IgNS Immunoglobulin National Society

FDA-Approved Ig Products[1-22]

Brand	Manufacturer	Route	Concentration	FDA Indication(s)	FDA Dosing	Stabilizer	IgA Content	For IVIG Products, Max Infusion Rate	For SCIG Products, Maximum Volume per Site	For SCIG Products, Maximum Infusion Rate per Site	For SCIG Products, Maximum Number of Sites	Available Sizes	Storage
Alyglo™	GC Biopharma	IV	10%	PIDD (adults)	0.3-0.8 gm/kg every 3-4 weeks	Glycine	≤ 100 mcg/mL	8 mg/kg/min (0.08 mL/kg/min)	N/A	N/A	N/A	5 gm, 10 gm, 20 gm	2°C [36°F] to 8°C [46°F] for 36 months Room temperature up to 25°C [77°F] for 24 months
Asceniv™	ADMA Biologics	IV	10%	PIDD (age ≥12 years)	0.3-0.8 gm/kg every 3-4 weeks.	Glycine, polysorbate 80	≤200 mcg/mL	8 mg/kg/min (0.08 mL/kg/min)	N/A	N/A	N/A	5 gm	2°C [36°F] to 8°C [46°F] Room temperature up to 25°C [77°F] for 4 weeks
Bivigam®	ADMA Biologics	IV	10%	PIDD	0.3-0.8 gm/kg every 3-4 weeks.	Glycine, polysorbate 80	≤200 mcg/mL	6 mg/kg/min (0.06 mL/kg/min)	N/A	N/A	N/A	5 gm, 10 gm	2°C [36°F] to 8°C [46°F] Room temperature up to 25°C [77°F] for 4 weeks
Cutaquig®	Octapharma	SC	16.5%	PIDD (age ≥2 years)	• Weekly | Switching from IV to SC: Multiply the previous monthly IV dose by 1.3, then divide by previous IV dose frequency. Start one week after last IVIG dose. • Biweekly | Switching from IV to SC: Multiply the calculated weekly dose (as above) by 2. Start one week after last IVIG. • Frequent dosing (2-7 times/week) | Switching from IV to SC: Divide the calculated weekly dose (as above) by the desired number of times/week. Start one week after last IVIG. • Weekly | Switching SCIG products: Same as previous SCIG dosing.	Maltose	Average 206 mcg/mL	N/A	Adults ≥17: 40 mL Ages 7-17: 29 mL Ages 2-6: 15.5 mL	Adults ≥17: 52 mL/hr Ages 2-17: 25 mL/hr	6; spaced at least 2 inches apart	1 gm, 1.65 gm, 2 gm, 3.33 gm, 4 gm, 8 gm	2°C [36°F] to 8°C [46°F] for 36 months Room temperature up to 25°C [77°F] for 6 months
Cuvitru®	Takeda	SC	20%	PIDD (age ≥2 years)	• Weekly | Switching from IV or HyQvia: Multiply the IV or HyQvia dose by 1.3, then divide by previous IV or HyQvia dose frequency. Start one week after last IVIG or HyQvia dose. • Biweekly | Switching from IV or HyQvia: Multiply the calculated weekly dose (as above) by 2. Start one week after last IVIG or HyQvia dose. • Frequent dosing | Switching from IV or HyQvia: (2-7 times/week) | Divide the calculated weekly dose (as above) by the desired number of times/week. Start one week after last IVIG or HyQvia dose. • Switching SCIG products: Same as previous SCIG dosing.	Glycine	Average 80 mcg/mL	N/A	60 mL	60 mL/hr	4; spaced at least 4 inches apart	1 gm, 2 gm, 4 gm, 8 gm, 10 gm	2°C [36°F] to 8°C [46°F] for 36 months Room temperature up to 25°C [77°F] for 24 months
