

HIGH DOSE IMMUNOSUPPRESSION WITH STEM CELL RESCUE *Are We Doing it Right?*

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- High Dose Immunosuppressive Therapy with Hematopoietic Stem Cell Rescue: Overview for Multiple Sclerosis Physicians

- Kraft

- Are We Giving Adequate Immunosuppression?

- Freedman

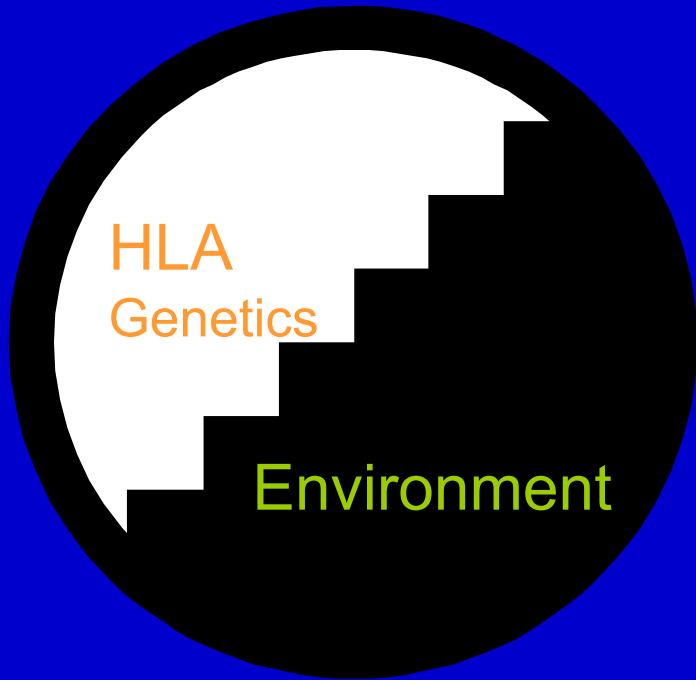
- Can We Do a Better Job?

