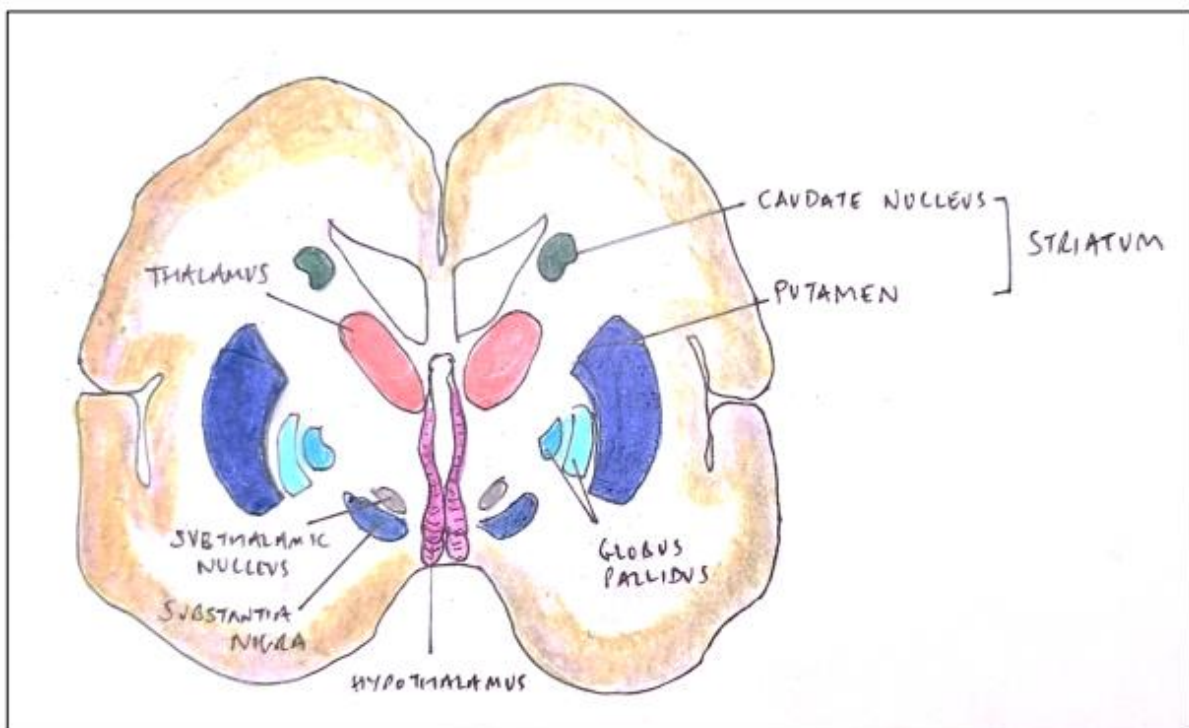
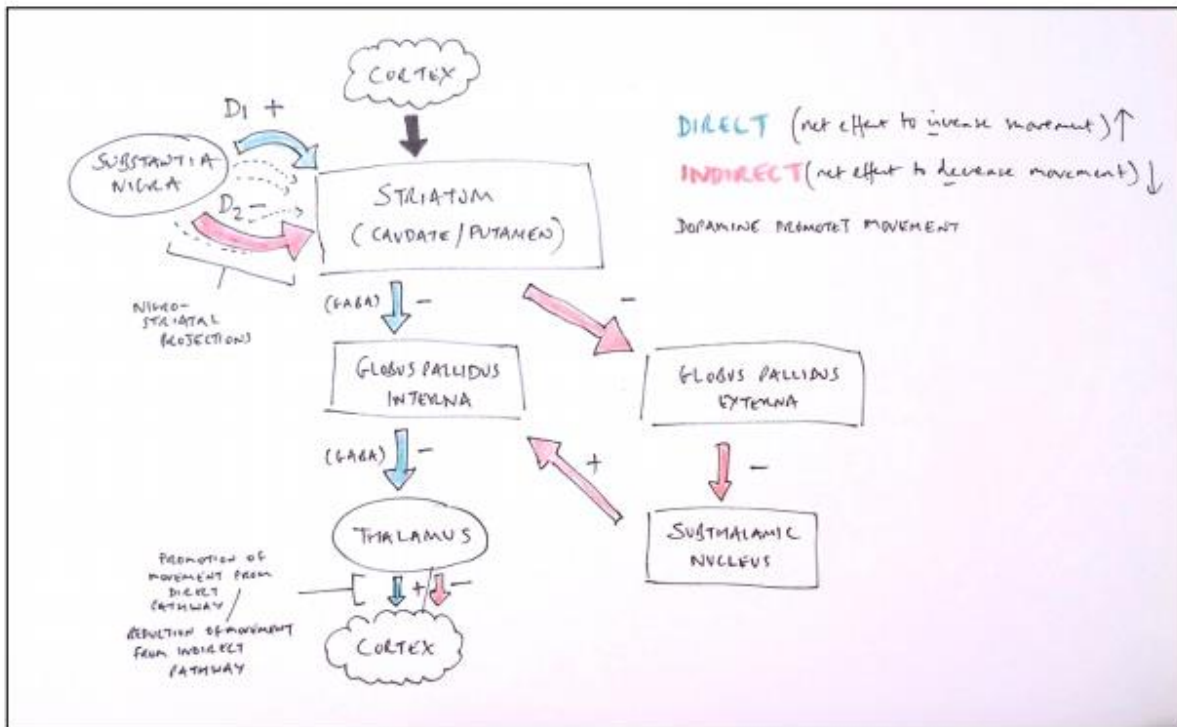


Jack is 15 years old and has become profoundly slowed in his limb movements over the last 6 months. He is currently in his first year of GCSE studies and has been thought to be depressed because of stress with his school studies. He lives with his mother and has no contact with his biological father, nor any of his paternal family since his family left the family home aged 3. He had previously been a bright student who enjoyed his schoolwork in the first 2 years of secondary school but since then his marks have steadily declined and he has become rather withdrawn in class.

On examination he is noted to have reduced facial expressivity and very little spontaneous speech. His limb tone is stiff but not weak. He walks slowly and his feet go into spasm when he walks.

1. What do we call abnormal slowing of movement?
2. Which major parts of the brain are implicated in higher motor control?
3. What is the role of the neurotransmitter dopamine in control of movements? What type of neurotransmitter is it and what other molecules are in this family?
4. Are there any features from this case that would make you think about altered motor control other than slowed limb movements?
5. Which disease commonly presents with slowness of limb movement, and what would be unusual about this diagnosis in this instance?





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