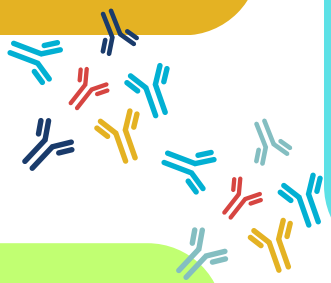
Treatments for Myasthenia Gravis

Pyridostigmine (Mestinon)
- Mechanism: Pyridostigmine is an acetylcholinesterase inhibitor that increases the availability of acetylcholine at neuromuscular junctions, improving muscle contraction and strength.
- Administration: Oral, occasionally IV.
- Type of Myasthenia Gravis (MG) Antibodies: Effective in patients with acetylcholine receptor (AChR) antibodies.
- Vaccination Required: None.
- Common Side Effects: Gastrointestinal discomfort, muscle cramps, increased salivation, diarrhea.

Prednisone
- Mechanism: Prednisone is a corticosteroid that reduces inflammation and suppresses the immune system, decreasing the production of antibodies that attack the neuromuscular junction in MG.
- Administration: Oral.
- Type: Immunosuppressant.
- Type of Myasthenia Gravis (MG) Antibodies: Effective for both AChR and muscle-specific kinase (MuSK) antibodies.
- Vaccination Required: Annual influenza vaccination and pneumococcal vaccination are recommended due to the immunosuppressive nature of prednisone.
- Common Side Effects: Weight gain, osteoporosis, hypertension, mood changes, increased risk of infections.

Intravenous Immunoglobulin (IVIG)
- Mechanism: IVIG involves the infusion of pooled immunoglobulin G (IgG) from donors, modulating the immune system by neutralizing autoantibodies and influencing antibody production.
- Administration: Intravenous (IV).
- Type: Immunomodulatory.
- Type of Myasthenia Gravis (MG) Antibodies: Effective in acute exacerbations and crises, regardless of specific antibody type.
- Vaccination Required: None specifically required, but standard vaccinations are advisable.
- Common Side Effects: Headache, fever, chills, flu-like symptoms, allergic reactions.



Azathioprine (Imuran)
- Mechanism: Azathioprine is an immunosuppressant that inhibits purine synthesis, reducing the proliferation of immune cells, particularly lymphocytes.
- Administration: Oral.
- Type: Immunosuppressant.
- Type of Myasthenia Gravis (MG) Antibodies: Effective for both AChR and MuSK antibodies.
- Vaccination Required: Annual influenza vaccination and pneumococcal vaccination are recommended due to immunosuppression.
- Common Side Effects: Nausea, vomiting, leukopenia, hepatotoxicity, increased risk of infections.

Tacrolimus (Prograf)
- Mechanism: Tacrolimus inhibits calcineurin, similar to cyclosporine, suppressing the immune system.
- Administration: Oral.
- Type: Immunosuppressant.
- Type of Myasthenia Gravis (MG) Antibodies: Effective for both AChR and MuSK antibodies.
- Vaccination Required: Annual influenza vaccination and pneumococcal vaccination are recommended due to immunosuppression.
- Common Side Effects: Nephrotoxicity, neurotoxicity, hyperglycemia, hypertension, increased risk of infections.

Cyclosporine (Neoral, Sandimmune, Gengraf)
- Mechanism: Cyclosporine inhibits calcineurin, essential for T-cell activation, thus reducing the immune response.
- Administration: Oral.
- Type: Immunosuppressant.
- Type of Myasthenia Gravis (MG) Antibodies: Effective for both AChR and MuSK antibodies.
- Vaccination Required: Annual influenza vaccination and pneumococcal vaccination are recommended due to immunosuppression.
- Common Side Effects: Nephrotoxicity, hypertension, tremor, hirsutism, increased risk of infections.

This is not a complete list as several off label options may be used by your healthcare professional. New treatment options coming soon. Provided by the Myasthenia Gravis Holistic Society..

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Plasmapheresis (PLEX)
- Mechanism: Plasmapheresis involves removing plasma containing autoantibodies from the patient's blood and replacing it with donor plasma or a plasma substitute.
- Administration: Via apheresis (blood purification procedure).
- Type: Immunomodulatory.
- Type of Myasthenia Gravis (MG) Antibodies: Effective in acute exacerbations, regardless of specific antibody type.
- Vaccination Required: None.
- Common Side Effects: Hypotension, infection risk at catheter site, electrolyte imbalances.