-Nash

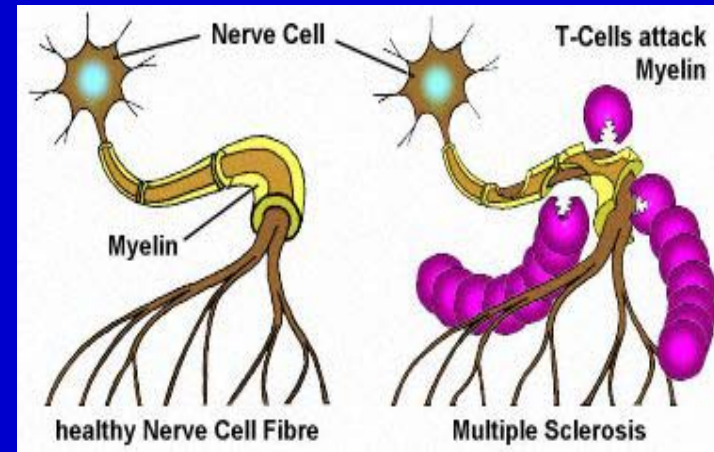
HDIT/HCT for MS

Hypothesis

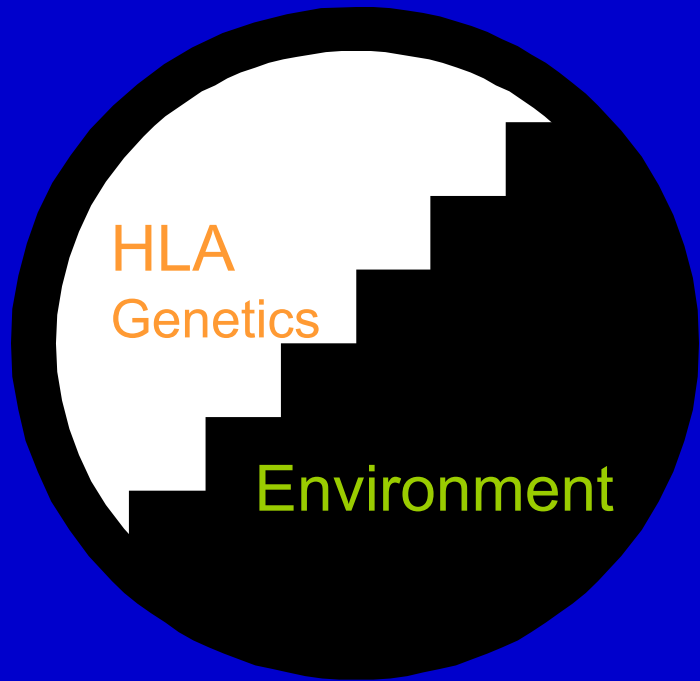
- MS is an immune-mediated disease
- Ablate the immunoactive cells
- Replace with non-conditioned naïve cells
- Disease process might be stopped



