

Uncertainty	Explanatory Note	Rank of the uncertainty at the final workshop	Evidence
Can genetic markers be used to diagnose and treat epilepsy and seizure disorders?	Previous research has uncovered a strong link between certain DNA sequences and the development of epilepsy. Currently, there are hundreds of genes that are related to epilepsy. Some run in families, and some occur spontaneously in an individual. Understanding the role of these genes in the development of epilepsy can help to answer key questions, such as a person's risk of developing epilepsy, the chances that a child will inherit epilepsy from a parent, and how genes interact with the environment to affect disease onset. Many epilepsy syndromes have been linked to changes in particular genes, and genetic testing may be able to provide a clear diagnosis in some cases. In addition, genetic markers may help researchers to predict how an individual may respond to a specific anti-seizure drug. There is no single treatment that works for all people, and a "trial and error" approach is often used. With more information about how genes can affect treatment responsiveness, an individualized approach to epilepsy treatment may be possible. Researchers can also use this information to develop new treatments that specifically target these genetic changes.	1	Offringa, M., Newton, R., Cozijnsen, M. A., & Nevitt, S. J. (2017). Prophylactic drug management for febrile seizures in children. <i>Cochrane Database of Systematic Reviews</i> (2). doi:10.1002/14651858.CD003031.pub3  Scottish Intercollegiate Guidelines Network (SIGN). <i>Diagnosis and management of epilepsy in adults</i> . Edinburgh: SIGN; 2015. (SIGN publication no. 143). [May 2015]. Available from URL: <a href="http://www.sign.ac.uk">http://www.sign.ac.uk</a>
What are the impacts of long-term use of anti-seizure drugs, the causes of side effects of these treatments and how can we prevent the side effects?	All anti-seizure drugs (ASDs) have possible side effects, most of which are well-known. However, the impact of taking these drugs for long periods of time, or a lifetime, is unclear. Researchers are still trying to understand the cumulative effect of ASDs on physical and mental health, and how these effects change over time. Examples include effects on bone health, hormonal systems, reproductive systems, cognition and behaviour, and the digestive system (including the liver, which metabolizes many ASDs). Side effects can have a significant impact on quality of life, and can also affect drug adherence. Clear strategies to minimize and manage side effects by modifying medications or dosing still need to be developed.	2	Evidence Not Identified
What are the long-term impacts of seizures on a person's brain, and overall health and development?	The direct effects of seizures on brain cells is an ongoing area of research. It is unclear if and how repeated seizures change the structure and function of the brain over time, and if such changes can be reversed if seizure control is achieved. An important question is how recurrent seizures affect cognition and mental health, and if seizure activity increases the risk of developing other conditions, such as depression or attention deficit disorders. This is also critical for understanding how seizures affect learning, memory and development, particularly when epilepsy is diagnosed in infancy or childhood. The long-term effects of seizures can be difficult to study since both seizures and cognitive changes may be due to an underlying condition. In addition, epilepsy treatments such as anti-seizure drugs can also have long-term health effects, making it difficult to study these factors independently.	3	Epilepsy: a public health imperative. Geneva: World Health Organization; 2019.
