

DEFINITIONS of COMMON PATHOLOGICAL CONDITIONS MT1

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CARDIOVASCULAR SYSTEM PATHOLOGY

Anaemia:	<i>Cause:</i>	Blood disorder which causes a reduction in the quantity of haemoglobin and therefore of oxygen in the blood. Extensive loss of blood, lack of iron in the diet, the failure of bone marrow to produce the normal level of cells may cause it, or it may be inherited.
	<i>Effect:</i>	There are many different kinds of anaemia but they all cause tiredness and treatments vary depending on cause.
Angina pectoris:	Refers to pain in the centre of the chest that is aggravated by exercise and eased by rest. The demand for blood by the heart exceeds the supply of the coronary arteries, possibly due to arteriosclerosis.	
Arteriosclerosis:	<i>Cause:</i>	A degenerative disease of the arteries, which mainly affects the elderly.
	<i>Effect:</i>	Arteries lose their elasticity and can become roughened, or when there are fatty deposits, the diameter of the lumen becomes narrowed.
Atherosclerosis:	<i>Cause:</i>	Disease of the arteries in which fatty plaques, including cholesterol, develop on their inner walls.
	<i>Effect:</i>	Narrowing of the artery passage, hardening of the vessel walls and a loss of elasticity, with eventual obstruction of blood flow.
Cardiac failure:	Occurs when cardiac output is insufficient for the needs of the tissues. The pumping action of the ventricle is inadequate, resulting in back pressure of blood with congestion in the lungs and liver. Heart failure may affect one or both sides of the heart but once the circulation is congested, it is known as congestive cardiac failure . Cardiac failure may result from any condition that causes overload, damage or reduces the efficiency of heart muscle e.g. hypertension, valvular disease and arrhythmias. The signs and symptoms are breathlessness even when at rest and oedema .	
Coronary thrombosis:	<i>Cause:</i>	Formation of a blood clot in the coronary artery, usually due to degeneration of its walls.
	<i>Effect:</i>	Flow of blood to the heart is obstructed and it results in death of part of the heart muscle.

Cerebro-vascular accident (CVA) or stroke:	Most common brain disorder, caused by an embolism, aneurysm or arteriosclerosis in the cerebral arteries that serve the brain. It may be classed as major or minor depending on the severity. Signs and symptoms include paralysis of one side and speech may be affected. Loss of consciousness may also occur.
Embolism:	Refers to a blood clot, bubble of air, fat from broken bones or piece of debris transported by the bloodstream. If it becomes lodged in the lungs it is known as a pulmonary embolism. If it lodges in the brain, a stroke may occur.

Haemophilia:	<i>Cause:</i>	Hereditary disorder that affects mainly men (but which can be carried by women) in which the blood clots very slowly due to a deficiency of either of two coagulation factors.
	<i>Effect:</i>	Prolonged bleeding is experienced following any injury or wound. In severe cases there is spontaneous bleeding into muscles and joints.

Haemorrhoids:	<i>Cause:</i>	Also known as piles; usually a consequence of prolonged constipation or, occasionally, diarrhoea. They are enlarged veins in the rectum or anus that may collapse or contain blood clots.
	<i>Effect:</i>	Main symptom is usually bleeding.

Hepatitis A, B and C:	<i>Cause:</i>	Inflammation of the liver caused by viruses, toxic substances or immunological abnormalities. Hepatitis A is spread by contaminated food or drink, commonly occurs where sanitation is poor. Hepatitis B is transmitted by infected blood or blood products, by sexual contact, or by contact with any other body fluid, Hepatitis C is transmitted similarly to Hepatitis B. Other forms are Hepatitis D and E.
	<i>Effect:</i>	Hepatitis A – development of fever and sickness; yellow discolouration of the skin lasting up to three weeks. Not life threatening. Hepatitis B – symptoms include headache, fever, chills, general weakness and jaundice. Mortality rate of 5-20%. Hepatitis C – symptoms include fatigue, sore bones and dryness of eyes. All three are contagious.

High cholesterol:	<i>Cause:</i>	Excessive build up of a fatty substance called cholesterol.
	<i>Effect:</i>	Reduction in arterial capacity (atherosclerosis) and thus high blood pressure.

Hypertension (high blood pressure):	<i>Cause:</i>	Condition in which arterial blood pressure consistently remains above the normal range. Hypertension may be of unknown cause, or as a result of stress, medication, kidney disease, narrowing or hardening of arteries, smoking, alcohol, diet and hereditary factors
	<i>Effect:</i>	Complications occur as a result of the increased pressure, which may damage the blood vessels or the pump itself. Signs and symptoms occur once this damage has occurred, e.g. angina, heart attack, strokes, kidney complaints

Hypotension (low blood pressure):	<i>Cause:</i>	Condition in which arterial blood pressure remains abnormally low. It occurs after excessive fluid loss or following severe blood loss, although there are many other causes, e.g. under active adrenal glands or hereditary factors.
	<i>Effect:</i>	May cause fainting and dizziness. The vital organs must receive oxygen and will let the body know if they do not.

