

association fibers :-fibers connect different cortical areas of the same cerebral hemisphere. to integrate the functions of these areas.

Types:

A-short: connect adjacent gyri together .

B-long: connect distant gyri of different lobes.

	1-uncinate fasciculus: (U shaped)	2-superior longitudinal fasciculus: (largest)	3-inferior longitudinal fasciculus	4-cingulum
begins and end (course, position)	begins at the orbital gyri of frontal lobe, then arches over the stem of lateral sulcus to end in anterior part of temporal lobe	begins in frontal lobe and run backward to reach the occipital lobe , then curve to enter temporal lobe	Begins at occipital lobe and run forward to reach the temporal lobe	Begins at anterior perforated substance →cingulate gyrus → isthmus →parahippocampal gyrus →And ends at uncus
connection	it connects orbital gyri of frontal lobe & motor speech areas with the cortex of anterior part of temporal lobe	connect frontal, occipital & temporal cortical areas		

commissural fibers :-Fibers connect identical cortical areas of both cerebral hemispheres.
 So these fibers cross the midline
 For coordination between both sides

	1-anterior commissure:	2-posterior commissure (midbrain commissure):	3-habenular commissure:	4-hippocampal (fornix) commissure:	5-corpor callosum (part →The next two slides)
begins and end (course, position)	it is a small rounded bundle embedded in the upper end of lamina terminalis, just in front columns of fornix	in inferior part of pineal stalk, above the upper end of cerebral aqueduct	in superior lamina of pineal stalk	Transverse fibers that connect the 2 crura of the fornix with each other, just before formation of the body	definition: largest and the main commissure in the brain.
connection	connects olfactory structures of both sides:olfactory bulb, anterior perforated substance, uncus & anterior part of parahippocampal gyrus	it connects the following structures on both sides: <ul style="list-style-type: none"> • Midbrain nuclei • Pulvinar of thalamus • superior colliculus 	it connects habenular nuclei of both sides of epithalamus	it connects the hippocampal formations of both sides	Its fibers connect <u>nearly</u> all the symmetrical cortical areas of the 2 hemispheres

	1-rostrum	2-genu	3-trunk(body)	4-splenium
in sagittal section	It is thinnest part of corpus callosum. From the genu it directs backwards and downwards to end at the level of anterior Commissure to be continued with lamina terminalis	-curved anterior end of corpus callosum -it is 4 cm behind the frontal pole	-the main part of corpus callosum. -Extends between genu and splenium -its upper surface is convex	the rounded posterior end of corpus callosum. It is 6 cm in front of occipital pole.
in coronal section	inverted V shape, its fibers connect the orbital surfaces of frontal lobes on both sides		the fibers on both sides diverge upward & laterally to connect the parietal lobes on both sides, downward and laterally to connect the temporal lobes on both sides. most of its fibers intersect with fibers of corona radiata, but some fibers not intersect with corona & form the tapetum of lateral wall of inferior horn of lateral ventricle	some fibers of splenium pass laterally then downward & not intersect with corona radiata forming tapetum of roof & lateral wall of post horn of lateral ventricle.
in horizontal section		on both sides, the fibers pass horizontally forward forming forceps minor which connect identical areas of both frontal lobes except orbital surfaces		on both sides, the fibers pass horizontally backwards forming forceps major which connect identical areas of both occipital lobes Fibers of forceps major, while passing backwards and medially along the upper part of medial wall of posterior horn of lateral ventricle, form a bulge on the wall called bulb of posterior horn.

Relation of the part of corpus callosum

	1-rostrum	2-genu	3-trunk(body)	4-splenium
anteriorly		-callosal sulcus contains anterior cerebral artery -cingulate gyrus		
posteriorly		-septum pellucidum. -anterior horn of lateral ventricle		-isthmus -great cerebral vein of Galen which joins with inferior sagittal sinus to form straight sinus
Superiorly	-septum pellucidum. -anterior horn of lateral ventricle.		-callosal sulcus contains anterior cerebral artery -cingulate gyrus -falx cerebri contains inferior sagittal sinus.	-callosal sulcus -cingulate gyrus -falx cerebri contains inferior sagittal sinus.
Inferiorly	-callosal sulcus contains anterior cerebral artery -paraterminal & subcallosal gyri.		-septum pellucidum -fornix -central part of lateral ventricle.	-pineal body -tectum of midbrain -pulvinar of thalamus