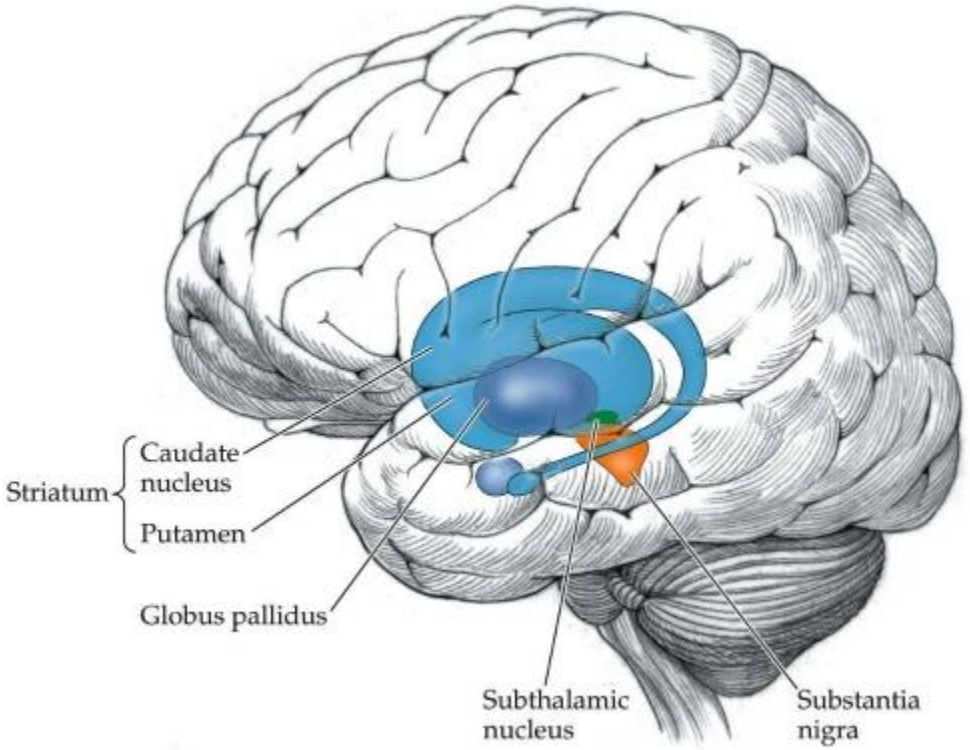
Basal ganglia

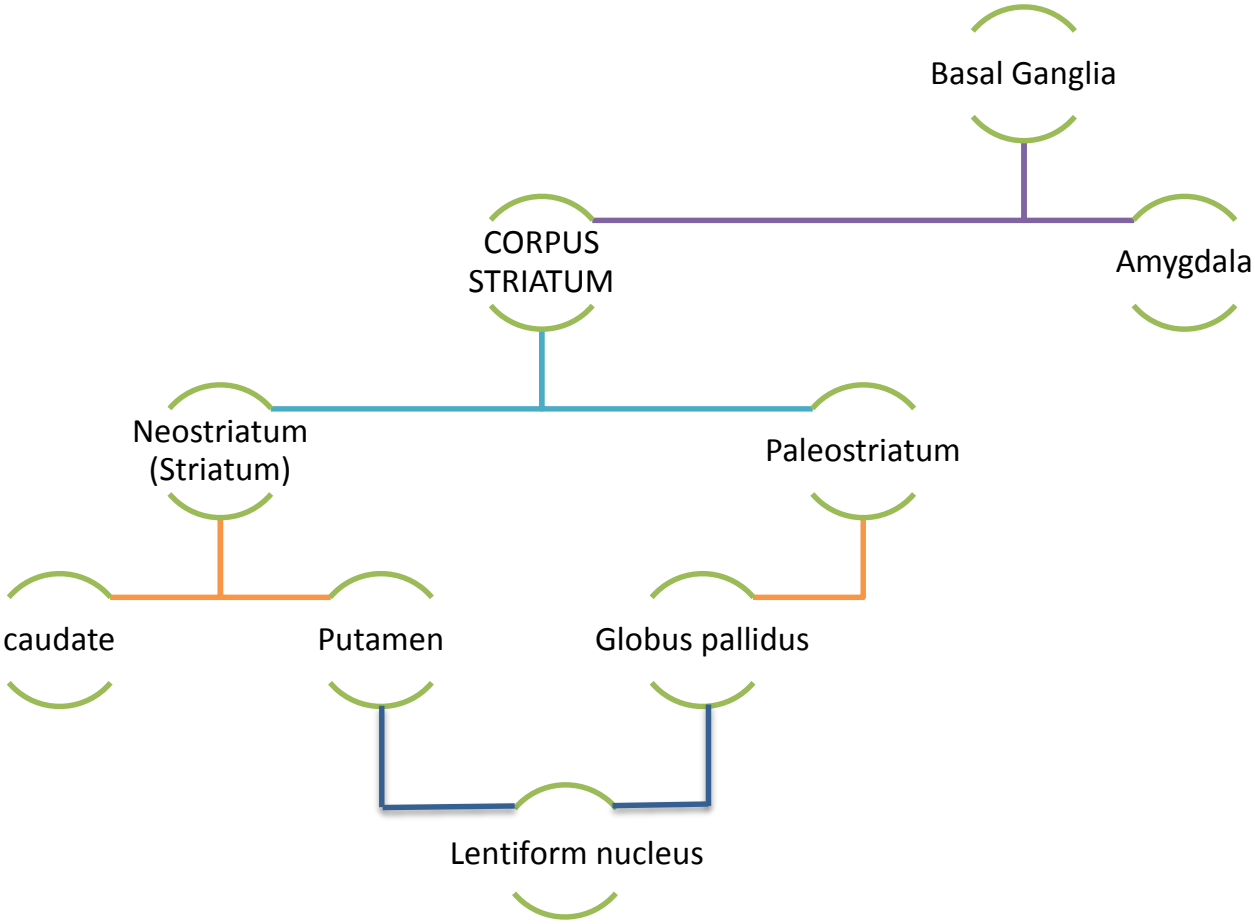
ملاحظة:

