Medica Coverage Policy

Policy Name: Therapeutic Apheresis (TA) - Plasmapheresis, Plasma Exchange

Current Policy Effective Date: 8/1/2015

Important Information - Please Read Before Using This Policy

These services may or may not be covered by all Medica plans. Please refer to the member’s plan document for specific coverage information. If there is a difference between this general information and the member’s plan document, the member’s plan document will be used to determine coverage. With respect to Medicare, Medicaid and MinnesotaCare members, this policy will apply unless these programs require different coverage. Members may contact Medica Customer Service at the phone number listed on their member identification card to discuss their benefits more specifically. Providers with questions about this Medica coverage policy may call the Medica Provider Service Center toll-free at 1-800-458-5512.

Medica coverage policies are not medical advice. Members should consult with appropriate health care providers to obtain needed medical advice, care and treatment.

Coverage Policy

EXTRACORPOREAL COLUMN IMMUNOADSORPTION APHERESIS –
Therapeutic apheresis (TA) employing extracorporeal immunoadsorption (ECI) is COVERED for the following indications:
1. Cryoglobulinemia, secondary to Hepatitis C virus
2. Dilated cardiomyopathy, NYHA II-IV
3. Thrombotic thrombocytopenic purpura (TTP)
4. Rheumatoid arthritis (RA), adult refractory

TA employing ECI is investigative and therefore NOT COVERED for all other indications, including but not limited to treatment for:
1. Coagulation factor inhibitors*
2. Chronic focal encephalitis (Rassmussen’s encephalitis)
3. Paraneoplastic neurologic syndromes
4. Paraproteinemic polyneuropathies, IgG/IgA/IgM

* Note: This determination does not apply to devices that have an approved humanitarian device exemption (HDE) by the FDA (e.g., Excorim® Immunoadsorption System for the treatment of patients with hemophilia A and B). Refer to Medica’s utilization management policy, Humanitarian Device Exemption, for more information.

EXTRACORPOREAL LOW-DENSITY LIPOPROTEIN APHERESIS
TA employing extracorporeal low-density lipoprotein apheresis is COVERED for the treatment of:
1. Familial hypercholesterolemia, refractory, either homozygous or heterozygous
2. Phytanic acid storage disease (Refsum’s disease)

TA employing extracorporeal low-density lipoprotein apheresis is investigative and therefore NOT COVERED for all other indications.
STANDARD PLASMAPHERESIS / PLASMA EXCHANGE

*Note: Clinical conditions have been listed by general disease groupings. Although it is recognized that disease grouping definitions are often fluid and overlapping, this format is intended to aid in application of the position statement.

TA employing standard plasmapheresis/plasma exchange methodology is COVERED for the following indications:

**AUTOIMMUNE / RHEUMATIC**
1. Hyperglobulinemias and macroglobulinemias producing hyperviscosity syndromes, including but not limited to multiple myeloma, cryoglobulinemia, and Waldenstrom’s macroglobulinemia
2. Systemic lupus erythematosus, severe (e.g., cerebritis, diffuse alveolar hemorrhage)
3. Catastrophic antiphospholipid syndrome

**HEMATOLOGIC**
1. Autoimmune hemolytic anemia, life threatening cold agglutinin disease
2. Hyperviscosity in monoclonal gammopathies (e.g., treatment of symptoms; prophylaxis for rituximab)
3. Red cell alloimmunization in pregnancy
4. Thrombotic thrombocytopenic purpura (TTP)

**METABOLIC**
1. Familial hypercholesterolemia, homozygous with small blood volume
2. Overdose, venoms, and poisoning: mushroom poisoning
3. Refsum’s disease (phytanic acid storage disease)
4. Thrombotic microangiopathy, drug-associated (e.g., associated with thrombotic thrombocytopenic purpura, hemolytic uremic syndrome): when associated with Ticlopidine
5. Wilson’s disease, fulminant hepatic failure with hemolysis

**NEUROLOGICAL**
1. Acute inflammatory demyelinating polyneuropathy (Guillain-Barre syndrome, acute)
2. Acute CNS inflammatory demyelinating disease (multiple sclerosis)
3. Acute disseminated encephalomyelitis
4. Multiple myeloma with acute CNS inflammatory demyelinating disease
5. Chronic inflammatory demyelinating polyradioculoneuropathy (CIDP)
6. Paraproteinemnic polynuerophathies (e.g., IgG/IgA/IgM)
7. Lambert-Eaton myasthenic syndrome
8. Myasthenia gravis (e.g., moderate to severe; pre-thymectomy)
9. Neuromyelitis optica (Devic’s syndrome)
10. Pediatric autoimmune neuropsychiatric disorders associated with severe:
   a. Streptococcal infections (PANDAS)
   b. Sydenham’s chorea (SC).
11. Chronic focal encephalitis (Rassmussen’s encephalitis)

**RENAL (other than transplant-related)**
1. Atypical hemolytic uremic syndrome due to:
   a. Complement factor gene mutations
   b. Factor H autoantibody.
2. Focal segmental glomerulosclerosis, recurrent
3. Anti-glomerular basement membrane disease (Goodpasture’s syndrome):
   a. When dialysis dependent or imminent
   b. With diffuse alveolar hemorrhage (DAH).
4. ANCA-associated rapidly progressive glomerulonephritis (Wegener’s granulomatosis):
   a. When dialysis dependent or imminent
   b. With diffuse alveolar hemorrhage (DAH).
5. Myeloma cast nephropathy
6. Hemolytic uremic syndrome (HUS); when either:
   a. Complement factor gene mutations demonstrated
   b. Factor H autoantibodies demonstrated.

