

intravenous immune globulin (IVIG)

Medical Benefit Drug Policy

For oncology-related indications, coverage will be made based on medical necessity. Medical necessity determinations are made based on U.S. Food and Drug Administration (FDA) labeling, peer-reviewed medical literature, Medi-Cal coverage guidelines, and Centers for Medicare & Medicaid Services (CMS) approved compendia support (i.e., Clinical Pharmacology, National Comprehensive Cancer Network® (NCCN), American Hospital Formulary Service Drug Information, Thomson Micromedex DrugDex,® and Lexicomp®).

Alyglo 10%
 Asceniv (10%)
 Bivigam (10%)
 Cytogam
 Gammagard liquid (10%)
 Gammagard S/D (5%)
 Gamunex-C (10%)
 Gammaked (10%)
 Gammaplex (10%)
 Gammaplex (5%)
 Octagam (5%)
 Octagam (10%)
 Panzyga (10%)
 Privigen (10%)
 Yimmugo (10%)

Place of Service

Home Infusion Administration
 Hospital Administration
 Infusion Center Administration
 Office Administration
 Outpatient Facility Administration

Gammagard Liquid and Octagam will be the preferred IVIG products. Request for all other IVIG products for members newly initiating IVIG therapy will require treatment failure or intolerance to all the preferred drugs or contraindication to all the preferred drugs for certain indications.

Drug Details

USP Category: IMMUNOLOGICAL AGENTS

Mechanism of Action: Immune globulin is a sterile, nonpyrogenic solution of globulins containing many antibodies normally present in adult human blood.

HCPCS:

J1459:Injection, immune globulin (privigen), intravenous, non-lyophilized (e.g., liquid), 500 mg
 J1552:Injection, immune globulin (alyglo), 500 mg
 J1554:Injection, immune globulin (asceniv), 500 mg
 J1556:Injection, immune globulin (bivigam), 500 mg
 J1557:Injection, immune globulin, (gammaplex), intravenous, non-lyophilized (e.g., liquid), 500 mg
 J1561:Injection, immune globulin, (gamunex-c/gammaked), non-lyophilized (e.g., liquid), 500 mg
 J1566:Injection, immune globulin, intravenous, lyophilized (e.g., powder), not otherwise specified, 500 mg
 J1568:Injection, immune globulin, (octagam), intravenous, non-lyophilized (e.g., liquid), 500 mg
 J1569:Injection, immune globulin, (gammagard liquid), non-lyophilized, (e.g., liquid), 500 mg
 J1576:Injection, immune globulin (panzyga), intravenous, non-lyophilized (e.g., liquid), 500 mg
 J1599:Injection, immune globulin, intravenous, non-lyophilized (e.g., liquid), not otherwise specified, 500 mg
 J1599: Yimmugo, 500 mg (use as temporary code):
 J3490:cytomegalovirus immune globulin intravenous (human), Cytogam, per vial:

How Supplied:

IVIg usual concentration: 5% = 5 gm/100ml, 10%= 10 gm/100ml, 20%, 20 gm/100ml

Alyglo 10%: 5, 10, 20 gm (single-use vial)

Asceniv (10%): 5 gm (single-use vial)

Bivigam (10%): 5, 10 gm (single-use vial)

Cytogam: 2500 mg/50 mL vials (single-use vial)

Gammagard liquid (10%): 1, 2.5, 5, 10, 20, 30 gm (single-use bottle)

Gammagard S/D (5%): 5, 10 gm (single-use bottle)

Gamunex-C (10%): 1, 2.5, 5, 10, 20, 40 gm (single-use bottle)

Gammaked (10%): 1, 2.5, 5, 10, 20 gm (single-use bottle)

Gammaplex (10%): 5, 10, 20 gm (single-use bottle)

Gammaplex (5%): 5, 10, 20 gm (single-use bottle)

Octagam (5%): 1, 2.5, 5, 10, 25 gm (single-use bottle)

Octagam (10%): 2, 5, 10, 20 gm

Panzyga (10%): 1, 2.5, 5, 10, 20, 30 gm (single-use bottle)

Privigen (10%): 5, 10, 20, 40 gm (single-use vial)

Yimmugo (10%): 5, 10, 20 gm (single-use vial)

Condition(s) listed in policy *(see coverage criteria for details)*

- Autoimmune Mucocutaneous Blistering Diseases (AMBDs)
- Chimeric Antigen Receptor T-Cell (CAR-T) Therapy - Related Toxicities

