Netter's Neuroscience Flash Cards – Section 3 – List
3rd Edition

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Section 3	Systemic Neuroscience (62 cards)
Plate 3-1	**Somatosensory Afferents to the Spinal Cord**
1.1	Dorsal horn
1.2	Dorsal spinocerebellar tract
1.3	Interneurons for spinoreticular nociceptive system
1.4	Spinothalamic/spinoreticular tracts (anterolateral system)
1.5	Ventral horn—lower motor neurons
1.6	Anterior white commissure
Plate 3-2	**Somatosensory System: Spinocerebellar Pathways**
2.1	Superior cerebellar peduncle
2.2	Cuneocerebellar tract
2.3	Inferior cerebellar peduncle
2.4	Lateral (accessory) cuneate nucleus
2.5	Rostral spinocerebellar tract (RSCT)
2.6	Ia primary afferent
2.7	Ib primary afferent
2.8	Dorsal spinocerebellar tract
2.9	Ventral spinocerebellar tract (VSCT)
Plate 3-3	**Somatosensory System: Dorsal Column System and Epicritic Modalities**
3.1	Cerebral cortex: postcentral gyrus
3.2	Posterior limb of the internal capsule
3.3	Ventral posterolateral (VPL) nucleus of the thalamus
3.4	Medial lemniscus
3.5	Nucleus gracilis
3.6	Nucleus cuneatus
3.7	Internal arcuate fibers
3.8	Fasciculus gracilis
3.9	Fasciculus cuneatus
3.10	Lateral cervical nucleus (C1 and C2 only)
3.11	Spinocervical tract
Plate 3-4	**Somatosensory System: Spinothalamic and Spinoreticular Systems and Protopathic Modalities**
4.1	Cerebral cortex (postcentral gyrus)
4.2	Posterior limb of the internal capsule
4.3	Ventral posterolateral (VPL) nucleus of the thalamus
4.4	Nonspecific thalamic nuclei
4.5	Deep layers of superior colliculus, periaqueductal gray
4.6	Lateral reticular formation
4.7	Spinothalamic/spinoreticular system
4.8	Anterior white commissure
Plate 3-5	**Mechanisms of Neuropathic Pain and Sympathetically Maintained Pain**
5.1	Central serotonin and central norepinephrine pathways
5.2	Extension of interneuron dendrites into adjacent laminae
5.3	Sprouting of C fibers in the spinal cord
5.4	Immobilization by pain decreasing gating of nociceptive input
5.5	Permanent hyperactivation of wide, dynamic-range neurons
5.6	Glutamate excitotoxic cell death of inhibitory neurons
5.7	Proliferation of α-adrenergic receptors on primary sensory afferent endings and cell bodies
5.8	Sprouting of sympathetic postganglionic nerve fibers on primary afferent endings and primary sensory cell bodies
5.9	Lowered threshold for firing of C fibers (hyperesthesia) and Aδ fibers (allodynia)
Plate 3-6	**Descending Control of Pain Processing**
6.1	Enkephalin-containing neuron in periaqueductal gray matter
6.2	Locus coeruleus
6.3	Lateral reticular formation

6.4	Brain stem tegmental noradrenergic cell groups
6.5	Descending norepinephrine pathway
6.6	Corticonuclear fiber
6.7	Descending serotonin pathway
6.8	Spinoreticular pathway
6.9	Posterolateral funiculus
6.10	Anterolateral funiculus
6.11	Enkephalin-containing neurons in substantia gelatinosa
6.12	Afferent pain neuron of dorsal root ganglion
Plate 3-7	**Trigeminal Sensory and Associated Sensory Systems**
7.1	Cerebral cortex: postcentral gyrus
7.2	Centromedian nucleus of the thalamus (intralaminar)
7.3	Ventral posteromedial (VPM) nucleus of the thalamus
7.4	Trigeminal mesencephalic nucleus
7.5	Trigeminal motor nucleus
7.6	Principal (main, chief) sensory trigeminal nucleus
7.7	Trigeminal (semilunar) ganglion
7.8	Dorsolateral fasciculus (of Lissauer)
7.9	Spinal (descending) trigeminal nucleus
7.10	Spinal (descending) trigeminal tract
