

The Wikipedia guide to medical terminology at the end of life

Bilevel positive airway pressure (BPAP), commonly referred to by the trademarked names **BiPAP** and **BIPAP**, is a form of non-invasive mechanical pressure support ventilation that uses a time-cycled or flow-cycled change between two different applied levels of positive airway pressure. It generates inspiratory (IPAP) and expiratory (EPAP) pressure gradients that complement the patient's own respiratory cycle, optimising the lungs' efficiency and reducing the work of breathing. BPAP has been shown to be an effective management tool for chronic obstructive pulmonary disease and acute and chronic respiratory failure.

BPAP should be distinguished from continuous positive airway pressure (CPAP), which applies a single level of positive airway pressure throughout the whole respiratory cycle and is used for different clinical conditions.

Blood transfusion is generally the process of receiving blood products into one's circulation intravenously. Transfusions are used for various medical conditions to replace lost components of the blood. Early transfusions used whole blood, but modern medical practice commonly uses only components of the blood, such as red blood cells, white blood cells, plasma

In medicine, a fistula is an abnormal connection between two hollow spaces (technically, two epithelialized surfaces), such as blood vessels, intestines, or other hollow organs. Fistulas are usually caused by injury or surgery, but they can also result from an infection or inflammation.^[4] Fistulas are generally a disease condition, but they may be surgically created for therapeutic reasons.

Brain death is the complete and irreversible loss of brain function (including involuntary activity necessary to sustain life).^{[1][2][3][4]} Brain death is one of the two ways of determination of death, according to the Uniform Determination of Death Act of the United States (the other way of determining death being "irreversible cessation of circulatory and respiratory functions").^[5] It is not the same as persistent vegetative state, in which the person is "alive".

Brain death is used as an indicator of legal death in many jurisdictions, but it is defined inconsistently. Various parts of the brain may keep living when others die, and the term "brain death" has been used to refer to various combinations. For example, although a major medical dictionary^[6] says that "brain death" is synonymous with "cerebral death" (death of the cerebrum), the US National Library of Medicine Medical Subject Headings (MeSH) system defines brain death as including the brainstem. The distinctions can be important because, for example, in someone with a dead cerebrum but a living brainstem, the heartbeat and ventilation can continue unaided, whereas in whole-brain death (which includes brain stem death), only life support equipment would keep those functions going. Patients classified as brain-dead can have their organs surgically removed for organ donation; though not everyone agrees with this practice, preferring to limit organ donation to those individuals who have suffered the death of all of their brain and the death of their cardiac and respiratory systems (biological, or full, death). However, if one limits the criteria to those individuals, procuring viable organs can become much more difficult.

It is very important for family members and health care professionals to be aware of natural movements also known as Lazarus sign or Lazarus reflex, that can occur on a brain-dead person whose organs have been kept functioning by life support. The living cells that can cause these movements, are not living cells from the brain, or brain stem these cells come from the spinal cord. Sometimes these body movements can cause false hope for the family members.

A brain-dead individual has no clinical evidence of brain function upon physical examination. This includes no response to pain and no cranial nerve reflexes. Reflexes include pupillary response (fixed pupils), oculocephalic reflex, corneal reflex, no response to the caloric reflex test, and no spontaneous respirations.

It is important to distinguish between brain death and states that may be difficult to differentiate from brain death (such as barbiturate overdose, alcohol intoxication, sedative overdose, hypothermia, hypoglycemia, coma, and chronic vegetative states). Some comatose patients can recover to pre-coma or near pre-coma level of functioning, and some patients with severe irreversible neurological dysfunction will nonetheless retain some lower brain functions such as spontaneous respiration, despite the losses of both cortex and brain stem functionality; such is the case with anencephaly.

Note that brain electrical activity can stop completely, or drop to such a low level as to be undetectable with most equipment. An EEG will therefore be flat, though this is sometimes also observed during deep anesthesia or cardiac arrest.^[16] Although in the United States a flat EEG test is not required to certify death, it is considered to have confirmatory value. In the UK it is not considered to be of value because any continuing activity it might reveal in parts of the brain above the brain stem is held to be irrelevant to the diagnosis of death on the Code of Practice criteria.^[17]

The diagnosis of brain death needs to be rigorous, in order to be certain that the condition is irreversible. Legal criteria vary, but in general they require neurological examinations by two independent physicians. The exams must show complete and irreversible absence of brain function (brain stem function in UK),^[18] and may include two isoelectric (flat-line) EEGs 24 hours apart (less in other countries where it is accepted that if the cause of the dysfunction is a clear physical trauma there is no need to wait that long to establish irreversibility). The patient should have a normal temperature and be free of drugs that can suppress brain activity if the diagnosis is to be made on EEG criteria.