Gammagard Liquid®	Takeda	IV, SC	10%	• CIDP (adults) [IV] • MMN (adults) [IV] • PIDD (age ≥2 years) [IV, SC]	• CIDP: Loading dose: 2 gm/kg in divided doses over 2 to 5 consecutive days. Maintenance dose: 1 gm/kg divided over 1 to 4 consecutive days, every 3 weeks. • MMN: 0.5 to 2.4 gm/kg/month based on clinical response • PIDD: • IV: 0.3-0.6 gm/kg every 3-4 weeks • SC: Weekly | Switching from IV to SC: Multiply the previous monthly IV dose by 1.37, then divide by previous IV dose frequency. Start one week after last IVIG dose	Glycine	Average 37 mcg/mL	CIDP/MMN: 9 mg/kg/min (0.09 mL/kg/min) PIDD: 8 mg/kg/min (0.08 mL/kg/min)	Pt weight <40 kg: 20 mL Pt weight ≥40 kg: 30 mL	Pt weight <40 kg: 20 mL/hr Pt weight ≥40 kg: 30 mL/hr	8; spaced at least 2 inches apart	1 gm, 2.5 gm, 5 gm, 10 gm, 20 gm, 30 gm	2°C [36°F] to 8°C [46 °F] for 36 months Room temperature up to 25°C [77°F] for 24 months
Gammagard SD®	Takeda	IV	N/A	• Chronic ITP (adults) • Prevention of bacterial infections in hypogammaglobulinemia and/or recurrent bacterial infections associated with B-cell CLL • Kawasaki disease (pediatrics) • PIDD (age ≥2 years)	• Chronic ITP: 1 gm/kg; maximal 3 doses on alternate days. • CLL: 0.4 gm/kg every 3-4 weeks. • KS: Single 1 gm/kg or 0.4 gm/kg for 4 consecutive days beginning within 7 days of fever onset. • PIDD: 0.3-0.6 gm/kg every 3-4 weeks.	Glucose, glycine, polysorbate 80	5%: <1 mcg/mL 10%: <2 mcg/mL	5%: 3.5 mg/kg/min (0.07 mL/kg/min) 10%: 13 mg/kg/min (0.13 mL/kg/min)	N/A	N/A	N/A	5 gm, 10 gm	Room temperature up to 25°C [77°F] for 24 months
Gammaked™	Grifols (distributed by Kedrion Biopharma)	IV, SC	10%	• CIDP (adults) [IV] • ITP (adults and children) [IV] • PIDD (age ≥2 years) [IV, SC]	• CIDP: Loading dose: 2 gm/kg in divided doses over 2 to 4 consecutive days. Maintenance dose: 1 gm/kg divided over 1 to 2 consecutive days, every 3 weeks. • ITP: 2 gm/kg divided over 2 consecutive days or over 5 consecutive days • PIDD: • IV: 0.3-0.6 gm/kg every 3-4 weeks • SC: Weekly | Switching from IV to SC: Multiply the previous monthly IV dose by 1.37, then divide by previous IV dose frequency. Start one week after last IVIG dose.	Glycine	Average 46 mcg/mL	8 mg/kg/min (0.08 mL/kg/min)	Not listed	Adults: 20 mL/hr Pediatrics (pt weight ≥25 kg): 20 mL/hr Pediatrics (pt weight <25 kg): 10 mL/hr	Adults: 8 Pediatrics: 6 Spaced at least 2 inches apart	1 gm, 2.5 gm, 5 gm, 10 gm, 20 gm	2°C [36°F] to 8°C [46°F] for 36 months Room temperature up to 25°C [77°F] for 6 months
Gammaplex®	Bio Products Laboratory	IV	5%	• Chronic ITP • PIDD (age ≥2 years)	• Chronic ITP: 1 gm/kg daily for 2 consecutive days. • PIDD: 0.3-0.8 gm/kg every 3-4 weeks.	D-sorbitol, glycine, polysorbate 80	<10 mcg/mL	4 mg/kg/min (0.08 mL/kg/min)	N/A	N/A	N/A	5 gm, 10 gm, 20 gm	2°C [36°F] to 25°C [77°F] for 36 months
Gammaplex®	Bio Products Laboratory	IV	10%	• Chronic ITP (adults) • PIDD (age ≥2 years)	• Chronic ITP: 1 gm/kg daily for 2 consecutive days. • PIDD: 0.3-0.8 gm/kg every 3-4 weeks.	Glycine, polysorbate 80	<20 mcg/mL	8 mg/kg/min (0.08 mL/kg/min)	N/A	N/A	N/A	5 gm, 10 gm, 20 gm	2°C [36°F] to 25 °C [77°F] for 36 months