7.11	Ventral trigeminal lemniscus (ventral trigeminothalamic tract)
7.12	Dorsal trigeminal lemniscus (dorsal trigeminothalamic tract)
Plate 3-8	**Pain-Sensitive Structures of the Head, and Pain Referral**
8.1	Dural sinus
8.2	Middle meningeal artery
8.3	Temporal artery
8.4	Proximal cerebral arteries
8.5	Tentorium cerebelli
8.6	Internal and external carotid arteries
8.7	Spinal nucleus of trigeminal (V) nerve
8.8	Dorsal root ganglion
8.9	Dura of the posterior fossa
8.10	Vertebrobasilar arteries
Plate 3-9	**Taste Pathways**
9.1	Ventral posteromedial (VPM) nucleus of the thalamus
9.2	Lateral hypothalamic area
9.3	Amygdala
9.4	Pontine taste area (parabrachial nucleus)
9.5	Geniculate ganglion
9.6	Nervus intermedius
9.7	Rostral part of nucleus of the solitary tract
9.8	Glossopharyngeal (IX) nerve
9.9	Petrosal (inferior) ganglion of CN IX
9.10	Nodose (inferior) ganglion of CN X
9.11	Vagus nerve (CN X)
9.12	Vallate papillae
9.13	Foliate papillae
9.14	Fungiform papillae
Plate 3-10	**Peripheral Pathways for Sound Reception**
10.1	Base of stapes in oval window
10.2	Malleus
10.3	Incus
10.4	Limbs of stapes
10.5	External acoustic meatus
10.6	Tympanic membrane
10.7	Round (cochlear) window
10.8	Pharyngotympanic (auditory) tube
10.9	Scala tympani
10.10	Cochlear duct containing spiral organ of Corti
10.11	Scala vestibuli

10.12	Helicotrema
10.13	Vestibular nerve
10.14	Cochlear nerve
10.15	Vestibulocochlear nerve (CN VIII)
10.16	Internal acoustic meatus
Plate 3-11	**Bony and Membranous Labyrinths**
11.1	Anterior semicircular canal and duct
11.2	Posterior semicircular canal and duct
11.3	Lateral semicircular canal and duct
11.4	Stapes in oval window
11.5	Incus
11.6	Malleus
11.7	External acoustic meatus
11.8	Tympanic cavity
11.9	Tympanic membrane
11.10	Round window
11.11	Pharyngotympanic (auditory) tube
11.12	Scala tympani
11.13	Cochlear duct
11.14	Scala vestibuli
11.15	Helicotrema of cochlea
11.16	Saccule
11.17	Utricle
Plate 3-12	**VIII Nerve Innervation of Hair Cells of the Organ of Corti**
12.1	Scala vestibuli
12.2	Vestibular (Reissner's) membrane
12.3	Cochlear duct
12.4	Spiral ligament
12.5	Tectorial membrane
12.6	Spiral organ of Corti
12.7	Basilar membrane
12.8	Outer hair cells
12.9	Inner hair cells
12.10	Cochlear nerve
12.11	Scala tympani
12.12	Spiral ganglion
Plate 3-13	**Auditory Pathways**
13.1	Acoustic area of the temporal lobe cortex
13.2	Medial geniculate nucleus (body)
13.3	Brachium of the inferior colliculus
13.4	Inferior colliculus
13.5	Lateral lemnisci
13.6	Nuclei of the lateral lemnisci
13.7	Superior olivary complex
13.8	Intermediate acoustic stria
13.9	Trapezoid body (ventral acoustic stria)
13.10	Reticular formation
13.11	Dorsal acoustic stria
13.12	Spiral ganglion
13.13	Ventral cochlear nucleus
13.14	Dorsal cochlear nucleus
Plate 3-14	**Centrifugal (Efferent) Auditory Pathways**
14.1	Temporal cortex
14.2	Medial geniculate nucleus (body)
14.3	Brachium of the inferior colliculus
14.4	Inferior colliculus
14.5	Nuclei of the lateral lemnisci
14.6	Lateral lemnisci
14.7	Dorsal cochlear nucleus
14.8	Ventral cochlear nucleus

14.9	Efferent olivocochlear fibers
14.10	Trapezoid body
14.11	Superior olivary complex
Plate 3-15	**Vestibular Receptors**
15.1	Vestibular ganglion
15.2	Saccule
15.3	Utricle
15.4	Cristae within ampullae
15.5	Gelatinous cupula
15.6	Hair tufts
15.7	Hair cells
15.8	Otoconia
15.9	Gelatinous otolith membrane
15.10	Efferent nerve ending
15.11	Supporting cells
15.12	Cuticle