How can the risk of SUDEP (Sudden Unexpected Death in Epilepsy) be reduced in people with epilepsy?	SUDEP stands for Sudden Unexpected Death in Epilepsy. It occurs when an otherwise healthy person with epilepsy dies suddenly and unexpectedly, and no clear cause of death can be found. It is most likely that more than one cause of SUDEP will be identified. Since most deaths occur after a generalized tonic-clonic seizure, it is likely that the seizure itself is a contributing factor. Possible theories being investigated include changes in breathing patterns, heart rate, or brain function. There may also be a genetic link between seizures and abnormal heart function, meaning that people with epilepsy may be more prone to irregular heart rhythms. However, it is unlikely that all SUDEP-related deaths occur in the same way, and more research is needed to better understand the causes of SUDEP and how the risk can be reduced.	4	Maguire, M. J., Jackson, C. F., Marson, A. G., & Nevitt, S. J. (2020). Treatments for the prevention of Sudden Unexpected Death in Epilepsy (SUDEP). <i>Cochrane Database of Systematic Reviews</i> (4). doi:10.1002/14651858.CD011792.pub3

<p>What is the most effective testing protocol for determining causes of seizures and/or a diagnosis of epilepsy or other seizure disorders and to reduce time to diagnosis?</p>	<p>The diagnosis of epilepsy can be challenging. Seizures can have many different causes, and even after testing, the cause can be unclear. The diagnosis of epilepsy can be made by different health care providers, such as family physicians, pediatricians, or neurologists. Tests that can be used to assist with diagnosis include electroencephalography (EEG), brain imaging, or genetic testing; however, there is no standard procedure, and access to testing can vary widely across the country. There is no established protocol to determine whether a person's seizures are the result of trauma to the brain, genetic variations, or other causes, or if seizures are non-epileptic. In addition, testing may not reveal any abnormalities, and there are no clear guidelines for how to proceed when tests are inconclusive. This can lead to long delays in diagnosis, or an incorrect diagnosis, and failed attempts at treatment. More research in this area is needed, as early diagnosis of seizure disorders is critical for effective treatment.</p>	<p>5</p>	<p>Scottish Intercollegiate Guidelines Network (SIGN). Diagnosis and management of epilepsy in adults. Edinburgh: SIGN; 2015. (SIGN publication no. 143). [May 2015]. Available from URL: <a href="http://www.sign.ac.uk">http://www.sign.ac.uk</a></p> <p>Guidelines on Neonatal Seizures. Geneva: World Health Organization; 2011.</p>
<p>What are the brain changes, on a cellular level, that lead to seizure development?</p>	<p>It is known that abnormal electrical activity in the brain leads to the onset of seizures. At the cellular level, it is clear that brain cells (neurons) become hyperexcitable and the normal balance of excitation and inhibition is disrupted. However, it is unclear what triggers this disruption, and why epilepsy can suddenly develop at any time in the absence of injury, trauma or family history. There are many potential mechanisms, including loss or degeneration of neurons, inflammation, structural changes, or changes in how neurons communicate with each other. It is not clear whether these reflect long-term or sudden changes. An important question is how to uncover the causes of epilepsy in individuals where diagnostic testing (brain imaging, genetic testing) does not show any abnormalities.</p>	<p>6</p>	<p>Tatum, W. O., Rubboli, G., Kaplan, P. W., Mirsatari, S. M., Radhakrishnan, K., Gloss, D., . . . Beniczky, S. (2018). Clinical utility of EEG in diagnosing and monitoring epilepsy in adults. <i>Clinical Neurophysiology</i>, 129, 1056-1082. doi:10.1016/j.clinph.2018.01.019</p>