- Chronic Inflammatory Demyelinating Polyneuropathy (CIDP) and Variants
- Guillain-Barre Syndrome
- Hematopoietic Stem Cell Transplant (Includes Bone Marrow Transplantation)
- Hemolytic Anemia - Autoimmune
- Hypogammaglobulinemia associated with Anti-CD20 Monoclonal Antibodies
- Immunotherapy-Related Toxicities Secondary to Immune-Checkpoint Inhibitor Therapy
- Kawasaki Disease
- Multifocal Motor Neuropathy (MMN)
- Myasthenia Gravis
- PANDAS / PANS
- Polymyositis and Dermatomyositis
- Prevention of Bacterial Infection in HIV-Pediatric
- Primary Immune Thrombocytopenia (ITP)
- Primary Immunodeficiency Disorders
- Solid Organ Transplant

Any condition not listed in this policy requires a review to confirm it is medically necessary. For conditions that have not been approved for intended use by the Food and Drug Administration (i.e., off-label use), the criteria outlined in the California Code of Regulations (CCR), Title 22, Section 51303 and 51313 must be met.

Special Instructions and Pertinent Information

Provider must submit documentation (such as office chart notes, lab results or other clinical information) to ensure the member has met all medical necessity requirements.

The member's specific benefit may impact drug coverage. Other utilization management processes, and/or legal restrictions may take precedence over the application of this clinical criteria.

Coverage Criteria

The following condition(s) require Prior Authorization/Preservice.

Autoimmune Mucocutaneous Blistering Diseases (AMBDs)

Meets medical necessity if all the following are met:

1. Diagnosis of ONE of the following:
 - a. pemphigus foliaceus
 - b. pemphigus vulgaris
 - c. bullous pemphigoid
 - d. cicatricial pemphigoid
 - e. epidermolysis bullosa acquisita
2. Diagnosis is confirmed by lesional tissue biopsy or serology

3. Inadequate response to an immunosuppressant and a systemic corticosteroid, or contraindication or intolerance to immunosuppressants and systemic corticosteroids
4. Request for a non-preferred product requires an inadequate response, intolerable side effect, or contraindication to two preferred products (e.g. Gammagard Liquid 10%, Octagam 5%, Octagam 10%)

Covered Doses:

Up to 2 g/kg given intravenously over 3-5 days per month

Coverage Period:

Initial:

Up to 6 months

First Reauthorization:

Cover for another 12 months if patient has had clinical response (i.e., a reduction in lesions and/or ability to reduce concomitant steroids or immunosuppressants.)

Subsequent authorizations:

Cover yearly based on continued response

ICD-10:

L10.0, L10.2, L12.0, L12.1, L13.8

Chimeric Antigen Receptor T-Cell (CAR-T) Therapy - Related Toxicities

Meets medical necessity if all the following are met:

1. Prescribed by an oncologist or immunologist
2. Meets ONE of the following:
 - a. Diagnosis of CAR-T induced hypogammaglobulinemia
 - b. Being used for the management of grade 4 cytokine release syndrome that is refractory to high-dose corticosteroids and anti-IL-6 therapy
 - c. Being used for acute inflammatory demyelinating polyneuropathy (AIDP)-type picture

Covered Doses:

Given intravenously. Dose is highly variable

Coverage Period:

Yearly based upon continued response to treatment

ICD-10:

D80.0-D83.3

Chronic Inflammatory Demyelinating Polyneuropathy (CIDP) and Variants

Meets medical necessity if all the following are met:

1. Diagnosis of ONE of the following:
 - a. Typical chronic inflammatory demyelinating polyneuropathy (CIDP)
 - b. Multifocal acquired demyelinating polyneuropathy
 - c. Pure sensory chronic inflammatory demyelinating polyneuropathy
 - d. Distal chronic inflammatory demyelinating polyneuropathy
 - e. Focal chronic inflammatory demyelinating polyneuropathy
 - f. Motor chronic inflammatory demyelinating polyneuropathy
2. Diagnosis by a neurologist
3. Meets ONE of the following:
 - a. Electrodiagnostic testing (nerve conduction studies) shows definite CIDP
 - b. Nerve conduction studies show possible CIDP AND 2 of the following to confirm the diagnosis: CSF examination, nerve biopsy, MRI, ultrasound
4. Request for a non-preferred product requires an inadequate response, intolerable side effect, or contraindication to two preferred products (e.g. Gammagard Liquid 10%, Octagam 5%, Octagam 10%)

Covered Doses:

Initial:

Up to 2 g/kg given intravenously by IV over up to a 5-day period

Maintenance:

Up to 2 g/kg given intravenously as often as every 2 weeks. For requests more frequent than every 2 weeks, total dose given over a two week period should not exceed 2 g/kg.