15.13	Stereocilia
15.14	Kinocilium
15.15	Afferent nerve calyx
15.16	Myelin sheath
Plate 3-16	**Vestibular Pathways**
16.1	Superior vestibular nucleus
16.2	Medial vestibular nucleus
16.3	Lateral vestibular nucleus
16.4	Inferior vestibular nucleus
16.5	Primary vestibular afferent fibers to the cerebellum
16.6	Vestibular ganglion and nerve
16.7	Fibers from cristae ampullaris
16.8	Fibers from maculae
16.9	Lateral vestibulospinal tract
16.10	Medial vestibulospinal fibers in the medial longitudinal fasciculus
16.11	Motor neuron controlling neck musculature
16.12	Ascending fibers in medial longitudinal fasciculus
Plate 3-17	**Nystagmus**
17.1	Oculomotor neurons to the medial rectus muscle
17.2	Axon of abducens internuclear neuron
17.3	Ascending tract of Dieters into medial longitudinal fasciculus
17.4	Medial and lateral vestibular nuclei
17.5	Abducens nucleus
17.6	Oculomotor nerve (CN III)
17.7	Lateral rectus muscle
17.8	Medial rectus muscle
17.9	Parapontine reticular formation (PPRF)
17.10	Abducens nerve (CN VI)
Plate 3-18	**Anatomy of the Eye**
18.1	Ciliary body and ciliary muscle
18.2	Zonular fibers (suspensory ligament of the lens)
18.3	Scleral venous sinus (Schlemm’s canal)
18.4	Iris
18.5	Lens
18.6	Cornea
18.7	Anterior chamber
18.8	Posterior chamber
18.9	Ciliary process
18.10	Ora serrata
18.11	Vitreous body
18.12	Optic nerve (CN II)
18.13	Central retinal artery and vein
18.14	Subarachnoid space around CN II
18.15	Fovea centralis of the macula

18.16	Sclera
18.17	Choroid
18.18	Optic portion of the retina
Plate 3-19	**Anterior and Posterior Chambers of the Eye**
19.1	Sclera
19.2	Major arterial circle of iris
19.3	Iridocorneal angle
19.4	Scleral venous sinus (Schlemm's canal)
19.5	Cornea
19.6	Folds of the iris
19.7	Lens
19.8	Sphincter (constrictor) muscle of the pupil
19.9	Pigment epithelium of the iris
19.10	Dilator muscle of the pupil
19.11	Zonular fibers
19.12	Posterior chamber
19.13	Ciliary process
19.14	Ciliary muscle
Plate 3-20	**Retina: Retinal Layers**
20.1	Nerve fiber layer
20.2	Ganglion cell layer
20.3	Inner plexiform layer
20.4	Inner nuclear layer
20.5	Outer plexiform layer
20.6	Outer nuclear layer
20.7	Photoreceptor layer
20.8	Pigment epithelium
20.9	Axonal layer (inner) of the retina
20.10	Ganglion cell
20.11	Muller cell (supporting glial cell)
20.12	Bipolar cell
20.13	Amacrine cell
20.14	Horizontal cell
20.15	Rod
20.16	Cone
20.17	Pigment cells of the choroids
Plate 3-21	**Arteries and Veins of the Eye**
21.1	Minor arterial circle of the iris
21.2	Major arterial circle of the iris
21.3	Blood vessels of the ciliary body
21.4	Anterior ciliary artery and vein
21.5	Ora serrata
21.6	Retina
21.7	Choroid
21.8	Retinal artery and vein
21.9	Long posterior ciliary artery
21.10	Short posterior ciliary arteries
21.11	Central retinal artery and vein
21.12	Optic nerve (CN II)
21.13	Macula and fovea centralis
21.14	Optic disc
Plate 3-22	**Optic Chiasm**
22.1	Optic nerve
22.2	Optic chiasm
22.3	Optic tract
22.4	Optic radiations
22.5	Inferior nasal fibers, which will decussate
22.6	Inferior nasal fibers of the optic chiasm
22.7	Superior nasal fibers of the optic chiasm
22.8	Temporal fibers remaining ipsilateral

Plate 3-23	Visual Pathways: Retinal Projections to the Thalamus, Hypothalamus, and Brain Stem
23.1	Optic radiations
23.2	Optic tract
23.3	Optic nerve (II)
23.4	Lateral geniculate nucleus (body)
23.5	Superior colliculus
23.6	Pulvinar
23.7	Pretectum
23.8	Superior colliculus