Myocardial infarction:	Refers to death of heart muscle following interference to its blood supply by a thrombus (clot). It is really a serious form of angina. Depending on the amount of damage, the person may recover well or die. Signs and symptoms – severe central chest pain comes on at rest and more prolonged than angina. Pain is associated with distress, sweating, pallor, nausea and vomiting. If you suspect a heart attack has occurred, encourage the person to stay still and quiet while you call an ambulance. Remain as calm as possible. It is worth noting that more deaths occur from a patient exerting himself before the ambulance arrives – getting the favourite slippers for example.
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Phlebitis:	<i>Cause:</i>	Inflammation of the wall of a vein, which is most commonly seen in the legs as a complication of varicose veins.
	<i>Effect:</i>	Segment of vein becomes painful and tender and the surrounding skin feels hot and appears red. Thrombosis commonly develops.

Thrombosis:	<i>Cause:</i>	Condition in which the blood changes from a liquid to a solid state and produces a blood clot, or thrombus . Thrombosis may occur within a blood vessel in diseased states.
	<i>Effect:</i>	Thrombosis in when an artery obstructs the blood flow to the tissue it supplies, e.g. stroke results from obstruction of an artery to the brain; heart attack results from obstruction of an artery to the heart. Thrombosis can also occur in a vein and it may be associated with inflammation. The thrombus may become detached from its site of formation and carried in the blood to lodge in another part, embolism .

Varicose veins:	<i>Cause:</i>	Refers to when the valves in veins cease to function properly and there is a back flow. Obesity, standing for long periods, pregnancy, familial tendency and stress are all contributing factors.
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	<i>Effect:</i>	Veins become distended, dilated and tortuous. The saphenous veins (superficial) of the leg are most often affected.
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PLEASE NOTE: Deep Venous Thrombosis (DVT)

If someone complains of pain in the calf that is persistent and not affected by rest or activity, then stop. Ask more questions. Has he been on a long flight?

With the current publicity re deep venous thrombosis, we have included these notes though a DVT can be missed even when under observation.

- Look and palpate the area for redness, swelling and heat
- Check for hardness. Resting muscles are usually soft but in DVT cases, the muscles remain firm
- Measure 10cm down from the tibial tuberosity and then measure the circumference at this point. If there is more than 2cms difference between the normal calf and the affected calf, Practitioner must refer, assuming DVT until proven otherwise.

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LYMPHATIC SYSTEM PATHOLOGY

Auto-immune diseases:	Result when the body does not recognise self, but sees its own cells as antigens and produces antibodies against them. Examples are rheumatoid arthritis, lupus erythematosus, cancer and multiple sclerosis.
Cancer:	<p>If these cells grow at a rate that is uncoordinated with the needs of the host and function independently of the usual normal homeostatic controls, then we refer to the tumour being malignant. Thus, malignant cells are not new cells but an alteration of existing cells. The change may have taken place 10 – 15 years before as a result of some injury or a combination of effects on the body.</p> <p>Malignant cells tend to infiltrate surrounding tissues and destroy them and they may also break away to form a secondary tumour. This is known as metastasis. Malignancy can spread through the circulatory systems i.e. blood and lymph, through body cavities or via cerebrospinal fluid.</p> <p>There is no known cause for cancer though smoking asbestos, sunlight, viruses, genetic factors, familial factors, geographical factors, emotional factors, diet, obesity have all been implicated.</p> <p>Medical, orthodox treatment mainly takes the form of surgery, radiotherapy or chemotherapy or a combination of these. The choice depends on the condition of the patient, the stage the cancer has reached and also the type and sensitivity of the tumour.</p> <p>Surgery is done to remove the tumour but as can be seen from the description, disturbing a malignant tumour may result in metastasis via scalpel or from being disturbed.</p> <p>Chemotherapy is directed towards controlling abnormal cell growth and reducing the number of actively dividing cells. Cytotoxic drugs are used to kill cancer cells but they kill healthy ones at the same time. It is hoped that normal healing mechanisms will repair the latter.</p> <p>Immunosuppressant drugs are also used with obvious side effects that the immune system is being prevented from protecting the body. These drugs are also used in other autoimmune diseases.</p> <p>There are more choices now than ever before for treating cancer. . As cancer affects the whole person, treatment should involve the whole person – mind, body and spirit.</p> <p>Read books on this subject of how people have helped their conditions with dietary manipulation, visualisation techniques etc.</p>

HIV / AIDS:	<i>Cause:</i>	AIDS – Acquired Immune Deficiency Syndrome – complex disease caused by the HIV – Human Immuno-deficiency Virus. It is transmitted through blood and other body fluids.
	<i>Effect:</i>	The virus attacks T-lymphocytes, making the immune system incapable of fighting disease.

Hodgkin's disease:	<i>Cause:</i>	Malignant disorder usually arising in the lymph nodes.
	<i>Effect:</i>	Characterised by painless enlargement of one or more groups of lymph nodes in the neck, armpits, groin, chest or abdomen. Apart from enlarging nodes there may also be weight loss, fever, profuse sweating at night and itching.

