Sodium Valproate

Pregnancy should be excluded before initiation on valproate medicines with a negative plasma pregnancy test, confirmed by a healthcare professional. Sodium valproate has a high teratogenic potential.

Presentation	**Products which require reconstitution of powder before dilution:** Vials containing sodium valproate 400mg powder plus 4ml ampoule containing water for injection for reconstitution.[1a,] **Products provided already in solution ready for dilution:** Glass ampoule containing 3ml or 10ml sodium valproate 100mg/ml solution for injection.[1b] Glass ampoule containing 4ml or 10ml sodium valproate 100mg/ml solution for injection or infusion.[1c]
Indication	• Status epilepticus • Maintenance treatment of epilepsy when the enteral route is not available
Dose and administration	**Reconstitution of 400mg vials** To reconstitute, inject the solvent provided (4 ml) into the vial, allow to dissolve and extract the appropriate dose. The concentration of the reconstituted sodium valproate is 100mg/ml. [1a] For all products, best practice is to use a filter with a pore size of not more than 5 microns, when drawing up from an ampoule. **Status Epilepticus** Intravenous loading dose: 40mg/kg up to a maximum dose of 3000mg. Administer in 50ml of 0.9% sodium chloride or 5% glucose over ten minutes[2]. **Maintenance treatment** If patients have previously been on sodium valproate the total daily intravenous dose is equivalent to the total daily oral dose. **Doses <600mg** **Centrally:** After reconstitution (if required), administer without further dilution by slow intravenous injection over 3-5 minutes, or by intermittent infusion in at least 50ml sodium chloride 0.9% or glucose 5%. **Peripherally:** After reconstitution (if required) and further dilution in at least 20ml sodium chloride 0.9% or glucose 5%, administer by slow intravenous injection over 3-5 minutes or as an intermittent infusion in at least 50ml sodium chloride 0.9% or glucose 5%.[3] **Doses > 600mg** **Centrally:** sodium valproate injection may be given after reconstitution (if required), without further dilution by slow intravenous injection over 3-5 minutes, or by intermittent infusion in at least 50ml sodium chloride 0.9% or glucose 5%. **Peripherally:** must be given as an intermittent infusion in at least 50ml sodium chloride 0.9% or glucose 5%.[3] **Intermittent infusion:** Remove the required volume of sodium chloride 0.9% or glucose 5% from the infusion bag, equivalent to the volume of sodium valproate to be added.

	If possible, administer via a central venous access device to avoid potential venous irritation, as the preparation has a high osmolarity. Intermittent infusions are administered at a rate that does not exceed 20mg/min i.e. maximum 1200mg over 60 minutes. Sodium valproate should be given via a dedicated lumen. If this is not possible for boluses or intermittent infusions flush the line well before and after administration.
Stability	Physically and chemically stable for 24 hours at room temperature. Stable in sodium chloride 0.9% and glucose 5%.
Concentration	There is no recommended concentration for dilution but a minimum volume of 50ml is recommended. Larger infusion volumes may be used if necessary.
Further comments	Ammonia levels should be performed for patients started on valproate approximately two days after starting valproate. Consider rechecking while on sodium valproate particularly if the patient's conscious level does not improve despite control of the seizures or if the patient shows signs of encephalopathy. **Avoid meropenem:** Decreases in blood levels of sodium valproate have been reported when it is co-administered with carbapenem agents resulting in a 60-100% decrease in valproic acid levels within two days, sometimes associated with convulsions.

References

1. a) Epilim 400mg powder and solvent for solution for injection/infusion. Sanofi Ltd. Last updated 12/07/2023. Epilim 400mg Powder and Solvent for solution for injection/infusion - Summary of Product Characteristics (SmPC) - (emc) (medicines.org.uk)
   b) Episenta solution for injection. Desitin Pharma. Last updated 14/06/2023. https://www.medicines.org.uk/emc/product/293/smpc
   c) Sodium Valproate 100mg/ml solution for injection or infusion. Wockhardt UK Ltd. Last updated 04/08/2022. https://www.medicines.org.uk/emc/product/1209/smpc
2. Kapur J, Elm J, Chamberlain JM, Barsan W, Cloyd J, Lowenstein D et al. Randomized Trial of Three Anticonvulsant Medications for Statud Epilepticus. N Engl J Med. 2019 28;381(22):2103-13
3. Sodium Valproate. Injectable Medicines Guide, available at: https://medusa.wales.nhs.uk/IVGuideDisplay.asp Accessed: 09/10/2023.
4. Guideline for the in-hospital drug treatment of convulsive status epilepticus in adults, NHS Lothian. Approved: February 2020. For review: February 2023. Available at: http://intranet.lothian.scot.nhs.uk/Directory/neurology/Protocols/ Accessed 09/10/2023.