Also, a radionuclide cerebral blood flow scan that shows complete absence of intracranial blood flow must be considered with other exams – temporary swelling of the brain, particularly within the first 72 hours, can lead to a false positive test on a patient that may recover with more time.^[19] Zack Dunlap in 2008 had a false positive of this type, likely due to temporary cerebral edema.

CT angiography is neither required nor sufficient test to make the diagnosis.^[20]

Cardiac arrhythmia, also known as **cardiac dysrhythmia** or **irregular heartbeat**, is a group of conditions in which the heartbeat is irregular, too fast, or too slow. A heartbeat that is too fast - above 100 beats per minute in adults - is called tachycardia and a heartbeat that is too slow - below 60 beats per minute - is called bradycardia.^[1] Many arrhythmias have no symptoms. When symptoms are present these may include palpitations or feeling a pause between heartbeats. More seriously there may be lightheadedness, passing out, shortness of breath, or chest pain.^[2] While most arrhythmias are not serious some predispose a person to complications such as stroke or heart failure.^{[1][3]} Others may result in cardiac arrest.

Chemotherapy (often abbreviated to **chemo** and sometimes **CTX** or **CTx**) is a category of cancer treatment that uses chemical substances, especially one or more anti-cancer drugs (chemotherapeutic agents) that are given as part of a standardized chemotherapy regimen. Chemotherapy may be given

with a curative intent, or it may aim to prolong life or to reduce symptoms (palliative chemotherapy). Along with hormonal therapy and targeted therapy, it is one of the major categories of medical oncology (pharmacotherapy for cancer). These modalities are often used in conjunction with other cancer treatments, such as radiation therapy, surgery, and/or hyperthermia therapy. Chemotherapy is also used to treat other conditions, including AL amyloidosis, ankylosing spondylitis, multiple sclerosis, Crohn's disease, psoriasis, psoriatic arthritis, systemic lupus erythematosus, rheumatoid arthritis, and scleroderma.

Traditional chemotherapeutic agents are cytotoxic, that is to say they act by killing cells that divide rapidly, one of the main properties of most cancer cells. This means that chemotherapy also harms cells that divide rapidly under normal circumstances: cells in the bone marrow, digestive tract, and hair follicles. This results in the most common side-effects of chemotherapy: myelosuppression (decreased production of blood cells, hence also immunosuppression), mucositis (inflammation of the lining of the digestive tract), and alopecia (hair loss).

Some newer anticancer drugs (for example, various monoclonal antibodies) are not indiscriminately cytotoxic, but rather target proteins that are abnormally expressed in cancer cells and that are essential for their growth. Such treatments are often referred to as targeted therapy (as distinct from classic chemotherapy) and are often used alongside traditional chemotherapeutic agents in antineoplastic treatment regimens.

Chemotherapy may use one drug at a time (single-agent chemotherapy) or several drugs at once (combination chemotherapy or polychemotherapy). The combination of chemotherapy and radiotherapy is chemoradiotherapy. Chemotherapy using drugs that convert to cytotoxic activity only upon light exposure is called photochemotherapy or photodynamic therapy.

Congestive heart failure (CHF), occurs when the heart is unable to pump sufficiently to maintain blood flow to meet the body's needs.^{[1][2][3]} The terms **chronic heart failure (CHF)** or **congestive cardiac failure (CCF)** are often used interchangeably with congestive heart failure.^[4] Signs and symptoms commonly include shortness of breath, excessive tiredness, and leg swelling.^[5] The shortness of breath is usually worse with exercise, while lying down, and may wake the person at night.^[5] A limited ability to exercise is also a common feature.^[6]

Common causes of heart failure include coronary artery disease including a previous myocardial infarction (heart attack), high blood pressure, atrial fibrillation, valvular heart disease, excess alcohol use, infection, and cardiomyopathy of an unknown cause.^{[5][7]} These cause heart failure by changing either the structure or the functioning of the heart.^[5] There are two main types of heart failure: *heart failure due to left ventricular dysfunction* and *heart failure with normal ejection fraction* depending on if the ability of the left ventricle to contract is affected, or the heart's ability to relax.^[5] The severity of disease is usually graded by the degree of problems with exercise.^[8] Heart failure is not the same as myocardial infarction (in which part of the heart muscle dies) or cardiac arrest (in which blood flow stops altogether).^{[9][10]} Other diseases that may have symptoms similar to heart failure include obesity, kidney failure, liver problems, anemia and thyroid disease.^[8]