Coverage Period:

Initial:

Up to 5 days depending on dose (See initial dosing)

Maintenance:

Cover yearly as long as patient continues to respond to treatment e.g. control of symptoms (e.g., weakness, sensory loss, imbalance, pain), and/or improvement or maintenance of functional ability.

ICD-10:

G61.81

Guillain-Barre Syndrome

Meets medical necessity if all the following are met:

1. Treatment with IVIG will begin within 4 weeks of onset of neuropathic symptoms
2. Request for a non-preferred product requires an inadequate response, intolerable side effect, or contraindication to two preferred products (e.g. Gammagard Liquid 10%,

Octagam 5%, Octagam 10%)

Covered Doses:

Up to 400 mg/kg given intravenously daily for 5 days

Coverage Period:

Initial: 5 days

Retreatment with IVIG has not been studied for Guillain-Barre syndrome

ICD-10:

G61.0

Hematopoietic Stem Cell Transplant (Includes Bone Marrow Transplantation)

Meets medical necessity if all the following are met:

1. Being used for prevention of bacterial infections among allogenic hematopoietic stem cell transplant (HSCT) recipients
2. Meets ONE of the following:
 - a. Patient is within 100 days post-allogenic hematopoietic cell transplantation or planned allogenic hematopoietic cell transplantation within 7 days of the first dose
 - b. Patient has severe hypogammaglobulinemia (serum immunoglobulin G level less than 400 mg/dl)
 - c. Patient has chronic GVHD on steroids or has chronic GVHD with pulmonary infection AND IgG level is below normal as defined by the testing laboratory
 - d. Patient has positive CMV serology

Covered Doses:

Up to 500 mg/kg given intravenously weekly

Increased doses or frequency are covered, as needed to maintain serum IgG levels > 400 mg/dL.

Coverage Period:

- For patients within 100 days of HSCT: Cover up to 100 days post HSCT
- For hypogammaglobulinemia, chronic GVHD, or positive CMV serology: Cover for 1 year or up to 24 months post-transplant (whichever is less)
- Reauthorization:
 - For patients who are less than 24 months post-transplant: Cover for remaining time that adds up to 24 months total if patient is responding to therapy
 - For patients who are more than 24 months post-transplant: Cover yearly if there is documented current IgG level < 400mg/dl OR patient has chronic GVHD with IgG level that is less than normal as defined by the testing laboratory

CPT:
38240

ICD 10:
30233Y1

Hemolytic Anemia - Autoimmune

Meets medical necessity if all the following are met:

1. Diagnosis of warm-type autoimmune hemolytic anemia
2. Patient has experienced an inadequate response to high dose steroids
3. Request for a non-preferred product requires an inadequate response, intolerable side effect, or contraindication to two preferred products (e.g. Gammagard Liquid 10%, Octagam 5%, Octagam 10%)

Covered Doses:

Up to 1 g/kg given intravenously per day for up to 7 days

Coverage Period:

Up to 7 days

The efficacy and safety of retreatment with IVIG has not been established.

ICD-10:
D59.11

Hypogammaglobulinemia associated with Anti-CD20 Monoclonal Antibodies

Meets medical necessity if all the following are met:

1. Patient with recurrent bacterial infections
2. Patient has received treatment with an anti-CD20 monoclonal antibody (e.g., rituximab, Arzerra, Gazyva)
3. Request for a non-preferred product requires an inadequate response, intolerable side effect, or contraindication to two preferred products (e.g. Gammagard Liquid 10%, Octagam 5%, Octagam 10%)

Covered Doses:

Up to 400 mg/kg given intravenously as often as every 3 weeks, or up to 500 mg/kg given intravenously every 4 weeks

Coverage Period:

1 year

ICD-10:

D59.0, D59.2, D61.1, D69.59, D89.834, D89.839, J70.2, J70.4, G70.00, G70.01, G61.0, G61.1, G61.81, G61.82, G61.89, G61.9, G62.0, G03.8, G03.9, G04.81, G04.89, G04.90-G04.91, G56.80-G56.83, G56.90-G56.93, G57.80-G57.83, G57.90-G57.93, I30.8, I30.9, I40.8, I40.9, L13.8, L13.9, L51.1, L51.2, M60.80, M60.811, M60.812, M60.819, M60.821, M60.822, M60.829, M60.831, M60.832, M60.839, M60.841, M60.842, M60.849, M60.851, M60.852, M60.859, M60.861, M60.862,, M60.869, M60.871, M60.872, M60.879, M60.88, M60.89, M79.10, M79.11, M79.12, M79.18, H46.9, T80.82XA, T80.82XS, T80.89XA, T80.89XS