23.9	Nucleus of the accessory optic tract
23.10	Tectospinal tract
Plate 3-24	**Pupillary Light Reflex**
24.1	Optic nerves
24.2	Optic chiasm
24.3	Short ciliary nerves
24.4	Ciliary ganglion
24.5	Oculomotor nerve (CN III)
24.6	Optic tract
24.7	Edinger-Westphal nucleus
24.8	Pretectal nucleus
24.9	Superior colliculus
Plate 3-25	**Visual Pathway: Retino-Geniculo-Calcarine Pathway**
25.1	Optic nerves (CN II)
25.2	Optic chiasm
25.3	Optic tracts
25.4	Meyer’s loop
25.5	Lateral geniculate nuclei (bodies)
25.6	Optic radiations
25.7	Contralateral input to the lateral geniculate nucleus (LGN) from contralateral nasal hemiretina (layers 1, 4, 6)
25.8	Ipsilateral input to the LGN from ipsilateral temporal hemiretina (layers 2, 3, 5)
25.9	Calcarine fissure
Plate 3-26	**Visual Pathways in the Parietal and Temporal Lobes**
26.1	Spatial visual pathway
26.2	Middle temporal area
26.3	Parietal lobe
26.4	Association visual cortex V3
26.5	Association visual cortex V2
26.6	Occipital lobe
26.7	Primary visual cortex V1
26.8	V4 visual cortex
26.9	Object recognition pathway
26.10	Temporal lobe
Plate 3-27	**Distribution of Lower Motor Neurons (LMNs) in the Brain Stem**
27.1	Oculomotor nucleus
27.2	Trochlear nucleus
27.3	Trigeminal motor nucleus
27.4	Abducens nucleus
27.5	Facial nucleus
27.6	Nucleus ambiguus
27.7	Hypoglossal nucleus
27.8	Spinal accessory nucleus
27.9	Spinal cord ventral horn LMNs
Plate 3-28	**Cortical Efferent Pathways**
28.1	Axons from frontal cortex
28.2	Corticobulbar, corticorubral, corticonuclear, and corticospinal pathways
28.3	From frontal eye fields to interstitial nucleus of Cajal
28.4	Corticospinal axons
28.5	Cortical axons to pontocerebellar system
28.6	Axons to contralateral facial nerve nucleus

28.7	Anterior corticospinal tract (uncrossed)
28.8	Lateral corticospinal tract (crossed)
28.9	Axons from auditory cortex to inferior colliculus
28.10	Axons from occipital eye fields to superior colliculus
28.11	Axons from parietal cortex
Plate 3-29	**Color Imaging of Cortical Efferent Pathways**
29.1	Cortical efferent fibers
29.2	Midline fibers of the corpus callosum
29.3	Superior cerebellar peduncle
29.4	Pyramids
Plate 3-30	**Corticobulbar Tract**
30.1	Primary motor cortex (Area 4)
30.2	Genu of the internal capsule
30.3	Oculomotor nucleus
30.4	Trochlear nucleus
30.5	Abducens nucleus
30.6	Trigeminal motor nucleus
30.7	Facial nucleus to the upper face
30.8	Facial nucleus to the lower face
30.9	Hypoglossal nucleus
30.10	Nucleus ambiguus
Plate 3-31	**Corticospinal Tract**
31.1	Primary motor cortex (Area 4)
31.2	Posterior limb of the internal capsule
31.3	Cerebral peduncle
31.4	Basis pontis
31.5	Medullary pyramid
31.6	Decussation of the pyramids
31.7	Lateral corticospinal tract (crossed)
31.8	Anterior corticospinal tract (uncrossed)
Plate 3-32	**Rubrospinal Tract**
32.1	Primary motor cortex (Area 4)
32.2	Fibers from deep cerebellar nuclei (globose, emboliform, some from dentate)
32.3	Red nucleus
32.4	Crossed rubrospinal and rubromedullary fibers
32.5	Rubrospinal tract
32.6	Rubrospinal tract
32.7	Lateral corticospinal tract
32.8	Uncrossed rubromedullary fibers
32.9	Cortical influences helping to drive flexor actions of the rubrospinal system for lower extremities
32.10	Cortical influences holding in check flexor actions of the rubrospinal system on upper extremities
Plate 3-33	**Vestibulospinal Tracts**
33.1	Superior vestibular nucleus
33.2	Medial vestibular nucleus
