Ozone – Medical conditions treated with ozone
A list of conditions that are treated with ozone therapy

This document in no way replaces your medical doctors’ authority.

Colleen
Please note that Ozone or Oxygen therapy will not and cannot claim to cure.

**Oxygen therapy** is the administration of oxygen as a therapeutic modality.

The following list deals with Viral, parasitic and bacterial disease as these life forms cannot survive in an oxygen rich environment. as well as immune related diseases, all of which are treatable with ozone therapy. In many instances it is advisable to consult your medical practitioner before embarking on any treatments.

However, Ozone therapy is safe, non invasive and therapeutic.

Please use this list with discretion as it is NOT to be used as a diagnostic evaluation.

Please consult your medical specialist for diagnosis

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**Acariasis**

**Acariasis** is an infestation with mites. Examples include scabies and chiggers.

Acariasis is a term for a rash, caused by mites, sometimes with a papillae (pruritic dermatitis), and usually accompanied by severe itching and creepy-crawly sensations. Most of the mites which cause this affliction to humans are from the order Acari, hence the name Acariasis.

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**Acne**

**Acne vulgaris** (commonly called acne) is a skin disease caused by changes in the pilosebaceous units (skin structures consisting of a hair follicle and its associated sebaceous gland). Severe acne is inflammatory, but acne can also manifest in noninflammatory forms. Acne lesions are commonly referred to as pimples, spots, zits, or acne.

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**Acrodermatitis**

**Acrodermatitis** is a form of dermatitis applying specifically to the extremities.

Types include:

- Acrodermatitis chronica atrophicans
- Acrodermatitis enteropathica

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**Acute otitis media**

**Otitis media** is inflammation of the middle ear, or middle ear infection (the word otitis is Greek and it means “inflammation of the ear”, and media means middle).

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**Acute**

In medicine, an acute disease is a disease with either or both of:
1. a rapid onset;
2. a short course (as opposed to a chronic course).

This adjective is part of the definition of several diseases and is, therefore, incorporated in their name, for instance, severe acute respiratory syndrome, acute leukemia.

The term acute may often be confused by the general public to mean 'severe'. This however, is a different characteristic and something can be acute but not severe.

Acute hospitals are those intended for short-term medical and/or surgical treatment and care. The related medical speciality is called acute medicine.

**Subacute** is defined as between acute and chronic, for example subacute fever symptoms or subacute endocarditis. An example is subacute sclerosing panencephalitis, a rare brain disease characterized by diminished intellectual function and loss of nervous function. Chronic is the opposite of acute - meaning a long term condition, for example chronic bronchitis. Chronic may also be confused by the general public to mean severe. Once again, this is a different definition medically and something can be chronic but not severe.

**Acute vestibulopathy**

A balance disorder is a disturbance that causes an individual to feel unsteady, giddy, woozy, or have a sensation of movement, spinning, or floating. Balance is the result of a number of body systems working together. Specifically, in order to achieve balance the eyes (visual system), ears (vestibular system) and the body's sense of where it is in space (proprioception) need to be intact. Also the brain, which compiles this information, needs to be functioning normally.

**Addison's disease**

**Addison's disease** (also known as chronic adrenal insufficiency, hypocortisolism or hypocorticism) is a rare endocrine disorder in which the adrenal gland produces insufficient amounts of steroid hormones (glucocorticoids and often mineralocorticoids). It may develop in children as well as adults, and may occur as the result of a large number of underlying causes. The condition is named after Dr Thomas Addison, the British physician who first described the condition in his 1855 publication *On the Constitutional and Local Effects of Disease of the Suprarenal Capsules*. The adjective "Addisonian" is used for features of the condition, as well as patients with Addison's disease.

**Adenocarcinoma**

**Adenocarcinoma** is a cancer that originates in glandular tissue. This tissue is also part of a larger tissue category known as epithelial tissue. Epithelial tissue includes skin, glands and a variety of other tissue that lines the cavities and organs of the body. Epithelium is derived embryologically from ectoderm, endoderm and mesoderm. To be classified as adenocarcinoma, the cells do not necessarily need to be part of a gland, as long as they have secretory properties. This form of carcinoma can occur in some higher mammals, including humans. Well differentiated adenocarcinomas tend to resemble the glandular tissue that they are derived from, while poorly
differentiated may not. By staining the cells from a biopsy, a pathologist will determine whether the tumor is an adenocarcinoma or some other type of cancer. Adenocarcinomas can arise in many tissues of the body due to the ubiquitous nature of glands within the body. While each gland may not be secreting the same substance, as long as there is an exocrine function to the cell, it is considered glandular and its malignant form is therefore named adenocarcinoma. Endocrine gland tumors, such as a VIPoma, an insulinoma, a pheochromocytoma, etc, are typically not referred to as adenocarcinomas, but rather, are often called neuroendocrine tumors. If the glandular tissue is abnormal, but benign, it is said to be an adenoma. Benign adenomas typically do not invade other tissue and rarely metastasize. Malignant adenocarcinomas invade other tissues and often metastasize given enough time to do so.

Adenovirus

Adenoviruses are medium-sized (90–100 nm), nonenveloped (naked) icosahedral viruses composed of a nucleocapsid and a double-stranded linear DNA genome. There are over 52 different serotypes in humans, which are responsible for 5–10% of upper respiratory infections in children, and many infections in adults as well.

AIDS

Acquired immune deficiency syndrome or acquired immunodeficiency syndrome (AIDS or Aids) is a set of symptoms and infections resulting from the damage to the human immune system caused by the human immunodeficiency virus (HIV).[1] This condition progressively reduces the effectiveness of the immune system and leaves individuals susceptible to opportunistic infections and tumors. HIV is transmitted through direct contact of a mucous membrane or the bloodstream with a bodily fluid containing HIV, such as blood, semen, vaginal fluid, preseminal fluid, and breast milk.[2][3] This transmission can involve anal, vaginal or oral sex, blood transfusion, contaminated hypodermic needles, exchange between mother and baby during pregnancy, childbirth, or breastfeeding, or other exposure to one of the above bodily fluids.

AIDS is now a pandemic.[4] In 2007, an estimated 33.2 million people lived with the disease worldwide, and it killed an estimated 2.1 million people, including 330,000 children.[5] Over three-quarters of these deaths occurred in sub-Saharan Africa.[6] retarding economic growth and destroying human capital.[6] Most researchers believe that HIV originated in sub-Saharan Africa during the twentieth century.[7] AIDS was first recognized by the U.S. Centers for Disease Control and Prevention in 1981 and its cause, HIV, identified by American and French scientists in the early 1980s.[8]

Although treatments for AIDS and HIV can slow the course of the disease, there is currently no vaccine or cure. Antiretroviral treatment reduces both the mortality and the morbidity of HIV infection, but these drugs are expensive and routine access to antiretroviral medication is not available in all countries.[9] Due to the difficulty in treating HIV infection, preventing infection is a key aim in controlling the AIDS epidemic, with health organizations promoting safe sex and needle-exchange programmes in attempts to slow the spread of the virus.
Alopecia

Alopecia or hair loss is the medical description of the loss of hair from the head or body, sometimes to the extent of baldness. Unlike the common cosmetic depilation of body hair, alopecia tends to be involuntary and unwelcome, e.g., androgenic alopecia. However, it may also be caused by a psychological compulsion to pull out one's own hair (trichotillomania) or the unforeseen consequences of voluntary hairstyling routines (mechanical "traction alopecia" from excessively tight ponytails or braids, or burns to the scalp from caustic hair relaxer solutions or hot hair irons).

In some cases, alopecia is an indication of an underlying medical concern, such as iron deficiency.[1]

When hair loss occurs in only one section, it is known as alopecia areata. Alopecia universalis is when complete hair loss on the body occurs, similar to how hair loss associated with chemotherapy sometimes affects the entire body. [2]

Allergies

Allergy is a disorder of the immune system often also referred to as atopy. Allergic reactions occur to environmental substances known as allergens; these reactions are acquired, predictable and rapid. Strictly, allergy is one of four forms of hypersensitivity and is called type I (or immediate) hypersensitivity. It is characterized by excessive activation of certain white blood cells called mast cells and basophils by a type of antibody known as IgE, resulting in an extreme inflammatory response. Common allergic reactions include eczema, hives, hay fever, asthma, food allergies, and reactions to the venom of stinging insects such as wasps and bees. [1]

Mild allergies like hay fever are highly prevalent in the human population and cause symptoms such as allergic conjunctivitis, itchiness, and runny nose. Allergies can play a major role in conditions such as asthma. In some people, severe allergies to environmental or dietary allergens or to medication may result in life-threatening anaphylactic reactions and potentially death.

A variety of tests now exist to diagnose allergic conditions; these include testing the skin for responses to known allergens or analyzing the blood for the presence and levels of allergen-specific IgE. Treatments for allergies include allergen avoidance, use of anti-histamines, steroids or other oral medications, immunotherapy to desensitize the response to allergen, and targeted therapy.

ALS

Amyotrophic Lateral Sclerosis (ALS, sometimes called Maladie de Charcot, or, in the United States, Lou Gehrig's Disease) is a progressive, usually fatal, neurodegenerative disease caused by the degeneration of motor neurons, the nerve cells in the central nervous system that control voluntary muscle movement. As a motor neuron disease, the disorder causes muscle weakness and atrophy throughout the body as both the upper and lower motor neurons degenerate, ceasing to send messages to muscles. Unable to function, the muscles gradually weaken, develop fasciculations (twitches) because of denervation, and eventually atrophy because of that denervation. The patient may ultimately lose the ability to initiate and control all voluntary
Cognitive function is generally spared except in certain situations such as when ALS is associated with frontotemporal dementia. However, there are reports of more subtle cognitive changes of the frontotemporal type in many patients when detailed neuropsychological testing is employed. Sensory nerves and the autonomic nervous system, which controls functions like sweating, generally remain functional.

Alzheimer's disease

Alzheimer's disease (AD), also called Alzheimer disease, Senile Dementia of the Alzheimer Type (SDAT) or simply Alzheimer's, is the most common form of dementia. This incurable, degenerative, and terminal disease was first described by German psychiatrist Alois Alzheimer in 1906. Generally it is diagnosed in people over 65 years of age, although the less-prevalent early-onset Alzheimer's can occur much earlier. An estimated 26.6 million people worldwide had Alzheimer's in 2006; this number may quadruple by 2050.

Although each sufferer experiences Alzheimer's in a unique way, there are many common symptoms. The earliest observable symptoms are often mistakenly thought to be 'age-related' concerns, or manifestations of stress. In the early stages, the most commonly recognised symptom is memory loss, such as difficulty in remembering recently learned facts. When a doctor or physician has been notified, and AD is suspected, the diagnosis is usually confirmed with behavioural assessments and cognitive tests, often followed by a brain scan if available. As the disease advances, symptoms include confusion, irritability and aggression, mood swings, language breakdown, long-term memory loss, and the general withdrawal of the sufferer as their senses decline. Gradually, bodily functions are lost, ultimately leading to death. Individual prognosis is difficult to assess, as the duration of the disease varies. AD develops for an indeterminate period of time before becoming fully apparent, and it can progress undiagnosed for years. The mean life expectancy following diagnosis is approximately seven years. Fewer than three percent of individuals live more than fourteen years after diagnosis.

The cause and progression of Alzheimer's disease are not well understood. Research indicates that the disease is associated with plaques and tangles in the brain. Currently-used treatments offer a small symptomatic benefit; no treatments to delay or halt the progression of the disease are as yet available. As of 2008, more than 500 clinical trials were investigating possible treatments for AD, but it is unknown if any of them will prove successful. Many measures have been suggested for the prevention of Alzheimer's disease, but their value is unproven in slowing the course and reducing the severity of the disease. Mental stimulation, exercise, and a balanced diet are often recommended, as both a possible prevention and a sensible way of managing the disease.

Because AD cannot be cured and is degenerative, management of patients is essential. The role of the main caregiver is often taken by the spouse or a close relative. Alzheimer's disease is known for placing a great burden on caregivers; the pressures can be wide-ranging, involving social, psychological, physical, and economic elements of the caregiver's life. In developed countries, AD is one of the most economically costly diseases to society.
Amebiasis

**Amoebiasis**, or **Amebiasis** is caused by the amoeba *Entamoeba histolytica*. A gastrointestinal infection that may or may not be symptomatic and can remain latent in an infected person for several years, amoebiasis is estimated to cause 70,000 deaths per year worldwide. Symptoms can range from mild diarrhea to dysentery with blood and mucus in the stool.

*E. histolytica* is usually a commensal organism. Severe amoebiasis infections (known as invasive or fulminant amoebiasis) occur in two major forms. Invasion of the intestinal lining causes "amoebic dysentery" or "amoebic colitis". If the parasite reaches the bloodstream it can spread through the body, most frequently ending up in the liver where it causes "amoebic liver abscesses". When no symptoms are present, the infected individual is still a carrier, able to spread the parasite to others through poor hygienic practices. While symptoms at onset can be similar to bacillary dysentery, amoebiasis is not bacteriological in origin and treatments differ, although both infections can be prevented by good sanitary practices.

Amenorrhea

**Amenorrhoea (BE)**, amenorrhea (**AmE**), or amenorrhœa, is the absence of a menstrual period in a woman of reproductive age. Physiological states of amenorrhoea are seen during pregnancy and lactation (breastfeeding), the latter also forming the basis of a form of contraception known as the lactational amenorrhea method. Outside of the reproductive years there is absence of menses during childhood and after menopause.

Amenorrhoea is a symptom with many potential causes. Primary amenorrhoea (menstruation cycles never starting) may be caused by developmental problems such as the congenital absence of the uterus, or failure of the ovary to receive or maintain egg cells. Also, delay in pubertal development will lead to primary amenorrhoea. Secondary amenorrhoea (menstruation cycles ceasing) is often caused by hormonal disturbances from the hypothalamus and the pituitary gland or from premature menopause, or intrauterine scar formation.

Amyloidosis

In medicine, **amyloidosis** refers to a variety of conditions in which amyloid proteins are abnormally deposited in organs and/or tissues, causing disease. A protein is amyloid if, due to an alteration in its secondary structure, it takes on a particular insoluble form, called the beta-pleated sheet.

The term "amyloidosis" refers to a histological finding occurring in several different disease processes that have little in common with each other, and without additional information, the finding is of limited clinical use.

Anal fissures

An anal fissure is an unnatural crack or tear in the anal skin. As a fissure, these tiny tears may show as bright red rectal bleeding and cause severe periodic pain after defecation. The tear usually extends from the anal opening and located posteriorly in the midline. This location is
probably because of the relatively unsupported nature of the anal wall in that location.

Anemia

Anemia (AmE) or anæmia/anaemia (BrE) (from the Ancient Greek ἀναιμία anaîmia, meaning “without blood”) is defined as a qualitative or quantitative deficiency of hemoglobin, a molecule found inside red blood cells (RBCs). Since hemoglobin normally carries oxygen from the lungs to the tissues, anemia leads to hypoxia (lack of oxygen) in organs. Since all human cells depend on oxygen for survival, varying degrees of anemia can have a wide range of clinical consequences. Anemia is caused by the lack of iron in the body as well.

The three main classes of anemia include excessive blood loss (acutely such as a hemorrhage or chronically through low-volume loss), excessive blood cell destruction (hemolysis) or deficient red blood cell production (ineffective hematopoiesis).

Anemia is the most common disorder of the blood. There are several kinds of anemia, produced by a variety of underlying causes. Anemia can be classified in a variety of ways, based on the morphology of RBCs, underlying etiologic mechanisms, and discernible clinical spectra, to mention a few.

There are two major approaches of classifying anemias, the "kinetic" approach which involves evaluating production, destruction and loss[^1][^2], and the "morphologic" approach which groups anemia by red blood cell size. The morphologic approach uses a quickly available and cheap lab test as its starting point (the MCV). On the other hand, focusing early on the question of production may allow the clinician more rapidly to expose cases where multiple causes of anemia coexist.

Angina

The English word angina (which comes intact in its written form from Latin) refers to a painful constriction or tightness somewhere in the body, and may refer to:

- **Angina pectoris**, chest pain due to ischemia (a lack of blood and hence oxygen supply) of the heart muscle
- **Abdominal angina**, postprandial abdominal pain that occurs in individuals with insufficient blood flow to meet visceral demands
- **Ludwig's angina**, a serious, potentially life-threatening infection of the tissues of the floor of the mouth
- **Prinzmetal's angina**, a syndrome typically consisting of cardiac chest pain at rest that occurs in cycles
- **Vincent's angina**, trench mouth, infection of the gums leading to inflammation, bleeding, deep ulceration and necrotic gum tissue

**Angina tonsillaris**, an inflammation of the tonsils

Angiodema
Angioedema (BE: angiooedema), also known by its eponym Quincke's edema, is the rapid swelling (edema) of the dermis, subcutaneous tissue, [1] mucosa and submucosal tissues. It is very similar to urticaria, but urticaria occurs in the upper dermis. [1]

In the past, angioedema was referred to by the term angioneurotic edema, which wrongly implied that the phenomenon was due to neurosis.

Cases where angioedema progresses rapidly should be treated as a medical emergency as airway obstruction and suffocation can occur. Epinephrine may be lifesaving when the cause of angioedema is allergic. In the case of hereditary angioedema, treatment with epinephrine has not been shown to be helpful.

Ankylosing spondylitis

Ankylosing spondylitis (AS; previously known as Bechterew's disease, Bechterew syndrome, Marie Strümpell disease and a form of Spondyloarthritis) is a chronic, painful, degenerative inflammatory arthritis primarily affecting spine and sacroiliac joints, causing eventual fusion of the spine; it is a member of the group of the autoimmune spondyloarthropathies with a strong genetic predisposition. Complete fusion results in a complete rigidity of the spine, a condition known as bamboo spine. [1]

Anthrax

Anthrax is an acute disease in humans and animals caused by the bacterium Bacillus anthracis, which is highly lethal in some forms. There are effective vaccines against anthrax, and some forms of the disease respond well to antibiotic treatment.

The anthrax bacillus is one of only a few that can form long-lived spores; in a hostile environment, caused perhaps by the death of an infected host or extremes of temperature, the bacteria become inactive dormant spores which can remain viable for many decades and perhaps centuries. Spores are found on all continents except Antarctica. When spores are inhaled, ingested, or come into contact with a skin lesion on a host they reactivate and multiply rapidly.

Anthrax most commonly infects wild and domesticated herbivorous mammals which ingest or inhale the spores while eating grass or browsing. Ingestion is assumed to be the most common route by which herbivores contract anthrax, but this is as yet unproven. Carnivores living in the same environment may ingest infected animals and become infected themselves. Anthrax can also infect humans when they are exposed to blood and other tissues from infected animals (via inhalation or direct inoculation through broken skin), eat tissue from infected animals, or are exposed to a high density of anthrax spores from an animal's fur, hide, or wool.

Anthrax spores can be grown in vitro and used as a biological weapon. Anthrax does not spread directly from one infected animal or person to another, but spores can be transported by clothing, shoes etc.; and the body of a mammal that died of anthrax can be a very dangerous source of anthrax spores.

The name anthrax comes from anthrakitis, the Greek word for anthracite (coal), in reference to
the black skin lesions victims develop in a cutaneous skin infection.

### Apthous stomatitis

An **apthous ulcer** (aka **canker sore**) is a type of **oral ulcer** which presents as a painful open **sore** inside the **mouth** or upper **throat**, caused by a break in the **mucous membrane**. The condition is also known as **apthous stomatitis**, and alternatively as "Sutton's Disease," especially in the case of multiple or recurring ulcers.

The term **apthha** means **ulcer**; it has been used for many years to describe areas of ulceration on mucous membranes. Aphthous stomatitis is a condition which is characterized by recurrent discrete areas of ulceration which are almost always painful. Recurrent aphthous stomatitis (RAS) can be distinguished from other diseases with similar-appearing oral lesions, such as certain viral exanthems or Herpes simplex, by their tendency to recur, and their multiplicity and chronicity. Recurrent aphthous stomatitis is one of the most common oral conditions. At least 10% of the population suffers from it. Women are more often affected than men. About 30–40% of patients with recurrent aphthae report a family history.1

### Arterial occlusion

Peripheral **arterial occlusive** disease (PAOD) results either from atherosclerotic or inflammatory processes causing lumen narrowing (stenosis), or from thrombus formation (usually associated with underlying atherosclerotic disease). When these conditions arise, there is an increase in **vessel resistance** that can lead to a reduction in distal perfusion pressure and blood flow. The following discussion assumes chronic atherosclerotic conditions in the human lower limb that result in stenotic lesions. The hemodynamics and underlying mechanisms of PAOD in the human limb are very similar to what is found in **coronary artery disease**.

### Arteriosclerosis

**Arteriosclerosis** refers to a hardening of medium and large arteries. The most common form of arteriosclerosis is **atherosclerosis**.

### Etymology

The following terms are similar, yet distinct, in both spelling and meaning, and can be easily confused: arteriosclerosis, arteriolosclerosis, and atherosclerosis. **Arteriosclerosis** is a general term describing any hardening (and loss of elasticity) of medium or large arteries (from the Greek **Arterio**, meaning **artery**, and **sclerosis**, meaning **hardening**), **arteriolosclerosis** is any hardening (and loss of elasticity) of **arterioles** (small arteries), **atherosclerosis** is a hardening of an artery specifically due to an **atheromatous plaque**. Therefore, atherosclerosis is a form of arteriosclerosis.

### Arthritis

**Arthritis** (from Greek *arthro-*, joint + -itis, inflammation; plural: arthritides) is a group of conditions involving damage to the **joints** of the body. Arthritis is the leading cause of disability
There are different forms of arthritis; each has a different cause. The most common form of arthritis, osteoarthritis (degenerative joint disease) is a result of trauma to the joint, infection of the joint, or age. Emerging evidence suggests that abnormal anatomy might contribute to the early development of osteoarthritis. Other arthritis forms are rheumatoid arthritis and psoriatic arthritis, autoimmune diseases in which the body attacks itself. Septic arthritis is caused by joint infection. Gouty arthritis is caused by deposition of uric acid crystals in the joint, causing inflammation. There is also an uncommon form of gout caused by the formation of rhomboid crystals of calcium pyrophosphate. This gout is known as pseudogout.

### Arthrosis

**Osteoarthritis** (OA, also known as degenerative arthritis, degenerative joint disease), is a clinical syndrome in which low-grade inflammation results in pain in the joints, caused by abnormal wearing of the cartilage that covers and acts as a cushion inside joints and destruction or decrease of synovial fluid that lubricates those joints. As the bone surfaces become less well protected by cartilage, the patient experiences pain upon weight bearing, including walking and standing. Due to decreased movement because of the pain, regional muscles may atrophy, and ligaments may become more lax. OA is the most common form of arthritis, and the leading cause of chronic disability in the United States.

"Osteoarthritis" is derived from the Greek word "osteo", meaning "of the bone", "arthro", meaning "joint", and "itis", meaning inflammation, although many sufferers have little or no inflammation. A common misconception is that OA is due solely to wear and tear, since OA typically is not present in younger people. However, while age is correlated with OA incidence, this correlation merely illustrates that OA is a process that takes time to develop. There is usually an underlying cause for OA, in which case it is described as secondary OA. If no underlying cause can be identified it is described as primary OA. "Degenerative arthritis" is often used as a synonym for OA, but the latter involves both degenerative and regenerative changes.

OA affects nearly 21 million people in the United States, accounting for 25% of visits to primary care physicians, and half of all NSAID (Non-Steroidal Anti-Inflammatory Drugs) prescriptions. It is estimated that 80% of the population will have radiographic evidence of OA by age 65, although only 60% of those will be symptomatic. In the United States, hospitalizations for osteoarthritis soared from about 322,000 in 1993 to 735,000 in 2006.

### Asthma

**Asthma** is a chronic condition involving the respiratory system in which the airways occasionally constrict, become inflamed, and are lined with excessive amounts of mucus, often in response to one or more triggers. These episodes may be triggered by such things as exposure to an environmental stimulant such as an allergen, environmental tobacco smoke, cold or warm air, perfume, pet dander, moist air, exercise or exertion, or emotional stress. In children, the most common triggers are viral illnesses such as those that cause the common cold. This airway narrowing causes symptoms such as wheezing, shortness of breath, chest tightness, and coughing. The airway constriction responds to bronchodilators. Between episodes, most patients feel well but can have mild symptoms and they may remain short of breath after exercise for longer periods.
of time than the unaffected individual. The symptoms of asthma, which can range from mild to life threatening, can usually be controlled with a combination of drugs and environmental changes.

Public attention in the developed world has recently focused on asthma because of its rapidly increasing prevalence, affecting up to one in four urban children.[3]

Atherosclerosis

**Atherosclerosis** is a disease affecting arterial blood vessels. It is a chronic inflammatory response in the walls of arteries, in large part due to the accumulation of macrophage white blood cells and promoted by low density (especially small particle) lipoproteins (plasma proteins that carry cholesterol and triglycerides) without adequate removal of fats and cholesterol from the macrophages by functional high density lipoproteins (HDL), (see apoA-1 Milano). It is commonly referred to as a "hardening" or "furring" of the arteries. It is caused by the formation of multiple plaques within the arteries.[1]

The atheromatous plaque is divided into three distinct components:

1. The atheroma ("lump of porridge", from Athera, porridge in Greek,), which is the nodular accumulation of a soft, flaky, yellowish material at the center of large plaques, composed of macrophages nearest the lumen of the artery
2. Underlying areas of cholesterol crystals
3. Calcification at the outer base of older/more advanced lesions.

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Atherosclerosis causes two main problems. First, the atheromatous plaques, though long compensated for by artery enlargement (see IMT), eventually lead to plaque ruptures and stenosis (narrowing) of the artery and, therefore, an insufficient blood supply to the organ it feeds. Second, if the compensating artery enlargement process is excessive, then a net aneurysm results.

These complications are chronic, slowly progressing and cumulative. Most commonly, soft plaque suddenly ruptures (see vulnerable plaque), causing the formation of a thrombus that will rapidly slow or stop blood flow, leading to death of the tissues fed by the artery in approximately 5 minutes. This catastrophic event is called an infarction. One of the most common recognized scenarios is called coronary thrombosis of a coronary artery, causing myocardial infarction (a heart attack). Another common scenario in very advanced disease is claudication from insufficient blood supply to the legs, typically due to a combination of both stenosis and aneurysmal segments narrowed with clots. Since atherosclerosis is a body-wide process, similar events occur also in the arteries to the brain, intestines, kidneys, legs, etc.
Athlete's foot

Athlete's foot, also called *Tinea pedis*, is a parasitic fungal infection of the epidermis of the human foot. The term "athlete's foot" refers to the disease and not the organism (fungus) that causes it. Several different fungi, called dermatophytes, can cause tinea pedis. Moreover, a fungus species that causes athlete's foot can also cause, for example, jock itch (tinea cruris). It is typically caused by a mold[^1] (but in some cases a yeast) that grows on the surface of the skin and then into the living skin tissue itself, causing the infection. It usually occurs between the toes, but in severely lasting cases may appear as an extensive "moccasin" pattern on the bottom and sides of the foot. The malady more commonly affects males than females.[^2] Tinea pedis is estimated to be the second most common skin disease in the United States, after acne.[[^3] Up to 15% of the U.S. population may have tinea pedis.[^4]

Babesiosis

Babesiosis is a malaria-like parasitic disease caused by *Babesia*, a genus of protozoal piroplasms.[^1] After trypanosomes, *Babesia* are thought to be the second most common blood parasites of mammals and they can have a major impact on health of domestic animals in areas without severe winters. Human babesiosis is uncommon, but reported cases have risen recently because of expanded medical awareness.[^2]

Bacterial pneumonia

Bacterial pneumonia is an infection of the lungs by bacteria. *Streptococcus pneumoniae* ([J13.]) is the most common bacterial cause of pneumonia in all age groups except newborn infants. *Streptococcus pneumoniae* is a Gram-positive bacteria which often lives in the throat of people who do not have pneumonia. Another important Gram-positive cause of pneumonia is *Staphylococcus aureus* ([J15.2]).

Gram-negative bacteria are seen less frequently; *Haemophilus influenzae* ([J14.]), *Klebsiella pneumoniae* ([J15.0]), *Escherichia coli* ([J15.5]), *Pseudomonas aeruginosa* ([J15.1]) and *Moraxella catarrhalis* are the most common. These bacteria often live in the gut and enter the lungs when contents of the gut (such as vomit) are inhaled.

