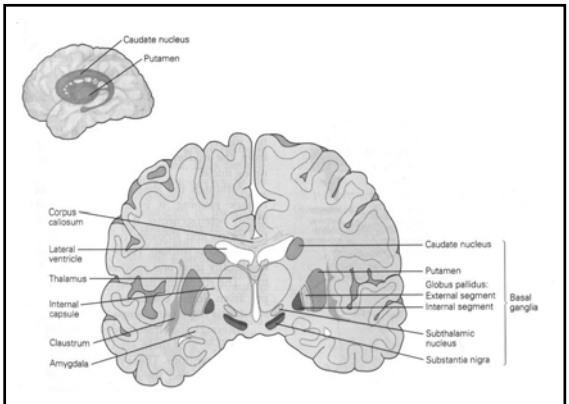
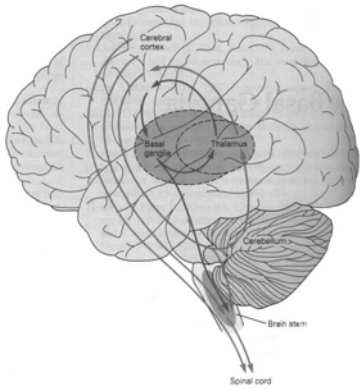


NSUH



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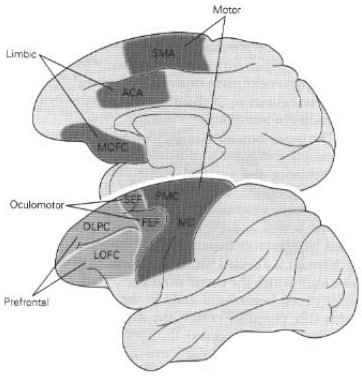

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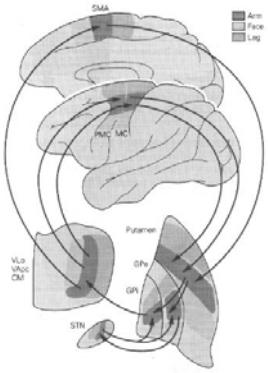

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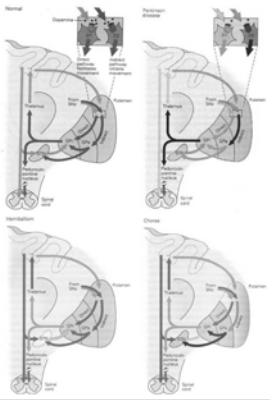

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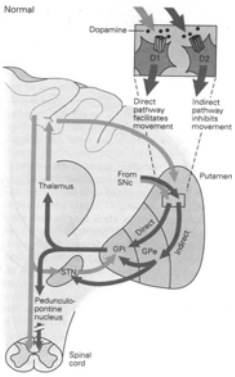

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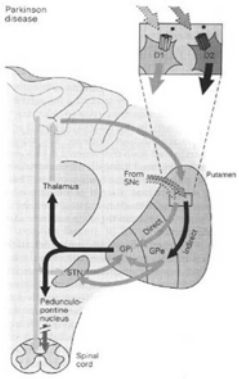

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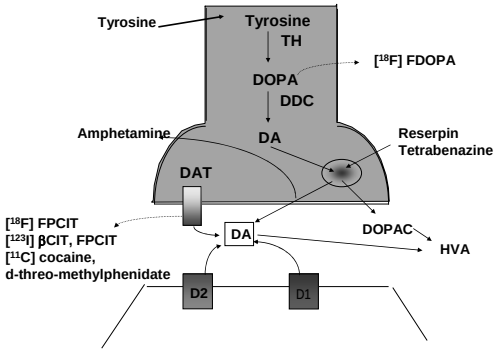
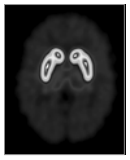


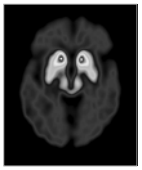
NSUH

[18F] FPCIT/PET

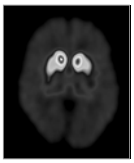
Mild



Normal



Moderate

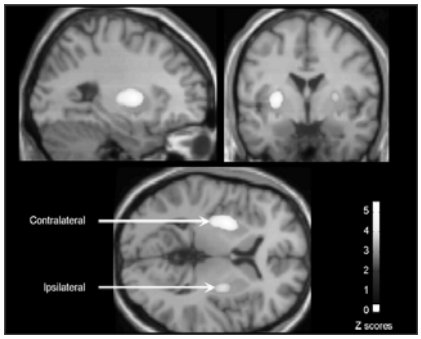


Severe

NSUH

18F-FPCIT Binding Reductions in PD

H&Y Stage I

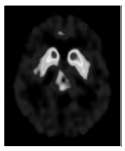


NSUH

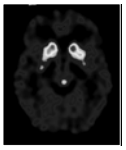
Sham surgery

FDOPA / PET

Normal

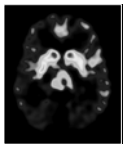


Preop.