هذا الملف للمراجعة وترتيب المعلومات فقط وليس مرجع للمذاكرة لانه ليست كل المعلومات متضمنة.



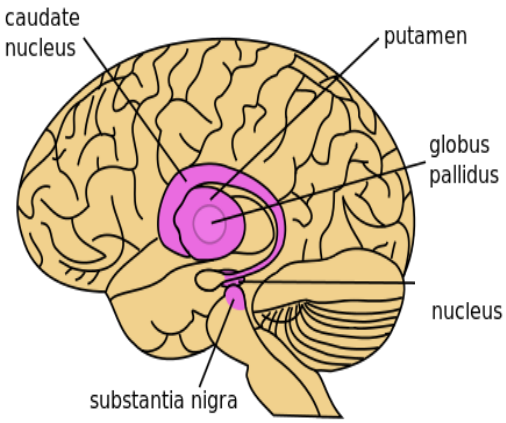
Done By:

طرفة بن ميمون


Basal Ganglia
CORPUS STRIATUM
Amygdala
Neostriatum (Striatum)
Paleostriatum
caudate
Putamen
Globus pallidus
Lentiform nucleus

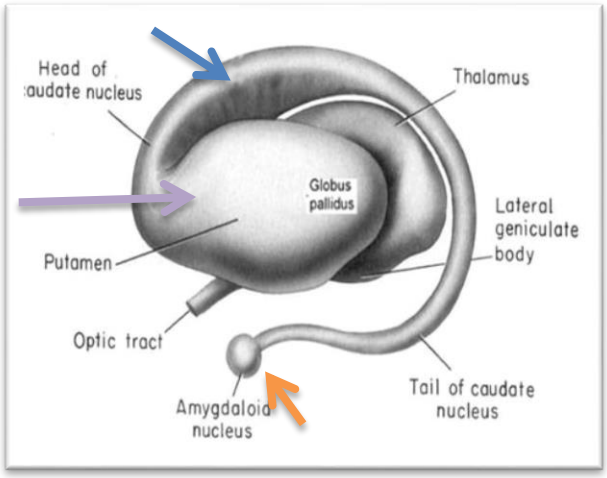
BASAL GANGLIA (NUCLEI):

Group of nerve cells deeply situated in cerebral hemispheres



Components:

1. Caudate Nucleus
2. Lentiform Nucleus: divided into ***Putamen & Globus Pallidus***
3. Amygdaloid Nucleus



Caudate & Lentiform nuclei are functionally related to each other & called ***"Corpus striatum":*** Part of *extrapyramidal motor system*, principally involved in the control of posture and movements