Infectious pneumonias

- Bacterial pneumonia
- Viral pneumonia
- Fungal pneumonia
- Parasitic pneumonia
- Atypical pneumonia
- Community-acquired pneumonia
- Healthcare-associated pneumonia
- Hospital-acquired pneumonia
- Ventilator-associated pneumonia
- Severe acute respiratory syndrome

**Pneumonias caused by infectious or noninfectious agents**

- Aspiration pneumonia
- Lipid pneumonia
- Eosinophilic pneumonia
- Bronchiolitis obliterans organizing pneumonia

**Noninfectious pneumonia**

- Chemical pneumonia

The "atypical" bacteria are *Coxiella burnetti*, *Chlamyphila pneumoniae* (J16.0), *Mycoplasma pneumoniae* (J15.7), and *Legionella pneumophila*. They are "atypical" because they commonly affect teenagers and young adults, are less severe, and require different antibiotics than typical bacteria such as *Streptococcus pneumoniae*.

**Bartonellosis**

*Bartonellosis* is an infectious disease produced by bacteria of the genus *Bartonella* [1]. *Bartonella* species cause diseases, such as Carrion’s disease, Trench fever, and Cat scratch disease, and other recognized diseases, such as bacillary angiomatosis, peliosis hepatis, chronic bacteremia, endocarditis, chronic lymphadenopathy, and neurological disorders. [2]
### Basalioma

#### Basal cell carcinoma

(Redirected from Basalioma)

**Basal cell carcinoma**

*Classification and external resources*

Basal cell carcinoma is a type of skin cancer. It is the most common and least lethal form of all cancers. It is a malignant epithelial cell tumor that begins as a papule (a small, circumscribed, solid elevation of the skin) and enlarges peripherally, developing into a crater that erodes, crusts and bleeds. Metastasis is rare, but local invasion destroys underlying and adjacent tissue. In 90 percent of all cases, the lesion is seen between the hairline and the upper lip. It can be destructive and disfiguring. The risk of skin cancer is related to the amount of sun exposure and pigmentation in the skin. The longer the exposure to the sun and the lighter the skin, the greater the risk of skin cancer. There are three types of BCC: The most common type of basal cell carcinoma is nodular basal cell carcinoma, a flesh-colored (cream to pink), round or oval translucent nodule with overlying small blood vessels and a pearly-appearing rolled border. The second type of BCC is the pigmented lesion. This is darker than the nodular type, appearing blue, brown or black. It may be similar in appearance to the very aggressive malignant melanoma tumor. It is very important to distinguish between malignant melanomas and pigmented BCC. A third type of BCC is the superficial type, which appears as red, and often scaly, localized plaque. It is frequently confused with psoriasis or eczema. Basal cell skin cancer almost never spreads; however, large and longstanding tumours may metastasize into regional lymph nodes and surrounding areas such as nearby tissues and bone.[1][2]

### Bell palsy

**Bell's palsy** is a paralysis of the facial nerve resulting in inability to control facial muscles on the affected side. Several conditions can cause a facial paralysis, e.g., brain tumor, stroke, and Lyme disease. However, if no specific cause can be identified, the condition is known as Bell's Palsy. Named after Scottish anatomist Charles Bell, who first described it, Bell's palsy is the most common acute mononeuropathy (disease involving only one nerve), and is the most common cause of acute facial nerve paralysis.

Bell's palsy is defined as an idiopathic unilateral facial nerve paralysis, usually self-limiting. The trademark is rapid onset of partial or complete palsy, usually in a single day.

It is thought that an inflammatory condition leads to swelling of the facial nerve (nervus facialis). The nerve travels through the skull in a narrow bone canal beneath the ear. Nerve swelling and compression in the narrow bone canal are thought to lead to nerve inhibition, damage or death. No readily identifiable cause for Bell's palsy has been found, but clinical and experimental
evidence suggests herpes simplex type 1 infection may play a role.

Doctors may prescribe anti-inflammatory and anti-viral drugs. Early treatment is necessary for the drug therapy to have effect. The effect of treatment is still controversial. Most people recover spontaneously and achieve near-normal to normal functions. Many show signs of improvement as early as 10 days after the onset, even without treatment.

Often the eye in the affected side cannot be closed. The eye must be protected from drying up, or the cornea may be permanently damaged resulting in impaired vision.

Bornholm myalgia;

Bornholm disease or pleurodynia is a disease caused by the Coxsackie virus. It is named after the Danish island Bornholm where the first documented cases occurred. Other names

It is also known as the devil's grip, devil's grippe, epidemic myalgia, epidemic pleurodynia, epidemic transient diaphragmatic spasm or The Grasp of the Phantom.

Transmission

The virus that causes devil's grip is a Coxsackie B virus. It is spread by contact and epidemics usually occur during warm weather in temperate regions and at any time in the tropics. It can also be spread through saliva, tooth paste and feces.[1]

Symptoms

Symptoms include:

- fever
- headache

- attacks of severe pain in the lower chest. The slightest movement of the rib cage causes a sharp increase of pain, which makes it very difficult to breathe, and an attack is therefore quite a frightening experience, although it generally passes off before any actual harm occurs. The attacks are unpredictable and strike "out of the blue" with a feeling like an iron grip around the rib cage. The colloquial names for the disease reflect this symptom.

Botulism

Botulism (Latin, botulus, "sausage") also known as "Botulinus Intoxication," is a rare but serious paralytic illness caused by botulin toxin. The toxin is produced by the bacteria Clostridium botulinum. C. botulinum is an anaerobic, Gram positive, spore-forming rod. Botulin toxin is one of the most powerful known toxins: about one microgram is lethal to humans. It acts by blocking nerve function and leads to respiratory and musculoskeletal paralysis.

There are three main kinds of botulism:
- **Infant botulism** or intestinal botulism is caused by ingesting the **spores** of the *C. botulinum*, which then grow inside the infant's **intestines** and release toxin.
- **Foodborne botulism** is caused by eating foods that contain botulin toxin.
- **Wound botulism**, the least common of the three, is caused by botulin toxin produced in a wound infected with *C. botulinum*.

All forms of botulism can be lethal and are always considered medical emergencies. Foodborne botulism can be extremely dangerous as a **public health** risk because multiple persons can consume the poison from a single contaminated food source.

### Bronchitis

**Bronchitis** is an **inflammation** of the **bronchi**.

More specifically, it may refer to:

- **Acute bronchitis**, caused by viruses or bacteria and lasting several days or weeks
- **Chronic bronchitis**, a persistent, productive cough lasting at least three months in two consecutive years.

In bronchitis, the membranes lining the larger bronchial tubes become inflamed and an excessive amount of mucus is produced. The person with bronchitis develops a bad cough to get rid of the mucus.

### Bronchial aspergillus

In **medicine**, **allergic bronchopulmonary aspergillosis (ABPA)** is a condition characterised by an exaggerated response of the **immune system** (a **hypersensitivity response**) to the **fungus** *Aspergillus* (most commonly *Aspergillus fumigatus*). It occurs most often in patients with **asthma** or **cystic fibrosis**. *Aspergillus** spores are ubiquitous in soil and are commonly found in the **sputum** of healthy individuals. *A. fumigatus* is responsible for a spectrum of lung diseases known as **aspergilloses**.

ABPA causes **airway inflammation** which can ultimately be complicated by sacs of the airways (bronchiectasis). The disease may cause airway constriction (**bronchospasm**). Besides asthma and cystic fibrosis, ABPA can also resemble other conditions such as **eosinophilic pneumonia**.

The exact criteria for the diagnosis of ABPA are not agreed upon. **Chest X-rays** and **CT scans**, raised blood levels of **IgE** and **eosinophils**, immunological tests for *Aspergillus* together with sputum **staining** and **sputum cultures** can be useful. **Biopsies** are rarely needed. Treatment consists of **corticosteroids** and **antifungal** medications.

### Bronchospasm

**Bronchospasm** is a sudden constriction of the muscles in the walls of the **bronchioles**. It is caused by the release (**degranulation**) of substances from **mast cells** or **basophils** under the
influence of anaphylatoxins. It causes difficulty in breathing which can be very mild to severe. Bronchospasm appears as the feature of asthma, chronic bronchitis, anaphylaxis, as a possible side-effect of the drug Pilocarpine (which is used to treat illness resulting from the ingestion of deadly nightshade as well as other things) and also as a side effect for Beta Blockers (used to treat hypertension). The overactivity of the bronchioles' muscle is a result of exposure to a stimulus which under normal circumstances would cause little or no response. The resulting constriction and inflammation causes a narrowing of the airways and an increase in mucous production; this reduces the amount of oxygen that is available to the individual causing breathlessness, coughing and hypoxia. Bronchospasm is a serious potential complication of placing a breathing tube during general anesthesia. When the airways spasm or constrict in response to the irritating stimulus of the breathing tube, it is difficult to maintain the airway and the patient can become apneic.

Brucellosis

Brucellosis, also called undulant fever, or Malta fever, is a highly contagious zoonosis caused by ingestion of unsterilized milk or meat from infected animals, or close contact with their secretions. Brucella spp. are small, gram-negative, non-motile, non-spore-forming rods, which function as facultative intracellular parasites that cause chronic disease, which usually persists for life. Brucellosis has been recognized in both animals and humans since the 19th century.

Bullous pemphigoid

Bullous pemphigoid, also referred to as BP, is a chronic autoimmune skin disease, involving the formation of blisters below the surface of the skin and antibodies against the type XVII collagen component of hemidesmosomes. It can also (albeit only rarely) involve the mucous membranes, and has been shown to afflict dogs, cats, pigs, and horses, as well as humans. Incidence is increasing.[1]

Burkit lymphoma

Burkitt lymphoma (or "Burkitt's tumor", or "Malignant lymphoma, Burkitt's type") is a cancer of the lymphatic system (in particular, B lymphocytes). It is named after Denis Parsons Burkitt, a surgeon who first described the disease in 1956 while working in equatorial Africa.[1][2] Almost by definition, Burkitt lymphoma are associated with c-myc gene translocation. The most common variant is t(8;14)(q24;q32) while rarer variants include t(2;8)(p12;q24) and t(8;22)(q24;q11). A three-way translocation, t(8;14;18), has also been identified.[2]

It is curable.

Cancer of all types

Cancer (medical term: malignant neoplasm) is a class of diseases in which a group of cells display uncontrolled growth (division beyond the normal limits), invasion (intrusion on and destruction of adjacent tissues), and sometimes metastasis (spread to other locations in the body.
via lymph or blood). These three malignant properties of cancers differentiate them from benign tumors, which are self-limited, do not invade or metastasize. Most cancers form a tumor but some, like leukemia, do not. The branch of medicine concerned with the study, diagnosis, treatment, and prevention of cancer is oncology.

Cancer may affect people at all ages, even fetuses, but the risk for most varieties increases with age. Cancer causes about 13% of all deaths. According to the American Cancer Society, 7.6 million people died from cancer in the world during 2007. Cancers can affect all animals.

Nearly all cancers are caused by abnormalities in the genetic material of the transformed cells. These abnormalities may be due to the effects of carcinogens, such as tobacco smoke, radiation, chemicals, or infectious agents. Other cancer-promoting genetic abnormalities may be randomly acquired through errors in DNA replication, or are inherited, and thus present in all cells from birth. The heritability of cancers are usually affected by complex interactions between carcinogens and the host's genome. New aspects of the genetics of cancer pathogenesis, such as DNA methylation, and microRNAs are increasingly recognized as important.

Genetic abnormalities found in cancer typically affect two general classes of genes. Cancer-promoting oncogenes are typically activated in cancer cells, giving those cells new properties, such as hyperactive growth and division, protection against programmed cell death, loss of respect for normal tissue boundaries, and the ability to become established in diverse tissue environments. Tumor suppressor genes are then inactivated in cancer cells, resulting in the loss of normal functions in those cells, such as accurate DNA replication, control over the cell cycle, orientation and adhesion within tissues, and interaction with protective cells of the immune system.

Diagnosis usually requires the histologic examination of a tissue biopsy specimen by a pathologist, although the initial indication of malignancy can be symptoms or radiographic imaging abnormalities. Most cancers can be treated and some cured, depending on the specific type, location, and stage. Once diagnosed, cancer is usually treated with a combination of surgery, chemotherapy and radiotherapy. As research develops, treatments are becoming more specific for different varieties of cancer. There has been significant progress in the development of targeted therapy drugs that act specifically on detectable molecular abnormalities in certain tumors, and which minimize damage to normal cells. The prognosis of cancer patients is most influenced by the type of cancer, as well as the stage, or extent of the disease. In addition, histologic grading and the presence of specific molecular markers can also be useful in establishing prognosis, as well as in determining individual treatments.

Candidiasis

Candidiasis, commonly called yeast infection or thrush, is a fungal infection (mycosis) of any of the Candida species, of which Candida albicans is the most common.

Candidiasis encompasses infections that range from superficial, such as oral thrush and vaginitis, to systemic and potentially life-threatening diseases. Candida infections of the latter category are also referred to as candidemia and are usually confined to severely immunocompromised persons, such as cancer, transplant, and AIDS patients.

Superficial infections of skin and mucosal membranes by Candida causing local inflammation
and discomfort are however common in many human populations. While clearly attributable to the presence of the opportunistic pathogens of the genus Candida, candidiasis describes a number of different disease syndromes that often differ in their causes and outcomes.

Carbuncles

A carbuncle is an abscess larger than a boil, usually with one or more openings draining pus onto the skin. It is usually caused by bacterial infection, most commonly Staphylococcus aureus. The infection is contagious and may spread to other areas of the body or other people.

A carbuncle is made up of several skin boils. The infected mass is filled with fluid, pus, and dead tissue. Fluid may drain out of the carbuncle, but sometimes the mass is so deep that it cannot drain on its own. Carbuncles may develop anywhere, but they are most common on the back and the nape of the neck. Men get carbuncles more often than women. Because the condition is contagious, family members may develop carbuncles at the same time. Often, the direct cause of a carbuncle cannot be determined. Things that make carbuncle infections more likely include friction from clothing or shaving, generally poor hygiene and weakening of immunity. For example, persons with diabetes and immune system diseases are more likely to develop staphylococcal infections.

The carbuncle may be the size of a pea or as large as a golf ball. It may be red and irritated and might hurt when touched. It may also grow very fast and have a white or yellow center. It may crust or spread to other skin areas. Sometimes, other symptoms may occur. These may include fatigue, fever and general discomfort or sick feeling. Sometimes an itching occurs before the carbuncle develops.

Cavernous sinus thrombosis

Cavernous sinus thrombosis (CST) is the formation of a blood clot within the cavernous sinus. One possible cause may be the spread of a dental infection in a tooth of the maxilla (upper jaw). In these cases, Staphylococcus aureus is the associated bacteria. It causes edema of the eyelids and the conjunctivae of the eyes and paralysis of the cranial nerves which course through the cavernous sinus. This infection is life-threatening and requires immediate treatment, which usually includes antibiotics and sometimes surgical drainage.

CST is an uncommon complication following infection of face, paranasal sinuses resulting in thrombosis of cavernous sinus and its surrounding anatomic structures including cranial nerves 3,4,5[maxillary and ophthalmic division],6 and the internal carotid artery

Cellulitis

Cellulitis is an infection of the deep subcutaneous tissue of the skin. Cellulitis can be caused by normal skin flora or by exogenous bacteria, and often occurs where the skin has previously been broken: cracks in the skin, cuts, blisters, burns, insect bites, surgical wounds, or sites of intravenous catheter insertion. Skin on the face or lower legs is most commonly affected by this infection, though cellulitis can occur on any part of the body. The mainstay of therapy remains
treatment with appropriate antibiotics.

**Erysipelas** is the term used for a more superficial infection of the dermis and upper subcutaneous layer that presents clinically with a well defined edge. Erysipelas and cellulitis often coexist, so it is often difficult to make a distinction between the two.

Cellulitis is unrelated to cellulite, a cosmetic condition featuring dimpling of the skin.

**Cerebral atrophy**

**Cerebral atrophy** is a common feature of many of the diseases that affect the brain. Atrophy of any tissue means loss of cells. In brain tissue, atrophy describes a loss of neurons and the connections between them. Atrophy can be generalized, which means that all of the brain has shrunk; or it can be focal, affecting only a limited area of the brain and resulting in a decrease of the functions that area of the brain controls. If the cerebral hemispheres (the two lobes of the brain that form the cerebrum) are affected, conscious thought and voluntary processes may be impaired.

**Associated diseases and disorders**

The pattern and rate of progression of cerebral atrophy depends on the disease involved. Diseases that cause cerebral atrophy include:

- **stroke** and traumatic brain injury.
- cerebral palsy, in which lesions (damaged areas) may impair motor coordination.
- Huntington's disease, and other genetic disorders that cause build-up of toxic levels of proteins in neurons.
- leukodystrophies, such as Krabbe disease, which destroy the myelin sheath that protects axons.
- mitochondrial. encephalomyopathies, such as Kearns-Sayre syndrome, which interfere with the basic functions of neurons.
- multiple sclerosis, which causes inflammation, myelin damage, and lesions in cerebral tissue.
- infectious diseases, such as encephalitis, neurosyphilis, and AIDS, in which an infectious agent or the inflammatory reaction to it destroys neurons and their axons.
- epilepsy, in which lesions cause abnormal electrochemical discharges that result in seizures.

**Cerebro vascular accident**

A stroke is the rapidly developing loss of brain functions due to a disturbance in the blood vessels supplying blood to the brain. This can be due to ischemia (lack of blood supply) caused by thrombosis or embolism or due to a hemorrhage. As a result, the affected area of the brain is unable to function, leading to inability to move one or more limbs on one side of the body, inability to understand or formulate speech or inability to see one side of the visual field. In the past, stroke was referred to as cerebrovascular accident or CVA, but the term "stroke" is now preferred.

A stroke is a medical emergency and can cause permanent neurological damage, complications.
and death. It is the leading cause of adult disability in the United States and Europe. It is the number two cause of death worldwide and may soon become the leading cause of death worldwide.\[^2\] Risk factors for stroke include advanced age, hypertension (high blood pressure), previous stroke or transient ischemic attack (TIA), diabetes, high cholesterol, cigarette smoking and atrial fibrillation.\[^3\] High blood pressure is the most important modifiable risk factor of stroke.\[^1\]

The traditional definition of stroke, devised by the World Health Organization in the 1970s,\[^4\] is a "neurological deficit of cerebrovascular cause that persists beyond 24 hours or is interrupted by death within 24 hours". This definition was supposed to reflect the reversibility of tissue damage and was devised for the purpose, with the time frame of 24 hours being chosen arbitrarily. The 24-hour limit divides stroke from transient ischemic attack, which is a related syndrome of stroke symptoms that resolve completely within 24 hours.\[^4\] With the availability of treatments that, when given early, can reduce stroke severity, many now prefer alternative concepts, such as brain attack and acute ischemic cerebrovascular syndrome (modeled after heart attack and acute coronary syndrome respectively), that reflect the urgency of stroke symptoms and the need to act swiftly.\[^5\]

A stroke is occasionally treated with thrombolysis ("clot buster"), but usually with supportive care (speech and language therapy, physiotherapy and occupational therapy) in a "stroke unit" and secondary prevention with antiplatelet drugs (aspirin and often dipyridamole), blood pressure control, statins, and in selected patients with carotid endarterectomy and anticoagulation.\[^1\]

### Chagas disease

**Chagas disease** (Portuguese: doença de Chagas, Spanish: enfermedad de Chagas, mal de Chagas in both languages; also called American trypanosomiasis) is a tropical parasitic disease caused by the flagellate protozoan *Trypanosoma cruzi*. *T. cruzi* is commonly transmitted to humans and other mammals by an insect vector, the blood-sucking assassin bugs of the subfamily Triatominae (family Reduviidae) most commonly species belonging to the *Triatoma*, *Rhodnius*, and *Panstrongylus* genera. The disease may also be spread through blood transfusion and organ transplantation, ingestion of food contaminated with parasites, and from a mother to her fetus.

The symptoms of Chagas disease vary over the course of an infection. In the early, acute stage, symptoms are mild and usually produce no more than local swelling at the site of infection. As the disease progresses, over the course of many years, serious chronic symptoms can appear, such as heart disease and malformation of the intestines. If untreated, the chronic disease is often fatal. Current drug treatments are generally unsatisfactory; available medications are highly toxic and often ineffective, particularly those used to treat the chronic stage of the disease.

Chagas disease occurs exclusively in the Americas, particularly in poor, rural areas of Mexico, Central America, and South America; very rarely, the disease has originated in the Southern United States. The insects that spread the disease are known by various local names, including vinchuca in Argentina, barbeiro (the barber) in Brazil, Pito in Colombia, chipo, chupança, chinchorro, and "the kissing bug". It is estimated that as many as 8 to 11 million people in Mexico, Central America, and South America have Chagas disease, most of whom do not know they are infected. Large-scale population movements from rural to urban areas of Latin America and to other regions of the world have increased the geographic distribution of Chagas disease. Control strategies have mostly focused on eliminating the triatomine vector and preventing
transmission from other sources

Chicken pox

Chickenpox is a highly contagious illness caused by primary infection with varicella zoster virus (VZV). It generally begins with spots appearing in two or three waves, mainly on the body and head rather than the hands and becoming itchy raw pockmarks, small open sores which heal mostly without scarring.

Chickenpox has a 10-21 day incubation period and is spread easily through aerosolized droplets from the nasopharynx of ill individuals or through direct contact with secretions from the rash. Following primary infection there is usually lifelong protective immunity from further episodes of chickenpox.

Chickenpox is rarely fatal, although it is generally more severe in adults than in children. Pregnant women and those with a suppressed immune system are at highest risk of serious complications. The most common late complication of chicken pox is shingles, caused by reactivation of the varicella zoster virus decades after the initial episode of chickenpox.

Chronic disease

In medicine, a chronic disease is a disease that is long-lasting or recurrent. The term chronic describes the course of the disease, or its rate of onset and development. A chronic course is distinguished from a recurrent course; recurrent diseases relapse repeatedly, with periods of remission in between. As an adjective, chronic can refer to a persistent and lasting medical condition. Chronicity is usually applied to a condition that lasts more than three months.

Chlamydia

Chlamydia infection (from the Greek, χλαμύδας meaning "cloak") is a common sexually transmitted infection (STI) in humans caused by the bacterium Chlamydia trachomatis. The term Chlamydia infection can also refer to infection caused by any species belonging to the bacterial family Chlamydiaceae. C. trachomatis is only found in humans.[1] Chlamydia is a major infectious cause of human genital and eye disease.

Chlamydia infection is one of the most common sexually transmitted infections worldwide — about 2.8 million cases of chlamydia infection occur in the United States each year.[2] It is the most common bacterial STI in humans.[3]

C. trachomatis is naturally found living only inside human cells. Chlamydia can be transmitted during vaginal, anal, or oral sex, and can be passed from an infected mother to her baby during vaginal childbirth. Between half and three-quarters of all women who have a chlamydia infection of the neck of the womb (cervicitis) have no symptoms and do not know that they are infected. In men, infection of the urethra (urethritis) is usually symptomatic, causing a white discharge from the penis with or without pain on urinating (dysuria). Occasionally, the condition spreads to the upper genital tract in women (causing pelvic inflammatory disease) or to the epididymis in men (causing epididymitis). If untreated, chlamydial infections can cause serious reproductive and
Chlamydia is easily treated with antibiotics. Chlamydia conjunctivitis or trachoma is a common cause of blindness worldwide. The World Health Organization estimates that it accounted for 15% of blindness cases in 1995, but only 3.6% in 2002.[4][5][6]

Cholecystitis

Cholecystitis is inflammation of the gall bladder. Cholecystitis is often caused by cholelithiasis (the presence of cholesoliths, or gallstones, in the gallbladder), with cholesoliths most commonly blocking the cystic duct directly. This leads to inspissation (thickening) of bile, bile stasis, and secondary infection by gut organisms, predominantly E. coli and Bacteroides species.

The gallbladder's wall becomes inflamed. Extreme cases may result in necrosis and rupture. Inflammation often spreads to its outer covering, thus irritating surrounding structures such as the diaphragm and bowel.

Less commonly, in debilitated and trauma patients, the gallbladder may become inflamed and infected in the absence of cholelithiasis, and is known as acute acalculous cholecystitis.

Chronic pain

Chronic pain is defined as pain that persists longer than the temporal course of natural healing, associated with a particular type of injury or disease process.[1]

The International Association for the Study of Pain defines pain as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage."[2] It is important to note that pain is subjective in nature and is defined by the person experiencing it, and the medical community's understanding of chronic pain now includes the impact that the mind has in processing and interpreting pain signals.

Chronic pulmonary disease

Respiratory Disease is the term for diseases of the respiratory system. These include diseases of the lung, pleural cavity, bronchial tubes, trachea, upper respiratory tract and of the nerves and muscles of breathing. Respiratory diseases range from mild and self-limiting such as the common cold to life-threatening such as bacterial pneumonia or pulmonary embolism. They are a common and important cause of illness and death. In the US, people suffer 1 billion colds per year.[1] One in seven people in the UK is affected by some form of chronic lung disease, most commonly chronic obstructive pulmonary disease and asthma.[2] Respiratory disease is responsible for over 10% of hospitalizations and over 16% of deaths in Canada.[3] The study of respiratory disease is known as pulmonology. A doctor who specializes in respiratory disease is known as a
A pulmonologist, a chest medicine specialist, a respiratory medicine specialist, a respiriologist or a thoracic medicine specialist.

**Cirrhosis of the liver**

*Cirrhosis* is a consequence of chronic liver disease characterized by replacement of liver tissue by fibrous scar tissue as well as regenerative nodules (lumps that occur as a result of a process in which damaged tissue is regenerated), leading to progressive loss of liver function. Cirrhosis is most commonly caused by alcoholism, hepatitis B and C and fatty liver disease but has many other possible causes. Some cases are cryptogenic, i.e., of unknown cause, but most of these are probably due to previously unrecognized fatty liver disease.

Ascites (fluid retention in the abdominal cavity) is the most common complication of cirrhosis and is associated with a poor quality of life, increased risk of infection, and a poor long-term outcome. Other potentially life-threatening complications are hepatic encephalopathy (confusion and coma) and bleeding from esophageal varices. Cirrhosis is generally irreversible once it occurs, and treatment generally focuses on preventing progression and complications. In advanced stages of cirrhosis the only option is a liver transplant.

The word "cirrhosis" derives from Greek *kirrhos*, meaning "tawny" (the orange-yellow colour of the diseased liver). While the clinical entity was known before, it was René Laennec who gave it the name "cirrhosis" in his 1819 work in which he also describes the stethoscope.

**Coccidiomycosis**

*Coccidioidomycosis* (also known as Valley fever, San Joaquin Valley Fever, California valley fever, desert fever, and (incorrectly) coccidiomycosis) is a fungal disease caused by *Coccidioides immitis* or *C. posadasii*. It is endemic in certain parts of Arizona, California, Nevada, New Mexico, Texas, Utah and northwestern Mexico.

*C. immitis* resides in the soil in certain parts of the southwestern United States, northern Mexico, and parts of Central and South America [1]. It is dormant during long dry spells, then develops as a mold with long filaments that break off into airborne spores when the rains come. The spores, known as arthroconidia, are swept into the air by disruption of the soil, such as during construction or farming. Infection is caused by inhalation of the particles. The disease is not transmitted from person to person. *C. immitis* is a dimorphic saprophytic organism that grows as a mycelium in the soil and produces a spherule form in the host organism.

**Colitis**

*Colitis* is a chronic digestive disease characterized by inflammation of the colon.

Colitis is one of a group of conditions which are inflammatory and auto-immune, affecting the tissue that lines the gastrointestinal system (the large and small intestine). It is classed as an inflammatory bowel disease (IBD), not to be confused with irritable bowel syndrome (IBS).
Colorado tick fever

Colorado Tick Fever (CTF) (also called Mountain tick fever, Mountain fever, and American mountain fever) is an acute viral infection transmitted from the bite of an infected wood tick (Dermacentor andersoni). It should not be confused with the bacterial tick-borne infection, Rocky Mountain Spotted Fever. The type species of the genus Coltivirus, Colorado tick fever virus (CTFV) infects haemopoietic cells, particularly erythrocytes, which explains how the virus is transmitted by bloodsucking ticks and also accounts for the incidence of transmission via blood transfusion. The disease develops from March to September, with the highest infections occurring in May and June. [1] The disease is found almost exclusively in the western United States and Canada, mostly in high mountain areas such as Colorado and Idaho. The CTFV was first isolated from human blood in 1944. [2]

The virus particle, like other Coltiviruses, is ~80 nm in diameter and is generally non-enveloped. The double stranded RNA viral genome is ~20,000bp long and is divided into 12 segments, which are termed Seg-1 to Seg-12. Viral replication in infected cells is associated with characteristic cytoplasmic granular matrices. Evidence suggests that viral presence in mature erythrocytes is a result of replication of the virus in hematopoietic erythrocyte precursor cells and simultaneous maturation of the infected immature cells rather than off direct entry and replication of CTFV in mature erythrocytes.[3]

The wood tick is usually found attached to a host, but when it is without a host it hides in cracks and crevices as well as soil. If for some reason the tick is not able to find a host before the winter months, it will stay under groundcover until spring when it can resume its search. The wood tick typically does not seek out available hosts in the hottest summer months as well. Adult ticks, for the most part, tend to climb to the top of grass and low shrubs to attach themselves to a host that is wandering by. These ticks are able to attach to their hosts by secreting a cement-like substance from their mouths and inserting it into the host.[4]

Conjunctivitis

Conjunctivitis (commonly called "Pink Eye" or "Red Eye" in North America, and "Madras eye" in India[1]) is an inflammation of the conjunctiva (the outermost layer of the eye and the inner surface of the eyelids), most commonly due to an allergic reaction or an infection (usually viral, but sometimes bacterial).