Hypersensitivity (allergy):	Occurs when there is an over reaction to an allergen. It can be fatal as in anaphylactic shock.	
Leukaemia:	Cause:	Cancer of the blood, caused by overproduction of white blood cells.
	Effect:	Leads to susceptibility to infection, anaemia, and bleeding. Other symptoms include enlargement of the spleen, liver and lymph nodes.
Lymphoma:	Any tumour composed of lymph tissue.	
Lymphoedema:	Swelling due to accumulation of lymph fluid producing subcutaneous tissue swelling. It most commonly occurs in the upper limb post mastectomy particularly if the axillary lymph nodes have been removed. It is very uncomfortable, can be painful and in serious cases, fluid leaks through the tissues, constantly. Orthodox treatment includes wrapping the affected areas in compression bandages and elevating them	
Oedema:	Refers to fluid in the tissues.	
Tumours:	New growths, known as neoplasms or tumours, can occur from previously normal cells. They can be localised, encapsulated and benign.	

NERVOUS SYSTEM PATHOLOGY

The disorders of the nervous system that you need to know are:

Bell's Palsy:	Cause:	Caused by injury to or infection of the facial nerve, which subsequently becomes inflamed.
	Effect:	Manifests as paralysis of facial muscles, loss of taste, difficulty chewing and the affected eye may remain open all the time.
Cerebral Palsy:	Cause:	Condition that can be congenital or caused by damage just before, during or after birth e.g. lack of oxygen. The brain is damaged permanently and can be complicated by other problems.
	Effect:	Usually there is spastic paralysis; intelligence, posture and speech may all be impaired.
M.E. (Myalgic Encephalomyelitis):	Cause:	Known as post-viral fatigue. This disease is difficult to diagnose and describe because the causes and effects differ.
	Effect:	Symptoms include exhaustion, general aches and pains, headaches and dizziness.
Motor Neurone Disease:	Cause:	Progressive degenerative disease of the motor system occurring in middle age.
	Effect:	Muscle weakness and wasting as the motor neurones in the body gradually deteriorate structurally and functionally.

Multiple Sclerosis:	<i>Cause:</i>	Also known as disseminated sclerosis. Loss of protective myelin sheath from nerve fibres in the central nervous system. Degenerative disease with exacerbations and remissions.
	<i>Effect:</i>	Muscular weakness, loss of muscular co-ordination, problems with skin sensation, speech and vision.
Neuralgia:	<i>Cause:</i>	Various causes. <i>Trigeminal neuralgia</i> is a problem with the trigeminal nerve, the sensory nerve of the face and tongue and the motor nerve supplying the muscles of the face and mastication.
	<i>Effect:</i>	Severe burning or stabbing pain often following the course of a nerve. In <i>trigeminal neuralgia</i> the side of the face loses sensation and there can be intense stabs of pain.
Neuritis:	<i>Cause:</i>	Inflammation of a nerve caused by infection, injury, poison etc.
	<i>Effect:</i>	Pain along the nerve's length and/or loss of use of the structures supplied by the nerve.
Parkinson's Disease:	<i>Cause:</i>	Progressive disease caused by damage to basal ganglia of the brain and resulting in loss of dopamine (neuro-transmitter).
	<i>Effect:</i>	Causes tremor and rigidity in muscles, as well as difficulty and slowness with voluntary movement.
Sciatica:	<i>Cause:</i>	Often caused by degeneration of the intervertebral disc.
	<i>Effect:</i>	Pain down the back and outside of the thigh, leg and foot.
Stress:	<i>Cause:</i>	Stress is any factor that affects mental or physical well-being. Emotions such as anxiety, fear and other negative feelings can affect the nervous system.
	<i>Effect:</i>	Increased heart rate, breathing difficulties, sleep disturbances and stomach problems. All of these physical effects are caused by the nervous system over-working in response to stress.
Cerebro-vascular disease:	Refers to any disorder of the blood vessels of the brain or the meninges. Most are caused by hypertension and atheroma. The damaged blood vessels rupture causing a bleed, e.g. cerebral haemorrhage or sub-arachnoid haemorrhage or a blockage such as an embolism or thrombosis.	
Cerebro-vascular accident:	Refers to a stroke – this is a cardiovascular problem leading to the blood supply of the brain being seriously disturbed. If the clot forms in a smaller artery the signs and symptoms may be minor mental lapses. If it occurs in the larger artery and bursts then the result will be paralysis and death. Recovery varies dramatically; some people who have had serious strokes respond to rehabilitation while others end up disabled for life.	