The condition is diagnosed based on the history of the symptoms and a physical examination with confirmation by echocardiography.^[11] Blood tests, electrocardiography, and chest radiography may be useful to determine the underlying cause.^[11] Treatment depends on the severity and cause of the disease.^[11] In people with chronic stable mild heart failure, treatment commonly consists of lifestyle

modifications such as stopping smoking,^[12] physical exercise,^[13] and dietary changes, as well as medications.^[12] In those with heart failure due to left ventricular dysfunction, angiotensin converting enzyme inhibitors or angiotensin receptor blockers along with beta blockers are recommended.^[11] For those with severe disease, aldosterone antagonists, or hydralazine plus a nitrate may be used.^[11] Diuretics are useful for preventing fluid retention.^[12] Sometimes, depending on the cause, an implanted device such as a pacemaker or an implantable cardiac defibrillator may be recommended.^[11] In some moderate or severe cases cardiac resynchronization therapy (CRT) may be suggested^[14] or cardiac contractility modulation may be of benefit.^[15] A ventricular assist device or occasionally a heart transplant may be recommended in those with severe disease despite all other measures.^[12]

Heart failure is a common, costly, and potentially fatal condition.^[7] In developed countries, around 2% of adults have heart failure and in those over the age of 65, this increases to 6–10%.^{[7][16]} In the year after diagnosis the risk of death is about 35% after which it decreases to below 10% each year.^[5] This is similar to the risks with a number of types of cancer.^[5] In the United Kingdom the disease is the reason for 5% of emergency hospital admissions.^[5] Heart failure has been known since ancient times with the Ebers papyrus commenting on it around 1550 BCE.^[6]

Defibrillation is a common treatment for life-threatening cardiac dysrhythmias and ventricular fibrillation. Defibrillation consists of delivering a therapeutic dose of electrical energy to the heart with a device called a **defibrillator**. This depolarizes a critical mass of the heart muscle, terminates the dysrhythmia and allows normal sinus rhythm to be reestablished by the body's natural pacemaker, in the sinoatrial node of the heart.

Defibrillators can be external, transvenous, or implanted (implantable cardioverter-defibrillator), depending on the type of device used or needed. Some external units, known as automated external defibrillators (AEDs), automate the diagnosis of treatable rhythms, meaning that lay responders or bystanders are able to use them successfully with little or no training at all.

Delirium, or **acute confusional state**, is an organically-caused decline from a previously attained baseline level of cognitive function. It is typified by fluctuating course, attentional deficits and generalized severe disorganization of behavior. It typically involves other cognitive deficits, changes in arousal (hyperactive, hypoactive, or mixed), perceptual deficits, altered sleep-wake cycle, and psychotic features such as hallucinations and delusions.

Delirium itself is not a disease, but rather a clinical syndrome (a set of symptoms). It may result from an underlying disease, from drugs administered during treatment of that disease in a critical phase, withdrawal from drugs, from a new problem with mentation, or from varying combinations of two or more of these factors. It is a corollary of the criteria that a diagnosis of delirium usually *cannot* be made without a previous assessment, or knowledge, of the affected person's baseline level of cognitive function. In other words, a mentally disabled or demented person who is operating at their own baseline level of mental ability would be expected to appear delirious without a baseline mental functional status against which to compare.

Delirium may be caused by a disease process outside the brain that nonetheless affects the brain, such as infection (urinary tract infection, pneumonia) or drug effects, particularly anticholinergics or other CNS depressants (benzodiazepines and opioids).^[1] Although hallucinations and delusions are sometimes present in delirium, these are not required for the diagnosis, and the symptoms of delirium are clinically distinct from those induced by psychosis or hallucinogens (with the exception of deliriants.) Delirium

must by definition be caused by an organic process, i.e., a physically identifiable structural, functional, or chemical problem in the brain (see organic brain syndrome), and thus, fluctuations of mentation due to changes in purely psychiatric processes or diseases, such as sudden psychosis from schizophrenia or bipolar disorder, are (by definition) not termed delirium.