Contact dermatitis

Contact dermatitis is a term for a skin reaction resulting from exposure to allergens (allergic contact dermatitis) or irritants (irritant contact dermatitis). Phototoxic dermatitis occurs when the allergen or irritant is activated by sunlight. Contact dermatitis is a localized rash or irritation of the skin caused by contact with a foreign substance. Only the superficial regions of the skin are affected in contact dermatitis. Inflammation of the affected tissue is present in the epidermis (the outermost layer of skin) and the outer dermis (the layer beneath the epidermis).[1] Unlike contact urticaria, in which a rash appears within minutes of exposure and fades away within minutes to hours, contact dermatitis takes days to fade away. Even then, contact dermatitis fades only if the skin no longer comes in contact with the allergen or irritant.[2] Contact dermatitis results in large, burning, and itchy rashes, and these can take anywhere from several days to weeks to heal.
Chronic contact dermatitis can develop when the removal of the offending agent no longer provides expected relief.

**Coronavirus**

*Coronavirus* is a genus of animal virus belonging to the family *Coronaviridae*. Coronaviruses are *enveloped viruses* with a positive-sense single-stranded *RNA genome* and a helical symmetry. The genomic size of coronaviruses ranges from approximately 16 to 31 kilobases, extraordinarily large for an RNA virus. The name "coronavirus" is derived from the Greek κορώνα, meaning crown, as the virus envelope appears under *electron microscopy* (E.M.) to be crowned by a characteristic ring of small bulbous structures. This *morphology* is actually formed by the viral spike (S) peplomers, which are proteins that populate the surface of the virus and determine *host tropism*. Coronaviruses are grouped in the order *Nidovirales*, named for the Latin nidus, meaning nest, as all viruses in this order produce a 3' co-terminal nested set of subgenomic mRNA's during infection.

Proteins that contribute to the overall structure of all coronaviruses are the spike (S), envelope (E), membrane (M) and *nucleocapsid* (N). In the specific case of SARS (see below), a defined receptor-binding domain on S mediates the attachment of the virus to its cellular receptor, *angiotensin-converting enzyme 2* (ACE2). Members of the group 2 coronaviruses also have a shorter spike-like protein called *hemagglutinin esterase* (HE) encoded in their genome, but for some reason this protein is not always brought to expression (produced) in the cell.

**Crohn's disease**

*Crohn's disease* is a disease of the *digestive system* which may affect any part of the *gastrointestinal tract* from mouth to anus. As a result, the *symptoms* of Crohn's disease can vary significantly among afflicted individuals. The main gastrointestinal symptoms are *abdominal pain*, *diarrhea* (which may be visibly bloody), *vomiting*, or *weight loss*. Crohn's disease can also cause complications outside of the gastrointestinal tract such as *skin rashes*, *arthritis*, and *inflammation of the eye*.

The precise cause of Crohn's disease is not known. The disease occurs when the *immune system* attacks the gastrointestinal tract and for this reason, Crohn's disease is considered an *autoimmune disease*. This autoimmune activity produces inflammation in the gastrointestinal tract, and therefore Crohn's disease is classified as an *inflammatory bowel disease*.

Like many other autoimmune diseases, Crohn's disease is believed to be genetically linked. The highest risk occurs in individuals with siblings who have the disease. Males and females are equally affected. Smokers are three times more likely to develop Crohn's disease. Crohn disease affects between 400,000 and 600,000 people in North America. *Prevalence* estimates for Northern Europe have ranged from 27–48 per 100,000. Crohn disease tends to present initially in the teens and twenties, with another peak incidence in the fifties to seventies, although the disease can occur at any age.

Unlike the other major types of *inflammatory bowel disease*, there is no known *drug based* or *surgical* cure for Crohn's disease. *Treatment options* are restricted to controlling *symptoms*,...
putting and keeping the disease in remission and preventing relapse.

The disease was independently described in 1904 by Polish surgeon Antoni Leśniowski and in 1932 by American gastroenterologist Burrill Bernard Crohn, for whom the disease was named. Crohn, along with two colleagues, described a series of patients with inflammation of the terminal ileum, the area most commonly affected by the illness. For this reason, the disease has also been called regional ileitis or regional enteritis.

**Cryptococcosis**

**Cryptococcosis** is a serious and potentially fatal fungal disease caused by members of the *Cryptococcus neoformans* species complex, comprising the two species *Cryptococcus neoformans* and *Cryptococcus gattii* with *C. neoformans* further divided into two varieties (var. *neoformans* and var. *grubii*). It is believed to be acquired by inhalation of the infectious propagule from the environment. Although the exact nature of the infectious propagule is unknown, the leading hypothesis is the basidiospore created through sexual or asexual reproduction. Cryptococcosis is a defining opportunistic infection for AIDS. Other conditions which pose an increased risk include certain lymphomas (e.g. Hodgkin's lymphoma), sarcoidosis, and patients on long-term corticosteroid therapy.

Distribution is worldwide. The prevalence of cryptococcosis has been increasing over the past 20 years for many reasons, including the increase in incidence of AIDS and the expanded use of immunosuppressive drugs.

In humans, *C. neoformans* causes three types of infections:

- Wound or cutaneous cryptococcosis
- Pulmonary cryptococcosis, and
- Cryptococcal meningitis.

Cryptococcal meningitis (infection of the brain) is believed to result from dissemination of the fungus from either an observed or unappreciated pulmonary infection. *Cryptococcus gattii* causes infections in immunocompetent people (those having a functioning immune system), but *C. neoformans* v. *grubii*, and v. *neoformans* usually only cause clinically evident infections in persons who have some form of defect in their immune systems (immunocompromised persons). People who have defects in their cell-mediated immunity, for example, people with AIDS, are especially susceptible to disseminated cryptococcosis. Cryptococcosis is often fatal, especially if untreated.

**Cryptosporidiosis**

**Cryptosporidiosis** is a parasitic disease caused by *Cryptosporidium*, a protozoan parasite in the phylum Apicomplexa. It affects the intestines of mammals and is typically an acute short-term infection. It is spread through the fecal-oral route; the main symptom is self-limiting diarrhea in people with intact immune systems. In immunocompromised individuals, such as AIDS patients, infection can cause permanent and life-threatening explosive diarrhea also known as "the Bangkok Blast" or the "Thai Fourth of July". Despite not being identified until 1976, it is one of the most common waterborne diseases and is found worldwide. The parasite is transmitted by
environmentally hardy cysts (oocysts) that, once ingested, excyst in the small intestine and result in an infection of intestinal epithelial tissue.

Cystitis

Cystitis is inflammation of the urinary bladder. The condition more often affects women, but can affect either sex or all age groups. There are several types of cystitis:

- **bacterial cystitis**, the most common type, which is most often caused by coliform bacteria being transferred from the bowel through the urethra into the bladder
- **interstitial cystitis** (IC) is considered more of an injury to the bladder resulting in constant irritation and rarely involves the presence of infection. IC patients are often misdiagnosed with UTI/cystitis for years before they are told that their urine cultures are negative. Antibiotics are not used in the treatment of IC. The cause of IC is unknown, though some suspect it may be autoimmune where the immune system attacks the bladder. However, there is hope. Several therapies are now available.
- **eosinophilic cystitis** is a rare form of cystitis that is diagnosed via biopsy. In these cases, the bladder wall is infiltrated with a high number of eosinophils. The cause of EC is also unknown though it has been triggered in children by certain medications. Some consider it a form of interstitial cystitis.
- **radiation cystitis** often occurs in patients undergoing radiation for the treatment of cancer.
- **hemorrhagic cystitis**

Cytomegalovirus

Cytomegalovirus *(from the Greek cyto-, "cell", and -megal-, "large") is a viral genus of the Herpesviruses group: in humans it is commonly known as HCMV or Human Herpesvirus 5' (HHV-5).* CMV belongs to the Betaherpesvirinae subfamily of Herpesviridae, which also includes Roseolovirus. Other herpesviruses fall into the subfamilies of Alphaherpesvirinae (including HSV 1 and 2 and varicella) or Gammaherpesvirinae (including Epstein-Barr virus). All herpesviruses share a characteristic ability to remain latent within the body over long periods.

HCMV infections are frequently associated with salivary glands, though they may be found throughout the body. HCMV infection can also be life threatening for patients who are immunocompromised (e.g. patients with HIV, organ transplant recipients, or neonates). Other CMV viruses are found in several mammal species, but species isolated from animals differ from HCMV in terms of genomic structure, and have not been reported to cause human disease.

HCMV is found throughout all geographic locations and socioeconomic groups, and infects between 50% and 80% of adults in the United States as indicated by the presence of antibodies in much of the general population. Seroprevalence is age-dependent: 58.9% of individuals aged 6 and over are infected with CMV while 90.8% of individuals aged 80 and over are positive for HCMV. HCMV is also the virus most frequently transmitted to a developing fetus. HCMV infection is more widespread in developing countries and in communities with lower socioeconomic status and represents the most significant viral cause of birth defects in industrialized countries.
Cutaneous larva migrans

**Cutaneous larva migrans** ("CLM") is a skin disease in humans, caused by the larvae of various nematode parasites, the most common of which is *Ancylostoma braziliense*.

Sometimes referred to as "creeping eruption" or "ground itch", in some parts of the Southern USA this condition is also referred to as "sandworms," as the larvae like to live in sandy soil.

**Cause**

These parasites are found in dog and cat feces and although they are able to infect the deeper tissues of these animals (through to the lungs and then the intestinal tract), in humans they are only able to penetrate the outer layers of the skin and thus create the typical wormlike burrows visible underneath the skin. The parasites apparently lack the collagenase enzymes required to penetrate through the basement membrane deeper into the skin.

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Dengue fever

**Dengue fever** and **dengue hemorrhagic fever** (DHF) are acute febrile diseases, found in the tropics and Africa, and caused by four closely related virus serotypes of the genus *Flavivirus*, family *Flaviviridae*. It is also known as **breakbone fever**. The geographical spread is similar to malaria, but unlike malaria, dengue is often found in urban areas of tropical nations, including Puerto Rico, Singapore, Malaysia, Taiwan, Thailand, Indonesia, Philippines, Pakistan, India, Brazil, Vietnam, Guyana, Venezuela and Bangladesh. Each serotype is sufficiently different that there is no cross-protection and epidemics caused by multiple serotypes (hyperendemicity) can occur. Dengue is transmitted to humans by the *Aedes aegypti* (rarely *Aedes albopictus*) mosquito, which feeds during the day.

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Dermatitis

**Dermatitis** is a blanket term meaning any "inflammation of the skin" (e.g. rashes, etc.). There are several different types of dermatitis. The different kinds usually have in common an allergic reaction to specific allergens. The term may be used to refer to eczema, which is also known as dermatitis eczema or eczematous dermatitis. **Dermatitis** is a general medical term referring to inflammation of the skin. Dermatitis comes in many forms, although it usually involves skin that is swollen, irritated, or other related symptoms. Some cases are simply known as rashes. Most types of dermatitis also share the distinction of coming by way of allergic reaction, although the allergens themselves may be unique.

Certain dermatitis types include:

- **Atopic dermatitis**
- **Contact dermatitis**
- Cradle cap
- **Dandruff**
- Diaper rash
- **Dyshidrosis** (dyshidrotic eczema)
- Eczema
<table>
<thead>
<tr>
<th>Erythroderma</th>
<th>Lichen simplex chronicus</th>
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<td>Nummular dermatitis</td>
<td>(discoid dermatitis)</td>
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<td>Pityriasis alba</td>
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<td>Prurigo nodularis</td>
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<td>Pruritis ani</td>
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<td>Seborrheic dermatitis</td>
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<tr>
<td>Stasis dermatitis</td>
<td>(varicose eczema)</td>
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<tr>
<td>Toxodendron dermatitis</td>
<td>(from urushiol)</td>
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**Diabetes**

**Diabetes mellitus**: (: often referred to simply as diabetes (Ancient Greek: διαβήτης "to pass through [urine]") is a syndrome of disordered metabolism, usually due to a combination of hereditary and environmental causes, resulting in abnormally high blood sugar levels (hyperglycemia). Blood glucose levels are controlled by a complex interaction of multiple chemicals and hormones in the body, including the hormone insulin made in the beta cells of the pancreas. Diabetes mellitus refers to the group of diseases that lead to high blood glucose levels due to defects in either insulin secretion or insulin action. 

Diabetes develops due to a diminished production of insulin (in type 1) or resistance to its effects (in type 2 and gestational). Both lead to hyperglycaemia, which largely causes the acute signs of diabetes: excessive urine production, resulting compensatory thirst and increased fluid intake, blurred vision, unexplained weight loss, lethargy, and changes in energy metabolism. Monogenic forms, e.g. MODY, constitute 1-5% of all cases.

All forms of diabetes have been treatable since insulin became medically available in 1921, but there is no cure. The injections by a syringe or insulin pump deliver insulin, which is a basic treatment of type 1 diabetes. Type 2 is managed with a combination of dietary treatment, medications and insulin supplementation.

Diabetes and its treatments can cause many complications. Acute complications (hypoglycemia, ketoacidosis, or nonketotic hyperosmolar coma) may occur if the disease is not adequately controlled. Serious long-term complications include cardiovascular disease (doubled risk), chronic renal failure, retinal damage (which can lead to blindness), nerve damage (of several kinds), and microvascular damage, which may cause impotence and poor wound healing. Poor healing of wounds, particularly of the feet, can lead to gangrene, and possibly to amputation. Adequate treatment of diabetes, as well as increased emphasis on blood pressure control and lifestyle factors (such as not smoking and maintaining a healthy body weight), may improve the risk profile of most of the chronic complications. In the developed world, diabetes is the most significant cause of adult blindness in the non-elderly and the leading cause of non-traumatic amputation in adults, and diabetic nephropathy is the main illness requiring renal dialysis in the United States.

**Diverticulitis**

**Diverticulitis** is a common digestive disease particularly found in the large intestine. Diverticulitis develops from diverticulosis, which involves the formation of pouches (diverticula).
on the outside of the colon. Diverticulitis results if one of these diverticula becomes inflamed. The development of colonic diverticulum is thought to be a result of raised intraluminal colonic pressures. The Sigmoid colon (Section 4) has the smallest diameter of any portion of the colon, and therefore the portion which would be expected to have the highest intraluminal pressure. The postulate that a lack of dietary fiber, particularly non-soluble fiber* (also known in older parlance as "roughage") predisposes individuals to diverticular disease is supported within the medical literature. [1][2]

It is thought that mechanical blockage of a diverticulum, possibly by a piece of feces or food particles, leads to infection of the diverticulum. [citation needed]

Large bowel (sigmoid colon) showing multiple diverticula. Note how the diverticula appear on either side of the longitudinal muscle bundle (taenium).

There is some evidence that a genetic component may be a causative factor.

**Echovirus**

An *echovirus* is a type of RNA virus that belongs to the genus *Enterovirus* of the *Picornaviridae* family. [1] Echoviruses are found in the gastrointestinal tract (hence it being part of the enterovirus genus) and exposure to the virus causes other opportunistic infections and diseases.

**Eczema**

*Eczema* (from Greek ἐκζημα) is a form of dermatitis,[1] or inflammation of the epidermis.[2] The term *eczema* is broadly applied to a range of persistent skin conditions. These include dryness and recurring skin rashes which are characterized by one or more of these symptoms: redness, skin edema (swelling), itching and dryness, crusting, flaking, blistering, cracking, oozing, or bleeding. Areas of temporary skin discoloration may appear and are sometimes due to healed lesions, although scarring is rare. In contrast to psoriasis, eczema is often likely to be found on the flexor aspect of joints. The term eczema refers to a set of clinical characteristics. Classification of the underlying diseases has been haphazard and unsystematic, with many synonyms used to describe the same condition. A type of eczema may be described by location (e.g. hand eczema), by specific appearance (eczema *craquele* or discoid), or by possible cause (varicose eczema). Further adding to the confusion, many sources use the term eczema and the term for the most common type of eczema (atopic eczema) interchangeably.
More severe eczema

The European Academy of Allergology and Clinical Immunology (EAACI) published a position paper in 2001 which simplifies the nomenclature of allergy-related diseases including atopic and allergic contact eczemas. Non-allergic eczemas are not affected by this proposal.

The classification below is ordered by incidence frequency.

Types of common eczemas

- **Atopic eczema** (aka infantile e., flexural e., atopic dermatitis) is believed to have a hereditary component, and often runs in families whose members also have hay fever and asthma. Itchy rash is particularly noticeable on head and scalp, neck, inside of elbows, behind knees, and buttocks. Experts are urging doctors to be more vigilant in weeding out cases that are, in actuality, irritant contact dermatitis. It is very common in developed countries, and rising. (L20)

- **Contact dermatitis** is of two types: allergic (resulting from a delayed reaction to some allergen, such as poison ivy or nickel), and irritant (resulting from direct reaction to a solvent, such as sodium lauryl sulfate, for example). Some substances act both as allergen and irritant (wet cement, for example). Other substances cause a problem after sunlight exposure, bringing on phototoxic dermatitis. About three quarters of cases of contact eczema are of the irritant type, which is the most common occupational skin disease. Contact eczema is curable provided the offending substance can be avoided, and its traces removed from one’s environment. (L23; L24; L56.1; L56.0)

- **Xerotic eczema** (aka asteatotic e., e. craquele or craquelatum, winter itch, pruritus hiemalis) is dry skin that becomes so serious it turns into eczema. It worsens in dry winter weather, and limbs and trunk are most often affected. The itchy, tender skin resembles a dry, cracked, river bed. This disorder is very common among the older population. Ichthyosis is a related disorder. (L85.3; L85.0)

- **Seborrhoeic dermatitis** or Seborrheic dermatitis ("cradle cap" in infants) is a condition sometimes classified as a form of eczema which is closely related to dandruff. It causes dry or greasy peeling of the scalp, eyebrows, and face, and sometimes trunk. The condition is harmless except in severe cases of cradle cap. In newborns it causes a thick, yellow crusty scalp rash called cradle cap which seems related to lack of biotin, and is often curable. (L21; L21.0)

Less common eczemas

- **Dyshidrosis** (aka dyshidrotic e., pompholyx, vesicular palmoplantar dermatitis, housewife’s eczema) only occurs on palms, soles, and sides of fingers and toes. Tiny opaque bumps called vesicles, thickening, and cracks are accompanied by itching which gets worse at night.
A common type of hand eczema, it worsens in warm weather. (L30.1)

- **Discoid eczema** (aka nummular e., exudative e., microbial e.) is characterized by round spots of oozing or dry rash, with clear boundaries, often on lower legs. It is usually worse in winter. Cause is unknown, and the condition tends to come and go. (L30.0)

- **Venous eczema** (aka gravitational e., stasis dermatitis, varicose e.) occurs in people with impaired circulation, varicose veins and edema, and is particularly common in the ankle area of people over 50. There is redness, scaling, darkening of the skin and itching. The disorder predisposes to **leg ulcers**. (I83.1)

- **Dermatitis herpetiformis** (aka Duhring’s Disease) causes intensely itchy and typically symmetrical rash on arms, thighs, knees, and back. It is directly related to **celiac disease** and can often be put into remission with appropriate diet. (L13.0)

- **Neurodermatitis** (aka *lichen simplex chronicus*, localized scratch dermatitis) is an itchy area of thickened, pigmented eczema patch that results from **habitual** rubbing and scratching. Usually there is only one spot. Often curable through behavior modification and anti-inflammatory medication. **Prurigo nodularis** is a related disorder showing multiple lumps. (L28.0; L28.1)

- **Autoeczematization** (aka id reaction, autosensitization) is an eczematous reaction to an infection with parasites, fungi, bacteria or viruses. It is completely curable with the clearance of the original infection that caused it. The appearance varies depending on the cause. It always occurs some distance away from the original infection. (L30.2)

- There are also eczemas overlaid by viral infections (*e. herpeticum*, *e. vaccinatum*), and eczemas resulting from underlying disease (e.g. **lymphoma**). Eczemas originating from ingestion of medications, foods, and chemicals, have not yet been clearly systematized. Other rare eczematous disorders exist in addition to those listed here.

**Ehrlichiosis**

**Ehrlichiosis** is a **bacterial** infection that infects and kills **white blood cells**. These obligately intracellular bacteria are members of the family **Anaplasmataceae**, genera **Ehrlichia** and **Anaplasma**. Five species have been shown to cause human infection: **Anaplasma phagocytophilum** (which causes **human granulocytic anaplasmosis** (formerly known as human granulocytic ehrlichiosis)), **Ehrlichia ewingii** (which causes **human ewingii ehrlichiosis**), *E. chaffeensis* (which causes **human monocytic ehrlichiosis**), *E. canis*, and *Neorickettsia sennetsu*. [1]

The latter two infections are not well studied. Recently, human infection by the newly discovered Panola Mountain Ehrlichia species has been reported.[2]

The infection also affects dogs (see **Ehrlichiosis (canine)**).

**Emphysema**

**Emphysema** is a chronic obstructive **pulmonary disease** (COPD), formerly termed a chronic obstructive **lung** disease (COLD). It is often caused by exposure to **toxic chemicals**, including long-term exposure to **tobacco smoke**.

Emphysema is characterized by loss of elasticity (increased **Pulmonary compliance**) of the lung tissue, from destruction of structures supporting the **alveoli**, and destruction of **capillaries** feeding the alveoli, owing to the action of alpha 1 antitrypsin deficiency. Thus the small airways collapse during exhalation, as alveolar collapsibility has increased. This impedes airflow and traps air in
the lungs, as with other obstructive lung diseases. Symptoms include shortness of breath on exertion and later at rest, **hyperventilation**, and an expanded chest.

Mild emphysema sufferers often maintain perfect blood oxygen levels by hyperventilating, and so are sometimes called "pink puffers." By contrast, sufferers of **chronic bronchitis** (another COPD disorder) are called "blue bloaters" because they have **cyanosis** (inadequate oxygen) due to an almost normal ventilatory drive caused by decreased sensitivity to **carbon dioxide**. But any COPD disease results in **hypoxaemia** (decreased blood partial pressure of oxygen) and **hypercapnia** (increased blood partial pressure of **carbon dioxide**).

Signs of emphysema include pursed-lipped breathing, central **cyanosis** and **finger clubbing**. The chest has increased **percussion notes**, particularly just above the **liver**, and a difficult to **palpate apex beat**, both due to hyperinflation. There may be decreased breath sounds and audible expiratory wheeze. In advanced disease, there are signs of fluid overload such as pitting **peripheral edema**. The face has a ruddy complexion if there is a secondary **polycythemia**. Sufferers who retain **carbon dioxide** have **asterixis** (metabolic flap) at the **wrist**.

Classically, clinical examination reveals no overt crackles, but in some patients the fine opening of airway ‘popping’ can be heard. It is unlike the fine crackles of **pulmonary fibrosis** or coarse crackles of **mucus** or **oedematous fluid**.

### Encephalitis

**Encephalitis** is an **acute inflammation** of the **brain**. It can be caused by a **bacterial** infection such as bacterial **meningitis** spreading directly to the brain (primary encephalitis), or may be a complication of a current infectious disease like **rabies** or **syphilis** (secondary encephalitis). Certain **parasitic** or **protozoal** infestations, such as **toxoplasmosis**, **malaria**, or **primary amoebic meningoencephalitis**, can also cause encephalitis in people with **compromised immune systems**. **Lyme disease** may also cause encephalitis. Bartonella henselae can also lead to this. Brain damage occurs as the inflamed brain pushes against the skull, and can lead to death.

### Encephalomyelitis

**Encephalomyelitis** is a general term for **inflammation** of the **brain** and **spinal cord**, describing a number of disorders:

- **acute disseminated encephalomyelitis** or **postinfectious encephalomyelitis**, a **demyelinating disease** of the brain and spinal cord, possibly triggered by vaccination or **viral** infection;[2]
  - **encephalomyelitis disseminata**, a synonym for **multiple sclerosis**;
  - **equine encephalomyelitis**, a potentially fatal **mosquito**-borne viral disease that infects **horses** and humans;
  - **myalgic encephalomyelitis**, a syndrome involving inflammation of the central nervous system with symptoms of muscle pain and fatigue; the term has sometimes been used interchangeably with **chronic fatigue syndrome**, though there is still controversy over the distinction;[3]
  - **experimental autoimmune encephalomyelitis** (EAE), an animal model of brain inflammation.
### Endocarditis

**Endocarditis** is an *inflammation* of the inner layer of the heart, the **endocardium**. It usually involves the **heart valves** (native or prosthetic valves). Other structures which may be involved include the **interventricular septum**, the **chordae tendinae**, the mural endocardium, or even on intracardiac devices.

Endocarditis is characterized by a prototypic lesion, the *vegetation*, which is a mass of platelets, fibrin, microcolonies of microorganisms, and scant inflammatory cells. In the subacute form of infective endocarditis, the vegetation may also include a center of *granulomatous tissue*, which may fibrose or calcify.

There are multiple ways to classify endocarditis. The simplest is classifying based on etiology: either *infective* or *non-infective*, depending on whether a **microorganism** is the source of the inflammation. Regardless, diagnosis of this disease is based on the clinical features, investigations such as **echocardiogram**, as well as any **blood cultures** exhibiting the existence of **microorganisms** commonly causing endocarditis.

### Endometritis

**Endometritis** refers to *inflammation* of the **endometrium**, the inner lining of the **uterus**. **Pathologists** have traditionally classified endometritis as either **acute** or **chronic**; acute endometritis is characterized by the presence of microabscesses or **neutrophils** within the endometrial **glands**, while chronic endometritis is distinguished by variable numbers of **plasma cells** within the endometrial **stroma**. The most common cause of endometritis is **infection**. Symptoms include lower abdominal pain, fever and abnormal vaginal bleeding or discharge. **Caesarean section**, **prolonged rupture of membranes** and long labor with multiple **vaginal examinations** are important risk factors. Treatment is usually with broad-spectrum **antibiotics**.

### Endophthalmitis

**Endophthalmitis** is an inflammation of the internal coats of the **eye**. It is a dreaded complication of all **intraocular surgeries**, particularly **cataract surgery**, with possible **loss of vision** and the eye itself. Infectious etiology is the most common and various bacteria and fungi have been isolated as the cause of the endophthalmitis. Other causes include penetrating trauma and retained intraocular foreign bodies.

### Typhoid fever

**Typhoid fever**, also known as **enteric fever**, **bilious fever**, **Yellow Jack** or commonly just **typhoid**[^1] is an illness caused by the bacterium **Salmonella enterica** serovar **Typhi**. Common worldwide, it is transmitted by the ingestion of food or water contaminated with **feces** from an infected person[^2]. The bacteria then perforate through the intestinal wall and are **phagocytosed** by **macrophages**. Salmonella Typhi then alters its structure to resist destruction and allow them to exist within the macrophage. This renders them resistant to damage by **PMN**'s, complement and the immune response. The organism is then spread via the lymphatics while inside the macrophages. This gives them access to the **reticuloendothelial system** and then to the different organs throughout the body. The organism is a **Gram-negative** short bacillus that is motile due to
its peritrichous flagella. The bacteria grows best at 37 °C/99 °F – human body temperature.

Enteritis necroticans

Clostridial necrotizing enteritis (CNE) -- also called *enteritis necroticans* and *pigbel* -- is an often fatal type of food poisoning caused by a β-toxin of *Clostridium perfringens*, Type C. It occurs in some developing countries, but was also documented in Germany following World War II. The toxin is normally inactivated by certain proteolytic enzymes and by normal cooking, but when these protections are impeded, the disease emerges.

