Multiple Sclerosis Clinic

**Rotation Director:** Dr. Andrew Romeo

**Clinic days:** Monday-Friday, 8:00AM-5:00PM

**Resident continuity clinic:** Wednesdays PM

**Days off:** Thursday PM, Friday PM, weekends, holidays

**MA:** Kim Duval (completing forms, setting up labs/tests/resources for patients)

**Rotation components:**

1. Clinic attendance
   - Monday, Tuesday, Friday Clinics: morning and afternoons, Taubman Center, 1st floor, Reception C
   - Thursday: 7:30AM-12:00PM, Ann Arbor VA Clinic, Floor 1, Station 14
2. Neuroimmunology Case Conference
   - Tuesdays: 12:00PM-1:00PM, UH South, Floor 3, Room L3113
3. Wednesday Conferences
   - Patient conference and Grand Rounds: 9:30AM-11:30AM, Cardiovascular Center, Floor 2, Danto Auditorium

**Patient Resources:** News, disease/treatment information brochures, support groups, financial aid/patient assistance programs

- Disease-Modifying Therapies for MS (patient information packet)
- National Multiple Sclerosis Society
- Multiple Sclerosis Association of America

**Clinic Schedule:**

- **MiChart clinical context:** "TC NEU MULTIPLE SCLEROSIS 02" 
  - **after** patient arrives, right-click patient name and select "Change provider to me" (don't do this before arrival, otherwise schedulers will see open blocks and schedule patients into those time slots)

<table>
<thead>
<tr>
<th>AM</th>
<th>PM</th>
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<tbody>
<tr>
<td><strong>Monday</strong></td>
<td>Taubman MS Clinic</td>
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<tr>
<td></td>
<td>Attending: Braley</td>
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<td><strong>Tuesday</strong></td>
<td>Taubman MS Clinic</td>
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<td>Attending: Irani</td>
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<td><strong>Wednesday</strong></td>
<td>Wednesday morning conferences</td>
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<td>9:30AM-11:30AM</td>
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<td>Danto Auditorium</td>
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<td><strong>Thursday</strong></td>
<td>AAVA MS Clinic</td>
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<td>Attendants: Braley, Romeo</td>
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<td><strong>Friday</strong></td>
<td>Taubman MS Clinic</td>
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<td>Attending: Romeo</td>
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**Clinical Resources:**

- **How to send JC virus antibody in MiChart:**
  - Miscellaneous Send-out: type in serum JC virus ab stratify 91665; source=serum; diagnosis=MS
  - Send out lab is Quest Diagnostics
  - Lab location: 1947 Technology Drive, Troy, MI 48108 - (866)697-8378
**March 2019:** FDA approves **cladribine** (Mavenclad) for adults with relapsing-remitting multiple sclerosis and active secondary progressive disease (FDA)

**March 2019:** FDA approves **siponimod** (Mayzent) for relapsing-remitting multiple sclerosis and secondary progressive multiple sclerosis (FDA)

**March 2019:** Imaging outcome measures of neuroprotection and repair in MS (NAIM consensus statement)

**November 2018:** FDA warns about rare but serious risks of stroke and blood vessel wall tears with multiple sclerosis drug **Lemtrada** (alemtuzumab) (FDA)

**November 2018:** **Gilenya** (fingolimod): Drug Safety Communication - Severe Worsening of Multiple Sclerosis After Stopping the Medicine (FDA)

**October 2018:** Results Reported from Innovative “MS-SMART” Clinical Trial in Secondary Progressive MS Presented at ECTRIMS (National MS Society)

**October 2018:** Assessment of Efficacy and Tolerability of Medicinal Cannabinoids in Patients With Multiple Sclerosis: A Systematic Review and Meta-analysis (JAMA)

**May 2018:** FDA expands approval of **Gilenya** to treat multiple sclerosis in pediatric patients (FDA); see also PARADIGMS: Trial of **Fingolimod** versus Interferon Beta-1a in Pediatric Multiple Sclerosis (NEJM)

