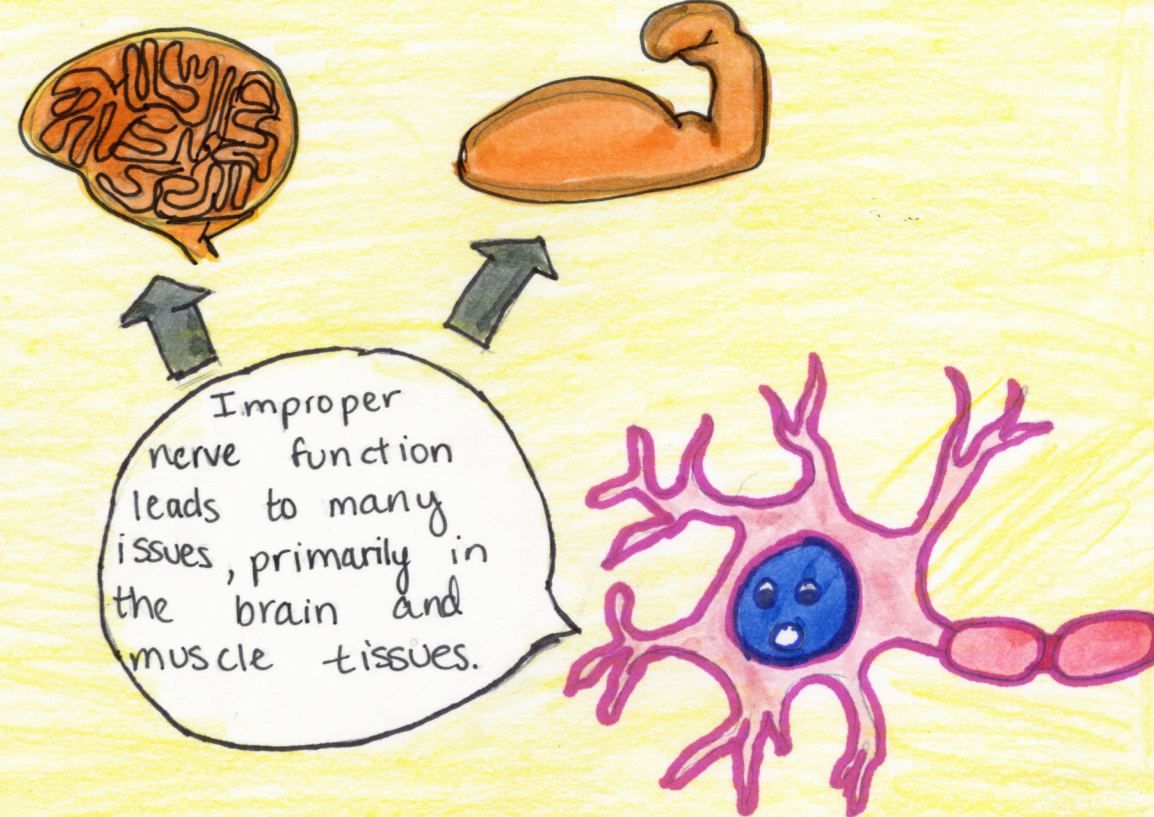


# HUNTINGTON'S DISEASE

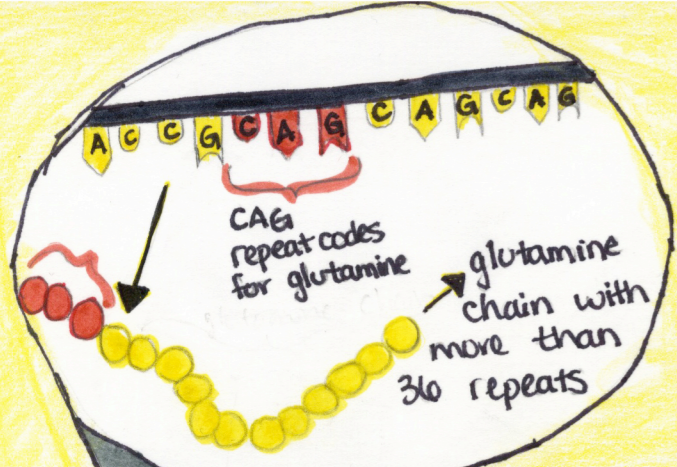
Frances Balto, Grace Fedarkei, Bala Ramaraju Saisu Talasu



This mutation overproduces Huntington protein which builds up in neurons + disrupts signalling, material transport, + apoptosis intervention.



