



CMScript

*Member of a medical scheme?
Know your guaranteed benefits!*

Issue 4 of 2014

In this issue of CMScript we focus on exposure to the elements. This is the second part of a two-part series focusing on exposure to the elements. Conditions related to exposure to the elements are prescribed minimum benefit or PMB conditions. Medical schemes are required to fund the benefits prescribed in the Medical Schemes Act. The PMB regulations protect members against medical costs incurred as a result of such events. The regulations include cover for life-threatening conditions due to exposure to elements such as lightning strikes. Life-threatening is defined as any condition that is harmful, destructive, or dangerous to human life.

PART TWO:

What is included in this PMB category?

The specific PMB category for these life-threatening conditions is comprehensive and includes all types of exposure to the elements of nature. The conditions discussed in this two-part article are, however, most common.

Drowning and effects of non-fatal submersion

Drowning occurs when the lungs fill with liquid that stops the intake of oxygen. Non-fatal submersion or near drowning occurs where the person was submersed but did not die due to a lack of oxygen. Non-fatal drowning causes hypoxia (decrease in the oxygen that reaches body tissue) and can damage multiple organs including the brain, heart and lungs.

Hypoxia causing brain damage is the major complication in drowning victims who do not die. Damage to the lung tissue can lead to pneumonia and acute respiratory distress syndrome (ARDS). Hypothermia may occur in colder water that causes the body temperature to drop below 35°C.

Fractures of the spine may also occur specifically in diving injuries. Swallowing large quantities of fresh water can decrease your electrolyte concentration and increase blood volume. This may lead to haemolysis (rupture or destruction of red blood cells).

Diagnoses

Diagnostic tests will include arterial blood gasses to check the oxygen saturation levels and electrolyte levels. A chest X-ray is undertaken to check injury to the lungs. If any other injury to the spine is suspected or if the patient had changes to consciousness and mental alertness, a CT scan of the head and spine is indicated. Monitoring of the cardiac and renal function is also important. If the patient swallowed any water bacterial pneumonia should be evaluated with blood cultures.



<http://www.cler.com/clipart-82074.html>

Treatment

Treatment focuses on restoration of breathing and cardiac function. This may include ventilation therapy and oxygen therapy. Restoration of electrolytes is rarely indicated but blood test will determine whether such treatment will be used or not. Treatment of infections such as pneumonia will involve antibiotic therapy. Severe brain damage due to a lack of oxygen may require physical rehabilitation such as physiotherapy and speech therapy.

Radiation

Radiation is a type of energy. All people are exposed to small amounts of radiation every day from sources such as sunlight. Radiation may also occur during medical treatment or occupational functions. Exposure can therefore be accidental or intentional. A radiation emergency involves the patient being exposed to larger amounts of radiation. Radiation exposure can occur as a single large exposure (acute), or as a series of small exposures over time (chronic).

Radiation sickness is generally associated with acute exposure and has a characteristic set of symptoms that appear in an orderly fashion. Chronic exposure is usually associated with delayed medical problems such as cancer and premature aging, which may happen over a long period of time.

Symptoms

Radiation sickness, known as acute radiation syndrome (ARS), is a serious illness that occurs when most of the body receives a high dose of radiation, usually over a short period of time. The first symptoms of ARS typically are nausea, vomiting, and diarrhoea. These symptoms will start within a few minutes to a few days after the exposure. The symptoms may last for a short period such as minutes or long periods up to several days. The patient will possibly look and feel healthy for some time afterwards but will then become sick again and suffer from a loss of appetite, fatigue, fever, nausea, vomiting, diarrhoea, and possibly even seizures and coma. Apart from radiation sickness the affected individual may also have suffered burn injuries.

Diagnosis

Diagnostic tests may include blood tests to check for decreased white blood cells and any abnormal changes in the DNA structure of the blood cells. This will indicate the degree of damage to the bone marrow. A dosimeter can be



used to measure the dose of radiation that was absorbed but this can only be done if the meter was exposed to the same event. A device such as a Geiger counter will be used to determine the location of radioactive particles on the body.

Treatment

Treatment of radiation sickness involves prevention of further contamination, decontamination and treatment of life-threatening injuries such as severe burns. Treatment with a protein named granulocyte colony-stimulating factor may increase white blood cell production and help prevent subsequent infections and may oppose the effect of radiation sickness on the bone marrow. Blood transfusions may be required in cases of severe bone marrow damage.

Treatment for internal radiation may include the provision of potassium iodide, Prussian blue and Diethylenetriamine pentaacetic acid (DTPA). Burn wounds are treated as per the burn protocol.

