



## **Appendix 2**

**This appendix was part of the submitted manuscript and has been peer reviewed.  
It is posted as supplied by the authors.**

Appendix to: Broadley SA, Barnett MH, Boggild M, et al. A new era in the treatment of multiple sclerosis. *Med J Aust* 2015; 203: 139-141. doi: 10.5694/mja14.01218.

## Appendix 2. Recognised adverse events of MS therapies and their management

Adverse Effect	Therapy (frequency)	Management/warning
<b>Flu-like symptoms</b>	β-interferons (++++)	Pre-treatment with paracetamol or NSAID
<b>Injection-site reaction</b>	β-interferons (++++) Glatiramer acetate (++++)	Pre-injection heat pack or cold pack, adjustment of needle depth, site rotation
<b>Post-injection reaction</b>	Glatiramer acetate (+++)	Warn and reassure
<b>Lymphopenia</b>	β-interferons (+++) Teriflunomide (++) Fingolimod (++) Dimethyl fumarate (++) Alemtuzumab (++++)*	Monitor FBC Consider withdrawing if severe or trending downwards
<b>Deranged LFT</b>	β-interferons (+++) Teriflunomide (+++) Fingolimod (+++) Azathioprine (++) Laquinimod (++) Dimethyl fumarate(++)	Monitor LFT Consider withdrawal if greater than 5x normal range or trending upwards
<b>Gastrointestinal disturbance</b>	Dimethyl fumarate (+++)*	Warn and reassure, consider withdrawing if persistent and/or severe
<b>Flushing</b>	Dimethyl fumarate (+++)*	Warn and reassure, consider withdrawing if persistent and/or severe
<b>Alopecia</b>	Teriflunomide	Withdraw if severe
<b>Rash</b>	Azathioprine (++) Teriflunomide (++)	Withdraw and avoid re-exposure
<b>Peripheral neuropathy</b>	Teriflunomide (++)	Withdraw
<b>Progressive multifocal leukoencephalopathy</b>	Natalizumab (+) Azathioprine (+) Dimethyl fumarate (+) Fingolimod (+)	JC virus antibody status Consider avoidance or withdrawing if positive If suspected, confirm with MRI and LP If confirmed, plasmapheresis to remove natalizumab
<b>Bradycardia</b>	Fingolimod (++)*	Monitor for first 6 hours after initial dose Consider withdrawing if persistent
<b>Macular oedema</b>	Fingolimod (+)	Pre- and post OCT Consider withdrawing if present at 3 months
<b>Infection</b>	Laquinimod (++) Azathioprine (++) Alemtuzumab (++)* Fingolimod (+) Natalizumab (+)	Generally mild and responsive to standard therapy Opportunistic infections with azathioprine can be severe  Cases of VZV transverse myelitis reported with fingolimod Cases of CNS infection with HSV and VZV reported with natalizumab
<b>Autoimmune thyroid disease</b>	Alemtuzumab (+++)	Monitor TFT 3 monthly Treat hyper- or hypothyroidism with guidance from an endocrinologist
<b>Immune thrombocytopenic purpura</b>	Alemtuzumab (++)	Monitor FBC monthly Steroids +/- rituximab
<b>Anti-GBM antibody disease</b>	Alemtuzumab (+)	Monitor urinalysis and creatinine Treat with guidance from renal and/or respiratory physician as required
<b>Late malignancy</b>	Azathioprine (++)	Avoid using for more than 10 years

**+ = < 1 %**

**++ = 1 - 10 %**

**+++ = 11 - 50 %**

**++++ = > 50 %**

\* = transient

NSAID = non-steroidal anti-inflammatory drug; FBC = full blood count; LFT = liver function tests; MRI = magnetic resonance imaging; LP = lumbar puncture; OCT = optical coherence tomography; TFT = thyroid function tests; HSV = herpes simplex virus; VZV = varicella zoster virus.

Adapted with permission from Broadley et al 2014 (11)