Improper nerve function leads to many issues, primarily in the brain and muscle tissues.



My name is Neil the neuron! I'm impacted by Huntington's Disease, which is a genetic disease caused by a DNA mutation.



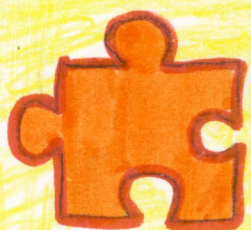
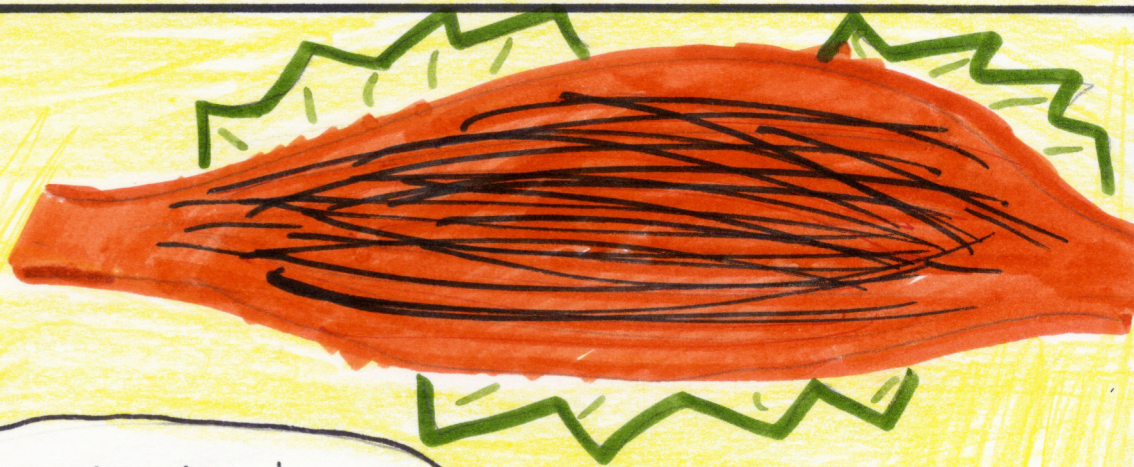
Normal Brain (Lateral Ventricles)



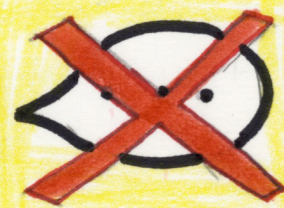
Huntington's (Enlargement caused by degradation of white matter)



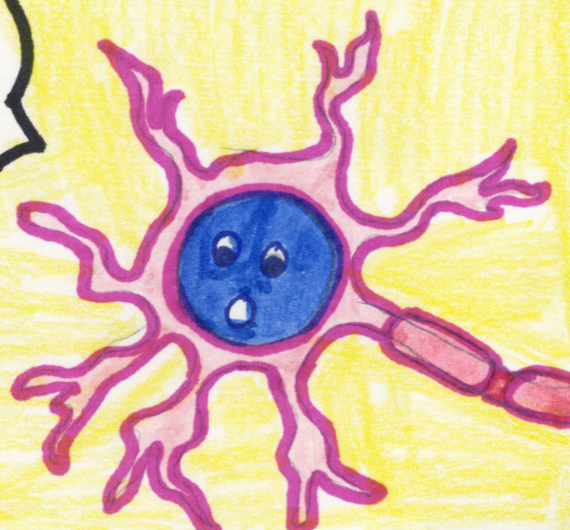
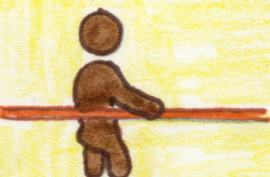
Nerve impulse disruption can cause involuntary muscle spasms and uncontrolled movement, as well as eventual muscle loss.



Degradation of white matter often leads to confusion, dementia, difficulty speaking, etc. So therapy is used to correct some function.



Physical therapy is often prescribed to regrow + train affected muscles.



Proteins called vesicular mono-amine transporters (VMATs) normally put the neurotransmitter dopamine into vesicles.

Tetrabenazine (TBZ) is also prescribed to control overactive muscles.

Dopamine binds to the receptors, causing the signal to be sent down the receiving nerve cell.

vesicle

TBZ

TBZ employs two mechanisms to reduce amount of dopamine in the brain!

TBZ binds to VMATs, preventing the transporters from allowing dopamine particles into vesicles.

TBZ inhibits dopamine receptors and dopamine transporters.

