart disease.

The effects of anxiety are widespread in the body and it can affect every system and physiological function in some way. The effects vary from person to person and from time to time, but may include the following :-

Palpitations	Twitches	Restlessness	Inattention	Impatience
Rapid heart rate	Increased reflexes	Tremors	Forgetfulness	Poor concentration
Hypertension	Fainting	Rapid speech	Poor judgement	Uneasiness
Rapid breathing	Insomnia	Tremor	Fidgeting	Poor coordination
Chest pressure	Weakness	Pacing	Withdrawn	Preoccupation
Lump in throat	Clumsiness	Inhibition	Poor work	Confusion
Nervousness	Jumpiness	Abnormal fear	Avoidance	Self-consciousness
Loss of appetite	Choking	Shallow breaths	Revulsion	Colic
Nausea	Diarrhoea	Indigestion	Flushing	Frequent urination
Sweating	Itching	Pallor	Cold sweats	Sweaty palms

DEPRESSION

Depression is also known as an affective disorder, melancholia, hypothyria or a nervous breakdown. It is a medical condition, not just a state of mind, that affects 30% of people at some time in their life. Patients are not able to pull themselves together and overcome the depression

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without medical aid, although a determination to improve the situation certainly helps the outcome.

Depression may be a symptom (having a bad day and feeling sad), personality type (inherited with the genes), reaction (depressed because of loss of job, death in family etc.) or a disease (depression due to chemical imbalances in the brain). It is usually a mixture of several of these.

There are two main types of depression, endogenous and reactive, with very different causes.

Endogenous depression has no obvious reason for the constant unhappiness, and patients slowly become sadder and sadder, more irritable, unable to sleep, lose appetite and weight, and feel there is no purpose in living. They may feel unnecessarily guilty, have a very poor opinion of themselves, feel life is hopeless and find it difficult to think or concentrate. After several months they usually improve, but sometimes it can take years. It is due to an imbalance of the chemicals (neurotransmitters) that normally occur in the brain to control mood. The neurotransmitters include serotonin, noradrenaline and dopamine. If too little of any one is produced, the patient becomes depressed - if too much, the patient may become manic.

Endogenous depression can be further subdivided, depending on the combination of neurotransmitters that are too low. The subtypes are:-

Type	Neurotransmitter level too low	Characteristics
Non-melancholic depression	Serotonin	Obsession, panic, compulsions, anxiety
Non-psychotic melancholia	Serotonin, noradrenaline	+ lack of energy, tired
Psychotic melancholia	Serotonin, noradrenaline, dopamine	+ unmotivated, no pleasures, lack of concentration, no insight.

Those patients with endogenous depression are not able to pull themselves together and overcome the depression without medical aid, but doctors can alter the abnormal chemical balance by giving antidepressant medications. When they do start to improve, some patients with depression go too far the other way and become over-happy or manic. These patients are said to be manic depressive, have bipolar personality (generally severe swings of mood) or cyclothymic disorder (milder mood changes).

Reactive depression is the sadness that occurs after a death in the family, loss of a job, a marriage break-up or other disaster (eg. a bad fall). Patients are depressed for a definite reason, and with time, will be often be able to cope with the situation, although some patients do require medical help.

PREVENTION

INSTRUCTIONS

Advise patient to practice, and remember, that if a fall is imminent to take a LARGE and RAPID step in the direction of the fall. Most elderly take a small slow step due to poor muscle strength and poor coordination.

EXERCISE

Regular exercise, ideally under supervision, gives the person an outing to interact with others, as well as strengthening muscles, aiding balance and improving coordination. Yoga, water aerobics, restricted pilates, step exercises etc. are all beneficial.

Many aged care facilities and gyms (eg. YMCA) offer specific classes for the elderly under the supervision of a sports physiologist, human movements graduate or physiotherapist.

NUTRITION AND HYDRATION

Many elderly people neglect their nutrition and become weak as a result. They also tend to take in too few fluids, particularly in hot weather, resulting in dehydration and hypovolaemia which leads to hypotension and light headedness, particularly with changes in position.

Ensuring adequate nutrition and hydration can prevent falls.

MEDICATIONS

Beware of sedatives and hypnotics, particularly during the day, which may add to confusion and instability. Antidepressants and neuroleptics may also be responsible.