Amygdaloid Nucleus (part of limbic system) is only embryologically related to Corpus Striatum

CORPUS STRIATUM (PARTS):

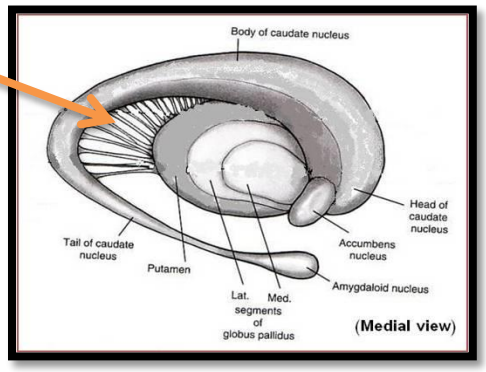
Lentiform Nucleus:

Putamen: **is more closely related to Caudate nucleus (regarding development, function & connections) and together with caudate constitute the Neostriatum or Striatum.**

Globus Pallidus: **it is the oldest part of corpus striatum and is called paleostriatum or pallidum.**

CORPUS STRIATUM (Nomenclature):

Bands of grey matter pass from lentiform nucleus across the internal capsule to the caudate nucleus, giving the striated appearance hence, the name *corpus striatum*.



CORPUS STRIATUM *(Important relations):*

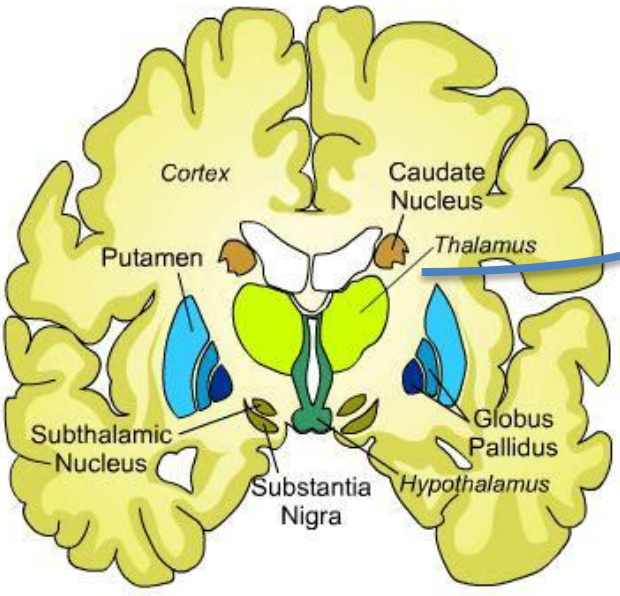
Head of Caudate Nucleus lies:

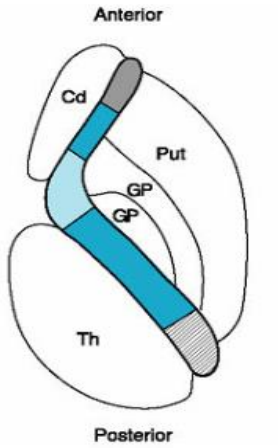
ANTERIOR: To Thalamus

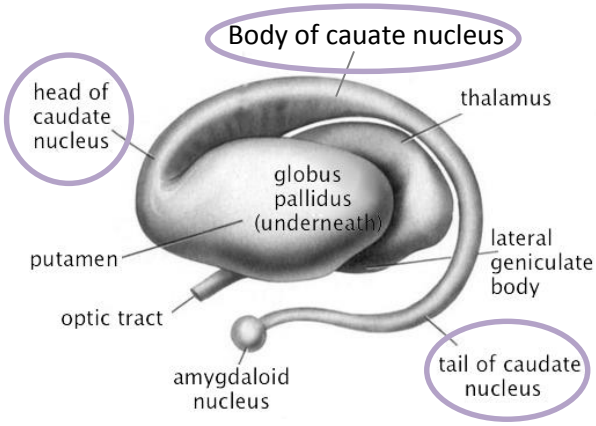
MEDIAL: To Lentiform separated from it by *anterior limb of internal capsule*

Lentiform Nucleus:

LATERAL: to Thalamus & separated from it by *posterior limb of internal capsule*







CAUDATE NUCLEUS:

Comma like or C-shaped mass of grey matter

COMPONENTS: head, body & tail

#Head: Rounded in shape

Lies **anterior** to thalamus (in frontal lobe)

towards the rostrum (a beak-like structure)

Completely separated from the putamen by the internal capsule except rostrally where it is continuous with the putamen

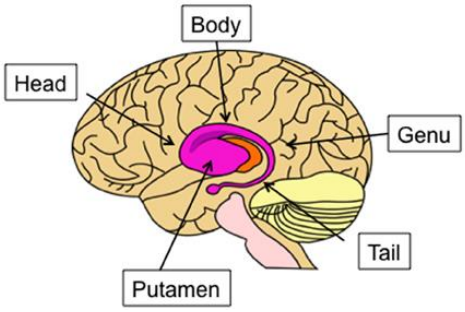
#Body: Long & narrow

Extends above thalamus (in parietal lobe)

#Tail: Long & tapering

Descends into (temporal lobe)

Continuous with Amygdaloid Nucleus

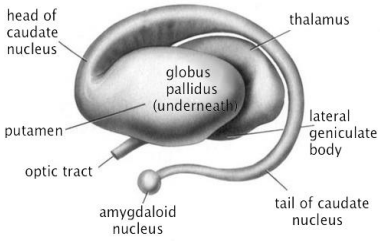


LENTIFORM NUCLEUS:

Three sided, wedge-shaped mass of grey matter, with a convex outer surface and an apex which lies against the genu of the internal capsule (G)

Divided into:

1. **Larger darker lateral portion called Putamen**
2. **Smaller, lighter medial portion called Globus Pallidus**



PUTAMEN:

-Separated from globus pallidus by a thin sheath

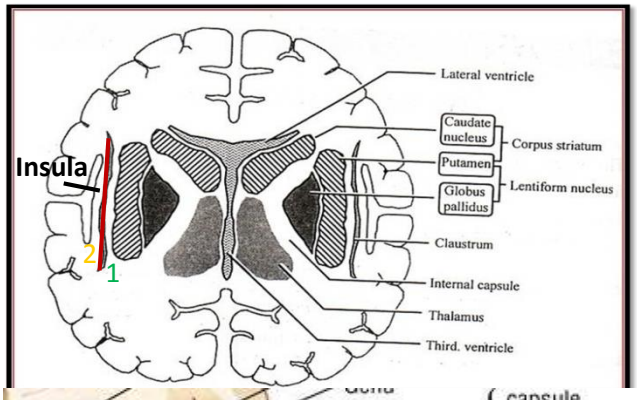
of nerve fibers the lateral medullary lamina.

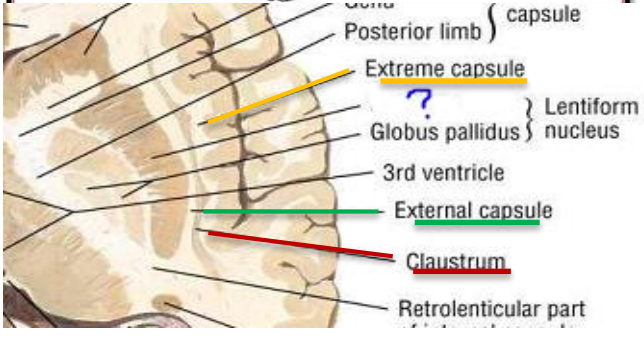
-The white matter lateral to putamen is divided,

by a sheath of grey matter, **the claustrum** into two layers:

>external capsule (1) between the putamen and claustrum

>extreme capsule (2) between the claustrum and the insula

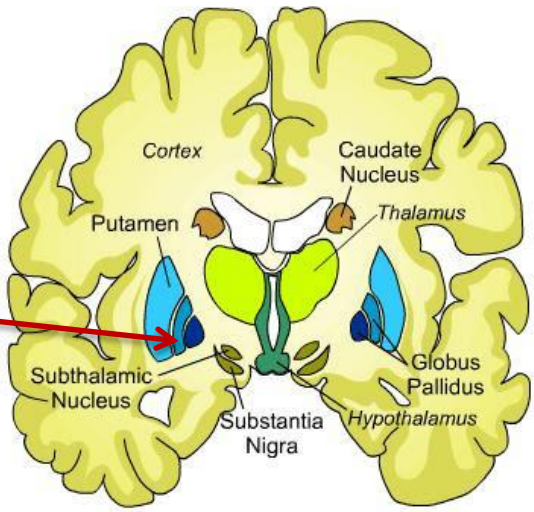




GLOBUS PALLIDUS:

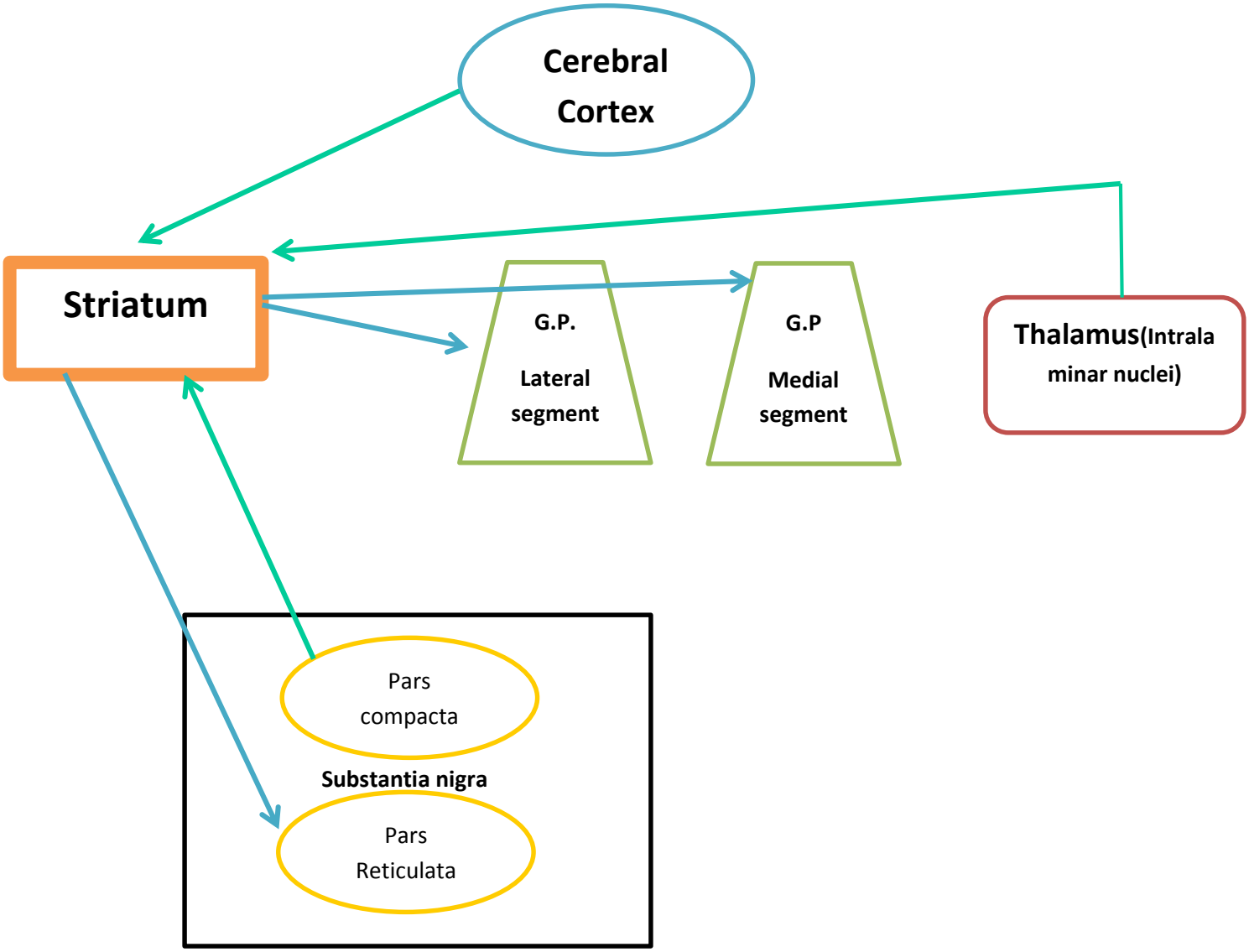
Consists of two divisions: the lateral **& the medial segments,** separated by a thin sheath of nerve fibers, the medial medullary lamina.