Gamunex®-C	Grifols	IV, SC	10%	• CIDP (adults) [IV] • ITP (adults and children) [IV] • PIDD (age ≥2 years) [IV, SC]	• CIDP: Loading dose: 2 gm/kg in divided doses over 2 to 4 consecutive days. Maintenance dose: 1 gm/kg divided over 1 to 2 consecutive days, every 3 weeks. • ITP: 2 gm/kg divided over 2 consecutive days or over 5 consecutive days • PIDD: • IV: 0.3-0.6 gm/kg every 3-4 weeks • SC: Weekly | Switching from IV to SC: Multiply the previous monthly IV dose by 1.37, then divide by previous IV dose frequency. Start one week after last IVIG dose.	Glycine	Average 46 mcg/mL	8 mg/kg/min (0.08 mL/kg/min)	Not listed	Adults: 20 mL/hr Pediatrics (pt weight ≥25 kg): 20 mL/hr Pediatrics (pt weight <25 kg): 10 mL/hr	Adults: 8 Pediatrics: 6 Space sites by at least 2 inches apart	1 gm, 2.5 gm, 5 gm, 10 gm, 20 gm, 40 gm	2°C [36 °F] to 8°C [46°F] for 36 months Room temperature up to 25°C [77°F] for 6 months
Hizentra®	CSL Behring	SC	20%	• CIDP (adults) • PIDD (age ≥2 years)	• CIDP • Initiate 1 week after last IVIG dose at 0.2 gm/kg/week over 1 day or divided over 2 consecutive days. If symptoms worsen, consider increasing to 0.4 gm/kg/week over 1 day or divided over 2 consecutive days. If symptoms worsen, consider re-initiating IVIG and discontinuing SCIG. • PIDD • Weekly | Switching from IV to SC: Multiply the monthly IV dose by 1.37 then divide by previous IV dose frequency. Start one week after last IVIG dose. • Biweekly | Switching from IV to SC: Multiply the calculated weekly dose (as above) by 2. Start one to two weeks after last IVIG dose. • Frequent dosing (2-7 times/week) | Switching from IV to SC: Divide the calculated weekly dose (as above) by the desired number of times/week. Start one week after last IVIG. • Switching SCIG products: Same as previous SCIG dosing.	L-proline, polysorbate 80	≤50 mcg/mL	N/A	CIDP: 50 mL PIDD: 25 mL	CIDP: 50 mL/hr PIDD: 25 mL/hr	8; spaced at least 2 inches apart	Prefilled syringe: 1 gm, 2 gm, 4 gm, 10 gm	Room temperature up to 25°C [77°F] for 30 months
HyQvia[6]	Takeda	SC	10% (IgG component) with Recombinant Human Hyaluronidase	• CIDP maintenance (adults) • PIDD (age ≥2 years)	• CIDP • For stable IVIG patients, administer the first dose two weeks after the last IVIG infusion. • Convert IVIG dose to equivalent HyQvia dose at every 2 – 4-week frequency; ramp-up over up to 9 weeks; may omit ramp-up if dose < 0.4gm/kg (see insert for ramp-up details) • Maximum daily volume 1200 mL (patient weight > 40 kg) or 600 mL (patient weight < 40 kg) • PIDD • For patients previously on another IgG treatment, administer the first dose approximately one week after the last infusion of their previous treatment. • Naïve to or switching from SCIG: 300 to 600 mg immune globulin component/kg every 3-4 weeks, after initial ramp-up. • Switching to HyQvia from IVIG: Same dose and frequency as previous IVIG treatment after the initial ramp-up. (see insert for ramp-up details)	Glycine	Average 37 mcg/mL	N/A	CIDP: 600 mL (up to 2 sites) 400 mL (if 3 sites) PIDD: Pt weight <40 kg: 300 mL Pt weight ≥40 kg: 600 mL	Pt weight <40 kg: 160 mL/hr Pt weight ≥40 kg: 300 mL/hr Hyaluronidase component: 1 - 2 mL/min	1-3 If 2 sites, select on opposite sides of body. If 3 sites, space at least 4 inches apart.	2.5 gm, 5 gm, 10 gm, 20 gm, 30 gm (based on IgG component)	2°C [36°F] to 8°C [46°F] for 36 months Room temperature up to 25°C [77°F] for 3 months during first 24 months of manufacture
