Intravenous immunoglobulin (IVIg) clinical practice guidance template

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OFFICIAL

Contents

VICTORIA State Government

Australian Red Cross Lifeblood

Blood Matters

General information

Australia supports the domestic IVIg product with products from overseas sources to ensure supply. A tender process is undertaken periodically to source these IVIg products. From April 2023, there will be changes to the Australian supplied IVIg, when Intragam®10 will no longer be available and Privigen®AU will be introduced. Kiovig® will also be added to the list of imported IVIg.

Purpose

To administer IVIg safely and according to the manufacturers' instructions (product information sheets). This information is a guide only. Health service procedures based on the information contained in this document should be implemented and monitored for compliance with best practice, safety guidelines and all other requirements specific to the products available. All health service policies/procedures should be developed in accordance with local procedure development policies and should be approved/endorsed by the appropriate committee/s.

Specific indications, contraindications, and precautions

For approved indications - refer to the Criteria for the clinical use of intravenous immunoglobulin in Australia, 3rd edition, October 2018: https://www.blood.gov.au/ig-criteria

All requests for IVIg must be made through BloodSTAR

For contraindications and precautions **refer to Appendix A** and the prescribed IVIg product information.

General precautions

Aseptic meningitis syndrome (AMS)

Aseptic meningitis syndrome has been reported to occur in association with IVIg treatment. Discontinuation of IVIg treatment has resulted in remission of AMS within several days without sequelae.

Hypersensitivity

True hypersensitivity reactions are rare. They can occur in the rare cases of IgA deficiency with anti-IgA antibodies.

Rarely, IVIg can induce an anaphylactic reaction, even in patients who have tolerated previous treatment with human normal immunoglobulin.

Thromboembolism

There is clinical evidence of an association between IVIg administration and thromboembolic events such as myocardial infarction, stroke, pulmonary embolism, and deep vein thromboses. Caution should be exercised in prescribing and infusing IVIg in patients with pre-existing risk factors for thrombotic events, such as:

- obesity
- advanced age,
- hypertension,
- diabetes mellitus,
- a history of vascular disease or thrombotic episodes,
- patients with acquired or inherited thrombophilia disorders,
- patients with prolonged periods of immobilisation,

- patients with diseases which increase blood viscosity.

It is recommended that for patients judged to be at risk of developing thromboembolic events, administration of IVIg at the minimum rate of infusion that is practicable be considered.

Acute renal failure

There have been occasional reports of renal dysfunction and acute renal failure in patients receiving IVIg products. Patients at increased risk are those with pre-existing renal insufficiency, diabetes mellitus, age greater than 65 years, volume depletion, sepsis and paraproteinaemia, and those taking concomitant nephrotoxic drugs.

In all patients, intravenous immunoglobulin administration requires:

i) adequate hydration prior to the initiation of the infusion of IVIg

ii) monitoring of urine output

iii) monitoring of serum creatinine levels and

iv) avoidance of concomitant use of loop diuretics

Haemolytic anaemia

IVIg products can contain blood group antibodies which may act as haemolysins that can result in a positive direct antiglobulin test (DAT/ direct Coomb's test) up to intravascular haemolysis. Haemolytic anaemia can develop subsequent to IVIg therapy due to enhanced red blood cell (RBC) destruction or sequestration. IVIg recipients should be monitored for clinical signs and symptoms of haemolysis.

Effects on fertility

No fertility studies have been reported.

Use in pregnancy

Safety of Ig has not been established in controlled trials. Clinical experience with immunoglobulins suggests that no harmful effects on the course of the pregnancy or the foetus/neonate are to be expected.

Use in lactation

Refer to product information.

Use in the elderly, genotoxicity and carcinogenicity

Refer to product information.

No carcinogenicity studies have been reported.

Presentation and appearance

Refer to Appendix A for specific information regarding product presentations.

Please note: Administration rates and protocols will vary between products and presentations. Patients should receive the same product at each treatment unless a specific request has been made to change product.