**TRANSPLANTATION**
1. Hematopoietic stem cell transplant (HSCT), ABO incompatible hematopoietic progenitor cell (bone marrow) transplantation (recipient)
2. Liver transplantation, ABO incompatible: live donor desensitization
3. Renal transplantation, ABO compatible:
   a. Antibody mediated rejection
   b. Living donor HLA desensitization due to donor specific HLA antibody.
4. Renal transplantation, ABO incompatible:
   c. Antibody mediated rejection
   d. Living donor desensitization.

All other applications of TA employing standard plasmapheresis/plasma exchange are considered investigative and therefore NOT COVERED. Examples of applications that are considered investigative include, but are not limited to:

**AUTOIMMUNE / RHEUMATIC**
1. Dermatomyositis, polymyositis, or inclusion body myositis
2. Pemphigus vulgaris
3. Progressive systemic sclerosis (scleroderma)
4. Psoriasis
5. Rheumatoid arthritis, refractory
6. Systemic lupus erythematosus, nephritis

**HEMATOLOGIC**
1. Aplastic anemia; including pure red cell aplasia
2. Warm autoimmune hemolytic anemia
3. Coagulation factor inhibitors
4. Thrombocytopenic purpura (TP), other than thrombotic TP (e.g., Henoch-Schonlein purpura, post transfusion purpura)

**METABOLIC**
1. Thrombotic microangiopathy, drug-associated (e.g., associated with thrombotic thrombocytopenic purpura, hemolytic uremic syndrome) when associated with:
   a. Clopidogrel
   b. Cyclosporine/Tacrolimus
   c. Gemcitabine
   d. Quinine
2. Thrombocytopenia, heparin induced
3. Overdose, venoms, and poisoning: all indications other than mushroom poisoning (e.g., invenomation, monoclonal antibody with progressive multifocal leukoencephalopathy [PML])
4. Thyroid storm

**NEUROLOGICAL**
1. Amyotrophic lateral sclerosis (ALS) or progressive systemic sclerosis
2. Multiple sclerosis, chronic progressive
3. Paraneoplastic neurologic syndromes
4. Stiff-person syndrome
5. Transverse myelitis  
6. Functional psychotic disorders (e.g., schizophrenia)  
7. Paraproteinemic polyneuropathy: multiple myeloma

**RENA**

1. ANCA-associated rapidly progressive glomerulonephritis (Wegener’s granulomatosis); when dialysis independent  
2. Anti-glomerular basement membrane disease (Goodpasture’s syndrome); when dialysis independent with no diffuse alveolar hemorrhage (DAH)  
3. Hemolytic uremic syndrome (HUS) when:  
   a. MCP mutations demonstrated  
   b. Infection associated (e.g., Shiga toxin; Streptococcus pneumonia).  
4. Immune complex rapidly progressive glomerulonephritis  
5. Nephrogenic systemic fibrosis

**TRANSPLANTATION**

1. Liver transplant, ABO incompatible for either:  
   a. Desensitization, deceased donor  
   b. Humoral rejection.  
2. Heart (Cardiac) for either:  
   a. Desensitization, donor specific HLA antibody  
   b. Transplant antibody-mediated rejection.  
3. Renal transplant, ABO compatible, for deceased donor desensitization due to high panel reactive antibodies (PRA)  
4. Renal transplant, ABO incompatible, for deceased donor due to A2/A2B into B  
5. Hematopoietic stem cell transplant (HSCT)-associated thrombotic microangiopathy

**MISCELLANEOUS**

1. Burn shock resuscitation  
2. Cardiomyopathy / dilated cardiomyopathy; NYHA II-IV  
3. Acute liver failure  
4. Amyloidosis, systemic  
5. Hypertriglyceridemic pancreatitis  
6. POEMS syndrome (polyneuropathy, organomegaly, endocrinopathy, monoclonal gammopathy, skin changes)  
7. Sepsis / septic shock with multi-organ failure  
8. Non-hematologic cancer; without qualifying predisposing/confounding indications (e.g., TPP, cold agglutinin disease, Lambert-Eaton myasthenic syndrome)  
9. All disorders not listed

Note: See also related Medica coverage policy, *Extracorporeal Photopheresis (Photochemotherapy)* and *OncoSorb® (UltraPheresis™) for Non-Hematologic Cancer.*
Medica Coverage Policy

Description

Apheresis is a collective term applied to the separation of whole blood into its individual components. The term cytapheresis is used when the intent is to separate a single cellular component from the patient’s whole blood (e.g., leukocytes, platelets). The term plasmapheresis is used when the intent is to separate the plasma from the patient’s whole blood or to selectively remove a circulating biochemical from the plasma. Plasmapheresis can be performed with or without the use of selective membrane or column filtering devices. It is suggested that in specified acute or chronic, and often systemic, disorders the plasma contains the harmful constituents (e.g., autoimmune complexes, cytokines) that are thought to contribute to patient deterioration. The focus of this policy is methods of plasmapheresis, including both therapeutic plasma exchange and plasma perfusion.

