

DM and the Brain

Science and Symptoms

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What Clinical CNS Changes occur DM?

- **Neuropsychological Abnormalities**
 - **Autistic Spectrum Disorder** – (Ekstrom...Wentz, Am J Med Gen, 2008)
 - **Attention Deficit** - (Douniol ...Guile, Dev Med Child Neurol, 2012)
 - **Developmental cognitive impairment** (Wozniak, NMDisorders, 2012)
 - **Executive function loss** (DM1/DM2 – Meola, Neurology, 1999; Modoni, JNeurol, 2008)
 - **Avoidant personality** (Winblad, NMDisorders, 2005).
- **Central motor function**
 - **Parkinsonism** (Sansone, JNNP, 2006)
- **Sleep Control**
 - **Sleep related ventilatory dysfunction**
 - **Central Hypersomnia** (Ciafaloni, Neurology, 2008)
- **Episodic encephalopathy? Seizures?**
- **Personal, Familial, Societal Impact of DM** (Gagnon, JRehab Med, 2007))

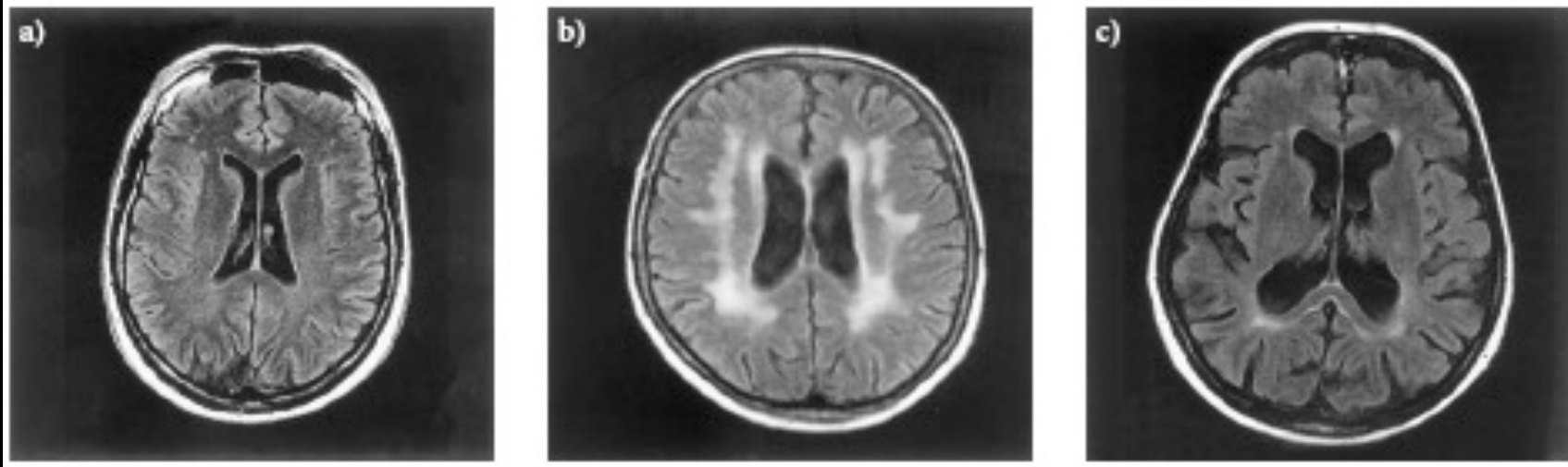


Structural MRI Changes in DM

DM1



DM2

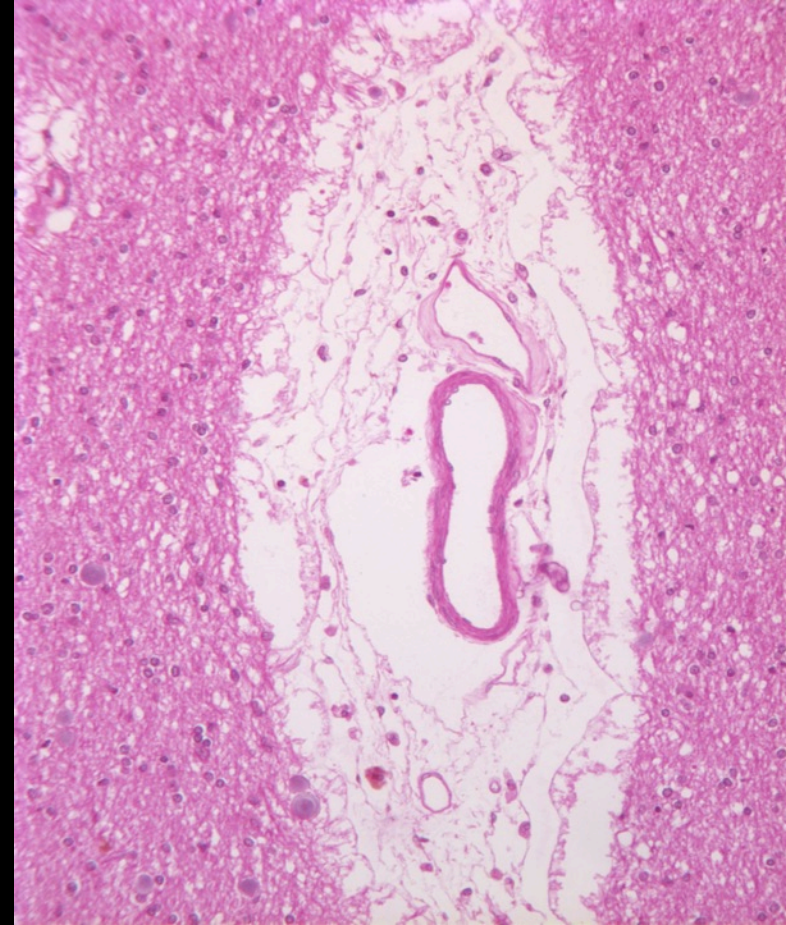
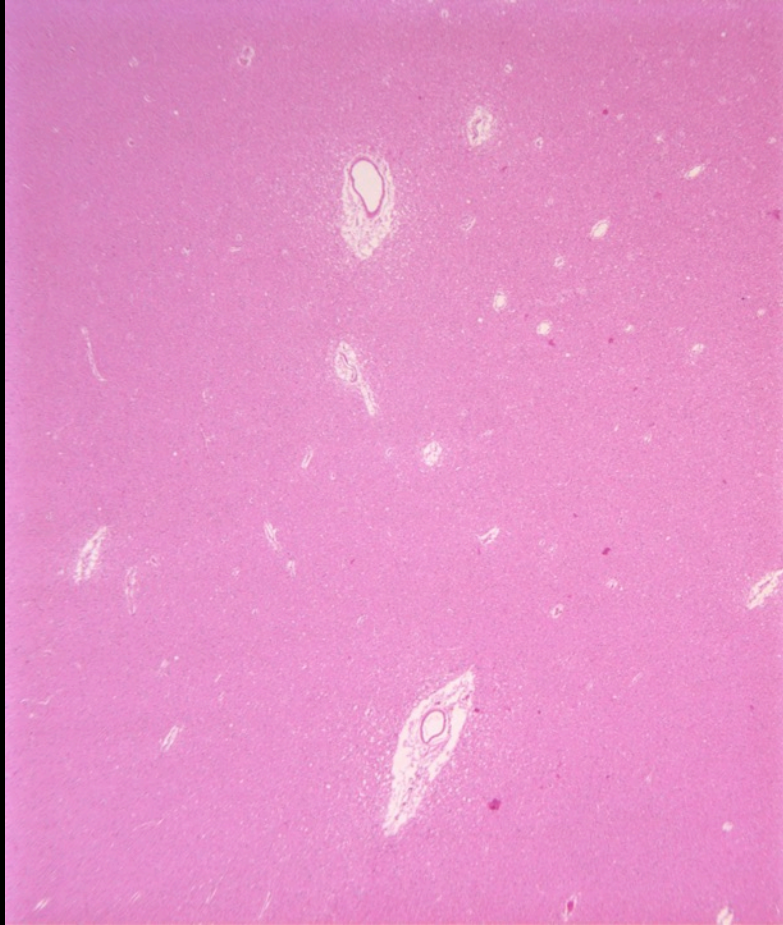


