

Epilepsy and Face Coverings or Masks

After a member of the Epilepsy Association of Calgary shared an experience of two back-to-back seizures, when normally seizures were controlled. The member suspected that wearing a face covering while performing physically demanding labour on the job could be connected to the seizures. We decided to investigate the research regarding face coverings and seizures to see whether any connection is possible.

On August 1, 2020, the City of Calgary implemented the Face Coverings Bylaw “for the safety and protection of the community” requiring everyone to wear a face covering or mask when in indoor public areas and public vehicles. An exemption to this bylaw allows for those who are exercising in indoor spaces: “people actively engaging in athletic or fitness activities in gyms, sports centres and fitness studios would be exempt from the bylaw. However, if the facility is accessible to the public, people who are not engaging in such activities would have to wear a face covering” (1).

One recent study by Ali. A. Asadi-Pooya and J. Helen Cross looked at the question: *Is wearing a face mask safe for people with epilepsy?* After finding no direct evidence in the literature to answer this question, the researchers recommend that it is reasonable to remove a mask from a person, who is actively seizing or is in a postictal state in order to facilitate breathing (2). The study recommends wearing a face covering or mask in crowded locations (i.e. grocery stores, shopping malls, etc.), taking intermittent breaks in safe locations, physically distancing from others. Most people will not need to wear a face covering or mask most of the time if there is no close contact with others.

As for young people or someone who is incapacitated, the US Centers for Disease Control and Prevention (CDC) recommends: “cloth face coverings should not be placed on young children younger than 2 years of age, anyone who has trouble breathing, or is unconscious, incapacitated or otherwise unable to remove the cover without assistance” (3).

Medical researchers note that the brain requires a: “constant support by a physiologic environment of oxygen, carbon dioxide, glucose, and water. Oxygen is the most vital nutrient and the most frequently threatened component of the brain’s environment” (4). Indeed, for a small amount of people with epilepsy, hyperventilation (i.e. deep, and rapid respiration) can trigger seizures and/or lead to an increase in frequency. For this reason, hyperventilation has been used as an effective method of seizure activation during electroencephalography (EEG) recording.

If you do witness someone having a convulsive seizure the International League Against Epilepsy advises to remove the mask with caution “to ensure optimal airway function” (5). And, while the International League Against Epilepsy advises there should be no contraindication for people with epilepsy to wear a face covering (5), taking into consideration masking requirements and your own awareness around levels of physical exertion, you may find it helpful to plan for regular breaks. You can do this by moving to an environment where face coverings are not required and where you can safely socially distance from others.

References:

(1) City of Calgary, Face Coverings Bylaw

<https://www.calgary.ca/csps/cema/covid19/safety/covid-19-city-of-calgary-mask-bylaw.html>

(2) Asadi-Pooya AA, Cross JH. “Is wearing a face mask safe for people with epilepsy?” *Acta Neurol Scand.* 2020; 00:1–3

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- (2) International League Against Epilepsy, "Patient Care, COVID-19 and Epilepsy, For Patients", FAQ in English: <https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/cloth-face-cover.html>.
- (4) Thompson, Coralee, MD and Malkowicz, Denise, MD. "The Role of Carbon Dioxide in the Enhancement of Oxygen Delivery to the Brain". *Complementary and Alternative Therapies for Epilepsy*. Ed. Orrin Devinsky, MD, Steven Schachter, MD and Steven Pacia, MD. New York: Demos Medical Publishing, 2005. 249.
- (5) International League Against Epilepsy, "Patient Care, COVID-19 and Epilepsy, For Patients", FAQ in English: <https://www.ilae.org/patient-care/covid-19-and-epilepsy/for-patients/fags-in-english/covid-19-fags-for-people-with-epilepsy-and-carers>