<p>How effective is surgical treatment for adult and children who experience seizures/epilepsy?</p>	<p>Resective surgery (removing the part of the brain that causes seizures) can be an effective treatment for people whose seizures cannot be controlled by medication. However, not all people with epilepsy are candidates for surgery, and the success rates vary depending on which area of the brain is affected. Surgery is not 100% effective, and some people will continue to have seizures afterwards. More research is needed into what determines a person's chances of being seizure-free after surgery, which individuals are most likely to benefit from surgery, and how to optimize seizure outcomes and reduce the risk of complications following surgery, such as language or memory deficits.</p>	<p>7</p>	<p>West, S., Nevitt, S. J., Cotton, J., Gandhi, S., Weston, J., Sudan, A., . . . Newton, R. (2019). Surgery for epilepsy. <i>Cochrane Database of Systematic Reviews</i>(6). doi:10.1002/14651858.CD010541.pub3</p>
<p>What causes memory problems associated with seizures? Can these memory problems improve over time and what are the best treatment options for memory loss in people who experience seizures?</p>	<p>Memory problems remain one of the most significant challenges facing people with epilepsy. Memory difficulties may be due to structural changes in the brain, side effects of anti-seizure medication, or seizures themselves. However, in most people, the source of memory problems cannot be clearly identified. Without understanding the cause, it is difficult to predict how memory problems will change over time. For people who experience memory loss, treatment options are currently limited. Research in this area can help to shed light on the most effective approaches to manage memory problems, such as medication changes or cognitive strategies to help people with epilepsy improve memory function in their daily lives.</p>	<p>8</p>	<p>West, S., Nevitt, S. J., Cotton, J., Gandhi, S., Weston, J., Sudan, A., . . . Newton, R. (2019). Surgery for epilepsy. <i>Cochrane Database of Systematic Reviews</i>(6). doi:10.1002/14651858.CD010541.pub3</p> <p>Gloss, D., &amp; Vickrey, B. (2014). Cannabinoids for epilepsy. <i>Cochrane Database of Systematic Reviews</i>(3). doi:10.1002/14651858.CD009270.pub3</p> <p>Jackson, C. F., Makin, S. M., &amp; Baker, G. A. (2015). Neuropsychological and psychological interventions for people with newly diagnosed epilepsy. <i>Cochrane Database of Systematic Reviews</i>(7). doi:10.1002/14651858.CD011311.pub2</p> <p>Blümcke, I., Thom, M., Aronica, E., Armstrong, D. D., Bartolomei, F., Bernasconi, A., . . . Spreafico, R. (2013). International consensus classification of hippocampal sclerosis in temporal lobe epilepsy: A Task Force report from the ILAE Commission on Diagnostic Methods. <i>Epilepsia</i>, 54, 1315-1329. doi:10.1111/epi.12220</p> <p>Michaelis, R., Tang, V., Goldstein, L. H., Reuber, M., LaFrance, W. C., Lundgren, T., . . . Wagner, J. L. (2018). Psychological treatments for adults and children with epilepsy: Evidence-based recommendations by the International League Against Epilepsy Psychology Task Force. <i>Epilepsia</i>, 59, 1282-1302. doi:10.1111/epi.14444</p> <p>Liu, J., Wang, L. N., Wu, L. Y., &amp; Wang, Y. P. (2018). Treatment of epilepsy for people with Alzheimer's disease. <i>Cochrane Database of Systematic Reviews</i>(12). doi:10.1002/14651858.CD011922.pub3</p> <p>Shi, L. L., Bresnahan, R., Martin-McGill, K. J., Dong, J., Ni, H., &amp; Geng, J. (2019). Felbamate add-on therapy for drug-resistant focal epilepsy. <i>Cochrane Database of Systematic Reviews</i>(8). doi:10.1002/14651858.CD008295.pub5</p> <p>Strozzi, I., Nolan, S. J., Sperling, M. R., Wingerchuk, D. M., &amp; Sirven, J. (2015). Early versus late antiepileptic drug withdrawal for people with epilepsy in remission. <i>Cochrane Database of Systematic Reviews</i>(7).</p>

			<p>withdrawal for people with epilepsy in remission. Cochrane Database of Systematic Reviews(4). doi:10.1002/14651858.CD001902.pub2</p> <p>Scottish Intercollegiate Guidelines Network (SIGN). Diagnosis and management of epilepsy in adults. Edinburgh: SIGN; 2015. (SIGN publication no. 143). [May 2015]. Available from URL: <a href="http://www.sign.ac.uk">http://www.sign.ac.uk</a></p> <p>Kerr, M. P., Mensah, S., Besag, F., De Toffol, B., Ettinger, A., Kanemoto, K., . . . Wilson, S. J. (2011). International consensus clinical practice statements for the treatment of neuropsychiatric conditions associated with epilepsy. <i>Epilepsia</i>, 52, 2133-2138. doi:10.1111/j.1528-1167.2011.03276.x</p>