Epidermoid (SKIN) carcinoma

In medicine, squamous cell carcinoma (SCC) is a form of cancer of the carcinoma type that may occur in many different organs, including the skin, lips, mouth, esophagus, urinary bladder, prostate, lungs, vagina, and cervix. It is a malignant tumor of squamous epithelium (epithelium that shows squamous cell differentiation

Epidermolytic keratosis

Keratosis is a growth of keratin on the skin. More specifically, it can refer to:

- actinic keratosis (also known as solar keratosis)
- seborrheic keratosis
- keratosis pilaris (KP), also known as (follicular keratosis)

Epididymitis

**Epididymitis** is a medical condition in which there is inflammation of the epididymis (a curved structure at the back of the testicle in which sperm matures and is stored). This condition may be mildly to very painful, and the scrotum (sac containing the testicles) may become red, warm and swollen. It may be acute (of sudden onset) or rarely chronic.

Epididymitis is the most frequent cause of sudden scrotal pain. In contrast with men who have testicular torsion, the cremaster reflex (elevation of the testicle in response to stroking the upper inner thigh) is not altered. If the diagnosis is not entirely clear from the patient’s history and physical examination, a Doppler ultrasound scan can confirm increased flow of blood to the affected epididymis.

Infection is the most common cause. In sexually active men, *Chlamydia trachomatis* is the most frequent causative microbe, followed by E. coli and Neisseria gonorrhoeae. In children, it may follow an infection in another part of the body (for example, a viral illness), or there may be an associated urinary tract anomaly. Another cause is sterile reflux of urine through the ejaculatory ducts. Antibiotics may be needed to control a component of infection. Treatment otherwise comprises pain killers or anti-inflammatory drugs and bed rest if necessary, and symptom control by resting the scrotum in a supported position.

Epidermophytosis
**Dermatophytosis** is a group of **mycosis** infections of the **skin** caused by parasitic **fungi** (*dermatophytes*).

**Presentations**

Infections on the body may give rise to typical enlarging raised red rings of **ringworm**, infection on the skin of the feet may cause **athlete's foot** and in the groin **jock itch**. Involvement of the nails is termed **onychomycosis**, and they may thicken, discolor, and finally crumble and fall off.

They are common in most adult people, with up to 20 percent of the population having one of these infections at any given moment.[citation needed]

Dermatophytosis tends to get worse during summer, with symptoms alleviating during the winter.[citation needed] Animals such as dogs and cats can also be affected by ring worm and the disease can be transmitted between animals and humans (zoonotic disease).

**Types**

A number of different species of fungi are involved. **Dermatophytes** of the genera *Trichophyton* and *Microsporum* are the most common causative agents. These fungi attack various parts of the body and lead to the following conditions:

- **Dermatophytosis**
  - *Tinea pedis* (athlete's foot) affects the feet
  - *Tinea unguium* affects the fingernails and toenails
  - *Tinea corporis* affects the arms, legs, and trunk with ringworm
  - *Tinea cruris* (jock itch) affects the groin area
  - *Tinea manuum* affects the hands and palm area
  - *Tinea capitis* affects the scalp
  - *Tinea barbae* affects facial hair
  - *Tinea faciei* (face fungus) affects the face

*Other superficial mycoses*
- *Tinea versicolor* caused by *Malassezia furfur*
- *Tinea nigra* caused by *Hortaea werneckii*

**Epstein-Barr virus**

The **Epstein-Barr Virus** (EBV), also called **Human herpesvirus 4** (HHV-4), is a **virus** of the **herpes family** (which includes *Herpes simplex virus*), and is one of the most common viruses in **humans**. Most people become infected with EBV, which is often **asymptomatic** but commonly causes **infectious mononucleosis** (better known in the UK as glandular fever).

Epstein-Barr virus occurs worldwide, and most people become infected with EBV sometime during their lives. In the United States, as many as 95% of adults between 35 and 40 years of age have been infected. Infants become susceptible to EBV as soon as maternal antibody protection (present at birth) disappears. Many children become infected with EBV, and these infections
usually cause no symptoms or are indistinguishable from the other mild, brief illnesses of childhood. In the United States and in other developed countries, many persons are not infected with EBV in their childhood years. When infection with EBV occurs during adolescence or young adulthood, it causes **infectious mononucleosis** 35% to 50% of the time.

<table>
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<th>Erysipelas</th>
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<td><strong>Erysipelas</strong> (Greek ερυσίπελας - red skin) is an acute <em>streptococcus</em> bacterial infection[^1] of the <em>dermis</em>, resulting in inflammation and characteristically extending into underlying fat tissue. This disease is most common among the elderly, infants, and children. People with immune deficiency, diabetes, alcoholism, skin ulceration, fungal infections and impaired lymphatic drainage (e.g., after <em>mastectomy</em>, pelvic surgery, <em>bypass</em> grafting) are also at increased risk.</td>
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<th>Erythema migrans</th>
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| **Erythema migrans** is a term used to describe two very different types of *erythema*:

- **Erythema chronicum migrans**

  **Erythema chronicum migrans** refers to the rash often (though not always) seen in the early stage of **Lyme disease**. It can appear anywhere from one day to one month after a tick bite. This rash does not represent an allergic reaction to the bite, but rather an actual skin infection with the Lyme bacteria, *Borrelia burgdorferi sensu lato*. It is a *pathognomonic* sign: a physician-identified rash warrants an instant diagnosis of Lyme disease and immediate treatment without further testing, even by the strict criteria of the **Centers for Disease Control**. These rashes are characteristic of *Borrelia* infections and no other pathogens are known that cause this form of rash.

- **Geographic tongue**.

  **Geographic tongue**, also known as *benign migratory glossitis*, *erythema migrans*, or *continental tongue*, is a condition affecting the *tongue*. The *colloquial* names are due to the condition resembling a *map*.

<table>
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<th>Flavivirus</th>
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<td><strong>Flavivirus</strong> is a genus of the family <em>Flaviviridae</em>. This genus includes the <em>West Nile virus</em>, <em>dengue virus</em>, <em>Tick-borne Encephalitis Virus</em>, <em>Yellow Fever Virus</em>, and several other <em>viruses</em> which may cause <em>encephalitis</em>.</td>
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Flaviviruses are named from Yellow Fever virus, a type virus for the Flaviviridae family; *flavus* means yellow in Latin. (Yellow fever in turn was named because of its propensity to cause yellow jaundice in victims.)[^3]

*Flaviviruses* share a common size (40-65 nm), symmetry (*enveloped*, *icosahedral* nucleocapsid), *nucleic acid* (*positive-sense*, single stranded *RNA* approximately 10,000-11,000 bases), and appearance in the *electron microscope*.

These viruses are transmitted by the bite from an infected arthropod (mosquito or tick) Human
infections with these viruses are typically incidental, as humans are unable to replicate the virus to high enough titres to reinfect arthropods and thus continue the virus life cycle. The exceptions to this are Yellow fever virus and Dengue viruses which are well adapted to human and are not dependent upon any other hosts.

Other virus transmission routes include, handling infected animal carcases, blood transfusion, child birth and through consumption unpasturised milk products.

Animals are able to be infected with flaviviruses, although the ability for these animals to directly transmit the virus is unlikely.

Folliculitis

Folliculitis is the inflammation of one or more hair follicles. The condition may occur anywhere on the skin. Most carbuncles and furuncles and other cases of folliculitis develop from Staphylococcus aureus.

Folliculitis starts when hair follicles are damaged by friction from clothing, blockage of the follicle, shaving or too tight braids too close to the scalp [traction folliculitis]. In most cases of folliculitis, the damaged follicles are then infected with the bacteria Staphylococcus (staph).

Iron deficiency anemia is sometimes associated with chronic cases.

Tinea barbae is similar to barber’s itch, but the infection is caused by the fungus T. rubrum.

Malassezia folliculitis, formerly known as Pityrosporum folliculitis, is caused by malassezia yeast.

Pseudofolliculitis barbae is a disorder occurring primarily in men of African descent. If curly beard hairs are cut too short, they may curve back into the skin and cause inflammation.

Hot tub folliculitis is caused by the bacteria Pseudomonas aeruginosa often found in new hot tubs. The folliculitis usually occurs after sitting in a hot tub that was not properly cleaned before use. Symptoms are found around the body parts that sit in the hot tub -- typically the legs, hips, and buttocks and surrounding areas. Symptoms are typically amplified around regions that were covered by wet clothing, such as bathing suits.

Sycosis barbae or Barber’s itch is a staphylococcus infection of the hair follicles in the beard area of the face, usually the upper lip. Shaving aggravates the condition.

Eosinophilic folliculitis may appear in persons with impaired immunity (AIDS, blood disorders).

Herpetic folliculitis may occur when Herpes Simplex Virus infection spreads to nearby hair follicles - mostly around the mouth. It typically occurs in persons with AIDS.

Gram negative folliculitis may appear after prolonged acne treatment with antibiotics.

Folliculitis decalvans or tufted folliculitis usually affects scalp. Several hairs arise from the same hair follicle. Scarring and permanent hair loss may follow. The cause is unknown.

Folliculitis keloidalis causes scars on the nape of the neck. It is most common among males of African descent with curly hair.

Oil folliculitis is inflammation of hair follicles due to exposure to various oils and typically occurs on forearms or thighs. It is common in refinery workers, road workers, mechanics, sheep shearsers. Even makeup may cause it.
Food poisoning

**Foodborne illness** (also foodborne disease and colloquially referred to as food poisoning) is any illness resulting from the consumption of food.

There are two types of food poisoning: food infection and food intoxication. Food infection refers to the presence of bacteria or other microbes whose endotoxins affect the body. Food intoxication only requires the presence of the bacteria's exotoxins to affect the body, while the microbe that produced the toxin is no longer present or able to cause infection. In spite of the common term food poisoning, most cases are caused by a variety of pathogenic bacteria, viruses, prions or parasites that contaminate food, rather than chemical or natural toxins.

Fulminant varicella – see chicken pox

Furuncle

**Boil** or furuncle is a skin disease caused by the infection of hair follicles, resulting in the localized accumulation of pus and dead tissue. Individual boils can cluster together and form an interconnected network of boils called carbuncles. In severe cases, boils may develop to form abscesses. Boils are generally caused by an infection of the hair follicles by *Staphylococcus aureus*, a strain of bacterium that normally lives on the skin surface. It is thought that a tiny cut of the skin allows this bacterium to enter the follicles and cause an infection. This can happen during bathing or while using a razor.

People with immune system disorders, diabetes, poor hygiene or malnutrition (Vitamin A or E deficiency) are particularly susceptible to getting boils; however, they also occur in healthy, hygienic individuals, due to over scratching a particular area of the skin. *Hidradenitis suppurativa* causes frequent boils. Boils in the armpits can sometimes be caused by anti-perspirant deodorants. The development of net throughout the body is also a symptom of smallpox.

Gangrene

**Gangrene** is a complication of necrosis (i.e., cell death) characterized by the decay of body tissues, which become black and malodorous. It is caused by infection or ischemia, such as from thrombosis (blocked blood vessel). It is usually the result of critically insufficient blood supply (e.g., peripheral vascular disease) and is often associated with diabetes and long-term smoking. This condition is most common in the lower extremities. The best treatment for gangrene is revascularization (i.e., restoration of blood flow) of the affected organ, which can reverse some of the effects of necrosis and allow healing. Other treatments include debridement and surgical amputation. The method of treatment is generally determined depending on location of affected tissue and extent of tissue loss. Gangrene may appear as one effect of foot binding.

Genital warts

**Genital warts** (or Condyloma, *Condylomata acuminata*, or venereal warts) is a highly
contagious sexually transmitted infection caused by some sub-types of human papillomavirus (HPV). It is spread through direct skin-to-skin contact during oral, genital, or anal sex with an infected partner. Genital warts are the most easily recognized sign of genital HPV infection. They can be caused by strains 6, 11, 30, 42, 43, 44, 45, 51, 52 and 54 of genital HPV; types 6 and 11 are responsible for 90% of genital warts cases.[1] Most people who acquire those strains never develop warts or any other symptoms. HPV also causes many cases of cervical cancer; types 16 and 18 account for 70% of cases.

Giardiasis

Giardiasis — popularly known as beaver fever or backpacker's diarrhea — is a disease caused by the flagellate protozoan Giardia lamblia (also sometimes called Giardia intestinalis and Giardia duodenalis).[1] The giardia organism inhabits the digestive tract of a wide variety of domestic and wild animal species, as well as humans. It is a common cause of gastroenteritis in humans, infecting approximately 200 million people worldwide.

Glaucoma

Glaucoma is a group of diseases of the optic nerve involving loss of retinal ganglion cells in a characteristic pattern of optic neuropathy. Although raised intraocular pressure is a significant risk factor for developing glaucoma, there is no set threshold for intraocular pressure that causes glaucoma. One person may develop nerve damage at a relatively low pressure, while another person may have high eye pressure for years and yet never develop damage. Untreated glaucoma leads to permanent damage of the optic nerve and resultant visual field loss, which can progress to blindness.

Glaucoma has been nicknamed the "sneaky thief of sight" because the loss of visual field often occurs gradually over a long time and may only be recognized when it is already quite advanced. Once lost, this damaged visual field can never be recovered. Worldwide, it is the second leading cause of blindness;[4] Glaucoma affects one in two hundred people aged fifty and younger, and one in ten over the age of eighty.

Glioma

A glioma is a type of cancer that starts in the brain or spine. It is called a glioma because it arises from glial cells. The most common site of gliomas is the brain.[1]

Glomerular disease

Glomerulonephritis

Glomerulonephritis, also known as glomerular nephritis, abbreviated GN, is a renal disease characterized by inflammation of the glomeruli, or small blood vessels in the kidneys.[1] It may present with isolated hematuria and/or proteinuria (blood resp. protein in the urine); or as a nephrotic syndrome, a nephritic syndrome, acute renal failure, or chronic renal failure. They are categorised into several different pathological patterns, which are broadly grouped into non-proliferative or proliferative types. Diagnosing the pattern of GN is important because the outcome and treatment differs in different types. Primary causes are one which are intrinsic to the kidney, whilst secondary causes are associated with certain infections (bacterial, viral or parasitic pathogens), drugs, systemic disorders (SLE, vasculitis) or cancers.
### Goodpasture syndrome

**Goodpasture’s syndrome** (also known as **Goodpasture’s disease** and **anti-glomerular basement membrane disease**) is a rare condition characterised by rapid destruction of the **kidneys** and **haemorrhaging** of the **lungs**. Although many diseases can present with these symptoms, the name Goodpasture’s syndrome is usually reserved for the **autoimmune disease** produced when the patient’s **immune system** attacks cells presenting the Goodpasture **antigen** (a **type II hypersensitivity** reaction), which are found in the kidney and lung, causing damage to these organs. The disease bears the name of the American pathologist Dr Ernest Goodpasture, whose 1919 description is regarded as the first report on the existence of the condition.\(^1\)^\(^2\)

### Gout

**Gout** (**metabolic arthritis**) is a disease created by a buildup of **uric acid**. In this condition, **crystals** of monosodium urate or uric acid are deposited on the articular **cartilage** of joints, tendons and surrounding tissues. These crystals cause **inflammation** and **pain**, both severe. If unchecked, the crystals form **tophi**, which can cause significant tissue damage. Gout results from a combination of elevated concentrations of uric acid and overall acidity in the **bloodstream**. In isolation, neither elevated uric acid (**hyperuricemia**) nor acidity is normally sufficient to cause gout.

### Grave's disease

**Graves' disease** is a **thyroid** disorder characterized by **goiter**, **exophthalmos**, "orange-peel" skin, and **hyperthyroidism**. It is caused by an **antibody-mediated** **auto-immune** reaction, but the trigger for this reaction is still unknown. It is the most common cause of hyperthyroidism in the world, and the most common cause of general **thyroid** enlargement in developed countries.

In some parts of Europe the term **Basedow’s disease** or **Graves-Basedow disease** is preferred to **Grave's** disease

### Guillane-Barre syndrome

**Guillain-Barré syndrome** (**GBS**) is an **acute inflammatory demyelinating polyneuropathy** (**AIDP**), an **autoimmune** disease affecting the **peripheral nervous system**, usually triggered by an acute infectious process. It is included in the wider group of **peripheral neuropathies**. There are several types of GBS, but unless otherwise stated, GBS refers to the most common form, acute inflammatory demyelinating polyneuropathy (**AIDP**). It is frequently severe and usually exhibits as an ascending paralysis noted by weakness in the legs that spreads to the upper limbs and the face along with complete loss of deep tendon reflexes. With prompt treatment by **plasmapheresis** or intravenous **immunoglobulins** and supportive care, the majority of patients will regain full functional capacity. However, death may occur if severe pulmonary complications and **dysautonomia** are present.

### Hairy leukoplakia

**Hairy leukoplakia** is a white patch on the side of the tongue with a corrugated or hairy
Hairy leukoplakia is seen in severe defects of immunity, particularly in HIV infection. The cause of this condition is an opportunistic infection by the Epstein-Barr virus. Oral hairy leukoplakia is not associated with any malignant potential.

The condition does not cause any other symptoms and does not require any treatment. If treatment is required, acyclovir is used.

Although the vast majority of cases are found in immunosuppressed patients, in 1999, the first immunocompetent patient was found with the condition.

Heart arrhythmia

Cardiac arrhythmia (also dysrhythmia) is a term for any of a large and heterogeneous group of conditions in which there is abnormal electrical activity in the heart. The heart beat may be too fast or too slow, and may be regular or irregular.

Some arrhythmias are life-threatening medical emergencies that can result in cardiac arrest and sudden death. Others cause aggravating symptoms such as an abnormal awareness of heart beat (palpitations), and may be merely annoying. Others may not be associated with any symptoms at all, but pre-dispose toward potentially life threatening stroke or embolus.

Some arrhythmias are very minor and can be regarded as normal variants. In fact, most people will sometimes feel their heart skip a beat, or give an occasional extra strong beat - neither of which is usually a cause for alarm.

The term sinus arrhythmia refers to a normal phenomenon of mild acceleration and slowing of the heart rate that occurs with breathing in and out. It is usually quite pronounced in children, and steadily lessens with age. This can also present during meditation breathing exercises that involve deep inhaling and breath holdings patterns.

Heart disease

Heart disease is an umbrella term for a variety for different diseases affecting the heart.

Coronary heart disease

Main article: Coronary heart disease

Coronary artery disease is a disease of the artery caused by the accumulation of atheromatous plaques within the walls of the arteries that supply the myocardium. Angina pectoris (chest pain) and myocardial infarction (heart attack) are symptoms of and conditions caused by coronary heart disease.

Over 459,000 Americans die of coronary heart disease every year. In the United Kingdom, 101,000 deaths annually are due to coronary heart disease.

Cardiomyopathy

Main article: Cardiomyopathy
Cardiomyopathy literally means "heart muscle disease" (Myo= muscle, pathy= disease) It is the deterioration of the function of the myocardium (i.e., the actual heart muscle) for any reason. People with cardiomyopathy are often at risk of arrhythmia and/or sudden cardiac death.

- Extrinsic cardiomyopathies - cardiomyopathies where the primary pathology is outside the myocardium itself. Most cardiomyopathies are extrinsic, because by far the most common cause of a cardiomyopathy is ischemia. The World Health Organization calls these specific cardiomyopathies:

Alcoholic cardiomyopathy
Coronary artery disease
Congenital heart disease - see below
Nutritional diseases affecting the heart
Ischemic (or ischaemic) cardiomyopathy
Hypertensive cardiomyopathy
Valvular cardiomyopathy - see also Valvular heart disease below
Inflammatory cardiomyopathy - see also Inflammatory heart disease below
Cardiomyopathy secondary to a systemic metabolic disease

Intrinsic cardiomyopathies - weakness in the muscle of the heart that is not due to an identifiable external cause.

Dilated cardiomyopathy (DCM) - most common form, and one of the leading indications for heart transplantation. In DCM the heart (especially the left ventricle) is enlarged and the pumping function is diminished.

Hypertrophic cardiomyopathy (HCM or HOCM) - genetic disorder caused by various mutations in genes encoding sarcomeric proteins.
In HCM the heart muscle is thickened, which can obstruct blood flow and prevent the heart from functioning properly.

Arrhythmogenic right ventricular cardiomyopathy (ARVC) - arises from an electrical disturbance of the heart in which heart muscle is replaced by fibrous scar tissue. The right ventricle is generally most affected.

Restrictive cardiomyopathy (RCM) - least common cardiomyopathy. The walls of the ventricles are stiff, but may not be thickened, and resist the normal filling of the heart with blood. **Noncompaction Cardiomyopathy - the left ventricle wall has failed to properly grow from birth and such has a spongy appearance when viewed during an echocardiogram.

Cardiovascular disease

Main article: Cardiovascular disease

Cardiovascular disease is any of a number of specific diseases that affect the heart itself and/or the blood vessel system, especially the veins and arteries leading to and from the heart. Research on disease dimorphism suggests that women who suffer with cardiovascular disease usually suffer from forms that affect the blood vessels while men usually suffer from forms that affect the heart muscle itself. Known or associated causes of cardiovascular disease include diabetes mellitus, hypertension, hyperhomocysteinemia and hypercholesterolemia.

Types of cardiovascular disease include:
• **Atherosclerosis**

**Ischaemic heart disease**

• **Ischaemic heart disease** - another disease of the heart itself, characterized by reduced blood supply to the organs.

**Heart failure**

*Main article: Heart failure*

*Heart failure*, also called *congestive heart failure* (or *CHF*), and *congestive cardiac failure* (CCF), is a condition that can result from any structural or functional *cardiac* disorder that impairs the ability of the *heart* to fill with or pump a sufficient amount of *blood* throughout the body.

• **Cor pulmonale**, a failure of the right side of the heart.

**Hypertensive heart disease**

*Main article: Hypertensive heart disease*

*Hypertensive heart disease* is heart disease caused by high blood pressure, especially localised high blood pressure. Conditions that can be caused by hypertensive heart disease include:

• **Left ventricular hypertrophy**
• **Coronary heart disease**
• **(Congestive) heart failure**
• **Hypertensive cardiomyopathy**
• **Cardiac arrhythmias**

**Inflammatory heart disease**

*Inflammatory heart disease* involves inflammation of the heart muscle and/or the tissue surrounding it.

• **Endocarditis** - inflammation of the inner layer of the *heart*, the *endocardium*. The most common structures involved are the *heart valves*.
• **Inflammatory cardiomegaly**
• **Myocarditis** - inflammation of the *myocardium*, the muscular part of the heart.

**Valvular heart disease**

*Main article: Valvular heart disease*

*Valvular heart disease* is disease process that has one tube *valves* of the *heart*. The valves in the right side of the heart are the *tricuspid valve* and the *pulmonic valve*. The valves in the left side of the heart are the *mitral valve* and the *aortic valve*.

• **Aortic valve stenosis**
• **Mitral valve prolapse**
Hematoma

A hematoma, or haematoma, is a collection of blood outside the blood vessels, generally the result of hemorrhage, or more specifically, internal bleeding.

It is not to be confused with hemangioma which is an abnormal build up of blood vessels in the skin or internal organs.

Hemorrhage

Bleeding, technically known as hemorrhaging or haemorrhaging (see American and British spelling differences) is the loss of blood from the circulatory system. Bleeding can occur internally, where blood leaks from blood vessels inside the body or externally, either through a natural opening such as the vagina, mouth or anus, or through a break in the skin. The complete loss of blood is referred to as exsanguination, and desanguination is a massive blood loss. Loss of 10-15% of total blood volume can be endured without clinical sequelae in a healthy person, and blood donation typically takes 8-10% of the donor's blood volume.

Hemorrhagic fever

The viral hemorrhagic fevers (VHFs) are a diverse group of animal and human illnesses that are caused by five distinct families of RNA viruses: the Arenaviridae, Filoviridae, Bunyaviridae, Togaviridae, and Flaviviridae. All types of VHF are characterized by fever and bleeding disorders and all can progress to high fever, shock and death in extreme cases. Some of the VHF agents cause relatively mild illnesses, such as the Scandinavian nephropathia epidemica, whilst others, such as the African Ebola virus, can cause severe, life-threatening disease.

Hemorrhoids

Hemorrhoids (AmE), haemorrhoids (BrE), emerods, or piles are varicosities or swelling and inflammation of veins in the rectum and anus. The anatomical term "hemorrhoids" technically refers to "Cushions of tissue filled with blood vessels at the junction of the rectum and the anus." However, the term is popularly used to refer to varicosities of the hemorrhoid tissue. Perianal hematoma are sometimes misdiagnosed and mislabeled as hemorrhoids, when in fact...
they have different causes and treatments.[2]

Hemolytic anemia

Hemolytic anemia is anemia due to hemolysis, the abnormal breakdown of red blood cells (RBCs) either in the blood vessels (intravascular hemolysis) or elsewhere in the body (extravascular). It has numerous possible causes, ranging from relatively harmless to life-threatening. The general classification of hemolytic anemia is either acquired or inherited. Treatment depends on the cause and nature of the breakdown.

In a healthy person, a red blood cell survives 90 to 120 days (on average) in the circulation, so about 1% of human red blood cells break down each day. The spleen (part of the reticuloendothelial system) is the main organ which removes old and damaged RBCs from the circulation. In healthy individuals, the breakdown and removal of RBCs from the circulation is matched by the production of new RBCs in the bone marrow.

In conditions where the rate of RBC breakdown is increased, the body initially compensates by producing more RBCs; however, breakdown of RBCs can exceed the rate that the body can make RBCs, and so anemia can develop. Bilirubin, a breakdown product of hemoglobin, can accumulate in the blood causing jaundice, and be excreted in the urine causing the urine to become a dark brown colour.

Hepatitis of all types

Hepatitis (plural hepatitides) implies injury to the liver characterized by the presence of inflammatory cells in the tissue of the organ. The name is from ancient Greek hepar (ηπαρ) or hepato- (ηπατο-), meaning liver, and suffix -itis, meaning “inflammation” (c. 1727). The condition can be self-limiting, healing on its own, or can progress to scarring of the liver. Hepatitis is acute when it lasts less than six months and chronic when it persists longer. A group of viruses known as the hepatitis viruses cause most cases of liver damage worldwide. Hepatitis can also be due to toxins (notably alcohol), other infections or from autoimmune process. It may run a subclinical course when the affected person may not feel ill. The patient becomes unwell and symptomatic when the disease impairs liver functions that include, among other things, removal of harmful substances, regulation of blood composition, and production of bile to help digestion.

Herpes of all types

Herpes simplex is a viral disease caused by Herpes simplex viruses; both herpes simplex virus 1 (HSV-1) and herpes simplex virus 2 (HSV-2) cause herpes simplex. Infection with the herpes virus is categorized into one of several distinct disorders based on the site of infection. Oral herpes, the visible symptoms of which are colloquially called cold sores, infects the face and mouth. Oral herpes is the most common form of infection. Infection of the genitals, commonly known as herpes, is the second most common form of herpes. Other disorders such as herpetic whitlow, herpes gladiatorum, ocular herpes (keratitis), cerebral herpes infection encephalitis, Mollaret's meningitis, neonatal herpes, and possibly Bell's palsy are all caused by herpes simplex.
viruses.

Herpes viruses cycle between periods of active disease—presenting as blisters containing infectious virus particles—that last 2–21 days, followed by a remission period, during which the sores disappear. Genital herpes, however, is often asymptomatic, though viral shedding may still occur. After initial infection, the viruses move to sensory nerves, where they reside as life-long, latent viruses. Causes of recurrence are uncertain, though some potential triggers have been identified. Over time episodes of active disease reduce in frequency.

Herpes simplex is most easily transmitted by direct contact with a lesion or the body fluid of an infected individual. Transmission may also occur through skin-to-skin contact during periods of asymptomatic shedding. Barrier protection methods are the most reliable, but not failsafe, method of preventing transmission of herpes. Oral herpes is easily diagnosed if the patient presents with visible sores or ulcers. Early stages of orofacial herpes and genital herpes are harder to diagnose; laboratory testing is usually required. Prevalence of HSV infections varies throughout the world. Poor hygiene, overcrowding, lower socioeconomic status, and birth in an undeveloped country have been identified as risk factors associated with increased HSV-1 childhood infection. Additional studies have identified other risk factors for both types of HSV.

There is currently no cure for herpes; no vaccine is currently available to prevent or eliminate herpes. However, treatments are available to reduce viral reproduction and shedding, prevent the virus from entering the skin, and alleviate the severity of symptomatic episodes.

### Histoplasmosis

**Histoplasmosis**, also known as **Darling's disease**, is a disease caused by the fungus *Histoplasma capsulatum* which was discovered in 1905. Its symptoms vary greatly, but the disease primarily affects the lungs. Occasionally, other organs are affected—this form of the disease is called disseminated histoplasmosis, and it can be fatal if untreated. Histoplasmosis is common among AIDS patients because of their lowered immune system.

