Infection indications for IV Immunoglobulin (IVIG)

BRANDS :	Kiovig, Privigen, Gamunex, Octagam
PRESENTATION :	All brands 10% intravenous infusion of normal human immunoglobulin Solution in a vial with a stopper - available as 5g/50ml, 10g/100ml, 20g/200ml
BRAND CHOICE :	Choice determined by brand availability, supply shortages and restrictions on use. Please discuss brand choice with pharmacist.
INDICATION :	• Staphylococcal and Streptococcal toxic shock syndrome • Necrotising (Panton-Valentine Leukocidin associated) staphylococcal sepsis • Severe or recurrent clostridioides difficile infection (CDI) colitis Suspect toxic shock syndrome in multi-organ failure with shock, fever, rash, and GI or CNS disturbances (not all are necessary) especially where Staphylococcal or Streptococcal infection is likely. IVIG should be considered for these patients if no clinical response (such as reduction in vasopressor dose) has been observed within the first 6 hours of aggressive therapy. Use of IVIG must be agreed by both a microbiology consultant and a critical care consultant.
DOSE :	Use dose calculator for all patients. Dose calculator can be found at https://ivig.transfusionontario.org/dose/ Total dose should be round down to the nearest dose that can be summated from available vial sizes (5g, 10g, 20g available). Dose for Staphylococcal and Streptococcal toxic shock syndrome and Necrotising (Panton-Valentine Leukocidin associated) staphylococcal sepsis: 2g/kg as a single dose. No repeat doses should be given. Dose for severe of recurrent CDI colitis: 0.4g/kg as a single dose which can be repeated.
PRESCRIPTION FORM, ORDERING AND PRESCRIBING :	Request form available at https://www.nppeag.scot.nhs.uk/guidelines/ Select 'Immunoglobulin Request Form'. This request form should be completed and signed by a consultant or senior registrar. All doses should be prescribed on patients kardex as 'stat' doses. Any grade of doctor and ACCP can prescribe the IVIG on kardex. Please contact clinical pharmacist to confirm dose, review request form and arrange supply. If out of hours, please contact on call pharmacist via switchboard.
ADMINISTRATION AND MONITORING :	Before the infusion of all brands Ensure resuscitation equipment is available Ensure patient is adequately hydrated

	Consider CAUTIONS associated with patient's medical conditions and medicines (see section below) Administration recommendations for all brands Administer via IV route only Administer at room temperature Protect IVIG from direct sunlight Do not shake the product Use the product immediately once prepared. Brand specific standard daily infusion rate regimen Kiovig 100mg/ml 30 mins 0.5ml/kg/hr 30 mins 1ml/kg/hr 30 mins 2 ml/kg/hr 30 mins 4 ml/kg/hr The remainder at 6 ml/kg/hr Privigen 100mg/ml 30 mins 0.3 ml/kg/hr 30 mins 0.6 ml/kg/hr 30 mins 1.2 ml/kg/hr 30 mins 2.4 ml/kg/hr The remainder at 4.8 ml/kg/hr Gamunex 100mg/ml 30 mins 0.6 ml/kg/hr 30 mins 1.2 ml/kg/hr 30 mins 2.4 ml/kg/hr 30 mins 4.8 ml/kg/hr The remainder at 7.2 to 8.4 ml/kg/hr Note the maximum infusion rate for Gamunex for patients at risk of renal failure is 4.8ml/kg/hr. Octagam 100mg/ml 30 mins 0.6ml/kg/hr 30 mins 1.2ml/kg/hr 30 mins 2.4 ml/kg/hr 30 mins 4.8 ml/kg/hr The remainder at 7.2 ml/kg/hr Rates may be reduced at the prescriber's discretion, depending on the patient's condition, tolerance to IVIG and side effects. Do not exceed the above rates. Observations during infusion for all brands *Days 1 and 2* Hour 1 T(Temperature), P(Pulse), R (Respiratory rate) & BP (Blood pressure) every 15 mins Hour 2 T, P, R & BP every 30 mins Then T, P, R & BP every hour *All subsequent days* T, P, R & BP every hour Observations may be required more frequently depending on patient's condition,

	tolerance to IVIG and side effects. If batch number changes, observations should restart as per Days 1 and 2.
CAUTIONS WITH MEDICAL CONDITIONS AND MEDICINES	Concomitant loop diuretics should be avoided. Caution in patients over 65 years old, obese, or with a medical history of thromboembolic events (eg. MI, stroke, PE, DVT), hypertension, diabetes mellitus, vascular disease and in patients who are immobile, who take concomitant nephrotoxic medication or have renal impairment.
CONCENTRATION :	100mg/ml
STABILITY :	Use immediately once vial opened.
ADDITIONAL INFORMATION :	Octagam contains maltose as a stabilising agent, which may cause falsely high readings of "glucose" in some blood glucose monitoring devices (for the duration of the infusion and for up to 15 hours post-infusion). The Accu-chek inform ii test strips which are used in critical care at RIE do not interfere with maltose and are therefore suitable to measure blood glucose in patients who receive Octagam. If a different brand of test strips are being used for blood glucose monitoring, please contact biochemistry to confirm no interference with maltose from the specific test strips. An alternative brand of immunoglobulin other than Octagam should be used if any doubt about maltose interference.
REFERENCES :	Department of Clinical Neurosciences, Western General Hospital, 2020. Kiovig infusion protocol for nursing staff – IVIg. Department of Clinical Neurosciences, Western General Hospital, 2020. Privigen infusion protocol for nursing staff – IVIg. Department of Clinical Neurosciences, Western General Hospital, 2020. Gamunex infusion protocol for nursing staff – IVIg. Department of Clinical Neurosciences, Western General Hospital, 2020. Octagam infusion protocol for nursing staff – IVIg. Martindale, 2021. Toxic shock syndrome. https://www.medicinescomplete.com/#/content/martindale/1-a5-340-n?hspl=toxic&hspl=shock Accessed 22/07/21. NHS Scotland, 2021. NHS Scotland Immunoglobulin request form. Version 10. https://www.nppeag.scot.nhs.uk/wp-content/uploads/2021/04/IVIG-request-form-V10-April-2021.pdf Accessed 29/06/21. Roche Diagnostics Limited (personal email communication, enquiry reference CAS-0013823945//ACI2 interference, 22/07/21). Summary of Product Characteristics, 2021. Kiovig 100mg/ml solution for infusion. https://www.medicines.org.uk/emc/medicine/30185. Accessed 29/06/21. Summary of Product Characteristics, 2020. Privigen 100mg/ml solution for infusion. https://www.medicines.org.uk/emc/product/6428/smpc. Accessed 29/06/21. Summary of Product Characteristics, 2020. Gamunex 10%, 100mg/ml, solution for infusion. https://www.medicines.org.uk/emc/product/4854/smpc. Accessed 29/06/21. Summary of Product Characteristics, 2020. Octagam 10%, solution for infusion. https://www.medicines.org.uk/emc/product/4701/smpc. Accessed 29/06/21.

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