All products should be clear or slightly opalescent liquids ranging from colourless to pale yellow, If the product appears turbid or to contain any sediment it must not be used.

Storage conditions

Refer to Appendix A

- Some immunoglobulins can be stored at room temperature, while others require refrigeration (please refer to product insert for storage information).
- Protect from light.
- Do not freeze.

Pathogen safety and infection control

See product insert for specific pathogen safety steps.

IVIg products do not contain antimicrobial preservative. Therefore, they must be used immediately after opening/spiking the bottle. Use in one patient on one occasion only. Any unused portion should be discarded appropriately.

Compatibilities and drug interactions

- IVIg should be administered separately from other intravenous fluids or medications
- The interaction of IVIg preparations with other medicines has not been established in appropriate studies.
- Immunoglobulin infusion may interfere with the response to live attenuated vaccines. Therefore, administration of such vaccines e.g., poliomyelitis or measles, rubella, mumps and varicella should be deferred until approximately three months after intravenous immunoglobulin administration. See product insert for further information.

Preparation for infusion

Inspection

- Immunoglobulin is a sterile, clear or slightly opalescent, colourless or pale-yellow solution for intravenous injection.
- Do not use if the solution appears cloudy or contains deposits.
- The lid, covering the rubber stopper, should be intact.

Infusion equipment

- IVIg may be administered through any vented standard IV infusion giving set directly from the bottle.
- An infusion pump may be used, follow local guidelines for use of infusion pumps.

Priming and flushing

- Lines may be primed with 0.9% normal saline or the IVIg product and flushed with 0.9% saline if needed.

Patient readiness

- The patient has consented to receive IVIg.
- IVIg has been prescribed and is consistent with the BloodSTAR authorisation.
- Baseline observations have been taken and recorded.
- Any pre-infusion symptom which may be confused with an adverse reaction has been noted.
- Patient is well hydrated.

- Any required blood tests have been taken.
- Premedication has been administered, if required.

Pre-infusion checks

- Positive patient identification following usual hospital protocol.
- The right product as prescribed for this patient. It is important to verify exact product as product names are similar for example, Privigen versus Privigen AU.
- The right dose for this patient.
- The right date/time the infusion is due.
- The right rate of infusion – the correct corresponding infusion protocol, different IVIg products are given according to different infusion schedules.
- Please refer to Appendices B-G for infusion rates, checking carefully that you are following the correct rate for the product being given. Note: the following Appendices for infusion rates apply to adults. Please seek guidance, as discussed previously, if using IVIg products in paediatrics.
  - Appendix B Privigen®10% and Privigen AU®10%
  - Appendix C Flebogamma® 5%
  - Appendix D Flebogamma®10%
  - Appendix E Gammunex®10%
  - Appendix F Octogam®10%
  - Appendix G Kiovig®10%

Considerations for infusion rates in some patient groups

Consider running IVIg at slower rates for paediatric/neonatal patients. Consultant Paediatrician may need to determine the best rate for each child/infant/neonate.

Infusion rates for acutely ill, febrile, and or elderly patients, and those with known cardiac or renal insufficiencies should be raised cautiously and frequently will not reach the maximum rate. The patient's predisposition to circulatory overload should always be considered when selecting infusion rates. Slower infusion rates may be required in these patients.

In patients at risk of acute renal failure or thromboembolic events, IVIg products should be administered at the minimum rate of infusion and dose practicable.

Traceability

The name and batch number of every IVIg bottle administered to a patient must be recorded for traceability purposes.

Observations

Perform and document the patient's temperature, pulse, respiration rate and blood pressure at the following points **as a minimum:**

- prior to commencing
- prior to each rate increase and hourly once maximum rate achieved
- once completed
- observe patient for 20 minutes post completion.

Please be aware that local policies may require more frequent observations. Similarly, if a patient experiences an adverse reaction to IVIg infusion, more frequent monitoring should be undertaken.