Epilepsy:	Characterised by short, recurrent periodic attacks of motor sensory or psychological malfunction. The epileptic seizures are initiated by abnormal and irregular discharges of electricity from millions of neurones in the brain probably resulting from abnormal reverberating circuits. Epileptic fits may be minor or major and are treated by drugs that interfere with the ability to stimulate neurones. There is no known cause or cure.
Lesions of the motor system:	Damage to the motor cells and fibres causing muscle weakness, muscle wasting and alterations in tone. The abnormalities depend on whether the upper motor or lower motor neurone is affected. Severity will of course, vary.
Lesions of the sensory system:	Cause loss of sensation over the area from which the particular fibres have come. There will be loss of sensation, loss of differentiation, supersensitivity and so on.
Lesions of the spinal cord:	Causes paralysis and loss of sensation in those parts of the body with their supply from nerves leaving or entering the cord below the level.
Lesions of peripheral nerves:	Involve weakness of a muscle or group of muscles accompanied by some numbness or tingling.
Tumours:	Spinal tumours are usually benign. Tumours may occur below the cord in the cauda equina causing a progressive flaccid paralysis of the legs with a loss of sensation over the buttocks and back of legs and paralysis of bladder and rectum. Recovery is possible with early surgical intervention. Cancer can metastasise to the spine i.e. secondary to the primary, which is elsewhere.
Cluster headaches:	Headaches that come on several at a time, one after the other. They are not usually one sided but can give rise to other signs and symptoms.
Migraine:	Disturbance in cranial blood vessels inside and outside the skull leading to the 'typical' one-sided headache, which is usually accompanied by visual signs and symptoms, nausea and vomiting. Migraine is usually preceded by an 'aura' – a strange smell or sensation.
Head injury:	Can affect the brain. The brain does not like being slammed around. The cushioning does help a bit but if the brain becomes inflamed, the bony protection becomes a hazard, as the swelling has nowhere to go. Pressure develops which may cause blackouts or even death.
Concussion:	Refers to a condition that presents itself with headache, confusion and amnesia and occurs after a head injury. If anyone sustains a head injury it is important to refer him or her for a medical opinion. There may be brain damage. With repeated concussion the concern is the development of tremor, dementia and epilepsy. This can be a problem with people continually getting drunk and hitting their heads.

INTEGUMENTARY SYSTEM PATHOLOGY

Skin Disorders: Massage Practitioners are in constant contact with the skin of their clients. It is therefore very important to be able to recognise skin conditions/diseases both for their own safety and that of the client.

Congenital disorders: Exists at birth, may be inherited, e.g.	
Eczema:	Common itchy skin disease characterised by reddening and vesicle formation, which may lead to weeping and crusting. It is endogenous i.e. outside agents do not play a primary role. Found all over the body, but most often on the inside of the knee and elbow joints, and on the face, hands and scalp. Not contagious.
Psoriasis:	Chronic skin disease, with no known cause, in which scaly pink patches, covered in silvery scales (that are constantly shed) form on the elbows, knees, scalp and in severe cases all over the body. Sizes of scales vary from minute spots to quite large sheets of skin. Not infectious.

Bacterial Infections: e.g.	
Acne rosacea:	Abnormal reddening of the nose and cheeks with pus-filled spots. This condition can be aggravated by anything causing vasodilation: heat, sunshine, spicy food, alcohol, cold etc. Affects both men and women, especially menopausal women. Not related to <i>acne vulgaris</i> . Not contagious.
Acne vulgaris:	Common inflammatory disorder of the sebaceous glands. Normally caused by hormonal imbalances that increase sebum production leading to blocked glands and infection. It involves the face, back, chest and shoulders, and is characterised by the presence of blackheads with papules, pustules, and, in severe cases, cysts and scars. Not contagious.
Boils:	Tender inflamed area of the skin containing pus. The infection is usually caused by bacteria entering through a hair follicle or break in the skin.
Folliculitis:	Inflammation of hair follicles in the skin, commonly caused by infection. Common in adolescence. Possible link with <i>acne vulgaris</i> .
Impetigo:	Superficial bacterial infection of the skin causing thin-roofed blisters that weep and leave a thick, yellow crust. Highly contagious.

Viral Infections: e.g.	
Herpes simplex:	Commonly known as cold sores; not confined to the mouth, can spread over the face and other parts of the body. Inflammation of the skin or mucous membranes and characterised by a collection of small blisters. Highly contagious when active.
Herpes zoster:	Commonly known as shingles, caused by the same virus as chickenpox. Usually affects spinal nerves and one side of the thorax. Highly contagious.
Verrucas:	Warts found on the soles of the feet and are often tender. Highly contagious.
Warts:	Small, horny papules on the skin, found mainly on the back of the hands. Caused by viral infection. Highly contagious.

Fungal Infections: e.g.	
Tinea corporis:	Commonly known as ringworm. An infection of the skin, scalp or nails. The lesions may be ring-like and may cause intense itching. Highly infectious.
Tinea pedis:	Commonly known as athlete's foot. A fungus infection of the skin between the toes: a type of ringworm.

Pigmentation disorders: e.g.

Albinism:	Inherited absence of pigmentation in the skin, hair and eyes, resulting in white hair and pink skin and eyes. Sufferers have poor eyesight and extreme ultraviolet sensitivity.
Chloasma:	Ill-defined symmetrical brown patches on the cheeks or elsewhere on the face. A photosensitivity reaction in women on combined oral contraceptive pills or who are pregnant.
Ephelides:	Freckles; small pigmented areas of skin which become more evident on exposure to sunlight and are found in greatest abundance on the face, arms and legs; fair skinned individuals suffer most from this condition.
Lentigo:	Liver spots; dark patches of pigmentation that appear more distinct than freckles and have a slightly raised appearance and more scattered distribution.
Moles:	Non-malignant collection of pigmented cells in the skin. Common occurrence on the face and body and present in several forms, varying in size, colour and vascular appearance. Flat moles are called sessile whilst those raised above the surface, or attached by a stalk, are pedunculated.
Naevae:	Birthmark; clearly defined malformation of the skin, present at birth. If pigmented may occur on any part of the body and are often found on the neck and face, being sometimes associated with strong hair growth. Vary in size from pinhead to extremely large, in rare cases. Pigmentation varies from light brown to black. <i>Strawberry naevae</i> (pink or red birth marks) often affect babies, eventually disappearing.
Port wine stain:	Permanent purplish discoloration that may occur anywhere, but usually on the upper half of the body. Caused by dilated capillaries.
Vitiligo:	Autoimmune disease in which there is destruction of the skin's pigment cells. Symmetrical white or pale macules appear on the skin; most obvious in darker skins.

