Lab Dept:	**Serology**
Test Name:	**MYASTHENIA GRAVIS EVALUATION, PEDIATRIC**

General Information

Lab Order Codes:	PMGE
Synonyms:	Acetylcholine Receptor (AChR) Antibodies, Serum; ACh Receptor (Muscle) Binding Ab; AChR; Anti N-M Junction Receptor at Motor End Plate Ab; Muscle End Plate Ab; Myasthenia Gravis Ab, Myoid Ab
CPT Codes:	83519 x2– Immunoassay, analyte, quantitative; by radiopharmaceutical technique (e.g., RIA)
Test Includes:	ACh Receptor (Muscle) Binding Ab and ACh Receptor (Muscle) Modulating Ab

Logistics

Test Indications:	Recommended for initial investigation of patients presenting at less than age 20 with a defect of neuromuscular transmission. Seropositivity distinguishes congenital (i.e., genetic) myasthenia gravis (MG) from acquired MG. Seronegativity does not exclude the diagnosis of autoimmune MG. A minority of patients lacking detectable AChR antibodies have the recently discovered muscle-specific receptor tyrosine kinase (MuSK) antibodies. **Note:** Single antibody tests may be requested in follow-up of patients with positive results documented in this laboratory.
Lab Testing Sections:	Serology - Sendouts
Referred to:	Mayo Medical Laboratories (MML Test: MGEP)
Phone Numbers:	MIN Lab: 612-813-6280 STP Lab: 651-220-6550
Test Availability:	Daily, 24 hours
Turnaround Time:	3 – 5 days Binding set-up: Monday – Thursday, Saturday Modulating set-up: Monday - Thursday
Special Instructions:	See Patient Preparation

Specimen

Specimen Type: Blood

Container: SST (Gold, marble or red)

Draw Volume: 6 mL (Minimum: 4.5 mL) blood

Processed Volume: 2 mL (Minimum: 1.5 mL) serum

Collection: Routine blood collection

Special Processing: Lab Staff: Centrifuge specimen, remove serum aliquot into screw-capped round bottom plastic vial. Store and ship at refrigerated temperatures. Forward promptly.

Patient Preparation: Patient should have no general anesthetic or muscle-relaxant drugs in the previous 24 hours.

Sample Rejection: Gross hemolysis; gross lipemia; grossly icteric; specimens other than serum; mislabeled or unlabeled specimens

Interpretive

Reference Range:

Binding Antibody	≤0.2 nmol/L
Modulating Antibody	0 - 20% (reported as % loss of AChR)

Critical Values: N/A

Limitations:

A positive result in this evaluation is not per se diagnostic of MG. Positive values for muscle AChR antibodies occur in 10% of LES patients, in children with graft-versus-host disease and recipients of D-penicillamine (with and without clinically evident MG), and in children with paraneoplastic neurological disorders related to neuroblastoma, thymona and chondroblastoma (not restricted to MG). Children with autoimmune liver disorders may be anticipated, like adults, to have unexplained AChR or striational antibodies.

In Mayo's laboratory, false-positive results for AChR binding antibody are excluded by routinely retesting positive sera with (125) l-alpha-bungarotoxin in the absence of muscle AChR. False-positive results occur most frequently in the bioassay for AChR modulating antibody; serum redraw will be requested when only this assay yields a positive result. AChR blocking antibody is the least frequently encountered AChR antibody specificity, and is never positive with a negative AChR modulating value. Curare-like drugs used during general anesthesia can yield false-positive AChR blocking antibody results. Mayo no longer will test for blocking antibody.

Seropositive rates differ in different laboratories.

Methodology:

Radioimmunoassay (RIA)

References:

Mayo Medical Laboratories Web Page January 2018

Updates:

7/9/2009: Mayo discontinued testing for AChR blocking antibodies. A reflex to this test will no longer be performed.
12/23/2010: Specimen minimum volume increase to avoid QNS.
1/17/2018: Collection tube update.