COVID-19 vaccination and individuals with Dravet Syndrome

Recommendations formulated by the Scientific Advisory Board of

Dravet Syndrome European Federation (DSEF) – March 2021

General context

- COVID-19 is currently affecting many individuals around the world
- Most experience a mild illness, if anything, specifically children – a higher risk of severe disease is associated to being male, older age and social deprivation, diabetes, obesity, severe asthma, recently diagnosed cancer, organ transplantation and neurological disease, specifically stroke and dementia
- Vaccines against COVID-19 are currently being approved and becoming available
- A vaccine is a product that can be used safely to induce an immune response that confers protection against an infection and/or disease on subsequent exposure. The essential component of most vaccines is one or more components derived from the virus or produced synthetically to mimic these components, that will induce immune responses that provide protection.
- The duration of this protection is not yet clear

Status on vaccination

Three vaccines are currently licensed for current use against COVID-19 as of January 2021

- The Pfizer vaccine is licensed for use >16years, Moderna and Oxford/AstraZeneca >18years. Each require two doses, either three or four weeks apart. They have been found to be >90% effective in preventing disease.
- There is currently no plan to vaccinate children and it is not known whether and when vaccines will be authorised for such use. Some current trials are enrolling healthy adolescents. In general, the use of COVID-19 vaccines in children will be investigated once there is sufficient information from studies in adults and in adolescents above 16 years of age.
- Adults with epilepsy and/or severe learning disability are within most vaccination plans described as clinically vulnerable adults
- There is no evidence to suggest that having epilepsy is specifically associated with a higher risk of side effects from a COVID-19 vaccine. Most experts agree that for people with

epilepsy, the risk of COVID-19 infection and potential complications outweighs the risk of side effects from a COVID-19 vaccine.

- In general, vaccines can cause fever (whether in the initial 24 hours post vaccine (e.g. flu) or after 7-10 days (e.g. MMR) dependent on the type of vaccine). The risk of this with the COVID19 vaccination would be expected to be within the first 24-48 hours, and could be mitigated with regular antipyretics e.g. paracetamol (protocol in France, 6 hours before and 48 hours after the vaccine if no contra indication for paracetamol), or use of a usual illness protocol in an individual e.g. short course of benzodiazepines.
- A risk of fever induced seizures has been reported with most vaccines predominantly in the very young, a time when this type of seizure may present. Association of presentation with seizures in the first year of life following DPT vaccine has been demonstrated to be the presentation of Dravet Syndrome in affected individuals, with fever induced seizures.
- The question has arisen as to whether use of a vaccine utilising an adeno virus carrier (e.g. Oxford/AstraZeneca) could preclude future genetic therapies that may use the same adenovirus, through generation of antibodies to this. This is a recognised technique in vaccine development. Adenoviruses exist within the community; consequently, we are all developing immunity. However, the immunity seems to be strain specific. This said, definitive answers are not available at this stage because the assessment of the first COVID-19 vaccines based on adenoviral vectors is currently ongoing.
- Ultimately herd immunity (the immunity of the population as a whole) will reduce the transmission of infection and therefore the risk for all.