Octagam®	Octapharma	IV	5%	PIDD	0.3 - 0.6 gm/kg every 3-4 weeks	Maltose	≤200 mcg/mL	3.33 mg/kg/min (0.07 mL/kg/min)	N/A	N/A	N/A	1 gm, 2.5 gm, 5 gm, 10 gm, 25 gm	2°C [36°F] to 25°C [77°F] for 36 months. With the first 24 months of this shelf-life, the product may be stored at ≤ 25°C [77°F].
Octagam®	Octapharma	IV	10%	• Chronic ITP (adults) • Dermatomyositis (adults)	• Chronic ITP: 2 gm/kg in divided in equal doses given over 2 consecutive days • Dermatomyositis: 2 gm/kg in equal doses given over 2-5 consecutive days every 4 weeks	Maltose	Average of 106 mcg/mL	Chronic ITP: 12 mg/kg/min (0.12 mL/kg/min) DM: 4 mg/kg/min (0.04 mL/kg/min)	N/A	N/A	N/A	2 gm, 5 gm, 10 gm, 20 gm, 30 gm	2°C [36°F] to 8°C [46°F] for 36 months from the date of manufacture. Within this shelf-life, the product may be stored up to 9 months at ≤ 25°C [77°F].
Panzyga®	Octapharma (distributed by Pfizer)	IV	10%	• Chronic ITP (adults) • CIDP (adults) • PIDD (age ≥2 years)	• Chronic ITP: 2 gm/kg divided into 2 daily doses of 1 gm/kg given on 2 consecutive days. • CIDP: Loading dose: 2 gm/kg divided into 2 daily doses of 1 gm/kg given on 2 consecutive days. Maintenance dose: 1-2 gm/kg every 3 weeks divided in 2 doses given over 2 consecutive days. • PIDD: 0.3 - 0.6 gm/kg every 3-4 weeks	Glycine	Average of 100 mcg/mL	PIDD: 14 mg/kg/min (0.14 mL/kg/min) CIDP: 12 mg/kg/min (0.12 mL/kg/min) Chronic ITP: 8 mg/kg/min (0.08 mL/kg/min)	N/A	N/A	N/A	5 gm, 10 gm, 20 gm, 30 gm	2°C [36°F] to 8 °C [46°F] for 36 months Room temperature up to 25°C [77°F] for 12 months
Privigen®	CSL Behring	IV	10%	• Chronic ITP (age ≥15 years) • CIDP (adults) • PIDD	• Chronic ITP: 1 gm/kg for 2 consecutive days • CIDP: Loading dose: 2 gm/kg in divided doses over 2 to 5 consecutive days. Maintenance dose: 1 gm/kg administered in 1 to 2 infusions on consecutive days, every 3 weeks. • PIDD: 0.2-0.8 gm/kg every 3-4 weeks	L-proline	≤25 mcg/mL	PIDD/CIDP: 8 mg/kg/min (0.08 mL/kg/min) Chronic ITP: 4 mg/kg/min (0.04 mL/kg/min)	N/A	N/A	N/A	5 gm, 10 gm, 20 gm, 40 gm	Room temperature up to 25°C [77°F] for 36 months
Xembify®	Grifols	SC	20%	PIDD (age ≥2 years)	• Weekly | Switching from IV to SC: Multiply the previous monthly IV dose by 1.37, then divide by previous IV dose frequency. Start one week after last IVIG dose. • Frequent dosing (2-7 times/week) | Switching from IV to SC: Divide the calculated weekly dose (as above) by the desired number of times/week. Start one week after last IVIG. • Weekly | Switching SCIG products: Same as previous SCIG dosing • Treatment-naïve | Loading dose of 150 mg/kg/day for 5 consecutive days, followed by 150 mg/kg/week starting at day 8.	Glycine, polysorbate 80	Average 68+/-19 mcg/mL[7]	N/A	25 mL	25 mL/hr	6; spaced at least 2 inches apart	1 gm, 2 gm, 4 gm, 10 gm	2°C [36 °F] to 8°C [46°F] Room temperature up to 25°C [77°F] for 6 months
Yimmugo®	Biotest AG	IV	10%	PIDD (age ≥2 years)	• 0.3-0.8 gm/kg every 3-4 weeks	Glycine, polysorbate 80	<300 mcg/mL	13 mg/kg/min (0.13 mL/kg/min)	N/A	N/A	N/A	5 gm, 10 gm, 20 gm	2°C [36°F] to 8°C [46°F] for 36 months Room temperature up to 25°C [77°F] for 6 months