**April 2018:** Durable Clinical Efficacy of **Aleocontumab** in Patients With Active RRMS in the Absence of Continuous Treatment: 7-Year Follow-up of CARE-MS I Patients (TOPAZ Study) (P6.376) (AAM); Durable Clinical Outcomes With **Alemtuzumab** in Patients With Active RRMS in the Absence of Continuous Treatment: 7-Year Follow-up of **CARE-MS II** Patients (TOPAZ Study) (P6.369) (AAN)

**March 2018:** Biogen and Abbvie announce voluntary withdrawal of **ZINBRYTA** (Daclizumab) (Biogen)

**March 2018:** **Siponimod** versus placebo in secondary progressive multiple sclerosis (EXPAND): a double-blind, randomised, phase 3 study (Lancet)

**UPDATE 2017 McDonald Criteria for the Diagnosis of Multiple Sclerosis (Lancet Neurol 17:162-173)**

(Click to enlarge)
Summary of Treatments in Multiple Sclerosis; see Multiple Sclerosis wiki page

Guidelines/Practice Parameters:

- April 2018: Practice guideline recommendations summary: Disease-modifying therapies for adults with multiple sclerosis (AAN)
- February 2018: Guideline on the pharmacological treatment of people with multiple sclerosis (ECTRIMS/EAN)
- January 2014: Assessment and management of psychiatric disorders in individuals with MS (AAN)
- March 2014: Complementary and alternative medicine in multiple sclerosis (AAN)
- December 2011: Clinical evaluation and treatment of transverse myelitis (AAN)
- March 2007: Neutralizing antibodies to Interferon-beta (AAN)
- May 2000: The usefulness of evoked potentials in identifying clinically silent lesions in patients with suspected MS (AAN)

Clinical Trials and Systemic Reviews/Meta-Analyses for MS Treatments

- Disease-modifying therapies for adults with multiple sclerosis (AAN, April 2018)
- Immunomodulators and immunosuppressants for relapsing-remitting multiple sclerosis: a network meta-analysis (Cochrane, September 2015)
- Treatment with disease-modifying drugs for people with a first clinical attack suggestive of multiple sclerosis (Cochrane, April 2017)
- Rehabilitation in multiple sclerosis (AAN, November 2015)

DMT - Oral Agents

- Dimethyl fumarate for multiple sclerosis (April 2015)
- Teriflunomide for multiple sclerosis (March 2016)
- Fingolimod for relapsing-remitting multiple sclerosis (April 2016)

DMT - Injections

- Glatiramer acetate for multiple sclerosis (May 2010)
- Interferon in relapsing-remitting multiple sclerosis (October 2001)
- Interferons-beta versus glatiramer acetate (November 2016)
- Interferon beta or glatiramer acetate for delaying conversion of CIS to MS (April 2008)
- Interferon beta for primary progressive multiple sclerosis (January 2010)
- Interferon beta for secondary progressive multiple sclerosis (January 2012)
- Daclizumab for relapsing remitting multiple sclerosis (December 2013)

DMT - Infusions

- Ocrelizumab versus interferon beta-1a in relapsing multiple sclerosis (OPERA I and II, NEJM 2017)
- Ocrelizumab versus placebo in primary progressive multiple sclerosis (ORATORIO, NEJM 2017)
- Rituximab for relapsing-remitting multiple sclerosis (December 2013)
- B-cell depletion with rituximab in RRMS (NEJM 2008)
- Natalizumab for relapsing remitting multiple sclerosis (October 2011)
- Alemtuzumab for multiple sclerosis (April 2016)

Treatment effectiveness of alemtuzumab compared with natalizumab, fingolimod, and interferon beta in RRMS (Lancet 2017)
Mitoxantrone for in multiple sclerosis (May 2013)

- Corticosteroids
  Oral versus intravenous steroids for treatment of relapses in multiple sclerosis (December 2012)