Mycophenolate Mofetil (Cellcept)
- Mechanism: Mycophenolate mofetil inhibits inosine monophosphate dehydrogenase, reducing lymphocyte proliferation and antibody production.
- Administration: Oral.
- Type: Immunosuppressant.
- Type of Myasthenia Gravis (MG) Antibodies: Effective for both AChR and MuSK antibodies.
- Vaccination Required: Annual influenza vaccination and pneumococcal vaccination are recommended due to immunosuppression.
- Common Side Effects: Gastrointestinal disturbances, leukopenia, hepatotoxicity, increased risk of infections.

Methotrexate (Xatmep, Otrexup, Rasuvo)
- Mechanism: Methotrexate inhibits dihydrofolate reductase, affecting DNA synthesis and cell replication, particularly in rapidly dividing immune cells.
- Administration: Oral, subcutaneous (Subq), or intramuscular (IM).
- Type: Immunosuppressant.
- Type of Myasthenia Gravis (MG) Antibodies: Generally considered for patients who do not respond to other treatments.
- Vaccination Required: Annual influenza vaccination and pneumococcal vaccination are recommended due to immunosuppression.
- Common Side Effects: Nausea, mucositis, hepatotoxicity, leukopenia, increased risk of infections.

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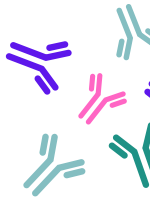
Efgartigimod (Vyvgart/Vyvgart Hytrulo)
- Mechanism: Efgartigimod is a neonatal Fc receptor antagonist that reduces the levels of circulating pathogenic IgG antibodies.
- Administration: Intravenous (IV).
- Type: Biological.
- Type of Myasthenia Gravis (MG) Antibodies: Particularly effective for AChR antibodies.
- Vaccination Required: None specifically required, but standard vaccinations are advisable.
- Common Side Effects: Respiratory tract infections, headache, infusion-related reactions.

Ravulizumab (Ultomiris)
- Mechanism: Ravulizumab is similar to eculizumab, targeting complement protein C5 to inhibit the complement cascade.
- Administration: Intravenous (IV).
- Type: Biological.
- Type of Myasthenia Gravis (MG) Antibodies: Effective for AChR antibodies.
- Vaccination Required: Meningococcal vaccination is required before starting treatment due to the increased risk of meningococcal infection.
- Common Side Effects: Upper respiratory tract infections, headache, infusion-related reactions, increased risk of meningococcal infections.

Eculizumab (Soliris)
- Mechanism: Eculizumab is a monoclonal antibody that inhibits complement protein C5, preventing the formation of the membrane attack complex.
- Administration: Intravenous (IV).
- Type: Biological.
- Type of Myasthenia Gravis (MG) Antibodies: Effective for AChR antibodies.
- Vaccination Required; Meningococcal vaccination is required before starting treatment due to the increased risk of meningococcal infection.
- Common Side Effects: Respiratory tract infections, headache, infusion-related reactions, increased risk of meningococcal infection.

Rozanolixizumab-noli (Rystiggo)
- Mechanism: Rozanolixizumab targets the neonatal Fc receptor, reducing levels of pathogenic IgG antibodies.
- Administration: Subcutaneous (Subq).
- Type: Biological.
- Type of Myasthenia Gravis (MG) Antibodies: Effective for AChR antibodies.
- Vaccination Required: None specifically required, but standard vaccinations are advisable.
- Common Side Effects: Headache, injection site reactions, nausea.



Zilucoplan (Zilbrysq)
- Mechanism: Zilucoplan is a complement C5 inhibitor that prevents the formation of the membrane attack complex.
- Administration: Subcutaneous (Subq).
- Type: Biological.
- Type of Myasthenia Gravis (MG) Antibodies: Effective for AChR antibodies.
- Vaccination Required: None specifically required, but standard vaccinations are advisable.
- Common Side Effects: Injection site reactions, headache, upper respiratory tract infections.