Additional Notes
1. Hizentra® is available in prefilled syringes. All other products are available in vials. HyQvia® is available in a dual vial unit of two single use vials containing IG and recombinant human hyaluronidase.
2. Gammagard SD® is a lyophilized powder and must be reconstituted to a 5% or 10% concentration before administration.
3. HyQVIA® is a combination product containing Immune Globulin Infusion 10% (Human) with Recombinant Human Hyaluronidase. See full prescribing information for complete details.
4. Maximum IVIG rate: Consult the product package insert for titration steps before reaching maximum rate and lower maximum rates when risk factors are present.
5. SCIG rate/volume: Consult the product package insert for titration steps and number of doses at lower rates/volumes before reaching maximum rates/volumes.
6. Switching IV to SC: Multiply the previous monthly IV dose by the appropriate dose adjustment factor (see package insert), then divide by the number of SC doses desired per month (e.g. for weekly SCIG, divide by 4).
7. Xembify® Product characteristics. Website. Accessed September 26, 2023 at https://www.xembify.com/en/hcp/characteristics

References

1. IgNS Ig Therapy Standards of Practice. Edition 2.1 2019
2. ALYGLO™ [Immune globulin intravenous, (Human)], 10% Liquid. United States Prescribing Information. Manufactured by GC Biopharma. Revised December 2023.
3. ASCENIV™ [Immune globulin intravenous, (Human)], 10% Liquid. United States Prescribing Information. Manufactured by ADMA Biologics. Revised April 2019.
4. BIVIGAM® [Immune Globulin Intravenous (Human)], 10% Liquid. United States Prescribing Information. Manufactured by ADMA Biologics. Revised April 2019.
5. CUTAQUIG® [Immune Globulin Subcutaneous (Human)], 16.5% solution. United States Prescribing Information. Manufactured by Octapharma Pharmazeutika Produktionsges.m.b.H. Revised date not indicated.
6. CUVITRU® [Immune Globulin Subcutaneous (Human)], 20% Solution. United States Prescribing Information. Manufactured by Takeda. Revised May 2019.
7. FLEBOGAMMA® 5% DIF [Immune Globulin Intravenous (Human)], 5% Liquid Preparation. United States Prescribing Information. Manufactured by Instituto Grifols, S.A. Revised September 2019.
8. FLEBOGAMMA® 10% DIF Immune Globulin Intravenous (Human)], 10% Liquid Preparation. United States Prescribing Information. Manufactured by Instituto Grifols, S.A. Revised September 2019.
9. GAMMAGARD® LIQUID [Immune Globulin Infusion (Human)], 10% Solution, for intravenous and subcutaneous administration. United States Prescribing Information. Manufactured by Takeda. Revised January 2024.
10. GAMMAGARD® S/D [Immune Globulin Intravenous (Human)], IgA less than 1 microgram per mL in a 5% Solution. United States Prescribing Information. Manufactured by Takeda. Revised September 2016.
11. GAMMAKED™ [Immune Globulin Injection (Human)], 10% Caprylate/Chromatography Purified. United States Prescribing Information. Manufactured by Grifols Therapeutics LLC. Revised June 2018.
12. GAMMAPLEX® 5% [Immune Globulin Intravenous (Human)], 5% Liquid, for intravenous use. United States Prescribing Information. Manufactured by Bio Products Laboratory Ltd. Revised December 2018.
13. GAMMAPLEX® 10% [Immune Globulin Intravenous (Human)], 10% Liquid. United States Prescribing Information. Manufactured by Bio Products Laboratory Ltd. Revised December 2018.
14. GAMUNEX®-C [Immune Globulin Injection (Human)], 10% Caprylate/Chromatography Purified. United States Prescribing Information. Manufactured by Grifols Therapeutics LLC. Revised January 2020.
15. HIZENTRA® [Immune Globulin Subcutaneous (Human)], 20% Liquid. United States Prescribing Information. Manufactured by CSL Behring LLC. Revised March 2018.
16. HYQVIA® [Immune Globulin Infusion 10% (Human)], with Recombinant Human Hyaluronidase, Solution for subcutaneous administration. United States Prescribing Information. Manufactured by Takeda. Revised January 2024.
17. OCTAGAM® 5% [Immune Globulin Intravenous (Human)] liquid preparation. United States Prescribing Information. Manufactured by Octapharma Pharmazeutika Produktionsges.m.b.H. Revised May 2018.
18. OCTAGAM® 10% [Immune Globulin Intravenous (Human)] liquid solution for intravenous administration. United States Prescribing Information. Manufactured by Octapharma Pharmazeutika Produktionsges.m.b.H. Revised May 2018.
19. PANZYGA® [Immune Globulin Intravenous (Human)], 10% Liquid Preparation. United States Prescribing Information. Manufactured by Octapharma Pharmazeutika Produktionsges.m.b.H. Revised August 2018.
20. PRIVIGEN® [Immune Globulin Intravenous (Human)], 10% Liquid. United States Prescribing Information. Manufactured by CSL Behring LLC. Revised March 2019.
21. XEMBIFY® [Immune Globulin Subcutaneous (Human)], 20% solution. United States Prescribing Information. Manufactured by Grifols Therapeutics LLC. Revised July 2024.
22. YIMMUGO® [Immune Globulin Intravenous (Human)], 10% Liquid Preparation. United States Prescribing Information. Manufactured by Biotest AG. June 2024.

IgNS Immunoglobulin National Society

Patient and Product Risk Factors[1-5]