General adverse effects

Adverse effects tend to be rate related, but other risk factors need to be taken into consideration.

Adverse events are commonly associated with patients who receive IVIg:

- for the first time
- when there has been a long interval since the previous infusion
- when there is a change in product.

The types of reactions that may occur during or after IVIg infusion include but are not limited to those as described in Table 1.

Table 1: Acute and delayed symptoms and signs of IVIg reactions and some recommended management

Acute symptoms and signs	Management	Delayed reactions
• malaise, lethargy • abdominal pain • headache • chest-tightness • facial flushing or pallor • erythema • hot sensations • dyspnoea or respiratory difficulty • urticaria /skin rash • rashes on hands/palms • itching • change in blood pressure • nausea or vomiting • arthralgia • dizziness • myalgia/ musculoskeletal stiffness	• the infusion should be stopped until medical review • assess patient • notify medical staff • following medical review, and if the patient improves clinically, cautiously recommence at a slower rate, may be appropriate	• persistent headache • renal complications • thromboembolic events • aseptic meningitis • haematological complications e.g., haemolysis • dermatological complications e.g., urticaria • other: nausea, vomiting, chest pains, rigors, dizziness, arthralgia, aching legs These reactions may occur post infusion, normally within 24 hours. Please ensure medical staff are notified.

After infusion of immunoglobulin, the transitory rise of various passively transferred antibodies in the patient's blood may result in misleading positive results in serological testing.

This includes passive transmission of antibodies to red blood cell antigens e.g. A, B, D may interfere with some serological tests for red cell antibodies for example the antiglobulin test.

IVIg therapy has been associated with an increase in serum creatinine level and/or acute renal failure.

References

Flebogamma® 5% DIF, product information. Grifols Australia Pty Ltd. 2012

Flebogamma® 10% DIF, product information. Grifols Australia Pty Ltd. 2013

Privigen®AU, product information. CSL Behring (Australia) Pty Ltd. 2023

Privigen®, Product information. CSL Behring (Australia) Pty Ltd. 2019

Gamunex® 10%, product information. Grifols Australia Pty Ltd. 2019

Octagam®10%, product information. Octapharma Australia Pty Ltd. 2021

Acknowledgements

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Further information

Further information can be found on the following websites:

National Blood Authority - http://www.blood.gov.au/Ig-governance

Australian Red Cross Lifeblood - https://www.lifeblood.com.au/health-professionals/products/fractionated-plasma-products/immunoglobulins

Australasian Society of Clinical Immunology and Allergy (ASCIA) - ASCIA Guidelines for standardised IVIg infusion rates for IRT - Australasian Society of Clinical Immunology and Allergy (ASCIA)

Appendix A: Comparison table of IVIg products currently available in Australia

Element	Privigen® AU (CSL Behring)	Privigen® (CSL Behring) [Imported]	Flebogamma® (Grifols)	Gamunex® (Grifols)	Octagam®10% (Octapharma)	Kiovig® 10% (Takeda)
Presentation	10% solution Vial size: 5g in 50mL, 10g in 100mL, 20g in 200mL	10% solution Vial size: 5g in 50mL, 10g in 100mL, 20g in 200mL, 40g in 400mL	5% solution Vial sizes: 0.5g in 10mL, 2.5g in 50mL, 5g in 100mL, 10g in 200mL and 20g in 400mL 10% solution Vial sizes: 5g in 50mL, 10g in 100mL and 20g in 200mL	10% solution Vial size: 5g in 50mL, 10g in 100mL, 20g in 200mL	10% solution Vial size: 2g in 20mL, 5g in 50mL, 10g in 100mL and 20g in 200mL	10% solution Vial size: 1g in 10mL, 2.5g in 25mL, 5g in 50mL, 10g in 100mL and 20g in 200mL
Stabiliser	L-Proline	L-Proline	Sorbitol	Glycine	Maltose	Glycine
Storage Do not freeze Protect from light	Store below 25°C for up to 3 years, from date of manufacture.	Store at room temperature (<25°C) for up to 3 years from date of manufacture.	Store at room temperature (<30°C) for up to 2 years from date of manufacture.	Store at 2-8˚C for up to 36 months from date of manufacture. Once removed from refrigeration, store below 30°C and use within 6 months or before expiry date, whichever comes first.	Store at 2-8˚C for up to 2 years from date of manufacture. Once removed from refrigeration, store below 25°C and use within 9 months.	Store at 2°C to 8°C for up to 36 months from date of manufacture.