33.3	Lateral vestibular nucleus
33.4	Inferior vestibular nucleus
33.5	Primary vestibular projections to the cerebellum
33.6	Vestibular ganglion
33.7	Vestibular nerve (CN VIII)
33.8	Fibers from the cristae ampullaris
33.9	Fibers from the maculae
33.10	Lateral vestibulospinal tract
33.11	Lumbar part of the spinal cord
33.12	Lower part of the cervical spinal cord
33.13	Medial vestibulospinal tract
Plate 3-34	**Reticulospinal Tracts**
34.1	Corticoreticular projections
34.2	Medial pontine reticular formation
34.3	Medial medullary reticular formation
34.4	Lateral reticulospinal tract

34.5	Medial reticulospinal tract
34.6	Cervical spinal cord
34.7	Lumbar spinal cord
Plate 3-35	**Central Control of Eye Movements**
35.1	Frontal eye fields (Area 8)
35.2	Occipital eye fields (Areas 17, 18, 19)
35.3	Interstitial nucleus of Cajal
35.4	Superior colliculus
35.5	Oculomotor nucleus
35.6	Abducens internuclear neuronal projection
35.7	Trochlear nucleus
35.8	Medial longitudinal fasciculi
35.9	Abducens nucleus
35.10	Parapontine reticular formation (PPRF)
35.11	Vestibular ganglion and nerve
35.12	Vestibular nuclei
35.13	Corticoreticular fibers
Plate 3-36	**Central Control of Respiration**
36.1	Medial parabrachial nucleus
36.2	Hypoglossal nucleus
36.3	Dorsal motor nucleus of CN X
36.4	Dorsal respiratory nucleus (ventrolateral nucleus solitarius)
36.5	Central chemoreceptor zone
36.6	CN IX
36.7	Nucleus ambiguus
36.8	Carotid body
36.9	Lower motor neurons (LMNs) of phrenic nucleus
36.10	LMNs for intercostals and accessory muscles of respiration
36.11	Polysynaptic connections to LMNs for inspiratory muscles
36.12	Polysynaptic connections to LMNs for expiratory muscles
36.13	Aortic body
36.14	Ventral respiratory nucleus (nucleus retroambiguus)
36.15	CN X
Plate 3-37	**Cerebellar Neuronal Circuitry**
37.1	Basket cell
37.2	Outer stellate cell
37.3	Dendrites of Purkinje cells
37.4	Purkinje cells
37.5	Parallel fibers
37.6	Granule cells
37.7	Golgi cells
37.8	Molecular layer
37.9	Purkinje cell layer
37.10	Granule layer
37.11	White matter
37.12	Purkinje cell axon
37.13	Climbing fiber
37.14	Mossy fibers
37.15	Locus coeruleus axon (noradrenergic)
37.16	Purkinje axons to deep cerebellar nuclei
Plate 3-38	**Afferent Pathways to the Cerebellum**
38.1	Pontine nuclei
38.2	Cerebral cortical input
38.3	Tectocerebellar input
38.4	Pontocerebellar input
38.5	Vestibulospinal input
38.6	Reticulocerebellar tract
38.7	Cuneocerebellar tract
38.8	Dorsal spinocerebellar tract
38.9	Ventral spinocerebellar tract

38.10	Rostral spinocerebellar tract
Plate 3-39	**Cerebellar Efferent Pathways**
39.1	Motor and premotor cerebral cortex
39.2	Internal capsule
39.3	Ventral anterior and ventral lateral thalamic nuclei
39.4	Cerebral peduncle
39.5	Decussation of superior cerebellar peduncles (SCPs)
39.6	Hook bundle of Russell
39.7	Pontomedullary reticular formation
39.8	Lateral reticular nucleus
39.9	Inferior olive
39.10	Inferior cerebellar peduncle (ICP)
39.11	Vestibular nuclei
39.12	Cerebellar cortex
39.13	Dentate nucleus
39.14	Emboliform nucleus
39.15	Globose nucleus
39.16	Fastigial nucleus
39.17	Red nucleus
Plate 3-40	**Connections of the Basal Ganglia**
40.1	Caudate nucleus
40.2	Corticostriate projections
40.3	Striatopallidal projections
40.4	Putamen
40.5	Globus pallidus, external segment
40.6	Globus pallidus, internal segment
40.7	Fasciculus lenticularis
40.8	Ansa lenticularis
40.9	Raphe nuclei
40.10	Substantia nigra
40.11	Subthalamus