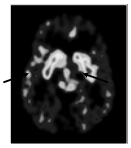


Postop.

Fetal mesencephalic cell implant



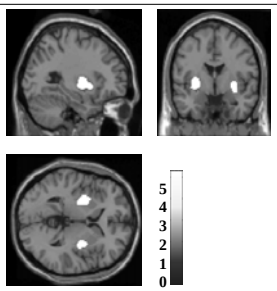
Preop.



Postop.

NSUH

Fetal Dopamine Cell Transplant

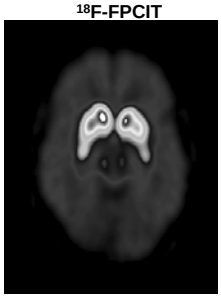


FDOPA/PET: SPM Analysis (p<0.001)

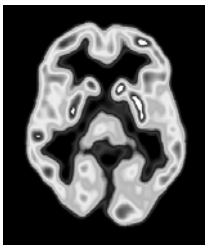
NSUH

Parkinson's Disease
H&Y I

^{18}F-FPCIT

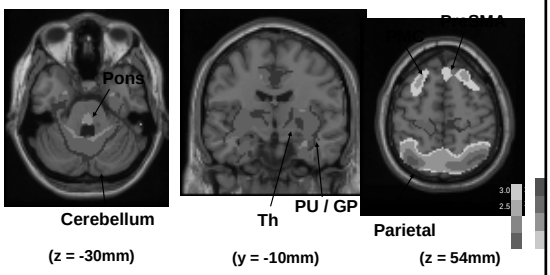


^{18}F-FDG



NSUH

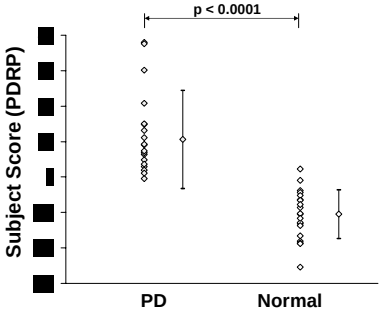
PD-related Metabolic Network: Voxel Analysis



PC1 (20.7% VAF) from analysis of 20 PD and 20 Controls

NSUH

Network Activity Discriminates PD and Controls



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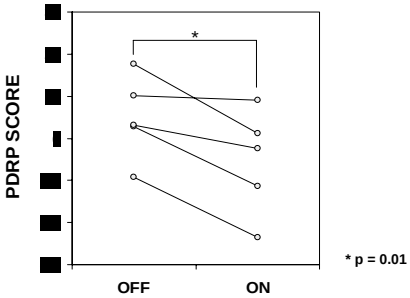
Levodopa Infusion



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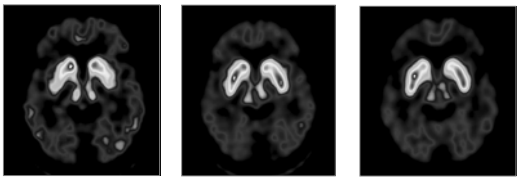
MEN

S DISEASE

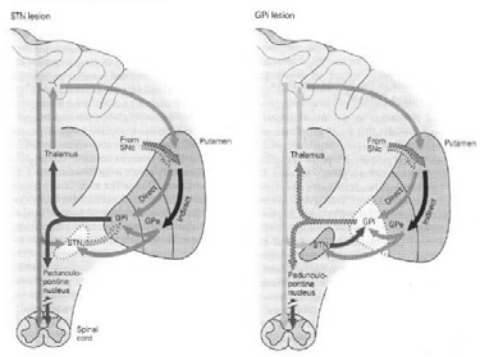
NSUH

Implantation: Two year Follow-up



preoperative 1 yr postop 2 yr postop

NSUH



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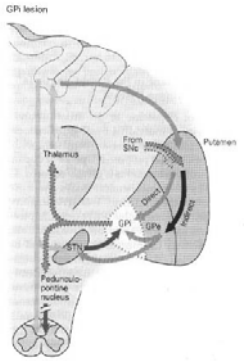

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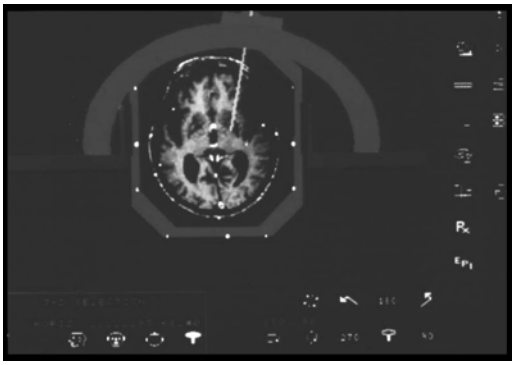