Element	Privigen® AU (CSL Behring)	Privigen® (CSL Behring) [Imported]	Flebogamma® (Grifols)	Gamunex® (Grifols)	Octagam®10% (Octapharma)	Kiovig® 10% (Takeda)
Contraindications	Privigen® AU is contraindicated in patients who: Have hypersensitivity to the active substance or the excipient, or to human immunoglobulins, especially in patients with IgA deficiency where the patient has anti-IgA antibodies. For patients with hyperprolinaemia type I and type II care should be taken to weigh the individual risks.	Privigen® is contraindicated in patients: Who exhibit hypersensitivity to the active substance or to the excipient. With hyperprolinaemia.	Flebogamma 5% & 10% is contraindicated in patients: Who exhibit hypersensitivity to the active substance or to the excipient. With hereditary fructose intolerance. In babies and young children as hereditary fructose intolerance may not yet be diagnosed and may be fatal.	Gamunex® is contraindicated in individuals with known anaphylactic or severe systemic response to human immunoglobulin or any of the excipients of the product. This applies in particular to individuals with severe, selective IgA deficiencies (serum IgA <0.05 g/L) who have known antibodies against IgA (anti-IgA antibody), due to the risk of severe immediate hypersensitivity reactions including anaphylaxis.	Octagam® is contraindicated in any patient who has a history of an allergic reaction to any human immunoglobulin preparation or to any constituent of Octagam®.	Kiovig® is contraindicated in patients with known anaphylactic or severe systemic response to human immunoglobulin or any excipients of the product.
Specific precautions	Privigen®AU contains the excipient L-proline. Clinicians should weigh the risk/benefit of	See specific product information	See specific product information	See specific product information	Octagam® contains maltose, which could interfere with blood and urinary glucose tests. See	See specific product information

Element	Privigen® AU (CSL Behring)	Privigen® (CSL Behring) [Imported]	Flebogamma® (Grifols)	Gamunex® (Grifols)	Octagam®10% (Octapharma)	Kiovig® 10% (Takeda)
	Privigen® AU in patients with hyperprolinaemia type I and type II on an individual basis.				product insert for further information on which testing systems may be affected.	
Paediatric use	Privigen® AU: Although limited data is available, it is expected that the same warnings, precautions and risk factors apply to the paediatric population.	Privigen®: Although limited data is available, it is expected that the same warnings precautions and risk factors apply to the paediatric population.	Flebogamma 5% and 10% Patients with rare hereditary problems of fructose intolerance should not take this medicine. Special precautions should be taken with babies and young children because this fructose intolerance may not yet be diagnosed and may be fatal.	Gamunex®: Proceed with caution, No data available.	The safety of OCTAGAM® 10% for paediatric use has not been established in controlled clinical trials.	The safety and effectiveness of Kiovig® 10%, have been established in the age groups 2 to 16. Use of Kiovig® 10%, in these age groups is supported by evidence from adequate and well-controlled studies of Kiovig® 10%, including paediatric subjects. Safety and efficacy of Kiovig® 10%, in paediatric patients below the age of 2 has not been established. The use of Kiovig® 10%, in the treatment of CIDP in the paediatric