40.12	Centromedial (CM) thalamic nucleus
40.13	Ventral lateral (VL) thalamic nucleus
40.14	Ventral anterior (VA) thalamic nucleus
Plate 3-41	**General Organization of the Autonomic Nervous System**
41.1	Nucleus of Edinger-Westphal
41.2	Superior salivatory nucleus
41.3	Inferior salivatory nucleus
41.4	Dorsal motor nucleus of CN X
41.5	Lateral horn
41.6	(intermediolateral cell column)
41.7	Sacral spinal cord (S2-S4)
41.8	Intermediate gray
41.9	Sympathetic chain ganglion
41.10	Intramural ganglion
41.11	Collateral ganglion
41.12	Splanchnic nerve
41.13	Spinal nerve
41.14	Otic ganglion
41.15	Submandibular ganglion
41.16	Pterygopalatine ganglion
41.17	Ciliary ganglion
Plate 3-42	**Sections through the Rostral Hypothalamus: Preoptic and Supraoptic Zones**
42.1	Head of the caudate nucleus
42.2	Column of the fornix
42.3	Anterior limb of the internal capsule
42.4	Third ventricle
42.5	Anterior commissure
42.6	Lateral preoptic area
42.7	Medial preoptic area

42.8	Substantia innominata
42.9	Optic chiasm
42.10	Periventricular nucleus
42.11	Paraventricular nucleus
42.12	Lateral hypothalamic area
42.13	Anterior hypothalamic area
42.14	Supraoptic nucleus
Plate 3-43	**Sections through the Midhypothalamus: Tuberal Zone**
43.1	Third ventricle
43.2	Dorsal hypothalamic area
43.3	Paraventricular nucleus
43.4	Periventricular nucleus
43.5	Lateral hypothalamic area
43.6	Anterior hypothalamic area
43.7	Supraoptic nucleus
43.8	Optic tract
43.9	Infundibulum
43.10	Periventricular arcuate nucleus
43.11	Dorsomedial nucleus
43.12	Ventromedial nucleus
43.13	Tuberal nuclei
Plate 3-44	**Sections through the Caudal Hypothalamus: Mammillary Zone**
44.1	Posterior hypothalamic area
44.2	Lateral hypothalamic area
44.3	Optic tract
44.4	Principal mammillary fasciculus
44.5	Lateral mammillary nucleus
44.6	Medial and lateral portions of the medial mammillary nucleus
44.7	Mammillothalamic tract
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45.1	Dorsal hypothalamic area
45.2	Posterior hypothalamic area
45.3	Dorsomedial nucleus
45.4	Periventricular nucleus
45.5	Mammillary complex
45.6	Ventromedial nucleus
45.7	Tuberohypophysial tract
45.8	Supraoptic nucleus
45.9	Supraopticohypophysial tract
45.10	Posterior lobe of the pituitary gland
45.11	Anterior lobe of the pituitary gland
45.12	Medial preoptic nucleus
45.13	Anterior hypothalamic area
45.14	Lateral preoptic nucleus
45.15	Lateral hypothalamic area
45.16	Paraventricular nucleus
Plate 3-46	**Afferent and Efferent Pathways Associated with the Hypothalamus**
46.1	Habenula
46.2	Stria medullaris thalami
46.3	Cingulate gyrus
46.4	Corpus callosum
46.5	Medial dorsal thalamic nucleus
46.6	Fornix
46.7	Anterior thalamic nucleus
46.8	Septal nuclei
46.9	Prefrontal cortex
46.10	Hypothalamic nuclei
46.11	Olfactory bulb
46.12	Ventral amygdalofugal pathway
46.13	Amygdala

46.14	Mammillotegmental tract
46.15	Dorsal longitudinal fasciculus
46.16	Median forebrain bundle (descending)
46.17	Stria terminalis
Plate 3-47	**Paraventricular Nucleus of the Hypothalamus**
47.1	Paraventricular nucleus
47.2	Locus coeruleus
47.3	Parabrachial nuclei
47.4	Dorsal motor nucleus of CN X
47.5	Intermediolateral cell column in the lateral horn of T1-L2 spinal cord
47.6	Nucleus of the solitary tract (nucleus solitarius)
47.7	Posterior pituitary gland
47.8	Anterior pituitary gland
47.9	Hypophysial portal system in the median eminence
47.10	Hypothalamus
