

## Medical assessment

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Brigadesmen need to be fit and healthy. You will be required to pass a medical assessment as well as a functional assessment. Both assessments are managed by CS Health and have been developed based on meeting the standard physical requirements of professional Australian mines rescue organisations.

These assessments are typically managed within the one day at CS Health's office and take up to two and a half hours. At your assessment, you will be provided with a referral to your local pathology lab for an Electrocardiogram (ECG) test and Hepatitis B screening at no additional cost.

The medical assessment consists of two parts. The first part of the assessment will involve a nurse taking information including:

- Height and weight
- Blood pressure and pulse
- Cholesterol (by finger prick test), urinalysis, audiometry and spirometry.

The second part involves seeing the CS Health Medical Practitioner for a detailed medical history and medical examination. The examination focuses on assessing your ability to undergo the functional assessment, based on your data collected.

Provided the Doctor is satisfied you are fit enough to attend the functional assessment, i.e. there are no issues with elevated blood pressure, unmanaged diabetes etc., you will move straight into the functional assessment.

### ECG and Hepatitis B immunisation

ECG testing measures the electrical activity in the heart and can identify abnormalities that may not be detected in an ordinary medical examination. Given the potentially strenuous conditions you may be exposed to in this role, ECG testing is an important screening step to make sure you will not be exposed to any unnecessary health risk.

A resting ECG will be taken in this initial recruitment period, again at 40 years of age and every five years after

If the ECG screening shows an abnormality, you will be referred back to your GP for further advice and referral to a cardiologist. Your cardiologist will be able to review your results in more detail, which may require some further investigation. Your cardiologist will be required to approve your commencement of Brigadesmen duties by referring to the medical standard as supplied by CS Health.

It is also recommended that members of emergency response organisations are immunised for Hepatitis B. If you know you have already been immunised for Hepatitis B, we require evidence of the three vaccinations. If you are unable to provide evidence, CS Health will organise a time that suits you to give you the immunisation onsite at their local office. There will be no direct charge to you for the series of three injections (initial injection, one month later and six months later again).

The ECG testing and Hepatitis B blood testing will be done at a designated local pathology clinic and should only take around half an hour. A CS Health Medical Practitioner will complete the necessary paperwork during your assessment, so these tests can be done straight after your medical assessment and functional capacity evaluation.

Following your commencement as a Brigadesman, Mines Rescue will also provide support in the form of a health and fitness consultation. If you are referred by CS Health for specialist advice, Mines Rescue recognises that this will incur additional medical expenses and will refund those costs if there is no medical condition found.

## Medical conditions

Brigadesmen activities may expose you to high physical and emotional demands including:

- Lengths of sustained exertion
- Heavy lifting
- Awkward postures
- Hot and humid environments
- Poor visibility
- Atmospheres requiring breathing apparatus

These environmental conditions are well beyond those that an ordinary miner should be exposed to. Deployment times may be unpredictable which affects your opportunity to eat, drink and take medication.

There are specific medical conditions which are generally considered to be incompatible with the duties of a Mines Rescue Brigadesman. Certain medical conditions may inhibit the ability of a person to perform the role of a Brigadesman safely. Candidates identified with health conditions contained in the following list may require further assessment and medical testing.

Medical Heart Disease – includes conditions such as past heart attack, ischemic heart disease, rhythm abnormalities and ECG abnormalities.

Severe hypertension – blood pressure treated or untreated of 160/100 or greater.

Stroke or TIA – any condition that may affect the blood supply to the brain or otherwise affect normal brain function.

Peripheral vascular disease – arterial disease restricting blood flow to the limbs impairing their function.

Asthma or emphysema or other lung disease – the need to use breathing apparatus in a toxic atmosphere can prevent the administration of asthma medication if suddenly required. Any other lung condition that restricts the ability to breathe (such as emphysema) or makes using breathing apparatus potentially dangerous (such as a history of a collapsed lung).

Diabetes – diabetes requiring medication to control blood glucose that has a risk of causing hypoglycemia. The operational requirements and possible use of breathing apparatus in a toxic atmosphere may prevent the treatment of a hypoglycemic episode. Diabetes may also cause heart disease and vascular conditions, which may also be important.