The medial segment is similar, in terms of cytology and connections with the ***pars reticulata of substantia nigra.***



STRIATUM (CAUDATE & PUTAMEN)

"The input " receiving" portion of Corpus striatum":



Efferent

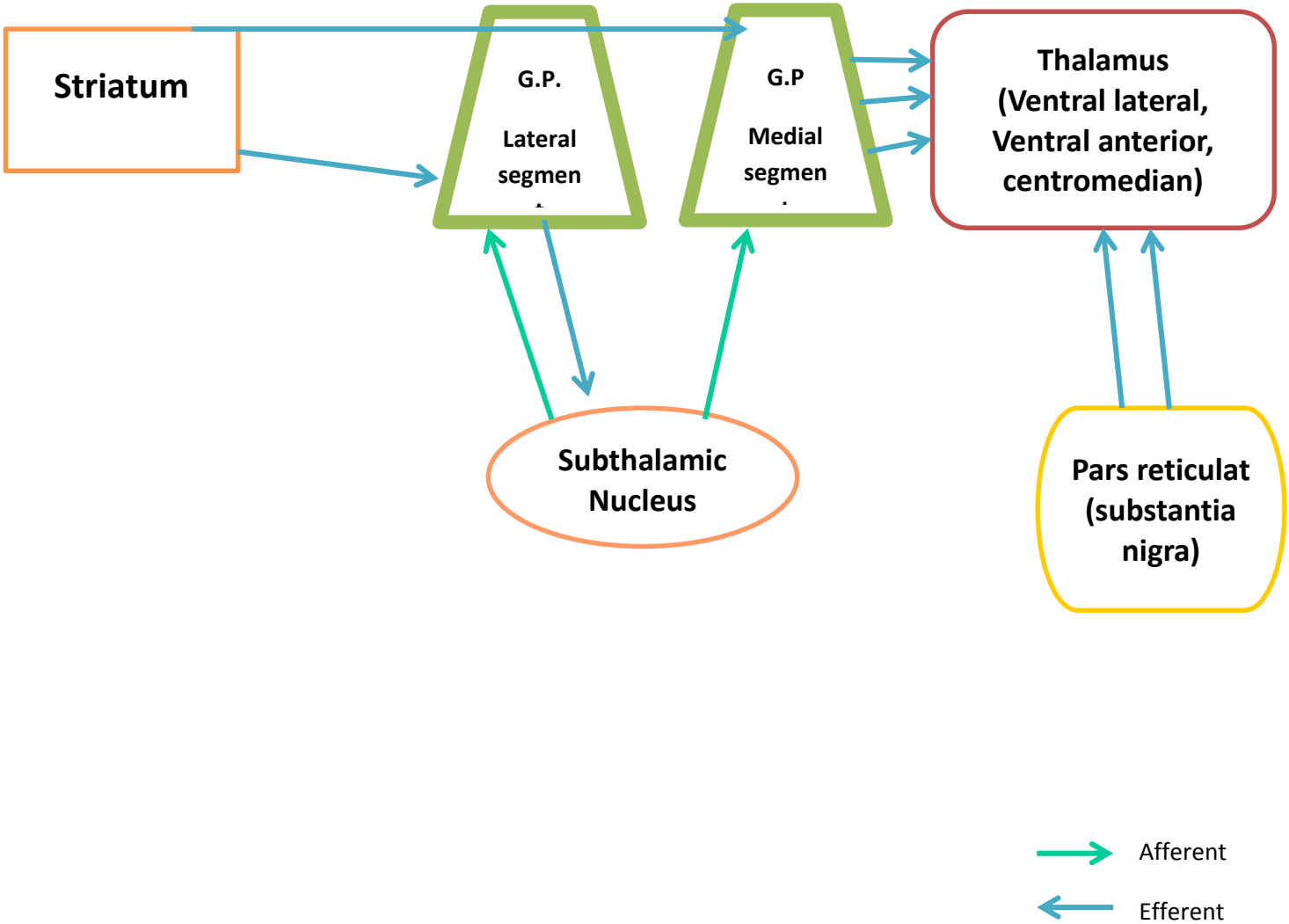
Afferent

PALEOSTRIATUM (GLOBUS PALLIDUS)