Patient Risk Factor	Concern	Ig Product Parameter Affecting Use	Appropriate Intervention	Risk Mitigation Strategies
Risk of thrombosis (See full prescribing information for complete Boxed Warning)	Thrombosis may occur with any immune globulin product.	Risk factors include advanced age, prolonged immobilization, hypercoagulable conditions, history of venous catheters, hyperviscosity, and cardiovascular risk factors.	Monitor for signs and symptoms of thrombosis.	Administer at the lowest infusion rate practicable Administer large doses over several days or non-consecutive days Consider concomitant anti-thrombotic therapy in high-risk patients Ensure hydration prior to and during infusion Consider SCIG
			Assess blood viscosity in patients at risk of hyperviscosity.	
Renal impairment/renal failure (See full prescribing information for complete Boxed Warning)	Fluid overload	Volume	Consider IVIG 10% vs IVIG 5% Consider SCIG	Administer at the lowest infusion rate practicable. Administer large doses over several days or on non-consecutive days. Monitor fluid status. Ensure adequate hydration while considering fluid restriction.
	Increased plasma viscosity	Osmolality/osmolarity	Choose products with physiologic osmolality (~300 mOsmoL/L)	
	Sodium	Sodium content	Avoid products with high sodium content.	
Cardiac/pulmonary insufficiency	Potential for fluid overload	Volume	Consider IVIG 10% vs IVIG 5% Consider SCIG	Administer at the lowest infusion rate practicable Administer large doses over several days or on alternate days Monitor fluid status
	Sodium	Sodium content	Avoid products with high sodium content	
	Altered hemodynamics	Osmolality/osmolarity	Select products with physiologic osmolality (~300 mOsmoL/L)	
IgA deficiency	Potential for anaphylaxis in IgA deficient patients with antibodies to IgA.	IgA content	In patients with IgA deficiency and IgG antibodies to IgA, consider IVIG or SCIG products with the lowest IgA content In patients with a history of anaphylaxis to Ig or blood products, or with IgE antibodies to IgA, it is strongly advised to use an IgA-depleted IVIG or a low IgA containing SCIG.	Correlation of product IgA content and risk for anaphylaxis is not well established but caution is recommended. Monitor all patients closely for signs and symptoms of anaphylaxis and ensure an anaphylaxis kit is readily available.
Obesity	Adipose tissue is poorly perfused, and higher doses of IVIG increase the risk of serious adverse events.	Potential for higher Ig dose-related adverse events	Consider adjusted body weight dosing initially.	Optimal dosing must be adjusted based on clinical response
Diabetes	Potential for elevated blood glucose levels with glucose-stabilized products.	Glucose used as stabilizer	Avoid glucose-containing products if possible.	Administer at the lowest infusion rate practicable Administer large doses over several days or on non-consecutive days Monitor fluid status
	Potential for glucometer interference with maltose-stabilized products.	Maltose used as stabilizer	If using maltose-stabilized product, ensure glucometer and test strip accuracy are not affected.	
