CANADIAN NUCLEAR ISOTOPE COUNCIL

How Canadian Isotopes Are Playing A Role In Fighting COVID-19

In many ways the current COVID-19 pandemic can leave people with a feeling of being powerless against an invisible enemy. In these difficult times, we must all work to stay focused on what we ***can*** and ***are*** doing. We aren't powerless. Across the country, Canadians of all ages and from all walks of life are doing great things every day.

It starts with us all following the advice of our public health officials to exercise social distancing, hand washing, staying home and keeping our spaces clean. At every opportunity we need to remind ourselves how critical it is for us all to listen to the experts and follow the guidance they provide.

We are fortunate to have thousands of dedicated front-line health care workers, custodial and support staff along with many other first responders and service providers who are the heroes on the front line every day. We also have hundreds of firms and institutions across Canada providing supplies, materials and advancing treatments.

There's a need for collaboration to take place around the world for managing COVID-19. Canadians are playing a leadership role through the supply of an isotope called Cobalt-60 which is central to modern health care and in the protection of public health and front line workers.

The majority of the world's Cobalt-60 comes from Ontario's nuclear facilities, operated by Bruce Power and Ontario Power Generation (OPG). This supply is provided to Nordion – a company based in Ottawa - to process and distribute it around the world for the sterilization of single-use medical equipment in over 40 countries, including Canada, the United States and China.

This cobalt supply ensures equipment and supplies – surgical gloves, syringes and scalpels to name a few - by front-line medical professionals to treat patients are sterilized, clean and safe for use. A leading method for sterilizing this equipment is called "irradiation" which uses the processed Cobalt-60 isotope made in Ontario's nuclear reactors to sterilize single-use medical equipment and material in large volumes, doing so effectively and quickly.

So what does this have to do with COVID-19?

As we've all seen in the media with images from the initial epicentre of the coronavirus in China, there is a growing demand and essential need for protective garments. We can expect this to grow at home here in Canada as we implement further production to protect front-line responders. We can also expect demands for health-care materials to increase, especially as vulnerable populations require care by becoming exposed to COVID-19 despite our efforts to reduce its spread.

Given the high demand for these materials, the use of irradiation has increased. Other sterilization methods take between 7-14 days before products are available for use, creating a challenge when sterile materials are required quickly and in large volume. Using irradiation technology powered by cobalt, these materials are now being processed within a day.

The Ministry of Industry and Information Technology in China indicated that during the peak of their response the use of irradiation has been advanced to ensure that higher volumes of protective clothing can be provided to the front lines as quickly as possible. In fact, an estimated 100,000 pieces of

protective clothing can now be processed daily – a significant difference in volume and time that will save lives.

Ontario's reliable supply of Cobalt-60 will be critical in the weeks and months ahead more than ever as hospitals treat patients who require care and jurisdictions around the world increase the use of irradiation technology. We know that our health systems will be under significant pressure, and a stable supply of Cobalt-60 is something they can count on from Ontario.

Canada has a history of playing a significant role in helping the world confront some of our greatest challenges. We see this in many areas in the current COVID-19 situation with organizations tackling vaccine development and Ontario leveraging its significant experience with SARS 17 years ago. We see it in the fight against cancer and many areas too great to list.

We can and will continue to make a difference, and the world can count on a reliable global supply of Cobalt-60 from Ontario. We're proud to collaborate with and support Canadians in this fight against COVID-19.

James Scongack
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The Canadian Nuclear Isotope Council (CNIC) is an independent organization of over 60 organizations consisting of representatives from various levels within the Canadian health sector, nuclear industry and research bodies, convened specifically to advocate for our country's role in the production of the world's isotope supply.