Like its components (inability to focus attention, mental confusion and various impairments in awareness and temporal and spatial orientation), delirium is the common manifestation of new organic brain dysfunction (for any reason). Delirium requires both a sudden change in mentation, and an organic cause for this. Thus, without careful assessment and history, delirium can easily be confused with a number of psychiatric disorders or long term organic brain syndromes, because many of the signs and symptoms of delirium are conditions also present in dementia, depression, and psychosis.^[2] Delirium may newly appear on a background of mental illness, baseline intellectual disability, or dementia, without being due to any of these problems.

Treatment of delirium requires treating the underlying cause. In some cases, temporary or palliative or symptomatic treatments are used to comfort patients or to allow better patient management (for example, a patient who, without understanding, is trying to pull out a ventilation tube that is required for survival). Delirium is probably the single most common acute disorder affecting adults in general hospitals. It affects 10-20% of all hospitalized adults, and 30-40% of elderly hospitalized patients and up to 80% of ICU patients. In ICU patients or in other patients requiring critical care, delirium is not simply an acute brain disorder but in fact is a harbinger of much greater likelihood of death within the 12 months which follow the ICU patient's hospital discharge.^[3]

Dementia, also known as **senility**,^[1] is a broad category of brain diseases that cause a long term and often gradual decrease in the ability to think and remember that is great enough to affect a person's daily functioning.^[2] Other common symptoms include emotional problems, problems with language, and a decrease in motivation.^{[2][3]} A person's consciousness is not affected.^[2] A dementia diagnosis requires a change from a person's usual mental functioning and a greater decline than one would expect due to aging.^{[2][4]} These diseases also have a significant effect on a person's caregivers.^[2]

The most common type of dementia is Alzheimer's disease, which makes up 50% to 70% of cases. Other common types include vascular dementia (25%), Lewy body dementia (15%), and frontotemporal dementia.^{[2][3]} Less common causes include normal pressure hydrocephalus, Parkinson's disease, syphilis, and Creutzfeldt–Jakob disease among others.^[5] More than one type of dementia may exist in the same person.^[2] A small proportion of cases run in families.^[6] In the DSM-5, dementia was reclassified as a neurocognitive disorder, with various degrees of severity.^[7] Diagnosis is usually based on history of the illness and cognitive testing with medical imaging and blood work used to rule out other possible causes.^[8] The mini mental state examination is one commonly used cognitive test.^[3] Efforts to prevent dementia include trying to decrease risk factors such as high blood pressure, smoking, diabetes, and obesity.^[2] Screening the general population for the disease is not recommended.^[9]

There is no cure for dementia.^[2] Cholinesterase inhibitors such as donepezil are often used and may be beneficial in mild to moderate disease.^{[10][11][12]} Overall benefit, however, may be minor.^{[12][13]} For people with dementia and those who care for them many measures can improve their lives.^[2] Cognitive and behavioral interventions may be appropriate.^[2] Educating and providing emotional support to the caregiver is important.^[2] Exercise programs are beneficial with respect to activities of daily living and potentially improve outcomes.^[14] Treatment of behavioral problems or psychosis due to dementia with

antipsychotics is common but not usually recommended due to there often being little benefit and an increased risk of death.^{[15][16]}

Globally, dementia affects 36 million people.^[2] About 10% of people develop the disease at some point in their lives.^[6] It becomes more common with age.^[17] About 3% of people between the ages of 65–74 have dementia, 19% between 75 and 84 and nearly half of those over 85 years of age.^[18] In 2013 dementia resulted in about 1.7 million deaths up from 0.8 million in 1990.^[19] As more people are living longer, dementia is becoming more common in the population as a whole.^[17] For people of a specific age, however, it may be becoming less frequent, at least in the developed world, due to a decrease in risk factors.^[17] It is one of the most common causes of disability among the old.^[3] It is believed to result in economic costs of 604 billion USD a year.^[2] People with dementia are often physically or chemically restrained to a greater degree than necessary, raising issues of human rights.^[2] Social stigma against those affected is common.^[3]

Diabetes mellitus (DM), commonly referred to as **diabetes**, is a group of metabolic diseases in which there are high blood sugar levels over a prolonged period.^[2] Symptoms of high blood sugar include frequent urination, increased thirst, and increased hunger. If left untreated, diabetes can cause many complications.^[3] Acute complications include diabetic ketoacidosis and nonketotic hyperosmolar coma.^[4] Serious long-term complications include cardiovascular disease, stroke, chronic kidney failure, foot ulcers, and damage to the eyes.^[3]