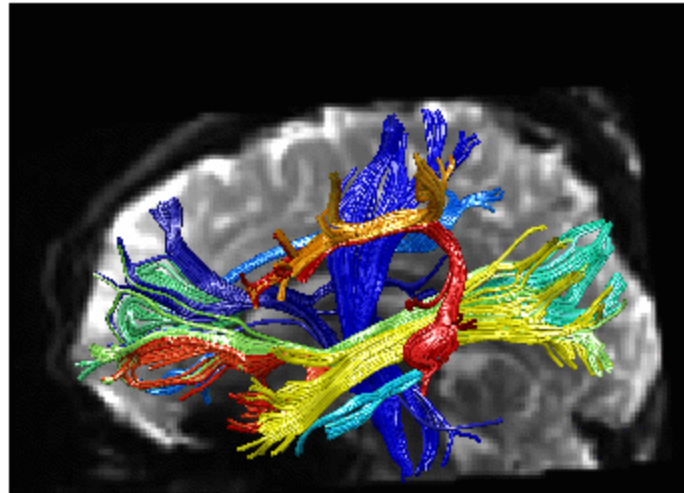
Kornblum, et al, J. Neurol, 2004



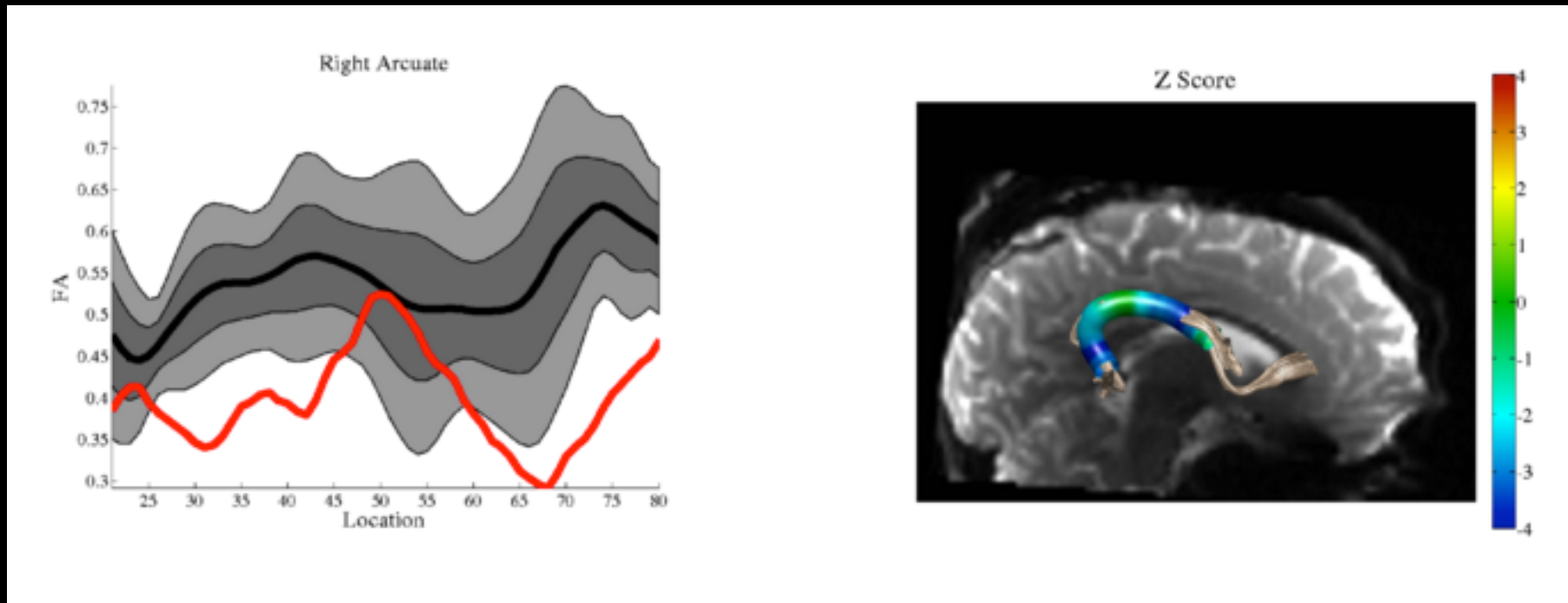
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Dilated Perivascular Spaces in WM