Element	Privigen® AU (CSL Behring)	Privigen® (CSL Behring) [Imported]	Flebogamma® (Grifols)	Gamunex® (Grifols)	Octagam®10% (Octapharma)	Kiovig® 10% (Takeda)
						population has not been established.
Specific adverse effects			For patients experiencing adverse reactions with Flebogamma® 10% DIF, it is advisable to reduce the infusion rate in subsequent infusions and limit the maximum rate to 0.04ml/kg/min or administer 5% concentration.			
Compatible fluids / dilution	Do not mix with other medicinal products including 0.9% sodium chloride, however, infusion line may be primed/flushed with 0.9% sodium chloride.	Privigen must not be mixed with 0.9% sodium chloride, however, the infusion line may be primed or flushed with 0.9% saline. Privigen® can be diluted with 5% dextrose solution, using aseptic technique.	None listed. Dilution not mentioned in PI.	If dilution is required, Gamunex® may be diluted with 5% dextrose in water (D5/W). Do not dilute with saline. Gamunex® infusion line can be flushed with 5% dextrose in water (D5/W) or 0.9% sodium	None listed. Dilution not mentioned in PI.	If Kiovig® 10%, must be diluted, 5% glucose in water should be used as a diluent. Normal saline should not be used as a diluent though it may be used to flush intravenous lines.

Element	Privigen® AU (CSL Behring)	Privigen® (CSL Behring) [Imported]	Flebogamma® (Grifols)	Gamunex® (Grifols)	Octagam®10% (Octapharma)	Kiovig® 10% (Takeda)
				chloride for injection. AVOID: simultaneous administration with Heparin through a single lumen delivery system device due to Gamunex®, Heparin incompatibilities		

Appendix B – Privigen® AU (10 percent) and Privigen® (10 percent) infusion rate guide

The initial infusion rate is 0.3 mL/kg body weight/hr. If well tolerated, the rate of administration may gradually be increased to a **maximum rate of 4.8 mL/kg body weight/hr.**

Table 2: Privigen® AU 10 percent and Privigen® 10 percent incremental infusion rates in mL/kg/hr and the corresponding infusion pump rate per body weight at 5kg increments

Infusion rate mL/kg/hr	Pump rate	10 kg	15 kg	20 kg	25 kg	30 kg	35 kg	40 kg	45 kg	50 kg	55 kg	60 kg	65 kg	70 kg	75 kg	80 kg	85 kg	90 kg	95 kg	100 kg
0.3	mL/hr	3	4.5	6	7.5	9	10.5	12	13.5	15	16.5	18	19.5	21	22.5	24	25.5	27	28.5	30
0.6	mL/hr	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60
1.2	mL/hr	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
2.4*	mL/hr	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240
3.6*	mL/hr	36	54	72	90	108	126	144	162	180	198	216	234	252	270	288	306	324	342	360
4.8*	mL/hr	48	72	96	120	144	168	192	216	240	264	288	312	336	360	384	408	432	456	480

*Rate rises are at the discretion of the health care professional and as tolerated by the patient. See the product information for more detail regarding infusion rate studies for specific patient groups.

Appendix C – Flebogamma® 5 percent DIF infusion rate guide

Flebogamma 5 percent DIF should be infused intravenously at an initial rate of 0.01 - 0.02 ml/kg/min for the first thirty minutes. If well tolerated, the rate of administration may be gradually increased at 30-minute intervals by 0.01mL/kg/min (equivalent to 0.6mL/kg/hr) to a maximum of 0.1ml/kg/min (6mL/kg/hr) as tolerated by the patient.

Table 3 Flebogamma® 5 percent detailed incremental infusion rates per body weight at 10kg increments