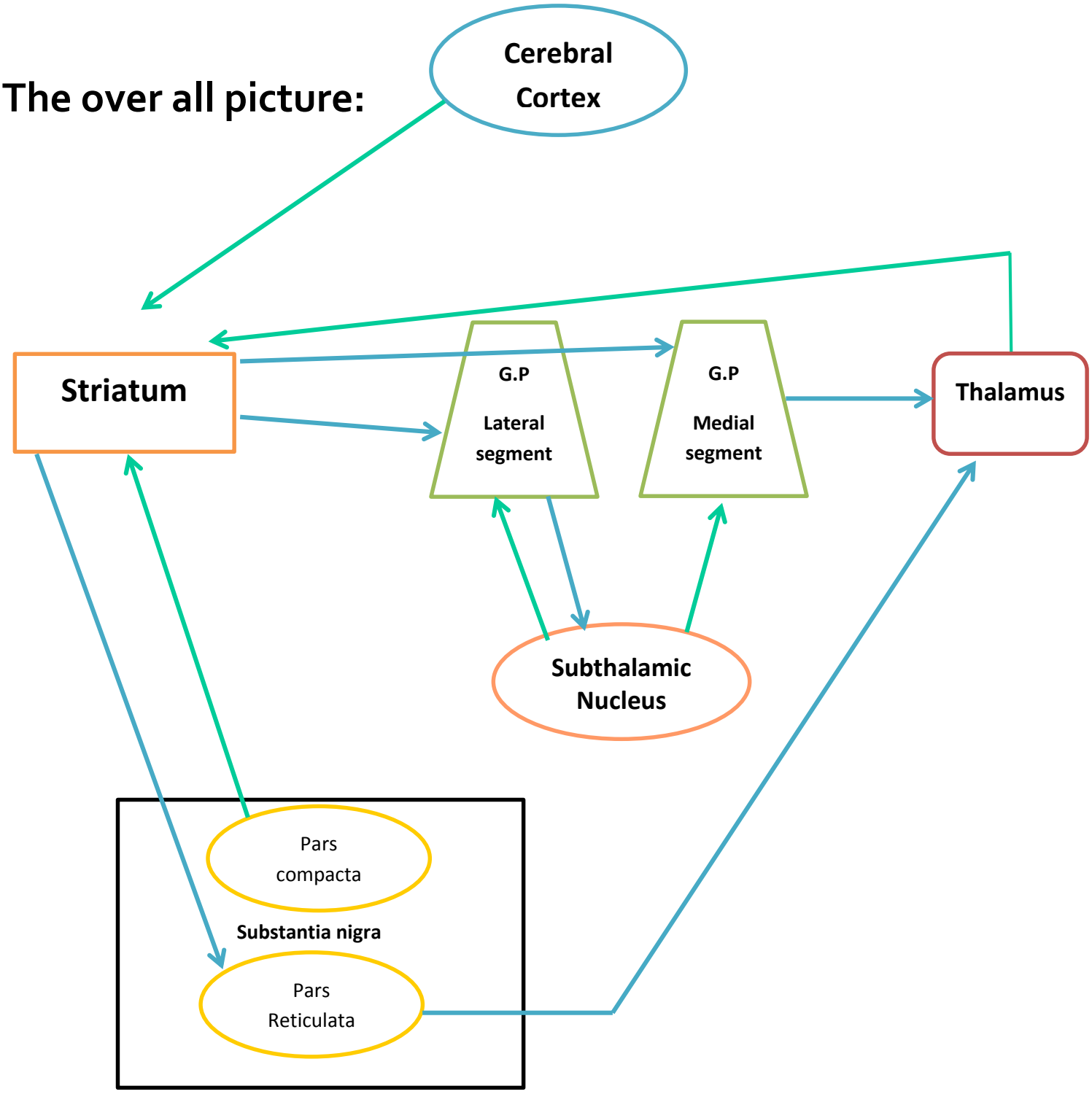
"The output portion of corpus striatum:

medial segment of G.P. + Pars Reticulata of S.N."

-Globus pallidus mainly work on efferents



The over all picture:



CORPUS STRIATUM (*Function):*

The corpus striatum assists **in regulation of voluntary movement and learning of motor skills**.

Their function is to facilitate behavior and movement that are required and appropriate, and inhibit unwanted or inappropriate movement.

CORPUS STRIATUM (*Dysfunction):*

Its dysfunction does **NOT** cause: paralysis, sensory loss or ataxia

It leads to:

I. **Abnormal motor control**: emergence of abnormal, involuntary movements (dyskinesias)

II. **Alteration in muscle tone**: hypertonia/hypotonia

GOOD LUCK ☺