### HIV/HTLV

**Human immunodeficiency virus** (HIV) is a lentivirus (a member of the retrovirus family) that can lead to acquired immunodeficiency syndrome (AIDS), a condition in humans in which the immune system begins to fail, leading to life-threatening opportunistic infections. Previous names for the virus include human T-lymphotropic virus-III (HTLV-III), lymphadenopathy-associated virus (LAV), and AIDS-associated retrovirus (ARV).

Infection with HIV occurs by the transfer of blood, semen, vaginal fluid, pre-ejaculate, or breast milk. Within these bodily fluids, HIV is present as both free virus particles and virus within infected immune cells. The four major routes of transmission are unprotected sexual intercourse, contaminated needles, breast milk, and transmission from an infected mother to her baby at birth. Screening of blood products for HIV has largely eliminated transmission through blood transfusions or infected blood products in the developed world.

HIV infection in humans is now pandemic. As of January 2006, the Joint United Nations Programme on HIV/AIDS (UNAIDS) and the World Health Organization (WHO) estimate that
AIDS has killed more than 25 million people since it was first recognized on December 1, 1981. It is estimated that about 0.6 percent of the world's population is infected with HIV.[3] In 2005 alone, AIDS claimed an estimated 2.4–3.3 million lives, of which more than 570,000 were children. A third of these deaths are occurring in sub-Saharan Africa, retarding economic growth and increasing poverty.[4] According to current estimates, HIV is set to infect 90 million people in Africa, resulting in a minimum estimate of 18 million orphans.[5] Antiretroviral treatment reduces both the mortality and the morbidity of HIV infection, but routine access to antiretroviral medication is not available in all countries.[6]

HIV primarily infects vital cells in the human immune system such as helper T cells (specifically CD4+ T cells), macrophages, and dendritic cells. HIV infection leads to low levels of CD4+ T cells through three main mechanisms: firstly, direct viral killing of infected cells; secondly, increased rates of apoptosis in infected cells; and thirdly, killing of infected CD4+ T cells by CD8 cytotoxic lymphocytes that recognize infected cells. When CD4+ T cell numbers decline below a critical level, cell-mediated immunity is lost, and the body becomes progressively more susceptible to opportunistic infections.

Eventually most HIV-infected individuals develop AIDS (Acquired Immunodeficiency Syndrome). These individuals mostly die from opportunistic infections or malignancies associated with the progressive failure of the immune system.[7] Without treatment, about 9 out of every 10 persons with HIV will progress to AIDS after 10-15 years. Many progress much sooner.[8] Treatment with antiretrovirals increases the life expectancy of people infected with HIV. Even after HIV has progressed to diagnosable AIDS, the average survival time with antiretroviral therapy (as of 2005) is estimated to be more than 5 years.[9] Without antiretroviral therapy, death normally occurs within a year.[10] It is hoped that current and future treatments may allow HIV-infected individuals to achieve a life expectancy approaching that of the general public.

Hypercholesterolemia

Hypercholesterolemia (literally: high blood cholesterol) is the presence of high levels of cholesterol in the blood.[1] It is not a disease but a metabolic derangement that can be secondary to many diseases and can contribute to many forms of disease, most notably cardiovascular disease. It is closely related to the terms "hyperlipidemia" (elevated levels of lipids) and "hyperlipoproteinemia" (elevated levels of lipoproteins).[1]

Elevated cholesterol in the blood is due to abnormalities in the levels of lipoproteins, the particles that carry cholesterol in the bloodstream. This may be related to diet, genetic factors (such as LDL receptor mutations in familial hypercholesterolemia) and the presence of other diseases such as diabetes and an underactive thyroid. The type of hypercholesterolemia depends on which type of particle (such as low density lipoprotein) is present in excess.[1]

High cholesterol levels are treated with diets low in cholesterol, medications, and rarely with other treatments including surgery (for particular severe subtypes). This is also increased emphasis on other risk factors for cardiovascular disease, such as high blood pressure.[1]

Hypotension
In physiology and medicine, hypotension refers to an abnormally low blood pressure. This is best understood as a physiologic state, rather than a disease. It is often associated with shock, though not necessarily indicative of it. Hypotension is the opposite of hypertension, which is high blood pressure. Hypotension can be life-threatening.

Hypersensitivity

Hypersensitivity (also called hypersensitivity reaction) refers to undesirable (damaging, discomfort-producing and sometimes fatal) reactions produced by the normal immune system. Hypersensitivity reactions require a pre-sensitized (immune) state of the host. The four-group classification was expounded by P. H. G. Gell and Robin Coombs in 1963.\[1\]

Hyperthyroidism

Hyperthyroidism is the term for overactive tissue within the thyroid gland, resulting in overproduction and thus an excess of circulating free thyroid hormones: thyroxine (T\(_4\)), triiodothyronine (T\(_3\)), or both. The term is also often used more loosely to describe any syndrome of excess thyroid hormone (more properly termed hyperthyroxinemia), regardless of the source. Thyrotoxicosis is the term for symptomatic hyperthyroxinemia. Thyroid hormone is important at a cellular level, affecting nearly every type of tissue in the body. It functions as a stimulus to metabolism, and is critical to normal function of the cell. In excess it overstimulates, causing "speeding up" of various body systems, and thus symptoms: Fast heart beat results in palpitations, a fast nervous system in tremor and anxiety symptoms, a fast digestive system in weight loss and diarrhea. Lack of functioning thyroid tissue results in a symptomatic lack of thyroid hormone, termed hypothyroidism.

Huntingdon's chorea

Huntington's disease, also called Huntington's chorea, chorea major, or HD, is a genetic neurological disorder\[1\] characterized after onset by uncoordinated, jerky body movements called chorea and a decline in some mental abilities, which can lead to affected aspects of behavior. As the disorder progresses, these symptoms cause complications that reduce life expectancy.\[2\]

The exact mechanism of HD is unknown, so individual symptoms are managed with a range of medications and supportive services.\[3\] Globally, up to 7 people in 100,000 have the disorder, although there are localised regions with a higher incidence.\[4\] Onset of physical symptoms occurs gradually, beginning statistically, in a person's mid-forties (with a 30 year spread), but can occur at any age. If onset is before a person is twenty, their condition is classified as juvenile HD.\[5\]

The disorder is named after George Huntington, the American physician who first described it in 1872.\[6\] In 1983 a marker for the altered DNA causing the disease was found,\[7\] followed a decade later by discovery of a single, causal, gene.\[8\] As it was caused by a single gene, an accurate genetic test for HD was developed, this was one of the first inherited genetic disorders for which this was possible. Due to the availability of this test, and similar characteristics with other neurological disorders, the amount of HD research has increased greatly in recent years.\[9\]
Ichthyosis

**Ichthyosis** is a heterogeneous family of more than 30, generalized, mostly genetic skin disorders. The word comes from [[1]] ιχθύωση and Ancient Greek ιχθύς, „fish“. The most common type of ichthyosis is **ichthyosis vulgaris** accounting for >95% of the cases.[1]

Ileitis

**Ileitis** is an inflammation of the ileum, a portion of the small intestine. **Crohn's ileitis** is a type of Crohn's disease affecting the ileum.

Terminal ileitis: Crohn's disease, a chronic inflammatory disease of the intestine involving only the end of the small intestine (the terminal ileum). Crohn's disease affects primarily the small and large intestines but which can occur anywhere in the digestive system between the mouth and the anus. Named after Burrill Crohn who described the disease in 1932. The disease often strikes persons in their teens or early twenties. It tends to be chronic, recurrent with periods of remission and exacerbation. In the early stages, It causes small scattered shallow crater-like areas (erosions) called aphthous ulcers in the inner surface of the bowel. With time, deeper and larger ulcers develop, causing scarring and stiffness of the bowel and the bowel becomes increasingly narrowed, leading to obstruction. Deep ulcers can puncture holes in the bowel wall, leading to infection in the abdominal cavity (peritonitis) and in adjacent organs. Abdominal pain, diarrhea, vomiting, fever, and weight loss can be symptoms. Crohn's disease can be associated with reddish tender skin nodules, and inflammation of the joints, spine, eyes, and liver. Diagnosis is by barium enema, barium x-ray of the small bowel, and colonoscopy. Treatment includes medications for inflammation, immune suppression, antibiotics, or surgery.

Impetigo

**Impetigo** (sometimes impetaigo) is a superficial bacterial skin infection most common among children 2 to 6 years old. People who play close contact sports such as rugby, American football and wrestling are also susceptible, regardless of age. The name derives from the Latin impetere ("assail"). It is also known as school sores.[1]

Influenza

**Influenza**, commonly known as the flu, is an infectious disease of birds and mammals caused by RNA viruses of the family Orthomyxoviridae (the influenza viruses). The name influenza comes from the **Italian**: influenza, meaning "influence", (Latin: influentia). In humans, common symptoms of the disease are chills and fever, sore throat, muscle pains, severe headache, coughing, weakness and general discomfort. In more serious cases, influenza causes pneumonia, which can be fatal, particularly in young children and the elderly. Although it is sometimes confused with the common cold, influenza is a much more severe disease and is caused by a different type of virus. Influenza can produce nausea and vomiting, especially in children, but these symptoms are more characteristic of the unrelated gastroenteritis, which is sometimes called "stomach flu" or "24-hour flu". Typically, influenza is transmitted from infected mammals through the air by coughs or sneezes, creating aerosols containing the virus, and from infected birds through their droppings. Influenza
can also be transmitted by saliva, nasal secretions, feces and blood. Infections also occur through contact with these body fluids or with contaminated surfaces. Flu viruses can remain infectious for about one week at human body temperature, over 30 days at 0 °C (32 °F), and for much longer periods at very low temperatures. Most influenza strains can be inactivated easily by disinfectants and detergents.

Flu spreads around the world in seasonal epidemics, resulting in the deaths of hundreds of thousands annually — millions in pandemic years. Three influenza pandemics occurred in the 20th century and killed tens of millions of people, with each of these pandemics being caused by the appearance of a new strain of the virus in humans. Often, these new strains result from the spread of an existing flu virus to humans from other animal species. A deadly avian strain named H5N1 has posed the greatest risk for a new influenza pandemic since it first killed humans in Asia in the 1990s. Fortunately, this virus has not mutated to a form that spreads easily between people.

Vaccinations against influenza are usually given to people in developed countries with a high risk of contracting the disease and to farmed poultry. The most common human vaccine is the trivalent influenza vaccine that contains purified and inactivated material from three viral strains. Typically, this vaccine includes material from two influenza A virus subtypes and one influenza B virus strain. A vaccine formulated for one year may be ineffective in the following year, since the influenza virus changes rapidly over time, and different strains become dominant. Antiviral drugs can be used to treat influenza, with neuraminidase inhibitors being particularly effective.

Jaundice

**Post-hepatic** jaundice, also called obstructive jaundice, is caused by an interruption to the drainage of bile in the biliary system. The most common causes are gallstones in the common bile duct, and pancreatic cancer in the head of the pancreas. Also, a group of parasites known as "liver flukes" live in the common bile duct, causing obstructive jaundice. Other causes include strictures of the common bile duct, biliary atresia, ductal carcinoma, pancreatitis and pancreatic pseudocysts. A rare cause of obstructive jaundice is Mirizzi's syndrome.

The presence of pale stools and dark urine suggests an obstructive or post-hepatic cause as normal feces get their color from bile pigments.

Patients also can present with elevated serum cholesterol, and often complain of severe itching or "pruritus".

Lassa fever

**Lassa fever** is an acute viral hemorrhagic fever first described in 1969 in the town of Lassa, in Borno State, Nigeria located in the Yedseram river valley at the south end of Lake Chad. Clinical cases of the disease had been known for over a decade earlier but not connected with this viral pathogen. The infection is endemic in West African countries, and causes 300-500,000 cases annually with ~5,000 deaths. Outbreaks of the disease have been observed in Nigeria, Liberia, Sierra Leone, Guinea, and the Central African Republic, but it is believed that human infections also exist in Democratic Republic of the Congo, Mali, and Senegal. Its primary animal
host is the **Natal Multimammate Mouse** (*Mastomys natalensis*), an animal indigenous to most of Sub-Saharan Africa. Although the rodents are also a source of protein for peoples of these areas, the virus is probably transmitted by the contact with the feces and urine of animals accessing **grain** stores in residences.

**Leishmaniasis**

*Leishmaniasis* is a disease caused by **protozoan parasites** that belong to the genus *Leishmania* and is transmitted by the bite of certain species of **sand fly**, including flies in the genus *Lutzomyia* in the New World and *Phlebotomus* in the Old World. The disease was named in 1901 after the **Scottish pathologist William Boog Leishman**. This disease is also known as Leichmaniosis, Leishmaniose, leishmaniose, and formerly, **Orient Boils**, **Baghdad Boil**, **kala azar**, **black fever**, **sandfly disease**, **Dum-Dum fever** or **espundia**.

Most forms of the disease are transmissible only from animals (**zoonosis**), but some can be spread between humans. Human infection is caused by about 21 of 30 species that infect mammals. These include the *L. donovani* complex with three species (*L. donovani*, *L. infantum*, and *L. chagasi*); the *L. mexicana* complex with 3 main species (*L. mexicana*, *L. amazonensis*, and *L. venezuelensis*); *L. tropica*; *L. major*; *L. aethiopica*; and the subgenus Viannia with four main species (*L. (V.) braziliensis*, *L. (V.) guyanensis*, *L. (V.) panamensis*, and *L. (V.) peruviana*). The different species are morphologically indistinguishable, but they can be differentiated by **isoenzyme** analysis, DNA sequence analysis, or monoclonal antibodies.

**Visceral leishmaniasis** is a severe form in which the parasites have migrated to the vital organs.

**Leptospirosis**

*Leptospirosis* (also known as **Weil's disease**, **canicola fever**, **canefield fever**, **nanukayami fever**, **7-day fever** and many more) is a bacterial **zoonotic** disease caused by **spirochaetes** of the genus *Leptospira* that affects **humans** and a wide range of animals, including mammals, birds, amphibians, and reptiles. It was first described by **Adolf Weil** in 1886 when he reported an "acute infectious disease with enlargement of spleen, jaundice and nephritis". *Leptospira* was first observed in 1907 from a **post mortem renal tissue** slice.

Though being recognised among the world's most common **zoonoses**, leptospirosis is a relatively rare bacterial **infection** in humans. The infection is commonly transmitted to humans by allowing **fresh water** that has been contaminated by animal **urine** to come in contact with unhealed breaks in the **skin**, **eyes** or with the **mucous membranes**. Outside of tropical areas, leptospirosis cases have a relatively distinct seasonality with most of them occurring August-September/February-March.

**Leukemia**

*Leukemia* or *leukaemia* (Greek leukos λευκός, "white"; aima αίμα, "blood") is a **cancer** of the **blood** or **bone marrow** and is characterized by an abnormal proliferation (production by multiplication) of blood **cells**, usually **white blood cells** (*leukocytes*). Leukemia is a broad term covering a spectrum of diseases. In turn, it is part of the even broader group of diseases called
Leukoencephalopathy

The term **Leukoencephalopathy** is a broad term for **leukodystrophy**-like diseases (PMID 17414998). It is applied to all brain white matter diseases, whether their molecular cause is known. It can refer specifically to any of these diseases:

- Progressive multifocal leukoencephalopathy
- Toxic leukoencephalopathy
- Leukoencephalopathy with vanishing white matter
- Leukoencephalopathy with neuroaxonal spheroids
- Reversible posterior leukoencephalopathy syndrome
- Megalencephalic leukoencephalopathy with subcortical cysts
- Hypertensive leukoencephalopathy

It can also refer to MLC1 or *Megalencephalic leukoencephalopathy with subcortical cysts 1*, a human gene related to the disease of the same name.

Leukopenia

**Leukopenia** (or leukocytopenia, or leucopenia, from Greek λευκό-white and πενία-deficiency) is a decrease in the number of circulating white blood cells (leukocytes) in the blood. As the principal function of white cells is to combat infection, a decrease in the number of these cells can place patients at increased risk for infection.

In **pancytopenia**, the other cell types in the blood (red blood cells and platelets) are similarly affected.

**Neutropenia** is a decrease in the number of circulating neutrophil granulocytes, the most abundant white blood cells. The terms leukopenia and neutropenia may occasionally be used interchangeably, as the neutrophil count is the most important indicator of infection risk. However, neutropenia is more properly considered a subset of leukopenia as a whole.

Listeriosis

**Listeriosis** is a bacterial infection caused by a gram-positive, motile bacterium, *Listeria monocytogenes*. Listeriosis is relatively rare and occurs primarily in newborn infants, elderly patients, and patients who are immunocompromised.

In veterinary medicine, however, listeriosis can be a quite common condition in some farm outbreaks. It can also be found in wild animals; see listeriosis in animals.

Lupus erythematosus

**Systemic lupus erythematosus** (SLE or lupus, pronounced /ˈsɪstəmɪk ˈluːpəs/) is a chronic autoimmune disease that can be fatal; however, with recent medical advances, fatalities are becoming increasingly rare. As with other autoimmune diseases,
the immune system attacks the body’s cells and tissue, resulting in inflammation and tissue damage. SLE can affect any part of the body, but most often harms the heart, joints, skin, lungs, blood vessels, liver, kidneys, and nervous system. The course of the disease is unpredictable, with periods of illness (called flares) alternating with remissions. Lupus can occur at any age, and is most common in women, particularly of non-European descent. Lupus is treatable through addressing its symptoms, mainly with corticosteroids and immunosuppressants; however there is currently no cure. Survival in patients with SLE in the United States, Canada, and Europe is approximately 95% at 5 years, 90% at 10 years, and 78% at 20 years.

Lyme disease

Lyme disease, or borreliosis, is an emerging infectious disease caused by at least three species of bacteria belonging to the genus Borrelia. Borrelia burgdorferi is the predominant cause of Lyme disease in the United States, whereas Borrelia afzelii and Borrelia garinii are implicated in most European cases.

Lyme disease is the most common tick-borne disease in the Northern Hemisphere. Borrelia is transmitted to humans by the bite of infected hard ticks belonging to several species of the genus Ixodes. Early manifestations of infection may include fever, headache, fatigue, depression, and a characteristic skin rash called erythema migrans. Left untreated, late manifestations involving the joints, heart, and nervous system can occur. In most cases, the infection and its symptoms are eliminated with antibiotics, especially if diagnosis and treatment occur early in the course of illness. Late, delayed, or inadequate treatment can lead to late manifestations of Lyme disease which can be disabling and difficult to treat.

Some Lyme disease patients who have completed a course of antibiotic treatment continue to have symptoms such as severe fatigue, sleep disturbance, and cognitive difficulties. Some groups have argued that "chronic" Lyme disease is responsible for a range of medically unexplained symptoms beyond the objectively recognized manifestations of late Lyme disease, and that additional, long-term antibiotic treatment is warranted in such cases. Of four randomized controlled trials of long-term antibiotic courses in patients with ongoing symptoms, two found no benefit, and two found inconsistent benefits and significant side effects and risks from further antibiotic treatment. Most expert groups including the Infectious Diseases Society of America and the American Academy of Neurology have found that existing scientific evidence does not support a role for Borrelia nor ongoing antibiotic treatment in such cases.

Lymphogranuloma

Lymphogranuloma venereum (LGV, also known as lymphopathia venerea, tropical bubo, climatic bubo, strumous bubo, poradenitis inguinale, Durand-Nicolas-Favre disease and lymphogranuloma inguinale) is a sexually transmitted disease caused by the invasive serovars L1, L2, or L3 of Chlamydia trachomatis. LGV was first described by Wallace in 1833 and again by Durand, Nicolas, and Favre in 1913. LGV is primarily an infection of lymphatics and lymph nodes. Chlamydia trachomatis is the bacteria responsible for LGV. It gains entrance through breaks in the skin, or it can cross the epithelial cell layer of mucous membranes. The organism travels from the site of inoculation down the lymphatic channels to multiply within mononuclear phagocytes of the lymph nodes it
passes.

In developed nations, it was considered rare before 2003. However, a recent outbreak in the Netherlands among gay men has led to an increase of LGV in Europe and the United States. A majority of these patients are HIV co-infected.

Since the 2004 Dutch outbreak many additional cases have been reported, leading to greater surveillance.

Soon after the initial Dutch report national and international health authorities launched warning initiatives and multiple LGV cases were identified in several more European countries (Belgium, France, the UK, Germany, Sweden, Italy and Switzerland) and the US and Canada. All cases reported in Amsterdam and France and a considerable part of LGV infections in the UK and Germany are caused by a newly discovered Chlamydia variant L2b, a.k.a the Amsterdam variant. The L2b variant could be traced back and was isolated from anal swabs of MSM who visited the STI city clinic of San Francisco in 1981. This finding suggests that the recent LGV outbreak among MSM in industrialised countries is a slowly evolving epidemic.

The L2b serovar has also been identified in Australia.

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**Lymphoid pneumonia**

**Lymphocytic interstitial pneumonia** (also called lymphocytic interstitial pneumonitis or LIP) is a syndrome secondary to autoimmune and other lymphoproliferative disorders. Symptoms include fever, cough, and shortness of breath. Lymphocytic interstitial pneumonia applies to disorders associated with both, monoclonal or polyclonal gammopathy.

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**Lymphoma**

**Lymphoma** a type of neoplasm that originates in lymphocytes (a type of white blood cell in the vertebrate immune system). They often originate in lymph nodes, presenting as an enlargement of the node (a tumor). Lymphomas are closely related to lymphoid leukemias, which also originate in lymphocytes but do not form tumors. There are many types of lymphomas, and in turn, lymphomas are a part of the broad group of diseases called hematological neoplasms.

Thomas Hodgkin published in 1832 the first description of lymphoma, specifically of the form named after him, Hodgkin's lymphoma. Since, many other forms of lymphoma have been described and many classifications proposed. The 1982 Working formulation classification became very popular. It introduced the category Non-Hodgkin lymphoma (NHL), itself divided into 16 different diseases. However, since these different lymphomas have little in common with each other, the NHL label is of limited usefulness for doctors or patients and is slowly being abandoned. The latest classification by the WHO (2001) lists 43 different forms of lymphoma divided in four broad groups.

Some forms of Lymphoma are indolent (e.g. Small lymphocytic lymphoma), compatible with a long life even without treatment, whereas other forms are aggressive (e.g. Burkitt's lymphoma), causing rapid deterioration and death. The prognosis therefore depends on the correct classification of the disease, established by a pathologist after examination of a biopsy.
Chemotherapy is prescribed by an oncologist, radiation therapy by a radiation oncologist.

Although older classifications referred to histiocytic lymphomas, these are recognized in newer classifications as of B, T or NK cell lineage. True Histiocytic malignancies are rare and are classified as sarcomas.\(^2\)

Macular degeneration

**Macular degeneration** is a medical condition usually of older adults which results in a loss of vision in the center of the visual field (the macula) because of damage to the retina. It occurs in “dry” and “wet” forms. It is a major cause of blindness in the elderly (>50 years). Macular degeneration can make it difficult or impossible to read or recognize faces, although enough peripheral vision remains to allow other activities of daily life.

The inner layer of the eye is the retina, which contains nerves that communicate sight, and behind the retina is the choroid, which contains the blood supply to the retina. In the dry (nonexudative) form, cellular debris called drusen accumulate between the retina and the choroid, and the retina can become detached. In the wet (exudative) form, which is more severe, blood vessels grow up from the choroid behind the retina, and the retina can also become detached. It can be treated with laser coagulation, and with medication that stops and sometimes reverses the growth of blood vessels.\(^1\)\(^2\)

Although some macular dystrophies affecting younger individuals are sometimes referred to as macular degeneration, the term generally refers to age-related macular degeneration (AMD or ARMD).

Malaria

**Malaria** is a vector-borne infectious disease caused by protozoan parasites. It is widespread in tropical and subtropical regions, including parts of the Americas, Asia, and Africa. Each year, there are approximately 515 million cases of malaria, killing between one and three million people, the majority of whom are young children in Sub-Saharan Africa.\(^1\) Malaria is commonly associated with poverty, but is also a cause of poverty and a major hindrance to economic development.

Malaria is one of the most common infectious diseases and an enormous public health problem. The disease is caused by protozoan parasites of the genus *Plasmodium*. Only four types of the plasmodium parasite can infect humans; the most serious forms of the disease are caused by *Plasmodium falciparum* and *Plasmodium vivax*, but other related species (*Plasmodium ovale*, *Plasmodium malariae*) can also affect humans. This group of human-pathogenic *Plasmodium* species is usually referred to as malaria parasites.

Usually, people get malaria by being bitten by an infective female Anopheles mosquito. Only Anopheles mosquitoes can transmit malaria and they must have been infected through a previous blood meal taken on an infected person. When a mosquito bites an infected person, a small amount of blood is taken which contains microscopic malaria parasites. About 1 week later, when the mosquito takes its next blood meal, these parasites mix with the mosquito's saliva and are injected into the person being bitten. The parasites multiply within red blood cells, causing
symptoms that include symptoms of anemia (light headedness, shortness of breath, tachycardia etc.), as well as other general symptoms such as fever, chills, nausea, flu-like illness, and, in severe cases, coma and death. Malaria transmission can be reduced by preventing mosquito bites with mosquito nets and insect repellents, or by mosquito control measures such as spraying insecticides inside houses and draining standing water where mosquitoes lay their eggs.

Although some are under development, no vaccine is currently available for malaria; preventive drugs must be taken continuously to reduce the risk of infection. These prophylactic drug treatments are often too expensive for most people living in endemic areas. Most adults from endemic areas have a degree of long-term infection which tends to recur, and also possess partial immunity (resistance); the resistance reduces with time and such adults may become susceptible to severe malaria if they have spent a significant amount of time in non-endemic areas. They are strongly recommended to take full precautions if they return to an endemic area. Malaria infections are treated through the use of antimalarial drugs, such as quinine or artemisinin derivatives, although drug resistance is increasingly common.

Mastoiditis

Mastoiditis is an infection of the mastoid process, the portion of the temporal bone of the skull that is behind the ear. It is usually caused by untreated acute otitis media (middle ear infection) and used to be a leading cause of child mortality. With the development of antibiotics, however, mastoiditis has become quite rare in developed countries, most likely due to antibiotic treatment of otitis media before it can spread. It is treated with medications and/or surgery. If untreated, the infection can spread to surrounding structures, including the brain, causing serious complications.

Measles

Measles (also known as rubeola) is a disease caused by a virus, specifically a paramyxovirus of the genus Morbillivirus. Symptoms include fever, cough, runny nose, red eyes and a generalized, maculopapular, erythematous rash.

Measles is spread through respiration (contact with fluids from an infected person's nose and mouth, either directly or through aerosol transmission), and is highly contagious—90% of people without immunity sharing a house with an infected person will catch it. Airborne precautions should be taken for all suspected cases of measles. The incubation period usually lasts for 4–12 days (during which there are no symptoms). Infected people remain contagious from the appearance of the first symptoms until 3–5 days after the rash appears.

'German measles' is an unrelated condition caused by the rubella virus.

Melanoma

Melanoma (pronounced /mɛlə noʊ mɑː/ melanoma (help·info)) is a malignant tumor of melanocytes which are found predominantly in skin but also in the bowel and the eye (see uveal melanoma). It is one of the rarer types of skin cancer but causes the majority of skin cancer related deaths. Malignant melanoma is a serious type of skin cancer. It is due to uncontrolled growth of pigment cells, called melanocytes. Despite many years of intensive laboratory and clinical research, the sole effective cure is surgical resection of the primary tumor before it
achieves a **Breslow thickness** greater than 1 mm.

Around 160,000 new cases of melanoma are diagnosed worldwide each year, and it is more frequent in males and caucasians.[3] It is more common in caucasian populations living in sunny climates than other groups.[4] According to a **WHO** Report about 48,000 melanoma related deaths occur worldwide per year.[5]

Malignant melanoma accounts for 75 percent of all deaths associated with skin cancer.[6]

The treatment includes surgical removal of the tumor; **adjuvant** treatment; **chemo**- and **immunotherapy**, or **radiation therapy**.

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**Melioidosis**

**Melioidosis** (also called **Whitmore disease** or **Nightcliff gardener's disease**) is an **infectious disease** caused by a **Gram-negative bacterium**, *Burkholderia pseudomallei*, found in soil and water. It is of public health importance in endemic areas, particularly in Thailand and northern Australia. It exists in acute and chronic forms.

The causative organism, *Burkholderia pseudomallei*, was thought to be a member of the *Pseudomonas* genus and was previously known as *Pseudomonas pseudomallei*. This organism is phylogenetically related closely to *Burkholderia mallei*, the organism that causes **glanders**.