Infusion rate mL/kg/min	Infusion rate mL/kg/hr	Pump rate	10 kg	20 kg	30 kg	40 kg	50 kg	60 kg	70 kg	80 kg	90 kg	100 kg	110 kg	120 kg
0.01	0.6	mL/hr	6	12	18	24	30	36	42	48	54	60	66	72
0.02	1.2	mL/hr	12	24	36	48	60	72	84	96	108	120	132	144
0.03	1.8	mL/hr	18	36	54	72	90	108	126	144	162	180	198	216
0.04	2.4	mL/hr	24	48	72	96	120	144	168	192	216	240	264	288
0.05	3.0	mL/hr	30	60	90	120	150	180	210	240	270	300	330	360
0.06	3.6	mL/hr	36	72	108	144	180	216	252	288	324	360	396	432
0.07	4.2	mL/hr	42	84	126	168	210	252	294	336	378	420	462	504
0.08	4.8	mL/hr	48	96	144	192	240	288	336	384	432	480	528	576
0.09	5.4	mL/hr	54	108	162	216	270	324	378	432	486	540	594	648
0.10	6.0	mL/hr	60	120	180	240	300	360	420	480	540	600	660	720

This table was developed using the FLEBOGAMMA® 5percent DIF product information, always refer to the product information for more information

Appendix D – Flebogamma® 10 percent DIF infusion rate guide

Flebogamma 10 percent DIF should be infused intravenously at an initial rate of 0.01 ml/kg/min for the first thirty minutes. If tolerated advance to 0.02 ml/kg/min for the second thirty minutes. If tolerated advance to 0.04 ml/kg/min for the third thirty minutes. If tolerated advance to 0.06 ml/kg/min for the fourth thirty minutes. If tolerated advance to a maximum rate of 0.08 ml/kg/min, equivalent to 4.8mL/kg/hr.

Table 4: Flebogamma® 10 percent detailed incremental infusion rates per body weight at 10kg increments

Infusion rate mL/kg/min	Infusion rate mL/kg/hr	Pump rate	10 kg	20 kg	30 kg	40 kg	50 kg	60 kg	70 kg	80 kg	90 kg	100 kg	110 kg	120 kg
0.01	0.6	mL/hr	6	12	18	24	30	36	42	48	54	60	66	72
0.02	1.2	mL/hr	12	24	36	48	60	72	84	96	108	120	132	144
0.03	1.8	mL/hr	18	36	54	72	90	108	126	144	162	180	198	216
0.04	2.4	mL/hr	24	48	72	96	120	144	168	192	216	240	264	288
0.05	3.0	mL/hr	30	60	90	120	150	180	210	240	270	300	330	360
0.06	3.6	mL/hr	36	72	108	144	180	216	252	288	324	360	396	432
0.07	4.2	mL/hr	42	84	126	168	210	252	294	336	378	420	462	504
0.08	4.8	mL/hr	48	96	144	192	240	288	336	384	432	480	528	576

This table was developed using the FLEBOGAMMA® 10 percent DIF product information, always refer to the product information for more information.

Appendix E – Gammunex® 10 percent infusion rate guide

Gamunex® should initially be infused at a rate of 0.01 mL/kg/min for the first 30 min. If well-tolerated, the rate may be increased gradually to a **maximum of 0.08 mL/kg/min (8mg/kg/min / 4.8mL/kg/hr)** at 30-minute intervals.

If side effects occur, the rate may be reduced, or the infusion interrupted until symptoms subside. The infusion may be resumed at the rate which is comfortable for the patient.

Table 5: Gammunex® 10 percent detailed incremental infusion rates per body weight at 10kg increments

Infusion rate mL/kg/min	Infusion rate mL/kg/hr	Pump rate	10 kg	20 kg	30 kg	40 kg	50 kg	60 kg	70 kg	80 kg	90 kg	100 kg	110 kg	120 kg
0.01	0.6	mL/hr	6	12	18	24	30	36	42	48	54	60	66	72
0.02	1.2	mL/hr	12	24	36	48	60	72	84	96	108	120	132	144
0.03	1.8	mL/hr	18	36	54	72	90	108	126	144	162	180	198	216
0.04	2.4	mL/hr	24	48	72	96	120	144	168	192	216	240	264	288
0.05	3.0	mL/hr	30	60	90	120	150	180	210	240	270	300	330	360
0.06	3.6	mL/hr	36	72	108	144	180	216	252	288	324	360	396	432
0.07	4.2	mL/hr	42	84	126	168	210	252	294	336	378	420	462	504
0.08	4.8	mL/hr	48	96	144	192	240	288	336	384	432	480	528	576

This table was developed using the Gammunex® 10 percent DIF product information, always refer to the product information for more information.