	Greater risk for renal complications.	Volume, sodium content, osmolality	Select Ig products with best parameters; Consider IVIG 10% vs IVIG 5% Consider SCIG	
Non-O blood type	Potential for hemolysis/hemolytic anemia with high doses of IVIG (≥2gm/kg).	anti-A, anti-B antibody levels	Consider products containing the lowest anti-A, anti-B antibody titers.	Be knowledgeable of patient blood type to identify patients at risk Administer at the lowest infusion rate practicable Closely monitor for signs of hemolysis/hemolytic anemia with large doses
Hereditary fructose intolerance	Sorbitol presents a risk to patients with hereditary fructose intolerance (HFI). In patients <2 years old, HFI may not yet be diagnosed and may be fatal.	D-sorbitol used as stabilizer	Products stabilized with d-sorbitol are contraindicated in patients with hereditary intolerance to fructose, and in infants and neonates for whom sucrose or fructose tolerance has not been established.	Products stabilized with d-sorbitol are contraindicated in patients with hereditary intolerance to fructose, and in infants and neonates for whom sucrose or fructose tolerance has not been established.
Hyperprolinemia	A dysfunction of proline metabolism may lead to seizures or other neurological abnormalities. Additional exposure of these patients to proline should be limited	L-proline used as a stabilizer	In patients suffering from hyperprolinemia, a dysfunction of proline metabolism may lead to seizures or other neurological abnormalities. Additional exposure of these patients to proline should be limited. Avoid products with l-proline.	In patients suffering from hyperprolinemia, a dysfunction of proline metabolism may lead to seizures or other neurological abnormalities. Additional exposure of these patients to proline should be limited. Avoid products with l-proline.
Neonatal and geriatric patients	Potential for volume overload.	Volume	Consider IVIG 10% vs IVIG 5% Consider SCIG	Administer at the lowest infusion rate practicable. Administer large doses over several days or on non-consecutive days Monitor access site for irritation. Monitor appropriate blood chemistry.
	Potential for vein irritation and/or fluid shift.	Osmolality	Choose products with physiologic osmolality. (~300 mOsmoL/L)	
	Compromised acid-base compensatory mechanisms in neonates.	pH	Caution with products having low pH.	
Male patients of reproductive age	Development of non-neutralizing antibodies to recombinant human hyaluronidase (PH20) present in HyQvia®, and potential cross-reactivity with endogenous PH20 expressed in adult testes, epididymis, and sperm.	Recombinant human hyaluronidase (PH20) used in HyQvia®	Assess risk/benefit in male patients of child-bearing age and consider alternative products without PH20.	Clinical significance of anti-PH20 antibodies is unknown. Consider using products that do not contain PH20 in male patients of reproductive age.
Fluid restriction	Fluid overload	Volume of IV fluids infused	Consider IVIG 10% vs IVIG 5% Consider SCIG	Administer at the lowest infusion rate practicable. Administer large doses over several days or on non-consecutive days. Monitor fluid status.