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**Meniere's disease**

**Ménière's disease** (pronounced /meɪˈnɪərәz/) is a disorder of the **inner ear** that can affect **hearing** and **balance**. It is characterized by episodes of **dizziness** and **tinnitus** and progressive hearing loss, usually in one ear. It is caused by an increase in volume and pressure of the **endolymph** of the **inner ear**. It is named after the French physician **Prosper Ménière**, who first reported that **vertigo** was caused by inner ear disorders in an article published in 1861.[2]

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**Meningitis**

**Meningitis** is a medical condition caused by **inflammation** of the protective membranes covering the **brain** and **spinal cord**, known collectively as the **meninges**.[4] The inflammation is usually caused by infection with **viruses**, **bacteria**, or other **microorganisms** but may also arise due to certain **drugs**, or other diseases.[2] Meningitis is potentially life threatening due to the inflammation's proximity to the brain and spinal cord; it is therefore a **medical emergency**.[1]

The most common symptoms of meningitis are **headache** and **neck stiffness** associated with **fever**, **confusion** or altered **consciousness**, and an inability to tolerate bright light (**photophobia**) or loud noises (**phonophobia**). Sometimes, especially in small children, only nonspecific symptoms may be present, such as irritability and drowsiness. If a rash is present, it may indicate a particular cause of meningitis; for instance, **meningitis caused by meningococcus bacteria** may be accompanied by a characteristic rash.[4][4]

Meningitis is diagnosed using a technique called **lumbar puncture**, which involves inserting a
needle into the spinal column to extract a sample of cerebrospinal fluid, the fluid that envelops the brain and spinal cord. Meningitis must be treated promptly with antibiotics and sometimes antiviral drugs. In some situations, corticosteroid drugs can also be used to prevent complications from overactive inflammation. Meningitis can lead to serious long-term consequences such as deafness, epilepsy, hydrocephalus and cognitive deficit, especially if not treated quickly. Some forms of meningitis (such as those associated with meningococcus, Hemophilus influenzae type B, pneumococcus or mumps virus infections) may be prevented by immunization.

Migraine

Migraine is a neurological syndrome characterized by altered bodily experiences, painful headaches, and nausea. It is a common condition which affects women more frequently than men.

The typical migraine headache is one-sided and pulsating, lasting 4 to 72 hours. Accompanying complaints are nausea and vomiting, and a heightened sensitivity to bright lights (photophobia) and noise (hyperacusis). Approximately one third of people who experience migraines get a preceding aura, in which a patient may sense a strange light or unpleasant smell.

Although the exact cause of migraine remains unknown, the most widespread theory is that it is a disorder of the serotonergic control system. Recently, PET scans have demonstrated the aura to coincide with spreading cortical depression after an episode of greatly increased blood flow (up to 300% higher than baseline). There also appear to be migraine variants that originate in the brainstem and involve dysfunction in calcium and potassium ion transport between cell membranes. Genetic factors may also contribute. Studies on twins show that genes have a 60 to 65% influence on the development of migraine. Fluctuating hormone levels show a relation to migraine in several ways: three quarters of adult migraine patients are female while migraine affects approximately equal numbers of boys and girls before puberty, and migraine is known to disappear during pregnancy in a substantial number of sufferers.

The treatment of migraine begins with simple painkillers for headache and anti-emetics for nausea, and avoidance of triggers if present. Specific anti-migraine drugs can be used to treat migraine. If the condition is severe and frequent enough, preventative drugs might be considered.

The word migraine is French in origin and comes from the Greek hemicrania, as does the Old English term megrim. Literally, hemicrania means "half (the) head".

Molloscum ecthyma

Ecthyma is an ulcerative pyoderma of the skin caused by group A beta haemolytic streptococci. As it extends into the dermis, it is often referred to as a deeper form of impetigo. Molluscum contagiosum is a common condition where small warty bumps (mollusca) appear on the skin. It is caused by a virus that can be passed on by skin contact or from contaminated towels, flannels, etc. It is not serious and usually clears within 12-18 months without any treatment. Treatment may be considered if the mollusca are unsightly. If the first mollusca to appear are on the lower abdomen or around the penis or vagina then it may have been caught from sexual contact. If this occurs then you should consider being checked out for sexually transmitted diseases.

Ecthyma begins like impetigo, possibly in a pre-existing wound.
Mononucleosis

Infectious mononucleosis (also known as Pfeiffer's disease, or as mono in the United States and more commonly known as glandular fever in other English-speaking countries) is an infectious, viral disease which most commonly occurs in adolescents and young adults. It is characterized by fever, sore throat and fatigue, along with several other possible signs and symptoms. It is primarily diagnosed by observation of symptoms, but suspicion can be confirmed by several diagnostic tests. It was first described as an infectious process by Emil Pfeiffer in 1889.

Morbilloform

Gemella morbillorum is a strain of bacteria. It is an anaerobic Gram positive coccus. From its discovery in 1917 (by R. Tunnicliff) until 1988 it was known as Streptococcus morbillorum (it was briefly Peptostreptococcus morbillorum), the name change followed closer examination with DNA filter hybridization (by Kilupper-Balz and Schleifer) which found it was very close to Gemella haemolysans.

It is rarely the cause of disease in humans, although it may be found benignly in the oropharyngeal area. Infections, when found, are similar to viridans Streptococci in range, cases have been reported of endovascular infections (predominantly endocarditis) and also acute invasive infections.

Mumps

Mumps or epidemic parotitis is a viral disease of the human species. The word "mumps" originally meant "to mumble", and came to be applied to the disease because of the side effects it causes. Prior to the development of vaccination and the introduction of a vaccine, it was a common childhood disease worldwide, and is still a significant threat to health in the third world.[1]

Painful swelling of the salivary glands (classically the parotid gland) is the most typical presentation.[2] Painful testicular swelling and rash may also occur. The symptoms are generally not severe in children. In teenage males and men, complications such as infertility or subfertility are more common, although still rare in absolute terms.[3][4][5] The disease is generally self-limited, running its course before receding, with no specific treatment apart from controlling the symptoms with painkillers.

Multiple sclerosis

Multiple sclerosis (abbreviated MS, also known as disseminated sclerosis or encephalomyelitis disseminata) is an autoimmune condition in which the immune system attacks the central nervous system, leading to demyelination.[1] Disease onset usually occurs in young adults, and it is more common in women.[2] It has a prevalence that ranges between 2 and 150 per 100,000.[3] MS was first described in 1868 by Jean-Martin Charcot.[4]

MS affects the areas of the brain and spinal cord known as the white matter, destroying a fatty layer called the myelin sheath, which wraps around nerve fibers and electrically insulates them. When myelin is lost, the axons of neurons can no longer effectively conduct action potentials.[1] The name multiple sclerosis refers to the scars (scleroses – better known as plaques or lesions) in
The white matter. Although much is known about the mechanisms involved in the disease process, the cause remains unknown. Theories include genetics or infections. Different environmental risk factors have also been found.

Almost any neurological symptom can appear with the disease, and often progresses to physical and cognitive disability. MS takes several forms, with new symptoms occurring either in discrete attacks (relapsing forms) or slowly accumulating over time (progressive forms).

Between attacks, symptoms may go away completely, but permanent neurological problems often occur, especially as the disease advances.

There is no known cure for MS. Treatments attempt to return function after an attack, prevent new attacks, and prevent disability. MS medications can have adverse effects or be poorly tolerated, and many patients pursue alternative treatments, despite the lack of supporting scientific study. The prognosis is difficult to predict; it depends on the subtype of the disease, the individual patient's disease characteristics, the initial symptoms and the degree of disability the person experiences as time advances. Life expectancy of patients is nearly the same as that of the unaffected population.

<table>
<thead>
<tr>
<th>Myalgia</th>
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<tbody>
<tr>
<td>Myalgia means &quot;muscle pain&quot; and is a symptom of many diseases and disorders. The most common causes are overuse or over-stretching of a muscle or group of muscles. Myalgia without a traumatic history is often due to viral infections. Longer-term myalgias may be indicative of a metabolic myopathy, some nutritional deficiencies or chronic fatigue syndrome.</td>
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<tr>
<th>Myasthenia gravis</th>
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<tr>
<td>Myasthenia gravis (literally &quot;serious muscle-weakness&quot;; from Greek μύς &quot;muscle&quot;, ἀθένεια &quot;weakness&quot;, and Latin gravis &quot;serious&quot;; abbreviated MG) is a neuromuscular disease leading to fluctuating muscle weakness and fatiguability. It is an autoimmune disorder, in which weakness is caused by circulating antibodies that block acetylcholine receptors at the post-synaptic neuromuscular junction, inhibiting the stimulative effect of the neurotransmitter acetylcholine. Myasthenia is treated medically with cholinesterase inhibitors or immunosuppressants, and, in selected cases, thymectomy. At 200–400 cases per million it is one of the less common autoimmune disorders.</td>
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<th>Mycobacterium</th>
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<tr>
<td>Mycobacterium is a genus of Actinobacteria, given its own family, the Mycobacteriaceae. The genus includes pathogens known to cause serious diseases in mammals, including tuberculosis and leprosy. The Latin prefix &quot;myco—&quot; means both fungus and wax; its use here relates to the &quot;waxy&quot; compounds in the cell wall.</td>
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<th>Myocarditis</th>
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<tr>
<td>In medicine (cardiology), myocarditis is inflammation of the myocardium, the muscular part of the heart. It is generally due to infection (viral or bacterial). It may cause chest pain, rapid signs of</td>
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heart failure, or sudden death.

**Mycosis**

**Mycosis** (plural: *mycoses*) is a condition in which *fungi*\(^1\) pass the resistance barriers of the human or animal body and establish *infections*.  

**Myelitis**

**Myelitis** is a disease involving swelling of the *spinal cord*, which disrupts central nervous system functions linking the *brain* and limbs.

**Myonecrosis**

**Myonecrosis** is a condition of necrotic damage, specifically to *muscle* tissue. It is often seen in infections with *Clostridium perfringens* or any of myriad soil-borne anaerobic bacteria. Bacteria cause myonecrosis via specific *exotoxins*. These *microorganisms* are opportunistic and generally enter the body via significant skin breakage. In wartime particularly, the unhygienic conditions and frequent gross injuries meant that gangrenous infection of soil-borne bacteria was particularly prevalent. Indeed mankind has long suffered the ill-effects of gangrenous infections throughout history.

Other causes of myonecrosis include envenomation by snakes of the Bothrops genus (family Viperidae), *ischemic* necrosis, caused by vascular blockage (e.g. diabetes type II), *tumours* that block or hoard blood supply and disseminated intravascular coagulation (DIC) or other *thromboses*.

**Myositis**

**Myositis** is a general term for *inflammation* of the *muscles*. Many such conditions are considered likely to be caused by *autoimmune* conditions, rather than directly due to *infection* (although *autoimmune* conditions can be activated or exacerbated by infections.) It is also a documented side effect of statins.

Elevation of *creatine kinase* in blood is indicative of myositis.

**Neurodermatitis**

**Neurodermatitis** is a term used to describe various forms of *eczema*:

- **Lichen simplex chronicus**\(^1\) and its cousin, *prurigo nodularis*; these are types of eczema that are thought to be self-caused, as by habitual scratching, or have unexplained origin, and are mostly localized; the older term was “localized or circumscribed neurodermatitis.”
Other types of "lichens" such as lichen striatus (aka linear neurodermatitis), which are part of the pruritic dermatoses spectrum.

Atopic dermatitis[1] – also known as childhood eczema; this usage is still common in parts of Europe; the older term was “disseminated neurodermatitis.”

There are still references in the older literature to the psychosomatic nature of these disorders, and their accompanying "psychogenic" itch. This is why the older terms had "neuro" in them: as a reference to the link with mental illness. There continues to be a suspicion of obsessive-compulsive behaviors leading to some forms of dermatitis.

Neutropenia colitis

Neutropenia (adjective neutropenic), from Latin prefix neutro- and Greek suffix -πενία (deficiency) is a hematological disorder characterized by an abnormally low number of a type of white blood cell called a neutrophil. Neutrophils usually make up 50-70% of circulating white blood cells and serve as the primary defense against infections by destroying bacteria in the blood. Hence, patients with neutropenia are more susceptible to bacterial infections and, without prompt medical attention, the condition may become life-threatening (neutropenic sepsis).

Neutropenia can be acute or chronic depending on the duration of the illness. A patient has chronic neutropenia if the condition lasts for longer than 3 months. It is sometimes used interchangeably with the term leukopenia ("deficit in the number of white blood cells"), as neutrophils are the most abundant leukocytes, but neutropenia is more properly considered a subset of leukopenia as a whole.

There are numerous causes of neutropenia that can roughly be divided between either problems in the production of the cells by the bone marrow and destruction of the cells elsewhere in the body. Treatment depends on the nature of the cause, and emphasis is placed on the prevention and treatment of infection.

Obesity

Obesity is a condition in which excess body fat has accumulated to such an extent that health may be negatively affected.[1] It is commonly defined as a body mass index (BMI = weight divided by height squared) of 30 kg/m² or higher.[1] This distinguishes it from being overweight as defined by a BMI of between 25–29.9 kg/m².[1]

Excessive body weight is associated with various diseases, particularly cardiovascular diseases, diabetes mellitus type 2, obstructive sleep apnea, certain types of cancer, and osteoarthritis.[2][3] As a result, obesity has been found to reduce life expectancy.[3] The primary treatment for obesity is dieting and physical exercise. If this fails, anti-obesity drugs and (in severe cases) bariatric surgery can be tried.[2][4]

A combination of excessive caloric intake, lack of physical activity, and genetic susceptibility is thought to explain most cases of obesity, with a limited number of cases due solely to genetics, medical reasons, or psychiatric illness.

With rates of adult and childhood obesity increasing, authorities view it as a serious public health
Between 1980-2000, obesity among adults has more than doubled; obesity among adolescents has tripled. In the US, obesity is the second-leading cause of preventable death after smoking.

Although obesity is often stigmatized in the modern Western world, it has been perceived as a symbol of wealth and fertility at other times in history.

### Ocular trachoma

**Trachoma** (Ancient Greek: "rough eye") is an infectious eye disease, and the leading cause of the world's infectious blindness. Globally, 84 million people suffer from active infection and nearly 8 million people are visually impaired as a result of this disease. Globally this disease results in an estimated US $2.9 billion in lost productivity every year. Trachoma is caused by the bacterium *Chlamydia trachomatis* and it is spread by direct contact with eye, nose, and throat secretions from affected individuals, or contact with fomites (inanimate objects), such as towels and/or washcloths, that have had similar contact with these secretions. Untreated, repeated trachoma infections result in entropion—a painful form of permanent blindness when the eyelids turn inward, causing the eyelashes to scratch the cornea. Children are the most susceptible to infection, but the blinding effects are often not felt until adulthood.

Blinding endemic trachoma occurs in areas with poor personal and family hygiene. Many factors are indirectly linked to the presence of trachoma including lack of water, absence of latrines or toilets, poverty in general, flies, close proximity to cattle, crowding and so forth. However, the final common pathway seems to be the presence of dirty faces in children that facilitates the frequent exchange of infected ocular discharge from one child’s face to another. Most transmission of trachoma occurs within the family.

### Optic neuritis

**Neuritis** is the general inflammation of the peripheral nervous system.

### Otitis media

**Otitis media** is inflammation of the middle ear, or middle ear infection (the word *otitis* is Greek and it means “inflammation of the ear”, and *media* means middle).

Otitis media occurs in the area between the ear drum (the end of the outer ear) and the inner ear, including a duct known as the Eustachian tube. It is one of the two categories of ear inflammation that can underly what is commonly called an earache, the other being *otitis externa*. Diseases other than ear infections can also cause ear pain, including cancers of any structure that shares nerve supply with the ear.

Otitis media is very common in childhood, with the average toddler having two to three episodes a year, almost always accompanied by a viral upper respiratory infection (URI), mostly the common cold. The rhinoviruses (nose viruses) that cause the common cold infect the Eustachian tube that goes from the back of the nose to the middle ear, causing swelling and compromise of pressure equalization, which is the normal function of the tube. In general, the more severe and
Prolonged the compromise of Eustachian tube function, the more severe the consequences are to the middle ear and its delicate structures. If a person is born with poor Eustachian tube function, this greatly increases the likelihood of more frequent and severe episodes of otitis media. Progression to chronic otitis media is much more common in this group of people, who often have a family history of middle ear disease.

**Oral erythema**

*Erythema multiforme* is a skin condition of unknown etiology, possibly mediated by deposition of **immune complex** (mostly IgM) in the superficial microvasculature of the skin and oral mucous membrane that usually follows an antecedent infection or drug exposure. It is a common disorder, with peak incidence in the second and third decades of life. The most common predisposing infection is *Herpes simplex*, but bacterial infections (commonly *Mycoplasma*) and fungal diseases are also implicated.

Other causes include **drug reactions**, most commonly to **sulfa drugs**, **phenytoin**, **barbiturates**, **penicillin**, and **allopurinol**, or a host of internal ailments.

The human form of **orf** can also cause erythema multiforme.

**Orbital cellulitis**

*Orbital cellulitis* is a serious infection of the orbital tissues. Patients present with sudden onset of fever, **proptosis**, restricted eye movement, and swelling and redness of the eye lids. It is usually caused by a previous sinusitis. Other causes include infection of nearby structures, trauma and previous surgery.

Because of concern for spread of infection, patients must be admitted to the hospital to receive **intravenous antibiotics**. Complications include **cavernous sinus thrombosis** and **meningitis**. Abscess formation is another complication and may require surgical drainage.

Orbital cellulitis is considered an ophthalmological emergency.

**Orchitis**

*Orchitis* or *Orchiditis* is an often very painful condition of the **testicles** involving inflammation, swelling and frequently infection.

**Osteomyelitis**

*Osteomyelitis* is an infection of **bone** or **bone marrow**, usually caused by **pyogenic bacteria** or **mycobacteria**. It can be usefully subclassified on the basis of the causative organism, the route, duration and anatomic location of the infection.
**Osteoporosis**

*Osteoporosis* is a disease of bone that leads to an increased risk of fracture. In osteoporosis the bone mineral density (BMD) is reduced, bone microarchitecture is disrupted, and the amount and variety of non-collagenous proteins in bone is altered. Osteoporosis is defined by the World Health Organization (WHO) in women as a bone mineral density 2.5 standard deviations below peak bone mass (20-year-old healthy female average) as measured by DXA; the term "established osteoporosis" includes the presence of a fragility fracture.[1] Osteoporosis is most common in women after menopause, when it is called postmenopausal osteoporosis, but may also develop in men, and may occur in anyone in the presence of particular hormonal disorders and other chronic diseases or as a result of medications, specifically glucocorticoids, when the disease is called steroid- or glucocorticoid-induced osteoporosis (SIOP or GIOP). Given its influence on the risk of fragility fracture, osteoporosis may significantly affect life expectancy and quality of life.

Osteoporosis can be prevented with lifestyle changes and sometimes medication; in people with osteoporosis, treatment may involve both. Lifestyle change includes preventing falls and exercise; medication includes calcium, vitamin D, bisphosphonates and several others. Fall-prevention advice includes exercise to tone deambulatory muscles, proprioception-improvement exercises; equilibrium therapies may be included. Exercise with its anabolic effect, may at the same time stop or reverse osteoporosis.

**Osteosarcoma**

*Osteosarcoma* is the most common type of malignant bone cancer, accounting for 35% of primary bone malignancies. There is a preference for the metaphyseal region of tubular long bones, 50% of cases occur around the knee. It is a malignant connective (soft) tissue tumor whose neoplastic cells present osteoblastic differentiation and form tumoral bone.

**Otosclerosis**

*Otosclerosis* is an abnormal growth of bone of the middle ear which can result in hearing loss.

**Pancreatitis**

*Pancreatitis* is the inflammation of the pancreas. See also acute pancreatitis and chronic pancreatitis for more details.

**Panniculitis**

*Panniculitis* is a group of diseases whose hallmark is inflammation of subcutaneous adipose tissue.[1] Symptoms include tender skin nodules, and systemic signs such as weight loss and fatigue.
Papillitis

Hirsuties papillaris genitalis (more commonly referred to as 'pearly penile papules', or PPP) is a clinical skin condition of the male genital organs. It is a harmless anatomical variation with no malignant potential, although it can be mistaken for warts by inexperienced doctors. The papules appear as one or several rows of small, flesh-colored, smooth, dome-topped bumps situated circumferentially around the corona (see image) or sulcus of the glans penis. Uncommonly, lesions may extend onto the glans penis. It is not a sexually transmitted disease and some argue its appearance is related to sexual activity but not standards of personal hygiene. The bumps are however extremely sensitive and many sufferers view this sensitivity as unwelcome.\[1\] A 1999 medical study found that 48% of 200 men attending a department of genitourinary medicine had the condition. Various other studies have shown that the number may be in the interval between 8% and 48%, varying with region and whether or not the subjects are circumcised. Lesions typically are asymptomatic and persist throughout life; however, they gradually may become less noticeable with increased age.

A similar condition - vestibular papillae of the Vulva occurs in females, and similarly can be misinterpreted for HPV infection; again, this is not a sexually transmitted disease, but a normal variation on human anatomy.\[2\]

It is possible that the papules are related to the penile spines which occur in other mammals - including primates, such as marmosets.\[3\] A paper published in September 2000 by Gibbs, Collard and Wood on Soft Tissue Characters in Higher Primate Phylogenetics\[4\] describes penile spines being present in Humans, Gorillas and Orangutans.

In cats, these spines trigger female ovulation. In other mammals they may perform a sensory function, and research has shown that the increased sensory stimulation they provide may increase the chance of successful mating.\[5\] The spines (and in the case of humans, the pearly penile papules) may also aide in the eviction of foreign sperm\[6\] when a female mates with multiple males by acting as a brush, and thus increasing the likelihood of fertilization by the copulating male.

Parainfluenza

Human parainfluenza viruses (HPIVs) are a group of four distinct serotypes of single-stranded RNA viruses belonging to the paramyxovirus family. They are the second most common cause of lower respiratory tract infection in younger children.

Repeated infection throughout the life of the host is not uncommon. Symptoms of later breakouts include upper respiratory tract illness as in a cold and sore throat. The incubation period of all four serotypes is 1 to 7 days. Parainfluenza viruses can be detected via cell culture, immunofluorescent microscopy, and PCR.

Though no vaccines currently exist, research into vaccines for HPIV-1, -2, and -3 is underway. Parainfluenza viruses last only a few hours in the environment and are inactivated by soap and water.\[\textit{citations}\]
Parkinson's disease

**Parkinson's disease** (also known as Parkinson disease or PD) is a degenerative disorder of the central nervous system that often impairs the sufferer's motor skills, speech, and other functions. It is characterized by muscle rigidity, tremor, a slowing of physical movement (bradykinesia) and, in extreme cases, a loss of physical movement (akinesia). The primary symptoms are the results of decreased stimulation of the motor cortex by the basal ganglia, normally caused by the insufficient formation and action of dopamine, which is produced in the dopaminergic neurons of the brain. Secondary symptoms may include high level cognitive dysfunction and subtle language problems. PD is both chronic and progressive.

PD is the most common cause of chronic progressive parkinsonism, a term which refers to the syndrome of tremor, rigidity, bradykinesia and postural instability. PD is also called "primary parkinsonism" or "idiopathic PD" (classically meaning having no known cause although this term is not strictly true in light of the plethora of newly discovered genetic mutations). While many forms of parkinsonism are "idiopathic", "secondary" cases may result from toxicity most notably of drugs, head trauma, or other medical disorders. The disease is named after English physician James Parkinson, who made a detailed description of the disease in his essay: "An Essay on the Shaking Palsy" (1817).

**Pediculosis**

Pediculosis is an infestation of lice -- blood-feeding ectoparasitic insects of the order Phthiraptera. The condition can occur in almost any species of warm-blooded animal (i.e., mammals and birds), including humans. Although "pediculosis" in humans may properly refer to lice infestation of any part of the body, the term is sometimes used loosely to refer to pediculosis capitis, the infestation of the human head with the specific head louse.

**P.I.D.**

Pelvic inflammatory disease (or disorder) (PID) is a generic term for inflammation of the female uterus, fallopian tubes, and/or ovaries as it progresses to scar formation with adhesions to nearby tissues and organs. This may lead to tissue necrosis and sometimes abscess formation. Pus can be released into the peritoneum. Two thirds of patients with laparoscopic evidence of previous PID were not aware they had PID. PID is often associated with sexually transmitted diseases, as it is a common result of such infections. PID is a vague term and can refer to viral, fungal, parasitic, though most often bacterial infections. PID should be classified by affected organs, the stage of the infection, and the organism(s) causing it. Although an STD is often the cause, other routes are possible, including lymphatic, postpartum, postabortal (either miscarriage or abortion) or intrauterine device (IUD) related, and hematogenous spread.

**Pemphigoid**

Pemphigoid is a group of uncommon and rare autoimmune blistering skin diseases. As its name indicates, pemphigoid is similar to pemphigus, but unlike pemphigus, pemphigoid does not
Pemphigoid is less common than pemphigus, and is slightly more common in women than in men. It is also more common in people over 60 years of age than it is in younger people.

**Pernicious anemia**

_Pernicious anemia_ (also known as *Biermer's anemia, Addison's anemia, or Addison-Biermer anemia*) is a form of megaloblastic anemia due to vitamin B$_{12}$ deficiency, caused by impaired absorption of vitamin B-12$^{[1]}$ due to the absence of intrinsic factor$^{[2]}$ in the setting of atrophic gastritis, and more specifically of loss of gastric parietal cells.

While the term 'pernicious anemia' is sometimes also incorrectly used to indicate megaloblastic anemia due to _any_ cause of vitamin B-12 deficiency, its proper usage refers to that caused by atrophic gastritis and parietal cell loss only. It is the most common result of adult vitamin B-12 deficiency.$^{[3]}

**Poliomyelitis**

_Poliomyelitis_, often called _polio_ or _infantile paralysis_, is an acute _viral infectious disease_ spread from person to person, primarily via the _fecal-oral route_.$^{[1]}$ The term derives from the _Greek_ polio (πολίος), meaning "grey", myelon (µυελός), referring to the "spinal cord", and -itis, which denotes inflammation.$^{[2]}$ Although around 90% of polio infections _cause no symptoms at all_, affected individuals can exhibit a range of symptoms if the virus enters the _blood stream_.$^{[3]}$ In fewer than 1% of cases the virus enters the _central nervous system_, preferentially infecting and destroying motor neurons, leading to muscle weakness and acute _flaccid paralysis_. Different types of paralysis may occur, depending on the nerves involved. Spinal polio is the most common form, characterized by asymmetric paralysis that most often involves the legs. Bulbar polio leads to weakness of muscles innervated by _cranial nerves_. Bulbospinal polio is a combination of bulbar and spinal paralysis.$^{[4]}$

Poliomyelitis was first recognized as a distinct condition by Jakob Heine in 1840.$^{[5]}$ Its causative agent, _poliovirus_, was identified in 1908 by Karl Landsteiner.$^{[5]}$ Although major polio epidemics were unknown before the late 19th century, polio was one of the most dreaded childhood diseases of the 20th century. Polio epidemics have crippled thousands of people, mostly young children; the disease has caused paralysis and death for much of human history. Polio had existed for thousands of years quietly as an endemic pathogen until the 1880s, when major epidemics began to occur in Europe; soon after, widespread epidemics appeared in the United States.$^{[6]}$ By 1910, much of the world experienced a dramatic increase in polio cases and frequent epidemics became regular events, primarily in cities during the summer months. These epidemics—which left thousands of children and adults paralyzed—provided the impetus for a "Great Race" towards the development of a _vaccine_. The _polio vaccines_ developed by Jonas Salk in 1952 and Albert Sabin in 1962 are credited with reducing the global number of polio cases per year from many hundreds of thousands to around a thousand.$^{[7]}$ Enhanced _vaccination_ efforts led by the _World Health Organization, UNICEF_ and _Rotary International_ could result in global eradication of the disease.$^{[8]}$
Polyarteritis

**Polyarteritis nodosa** (or periarteritis nodosa) is a vasculitis of medium-sized arteries, which become swollen and damaged from attack by rogue immune cells. Polyarteritis nodosa is also called Kussmaul disease or Kussmaul-Meier disease.\(^1\)

Polyoma virus

*Polyomavirus* is the sole genus of viruses within the family *Polyomaviridae*. Polyomaviruses are DNA-based (double-stranded DNA, ~5000 base pairs, circular genome), small (40-50 nanometers in diameter), and icosahedral in shape, and do not have a lipoprotein envelope. They are potentially oncogenic (tumor-causing); they often persist as latent infections in a host without causing disease, but may produce tumors in a host of a different species, or a host with an ineffective immune system. The name *polyoma* refers to the viruses’ ability to produce multiple (poly-) tumors (-oma).

