PROGRESSIVE MS TRIALS

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Abbreviations Key:
AAN – American Academy of Neurology
ECTRIMS – European Committee of Treatment and Research in MS
IM – intramuscular, injected into muscle
IV – intravenous, injected into vein
PP - primary progressive
PR - progressive relapsing
RR - relapsing-remitting
SC – subcutaneous, injected under the skin
SP - secondary progressive

AGENT	PURPOSE OF STUDY	POSSIBLE MECHANISM	HOW DRUG IS TAKEN	TYPE OF MS/ NUMBER OF SUB-JECTS	RESULTS
Cannabis extract (dronabinol)	To determine ability to prevent disease progression also known as CUPID trial	May reduce neuronal damage mediated through an interaction with cannabinoid type 1 and opioid receptors	oral	PP, SP/ 493	Did not slow progress of disease; read official press release (MS Trust press release, May 29, 2012).
Cyclo-phosphamide vs. methyl-prednisolone	To control disease progression also known as PROMESS study	Alkylating agent, interferes with rapidly proliferating immune cells/ Closes damaged blood-brain barrier, reducing inflammation in CNS	IV	SP/ 360	Data analysis ongoing, per communication with primary investigator; read more http://clinicaltrials.gov/ct2/show/NCT00241254.

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Epigallocatechin-gallate (Sunphenon®, Taiyo International Food)	To determine effects on brain tissue volume loss	May interfere with T cell growth and function, and protect against neuronal injury	oral	SP, PP/ 60	Ongoing, read more http://clinicaltrials.gov/ct2/show/NCT00799890.
Erythropoietin	To determine effects on clinical disability and brain pathology	Acts in an anti-apoptotic and anti-oxidative fashion, promotes neurite outgrowth and axonal repair	IV	SP, PP/ 56	Ongoing, read more http://clinicaltrials.gov/ct2/show/NCT01144117.
Fingolimod (Gilenya™, Novartis)	To test safety and effectiveness, also known as INFORMS study	Sphingosine-1-phosphate receptor binder; prevents lymphocytes from exiting lymphatic tissue	oral	PP/ 654	Ongoing, not recruiting; read more http://clinicaltrials.gov/ct2/show/NCT00731692.
Hydroxyurea	To evaluate safety and tolerability	Inhibits viral activity, particularly Epstein-Barr virus	oral	PP/ 60	Ongoing, read more http://clinicaltrials.gov/ct2/show/NCT01103583.
Idebenone	To determine effect on disease activity	Acts as a potent antioxidant and facilitates mitochondrial electron flux and energy production; potentially also anti-inflammatory	oral	PP/ 80	Ongoing, read more http://clinicaltrials.gov/ct2/show/NCT00950248.

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Lamotrigine (Lamictal®, GlaxoSmith Kline)	To control disease course and prevent nervous system damage	Anticonvulsant, with possible impact on nerve impulse conduction	oral	SP/ 120	Tissue loss increased, although losses were recovered when treatment was stopped; participants taking lamotrigine improved in walking speed (*Lancet Neurology* 2010;9(7):681-8, http://www.ncbi.nlm.nih.gov/pubmed/20621711)
Lipoic acid	To determine effects on protecting the brain and slowing disability	Activates cAMP signaling pathways	oral	SP/ 56	Ongoing, read more http://clinicaltrials.gov/ct2/show/NCT01188811.
Masitinib (AB Science)	To determine safety and effective-ness in reducing disease activity	Inhibits the survival, migration and activity of mast cells	oral	SP,PP/ 450	Ongoing, read more http://clinicaltrials.gov/ct2/show/NCT01433497.

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MIS416 (Innate Therapeutics Limited)	To examine safety	A construct of microparticle and naturally occurring, non-immunogenic, cytosolically-active TLR-9 and NOD-2 ligands	IV	CP/ 24	Ongoing, not recruiting; read more http://clinicaltrials.gov/ct2/show/NCT01191996. This trial is cofunded by the National MS Society's drug development subsidiary, FastForward; read more here http://www.nationalmssociety.org/fast-forward/who-weve-funded/download.aspx?id=23235.
Mesenchymal stem cells	To assess safety, feasibility, tolerability	May inhibit immune mechanisms and augment intrinsic tissue repair	IV	RR,SP, PR/ 24	Ongoing, read more http://clinicaltrials.gov/ct2/show/NCT00813969.
Mesenchymal stem cells	To evaluated safety and feasibility	May inhibit immune mechanisms and augment intrinsic tissue repair	IV	SP/ 30	Ongoing, read more http://clinicaltrials.gov/ct2/show/NCT01056471.
Natalizumab (Tysabri®, Biogen Idec and Elan)	To determine effective-ness in reducing progression (ASCEND study)	Interferes with movement of immune cells across the blood-brain barrier by attaching to alpha 4-integrin	IV	SP/ 856	Ongoing, read more http://clinicaltrials.gov/ct2/show/NCT01416181.

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Ocrelizumab (Hoffmann-La Roche)	To evaluate safety and effective-ness in reducing disease activity, also known as ORA-TORIO study	Binds to CD20 antigen on B cells and induces B-cell lysis	IV	PP/ 630	Ongoing; read more http://clinicaltrials.gov/ct2/show/NCT01194570.
Rehabilitation (constraint-induced movement therapy)	To rehabilitate extremity use	Concentrated form of physical therapy directed at more impaired arm that is believed to cause growth of certain brain regions to improve arm use	exercise	RR,SP, PP/ 66	Ongoing, read more http://clinicaltrials.gov/ct2/show/NCT01081275.
Rituximab	To evaluate safety and effective-ness of combined IV and intrathecal (RIVIT-aLISe study)	Binds to CD20 antigen on B cells and induces B-cell lysis	IV, intra-thecal	SP/ 80	Ongoing, read more http://clinicaltrials.gov/ct2/show/NCT01212094.