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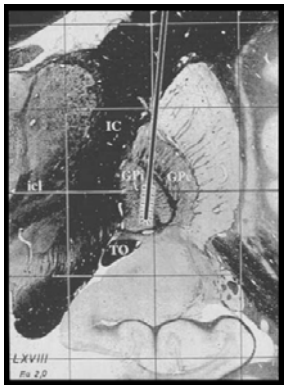

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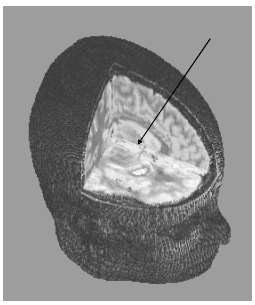
MRI-PET Fusion Image
Pallidotomy



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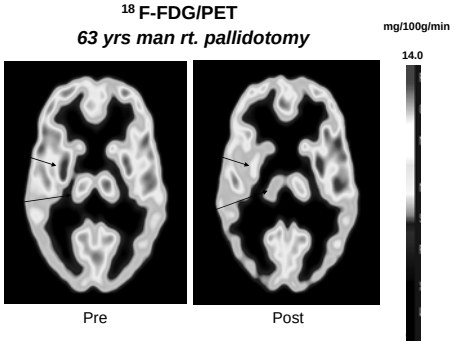
^{18}F-FDG/PET
63 yrs man rt. pallidotomy



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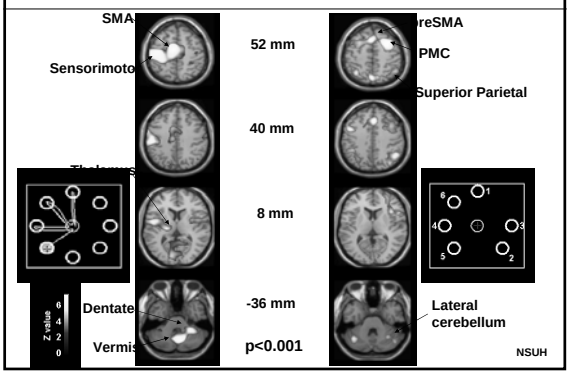
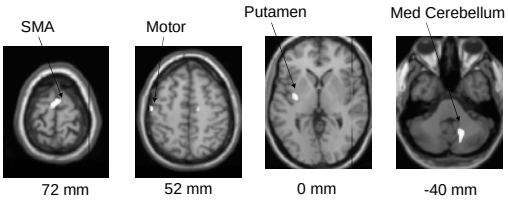
Task Subtractions



Effect of GPi stimulation on motor task

Activation ON > Activation OFF



Threshold p=0.01 (within motor activation mask)

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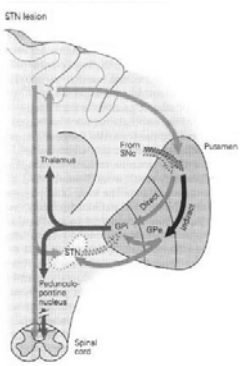

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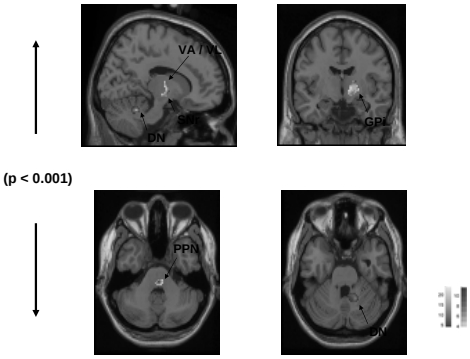
Effect on Brain Glucose Metabolism



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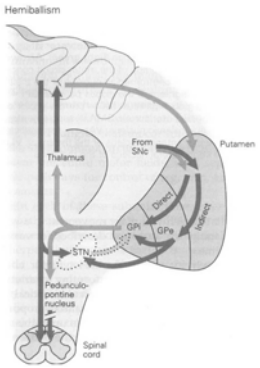

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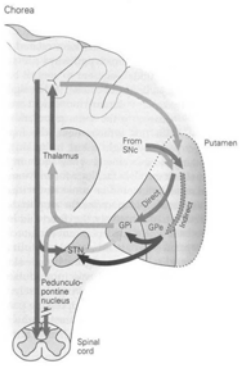

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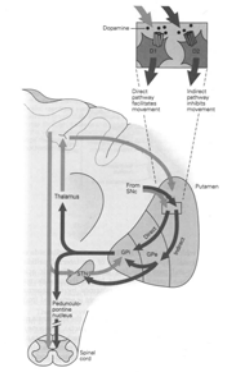
Dopamine
D1
D2
Direct pathway facilitates movement
Indirect pathway inhibits movement
Thalamus
Putamen
Pedunculo-pontine nucleus
Spinal cord

NSUH