



Did you know?

MRI does not use any harmful radiation. There are 2 types of radiation: ionizing and non-ionizing. Ionizing radiation has the potential to damage cells in our bodies, an example is x-ray/CT. MRI is an example of non-ionizing radiation, which does not have the potential to damage cells. There is currently no limit on the amount of MRI scans that a person may have in their lifetime.

HAPPY NEW YEAR!!

2018 is here!

Image One MRI would like to wish everyone a happy and healthy 2018! Approximately 40-50% of people make New Year's resolutions with the most popular one being to improve physical well-being. Setting a realistic goal is the most important factor in ensuring success. Whether you're trying to make some new resolutions or maintain some existing goals, we wish you all the best in your efforts for self-improvement!

Record breaking snowfalls!

Kelowna saw record breaking snowfalls in December 2017. This means lots of fun for those who love snow-based activities like skiing, snowboarding and snowmobiling, but also a lot of sore muscles from shoveling. The snow is pretty to look at, but we sure hope that the worst has come and gone!

WINTER SAFETY TIPS:

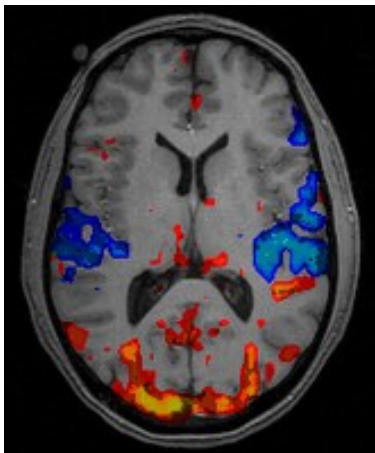
The Government of Canada's Department of Public Safety and Emergency Preparedness has a great website that offers information on all types of emergencies including winter safety tips. One of the most important words of advice are "be prepared". Many residents of B.C. travel on a regular basis for work or pleasure, checking weather reports and keeping an emergency kit in your vehicle can go a long way in the extremes of winter.

ALZHEIMER'S RESEARCH

Alzheimer's disease is a progressive condition that causes problems with memory, thinking and behaviour. It is the cause of 60-80% of cases of dementia. Although there is no cure for Alzheimer's, there is on-going research to find better ways for treatment and prevention. When new drugs are tested, patients must be monitored to ensure there are no adverse effects to medication. This includes a regularly scheduled MRI to evaluate the brain for any changes. Image One MRI is proud to participate in these studies by performing the MRI scans for many Alzheimer's patients. Participation in these studies can be initiated with your family doctor or by contacting the Medical Arts Research Group or Okanagan Clinical Trials.



The images taken for an MRI study are in sections or **slices**. The above image is a sagittal image, which can be thought of as a profile view of the body.



The image above is an fMRI image showing the areas of activation.

MRI AND THE BRAIN

MRI is excellent at evaluating the brain due to high *contrast resolution*, which is the ability to distinguish between differences in intensity in an image. Structures of the brain can be more clearly seen with MRI as compared to CT. Family physicians may order a CT scan when initially investigating a patient's symptoms. A patient may also be referred to a specialist, such as a neurologist, who may order an MRI (some health authorities only accept certain MRI referrals from specialists; at Image One MRI we accept referrals for all body parts from family physicians and specialists alike).

MRI can diagnose diseases that have not been previously seen with any other imaging tool, for example Multiple Sclerosis. MRI does not utilize the same type of radiation as x-ray or CT scans, therefore patients who require frequent monitoring of the progression and/or treatment of a disease may have multiple MRI scans. Sometimes, as in the case with pediatric patients, an MRI may be ordered to avoid exposure to x-ray radiation associated with CT scans.

fMRI

fMRI stands for **functional Magnetic Resonance Imaging** and is a very specialized procedure that is performed to look at brain activity. It is not very commonly done as part of a clinical MRI study but is very popular with research studies. It is often done to understand how the normal brain works but can also be performed to see how the normal function of a brain is affected by a disease.

For these studies, patients are asked to perform a specific task; this could be related to something physical, such as fine motor skills, or something cognitive, such as problem solving. The areas of the brain that are working during these tasks receive more blood flow than other regions and thus can be revealed with fMRI. At Image One MRI, we only perform fMRI studies with our Alzheimer's research exams. Although this is not offered to the public, it is a very interesting application of MRI that we thought we'd share with you!

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