Immunotherapy-Related Toxicities Secondary to Immune-Checkpoint Inhibitor Therapy

Meets medical necessity if all the following are met:

1. Being treated with an immune-checkpoint inhibitor
2. Treatment of ONE of the following immunotherapy-related toxicities secondary to immune-checkpoint inhibitor therapy:
 - a. Severe pneumonitis refractory to methylprednisolone
 - b. Severe myasthenia gravis
 - c. Moderate or severe Guillain-Barré Syndrome or severe peripheral neuropathy in combination with pulse-dose methylprednisolone
 - d. Encephalitis in combination with pulse-dose methylprednisolone
 - e. Transverse myelitis
 - f. Severe bullous dermatitis
 - g. Stevens-Johnson syndrome or toxic epidermal necrolysis
 - h. Severe myocarditis, pericarditis, arrhythmias, impaired ventricular function, or conduction abnormalities refractory to pulse-dose methylprednisolone
 - j. Moderate or severe myalgias or myositis refractory to corticosteroids

Covered Doses:

Up to 2 gm/kg total dose given intravenously

Coverage Period:

Once per treatment course

ICD-10:

J70.2, J70.4, G70.00, G70.01, G61.0, G61.1, G61.81, G61.82, G61.89, G61.9, G03.8, G03.9, G04.81, G04.89, G04.90-G04.91, G56.80-G56.83, G56.90-G56.93, G57.80-G57.83, G57.90-G57.93, G90.09, I44.0, I44.1-I44.3, I44.30, I44.39, I47.0, I45.0, I45.10, I45.19, I45.2-I45.6, I45.81, I45.89, I45.9, I49.9, L13.8, L13.9, L51.1, L51.2, M06.4, M60.80, M60.811, M60.812, M60.819, M60.821, M60.822, M60.829, M60.831, M60.832, M60.839, M60.841, M60.842, M60.849, M6

Kawasaki Disease

Meets medical necessity if all the following are met:

1. Patient is now on or will be on combination treatment with high dose aspirin (80-100 mg/kg per day)
2. Request for a non-preferred product requires an inadequate response, intolerable side effect, or contraindication to two preferred products (e.g. Gammagard Liquid 10%, Octagam 5%, Octagam 10%)

Covered Doses:

Up to 2 g/kg given intravenously as a single dose

OR

Up to 400 mg/kg given intravenously once daily for 4 consecutive days

Coverage Period:Initial:

- If giving as a single dose, authorize for 2 doses (one initial and one for possible retreatment)
- If giving as a multiple dose regimen, authorize for 8 doses (4 initial and 4 for possible retreatment).

Reauthorization beyond the first retreatment: Subsequent retreatments after the first retreatment have not been evaluated for efficacy or safety.

ICD-10:

M30.3

Multifocal Motor Neuropathy (MMN)**Meets medical necessity if all the following are met:**

1. Diagnosis by a neurologist, confirmed by electrodiagnostic testing (nerve conduction studies)
2. Asymmetric weakness and/or atrophy without sensory dysfunction for at least one month
3. Request for a non-preferred product requires an inadequate response, intolerable side effect, or contraindication to two preferred products (e.g. Gammagard Liquid 10%, Octagam 5%, Octagam 10%)

Covered Doses:

Up to 2.4 gm/kg given intravenously every 4 weeks

Coverage Period:

Yearly, based on continued response

ICD-10:

G61.82

Myasthenia Gravis

Meets medical necessity if all the following are met:

1. Prescribed by a neurologist
2. Patient has experienced an inadequate response or has an intolerance or contraindication to at least one of the following: a corticosteroid, mycophenolate, azathioprine, cyclosporine, or cyclophosphamide
3. Effective 1/1/2026 and after: Request for a non-preferred product requires an inadequate response, intolerable side effect, or contraindication to two preferred products (e.g. Gammagard Liquid 10%, Octagam 5%, Octagam 10%)

Covered Doses:

Up to 2 g/kg given intravenously per month

Coverage Period:

Initial: 3 months

Reauthorization: Yearly, based on continued response to therapy

ICD-10:

G70.00, G70.01

PANDAS / PANS

Meets medical necessity if all the following are met:

1. Moderate-to-severe disease (e.g., symptoms interfere with daily activities, occupying 50%-70% of waking hours)
2. Patient has a history of antibiotic use or is currently taking prophylactic antibiotics
3. Inadequate response, intolerable side effect, or contraindication to glucocorticoids or NSAIDS
4. Effective 1/1/2026 and after: Request for a non-preferred product requires an inadequate response, intolerable side effect, or contraindication to two preferred products (e.g. Gammagard Liquid 10%, Octagam 5%, Octagam 10%)

Covered Doses:

Up to 2 gm/kg total given intravenously monthly

Coverage Period:

Yearly, based on continued response to therapy

ICD-10:

G04.81

Polymyositis and Dermatomyositis

Meets medical necessity if all the following are met:

1. Inadequate response to treatment with high dose corticosteroids (equivalent to prednisone 40-60 mg/d or highest tolerated dose)
2. Inadequate response, intolerable side effect, or contraindication to an immunosuppressant (i.e., azathioprine, methotrexate, tacrolimus, cyclosporin A, mycophenolate, cyclophosphamide)
3. Effective 1/1/2026 and after: Request for a non-preferred product requires an inadequate response, intolerable side effect, or contraindication to two preferred products (e.g. Gammagard Liquid 10%, Octagam 5%, Octagam 10%)

Covered Doses:

Up to 2 gm/kg total given intravenously each month

Coverage Period:

Yearly, based on continued response to therapy

ICD-10:

M33.00-M33.02, M33.09-M33.12, M33.19, M33.20-M33.22, M33.29, M33.90-M33.92, M33.99, M36.0

Prevention of Bacterial Infection in HIV-Pediatric

Meets medical necessity if all the following are met:

1. Age is less than 13 years
2. Symptomatic HIV or history of recurrent infections
3. Effective 11/1/2025 and after: Will require IgG < 400 mg/dL
4. Effective 1/1/2026 and after: Request for a non-preferred product requires an inadequate response, intolerable side effect, or contraindication to two preferred products (e.g. Gammagard Liquid 10%, Octagam 5%, Octagam 10%)

Covered Doses:

Up to 400 mg/kg given intravenously every 4 weeks

Coverage Period:

Yearly, based on continued response to therapy

ICD-10:

B20

Primary Immune Thrombocytopenia (ITP)

Meets medical necessity if all the following are met:

1. Meets ONE of the following:
 - a. Acute primary ITP and a rapid increase in platelets is required for surgery, invasive procedure, or acute bleeding episode
 - b. Chronic primary ITP and platelet count is less than $30 \times 10^9/L$ ($<30,000/mm^3$)

2. Request for a non-preferred product requires an inadequate response, intolerable side effect, or contraindication to two preferred products (e.g. Gammagard Liquid 10%, Octagam 5%, Octagam 10%)

Covered Doses:

Acute ITP: Up to 2 g/kg given intravenously over 2-5 days for 5 doses total

Chronic ITP: Up to 2 g/kg given intravenously per month for up to 12 doses over up to 12 months

Subsequent reauthorization for acute or chronic ITP requires the following:

1. Meets ALL of the following:
 - a. Patient had a prior response to IVIG, defined as platelet count $>30 \times 10^9/L$
 - b. Either of the following: Patient has continued thrombocytopenia (defined as platelet count $<30 \times 10^9/L$) or patient is scheduled for surgery or invasive procedure

Coverage Period:

See above

ICD-10:

D69.3

Primary Immunodeficiency Disorders

Meets medical necessity if all the following are met:

1. Meets ONE of the following (a) or (b):
 - a. Diagnosis of primary immunodeficiency (There are over 500 Primary immunodeficiency diseases which can be found at the Immune Deficiency Foundation website) and meets ONE of the following:
 - i. IgG <200 mg/dL
 - ii. Meets ALL of the following:
 1. Member has a history of recurrent bacterial infections
 2. Inability to respond to IgG antibody production after antigenic challenge against diphtheria and tetanus toxoids or pneumococcal polysaccharide vaccine
 3. Decreased IgG concentrations (<500 mg/dL or below normal as defined by testing laboratory) documented on two or more occasions OR diagnosed by an allergist or immunologist if IgG concentrations are not decreased (>500 mg/d or normal as defined by the testing laboratory)
 - b. Diagnosis of IgG Subclass Deficiency, and meets ALL of the following:
 - i. History of recurrent infections requiring antibiotic therapy
 - ii. Pre-treatment levels of one or more serum IgG subclasses are below the lower limit of the age-adjusted laboratory reference range

- iii. Inability to respond to IgG antibody production after antigenic challenge against diphtheria and tetanus toxoids or pneumococcal polysaccharide
- 2. Request for a non-preferred product requires an inadequate response, intolerable side effect, or contraindication to two preferred products (e.g. Gammagard Liquid 10%, Octagam 5%, Octagam 10%)