General disorders:	
Allergic reactions:	These are often due to contact with a chemical, drug or plant and can cause inflammatory skin disorders. When irritated, the body produces histamine in the skin. This can cause red, blotchy patches on skin, watery, stinging eyes, swellings and runny nose.
Broken capillaries:	Dilated capillaries on a fine skin texture often affecting large areas of the face. The skin responds fiercely to stimulation and permanent dilated vessels are apparent, particularly on the upper cheeks and nose. Ruptured blood vessels assume a line-like appearance in surface tissues and can become bulbous and blue in colour due to the congestion in the blood vessels of the area.
Comedones:	Blackhead; plug formed of fatty material in the outlet of a sebaceous gland in the skin. Colour comes from oxidation. Common in puberty.
Crow's feet:	Fine lines around the eyes caused by habitual expressions and daily movement, associated with ageing of muscle tissue. Premature formation may be due to eyestrain and is often associated with oedema around and under the eyes.
Dermatitis:	An inflammatory condition of the skin caused by outside agents, commonly known as contact dermatitis. Characterised by redness of the skin, itching and various skin lesions. Not contagious.
Keloids:	Abnormally large and protruding scars.
Milia:	Whiteheads; white nodule in the skin, particularly on the face. Form when sebum becomes trapped in a blind duct with no surface opening. Most common on dry skin and milia appear on the obicularis oculi muscle area and between the eyebrows. Can form after injury, e.g. sunburn on the face or shoulders, and are sometimes widespread.
Rosacea:	Abnormal reddening of the nose and cheeks with pus-filled spots.
Striae:	Stretch marks.

Sunlight disorders:	These include skin cancer, sunburn, prickly heat (rash due to blockage of the sweat glands), and photosensitivity (abnormal reaction to sunlight often resulting in a skin rash)
Urticaria:	Hives, nettle rash; itchy rash resulting from the release of histamine by mast cells. Individual swellings (pinkish colour, caused by extreme dilation of capillaries) appear rapidly and resolve spontaneously within hours. Can lead to secondary infection by bacteria through scratching.
UV damage:	UV rays stimulate rapid production of basal cells. This causes the stratum corneum to thicken. Overexposure to UVA may cause premature ageing and overexposure to UVB may cause skin cancer.

Skin cancer: may be benign or malignant. **Wart-like growths are extremely common.** Pre-malignant lesions or abnormalities such as red rough patches may occur, mainly on the head and the back of the hands. It is caused by excessive exposure to sunlight and contraindicated for massage because of the risk of spreading it.

Basal cell carcinoma:	Cancer associated with cells in the lowest skin layer. The skin develops nodules or shallow ulcers with raised edges. Occurs on exposed parts of the skin, especially face, nose, eyelids and cheeks. It is the least malignant skin cancer.
Squamous cell carcinoma:	Cancer associated with cells in the upper skin layers. Said to be caused by sunlight, chemicals or physical irritants. This cancer consists of a swelling, that may resemble a wart or ulcer, that grows rapidly.
Malignant melanoma:	Cancer of the pigment-producing cells (melanocytes). Usually develops in a previously benign mole. The mole becomes larger and darker, ulcerated and the tumour eventually spreads. Most malignant skin cancer.

ENDOCRINE SYSTEM PATHOLOGY

Addison's Syndrome:	<i>Cause:</i>	Hyposecretion of adrenocortical hormones (sex, growth and salt regulation hormones).
	<i>Effect:</i>	Muscular atrophy and weakness; hypotension; gastric problems like vomiting; changes in skin pigmentation; irregular menstrual cycle; and dehydration.

Cushing's Syndrome:	<i>Cause:</i>	Hypersecretion of adrenocortical hormones (sex, growth and salt regulation hormones). Opposite of <i>Addison's</i> .
	<i>Effect:</i>	Muscular atrophy and weakness; hypertension; moon-shaped face; redistribution of body fat; sometimes mental illness; and osteoporosis.

Diabetes Insipidus:	<i>Cause:</i>	Rare metabolic disorder due to a deficiency of the pituitary hormone which regulates reabsorption of water in the kidneys, vasopressin.
	<i>Effect:</i>	Production of large quantities of dilute urine with a constant thirst. Treated by administration of the hormone.