<p>Aside from anti-seizure drugs and some brain lesions, what causes behavioural changes in people who experience seizures? What is the best way to treat behavioural issues?</p>	<p>Behavioural changes, such as depression, anxiety, impulsiveness, aggression, and attentional difficulties are often seen in people with epilepsy. Some of these changes may be due to side effects of anti-seizure drugs (ASDs), some may be caused by structural abnormalities in the brain, and some may be caused by seizures themselves. In addition, there may be other contributing factors, such as stress, environment, sleep quality or social settings. More research is needed to determine how each of these affect cognition and behaviour. Current treatments include counselling or psychotherapy, modifying or changing ASDs, or adding medication to treat behavioural issues. Researchers are still trying to determine the most effective treatments or therapies to manage behavioural changes in people with epilepsy. Another key question is how to effectively treat seizures while minimizing or managing behavioural changes.</p>	<p>9</p>	<p>Ayuga Loro, F., Gisbert Tijeras, E., &amp; Brigo, F. (2020). Rapid versus slow withdrawal of antiepileptic drugs. <i>Cochrane Database of Systematic Reviews</i>(1). doi:10.1002/14651858.CD005003.pub3</p> <p>Nevitt, S. J., Tudur Smith, C., &amp; Marson, A. G. (2019). Phenobarbitone versus phenytoin monotherapy for epilepsy: an individual participant data review. <i>Cochrane Database of Systematic Reviews</i>(7). doi:10.1002/14651858.CD002217.pub3</p> <p>Geng, J., Dong, J., Li, Y., Ni, H., Jiang, K., Shi, L. L., &amp; Wang, G. (2019). Intravenous immunoglobulins for epilepsy. <i>Cochrane Database of Systematic Reviews</i>(12). doi:10.1002/14651858.CD008557.pub4</p> <p>Brigo, F., Igwe, S. C., &amp; Lattanzi, S. (2019). Ethosuximide, sodium valproate or lamotrigine for absence seizures in children and adolescents. <i>Cochrane Database of Systematic Reviews</i>(2). doi:10.1002/14651858.CD003032.pub4</p> <p>Brigo, F., Igwe, S. C., Bragazzi, N. L., &amp; Lattanzi, S. (2019). Clonazepam monotherapy for treating people with newly diagnosed epilepsy. <i>Cochrane Database of Systematic Reviews</i>(11). doi:10.1002/14651858.CD013028.pub2</p> <p>Tatum, W. O., Rubboli, G., Kaplan, P. W., Mirsatari, S. M., Radhakrishnan, K., Gloss, D., . . . Beniczky, S. (2018). Clinical utility of EEG in diagnosing and monitoring epilepsy in adults. <i>Clinical Neurophysiology</i>, 129, 1056-1082. doi:10.1016/j.clinph.2018.01.019</p> <p>Nevitt, S. J., Marson, A. G., &amp; Tudur Smith, C. (2018). Carbamazepine versus phenobarbitone monotherapy for epilepsy: an individual participant data review. <i>Cochrane Database of Systematic Reviews</i>(10). doi:10.1002/14651858.CD001904.pub4</p> <p>Michaelis, R., Tang, V., Goldstein, L. H., Reuber, M., LaFrance, W. C., Lundgren, T., . . . Wagner, J. L. (2018). Psychological treatments for adults and children with epilepsy: Evidence-based recommendations by the International League Against Epilepsy Psychology Task Force. <i>Epilepsia</i>, 59, 1282-1302. doi:10.1111/epi.14444</p> <p>Nevitt, S. J., Sudell, M., Weston, J., Tudur Smith, C., &amp; Marson, A. G. (2017). Antiepileptic drug monotherapy for epilepsy: a network meta-analysis of individual participant data. <i>Cochrane Database of Systematic Reviews</i>(12). doi:10.1002/14651858.CD011412.pub3</p> <p>Brigo, F., Igwe, S. C., &amp; Del Felice, A. (2016). Melatonin as add-on treatment for epilepsy. <i>Cochrane Database of Systematic Reviews</i>(8). doi:10.1002/14651858.CD006967.pub4</p> <p>Strozzi, I., Nolan, S. J., Sperling, M. R., Wingerchuk, D. M., &amp; Sirven, J. (2015). Early versus late antiepileptic drug withdrawal for people with epilepsy in remission. <i>Cochrane Database of Systematic Reviews</i>(2). doi:10.1002/14651858.CD001902.pub2</p> <p>Jackson, C. F., Makin, S. M., Marson, A. G., &amp; Kerr, M. (2015). Pharmacological interventions for epilepsy in people with intellectual disabilities. <i>Cochrane Database of Systematic Reviews</i>(9). doi:10.1002/14651858.CD005399.pub3</p> <p>Scottish Intercollegiate Guidelines Network (SIGN). Diagnosis and management of epilepsy in adults. Edinburgh: SIGN; 2015. (SIGN publication no. 143). [May 2015]. Available from URL: <a href="http://www.sign.ac.uk">http://www.sign.ac.uk</a></p> <p>Cheuk, D. K. L., &amp; Wong, V. (2014). Acupuncture for epilepsy. <i>Cochrane Database of Systematic Reviews</i>(5). doi:10.1002/14651858.CD005062.pub4</p> <p>Scheltens-De Boer, M. (2009). Guidelines for EEG in encephalopathy related to ESES/CSWS in children. <i>Epilepsia</i>, 50, 13-17. doi:10.1111/j.1528-1167.2009.02211.x</p> <p>Ranganathan, L. N., &amp; Ramaratnam, S. (2005). Vitamins for epilepsy. <i>Cochrane Database of Systematic Reviews</i>(2). doi:10.1002/14651858.CD004304.pub2</p>