Covered Doses:

Up to 800 mg/kg given intravenously every 3-4 weeks, and not to exceed 2 doses per month

Coverage Period:

Yearly, based on continued response to therapy

ICD-10:

D80.0, D80.1, D80.3, D80.5, D80.6, D80.7, D81.0-D81.2, D81.6, D81.7, D81.89, D81.9, D82.0, D82.1, D82.3, D82.4, D83.0, D83.1, D83.2, D83.8, D83.9

Solid Organ Transplant

Meets medical necessity if all the following are met:

1. Documented solid organ transplant (e.g., pre/perioperative prevention or for treatment of antibody-mediated rejection of allograft)
2. Request for a non-preferred product requires an inadequate response, intolerable side effect, or contraindication to two preferred products (e.g. Gammagard Liquid 10%, Octagam 5%, Octagam 10%)

Covered Doses:

Given intravenously. Dose is highly variable

Coverage Period:

16 weeks per treatment course

ICD-10:

Z94.0, Z94.1, Z94.4

References

1. Achiron A, Gabbay U, Gilad R, et al. Intravenous immunoglobulin treatment in multiple sclerosis. Effect on relapses. *Neurology* 1998; 50:398-402.
2. Achiron A, Kishner I, Sarova-Pinhas I, et al. Intravenous immunoglobulin treatment following the first demyelinating event suggestive of multiple sclerosis: a randomized, double-blind, placebo-controlled trial. *Arch Neurol* 2004;61: 1515-20.
3. AHFS. Available by subscription at <http://www.lexi.com>
4. Ahmed AR. Consensus Statement on the Use of intravenous immunoglobulin Therapy in Autoimmune Blistering Diseases. *Arch Dermatol* 2003 Aug;139(8): 1051-9.

5. Alyglo (immune globulin intravenous [human]) [prescribing information]. Teaneck, NJ: GC Biopharma USA; December 2023.
6. Amagai M, Igeda S, Shimizu H, et al. A randomized double-blind trial of intravenous immunoglobulin for pemphigus. *J Am Acad Dermatol* 2009;60(4):595.
7. American College of Obstetricians and Gynecologists. ACOG practice bulletin. Management of recurrent pregnancy loss. Number 24, February 2001. American College of Obstetricians and Gynecologists. *International Journal of Gynecology & Obstetrics* 2002; 78(2):179-90.
8. American Academy of Allergy Asthma and Immunology. Guidelines for the Site of Care for Administration of IGIV Therapy. December 2011.
9. Article - Billing and Coding: Coverage of Intravenous Immune Globulin for Treatment of Primary Immune Deficiency Diseases in the Home – Medicare Benefit Policy Manual, Chapter 15, 50.6 (A54660) (cms.gov)
10. Asceniv (immune globulin, human-slr) Prescribing Information. ADMA Biologics, Boca Raton, FL: 4/2019.
11. Bivigam (immune globulin, human) [Prescribing information]. Boca Raton, FL: ADMA Biologics, Inc.; 3/2024.
12. Bonilla FA, Khan DA, Ballas ZK et al. Practice parameter for the diagnosis and management of primary immunodeficiency. *J Allergy Clin Immunol*. 2015 Nov;136(5):1186-205
13. Centers for Disease Control and Prevention. Guidelines for preventing opportunistic infections among hematopoietic stem cell transplant recipients: recommendations of CDC, the Infectious Diseases Society of America, and the American Society of Blood and Marrow Transplantation. *MMWR Morb Mortal Wkly Rep*. 2000; 49(No. RR-10):1-125. (PubMed 10993565).
14. Conley ME, Notarangelo LD, etzioni A, et al. *[Representing PAGID (Pan-American Group for Immunodeficiency) and ESID (European Society for Immunodeficiencies)]*. Diagnostic criteria for primary immunodeficiencies. *Clin Immun*. Dec 1999;93(3):190-97).
15. Cytogam (cytomegalovirus immune globulin, human) Prescribing Information. Kamada Inc., Hoboken, NJ: 9/2022.
16. DrugDex. Available by subscription at <http://www.micromedexsolutions.com/home/dispatch>
17. Dyck PJ, Litchy WJ, Kratz KM, et al. A plasma exchange versus immune globulin infusion trial in chronic inflammatory demyelinating polyradiculoneuropathy. *Ann. Neurol*. 1994;36:838–845.
18. Elovaara I, Apostolski S, van Doorn P, et al. EFNS guidelines for the use of intravenous immunoglobulin in treatment of neurological diseases: EFNS task force on the use of intravenous immunoglobulin in treatment of neurological diseases. *Eur J Neurol*. 2008;15(9):893-908
19. Fazekas F, Deisenhammer F, Strasser-Fuchs S, Nahler G, Mamoli B. Randomised placebo-controlled trial of monthly intravenous immunoglobulin therapy in relapsing-