Immune
Mediation



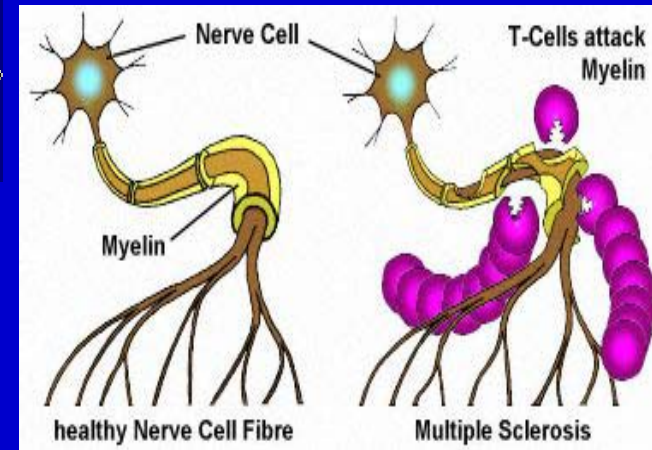
Multiple Sclerosis



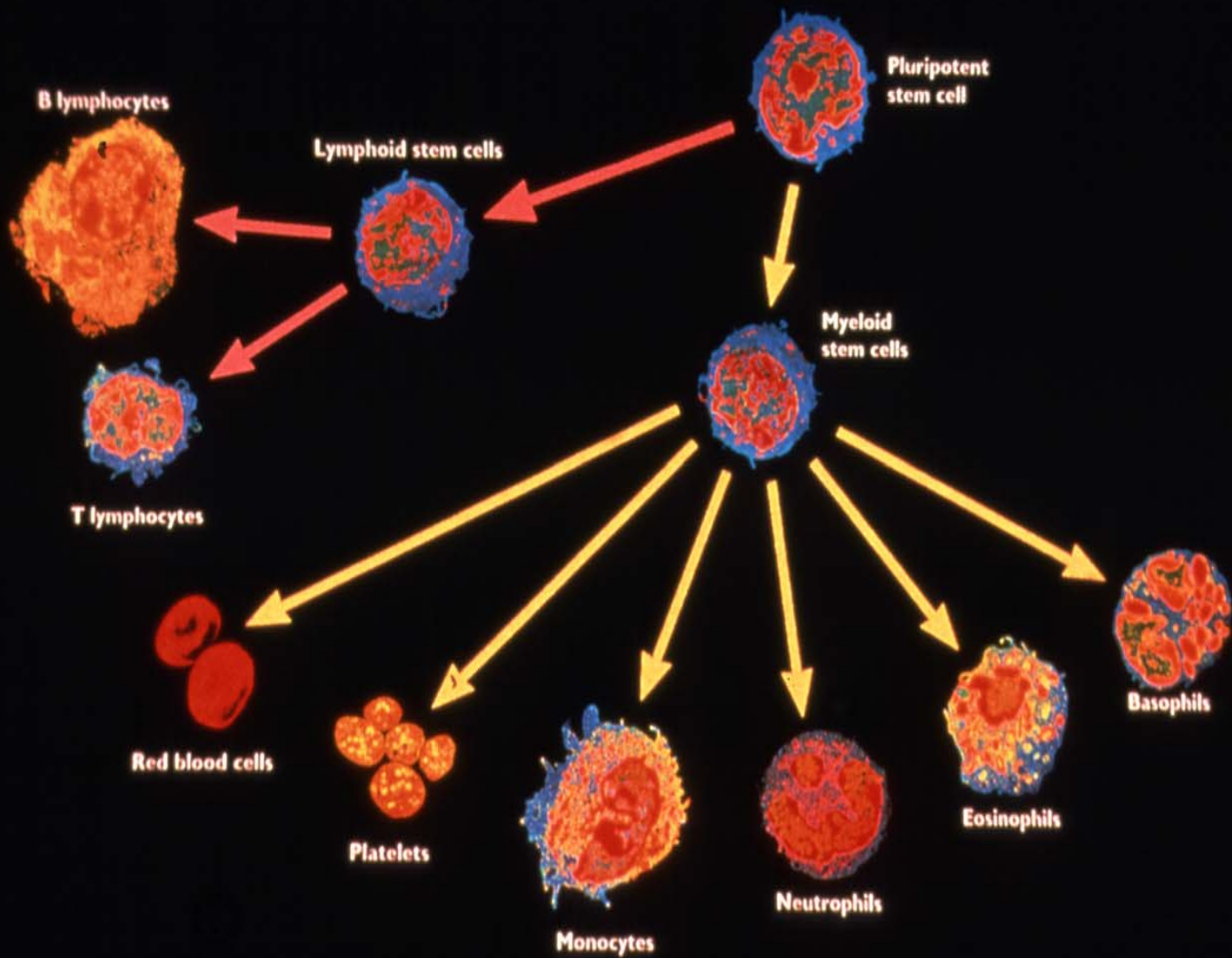
HCT (CD34+)



- Rescue
- Immunomodulation
- Remyelination



Multiple Sclerosis



Stem Cell Transplantation

- Originally from a small town in Texas, Dr. E. Donnal Thomas graduated from Harvard Medical School.
- Believed providing new bone marrow was essential to curing Leukemia.
- Spent 12 harrowing years researching various bone marrow and stem cell transplant techniques on dogs and humans.
- After identifying genetic markers on WBCs of histocompatibility, close matching of donor and recipient was possible, which led to successful treatment of Leukemia.



Dr. E. Donnal Thomas (left) receives the 1990 Nobel Prize in Medicine from King Carl XVI Gustaf of Sweden at ceremonies in Stockholm

Bone Marrow Transplantation, (1998) 21, 1253-1262

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Isolation of CD34⁺ cells from blood stem cell Components using the Baxter Isolex system

SD Rowley¹, M Loken², J Radich¹, LA Kunkle³, BJ Mills³,
T Gooley¹, L Holmberg¹, P McSweeney¹, K Beach¹,
B MacLeod¹, F Appelbaum¹ and WI Bensinger

¹Clinical Research Division, Fred Hutchinson Cancer Research Center, Seattle, WA;

*²Hematologics, Inc., Seattle, WA; and ³Baxter Healthcare Corporation,
Immunotherapy Division, Irvine, CA, USA*

Stem Cell Glossary

HLA – Human Leukocytic Antigen

CD – Cluster of Differentiation

Autologous – From the Patient

Syngeneic – From Identical Twin

Allogeneic – From HLA Identical Donor

BEAM – BCNU, cytosine arabinoside, etoposide,
and melphalan

Stem Cell Transplantation Mortality

Autologous  3% – (10)%

Allogeneic  15% – (35)%

HDIT/HCT for MS

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