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
Fractional Anisotropy
Axial Diffusivity
Effect of systemic change on cognition

- Foggy Thinking
- Sleepiness
- Fatigue
- Loss of Executive Function
- Attention Deficit
- Autism Spectrum
- Avoidant Personality
- Developmental Cognitive Deficit
- Social Isolation
- Depression
- Anosagnosia
- Weak Muscles
- Swallow Airway Abnl
- Cardiac
- Vision Deficit
- Pain
- Sleep-Wake Disruption
- GI
- Cranio Facial
- Shortness of Breath
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
Fractional Anisotropy