Therapeutic plasma exchange involves removing a large volume of plasma and replacing it with an equivalent volume of replacement fluid. The cellular/plasma-substitute suspension is then reinfused. The method of removal, separation, and reinfusion is similar to the techniques used for kidney dialysis. Examples of replacement fluid include fresh frozen plasma, a plasma substitute, or a combination of albumin, calcium, and normal saline. In current practice, the terms plasmapheresis and plasma exchange are often used interchangeably.

Plasma perfusion is a multiphase separation method in which a patient’s plasma is isolated from the cellular components and subsequently passed through a filtration medium in the form of an adsorption column or a series of membranes. After unwanted plasma components are removed, the filtered plasma is reinfused along with the patient’s cellular components. Two systems used currently are low-density lipoprotein column absorption and immunoabsorption using a protein A selection column.

Extracorporeal affinity low-density lipoprotein (LDL) apheresis uses a series of membrane filtering devices which selectively remove LDL from the patient’s plasma, while preserving the level of high-density lipoprotein. The patient’s cells are resuspended in the LDL-depleted plasma and reinfused. This therapy is intended to prevent the development and/or slow the progression of atherosclerotic cardiovascular disease.

Extracorporeal immunoadsorption (ECI) protein A column apheresis uses a polycarbonate column that contains highly purified protein A which is bound to a silica matrix. Protein A is derived from certain strains of the bacterium Staphylococcus aureus. Protein A binds to and removes immunoglobulins and circulating immune complexes that are thought to contribute to the symptoms characteristic of rheumatoid arthritis, idiopathic thrombocytopenia purpura, and hemolytic uremic syndrome.

Therapeutic apheresis (TA) has become a tool in the management of certain diseases. The American Society for Apheresis has categorized the appropriateness of apheresis for various clinical applications. The categories range from I (currently accepted first-line therapy through IV (application considered ineffective or harmful). TA is rarely considered a curative therapy. The true benefit of apheresis, usually coupled with medication and/or other standard therapies, is thought to be the temporary elimination of the harmful by-products of disease-related metabolism. It is suggested that this allows the body’s normal immune response to function, which in turn results in improved organ function. As therapeutic apheresis is not curative, multiple treatment sessions are often administered. The therapy can be administered in either an outpatient or inpatient setting.

FDA Approval

Therapeutic apheresis is a procedure, and therefore is not regulated by the FDA.

Multiple membrane apheresis devices (including filters) have received FDA premarket approval. In 1996 the FDA granted market clearance for the use of apheresis systems by “blood banks, hospitals, and clinics for use with therapeutic plasma exchange”. Several apheresis systems have been approved; however the FDA does not approve specific indications for plasma exchange.

In the mid-1990s, two lipid apheresis systems received FDA approval. These are the Liposorber® LA-15 System (Kaneka America Corp.) and the H.E.L.P. system (B. Braun Medical Inc.).
The PROSORBA® Column was originally approved in 1987 for extracorporeal column immunoadsorption treatment of idiopathic thrombocytopenic purpura (ITP). In 1999, it was FDA approved for the therapeutic reduction of the signs and symptoms of moderate to severe RA in adults and for the removal of immunoglobulin G (IgG) and IgG-containing immune complexes in patients with ITP. In 2006 production of PROSORBA columns was discontinued and are no longer available in the United States. The Excorim® Immunoadsorption System received an HDE in April 1998 for the treatment of patients with hemophilia A and B who have Factor VIII or Factor IX inhibitor titers above 10 Bethesda Units/ml (BU/ml).

**Prior Authorization**

Prior authorization is not required. However, services with specific coverage criteria may be reviewed retrospectively to determine if criteria are being met. Retrospective denial may result if criteria are not met.

**Coding Considerations**

Use the current applicable CPT/HCPCS code(s). The following codes are included below for informational purposes only, and are subject to change without notice. Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement.

**CPT Codes:**

- 36514 - Therapeutic apheresis; for plasmapheresis
- 36515 - Therapeutic apheresis; with extracorporeal immunoadsorption and plasma reinfusion
- 36516 - Therapeutic apheresis; with extracorporeal selective adsorption or selective filtration and plasma reinfusion
- S2120 - Low density lipoprotein (LDL) apheresis using heparin-induced extracorporeal LDL precipitation.

Original Policy Effective Date: 1/1/2005

Re-Review Date(s):

- 9/1/2006
- 8/1/2009
- 8/1/2012
- 5/20/2015