Assess all medications prescribed (or not prescribed – eg. antihistamines) that may affect a patient's alertness and reflexes.

Antihypertensives and diuretics may need to be reviewed to prevent postural hypotension.

OBSERVATION

Observe patients as they walk into the surgery, sit down and stand up, and note any instability. Take measures to advise patient of your concerns, and recommend practices or aids (eg. walking stick, frame) that may assist.

PROTECTION

In patients who are particularly prone to falls, hip protectors (shock absorbing cushions worn over hip) may prevent a fracture with a fall.

In a very limited number of patients who are institutionalised, restraint may be necessary to prevent falls when rising from a chair or bed.

SPECTACLES

The lenses may be the same over their entire area, bifocal (divided into two halves with different degrees of magnification and focal lengths), trifocal (three divisions) or graduated (gradual change across the lens from one degree of magnification and focal length to another). Astigmatic lenses vary their focal length and magnification in varied patterns across the surface of the lens to match the variations in the patient's vision.

Single lens spectacles for distant vision, regularly (two yearly) checked by an optometrist can improve vision and prevent falls.

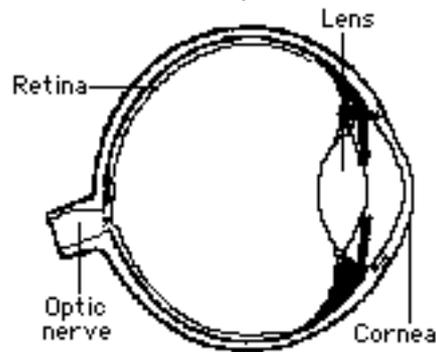
Bifocals may blur floor features and cause falls.

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CATARACT

A cataract is a clouding of the lens in the eye, which usually occurs slowly over a number of years, and gradually reduces vision until it is the equivalent of looking through frosted glass. A lens affected by a cataract can usually be surgically replaced with an artificial lens.

By far the most common cause of a cataract is a slow clouding of the lens with advancing age. There is no specific cause for this, but people who live and work outdoors in very sunny climates seem to get the problem more. A small number of children have a genetic or inherited predisposition to develop a cataract early in life. Some babies are born with the problem. Patients with diabetes suffer the premature development of cataracts.



Uncommon causes of cataracts include ultraviolet, x-ray or gamma ray irradiation to the eye, exposure of a foetus to german measles (rubella) caught by the mother, damage to the eyes at birth due to lack of oxygen and a number of rare syndromes (eg. lissencephaly syndrome).

The condition can be diagnosed by examining the eye with an ophthalmoscope (magnifying light).

Cataracts are initially treated with powerful spectacles, but eye surgery to replace the damaged lens is the best solution. Only one eye (usually the worst one) will be operated upon initially. Once this has recovered, the second eye may be repaired. The procedure can be done under a general or local anaesthetic, and involves cutting open the top of the eye at the edge of the iris (the coloured part of the eye), removing the damaged lens by gentle suction, and inserting an artificial lens in its place. This new lens is not mobile, and cannot change shape, thus spectacles are normally still required for close work, and sometimes distant vision as well.

The most noticeable effect after the operation is the brightness of the world. Colours in particular appear far brighter than the washed out appearance they have through a cloudy lens.

Complications may include dislocation of the new lens, or infection of the eye, but they are uncommon.

More than 95% of patients achieve excellent results with surgery.

Correcting poor vision caused by cataracts can dramatically decrease the incidence of falls and therefore further hospitalisation and care costs.

OSTEOPOROSIS

Osteoporosis is a common bone condition affecting one quarter of women over the age of 50, in which there is a reduction of bone mass. There is normally a balance between the amount of bone being made and the amount being resorbed. In osteoporosis this balance is lost and less bone is manufactured than required, and bone resorbing cells become overactive.

The basic constituent of bone, calcium, drops to a dangerously low level, and the bones soften and may bend, break or collapse. Calcium is found in all dairy food (particularly cheese), sardines, shellfish, beans, nuts and tripe. Adults require up to 800 mg. of calcium, and children and pregnant women up to 1400 mg. a day. The structure of bones is being constantly renewed, and a lack of calcium over many years leads to a gradual deterioration in bone strength. Once women reach the menopause, the drop in hormone levels accelerates the loss of calcium from bones. It may be hereditary and is more common in petite, small-boned women.