Appendix F – Octagam® 10 percent infusion rate guide

Octagam® 10 percent should be infused at an initial rate of 0.6-1.2mL/kg/hr for 30 minutes. If well tolerated, the rate of administration may be gradually increased to **a maximum of 7.2mL/kg/hr** for the remainder of the infusion.

Table 6: Octagam® 10 percent detailed incremental infusion rates per body weight at 10kg increments

Infusion rate mL/kg/hr	Pump rate	10 kg	20 kg	30 kg	40 kg	50 kg	60 kg	70 kg	80 kg	90 kg	100 kg	110 kg	120 kg
0.6	mL/hr	6	12	18	24	30	36	42	48	54	60	66	72
1.2	mL/hr	12	24	36	48	60	72	84	96	108	120	132	144
1.8	mL/hr	18	36	54	72	90	108	126	144	162	180	198	216
2.4	mL/hr	24	48	72	96	120	144	168	192	216	240	264	288
3.0	mL/hr	30	60	90	120	150	180	210	240	270	300	330	360
3.6	mL/hr	36	72	108	144	180	216	252	288	324	360	396	432
4.2	mL/hr	42	84	126	168	210	252	294	336	378	420	462	504
4.8	mL/hr	48	96	144	192	240	288	336	384	432	480	528	576
5.4	mL/hr	54	108	162	216	270	324	378	432	486	540	594	648
6.0	mL/hr	60	120	180	240	300	360	420	480	540	600	660	720
6.6	mL/hr	66	132	198	264	330	396	462	528	594	660	726	792
7.2	mL/hr	72	144	216	288	360	432	504	576	648	720	792	864

This table was developed using the Octagam® 10 percent DIF product information, always refer to the product information for more information.

Appendix G – Kiovig® 10 percent infusion rate guide

Kiovig® 10 percent infusion rate should start at 0.5 mL/kg/hr. If well tolerated gradually increase by 0.5mL/kg/hr, every 30 minutes to a maximum rate of 5.0 mL/kg/hr.

Subsequent infusions should follow the same procedure, going to the maximum rate as tolerated in previous infusions.

Table 7: Kiovig® 10 percent detailed incremental infusion rates per body weight at 10kg increments

Infusion rate mL/kg/hr	Pump rate	10 kg	20 kg	30 kg	40 kg	50 kg	60 kg	70 kg	80 kg	90 kg	100 kg	110 kg	120 kg
0.5	mL/hr	5	10	15	20	25	30	35	40	45	50	55	60
1.0	mL/hr	10	20	30	40	50	60	70	80	90	100	110	120
1.5	mL/hr	15	30	45	60	75	90	105	120	135	150	165	180
2.0	mL/hr	20	40	60	80	100	120	140	160	180	200	220	240
2.5	mL/hr	25	50	75	100	125	150	175	200	225	250	275	300
3.0	mL/hr	30	60	90	120	150	180	210	240	270	300	330	360
3.5	mL/hr	35	70	105	140	175	210	245	280	315	350	385	420
4.0	mL/hr	40	80	120	160	200	240	280	320	360	400	440	480
4.5	mL/hr	45	90	135	180	225	270	315	360	405	450	495	540
5.0	mL/hr	50	100	150	200	250	300	350	400	450	500	550	600

This table was developed using the Kiovig® 10% product information, always refer to the product information for more information.

To receive this document in another format, phone 03 9694 0102, using the National Relay Service 13 36 77 if required, or email bloodmatters@redcrossblood.org.au <bloodmatters@redcrossblood.or.au>.

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Available at IVIg changes to supply and governance (health.vic.gov.au)< https://www.health.vic.gov.au/patient-care/ivig-changes-to-supply-and-governance>