<p>What is the efficacy (i.e. the effectiveness of reducing seizures) of adding a second anti-seizure medication compared to changing to a different anti-seizure medication? How can we determine which combinations of anti-seizure drugs are effective?</p>	<p>When a person's seizures are not well-controlled by a single medication (monotherapy), physicians may decide to add a second medication (combination therapy or polytherapy) or switch to a different medication. In some cases, polytherapy may be more effective, depending on how each drug works in the brain and how they interact with each other. In other cases, a single, but different medication may be most effective. However, there are no clear guidelines for which approach to take, and studies directly comparing monotherapy with polytherapy are lacking. In addition, there is no single approach to treatment that works for all individuals, and a person's response to a given anti-seizure drug is generally unpredictable. Research in this area can help to uncover the most effective drug regimens for different types of epilepsy, and how a person's unique biology can affect their response to treatment.</p>	<p>10</p>	<p>Panebianco, M., Bresnahan, R., Ramaratnam, S., &amp; Marson, A. G. (2020). Lamotrigine add-on therapy for drug-resistant focal epilepsy. <i>Cochrane Database of Systematic Reviews</i>(3). doi:10.1002/14651858.CD001909.pub3</p>
<p>How do seizures impact the mood of people who experience them and what are the best methods to manage mood swings?</p>	<p>Mood disorders often co-occur with epilepsy and can have a negative impact on quality of life. Symptoms of mood disorders include feelings of depression, anger, anxiety, and irritability. More research is needed to determine how mood is impacted by changes in brain structure and function, seizure activity and anti-seizure medications, and how treatments such as anti-depressant medication, psychotherapy, and cognitive behavioural therapy can be used to manage mood changes in people with seizures.</p>	<p>11</p>	<p>Jackson, C. F., Makin, S. M., &amp; Baker, G. A. (2015). Neuropsychological and psychological interventions for people with newly diagnosed epilepsy. <i>Cochrane Database of Systematic Reviews</i>(7). doi:10.1002/14651858.CD011311.pub2</p> <p>Maguire, M. J., Weston, J., Singh, J., &amp; Marson, A. G. (2014). Antidepressants for people with epilepsy and depression. <i>Cochrane Database of Systematic Reviews</i>(12). doi:10.1002/14651858.CD010682.pub2</p> <p>Blümcke, I., Thom, M., Aronica, E., Armstrong, D. D., Bartolomei, F., Bernasconi, A., . . . Spreafico, R. (2013). International consensus classification of hippocampal sclerosis in temporal lobe epilepsy: A Task Force report from the ILAE Commission on Diagnostic Methods. <i>Epilepsia</i>, 54, 1315-1329. doi:10.1111/epi.12220</p> <p>Kerr, M. P., Mensah, S., Besag, F., De Toffol, B., Ettinger, A., Kanemoto, K., . . . Wilson, S. J. (2011). International consensus clinical practice statements for the treatment of neuropsychiatric conditions associated with epilepsy. <i>Epilepsia</i>, 52, 2133-2138. doi:10.1111/j.1528-1167.2011.03276.x</p> <p>Epilepsy: a public health imperative. Geneva: World Health Organization; 2019.</p>
<p>Are cannabis products (e.g. Marijuana, CBD oil) a safe and effective treatment for seizures alone or in combination with standard treatments (e.g. anti-seizure drugs)?</p>	<p>Since its legalization in Canada in 2018, medical cannabis has been of great interest in the treatment of epilepsy. The two major cannabinoids present in the cannabis plant are cannabidiol (CBD) and tetrahydrocannabinol (THC). Reports from patients and families suggest that both of them have anticonvulsant properties, and scientific reports support this claim. In particular, CBD oil can reduce seizure frequency in people with Dravet syndrome or Lennox-Gastaut syndrome. However, the effectiveness for other types of epilepsy and epilepsy syndromes is not clear. In addition, there is a lack of evidence on safety and side effects, recommended dosages and formulations, and interactions with anti-seizure drugs. More research is needed to determine if and how cannabis products can be safely used to treat epilepsy and seizures.