Diabetes Mellitus:	<i>Cause:</i>	Disorder of carbohydrate metabolism in which sugars in the body are not oxidised to produce energy due to lack of the pancreatic hormone, insulin. Diabetes Mellitus can be congenital or acquired and may occur in later life. It is thought to be on the increase as a result of excess sugar consumption.
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	<i>Effect:</i>	Accumulation of sugar leads to its appearance in the blood, then in the urine. If there is not enough insulin the blood contains too much sugar, fat is burnt instead and this is dangerous. Symptoms include thirst, loss of weight, and excessive production of urine. Convulsions and death will ensue in untreated cases.
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Stress:	<i>Cause:</i>	Any factor which affects physical or mental well-being.
	<i>Effect:</i>	Stress is a threat to the body and the body responds to it like any other danger – the adrenal medulla releases adrenaline and noradrenaline to help us with the fight or flight response. The physical manifestations of the arrival of adrenaline in the body are faster heart rate and breathing, sweating (hence sweaty palms when we are frightened or nervous), a glucose rush from the liver and heightened senses (like hearing and sight). Prolonged stress may cause amenorrhoea in women and low production of sperm in men.

RESPIRATORY SYSTEM PATHOLOGY

Asthma:	<i>Cause:</i>	Condition commonly caused by a hypersensitivity (allergic) reaction to foreign substances in the respiratory tract, e.g. pollen.
	<i>Effect:</i>	The walls of the bronchioles swell, the cells lining the tubes secrete abnormal, increased amounts of mucus and the smooth muscles in the tubes contract. As this happens breathing becomes more and more difficult. Signs/symptoms include wheezing, shortness of breath.

Status asthmaticus (severe acute asthma) is a medical emergency. It manifests as excessive wheezing affecting speech, exhaustion, dyspnoea, restlessness, and a pulse rate of over 110 per minute in an adult.

DANGER SIGNS – pale, clammy, cyanosis, prolonged asthmatic attack, non-response to inhalers. This is an emergency condition and must be treated in hospital without delay.

Bronchitis:	<i>Cause:</i>	Inflammation of the bronchial lining by infection or irritant, e.g. smoking.
	<i>Effect:</i>	Acute bronchitis will manifest with a fever depending on the severity as well as respiratory signs and symptoms – cough, dyspnoea, and pain. Chronic bronchitis manifests very similarly to emphysema .

Emphysema:	<i>Cause:</i>	Progressive degenerative disease associated with inhaling irritants, tobacco smoke and polluted air. It occurs more in the elderly.
	<i>Effect:</i>	Alveoli stretch and lose their elasticity. This prevents effective breathing, causing cough, shortness of breath, and wheezing.

Hay Fever:	<i>Cause:</i>	Allergic rhinitis caused by allergy to certain pollens.
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	<i>Effect:</i>	Symptoms include sneezing, runny nose and eyes and sometimes swelling/itching.
Pleurisy:	<i>Cause:</i>	Inflammation of the pleural lining; fluid may develop in the pleura; often associated with pneumonia.
	<i>Effect:</i>	Localised chest pain, shortness of breath, and cough.
Pneumonia:	<i>Cause:</i>	Inflammation of the lung tissue caused by bacteria/ infection where the alveoli become inflamed and the lung consolidates.
	<i>Effect:</i>	Lungs fill with fluid causing cough, fever, fatigue, headache, and chest pain (dyspnoea). Can be fatal.
Rhinitis:	<i>Cause:</i>	Colds, flu, hay fever and sinus infections.
	<i>Effect:</i>	Stuffy, congested nose and sinuses.
Sinusitis:	<i>Cause:</i>	Inflammation of sinuses, often following respiratory infection.
	<i>Effect:</i>	Causes headaches and facial pain.
Stress:	<i>Cause:</i>	Any factor that affects mental or physical well-being.
	<i>Effect:</i>	Breathing rate increases; may result in breathing difficulties.
Tuberculosis:	<i>Cause:</i>	Disease caused by bacteria, inhaled or eaten (in infected meat or milk).
	<i>Effect:</i>	Symptoms include cough, night sweats and fever. BCG injections are used to vaccinate against it.
Bronchiolitis:	Inflammation of the lining of the bronchioles – which is more common in babies	
Cancer of the lung:	Abnormal cells grow in an uncontrolled fashion (as with all cancers) and cause the death of normal cells by crowding them out and depriving them of oxygen and nutrients. Tumours obstruct air passages and reduce the amount of alveolar surface available for gas exchange. The most common primary lung cancer originates in the epithelial cells that line the tubes of the bronchial tree but it is also very common to find secondary lung cancer that has spread from a primary elsewhere e.g. breast. Lung cancer very easily metastasises due to the many tissues involved.	
Chronic Obstructive Airways Disease:	Diseases that produce obstruction of air flow to the respiratory system. The spectrum ranges from pure obstructive airway disease with the presence of bronchitis but no emphysema, through various combinations to severe emphysema without significant bronchitis.	
Cor pulmonale:	Right side of the heart becomes strained because the blood it pumps to the lungs cannot flow freely through the capillaries in the lungs.	
Laryngitis:	Inflammation of the lining of the larynx.	
Paralysis of respiratory muscles:	Caused by a brain or spinal nerve injury or as a result of poliomyelitis. Sometimes other muscles can compensate but if not, artificial mechanical breathing devices are required.	