- remitting multiple sclerosis. Austrian Immunoglobulin in Multiple Sclerosis Study Group [abstract]. *Lancet* 1997; 349:589-93.
20. Gammagard liquid (immune globulin, human) Prescribing Information. Takeda Pharmaceuticals U.S.A., Inc.; Cambridge, MA:9/2024.
 21. Gammagard S/D (immune globulin, human) Prescribing Information. Takeda Pharmaceuticals U.S.A. Inc., Lexington, MA: 3/2023.
 22. Gammaked (immune globulin, human) Prescribing Information. Grifols Therapeutics LLC, Research Triangle Park, NC: 1/2020.
 23. Gammaplex 5% (immune globulin, human) Prescribing Information. Bio Products Laboratory Ltd, Elstree, Borehamwood, U.K; 5/2024.
 24. Gammaplex 10% (immune globulin, human) Prescribing Information. Bio Products Laboratory Ltd, Elstree, Borehamwood, U.K; 5/2024.
 25. Gamunex-C (immune globulin, human) Prescribing Information. Grifols Therapeutics LLC, Research Triangle Park, NC: 1/2020.
 26. Gurcan H, Jeph S, Ahmed A. Intravenous immunoglobulin therapy in autoimmune mucocutaneous blistering diseases: a review of the evidence for its efficacy and safety. *Am J Clin Dermatol* 2010; 11(5):315-26.
 27. Harman KE & Black MM: High-dose intravenous immune globulin for the treatment of autoimmune blistering diseases: an evaluation of its use in 14 cases. *Br J Dermatol* 1999; 140(5):865-874.
 28. Hughes RA, Wijdicks EF, Barohn R, et al. Practice Parameter: Immunotherapy for Guillain-Barre Syndrome: report of the Quality Standards Subcommittee of the American Academy of Neurology. *Neurology* 2003;61(6):736.
 29. Immune Deficiency Foundation. Types of Primary Immunodeficiencies. Available at: <http://primaryimmune.org/understanding-primary-immunodeficiency/types-of-pi>. Accessed in July 2025.
 30. Impact of 2021 European Academy of Neurology/Peripheral Nerve Society diagnostic criteria on diagnosis and therapy of chronic inflammatory demyelinating polyradiculoneuropathy variants. *Eur J Neurol*. 2024 Jan 2;31(4).
 31. Joint Task Force of the EFNS and the PNS. European Federation of Neurological Societies/Peripheral Nerve Society guideline on management of multifocal motor neuropathy. Report of a joint task force of the European Federation of Neurological Societies and the Peripheral Nerve Society-first revision. *J Peripher Nerv Syst* 2010;15(4):295-301.
 32. Joly P, Horvath B, Patsatsi A, et al. Updated S2K guidelines on the management of pemphigus vulgaris and foliaceus initiated by the European academy of dermatology and venereology (EADV). *JEADV* (2020); 34: 1900-1913.
 33. LCD - Immune Globulin Intravenous (IVIg) (L34314) (cms.gov)
 34. MCG Care Guidelines, 19th edition, 2015, Home Infusion Therapy, CMT: CMT-0009(SR)
 35. Murrell DF, Pena S, Joly P, et al. Diagnosis and management of pemphigus: Recommendations of an international panel of experts. *J Am Acad Dermatol* (2020); 82(5): 575-585