Five polyomaviruses have been found in humans. *JC virus* can infect the respiratory system, kidneys, or brain (sometimes causing the fatal progressive multifocal leukoencephalopathy in the latter case). *BK virus* produces a mild respiratory infection and can affect the kidneys of immunosuppressed transplant patients. Both of these viruses are very widespread: approximately 80 percent of the adult population in the United States have antibodies to BK and JC. Two recently discovered polyomaviruses, KI (Karolinska Institute)\(^1\) and WU (Washington University)\(^2\) viruses, are closely related to each other and have been isolated from respiratory secretions. In January 2008, a new species, *Merkel cell polyomavirus*, was described as the likely causative agent of *Merkel skin cancer*.\(^3\)

The *Simian vacuolating virus 40* replicates in the kidneys of monkeys without causing disease, but causes sarcomas in hamsters. It is unknown whether it can cause disease in humans, which has caused concern since the virus may have been introduced into the general population in the 1950s through a contaminated polio vaccine. An avian polyomavirus sometimes referred to as the *Budgerigar fledgling disease virus* is a frequent cause of death among caged birds.

The genus *Polyomavirus* used to be one of two genera within the now obsolete family *Papovaviridae* (the other genus being *Papillomavirus* which is now assigned to its own family *Papillomaviridae*). The name *Papovaviridae* derived from three abbreviations: Pa for *Papillomavirus*, Po for *Polyomavirus*, and Va for "vacuolating".

Postpartum fever

**Puerperal fever** (from the Latin *puer*, child), also called *childbed fever*, can develop into **puerperal sepsis**, which is a serious form of septicaemia contracted by a woman during or shortly after childbirth, miscarriage or abortion. If untreated, it is life-threatening.

The most common infection causing puerperal fever is genital tract sepsis. Other types of infection that can lead to sepsis after childbirth include urinary tract infection, breast infection (mastitis) and respiratory tract infection (more common after anaesthesia due to lesions in the windpipe).
Puerperal fever is now rare in the West due to improved hygiene during delivery, and deaths have been reduced by antibiotics.

Pneumocytosis

**Pneumocystis pneumonia** (PCP) is a form of pneumonia caused by the yeast-like fungus, *Pneumocystis jirovecii*. This species of fungus is specific to humans. It has not been shown to infect other animals while other species of *Pneumocystis* that parasitize other animals (all of which are mammals) have not been shown to infect humans.[4] The causal agent was originally described as a protozoan and spelled *P. jiroveci* and prior to then was classified as a form of *Pneumocystis carinii*, a name still in common usage.[2][3] These names are discussed below. As a result, *Pneumocystis pneumonia* (PCP) has also been known as *Pneumocystis jiroveci* pneumonia and as *Pneumocystis carinii pneumonia*, as is also explained below.[4][5][6]

Confusion caused by the misapplication of the name *P. carinii* to all species of *Pneumocystis* may incorrectly suggest that the human pathogen could reside in other animals, including domesticated animals.

The disease condition (PCP) caused by *P. jirovecii* is relatively rare in people with normal immune systems but common among people with weakened immune systems, such as premature or severely malnourished children, the elderly, and especially AIDS patients, in whom it is most commonly observed today.[7][1] PCP can also develop in patients who are taking immunosuppressant medications (e.g. patients who have undergone solid organ transplantation) and in patients who have undergone bone marrow transplantation.

The organism is distributed worldwide.[8][9]

Pneumonia

**Pneumonia** is an inflammatory illness of the lung.[1] Frequently, it is described as lung parenchyma/alveolar inflammation and abnormal alveolar filling with fluid. The alveoli are microscopic air-filled sacs in the lungs responsible for absorbing oxygen. Pneumonia can result from a variety of causes, including infection with bacteria, viruses, fungi, or parasites, and chemical or physical injury to the lungs. Its cause may also be officially described as idiopathic—that is, unknown—when infectious causes have been excluded.

Typical symptoms associated with pneumonia include cough, chest pain, fever, and difficulty in breathing. Diagnostic tools include x-rays and examination of the sputum. Treatment depends on the cause of pneumonia; bacterial pneumonia is treated with antibiotics.

Pneumonia is a common illness which occurs in all age groups, and is a leading cause of death among the elderly and people who are chronically and terminally ill. Vaccines to prevent certain types of pneumonia are available. The prognosis depends on the type of pneumonia, the appropriate treatment, any complications, and the person's underlying health.

Proctitis

**Proctitis** is an inflammation of the anus and the lining of the rectum, affecting only the last 6
inches of the rectum.

Prostate enlargement

The prostate (from Greek προστάτης - prostates, literally "one who stands before", "protector", "guardian"[1]) is a compound tubuloalveolar exocrine gland of the male mammalian reproductive system. Women do not have a prostate gland, although women do have microscopic paraurethral Skene's glands connected to the distal third of the urethra in the prevaginal space that are homologous to the prostate.

The prostate differs considerably among species anatomically, chemically, and physiologically.

Prurigo

Prurigo is a general term used to describe itchy eruptions of the skin.

Specific types include:

- Prurigo nodularis
- Actinic prurigo
- Besnier's prurigo (a specific type of atopic dermatitis).

Psoriasis

Psoriasis (pronounced /səˈraɪəsəs/) is a non-contagious disorder which affects the skin and joints. It commonly causes red scaly patches to appear on the skin. The scaly patches caused by psoriasis, called psoriatic plaques, are areas of inflammation and excessive skin production. Skin rapidly accumulates at these sites and takes on a silvery-white appearance. Plaques frequently occur on the skin of the elbows and knees, but can affect any area including the scalp and genitals. In contrast to eczema, psoriasis is more likely to be found on the extensor aspect of the joint.

The disorder is a chronic recurring condition which varies in severity from minor localised patches to complete body coverage. Fingernails and toenails are frequently affected (psoriatic nail dystrophy) - and can be seen as an isolated finding. Psoriasis can also cause inflammation of the joints, which is known as psoriatic arthritis. Ten to fifteen percent of people with psoriasis have psoriatic arthritis.

The cause of psoriasis is not known, but it is believed to have a genetic component. Several factors are thought to aggravate psoriasis. These include stress, excessive alcohol consumption, and smoking.[1] There are many treatments available, but because of its chronic recurrent nature psoriasis is a challenge to treat.
### Pulmonary toxiplasis

#### Pulmonary infections

X-ray of *Pneumocystis jirovecii* caused pneumonia. There is increased white (opacity) in the lower lungs on both sides, characteristic of *Pneumocystis* pneumonia.

*Pneumocystis pneumonia* (originally known as *Pneumocystis carinii* pneumonia, and still abbreviated as PCP, which now stands for *Pneumocystis pneumonia*) is relatively rare in healthy, immunocompetent people, but common among HIV-infected individuals. It is caused by *Pneumocystis jirovecii*. Before the advent of effective diagnosis, treatment and routine prophylaxis in Western countries, it was a common immediate cause of death. In developing countries, it is still one of the first indications of AIDS in untested individuals, although it does not generally occur unless the CD4 count is less than 200 cells per µL of blood.\[13\]

**Tuberculosis** (TB) is unique among infections associated with HIV because it is transmissible to immunocompetent people via the respiratory route, is easily treatable once identified, may occur in early-stage HIV disease, and is preventable with drug therapy. However, multidrug resistance is a potentially serious problem. Even though its incidence has declined because of the use of directly observed therapy and other improved practices in Western countries, this is not the case in developing countries where HIV is most prevalent. In early-stage HIV infection (CD4 count >300 cells per µL), TB typically presents as a pulmonary disease. In advanced HIV infection, TB often presents atypically with extrapulmonary (systemic) disease a common feature. Symptoms are usually constitutional and are not localized to one particular site, often affecting bone marrow, bone, urinary and gastrointestinal tracts, liver, regional lymph nodes, and the central nervous system.\[14\]

### Pyoderma

**Pyoderma gangrenosum** is a disease that causes tissue to become necrotic, causing deep ulcers that usually occur on the legs. When they occur, they can lead to chronic wounds. Ulcers usually initially look like small bug bites or papules, and they progress to larger ulcers. Though the wounds rarely lead to death, they can cause pain and scarring.

The disease was identified in 1930. It affects approximately 1 person in 100,000 in the population. Though it can affect people of any age, it mostly affects people in their 40s and 50s.\[1\]

### Rabies

**Rabies** (from Latin: *rabies*, “madness, rage, fury.” Also known as “hydrophobia”) is a viral zoonotic neuroinvasive disease that causes acute encephalitis (inflammation of the brain) in mammals. It is most commonly caused by a bite from an infected animal, but occasionally by other forms of contact. If left untreated in humans it is almost invariably fatal. In some countries it is a significant killer of livestock.

The rabies virus makes its way to the brain by following the peripheral nerves.\[1\] The incubation period of the disease depends on how far the virus must travel to reach the central nervous System.
system, usually taking a few months. 

In the beginning stages of rabies, the symptoms are malaise, headache, and fever, while in later stages it includes acute pain, violent movements, uncontrolled excitements, depressions, and the inability to swallow water (hence the name hydrophobia). In the final stages, the patient begins to have periods of mania and lethargy, and coma. Death generally occurs due to respiratory insufficiency.

In non-vaccinated humans, rabies is almost invariably fatal after neurological symptoms have developed, but prompt post-exposure vaccination may prevent the virus from progressing. There are only six known cases of a person surviving symptomatic rabies, and only one known case of survival in which the patient received no rabies-specific treatment either before or after illness onset.

Radiculoneuritis

Lyme disease, or borreliosis, is an emerging infectious disease caused by at least three species of bacteria belonging to the genus Borrelia. Borrelia burgdorferi is the predominant cause of Lyme disease in the United States, whereas Borrelia afzelii and Borrelia garinii are implicated in most European cases.

Lyme disease is the most common tick-borne disease in the Northern Hemisphere. Borrelia is transmitted to humans by the bite of infected hard ticks belonging to several species of the genus Ixodes. Early manifestations of infection may include fever, headache, fatigue, depression, and a characteristic skin rash called erythema migrans. Left untreated, late manifestations involving the joints, heart, and nervous system can occur. In most cases, the infection and its symptoms are eliminated with antibiotics, especially if diagnosis and treatment occur early in the course of illness. Late, delayed, or inadequate treatment can lead to late manifestations of Lyme disease which can be disabling and difficult to treat.

Some Lyme disease patients who have completed a course of antibiotic treatment continue to have symptoms such as severe fatigue, sleep disturbance, and cognitive difficulties. Some groups have argued that "chronic" Lyme disease is responsible for a range of medically unexplained symptoms beyond the objectively recognized manifestations of late Lyme disease, and that additional, long-term antibiotic treatment is warranted in such cases. Of four randomized controlled trials of long-term antibiotic courses in patients with ongoing symptoms, two found no benefit, and two found inconsistent benefits and significant side effects and risks from further antibiotic treatment. Most expert groups including the Infectious Diseases Society of America and the American Academy of Neurology have found that existing scientific evidence does not support a role for Borrelia nor ongoing antibiotic treatment in such cases.

Relapsing fever

Fever (also known as pyrexia, from the Greek pyretos meaning fire, or a febrile response, from the Latin word febris, meaning fever, and archaically known as ague) is a frequent medical sign that describes an increase in internal body temperature to levels above normal. Fever is most accurately characterized as a temporary elevation in the body's thermoregulatory set-point,
usually by about 1–2 °C.

Fever differs from hyperthermia. Hyperthermia is an increase in body temperature over the body's thermoregulatory set-point, due to excessive heat production or insufficient thermoregulation, or both. Carl Wunderlich discovered that fever is not a disease but a symptom of disease.

The elevation in thermoregulatory set-point means that the previous "normal body temperature" is considered hypothermic, and effector mechanisms kick in. The person who is developing the fever has a cold sensation, and an increase in heart rate, muscle tone and shivering attempt to counteract the perceived hypothermia, thereby reaching the new thermoregulatory set-point. A fever is one of the body's mechanisms to try to neutralize the perceived threat inside the body, be it bacterial or viral.

Retinitis pigmentosa

**Retinitis pigmentosa (RP)** is a group of genetic eye conditions. In the progression of symptoms for RP, night blindness generally precedes tunnel vision by years or even decades. Many people with RP do not become legally blind until their 40s or 50s and retain some sight all their life. Others go completely blind from RP, in some cases as early as childhood. Progression of RP is different in each case.

RP is a type of hereditary retinal dystrophy, a group of inherited disorders in which abnormalities of the photoreceptors (rods and cones) or the retinal pigment epithelium (RPE) of the retina lead to progressive visual loss. Affected individuals first experience defective dark adaptation or nyctalopia (night blindness), followed by reduction of the peripheral visual field (known as tunnel vision) and, sometimes, loss of central vision late in the course of the disease.

**Reynold's syndrome**

**Reynolds syndrome** is a rare autoimmune disease, consisting of the combination of primary biliary cirrhosis and progressive systemic sclerosis. In some patients this syndrome has also been associated with Sjögren's syndrome and hemolytic anemia. Typical clinical features include jaundice, elevated blood levels of alkaline phosphatase, calcinosis cutis, telangiectasias, and pruritus. Raynaud's phenomenon may be an early clinical feature. The syndrome, a special case of scleroderma, is named after the American physician, Telfer B. Reynolds, MD (1921-2004), who first described it. He is also known for creating one of the world's first hepatology programs at the University of Southern California.

**Raynaud's disease**

**Raynaud's disease** (RAY-noz) is a vascular disorder that affects blood flow to the extremities which include the fingers, toes, nose and ears when exposed to temperature changes or stress. It was named after Maurice Raynaud (1834 - 1881), a French physician who first described it in 1862.
Rheumatism

**Rheumatism** or **Rheumatic disorder** is a non-specific term[^1] for medical problems affecting the **heart, bones, joints, kidney, skin** and **lung**. The study of, and therapeutic interventions in, such disorders is called **rheumatology**.

Rheumatoid arthritis

**Rheumatoid arthritis** (RA) is a chronic, **systemic autoimmune disorder** that causes the **immune system** to attack the **joints**, where it causes inflammation (**arthritis**) and destruction. It can also damage some organs, such as the **lungs** and **skin**. It can be a disabling and **painful** condition, which can lead to substantial loss of functioning and mobility. It is diagnosed with **blood tests** (especially a test called **rheumatoid factor**) and **X-rays**. Diagnosis and long-term management are typically performed by a **rheumatologist**, an expert in the diseases of joints and connective tissues.[^1]

Various treatments are available. Non-pharmacological treatment includes **physical therapy** and **occupational therapy**. **Analgesia** (painkillers) and **anti-inflammatory** drugs, as well as **steroids**, are used to suppress the symptoms, while **disease-modifying antirheumatic drugs** (DMARDs) are often required to reverse the disease process and prevent long-term damage. In recent times, the newer group of **biologics** has increased treatment options.[^1]

The name is based on the term "**rheumatic fever**", an illness which includes joint pain and is derived from the Greek word **rheumatos** ("flowing"). The suffix **-oid** ("resembling") gives the translation as **joint inflammation that resembles rheumatic fever**. The first recognized description of rheumatoid arthritis was made in 1800 by Dr **Augustin Jacob Landré-Beauvais** (1772-1840) of Paris.[^2]

Rhinitis

**Rhinitis** is the medical term describing irritation and inflammation of some internal areas of the **nose**. The primary symptom of rhinitis is a **runny nose** or nasal dripping. It is caused by chronic or acute **inflammation** of the **mucous membrane** of the nose due to viruses, **bacteria** or irritants. The inflammation results in the generating of excessive amounts of **mucus**, commonly producing the aforementioned runny nose, as well as **nasal congestion** and **post-nasal drip**. According to recent studies completed in the **United States**, more than fifty million Americans are current sufferers. Rhinitis has also been found to adversely affect more than just the nose, throat, and eyes. It has been associated with sleeping problems, ear conditions, and even learning problems.[^1] Rhinitis is caused by an increase in **histamine**. This increase is likely caused by airborne **allergens**. These allergens may affect an individual's nose, throat, or eyes and cause an increase in fluid production within these areas.

Rift Valley fever

**Rift Valley Fever** (RVF) is a viral **zoonosis** (affects primarily domestic **livestock**, but can be passed to humans) causing **fever**. It is spread by the bite of infected **mosquitoes**, typically the Aedes or Culex genera. The disease is caused by the RVF **virus**, a member of the genus **
**Phlebovirus** (family *Bunyaviridae*). The disease was first reported among livestock in **Kenya** around 1915, but the virus was not isolated until 1931. RVF outbreaks occur across sub-Saharan **Africa**, with outbreaks occurring elsewhere infrequently (but sometimes severely - in **Egypt** in 1977-78, several million people were infected and thousands died during a violent epidemic. In **Kenya** in 1998, the virus claimed the lives of over 400 Kenyans. In September 2000 an outbreak was confirmed in **Saudi Arabia** and **Yemen**).

In humans the virus can cause several different syndromes. Usually sufferers have either no symptoms or only a mild illness with fever, headache, myalgia and liver abnormalities. In a small percentage of cases (< 2%) the illness can progress to hemorrhagic fever syndrome, meningoencephalitis (inflammation of the brain), or affecting the eye. Patients who become ill usually experience fever, generalized weakness, back pain, dizziness, and weight loss at the onset of the illness. Typically, patients recover within 2-7 days after onset.

Distribution of Rift Valley Fever in Africa. Blue, countries with endemic disease and substantial outbreaks of RVF; green, countries known to have some cases, periodic isolation of virus, or serologic evidence of RVF.

Approximately 1% of human sufferers die of the disease. Amongst livestock the fatality level is significantly higher. In pregnant livestock infected with RVF there is the abortion of virtually 100% of fetuses. An epizootic (animal disease epidemic) of RVF is usually first indicated by a wave of unexplained abortions.

**Rubella**

**Rubella**, commonly known as **German measles**, is a disease caused by Rubella virus. The name is derived from the Latin, meaning little red. Rubella is also known as German measles because the disease was first described by German physicians in the mid-eighteenth century. This disease is often mild and attacks often pass unnoticed. The disease can last one to five days. Children recover more quickly than adults. Infection of the mother by Rubella virus during pregnancy can be serious; if the mother is infected within the first 20 weeks of pregnancy, the child may be born with congenital rubella syndrome (CRS), which entails a range of serious incurable illnesses. Spontaneous abortion occurs in up to 20% of cases.[1]

Rubella is a common childhood infection usually with minimal systemic upset although transient arthropathy may occur in adults. Serious complications are very rare. Apart from the effects of transplacental infection on the developing foetus, rubella is a relatively trivial infection.

Acquired, (i.e. not congenital), rubella is transmitted via airborne droplet emission from the upper respiratory tract of active cases. The virus may also be present in the urine, faeces and on the skin. There is no carrier state: the reservoir exists entirely in active human cases. The disease has an incubation period of 2 to 3 weeks.[2]

In most people the virus is rapidly eliminated. However, it may persist for some months post partum in infants surviving the CRS. These children are a significant source of infection to other infants and, more importantly, to pregnant female contacts.
### Salmonella

**Salmonella** is a genus of rod-shaped Gram-negative enterobacteria that causes typhoid fever, paratyphoid fever, and foodborne illness.[1] Most *Salmonella* species are motile and produce hydrogen sulfide.[2] *Salmonella* antibodies were first found in Malawi children in research published in 2008. The Malawian researchers have identified an antibody that protects children against bacterial infections of the blood caused by *Salmonella*. A study of 352 children at Blantyre's Queen Elizabeth hospital found that children up to two years old develop antibodies that aid in killing the bacteria. The researchers proposed that this could lead to a possible *Salmonella* vaccine.[4]

### Salpingitis

**Salpingitis** is an infection and inflammation in the fallopian tubes. It is often used synonymously with PID, although PID lacks an accurate definition and can refer to several diseases of the female upper genital tract, such as endometritis, oophoritis, myometritis, parametritis and infection in the pelvic peritoneum[1]. In contrast, salpingitis only refers to infection and inflammation in the fallopian tubes.[1]

### Scabies

**Scabies** is a highly contagious ectoparasite skin infection characterized by superficial burrows, intense pruritus (itching) and secondary infection. It is caused by the mite *Sarcoptes scabiei*. The word *scabies* itself is derived from the Latin word for "scratch" (scabere).

### Scleroderma

**Scleroderma** is a chronic autoimmune disease characterized by a hardening[1] or sclerosis[2] in the skin or other organs. The localized type of the disease, known as "morphae",[3] while disabling, tends not to be fatal. The systemic type or **systemic scleroderma**, the generalized type of the disease, can be fatal, as a result of heart, kidney, lung or intestinal damage.[4]

### Senile dementia

**Dementia** (from Latin *de-* "apart, away" + *mens* (genitive *mentis*) "mind") is the progressive decline in cognitive function due to damage or disease in the body beyond what might be expected from normal aging. Although dementia is far more common in the geriatric population, it may occur in any stage of adulthood. This age cutoff is defining, as similar sets of symptoms due to organic brain dysfunction are given different names in populations younger than adulthood (see, for instance, developmental disorders).

Dementia is a non-specific illness syndrome (set of symptoms) in which affected areas of cognition may be memory, attention, language, and problem solving. Higher mental functions are affected first in the process. Especially in the later stages of the condition, affected persons may be disoriented in time (not knowing what day of the week, day of the month, month, or even what
year it is), in place (not knowing where they are), and in person (not knowing who they are).

Symptoms of dementia can be classified as either reversible or irreversible, depending upon the etiology of the disease. Less than 10 percent of cases of dementia are due to causes which may presently be reversed with treatment. Causes include many different specific disease processes, in the same way that symptoms of organ dysfunction such as shortness of breath, jaundice, or pain are attributable to many etiologies. Without careful assessment of history, the short-term syndrome of delirium can easily be confused with dementia, because they have many symptoms in common. Some mental illnesses, including depression and psychosis, may also produce symptoms which must be differentiated from both delirium and dementia.

Septicemia

Sepsis is a serious medical condition characterized by a whole-body inflammatory state (called a systemic inflammatory response syndrome or SIRS) caused by infection. The body may develop this inflammatory response to microbes in the blood. The related layman's term is blood poisoning.

Sepsis is usually treated in the intensive care unit with intravenous fluids and antibiotics. If fluid replacement is insufficient to maintain blood pressure, specific vasopressor drugs can be used. Artificial ventilation and dialysis may be needed to support the function of the lungs and kidneys, respectively. To guide therapy, a central venous catheter and an arterial catheter may be placed. Sepsis patients require preventive measures for deep vein thrombosis, stress ulcers and pressure ulcers, unless other conditions prevent this. Some patients might benefit from tight control of blood sugar levels with insulin (targeting stress hyperglycemia), low-dose corticosteroids or activated drotrecogin alfa (recombinant protein C).

Severe sepsis occurs when sepsis leads to organ dysfunction, low blood pressure (hypotension) or insufficient blood flow (hypoperfusion) to one or more organs (causing, for example, lactic acidosis, decreased urine production or altered mental status). Sepsis can lead to septic shock, multiple organ dysfunction syndrome (formerly known as multiple organ failure) and death. Organ dysfunction results from sepsis-induced hypotension (< 90 mmHg or a reduction of ≥ 40 mmHg from baseline) and diffuse intravascular coagulation, among other things.

Bacteremia is the presence of viable bacteria in the bloodstream. Likewise, the terms viremia and fungemia simply refer to viruses and fungi in the bloodstream. These terms say nothing about the consequences this has on the body. For example, bacteria can be introduced into the bloodstream during toothbrushing. This form of bacteremia almost never causes problems in normal individuals. However, bacteremia associated with certain dental procedures can cause bacterial infection of the heart valves (known as endocarditis) in high risk patients. Conversely, a systemic inflammatory response syndrome can occur in patients without the presence of infection, for example in those with burns, polytrauma, or the initial state in pancreatitis and chemical pneumonitis. Septicemia is an ill-defined term referring to the presence of bacteria or their toxins in the blood. The term improperly mixes components of bacteremia and sepsis, and has been abandoned as a concept.

Shingles
**Herpes zoster** (or simply **zoster**), commonly known as **shingles**, is a **viral disease** characterized by a painful skin rash with **blisters** in a limited area on one side of the body, often in a stripe. The initial infection with **varicella zoster virus** (VZV) causes the acute (short-lived) illness **chickenpox**, and generally occurs in children and young people. Once an episode of chickenpox has resolved, the virus is not eliminated from the body but can go on to cause shingles—an illness with very different symptoms—often many years after the initial infection.

Varicella zoster virus can become latent in the **nerve cell bodies** and less frequently in **non-neuronal satellite cells** of **dorsal root, cranial nerve** or **autonomic ganglion**, without causing any symptoms. In an **immunocompromised** individual, perhaps years or decades after a chickenpox infection, the virus may break out of nerve cell bodies and travel down nerve **axons** to cause viral infection of the skin in the region of the nerve. The virus may spread from one or more ganglia along nerves of an affected **segment** and infect the corresponding **dermatome** (an area of skin supplied by one spinal nerve) causing a painful rash. Although the rash usually heals within two to four weeks, some sufferers experience residual nerve pain for months or years, a condition called **postherpetic neuralgia**. Exactly how the virus remains latent in the body, and subsequently re-activates is not understood.

Throughout the world the **incidence rate** of herpes zoster every year ranges from 1.2 to 3.4 cases per 1,000 healthy individuals, increasing to 3.9–11.8 per year per 1,000 individuals among those older than 65 years. **Antiviral drug** treatment can reduce the severity and duration of herpes zoster, if a seven to ten day course of these drugs is started within 72 hours of the appearance of the characteristic rash.

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**Shock**

**Acute stress reaction** (also called **acute stress disorder, psychological shock, mental shock**, or simply, **shock** is a **psychological** condition arising in response to a terrifying event. It should not be confused with the unrelated circulatory condition of **shock**.

"Acute Stress Response", was first described by **Walter Cannon** in the 1920s as a theory that animals react to threats with a general discharge of the **sympathetic nervous system**. The response was later recognized as the first stage of a general adaptation syndrome that regulates stress responses among vertebrates and other organisms.

The onset of a stress response is associated with specific physiological actions in the sympathetic nervous system, both directly and indirectly through the release of **epinephrine** and to a lesser extent **norepinephrine** from the **medulla** of the **adrenal glands**. The release is triggered by **acetylcholine** released from pre-ganglionic sympathetic nerves. These catecholamine **hormones** facilitate immediate physical reactions by triggering increases in heart rate and breathing, constricting blood vessels in many parts of the body - but not in muscles (vasodilation), brain, lungs and heart - and tightening muscles. An abundance of catecholamines at neuroreceptor sites facilitates reliance on spontaneous or intuitive behaviors often related to combat or escape.

Normally, when a person is in a serene, unstimulated state, the "firing" of neurons in the locus ceruleus is minimal. A novel stimulus, once perceived, is relayed from the **sensory cortex** of the brain through the **thalamus** to the **brain stem**. That route of signaling increases the rate of noradrenergic activity in the locus ceruleus, and the person becomes alert and attentive to the
environment.

If a stimulus is perceived as a threat, a more intense and prolonged discharge of the **locus ceruleus** activates the sympathetic division of the autonomic nervous system (Thase & Howland, 1995). The activation of the sympathetic nervous system leads to the release of norepinephrine from nerve endings acting on the heart, blood vessels, respiratory centers, and other sites. The ensuing physiological changes constitute a major part of the acute stress response. The other major player in the acute stress response is the **hypothalamic-pituitary-adrenal axis**.

### Sickle cell anemia

**Sickle-cell disease** or **sickle-cell anaemia** (or **anemia**) is a **blood disorder** characterized by **red blood cells** that assume an abnormal, rigid, **sickle** shape. Sickling decreases the cells' flexibility and results in their restricted movement through **blood vessels**, depriving downstream tissues of **oxygen**. The disease is chronic and lifelong: individuals are most often well, but their lives are punctuated by periodic painful attacks and a risk of various other complications. Life expectancy is shortened, with older studies reporting an average life expectancy of 42 and 48 years for males and females, respectively.\[1\]

Sickle-cell disease occurs more commonly in people (or their descendants) from parts of **sub-Saharan Africa**, where **malaria** is or was common, but it also occurs in people of other ethnicities. This is because those with one or two **alleles** of the sickle-cell disease are resistant to malaria since the sickle red blood cells are not conducive to the parasites - in areas where malaria is common, there is a **survival value** in carrying a single sickle-cell gene, AS heterozygotes.

### Sinusitis

**Sinusitis** is an **inflammation** of the **paranasal sinuses**, which may or may not be as a result of infection, from **bacterial**, **fungal**, **viral**, **allergic** or **autoimmune** issues. Newer classifications of sinusitis refer to it as **rhinosinusitis**, taking into account the thought that **inflammation** of the sinuses cannot occur without some **inflammation** of the **nose** as well (rhinitis).