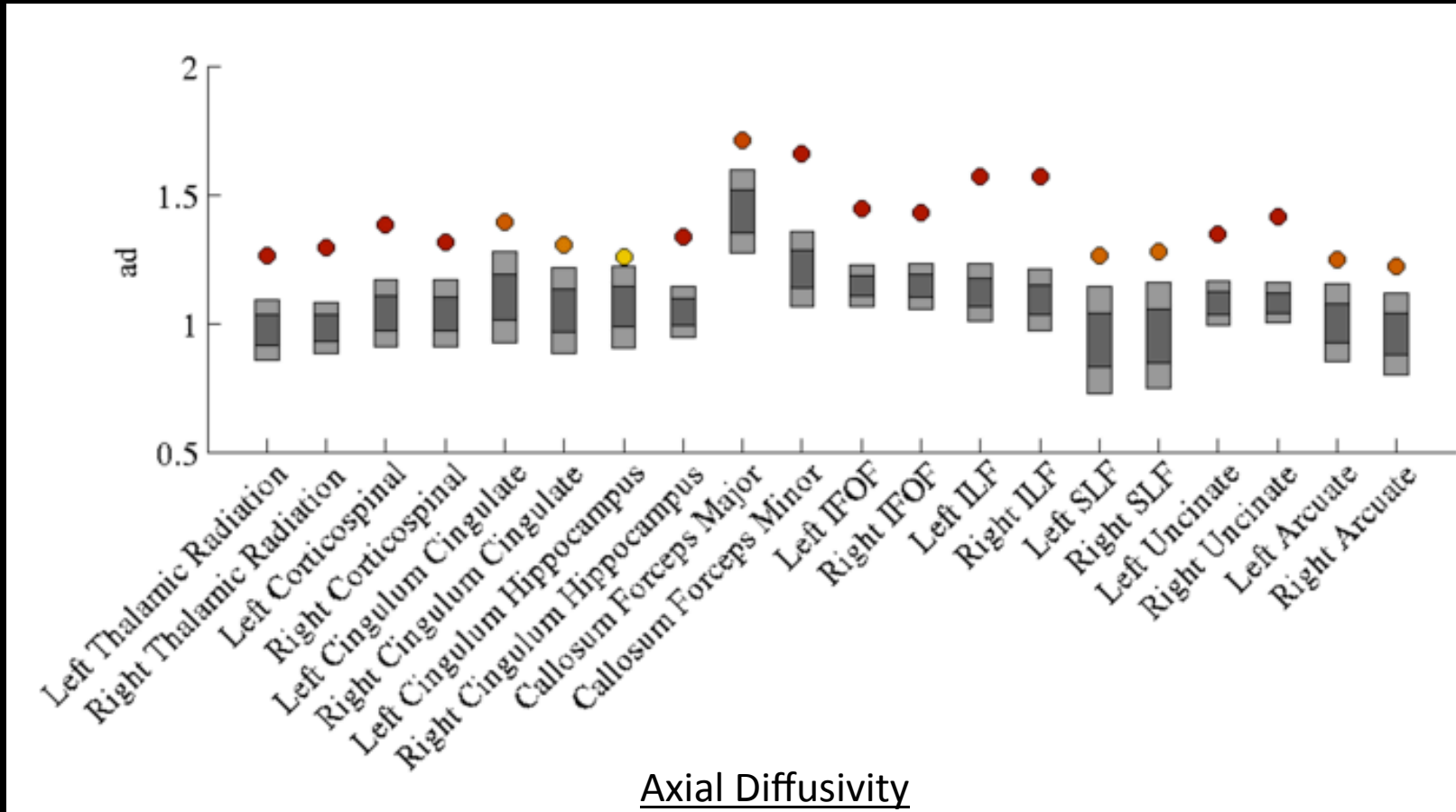
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Fractional Anisotropy