Plate 3-48	**Mechanisms of Cytokine Influences on the Hypothalamus and Other Brain Regions and on Behavior**
48.1	Cerebral vasculature with blood-brain barrier (BBB)
48.2	Organum vasculosum of the lamina terminalis (OVLT)
48.3	Vasculature to the hypothalamus
48.4	Nucleus of the solitary tract
48.5	Vagal afferents in the viscera
48.6	Paraganglion cells associated with vagal afferents
48.7	Somatic afferents
Plate 3-49	**Circumventricular Organs**
49.1	Subfornical organ
49.2	Pineal gland
49.3	Area postrema
49.4	Posterior pituitary gland
49.5	Median eminence
49.6	Organum vasculosum of the lamina terminalis (OVLT)
Plate 3-50	**Hypophysial Portal Vasculature**
50.1	Hypothalamic vessels
50.2	Superior hypophysial artery
50.3	Efferent vein to the cavernous sinus
50.4	Anterior lobe of the pituitary gland
50.5	Secondary plexus of hypophysial portal system
50.6	Inferior hypophysial artery
50.7	Posterior lobe of the pituitary gland
50.8	Capillary plexus of the infundibular process
50.9	Short hypophysial portal veins
50.10	Long hypophysial portal vein
50.11	Primary plexus of hypophysial portal system
Plate 3-51	**Regulation of the Anterior Pituitary Hormone Secretion**
51.1	Neurons for releasing- factor and inhibitory-factor synthesis
51.2	Supraoptic nucleus
51.3	Hypophysial portal veins
51.4	Specific secretory cells of the anterior pituitary (pituicytes)
51.5	MSH (melanocyte- stimulating hormone)
51.6	GH
51.7	IGF-1
51.8	LTH (prolactin)
51.9	LH (luteinizing hormone)
51.10	FSH (follicle-stimulating hormone)
51.11	ACTH (adrenal corticotropic hormone)
51.12	TSH (thyroid stimulating hormone)
51.13	Superior hypophysial artery
51.14	Hypothalamic artery
51.15	Blood-borne molecular influences on corticotropin- releasing factor (CRF) neurons
Plate 3-52	**Posterior Pituitary (Neurohypophysial) Hormones: Oxytocin and Vasopressin**

52.1	Forebrain pathways to supraoptic and paraventricular nuclei
52.2	Brain stem pathways to supraoptic and paraventricular nuclei
52.3	Paraventricular nucleus (PVN)
52.4	Supraoptic nucleus (SON)
52.5	Posterior lobe of the pituitary gland
52.6	Venous drainage of the posterior lobe
52.7	Anterior lobe of the pituitary gland
52.8	Neurohypophysial tract
52.9	Blood-borne signals reaching PVN and SON
Plate 3-53	**Hypothalamus and Thermoregulation**
53.1	Hypothalamic region for thermoreception and regulation of heat loss
53.2	Afferent inputs from limbic forebrain structures
53.3	Hypothalamic region for conservation and production of heat
53.4	Respiratory centers
53.5	Thyrotropic hormone
53.6	Neurohumoral mechanism for increasing thyrotropic activity in the anterior pituitary to elevate metabolism
53.7	Action of inflammatory cytokines and pyrogens
Plate 3-54	**Hypothalamic Regulation of Cardiac Function**
54.1	Paraventricular nucleus and lateral hypothalamus
54.2	Nucleus of solitary tract
54.3	Dorsal motor (autonomic) nucleus of CN X
54.4	Ventral medullary cardiovascular centers
54.5	Descending tract of spinal intermediolateral cell column
54.6	Sympathetic preganglionic neurons in intermediolateral cell column
54.7	Sympathetic trunk (postganglionic sympathetic neurons)
54.8	Medial prefrontal cortex
54.9	Amygdala
54.10	Carotid sinuses
Plate 3-55	**Neuroimmunomodulation**
55.1	Limbic forebrain areas
55.2	Paraventricular nucleus of the hypothalamus
55.3	Median eminence
55.4	Brain stem nuclei (autonomic)
55.5	Nucleus of the solitary tract
55.6	Preganglionic sympathetic axons
55.7	Postganglionic sympathetic noradrenergic axons