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Over the age of 50, half of all women will have a fracture due to osteoporosis, and one third of men over 70 will develop the same problem. Many of these fractures, particularly those in the vertebrae of the back, may have no symptoms.

Most patients do not know they have the disease until they fracture a bone (particularly the hip or a vertebra) with minimal injury, or on a routine X-ray their bones are seen to be more transparent than normal. A procedure similar to an X-ray, dual photon densitometry, can diagnose osteoporosis at an early stage. A urine test for deoxypyridinoline may also be useful. Deformity of the back, severe arthritis, and neuralgia caused by the collapsing bones pinching nerves, can occur in due course.

Prevention involves adding calcium to the diet before menopause, and by taking calcium supplements and hormone replacement therapy after menopause. Regular exercise is important, as the minor stresses on the bones keep them stronger. In more serious cases, sophisticated, very effective medications (eg. alendronate, calcitriol, disodium etidronate) that force calcium into bones to strengthen them, may be prescribed to be taken daily for several years. They should be taken with vitamin D supplementation as well. Other factors that can help are reducing the intake of coffee and alcohol, and stopping smoking. Control is good once the condition is diagnosed, but reversal of existing damage is difficult.

Treating osteoporosis may prevent fractures when falling occurs.

ADDITIONAL INFORMATION

TRANSIENT ISCHAEMIC ATTACK

A transient ischaemic attack (TIA) may be the cause for a type of funny turn or drop attack in elderly people due to a temporary miniature stroke. The usual cause is hardening and narrowing of arteries (arteriosclerosis) in the neck and brain by excessive deposition of cholesterol that causes small blood clots to form. A clot may break off from the artery wall and travel through the arteries into the brain, where it may briefly obstruct an artery, causing temporary damage to the brain tissue beyond the blockage. Spasms of arteries caused by stress, toxins or allergies, and Fabry disease may also be responsible.

The patient feels strange and acts peculiarly. There may be weakness in one arm or leg, abnormal sensations (eg. pins and needles, numbness), disturbances in vision, abnormally slurred speech, dizziness, confusion, tremor and blackouts. The symptoms may last for a few seconds or several hours. A TIA may be an early warning of narrowed arteries in the brain, and can forewarn of strokes.

All patients experiencing a TIA needs to be fully investigated by blood tests, ultrasound examination of arteries in the neck, special x-rays of arteries in the brain, and CT scans of the brain to determine the cause.

There is no specific treatment, but aspirin or warfarin taken long term in low doses prevent most TIAs, and often prevent strokes too, by preventing blood clots. The patient usually returns to normal within 24 hours.

PARKINSON DISEASE

Parkinson disease, which is also known as paralysis agitans, Parkinsonism and shaking palsy, is one of the more common causes of a tremor in elderly people. It is named after the English physician James Parkinson (b.1755) who first described the condition in the medical literature.

The cause is the presence of Lewy bodies which are tiny abnormal spheres found in nerve cells in the brain. They alter the function of the cell and can be seen when affected cells are

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examined under a microscope. Why they occur in nerve cells is not known, but what happens in the brain to cause the symptoms is understood. When a muscle contracts, the opposite muscle must relax. For example, when you bend your finger, the muscles on the palm side of the finger contract, while those on the back of the finger must relax. This coordination occurs in the brain. In Parkinsonism, the brain cells that control this coordination have degenerated so that smooth control of movement is lost.

Early signs of the disease are a failure to swing the arm when walking, deterioration in handwriting, and poor balance. Later symptoms are a constant tremor, general body stiffness, loss of facial expression, a stiff way of walking and lack of coordination. The intelligence and mental powers of victims are not affected in the early stages of the disease, and this causes great frustration, particularly when speech may be impaired. Patients may become depressed, anxious and emotionally disturbed.

No blood or other test is diagnostic. CT scans (special x-rays) may reveal changes in certain parts of the brain, as may electroencephalograms (EEG), which measure the electrical brain waves. Magnetic resonance imaging (MRI) and positron emission tomography (PET) scans are now being used in some centres.