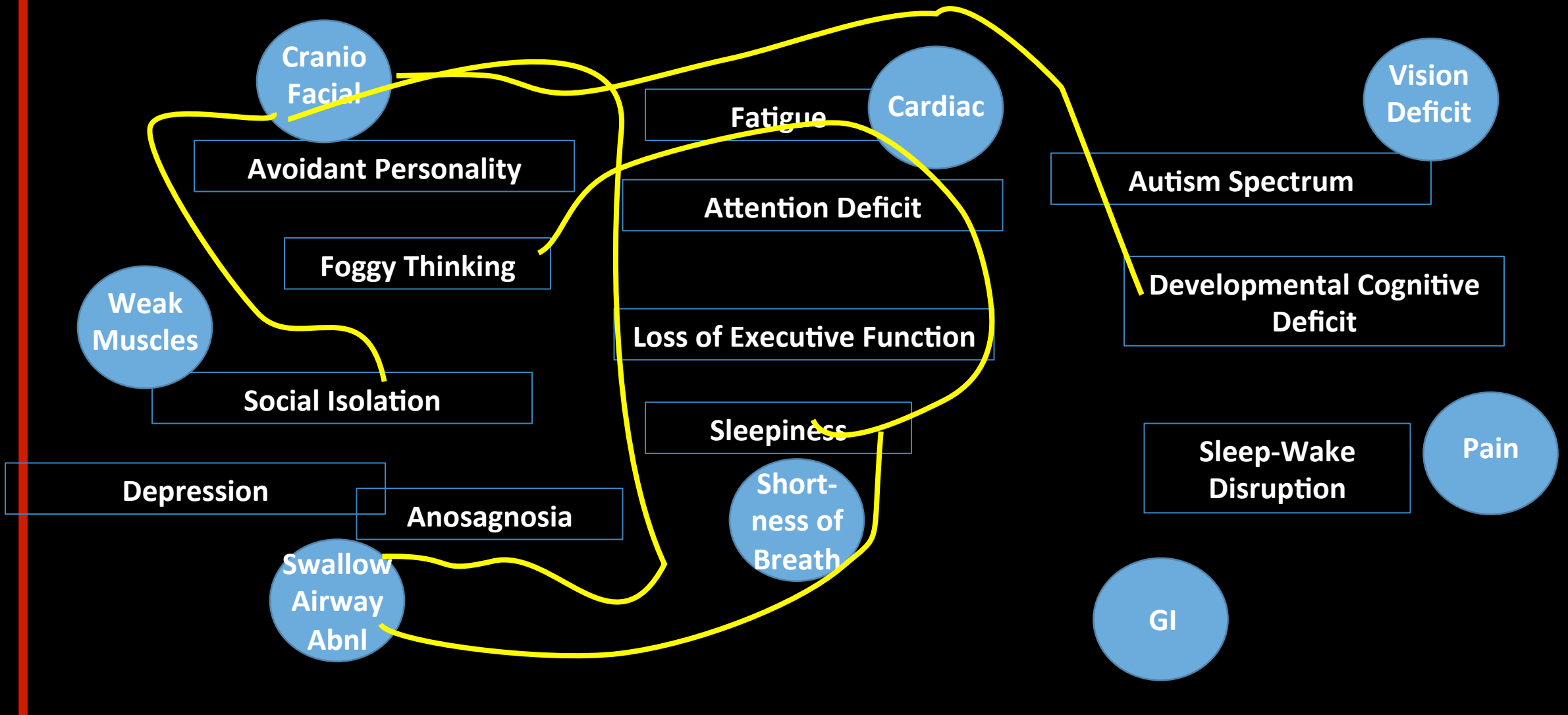


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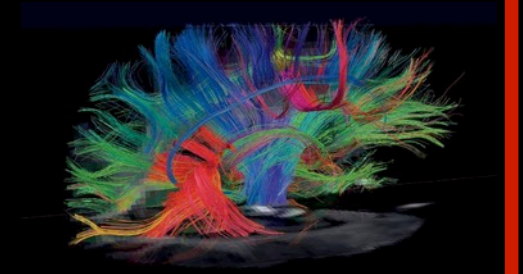
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Effect of systemic change on cognition

