

Gamma Knife

Meet the latest tool in the fight against brain tumours and the Canadian companies that power it

Today, approximately 27 Canadians will be diagnosed with a brain tumour. Currently, childhood brain tumours are the most lethal form of childhood cancer in North America. May is Brain Tumour Awareness Month. It's a time to learn more about brain tumours, show solidarity with those facing a brain tumour, and support ongoing research in the fight against brain tumours. There are many types of brain tumours but fortunately there are also a wide variety of treatments available. One such treatment is the gamma knife.

The gamma knife (also known as Stereotactic Radiosurgery) is a system which uses small gamma radiation sources to produce approximately 200 small radiation beams at different angles. The individual beams do not deliver much radiation as they pass through the body but when they all converge on a single point, a very high dose can be delivered to a very specific location. This allows brain tumours to be targeted with high levels of precision while protecting the surrounding healthy tissue.

The procedure is minimally invasive, often completed in a single session, and allows the patient to return to normal activities afterwards.

The radiation source behind the gamma knife is High Specific Activity (HSA) Cobalt-60 and Canadians can feel proud knowing that Canada is the world's leading supplier of HSA Cobalt-60. The National Reactor Universal (NRU) in Chalk River, Ontario supplied 85% of the world's

Cobalt-60 for radiotherapy until it reached its end of life and was shut down in 2018. Since then, Bruce Power in Tiverton, Ontario has helped fill the void left by the retirement of NRU by modifying some of the adjuster rods in its reactors to produce HSA Cobalt-60. The target material and carriers are produced by Cameco in Cobourg, Ontario.

Once produced, the freshly harvested Cobalt-60 sources are processed and packaged by Nordion in Ottawa. They are then distributed to hospitals and treatment centers worldwide for use in radiation therapy systems including the gamma knife. Nordion is the world's leading supplier of packaged HSA Cobalt-60 sources.

In short, Canadian isotopes have been at the forefront of the global fight against brain tumours for a long time and the world is depending on Canadian isotope leadership to continue into the future. Technological innovations like the gamma knife and the isotopes that power them continue to provide medical professionals with more treatment tools and will hopefully one day help bring an end to brain tumours and other forms of cancer.

May is brain tumour awareness month so this May, please show your support for those facing a brain tumour by wearing grey. More details on the Turn May Gray campaign, visit the Brain Tumour Foundation of Canada's website at www.braintumour.ca. For more details on Isotopes in Canada, visit the Canadian Nuclear Isotope Council's website at www.canadianisotopes.ca.

Tags and Hashtags

#TurnMayGrey #EndBrainTumours

@BrainTumourFdn

<https://www.world-nuclear-news.org/Articles/Bruce-Power-harvests-first-HSA-cobalt-60>

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