Epilepsy – early childhood seizures (< 11 years) without recurrence may be compatible with rescue duties, but is otherwise unlikely to be. Specific specialist assessment would normally be required to proceed.

Musculoskeletal conditions that restrict use of joints or affect muscle or bone strength – any condition that restricts your ability to lift and carry objects or traverse uneven ground under load. Previous joint surgery including joint replacement and reconstructive surgery (such as an ACL reconstruction) may require further information from the treating specialist on whether undertaking full rescue duties is advisable and if so, after what time period. Any bone or joint condition that significantly increases the risk of fracture or injury (such as osteoporosis). Joint conditions causing instability such as recurrent dislocation of the shoulder.

Pregnancy – strenuous exertion in hot environments, which may occur in rescue situations may raise core body temperature. This is potentially harmful to the foetus and should be avoided. Pregnancy may also reduce cardiovascular endurance and eventually will impair mobility.

Significant problems with vision or hearing – this is a safety critical role and generally recognised standards for vision and hearing in such workers are applied.

Morbid obesity – obesity impairs the ability of the body to regulate its core temperature making the person more vulnerable to heat stress and heat injury. Obesity may limit the ability to access confined spaces and pose a risk to others if rescue becomes necessary. There is no fixed limit, but a body weight over 110kg is likely to be increasingly affected by these issues

### CS Health medical categories

The following list is a more extensive list of clinical conditions designed to be used by Medical officers to guide the decision making process.

Category A conditions are more likely to seriously impair a Brigadesman’s ability to perform their duty safely and further specialist assessment and information would normally be required.

Category B conditions will normally require further medical information, but further specialist assessment may not always be required.

You are best to contact your local CS Health office to discuss any specific questions, confidentially with one of the health professionals, before attending your medical assessment.

Category A	Category B
<p><b>Cardiovascular</b></p> <ul style="list-style-type: none"> <li>• Ischemic heart disease</li> <li>• Congestive cardiac failure</li> <li>• Cardiomyopathy</li> <li>• Heart block</li> <li>• Implanted pacemaker</li> <li>• Implanted defibrillator</li> <li>• Symptomatic valvular heart disease</li> <li>• Absolute cardiovascular risk <math>\geq</math> 15% in 5 years</li> <li>• Resting BP <math>\geq</math> 160/100</li> </ul>	<p><b>Cardiovascular</b></p> <ul style="list-style-type: none"> <li>• Surgically treated ischemic heart disease</li> <li>• Post myocardial infarction</li> <li>• Possible metabolic syndrome</li> <li>• Heart block</li> <li>• Absolute cardiovascular risk &gt; 10% in 5 years</li> <li>• Asymptomatic arrhythmias</li> <li>• Anticoagulants</li> </ul>
<p><b>Respiratory</b></p> <ul style="list-style-type: none"> <li>• Mild persistent, moderate and severe asthma COAD</li> <li>• Recurrent pneumothorax or pneumothorax within 6 weeks</li> <li>• Lung cancer</li> <li>• Pulmonary tuberculosis</li> </ul>	<p><b>Respiratory</b></p> <ul style="list-style-type: none"> <li>• Mild intermittent asthma</li> <li>• Mild exercise induced asthma</li> <li>• FEV1 or FVC &lt; 70% of predicted value</li> <li>• FEV1/FVC ratio &lt; 70%</li> </ul>
<p><b>Neurological</b></p> <ul style="list-style-type: none"> <li>• Epilepsy</li> <li>• Unexplained syncope</li> <li>• Cerebrovascular event with neurological deficit</li> <li>• TIA</li> <li>• Any significant or progressive condition affecting cognitive function, balance or neuromuscular function</li> </ul>	<p><b>Neurological</b></p> <ul style="list-style-type: none"> <li>• Isolated seizure</li> <li>• Epilepsy with seizure free period off medication of over 5 years and no evidence of epileptic-form activity on EEG</li> <li>• Cerebrovascular event with minimal residual deficit and correction of underlying cause</li> <li>• History of severe head injury</li> <li>• Peripheral neuropathy</li> <li>• Peripheral nerve injury</li> <li>• Clinical pain syndrome</li> </ul>