Lightning and electric shock

Lightning strikes cause an electric current to run through the body. Lightning strikes can injure the human body in different ways.

A direct strike causes massive quantities of energy to pass through the body. This can cause internal burns, injury to the flesh and bones and damage to the nervous system. Direct lightning strikes are often fatal or cause impairment. Contact injuries occur when you touch an object that was electrified by a lightning strike. A side splash occurs when the primary flash branches out and hits a person. Blast injuries occur when you are thrown by the force from the shock wave and suffer blunt force trauma.

Indirect strikes occur when charges on the earth surface race towards the flash channel and find a better conductor than the ground. People and animal legs are usually a better conductor and the electricity passes through the body. This type of strike causes more injuries and casualties than any other type of strike.

Lightning strikes cause burns in less than one third of affected people. The main medical problems that occur are due to cardiac and respiratory arrest, spasm of the vascular system and damage to the nervous system.

Medical conditions and complications that may occur after a lightning strike include the formation of cataracts, chronic pain syndrome, brain damage (neurocognitive problems) such as short-term memory loss, difficulty in assessing new information, personality changes, attention shortfalls or the loss of the ability to multitask. Depression, dizziness, sleep disorders, concussion type symptoms and seizure disorders may also occur. Injury to the cardiac system may result in chronic cardiac disease such as hyperten-

sion that is still present after 72 hours will be provided. Other treatment is symptomatic such as pain management and rehabilitation for brain damage patients must be undertaken. Rehabilitation will include speech therapy, occupational therapy and physiotherapy if indicated.

References

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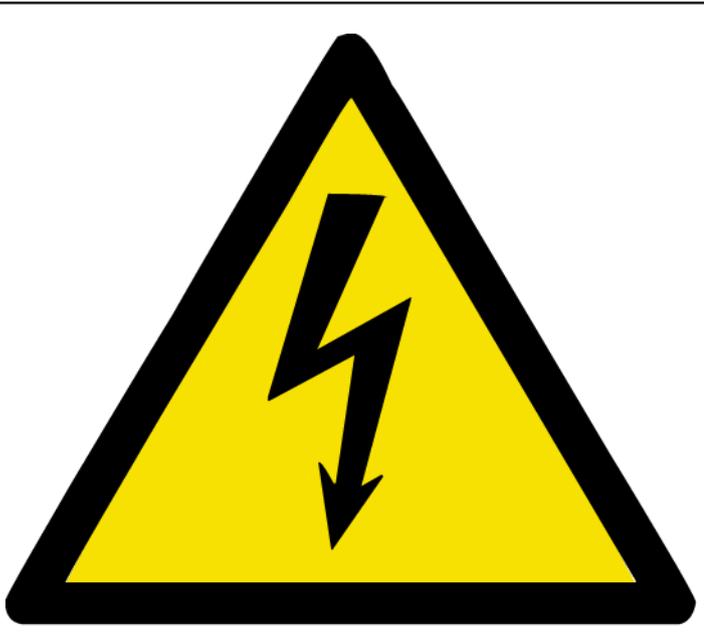
PMBs

Prescribed minimum benefits (PMBs) are defined by law. They are the minimum level of diagnosis, treatment, and care that your medical scheme must cover – and it must pay for your PMB condition/s from its risk pool and in full. There are medical interventions available over and above those prescribed for PMB conditions but your scheme may choose not to pay for them. A designated service provider (DSP) is a healthcare provider (e.g. doctor, pharmacist, hospital) that is your medical scheme's first choice when you need treatment or care for a PMB condition. You can use a non-DSP voluntarily or involuntarily but be aware that when you choose to use a non-DSP, you may have to pay a portion of the bill as a co-payment. PMBs include 270 serious health conditions, any emergency condition, and 25 chronic diseases; they can be found on our website by accessing the link provided (www.medicalschemes.com/medical_schemes_pmb/index.htm).

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sion, heart failure, dysrhythmia and respiratory problems.

Diagnoses

Pathology test that may be performed on people admitted to the hospital include checking of the electrolyte levels, blood urea nitrogen testing and creatinine level evaluation. An electrocardiogram (ECG) may be performed to examine possible injury to the heart.

Routine imaging such as X-rays are not necessary. Radiology tests will only be done if there is a suspected fracture after blunt force trauma or if the patient lost consciousness or presents with confusion or clouded consciousness. In these cases a CT scan or MRI scan of the head is indicated to rule out brain bleeding.

Treatment is focused on resuscitation and ensures adequate ventilation. Treatment of cardiac problems such as