### Skin burns

A **burn** is a type of **injury** that may be caused by **heat**, **cold**, **electricity**, **chemicals**, **light**, **radiation**, or **friction**.\[1\][2] Burns can be highly variable in terms of the tissue affected, the severity, and resultant complications. **Muscle**, **bone**, **blood vessel**, and **epidermal tissue** can all be damaged with subsequent pain due to profound injury to **nerve endings**. Depending on the location affected and the degree of severity, a burn victim may experience a wide number of potentially fatal complications including **shock**, **infection**, **electrolyte imbalance** and **respiratory distress**.\[3\] Beyond physical complications, burns can also result in severe psychological and emotional distress due to **scarring** and deformity. It is generally accepted that a burn affecting more than one percent of the body surface, (approximately area of the casualty's palm) should be assessed by a medical practitioner.
Staphylococcus

*Staphylococcus* (from the Greek: σταφυλή, *staphylē*, "bunch of grapes" and κόκκος, *kókkos*, "granule") is a genus of Gram-positive bacteria. Under the microscope they appear round (coccī), and form in grape-like clusters.[1]

The *Staphylococcus* genus include just thirty-one species.[2] Most are harmless and reside normally on the skin and mucous membranes of humans and other organisms. Found worldwide, they are a small component of soil microbial flora.[3]

Stomatitis

*Stomatitis* is an inflammation of the mucous lining of any of the structures in the mouth, which may involve the cheeks, gums, tongue, lips, throat, and roof or floor of the mouth. The inflammation can be caused by conditions in the mouth itself, such as poor oral hygiene, poorly fitted dentures, or from mouth burns from hot food or drinks, or by conditions that affect the entire body, such as medications, allergic reactions, radiation therapy, or infections. ref>Y**ou must specify title = and url = when using {{cite web}}."" (PDF). *The Reports of the Surgeon General* (1969). Retrieved on 2006-06-23.</ref>

Striatonigral degeneration

*Striatonigral degeneration* refers to a form of multiple system atrophy involving the loss of connections between two areas of the brain, the striatum and the substantia nigra, which work together to ensure smooth movement and maintain balance.[1]

Stroke

A *stroke* is the rapidly developing loss of brain functions due to a disturbance in the blood vessels supplying blood to the brain. This can be due to ischemia (lack of blood supply) caused by thrombosis or embolism or due to a hemorrhage. As a result, the affected area of the brain is unable to function, leading to inability to move one or more limbs on one side of the body, inability to understand or formulate speech or inability to see one side of the visual field.[1] In the past, stroke was referred to as cerebrovascular accident or CVA, but the term "stroke" is now preferred.

A stroke is a *medical emergency* and can cause permanent neurological damage, complications and death. It is the leading cause of adult disability in the United States and Europe. It is the number two cause of death worldwide and may soon become the leading cause of death worldwide.[2] Risk factors for stroke include advanced age, hypertension (high blood pressure), previous stroke or transient ischemic attack (TIA), diabetes, high cholesterol, cigarette smoking and atrial fibrillation.[3] High blood pressure is the most important modifiable risk factor of stroke.[1]

The traditional definition of stroke, devised by the World Health Organization in the 1970s,[4] is a "neurological deficit of cerebrovascular cause that persists beyond 24 hours or is interrupted by death within 24 hours". This definition was supposed to reflect the reversibility of tissue damage.
and was devised for the purpose, with the time frame of 24 hours being chosen arbitrarily. The 24-hour limit divides stroke from transient ischemic attack, which is a related syndrome of stroke symptoms that resolve completely within 24 hours.\(^1\) With the availability of treatments that, when given early, can reduce stroke severity, many now prefer alternative concepts, such as brain attack and acute ischemic cerebrovascular syndrome (modeled after heart attack and acute coronary syndrome respectively), that reflect the urgency of stroke symptoms and the need to act swiftly.\(^5\)

A stroke is occasionally treated with thrombolysis ("clot buster"), but usually with supportive care (speech and language therapy, physiotherapy and occupational therapy) in a "stroke unit" and secondary prevention with antiplatelet drugs (aspirin and often dipyridamole), blood pressure control, statins, and in selected patients with carotid endarterectomy and anticoagulation.\(^1\)

Syphilis

Syphilis is a sexually transmitted disease caused by the spirochetal bacterium Treponema pallidum subspecies pallidum. The route of transmission of syphilis is almost always through sexual contact, although there are examples of congenital syphilis via transmission from mother to child in utero.

The signs and symptoms of syphilis are numerous; before the advent of serological testing, precise diagnosis was very difficult. In fact, the disease was dubbed the "Great Imitator" because it was often confused with other diseases, particularly in its tertiary stage.

Syphilis can generally be treated with antibiotics, including penicillin. One of the oldest and still the most effective method is an intramuscular injection of benzathine penicillin.\(^{[citation needed]}\) If left untreated, syphilis can damage the heart, aorta, brain, eyes, and bones. In some cases these effects can be fatal. In 1998, the complete genetic sequence of T. pallidum was published, which may aid understanding of the pathogenesis of syphilis.\(^{[citation needed]}\)

Tardive dyskinesia

Tardive dyskinesia is a variety of dyskinesia (involuntary, repetitive movements) manifesting as a side effect of long-term or high-dose use of dopamine antagonists, usually antipsychotics. Other dopamine antagonists that can cause tardive dyskinesia are drugs for gastrointestinal disorders (e.g. metoclopramide) and neurological disorders. While newer atypical antipsychotics such as olanzapine and risperidone appear to have less dystonic effects, only clozapine has been shown to have a lower risk of tardive dyskinesia than older antipsychotics.\(^1\)

The term tardive dyskinesia was introduced in 1964. Dyskinesia refers to an involuntary movement. The effect of these drugs can be tardive, meaning the dyskinesia sometimes continues or appears even after the drugs are no longer taken.

T. cruzi

Trypanosoma cruzi is a species of parasitic euglenoid trypanosomes. The species causes the trypanosomiasis diseases in humans and animals in America. Transmission occurs when the
reduviid bug deposits feces on the skin surface and subsequently bites; the human host then scratches the bite area and facilitates penetration of the infected feces.

Human American Trypanosomiasis, or Chagas disease, is a potentially fatal disease of humans. It has two forms, a trypomastigote found in human blood and an amastigote found in tissues. The acute form usually goes unnoticed and may present as a localized swelling at the site of entry of the parasites in the skin. The chronic form may develop 10 to 20 years after infection. This form affects internal organs (e.g. the heart, esophagus, colon and the peripheral nervous system). Affected people may die from heart failure.

Acute cases are treated with nifurtimox and benznidazole, but there is currently no effective therapy for chronic cases

Tendinitis

Tendinitis or tendonitis, meaning inflammation of a tendon (the suffix "itis" means "inflammation"), is a type of tendinopathy often confused with the more common tendinosis, which has similar symptoms but requires different treatment.[1] The term tendinitis should be reserved for tendon injuries that involve larger-scale acute injuries accompanied by inflammation. Generally tendinitis is referred to by the body part involved, such as Achilles tendinitis (affecting the Achilles tendon), or patellar tendinitis (jumper's knee, affecting the patellar tendon).

Tetanus

Tetanus is a medical condition that is characterized by a prolonged contraction of skeletal muscle fibres. The primary symptoms are caused by tetanospsamin, a neurotoxin produced by the Gram-positive, obligate anaerobic bacterium Clostridium tetani. Infection generally occurs through wound contamination, and often involves a cut or deep puncture wound. As the infection progresses, muscle spasms in the jaw develop, hence the common name, lockjaw. This is followed by difficulty in swallowing and general muscle stiffness and spasms in other parts of the body.[1] Infection can be prevented by proper immunization and by post-exposure prophylaxis.[2]

Tinea versicolor

Tinea versicolor or pityriasis versicolor is a common skin infection caused by the yeast Malassezia furfur (formerly termed Pityrosporum ovale). This yeast is normally found on the human skin and only becomes troublesome under certain circumstances, such as a warm and humid environment.

Tinnitus

Tinnitus (pronounced /tɪˈnɪtəs/ or /ˈtɪnɪtəs/,[1] from the Latin word for "ringing"[2]) is the perception of sound within the human ear in the absence of corresponding external sound.

Tinnitus can be perceived in one or both ears or in the head. It is usually described as a ringing noise, but in some patients it takes the form of a high pitched whining, buzzing, hissing, humming, or whistling sound, or as ticking, clicking, roaring, "crickets" or "tree frogs" or "locusts", tunes, songs, or beeping. It has also been described as a "whooshing" sound, as of
wind or waves. Tinnitus can be intermittent or it can be continuous. In the latter case, this "phantom" sound can create great distress in the sufferer.

Tinnitus is not itself a disease but a symptom resulting from a range of underlying causes. Causes include ear infections, foreign objects or wax in the ear, nose allergies that prevent (or induce) fluid drain and cause wax build-up, and injury from loud noises. Tinnitus is also a side-effect of some oral medications, such as aspirin, and may also result from an abnormally low level of serotonin activity. It is also a classical side effect of Quinidine, a Class IA anti-arrhythmic. In many cases, however, no underlying physical cause can be identified.

The sound perceived may range from a quiet background noise to one that can be heard even over loud external sounds. The term "tinnitus" usually refers to more severe cases. Heller and Bergman (1953) conducted a study of 80 tinnitus-free university students placed in an anechoic chamber and found that 93% reported hearing a buzzing, pulsing or whistling sound. Cohort studies have demonstrated that damage to hearing (among other health effects) from unnatural levels of noise exposure is very widespread in industrialized countries.

Because tinnitus is often defined as a subjective phenomenon, it is difficult to measure using objective tests, such as by comparison to noise of known frequency and intensity, as in an audiometric test. The condition is often rated clinically on a simple scale from "slight" to "catastrophic" according to the practical difficulties it imposes, such as interference with sleep, quiet activities, or normal daily activities. For research purposes, the more elaborate Tinnitus Handicap Inventory is often used. Thoracic zygomycosis

**Zygomycosis** is the broadest term to refer to an infection caused by fungi of the zygomycetes order. Zygomycosis can refer to mucormycosis, phycomycosis and basidiobolomycosis, rare yet serious and potentially life-threatening fungal infections, usually affecting the face or oropharyngeal cavity. Zygomycosis is often caused by common fungi which can be found in soil and decaying vegetation. While most individuals are exposed to the fungi on a regular basis those with immune disorders are more prone to an infection. As such, it usually infects those who are immunocompromised.

The condition can be caused by several fungi including *Mucor*, *Rhizopus*, *Apophysomyces*, *Absidia*, *Mortierella*, *Cunninghamella*, *Saksenaea*, *Syncephalastrum* and *Cokeromyces*, although the spectrum is much wider and can also contain *Entomophthorales*, *Basidiobolus ranarum* or *Mucorales*. Occasionally, when caused by *Pythium* or similar fungi, the condition may affect the gastrointestinal tract or the skin. It usually begins in the nose and paranasal sinuses and is one of the most rapidly spreading fungal infections in humans. Common symptoms include thrombosis and tissue necrosis. Treatment consists of prompt and intensive antifungal drug therapy and surgery to remove dead tissue. The prognosis varies vastly depending upon an individual patient's circumstances.

Basidiobolomycosis is a form of zygomycosis caused by the fungus *B. ranarum*, which has been isolated throughout the world from decaying vegetation and soil and from the GI tracts of reptiles.
amphibians, fish, and insectivorous bats.\[9\]

Thrombopenic purpura

Thrombotic thrombocytopenic purpura (TTP or Moschcowitz disease) is a rare disorder of the blood-coagulation system, causing extensive microscopic blood clots to form in the small blood vessels throughout the body.\[1\] Most cases of TTP arise from deficiency or inhibition of the enzyme ADAMTS13, which is responsible for cleaving large multimers of von Willebrand factor (vWF).\[4\] Red blood cells passing the microscopic clots are subjected to shear stress which leads to hemolysis. Reduced blood flow and cellular injury results in end organ damage. Current therapy is based on support and plasmapheresis to reduce circulating antibodies against ADAMTS13 and replenish blood levels of the enzyme.\[2\]

Thrombophlebitis

Thrombophlebitis is phlebitis (vein inflammation) related to a blood clot or thrombus.\[1\] When it occurs repeatedly in different locations, it is known as "Thrombophlebitis migrans" or "migrating thrombophlebitis".

Thyroiditis

Thyroiditis is the inflammation of the thyroid gland. The thyroid gland is located on the front of the neck below the laryngeal prominence, and makes hormones that control metabolism. There are many different types of thyroiditis, with the most common being Hashimoto's thyroiditis. Other forms of the disease are postpartum thyroiditis, subacute thyroiditis, silent thyroiditis, drug-induced thyroiditis, radiation-induced thyroiditis, and acute thyroiditis (American Thyroid Association, 2008). Each different type of this disease has its own causes, clinical features, diagnoses, durations, resolutions, conditions and risks.

Togavirus

The Togaviridae are a family of viruses, including the following genera:

- Genus Alphavirus; type species: Sindbis virus, Eastern equine encephalitis virus, Western equine encephalitis virus, Venezuelan equine encephalitis virus, Ross River virus, O'nyong'nyong virus
- Genus Rubivirus; type species: Rubella virus

The Togaviridae family belong to group IV of the Baltimore classification of viruses. The genome is linear, single-stranded, positive sense RNA that is 10,000-12,000 nucleotides long. The 5’-terminus carries a methylated nucleotide cap and the 3’-terminus has a polyadenylated tail, therefore resembling cellular mRNA. The virus is enveloped and forms spherical particles (65-70nm diameter), the capsid within is icosahedral, constructed of 240 monomers, having a triangulation number of 4. The receptors for binding are unknown, however the tropism is varied and it is known that the glycoprotein spikes act as attachment proteins. After virus attachment and
entry into the cell, gene expression and replication takes place within the **cytoplasm**.

## Tourette's Syndrome

**Tourette syndrome** (also called **Tourette's syndrome**, **Tourette's disorder**, **Gilles de la Tourette syndrome**, **GTS** or, more commonly, simply **Tourette's** or **TS**) is an **inherited neuropsychiatric** disorder with onset in childhood, characterized by the presence of multiple physical (motor) **tics** and at least one vocal (phonic) tic; these tics characteristically wax and wane. Tourette's is defined as part of a **spectrum** of **tic disorders**, which includes transient and chronic tics.

Tourette's was once considered a rare and bizarre **syndrome**, most often associated with the exclamation of obscene words or socially inappropriate and derogatory remarks (**coprolalia**). However, this symptom is present in only a small minority of people with Tourette's. Tourette's is no longer considered a rare condition, but it may not always be correctly identified because most cases are classified as mild. Between 1 and 10 children per 1,000 have Tourette's; as many as 10 per 1,000 people may have tic disorders, with the more common tics of eye blinking, coughing, throat clearing, sniffing, and facial movements. People with Tourette's have normal **life expectancy** and intelligence. The severity of the tics decreases for most children as they pass through **adolescence**, and extreme Tourette's in adulthood is a rarity. **Notable individuals with Tourette's** are found in all walks of life.

**Genetic** and environmental factors each play a role in the **etiology** of Tourette's, but the exact causes are unknown. In most cases, medication is unnecessary. There is no effective medication for every case of tics, but there are medications and therapies that can help when their use is warranted. Explanation and reassurance alone are often sufficient treatment; **education** is an important part of any treatment plan.

The **eponym** was bestowed by Jean-Martin Charcot (1825–93) on behalf of his resident, Georges Albert Édouard Brutus Gilles de la Tourette (1859–1904), a French physician and **neurologist**, who published an account of nine patients with Tourette's in 1885.

## Toxic amblyopia

**Amblyopia**, otherwise known as **lazy eye**, is a **disorder** of the **visual system** that is characterized by poor or indistinct **vision** in an eye that is otherwise physically normal, or out of proportion to associated structural abnormalities. It has been estimated to affect 1–5% of the population.

The problem is caused by either no transmission or poor transmission of the visual image to the brain for a sustained period of dysfunction or during early **childhood**. Amblyopia normally only affects one eye, but it is possible to be amblyopic in both eyes if both are similarly deprived of a good, clear visual image. Detecting the condition in early childhood increases the chance of successful treatment.

While the colloquialism "lazy eye" is frequently used to refer to amblyopia, the term is inaccurate because there is no "laziness" of either the eye or the amblyope involved in the condition.
Toxoplasmosis

**Toxoplasmosis** is a parasitic disease caused by the protozoan *Toxoplasma gondii*. The parasite infects most genera of warm-blooded animals, including humans, but the primary host is the felid (cat) family. Animals are infected by eating infected meat, by ingestion of faeces of a cat that has itself recently been infected, or by transmission from mother to fetus. Cats have been shown as a major reservoir of this infection.

Up to one third of the world's population is estimated to carry a Toxoplasma infection. The Centers for Disease Control and Prevention notes that overall seroprevalence in the United States as determined with specimens collected by the National Health and Nutritional Assessment Survey (NHANES) between 1999 and 2004 was found to be 10.8%, with seroprevalence among women of childbearing age (15 to 44 years) of 11%.

During the first few weeks, the infection typically causes a mild flu-like illness or no illness. After the first few weeks of infection have passed, the parasite rarely causes any symptoms in otherwise healthy adults. However, people with a weakened immune system, such as those infected with HIV or pregnant, may become seriously ill, and it can occasionally be fatal. The parasite can cause encephalitis (inflammation of the brain) and neurologic diseases and can affect the heart, liver, and eyes (chorioretinitis).

### Traveler's diarrhea

**Traveler's diarrhea** (in American English) or **traveller's diarrhoea** (in British English), abbreviated to TD, is the most common illness affecting travelers. Traveler's diarrhea is defined as three or more unformed stools in 24 hours in a traveler, commonly accompanied by abdominal cramps, nausea, and bloating.

*Wilderness diarrhea* (WD), also called *wilderness-acquired diarrhea* (WAD) or *backcountry diarrhea*, is the name preferred by some backpackers, hikers, campers and other outdoor recreationalists for traveler's diarrhea that appears in wilderness or "backcountry" situations while still in their home country. It is due to the same agents as all other traveler's diarrhea, which are usually bacterial and viral in short expeditions and may be giardiasis in longer expeditions and is largely due to the absence of treated water and poor hygiene. Some people reserve the name backpacker's diarrhea as a synonym for giardiasis.

Most cases are self-limited and the pathogen is most often not identified.

### Trench fever

*Trench fever* is a moderately serious disease transmitted by body lice. It infected armies in Flanders, France, Poland, Galicia, Italy, Salonika, Macedonia, Mesopotamia, and Egypt in World War I and the German army in Russia during World War II. From 1915 to 1918 between one-fifth and one-third of all British troops reported ill had trench fever while about one-fifth of ill German and Austrian troops had the disease. The disease persists among the homeless. Outbreaks have been documented, for example, in Seattle and Baltimore in the United States among injection drug users and in
Marseille, France and Burundi.

Trench fever is also called Wolhynia fever, shin bone fever, quintan fever, five-day fever, Meuse fever, His disease and His-Werner disease (after Wilhelm His, Jr. and Heinrich Werner).

The disease is caused by the bacterium *Bartonella quintana* (older names: *Rochalimea quintana*, *Rickettsia quintana*), found in the stomach walls of the body louse. *Bartonella quintana* is closely related to *Bartonella henselae*, the agent of cat scratch fever.

Trypanosomiasis

**Trypanosomiasis** or **trypanosomosis** is the name of several diseases in vertebrates caused by parasitic protozoan trypanosomes of the genus *Trypanosoma*. More than 66 million women, men, and children in 36 countries of sub-Saharan Africa suffer from human African trypanosomiasis which is caused by either *Trypanosoma brucei gambiense* or *Trypanosoma brucei rhodesiense*. The other human form of trypanosomiasis, called Chagas disease, causes 21,000 deaths per year mainly in Latin America.

Tuberculosis

**Tuberculosis** (abbreviated as TB for *tubercle bacillus* or Tuberculosis) is a common and often deadly infectious disease caused by mycobacteria, mainly *Mycobacterium tuberculosis*. Tuberculosis usually attacks the lungs (as pulmonary TB) but can also affect the central nervous system, the lymphatic system, the circulatory system, the genitourinary system, the gastrointestinal system, bones, joints, and even the skin. Other mycobacteria such as *Mycobacterium bovis*, *Mycobacterium africanum*, *Mycobacterium canetti*, and *Mycobacterium microti* also cause tuberculosis, but these species are less common.

The typical symptoms of tuberculosis are a chronic cough with blood-tinged sputum, fever, night sweats, and weight loss. Infection of other organs causes a wide range of symptoms. The diagnosis relies on radiology (commonly chest X-rays), a tuberculin skin test, blood tests, as well as microscopic examination and microbiological culture of bodily fluids. Tuberculosis treatment is difficult and requires long courses of multiple antibiotics. Contacts are also screened and treated if necessary. Antibiotic resistance is a growing problem in (extensively) multi-drug-resistant tuberculosis. Prevention relies on screening programs and vaccination, usually with Bacillus Calmette-Guérin (BCG vaccine).

Tuberculosis is spread through the air, when people who have the disease cough, sneeze, or spit. One third of the world's current population have been infected with *M. tuberculosis*, and new infections occur at a rate of one per second. However, most of these cases will not develop the full-blown disease; asymptomatic, latent infection is most common. About one in ten of these latent infections will eventually progress to active disease, which, if left untreated, kills more than half of its victims. In 2004, mortality and morbidity statistics included 14.6 million chronic active cases, 8.9 million new cases, and 1.6 million deaths, mostly in developing countries. In addition, a rising number of people in the developed world are contracting tuberculosis because their immune systems are compromised by immunosuppressive drugs, substance abuse, or AIDS. The distribution of tuberculosis is not uniform across the globe with about 80% of the population in many Asian and African countries testing positive in tuberculin tests, while only 5-10% of the
US population testing positive. It is estimated that the US has 25,000 new cases of tuberculosis each year, 40% of which occur in immigrants from countries where tuberculosis is endemic.

**Tularemia**

**Tularemia** (also known as "rabbit fever", "deer-fly fever", "Ohara fever" and "Francis disease") is a serious infectious disease caused by the bacterium *Francisella tularensis*. A small, gram-negative, non-motile coccobacillus, the bacterium has several subspecies with varying degrees of virulence. The most important of those is *F. tularensis tularensis* (Type A), which is found in lagomorphs in North America and is highly virulent for humans and domestic rabbits. *F. tularensis palaearctica* (Type B) occurs mainly in aquatic rodents (beavers, muskrats) in North America and in hares and small rodents in northern Eurasia. It is less virulent for humans and rabbits. The primary vectors are ticks and deer flies, but the disease can also be spread through other arthropods. The disease is named after Tulare County, California.

**Ulcers**

Ulcers are healing wounds that develop on the skin, mucous membranes, or eye. Although they have many causes, they are marked by:

1. Loss of integrity of the area
2. Secondary infection of the site by bacteria, fungus or virus
3. Generalized weakness of the patient
4. Delayed healing

**Urethritis**

Urethritis is inflammation of the urethra. The main symptom is dysuria, which is painful or difficult urination.

**Urticaria**

Urticaria (or hives) is a skin condition caused by tiny amounts of fluid that leak from blood vessels just under the skin surface. It is also common for hives to be caused by an allergic reaction that results in raised red skin wheals (welts). It is also known as uredo. Hives can pop up in times of emotional stress, exercise, heat, or strong sunlight. Often times this extreme occurrence arises on those with sensitive skin.

Wheals from urticaria can appear anywhere on the body, including the face, lips, tongue, throat, and ears. The wheals may vary in size from about 5 mm (0.2 inches) in diameter to the size of a dinner plate; they typically itch severely, sting, or burn, and often have a pale border. As well as stress, Urticaria is generally caused by direct contact with an allergenic substance, or an immune response to food or some other allergen. The rash can be triggered by quite innocent events, such as stroking or exposure to cold.
**Uterine spasm**

A *spasm* is a sudden, involuntary contraction of a *muscle*, a group of muscles, or a hollow *organ*, or a similarly sudden *contraction* of an *orifice*. It is sometimes accompanied by a sudden burst of *pain*, but is usually harmless and ceases after a few minutes. Spasmodic muscle contraction may also be due to a large number of medical conditions, including the *dystonias*.

By extension, a spasm is a temporary burst of *energy*, *activity*, *emotion*, *stress*, or *anxiety*.

A subtype of spasms is *colic*, an episodic pain due to spasms of *smooth muscle* in a particular organ (e.g. the *bile duct*). A characteristic of colic is the sensation of having to move about, and the pain may induce *nausea* or *vomiting* if severe. Series of spasms or permanent spasms are called a *spasmism*.

In very severe cases, the spasm can induce muscular contractions that are more forceful than the sufferer could generate under normal circumstances. This can lead to torn tendons and ligaments.

Some argue that *hysterical strength* is a type of spasm induced by the brain under extreme circumstances.

**Uveitis**

*Uveitis* specifically refers to *inflammation* of the middle layer of the *eye*, termed the "*uvea*" but in common usage may refer to any inflammatory process involving the interior of the eye, with inflammation specifically of the uvea termed *iridocyclitis*.

Uveitis is estimated to be responsible for approximately 10% of the blindness in the United States. [citation needed] Uveitis requires an urgent referral and thorough examination by an *ophthalmologist*, along with urgent treatment to control the inflammation.

**Varicose veins**

*Varicose veins* are *veins* that have become enlarged and twisted. Carl Arnold Ruge is credited with having first defined varicose veins as "any dilated, elongated and tortuous vein irrespective of size". The term commonly refers to the veins on the leg, although varicose veins occur elsewhere. Veins have leaflet valves to prevent blood from flowing backwards (retrograde). Leg muscles pump the veins to return blood to the heart. When veins become enlarged, the leaflets of the valves no longer meet properly, and the valves don't work. One cause of valve failure is *deep vein thrombosis* (DVT), which can cause permanent damage to the valves. The blood collects in the veins and they enlarge even more. Varicose veins are common in the superficial veins of the legs, which are subject to high pressure when standing. Besides cosmetic problems, varicose veins are often painful, especially when standing or walking. They often itch, and scratching them can cause *ulcers*. Serious complications are rare. Non-surgical treatments include *sclerotherapy*, elastic stockings, elevating the legs, and exercise. The traditional surgical treatment has been *vein stripping* to remove the affected veins. Newer, less invasive treatments, such as *radiofrequency ablation* and *endovenous laser treatment*, are slowly replacing traditional surgical treatments. Because most of the blood in the legs is returned by the deep veins, the *superficial veins*, which return only about 10 per cent of the total blood of the legs, can usually be removed or ablated.
Varicose veins are distinguished from reticular veins (blue veins) and telangiectasias (spider veins), which also involve valvular insufficiency, by the size and location of the veins.

**Varicella pneumonia** – see chicken pox and pneumonia

**Vascular retinopathy**

**Retinopathy** is a general term that refers to some form of non-inflammatory damage to the retina of the eye. Most commonly it is a problem with the blood supply that is the cause for this condition. Frequently, retinopathy is an **ocular manifestation of systemic disease**.

**Vasculitis**

**Vasculitis** (plural: *vasculitides*), refers to a heterogeneous group of disorders that are characterized by inflammatory destruction of blood vessels - both arteries and veins are affected. Solitary inflammation of veins (*phlebitis*) or arteries (*arteritis*), although both occur in vasculitis, on their own are separate entities. Vasculitis affects both arteries and veins. Vasculitis is primarily due to **leukocyte** migration and resultant damage.

**Warts**

A **wart** (also known as *verruca*) is generally a small, rough **tumor**, typically on hands and feet but often other locations that can resemble a **cauliflower** or a solid **bliester**. Warts are common, and are caused by a **viral** infection, specifically by the **human papillomavirus** (HPV) and are contagious when in contact with the skin of an infected person. It is also possible to get warts from using towels or other objects. They typically disappear after a few months but can last for years and can recur.

**Wegener granuloma**

**Wegener's granulomatosis** is a form of **vasculitis** that affects the **lungs**, **kidneys** and other organs. Due to its end-organ damage, it can be a serious disease that requires long-term **immune suppression**. It is named after Dr. **Friedrich Wegener**, who described the disease in 1936.

Wegener's granulomatosis is part of a larger group of vasculitic syndromes, all of which feature the presence of an abnormal type of circulating **antibody** termed **ANCAs** (antineutrophil cytoplasmic antibodies) and affect small and medium-size **blood vessels**. Apart from Wegener's, this category includes **Churg-Strauss syndrome** and **microscopic polyangiitis**.