References

1. Guo Y. Adverse Effects of Immunoglobulin Therapy. Front Immunol. 2019 Jun8;9:1299
2. IgNS Ig Therapy Standards of Practice. Edition 2.1 2019
3. Dhainaut F. In vitro and in vivo properties differ among liquid intravenous immunoglobulin preparations. Vox Sang. 2013 Feb;104(2):115-26
4. Donofrio PD, Berger A, Brannagan TH 3rd, et al. Consensus statement: the use of intravenous immunoglobulin in the treatment of neuromuscular conditions report of the AANEM ad hoc committee. Muscle Nerve 2009; 40: 890-900
5. Perez ET. Update on the use of immunoglobulin in human disease: A review of evidence. J Allergy Clin Immunol 2019 March;139(3):S1-46

Ig-NS.org
Last Updated September 2024

Does your practice include immunoglobulin therapy?

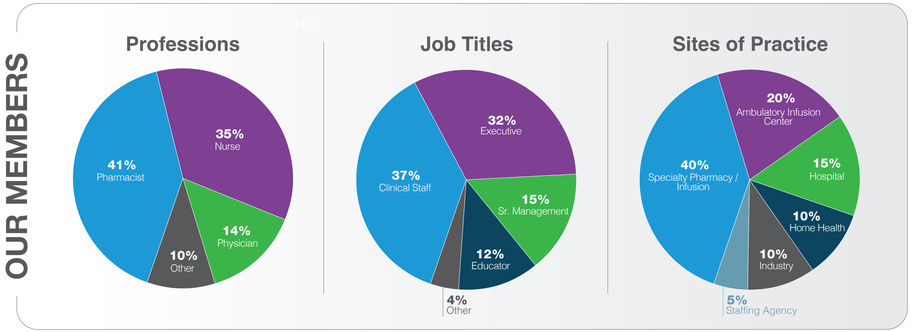
THEN THIS IS FOR YOU!

- Collaborate with top experts
- Make the right connections
- Improve your practice

IgNS Immunoglobulin National Society

Bringing the Ig Industry Together

OUR MEMBERS



Ig therapy is complex.

Get the right tools, education, and resources.

Practice Essentials
- Standards of practice
- Competencies
- Guidelines
- Policies

Education and Advancement
- CE/CME Webinars
- Publications
- Panels
- News

IgNS 2025 14th National Conference | DALLAS, TX Loews Arlington Hotel October 16–19, 2024

Education | Networking | Advancement

1,200+ ATTENDEES » 500+ COMPANIES » 50+ CLINICAL & BUSINESS SESSIONS

Education & Resources

IgNS Immunoglobulin National Society

Advancing Ig Therapy Practice

Product & Risk Factors Chart

Ig Certification

IgCN® IMMUNOGLOBULIN CERTIFIED NURSE

IgCP® IMMUNOGLOBULIN CERTIFIED PHARMACIST

Attain the prestigious, formal credential. The only objective benchmark of Ig therapy expertise.

The ONLY Ig Therapy Credential
- Differentiate your skills
- Validate your competence
- Document your expertise
- Improve patient outcomes

Learn more at Ig-NS.org/certification

Membership

IgNS Corporate Member

Become an insider and get access to the full suite of clinical education and resources. Make essential connections and gain industry insights.

Get exclusive access to
- Expert-led CE/CME programs
- Members-only courses
- Practice resources
- Member rates on certification and conferences

Corporate Membership
- Differentiate your clinical services
- Access comprehensive resources company-wide
- Essential for Ig centers of excellence
- Improve practice, protect your patients

Learn more at Ig-NS.org/membership

Conferences

PATIENT 360 IgNS MARCH 8-9, 2025 VIRTUAL CONFERENCE

Connect | Learn | Support

Education and support for patients on Ig therapy and biologics

- 1,500+ Patients & caregivers
- 70+ Diagnoses
- Primary Immunodeficiency
- Autoimmune
- Hematologic
- Oncologic

Learn more at Ig-NS.org/conferences