Diabetes is due to either the pancreas not producing enough insulin or the cells of the body not responding properly to the insulin produced.^[5] There are three main types of diabetes mellitus:

- Type 1 DM results from the pancreas's failure to produce enough insulin. This form was previously referred to as "insulin-dependent diabetes mellitus" (IDDM) or "juvenile diabetes". The cause is unknown.^[3]
- Type 2 DM begins with insulin resistance, a condition in which cells fail to respond to insulin properly.^[3] As the disease progresses a lack of insulin may also develop.^[6] This form was previously referred to as "non insulin-dependent diabetes mellitus" (NIDDM) or "adult-onset diabetes". The primary cause is excessive body weight and not enough exercise.^[3]
- Gestational diabetes, is the third main form and occurs when pregnant women without a previous history of diabetes develop a high blood-sugar level.^[3]

In medicine, **Dialysis** (from Greek dialysis, "διάλυσις", meaning *dissolution*, dia, meaning *through*, and lysis, meaning *loosening or splitting*) is a process for removing waste and excess water from the blood and is used primarily as an artificial replacement for lost kidney function in people with kidney failure.^[1] Dialysis may be used for those with an acute disturbance in kidney function (acute kidney injury, previously acute renal failure) or progressive but chronically worsening kidney function—a state known as chronic kidney disease stage 5 (previously chronic renal failure or end-stage renal disease). The latter form may develop over months or years, but in contrast to acute kidney injury is not usually reversible and dialysis is regarded as a "holding measure" until a kidney transplant can be performed or sometimes as the only supportive measure in those for whom a transplant would be inappropriate.^[2]

The kidneys have important roles in maintaining health. When healthy, the kidneys maintain the body's internal equilibrium of water and minerals (sodium, potassium, chloride, calcium, phosphorus, magnesium, sulfate). The acidic metabolism end-products that the body cannot get rid of via respiration are also excreted through the kidneys. The kidneys also function as a part of the endocrine system,

producing erythropoietin and calcitriol. Erythropoietin is involved in the production of red blood cells and calcitriol plays a role in bone formation.^[3] Dialysis is an imperfect treatment to replace kidney function because it does not correct the compromised endocrine functions of the kidney. Dialysis treatments replace some of these functions through diffusion (waste removal) and ultrafiltration (fluid removal).^[4]

Do not resuscitate (DNR), or **no code**, is a legal order written either in the hospital or on a legal form to withhold cardiopulmonary resuscitation (CPR) or advanced cardiac life support (ACLS), in respect of the wishes of a patient in case their heart were to stop or they were to stop breathing. "No code" is a reference to the use of "code" as jargon for "calling in a Code Blue" to alert a hospital's resuscitation team. The DNR request is usually made by the patient or health care power of attorney and allows the medical teams taking care of them to respect their wishes. In the health care community, allow natural death (AND), is a term that is quickly gaining favor as it focuses on what is being done, not what is being avoided.^[citation needed] Some criticize the term "do not resuscitate" because it sounds as if something important is being withheld, while research shows that only about 5% of patients who require CPR outside the hospital and only 15% of patients who require CPR while in the hospital survive.^{[1][2]} Patients who are elderly, are living in nursing homes, have multiple medical problems, or who have advanced cancer are much less likely to survive.^[3]

A DNR does not affect any treatment other than that which would require intubation or CPR. Patients who are DNR can continue to get chemotherapy, antibiotics, dialysis, or any other appropriate treatments.

Edema (also **oedema**, **dropsy**, and **hydropsy**) (/ˈdɪmə/; Greek οἰδῆμα *oīdēma*, "swelling")^[1] is an abnormal accumulation of fluid in the interstitium, located beneath the skin and in the cavities of the body which cause severe pain. Clinically, edema manifests as swelling; the amount of interstitial fluid is determined by the balance of fluid homeostasis, and the increased secretion of fluid into the interstitium, or the impaired removal of the fluid can cause edema.

An **epileptic seizure** (colloquially a **fit**) is a brief episode of signs or symptoms due to abnormal excessive or synchronous neuronal activity in the brain.^[1] The outward effect can vary from uncontrolled jerking movement (tonic-clonic seizure) to as subtle as a momentary loss of awareness (absence seizure). Diseases of the brain characterized by an enduring predisposition to generate epileptic seizures are collectively called epilepsy,^{[1][2]} but seizures can also occur in people who do not have epilepsy. Additionally, there are a number of conditions that look like epileptic seizures but are not.