Pharyngitis:	Inflammation of the lining of the pharynx.
Pneumothorax:	Entrance of air into the space between the pleural membranes followed by collapse of the lung.
Pulmonary embolism:	Clot in the pulmonary artery that may cause death. A smaller embolus will lead to an infarction – where the artery to a bronchopulmonary segment is blocked. Most emboli originate from thrombi in the proximal deep veins of the lower extremities. Treatment consists of an intravenous anti-coagulant – heparin or oral warfarin.

The role of the Massage Practitioner in respiratory pathology:

It is not in our remit to diagnose, so if a client presents with breathing difficulties ask him/her about them. It may well be necessary to refer before you treat. **Always err on the side of safety.**

DIGESTIVE SYSTEM / GASTRO-INTESTINAL PATHOLOGY

Anorexia Nervosa:	<i>Cause:</i>	Chronic disorder characterised by self-induced weight loss by starvation. It is a psychological condition where the cause is unknown and sufferers of this condition need a lot of support, as their self-image is often poor. They see themselves as fat even though they may be dangerously thin, and refuse to eat very much or stop eating altogether. It is most common in single, young females.
	<i>Effect:</i>	This results in malnutrition. They often over-exercise and use laxatives, which worsens the fluid, electrolyte and nutrient deficiencies. Depression and osteoporosis are also associated with anorexia. It can be extremely debilitating and sometimes fatal.
Appendicitis:	<i>Cause:</i>	Acute inflammation of the appendix.
	<i>Effect:</i>	Treated by removal of the organ. If it ruptures then the contents of the large intestine may enter the abdominal cavity causing a life threatening infection of the peritoneum – peritonitis .
Bulimia:	<i>Cause:</i>	Binge-purge cycle that becomes addictive and is also associated with psychological problems. Treatment needs to include counselling.
	<i>Effect:</i>	This condition upsets the delicate balances of electrolytes as well as affecting dental enamel, oesophageal mucosa, hormones and increasing susceptibility to flu and other infections.
Cirrhosis of the liver:	<i>Cause:</i>	The liver's own cells are replaced with connective tissue. Usually caused by alcohol, drug, viral infections, certain metabolic disorders, abuse, chronic hepatitis or biliary cirrhosis. Alcohol has a direct toxic effect on the liver.
	<i>Effect:</i>	Signs and symptoms include portal hypertension (which can also cause oesophageal varices), blood disorders, ascites, circulatory changes and jaundice. Nothing can reverse cirrhosis.

Constipation:	<i>Cause:</i>	Lack of fibre in the diet, lack of fluids and lack of exercise. Sometimes caused by stress.
	<i>Effect:</i>	Infrequent or uncomfortable bowel movements, causing hard faeces to block the rectum.

Gall Stones:	<i>Cause:</i>	Stones formed from residues of bile pigments, cholesterol and calcium, found in the gall bladder. Cause is unknown and again there have been links to diet and drugs.
	<i>Effect:</i>	Obstructions, can occur in the common bile duct, otherwise they are often asymptomatic but can cause colic and inflammation. Ultrasound and drugs can be used to dissipate them, or surgery may be necessary.

Heartburn:	<i>Cause:</i>	Back flow and regurgitation of acidic stomach contents.
	<i>Effect:</i>	Burning sensation in oesophagus or throat.

Hernia:	<i>Cause:</i>	Protrusion of an organ or tissue out of the body cavity in which it normally lies.
	<i>Effect:</i>	May be complicated by becoming impossible to return to their normal site; swollen and fixed within their sac; or cut off from their blood supply, becoming painful and eventually gangrenous. Best treatment is surgical repair.

Irritable Bowel Syndrome (IBS):	<i>Cause:</i>	No exact cause is yet known though stress and low-fibre, high-fat diets are said to contribute. It is often linked to such conditions as fibrositis and fibromyalgia.
	<i>Effect:</i>	Symptoms include stomach and bowel pain, with the absence of inflammation, and alternate bouts of diarrhoea and constipation. Cramping and excess mucus in the stools, flatulence, abdominal distension, nausea, fatigue, headaches and loss of appetite are all associated with this diagnosis.

Jaundice:	<i>Cause:</i>	Malfunctioning gall bladder or obstructed flow of bile.
	<i>Effect:</i>	Characterised by yellowing of the skin, whiteness of eyes, mucous membranes and body fluids because of a build up of bilirubin, and is a sign of liver disease.

Stress / Ulcers:	<i>Cause:</i>	Anxiety and lack of relaxation cause overproduction of gastric juices.
	<i>Effect:</i>	If gastric juices have nothing to work on they will start to attack the lining of the stomach or other structures. Most common effect of stress on the digestive system is ulcers, erosions in the walls of the digestive system, often caused by too much acid.