36. National Comprehensive Cancer Network Drugs & Biologics Compendium. Immune globulin (2025). Available by subscription at: www.nccn.org.
37. National Comprehensive Cancer Network. B-cell Lymphomas (Version 2.2025). Available at <http://www.nccn.org>.
38. National Comprehensive Cancer Network. Chronic Lymphocytic Leukemia/ Small Lymphocytic Leukemia (Version 2.2025). Available at <http://www.nccn.org>.
39. National Comprehensive Cancer Network. Management of Immunotherapy-Related Toxicities (Version 1.2025). Available at <http://www.nccn.org>.
40. National Comprehensive Cancer Network. Multiple Myeloma (Version 1.2025). Available at <http://www.nccn.org>.
41. National Comprehensive Cancer Network. Prevention and Treatment of Cancer-Related Infections (Version 3.2024). Available at <http://www.nccn.org>.
42. Neunert C, Terrell DR, Arnold DM, et al. American Society of Hematology 2019 guidelines for immune thrombocytopenia. *Blood Adv* (2019); 3(23): 3829-3866
43. Octagam 5% (immune globulin, human) Prescribing Information. Pfizer Labs, New York, NY: 1/2024.
44. Octagam 10% (immune globulin, human) Prescribing Information. Pfizer Labs, New York, NY: 1/2024.
45. Panzyga (immune globulin, human) Prescribing Information. Octapharma USA, Inc., Paramus, NJ: 3/2021.
46. Patwa HS, Chaudhry V, Katzberg H, Rae-Grant AD, So YT. Evidence based guideline intravenous immunoglobulin in the treatment of neuromuscular disorders; report of the Therapeutics and Technology Assessment Subcommittee of the American Academy of Neurology. *Neurology*. 2012, 78(13):1009.
47. Perez EE, Orange JS, Bonilla F et al. Work Group Report of the American Academy of Allergy, Asthma & Immunology: Update on the use of immunoglobulin in human disease: A review of evidence. *J Allergy Clin Immunol* 2017;139: S1-46.
48. Practice Committee of the American Society for Reproductive Medicine. Intravenous immunoglobulin (IVIg) and recurrent spontaneous pregnancy loss. *Fertil Steril*. 2004;82 Suppl 1: S199-S200.
49. Privigen (Immune globulin, human) [Prescribing information]. Kankakee, IL: CSL Behring LLC; 3/2022.
50. Raanani P, Gafter-Gvili A, Paul M, Ben-Bassat I, Leibovici L, Shpilberg O. Immunoglobulin prophylaxis in hematological malignancies and hematopoietic stem cell transplantation. *Cochrane Database of Systematic Reviews* 2008, Issue 4. Art. No.: CD006501.
51. Rodeghiero F, Stasi R, Gernsheimer T, et al. Standardization of terminology, definitions and outcome criteria in immune thrombocytopenic purpura of adults and children: report from an international working group. *Blood* 2009; 113:2386.
52. Ropper, AH. Current treatments for CIDP. *Neurology* 2003;60: S16-S22
53. Sanders DB, Wolfe GI, Benatar M et al. International consensus guidance for management of myasthenia gravis: Executive summary. *Neurology* 2016;87(4):419-25.

54. Sorensen et al. Intravenous immunoglobulin G reduces MRI activity in relapsing multiple sclerosis. *Neurology* 1998;50: 1273-81.
55. Strasser-Fuchs S, Fazekas F, Deisenhammer F, Nahler G, Mamoli B. The Austrian Immunoglobulin in MS (AIMS) study: Final analysis. *Mult Scler* 2000;6: S9-13.
56. Tangye SG, et al. Human Inborn Errors of Immunity: 2019 Update on the Classification from the International Union of Immunological Societies Expert Committee. *J Clin Immunol*. 2020 Jan;40(1):24-64.
57. US Public Health Service (USPHS) and Infectious Diseases Society of America (IDSA) Prevention of Opportunistic Infections Working Group. 2001 USPHS/IDSA guidelines for the prevention of opportunistic infections in persons infected with human immunodeficiency virus.
58. Van Doorn PA, Ruts L. Treatment of chronic inflammatory demyelinating polyneuropathy. *Curr Opin Neurol* 2004;17(5):607-13.
59. Van Schaik IN, van den Berg LH, de Haan R, Vermeulen M. Intravenous immunoglobulin for multifocal motor neuropathy. *Cochrane Database of Systematic Reviews* 2005, Issue 2. Art. No.: CD004429.
60. Van den Bergh PYK, et al. European Academy of Neurology/Peripheral Nerve Society guideline on diagnosis and treatment of chronic inflammatory demyelinating polyradiculoneuropathy: Report of a joint Task Force-Second revision. *J Peripher Nerv Syst*. 2021 Sep;26(3):242-268.
61. Comprehensive Cancer Network Drugs & Biologics Compendium. Immune globulin (2025). Available by subscription at: www.nccn.org.
62. Yimmugo (immune globulin intravenous, human-dira) Prescribing Information. Kedrion Biopharma, Inc., Fort Lee, NJ: 7/2024.

Review History

Date of Last Annual Review: 2Q2025

Changes from previous policy version:

- For oncology-related indications, coverage will be made based on medical necessity

*Blue Shield of California Medication Policy to Determine Medical Necessity
Reviewed by P&T Committee*