

## Protocol for immunisation of children with Dravet syndrome or other vaccine-proximate seizures

**High risk children should be seen in both the Neurology and RCH Immunisation clinics to confirm the vaccine plan, prior to arranging admission.**

The highest risk time for VPS following inactivated vaccines is in the first 48 hours after vaccination. Therefore, 'high-risk' children and will be admitted to hospital prior to administration of inactivated vaccines and remain an inpatient for at least 48 hours after vaccination.

### Admission

- Elective admission to RCH Cockatoo ward under the Neurology team
- Aim to avoid admission on a Friday
- Continue usual antiepileptic medication (if prescribed)
- Prescribe PRN **intranasal midazolam** (0.3 mg/kg, rounded up to the nearest 0.5 mg, maximum dose 10 mg)
- Intravenous access is **not** routinely required but can be considered on a case-by-case basis

### Prophylactic medications

Medications should be commenced one hour prior to immunisation and continue for 48 hours (longer if the child is febrile).

- Medications should be given regularly (not PRN)
- **Paracetamol** – orally, 20 mg/kg as a first dose, followed by 15 mg/kg QID
- **Clonazepam** – orally, 0.01 mg/kg as a first dose, followed by 0.01 mg/kg every 8 hours

### Emergency management of seizures

- **Intranasal midazolam** should be given without delay at the onset of a seizure
- Call a MET (2222)
- Status epilepticus should be managed according to hospital/APLS guidelines unless the patient has an individualised plan.
- If a second midazolam dose is required it can be given IM if there is no IV access (0.15 mg/kg, maximum 10 mg)

### Discharge

Discharge can be considered after 48 hours if the child has been afebrile for 12 hours.

However, if the child has received the **influenza vaccine, the COVID vaccine, or the two together**, and the following criteria are met, the child can be discharged after 24 hours to continue the protocol at home for a further 24 hours (48 hours total):

1. Has had a "successful" experience with the past protocol with no vaccine-proximate status epileptics.
2. No status epilepticus in the past 6 months.
3. No change to baseline seizure frequency in the past 2 months.
4. No recent medication change in the past 2 months.
5. The family lives in metropolitan Melbourne.
6. The family is resourced and comfortable to follow the protocol at home for the second 24 hours.
7. There is no intercurrent illness.

## References

1. Farrington P, Pugh S, Colville A, et al. A new method for active surveillance of adverse events from diphtheria/tetanus/pertussis and measles/ mumps/ rubella vaccines. *Lancet*. 1995; 345 (8949): 567-56
2. Barlow et al. The risk of seizures after receipt of whole-cell pertussis or measles, mumps and rubella vaccine. *NEJM*. 2001; 345 (9)
3. Griffin MR, Ray WA. Risk of seizures after measles-mumps-rubella immunization. *Pediatrics*. 1991; 88 (5): 881-5
4. Bakken IJ, Aaberg KM, et al. Febrile seizures after 2009 influenza A (H1N1) vaccination and infection: a nationwide registry-based study. *BMC Infect Dis*. 2015; 15: 50
5. Huang WT, Gargiulo PM, et al. Lack of association between acellular pertussis vaccine and seizures in early childhood. *Pediatrics*. 2010; 126 (2) 263-9
6. Klein NP, Fireman B, et al. Measles-mumps-rubella-varicella combination vaccine and the risk of febrile seizures. *Pediatrics*. 2010; 126 (1): e1-8.
7. Verbeek NE, van der Maas NA, et al. Prevalence of SCN1A-related Dravet Syndrome among children reported with seizures following vaccination: A population based ten-year cohort study. *PLOS One*. 2013; 8 (6): e65758
8. McIntosh AM, McMahon J, et al. Effects of vaccination on onset and outcome of Dravet syndrome: a retrospective study. *Lancet Neurology*. 2010; 9: 592-9
9. Chiron C, Marchand MC, et al. Stiripentol in severe myoclonic epilepsy in infancy: a randomised placebo-controlled syndrome-dedicated trial. *The Lancet*. 2000; 356: 1638-1642

Revised: 18 April 2023

Guideline written in collaboration between the RCH Neurology Department and Immunisation team  
For Immunisation queries contact the RCH Immunisation hotline [1300 882 924- open business hours]