A number of drugs (eg. amantadine, levodopa, pergolide) are available to control the symptoms and slow the progress of the disease, but it is a matter of trial and error to determine which medications will help any particular patient. None of them cure Parkinson disease - they aim to control it. Levodopa acts to replace the missing chemical in the brain that causes the disease. It is sometimes combined with other medications that increase the effectiveness of the levodopa and reduce side effects (eg. pergolide). Bromocriptine also acts to control Parkinson disease. It is, strangely enough, also used to stop the production of breast milk and treat a bone overgrowth disease called acromegaly. Side effects include a reduced tolerance to alcohol. Other medications that may be used in treatment include pramipexole, ropinirole, selegiline and procyclidine.

Physiotherapy is also very important. In rare cases, brain surgery, in which part of the brain is destroyed in an attempt to block nerve pathways that cause the constant tremor, is performed.

There is no cure, but medications allow some patients to lead normal lives. The disease process progresses steadily over many years, rarely causing death, but causing otherwise normal people to become invalids, totally dependent on others for everyday tasks.

DEMENTIA

Dementia is a mental disorder in which the patient develops confusion, wanders aimlessly, irrational behaviour, inappropriate reactions, poor or jumbled speech patterns, hallucinations (both visual and auditory), and loss of short term memory. Some patients become uninhibited in their language and habits, and may act in a socially unacceptable manner. Symptoms are often worse at night. It is a permanent condition, as opposed to confusion, which may be temporary.

By far the most common cause of dementia in the elderly is Alzheimer disease (senile dementia or second childhood), but unfortunately it may strike as early as the mid-fifties and cause extreme distress to spouses, family and friends. It is characterised by loss of recent memory, loss of initiative, reduced physical activity, confusion, loss of orientation (patients become confused about where they are and dates), and then it gradually progresses to loss of speech, difficulty in swallowing (drooling results), stiff muscles, incontinence of both faeces and urine, and a bedridden state in which the patient is totally unaware of themselves or anything that is happening around them. It is caused by a faster than normal loss of nerve cells in the brain.

Damage to the brain from an injury (eg. fractured skull), lack of oxygen (eg. near drowning), essential surgery, abscess, tumour or cancer may affect brain function to cause dementia at any age.

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In a stroke (cerebrovascular accident) part of the brain is affected by having its blood supply cut off by a blockage in an artery, or a blood vessel in the brain may burst causing bleeding and damage to part of the brain including dementia of sudden onset. Multi-infarct dementia occurs if multiple small strokes occur.

The brain is supported and completely surrounded by a three-layered membrane (the meninges) that contains the cerebrospinal fluid. If these meninges are infected by a virus or bacteria (meningitis) the patient may experience headache, fever, fits, neck stiffness and in severe cases may suffer permanent brain damage. Encephalitis is an infection of the brain tissue itself that may be confused with meningitis as it has similar symptoms and consequences.

Less common causes of dementia include Binswanger disease, hydrocephalus (increased pressure of the fluid within the brain), pernicious anaemia, failure of the kidneys (uraemia), liver failure, AIDS, Pick disease, Wernicke-Korsakoff syndrome (often secondary to alcoholism), punch drunk syndrome (from boxing), and a number of poisons such as organophosphates (in insecticides), glue sniffing, and drugs (eg. amphetamines, barbiturates) may cause permanent damage to the brain.

There are many other rare causes of dementia.

There are no diagnostic blood or other tests, but in advanced stages, a CT scan of the brain will show abnormalities.

The patient should be kept in a pleasant, safe, non-threatening environment with adequate medical, nursing, physiotherapy, occupational therapy and general support services. Medications may be given for irrational behaviour, hallucinations and violent tempers, but do not affect the disease process.

Unfortunately there is no cure for most causes, and patients progressively deteriorate.

CURIOSITY

Surviving a high fall depends on many factors, but the average height of fall that causes death in half of the victims is nine metres. Children survive better and the elderly worse, and falls into snow, shrubs or water all increase survival. The point of the body that hits first also affects survival, with head first obviously being worst, feet first is better into water, while landing on the side is better on hard surfaces.

TOTALLY, COMPLETELY AND UTTERLY USELESS INFORMATION

The saying "long in the tooth" comes from the retraction of the gingiva from the teeth that is common in old age.

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