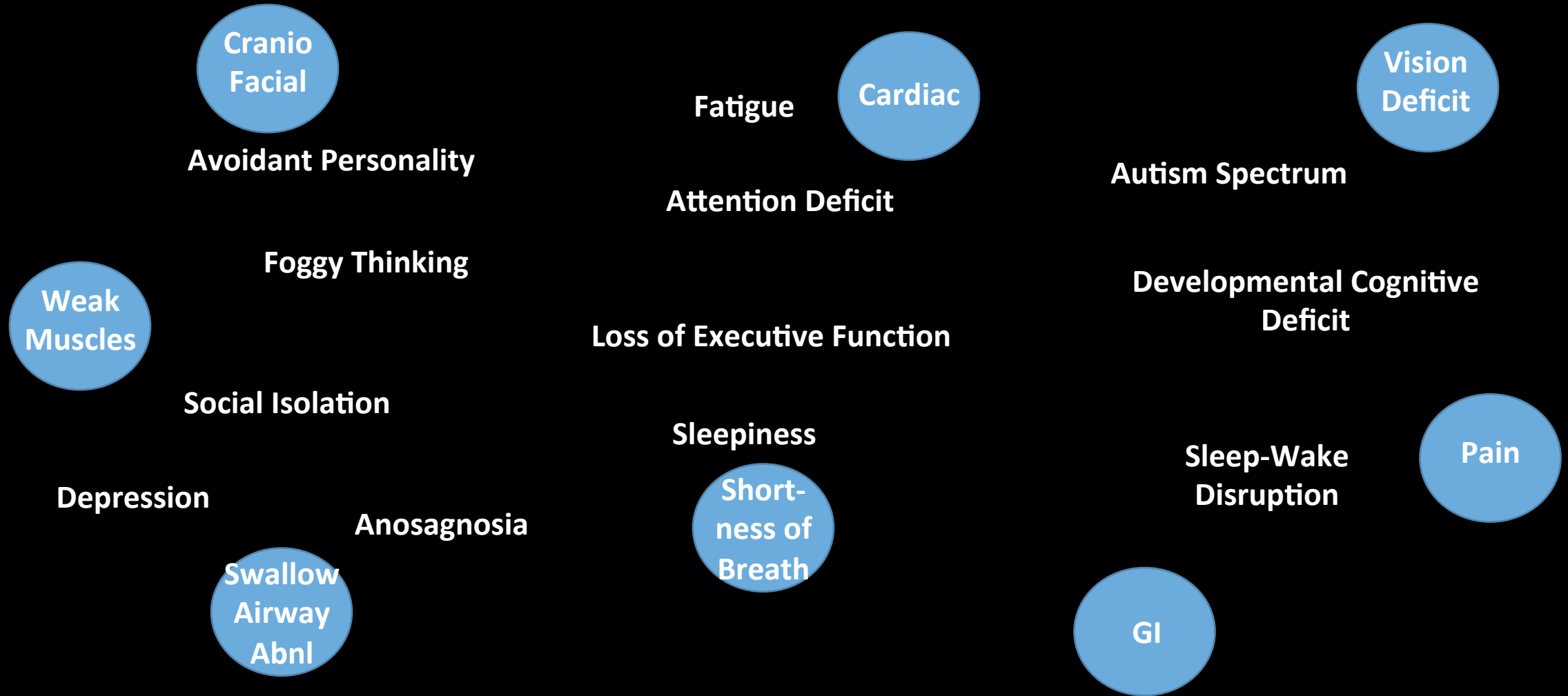


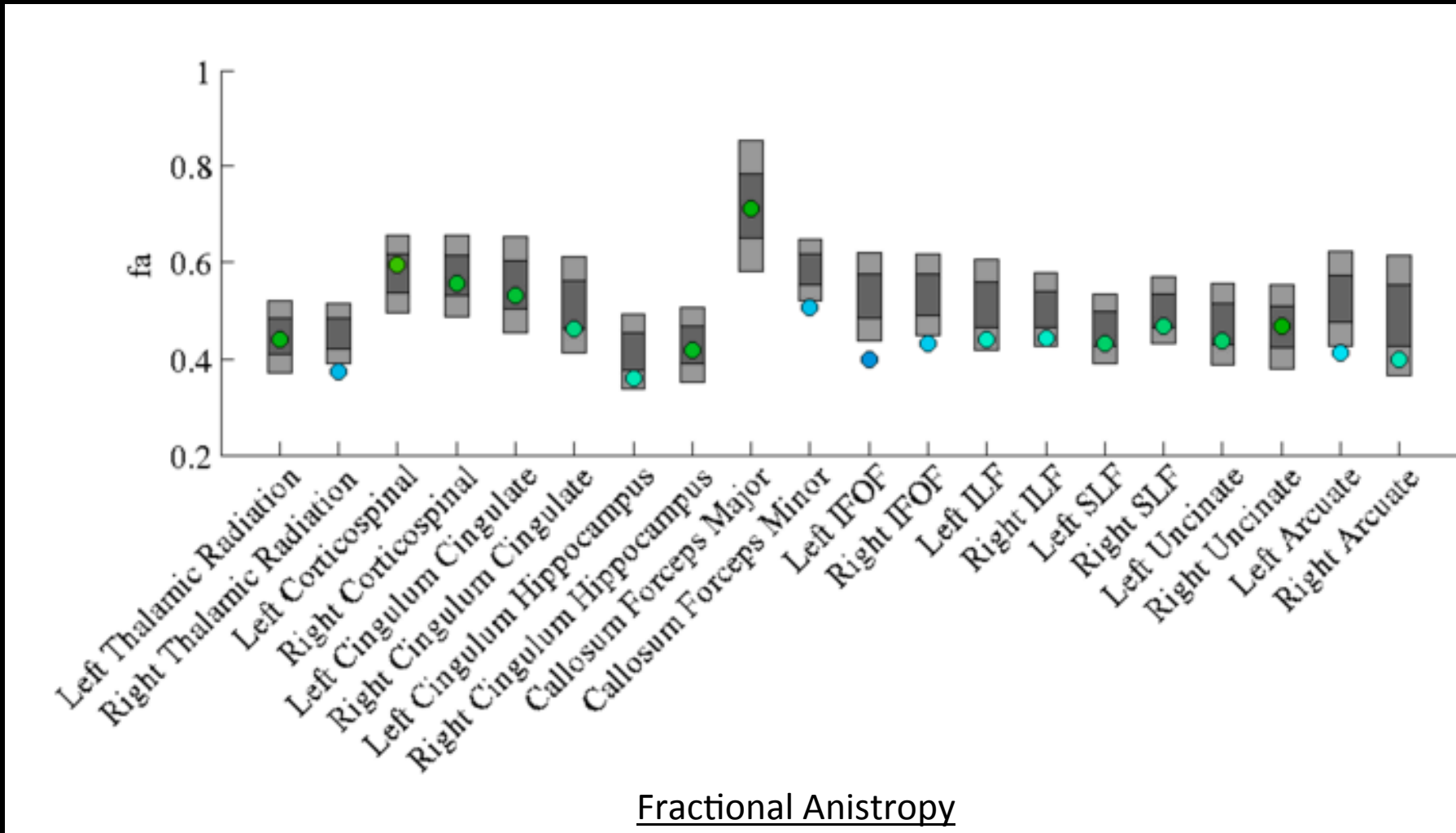
How You Can Help?

- Participate in MDF
- Register with the National DM Registry
- Register with your DMCRN site
- Participate in MDA Registry
- Participate in research studies
- Set up tissue donation from surgeries, biopsies, or autopsy



Effect of systemic change on cognition





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