55.8	Epinephrine and norepinephrine
55.9	Cortisol
55.10	ACTH
55.11	Site of action of releasing and inhibitory factors
55.12	Release of anterior pituitary hormones
55.13	Cytokine and inflammatory mediator feedback to the brain and pituitary
55.14	Cerebral cortex
Plate 3-56	**Anatomy of the Limbic Forebrain**
56.1	Anterior thalamic nucleus
56.2	Fornix
56.3	Stria terminalis
56.4	Stria medullaris
56.5	Habenula
56.6	Gyrus fasciolaris
56.7	Dentate gyrus
56.8	Fimbria of the hippocampus
56.9	Hippocampus
56.10	Parahippocampal gyrus
56.11	Fasciculus retroflexus
56.12	Uncus (primary olfactory cortex)
56.13	Amygdaloid body (nuclei)
56.14	Median forebrain bundle
56.15	Mammillary body and mammillothalamic tract

56.16	Postcommissural fornix
56.17	Olfactory bulb
56.18	Olfactory tract
56.19	Lamina terminalis
56.20	Subcallosal area
56.21	Septal nuclei
56.22	Cingulate cortex
Plate 3-57	**Hippocampal Formation: General Anatomy**
57.1	Fornix
57.2	Optic tract
57.3	Fimbria
57.4	Dentate gyrus
57.5	Subiculum
57.6	Pyramidal cell layer of the subiculum
57.7	Pyramidal cell layer of the entorhinal cortex
57.8	CA3
57.9	CA2
57.10	CA1
57.11	CA regions of the hippocampal formation (pyramidal cells)
57.12	Temporal horn of the lateral ventricle
Plate 3-58	**Neuronal Connections of the Hippocampal Formation**
58.1	Alveus
58.2	Temporal horn of the lateral ventricle
58.3	Schaffer collaterals
58.4	CA1
58.5	Entorhinal cortex
58.6	Perforant pathway from the entorhinal cortex to dentate gyrus, CA1 and CA3, and the subiculum
58.7	Subiculum
58.8	Dentate gyrus
58.9	Mossy fiber
58.10	CA3
58.11	Fimbria
Plate 3-59	**Major Afferent and Efferent Connections of the Hippocampal Formation**
59.1	Precommissural fornix
59.2	Postcommissural fornix
59.3	Cingulate cortex
59.4	Fornix
59.5	Mammillothalamic tract
59.6	Mammillotegmental tract
59.7	Fimbria
59.8	Entorhinal cortex
59.9	Perforant pathway
59.10	Subiculum
59.11	CA regions of the hippocampus
59.12	Dentate gyrus
59.13	Efferents of the subiculum
59.14	Mammillary body (nuclei)
59.15	Amygdala
59.16	Nucleus accumbens
59.17	Septal nuclei
Plate 3-60	**Major Efferent Connections of the Amygdala**
60.1	Striatum
60.2	Bed nucleus of the stria terminalis
60.3	Stria terminalis
60.4	Amygdaloid projections to the brain stem
60.5	Amygdaloid projections to the cingulate cortex
60.6	Subiculum
60.7	Entorhinal cortex
60.8	Central nucleus of the amygdala
60.9	Basolateral nuclei of the amygdala

60.10	Corticomedial nuclei of the amygdala
60.11	Ventral amygdalofugal pathway
60.12	Nucleus accumbens
60.13	Septal nuclei
60.14	Amygdaloid projections to frontal and prefrontal cortex
60.15	Nucleus basalis in substantia innominata
Plate 3-61	**Major Connections of the Cingulate Cortex**
61.1	Association areas of frontal cortex
61.2	Fornix
61.3	Anterior thalamic nucleus
61.4	Cingulate cortex
61.5	Association areas of parietal cortex
61.6	Medial dorsal thalamic nucleus
61.7	Association areas of temporal cortex
61.8	Subiculum
61.9	Entorhinal cortex
61.10	Hippocampus
61.11	Amygdala (basolateral nuclei)
61.12	Mammillary body (nuclei)
61.13	Mammillothalamic tract
61.14	Septal nuclei
Plate 3-62	**Olfactory Pathways**
62.1	Olfactory nerves
62.2	Olfactory bulb
62.3	Anterior olfactory nucleus
62.4	Olfactory tract
62.5	Anterior commissure
62.6	Medial olfactory stria
62.7	Lateral olfactory stria
62.8	Hypothalamus
62.9	Uncus (olfactory cortex)
62.10	Hippocampus
62.11	Amygdala
62.12	Entorhinal area