</p>	<p>12</p>	<p>Gloss, D., &amp; Vickrey, B. (2014). Cannabinoids for epilepsy. <i>Cochrane Database of Systematic Reviews</i>(3). doi:10.1002/14651858.CD009270.pub3</p> <p>National Institute for Health and Care Excellence. (2019). Cannabidiol with clobazam for treating seizures associated with Dravet syndrome. <i>Technology Appraisal Guidance, TA615</i>. Available from: <a href="http://www.nice.org.uk/guidance/ta614">www.nice.org.uk/guidance/ta614</a></p> <p>National Institute for Health and Care Excellence (2019). Cannabidiol with clobazam for treating seizures associated with Lennox–Gastaut syndrome. <i>Technology Appraisal Guidance, TA615</i>. Available from: <a href="https://www.nice.org.uk/guidance/ta615">https://www.nice.org.uk/guidance/ta615</a></p>
<p>Is there a relationship between hormonal changes (e.g. puberty, menopause, pregnancy) and seizure onset and/or frequency, and what are the effects of seizures during pregnancy?</p>	<p>While it is known that the menstrual cycle can affect the severity and frequency of seizures (catamenial seizures), it is generally unclear how hormonal changes impact seizure activity. Seizures may be affected by phases of marked hormonal changes such as puberty, menopause and pregnancy, but a precise causal link has not been established. Seizures can also occur in areas of the brain that are closely linked to structures that regulate hormones, which may affect hormone levels. While it is clear that certain hormones can act on brain cells and influence seizure activity, these relationships are complex and can be affected by different factors. It is also unclear if and how seizures during pregnancy can affect the development of the fetus, and how epilepsy may be linked to reproductive disorders in women.</p>	<p>13</p>	<p>Maguire, M. J., &amp; Nevitt, S. J. (2019). Treatments for seizures in catamenial (menstrual-related) epilepsy. <i>Cochrane Database of Systematic Reviews</i>(10). doi:10.1002/14651858.CD013225.pub2</p> <p>Harden, C. L., Hopp, J., Ting, T. Y., Pennell, P. B., French, J. A., Allen Hauser, W., . . . Le Guen, C. (2009). Management issues for women with epilepsy - Focus on pregnancy (an evidence-based review): I. Obstetrical complications and change in seizure frequency: Report of the Quality Standards Subcommittee and Therapeutics and Technology Assessment Subcommittee. <i>Epilepsia</i>, 50, 1229-1236. doi:10.1111/j.1528-1167.2009.02128.x</p> <p>Scottish Intercollegiate Guidelines Network (SIGN). <i>Diagnosis and management of epilepsy in adults</i>. Edinburgh: SIGN; 2015. (SIGN publication no. 143). [May 2015]. Available from URL: <a href="http://www.sign.ac.uk">http://www.sign.ac.uk</a></p> <p>Haruna, M., Matsuzaki, M., Ota, E., Shiraishi, M., Hanada, N., &amp; Mori, R. (2019). Guided imagery for treating hypertension in pregnancy. <i>Cochrane Database of Systematic Reviews</i>(4). doi:10.1002/14651858.CD011337.pub2</p> <p>Weston, J., Bromley, R., Jackson, C. F., Adab, N., Clayton-Smith, J., Greenhalgh, J., . . . Marson, A. G. (2016). Monotherapy treatment of epilepsy in pregnancy: congenital malformation outcomes in the child. <i>Cochrane Database of Systematic Reviews</i>(11). doi:10.1002/14651858.CD010224.pub2</p>

<p>Is it safe to wean a person who has experienced seizures off of anti-seizure drugs and if so, when is the right time to wean off anti-seizure drugs?</p>	<p>Patients who have been seizure-free for a prolonged period may wish to discontinue anti-seizure drug (ASD) treatment. Additionally, some people may wish to discontinue treatment because of side effects or concerns about long-term changes. In Canada, there are no specific guidelines for when or how to wean ASDs, and the risk of seizure recurrence after weaning can be high. The decision to discontinue treatment is shared between the person with epilepsy and their health care providers after carefully considering the risks and benefits. The risk of seizure recurrence, and how much risk is considered acceptable, can be different for each person depending on their type of epilepsy, their prognosis and their lifestyle. Due to a lack of data, weaning can become a "trial and error" process. Further research is needed to determine the optimal duration of ASD treatment and the best time to wean medications after seizure freedom has been achieved in order to minimize the chances of seizure recurrence.</p>	<p>14</p>	<p>Strozzi, I., Nolan, S. J., Sperling, M. R., Wingerchuk, D. M., &amp; Sirven, J. (2015). Early versus late antiepileptic drug withdrawal for people with epilepsy in remission. <i>Cochrane Database of Systematic Reviews</i>(2). doi:10.1002/14651858.CD001902.pub2</p>