A first seizure generally does not require treatment unless there is a specific problem on either electroencephalogram or brain imaging.^[3]

A **Foley catheter** is a flexible tube passed through the urethra and into the bladder to drain urine. It is the most common type of indwelling urinary catheter.

The tube of a Foley catheter has two separated channels, or *lumens*, running down its length. One lumen is open at both ends, and drains urine into a collection bag. The other lumen has a valve on the outside end and connects to a balloon at the tip. The balloon is inflated with sterile water when it lies inside the bladder to stop it from slipping out. Foley catheters are commonly made from silicone rubber or natural rubber.

Foley catheters should only be used when indicated, as use increases the risk of catheter-associated urinary tract infection and other adverse effects.

Intubation (sometimes **entubation**) is a medical procedure involving the insertion of a tube into the body. Patients are generally anesthetized beforehand. Examples include tracheal intubation, and the balloon tamponade with a Sengstaken-Blakemore tube (a tube into the gastrointestinal tract).

A **medical ventilator** (or simply **ventilator** in context) is a machine designed to mechanically move breathable air into and out of the lungs, to provide the mechanism of breathing for a patient who is physically unable to breathe, or breathing insufficiently.

While modern ventilators are computerized machines, patients can be ventilated with a bag valve mask, a simple hand-operated bag-valve mask.

Ventilators are chiefly used in intensive care medicine, home care, and emergency medicine (as standalone units) and in anesthesia (as a component of an anesthesia machine).

Medical ventilators are sometimes colloquially called "respirators," a term which stems from commonly used devices in the 1950s (particularly the "Bird Respirator"). However, in modern hospital and medical terminology, these machines are never referred to as respirators, and use of "respirator" in this context is now a deprecated anachronism which signals technical.

Nasogastric intubation is a medical process involving the insertion of a plastic tube (**nasogastric tube** or **NG tube**) through the nose, past the throat, and down into the stomach. **Orogastric intubation** is a similar process involving the insertion of a plastic tube (**orogastric tube**) through the mouth, past the throat, and down into the stomach.

A nasogastric tube is used for feeding and administering drugs and other oral agents such as activated charcoal. For drugs and for minimal quantities of liquid, a syringe is used for injection into the tube. For continuous feeding, a gravity based system is employed, with the solution placed higher than the patient's stomach. If accrued supervision is required for the feeding, the tube is often connected to an electronic pump which can control and measure the patient's intake and signal any interruption in the feeding.

Patient-controlled analgesia (PCA^[1]) is any method of allowing a person in pain to administer their own pain relief.^[2] The infusion is programmable by the prescriber. If it is programmed and functioning as intended, the machine is unlikely to deliver an overdose of medication.^[3] Providers must always observe the first administration of any PCA medication which has not already been administered by the provider to respond to allergic reactions.

Percutaneous endoscopic gastrostomy (PEG) is an endoscopic medical procedure in which a tube (**PEG tube**) is passed into a patient's stomach through the abdominal wall, most commonly to provide a means of feeding when oral intake is not adequate (for example, because of dysphagia or sedation). This provides enteral nutrition (making use of the natural digestion process of the gastrointestinal tract) despite bypassing the mouth; enteral nutrition is generally preferable to parenteral nutrition (which is only used when the GI tract must be avoided). The PEG procedure is an alternative to open surgical

gastrostomy insertion, and does not require a general anesthetic; mild sedation is typically used. PEG tubes may also be extended into the small intestine by passing a jejunal extension tube (**PEG-J tube**) through the PEG tube and into the jejunum via the pylorus.

PEG administration of enteral feeds is the most commonly used method of nutritional support for patients in the community. Many stroke patients, for example, are at risk of aspiration pneumonia due to poor control over the swallowing muscles; some will benefit from a PEG performed to maintain nutrition. PEGs may also be inserted to decompress the stomach in cases of gastric volvulus.^[2]

TPN Parenteral nutrition (PN) is feeding a person intravenously, bypassing the usual process of eating and digestion. The person receives nutritional formulae that contain nutrients such as glucose, amino acids, lipids and added vitamins and dietary minerals. It is called **total parenteral nutrition (TPN)** or **total nutrient admixture (TNA)** when no significant nutrition is obtained by other routes. It may be called **peripheral parenteral nutrition (PPN)** when administered through vein access in a limb, rather than through a central vein.