Cancer of the bowel:	<p>On the increase probably due to diet and constipation as well as depressed immunity. Treatment is usually surgery – a colostomy may be performed. It is worth noting that colon cancer is the most common and forms the third highest incidence of cancer death.</p> <p>A predisposing factor in colonic cancer is a low fibre, highly refined carbohydrate diet. Colonic cancer is 10 times more common in Western populations. In Africa, for example, there are fewer incidences due to the intake of foods high in roughage.</p>
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Coeliac disease:	<p>Autoimmune disorder of malabsorption due to intolerance to gluten. The longer a baby is breast fed the better and the less likelihood there is of developing this disease which has a myriad of signs and symptoms which mimic inflammatory bowel conditions and IBS.</p>
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Colitis:	Inflammation of the colon.
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Diverticulitis:	Inflammation of small pouches that sometimes form in the lining and wall of the colon. This tends to affect older people and can cause pain and constipation.
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Enteritis:	Inflammation of the intestine.
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Gastritis:	Inflammation of the stomach.
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Gingivitis:	Inflammation of the gums.
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URINARY SYSTEM PATHOLOGY

Cystitis:	<i>Cause:</i>	Inflammation of the bladder, sometimes caused by infections.
	<i>Effect:</i>	Causes pain when urinating. Very common in women, due in part to the shorter length of the female urethra.

Glomerulonephritis (Pyelonephritis):	<i>Cause:</i>	Interstitial inflammation of one or both kidneys, caused by a bacterial infection.
	<i>Effect:</i>	In acute cases, there is pain in loins, high temperature, and shivering fits. In chronic cases, the kidneys become small and scarred and kidney failure ensues.

Kidney stones:	<i>Cause:</i>	Deposits of substances found in urine that form solid stones within the renal pelvis, bladder or ureters.
	<i>Effect:</i>	Extremely painful and often removed by surgery.

Nephritis (Bright's Disease):	<i>Cause:</i>	Inflammation of the kidney, resulting from causes other than infection.
	<i>Effect:</i>	In acute cases, there is blood in the urine, and fluid and urea retention that may lead to chronic nephritis and eventual kidney failure.

Enuresis:	Bedwetting at night; may be due to faulty training but more likely to be caused by an emotional upset or possible physical cause.
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Glomerulonephritis:	Inflammation of the kidney that involves the glomeruli.
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Nephroblastoma:	Carcinoma of the kidneys.
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Pyelitis:	Inflammation of the kidney, pelvis and calyces.
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Renal Failure:	Acute:	Cessation of glomerular filtration. This can occur as a result of shock, e.g. after severe bleeding. Decrease in urination occurs. May also occur due to acute obstruction of ureters and a reaction to certain drugs.
	Chronic:	Progressive, generally irreversible, decline in glomerular filtration rate resulting from chronic glomerulonephritis, pyelonephritis etc.
Uraemia:	Toxic condition of the blood due to severe malfunction of kidneys.	
Urethritis:	Inflammation of the urethra.	
Urinary tract infection (UTI):	Either an infection of part of the urinary system or the presence of large number of microbes in urine.	

REPRODUCTIVE SYSTEM PATHOLOGY

Amenorrhoea:	Cause:	Hypersecretion of testosterone in females, other hormonal imbalances, stress, radical weight loss, anaemia or excessive exercise.	
	Effect:	Absence or stopping of menstrual periods.	
Dysmenorrhoea:	Cause:	Spasm or congestion of the uterus, imbalance in hormones or emotional disturbances, of which there are two forms: spasmodic and congestive. Causes of congestive include:	
		<i>Pelvic Inflammatory Disease (PID):</i>	<i>bacterial infection of the pelvic organs.</i>
		<i>Endometriosis:</i>	<i>growth of uterine tissue outside the uterus.</i>
	Effect:	Painful and difficult menstruation.	
Cancer:	Cause:	Development of malignant cells, occurring in breasts, ovaries, cervix, testes and/or prostate gland.	
	Effect:	Invasion and destruction of surrounding tissues by tumour, with subsequent spread of cancer cells.	
Ectopic pregnancy:	Cause:	Pregnancy that occurs outside the uterus. A fertilised ovum may develop inside the Fallopian tube instead of traveling to the uterus.	
	Effect:	Danger of haemorrhage and death.	
Pre-menstrual syndrome:	Cause:	Onset of menstruation. Usually occurs about one week before.	
	Effect:	Depression, irritability, bloating and water retention, swollen and tender breast tissue, and restlessness.	
Polycystic ovarian syndrome:	Cause:	Hyposecretion of female sex hormones (luteinising hormone)	
	Effect:	Irregular menstrual cycle, multiple growth of follicular ovarian cysts and sometimes infertility, enlarged ovaries, 50% of patients are obese and become hairy; age range of sufferers is usually 16-30.	
Benign Prostatic Hyperplasia (BPH):	Enlargement of the prostate gland; can give urinary signs and symptoms. Important to follow through concerns in this area with older men.		

Infertility:	Male:	Inability of the male's sperm to fertilise an ovum.
	Female:	Inability of the female to conceive.
Ovarian cysts:	Benign tumours that contain fluid.	
Prostatitis:	Inflammation of the prostate gland.	
Sexually Transmitted Diseases (STD):	Include gonorrhoea, syphilis, genital herpes, chlamydia, trichomoniasis and genital warts.	
Toxic Shock Syndrome:	Widespread homeostatic imbalances in reaction to staphylococcus aureus.	
Vulvovaginal candidiasis:	Form of vaginitis caused by the yeast-like fungus candida albicans.	