<p><b>Hearing and vestibular</b></p> <ul style="list-style-type: none"> <li>• Does not meet unconditional hearing standard for a commercial driver</li> <li>• Recurrent vertigo</li> </ul>	<p><b>Hearing and vestibular</b></p> <ul style="list-style-type: none"> <li>• Severe unilateral loss of hearing</li> <li>• Current suppurating ear disease</li> <li>• Perforated tympanic membrane</li> </ul>
<p><b>Vision</b></p> <ul style="list-style-type: none"> <li>• Loss of vision in one eye less than 6 months</li> <li>• Diplopia</li> </ul>	<p><b>Vision</b></p> <ul style="list-style-type: none"> <li>• Loss of vision in one eye greater than 6 months</li> <li>• Visual field defect</li> <li>• Unaided binocular distant vision less than 6/9</li> <li>• Unaided near vision less than N10</li> </ul>
<p><b>Gastrointestinal and Genitourinary</b></p> <ul style="list-style-type: none"> <li>• Abdominal hernia</li> <li>• Abdominal or pelvic malignancy</li> <li>• Abdominal or pelvic malignancy</li> <li>• Pregnancy</li> <li>• Renal failure with GFR &lt; 60</li> <li>• Renal calculi</li> </ul>	<p><b>Gastrointestinal and Genitourinary</b></p> <ul style="list-style-type: none"> <li>• Active peptic ulcer</li> <li>• Inflammatory bowel disease</li> <li>• Active diverticular disease</li> <li>• Active hepatobiliary disease</li> <li>• History of pancreatitis</li> <li>• Single kidney</li> </ul>
<p><b>Hematological</b></p> <ul style="list-style-type: none"> <li>• Active leukemia or lymphoma</li> <li>• Anemia – Hb &lt; 10</li> <li>• Polycythemia</li> <li>• Thrombocytopenia</li> </ul>	<p><b>Hematological</b></p> <ul style="list-style-type: none"> <li>• Blood malignancies following treatment</li> <li>• Mild anemia</li> </ul>
<p><b>Endocrine</b></p> <ul style="list-style-type: none"> <li>• Insulin dependent diabetes</li> </ul>	<p><b>Endocrine</b></p> <ul style="list-style-type: none"> <li>• Diabetes requiring oral hypoglycemia medication</li> <li>• Disorders of thyroid, adrenal or pituitary gland</li> <li>• Systemic steroid use</li> </ul>
<p><b>Musculoskeletal</b></p> <ul style="list-style-type: none"> <li>• Any condition limiting movement, strength or coordination of one or more of the four limbs or back</li> <li>• Artificial joint replacement</li> <li>• Facial characteristics preventing a good seal with a SCBA face piece</li> </ul>	<p><b>Musculoskeletal</b></p> <ul style="list-style-type: none"> <li>• Mild intermittent asthma</li> <li>• Mild exercise induced asthma</li> <li>• FEV1 or FVC &lt; 70% of predicted value</li> <li>• FEV1/FVC ratio &lt; 70%</li> </ul>

<p>Psychiatric</p> <ul style="list-style-type: none"> <li>• Schizophrenia or other psychiatric condition with psychotic episodes in spite of treatment</li> <li>• Drug or alcohol dependence</li> <li>• Claustrophobia</li> </ul>	<p>Psychiatric</p> <ul style="list-style-type: none"> <li>• Schizophrenia</li> <li>• Bipolar disorder</li> <li>• Major depression</li> <li>• Anxiety</li> <li>• PTSD</li> <li>• Personality disorder</li> </ul>
<p>Other conditions</p> <ul style="list-style-type: none"> <li>• Facial hair or dermatological condition sufficient to prevent a facial seal when wearing a respirator</li> <li>• Widespread dermatological condition that may impair sweating</li> </ul>	<p>Other conditions</p> <ul style="list-style-type: none"> <li>• Medications which may predispose to heat stress: antihistamines, beta blockers, anticholinergic drugs, thyroid medications, amphetamines, TCAD, MAOI</li> <li>• Regular use of medications which may affect the safe performance of duties</li> <li>• Sedatives, hypnotics, tranquilisers</li> <li>• Narcotic analgesics</li> <li>• Skeletal muscle relaxants</li> <li>• Drugs which may cause impairments in vision, balance, cognitive or psychomotor performance</li> </ul>