<p>What are the best ways to support people who experience seizures secure and perform in employment (e.g., through accommodations) and what interventions can reduce workplace discrimination?</p>	<p>People with epilepsy (PWE) face many employment barriers: they are more likely to be unemployed or underemployed, and also face stigma when trying to enter the workforce. PWE often fear discrimination if they choose to disclose their condition to employers or potential employers. More research is needed into how workplaces can better accommodate PWE, and what strategies can be used to help PWE obtain employment. Researchers have not yet uncovered the most effective ways to support people with seizures in the workplace, and how can society ensure that these are implemented. Research and awareness among employers can also help to de-stigmatize epilepsy so that it does not pose a barrier to career advancement.</p>	<p>15</p>	<p>Epilepsy Ontario. (2018). Epilepsy and employment. Available from: <a href="https://epilepsyontario.org/epilepsy-and-employment/">https://epilepsyontario.org/epilepsy-and-employment/</a>  Schachter S., Osbourne Shafer R., Sirven J. (2013). Safety at Work. Available From: <a href="https://www.epilepsy.com/learn/seizure-first-aid-and-safety/staying-safe/safety-work">https://www.epilepsy.com/learn/seizure-first-aid-and-safety/staying-safe/safety-work</a>  Clinic to Community. (2016). Epilepsy and Employment. Available from: <a href="https://www.clinictocommunity.ca/strategies/38-epilepsy-and-employment">https://www.clinictocommunity.ca/strategies/38-epilepsy-and-employment</a>  Job Accomodation Network. (No Date) Epilepsy/Seizure Disorder. Available from: <a href="https://askjan.org/disabilities/Epilepsy-Seizure-Disorder.cfm">https://askjan.org/disabilities/Epilepsy-Seizure-Disorder.cfm</a>  Wo, M.C.M., Lim, K.S., Choo, W.Y., Tan, C.T. Employability in people with epilepsy: A systematic review (2015) <i>Epilepsy Research</i>, 116, pp. 67-78  Beran RG, Devereaux JA &amp; Buchanan D. (2020). Some legal aspects of epilepsy. <i>Epilepsy &amp; Behavior</i>, 111, 107244. <a href="https://doi.org/10.1016/j.yebeh.2020.107244">https://doi.org/10.1016/j.yebeh.2020.107244</a>, <a href="https://doi.org/10.1016/j.yebeh.2020.107244">https://doi.org/10.1016/j.yebeh.2020.107244</a>  Krumholz A., Hopp J.L. &amp; Sanchez A.M. (2016). Counseling Epilepsy Patients on Driving and Employment. <i>Neurologic Clinics</i>, 34, 427-442. <a href="https://doi.org/10.1016/j.ncl.2015.11.005">https://doi.org/10.1016/j.ncl.2015.11.005</a></p>
<p>What non-drug lifestyle treatments (e.g., cardiovascular exercise, yoga) are effective for controlling seizure frequency with or without standard treatments (e.g., anti-seizure drugs)?</p>	<p>Seizures may be triggered by environmental factors such as stress, lack of sleep, or poor overall health. Non-drug interventions such as aerobic exercise, yoga and mindfulness training that promote physical and mental health may reduce stress and change the level of seizure activity in the brain. However, more research is needed into the optimal type, amount, frequency and duration of lifestyle treatments and how these activities interact with standard epilepsy treatments such as anti-seizure drugs.</p>	<p>16</p>	<p>Jackson, C. F., Makin, S. M., Marson, A. G., &amp; Kerr, M. (2015). Non-pharmacological interventions for people with epilepsy and intellectual disabilities. <i>Cochrane Database of Systematic Reviews</i>(9). doi:10.1002/14651858.CD005502.pub3  Panebianco, M., Sridharan, K., &amp; Ramaratnam, S. (2017). Yoga for epilepsy. <i>Cochrane Database of Systematic Reviews</i>(10). doi:10.1002/14651858.CD001524.pub3</p>