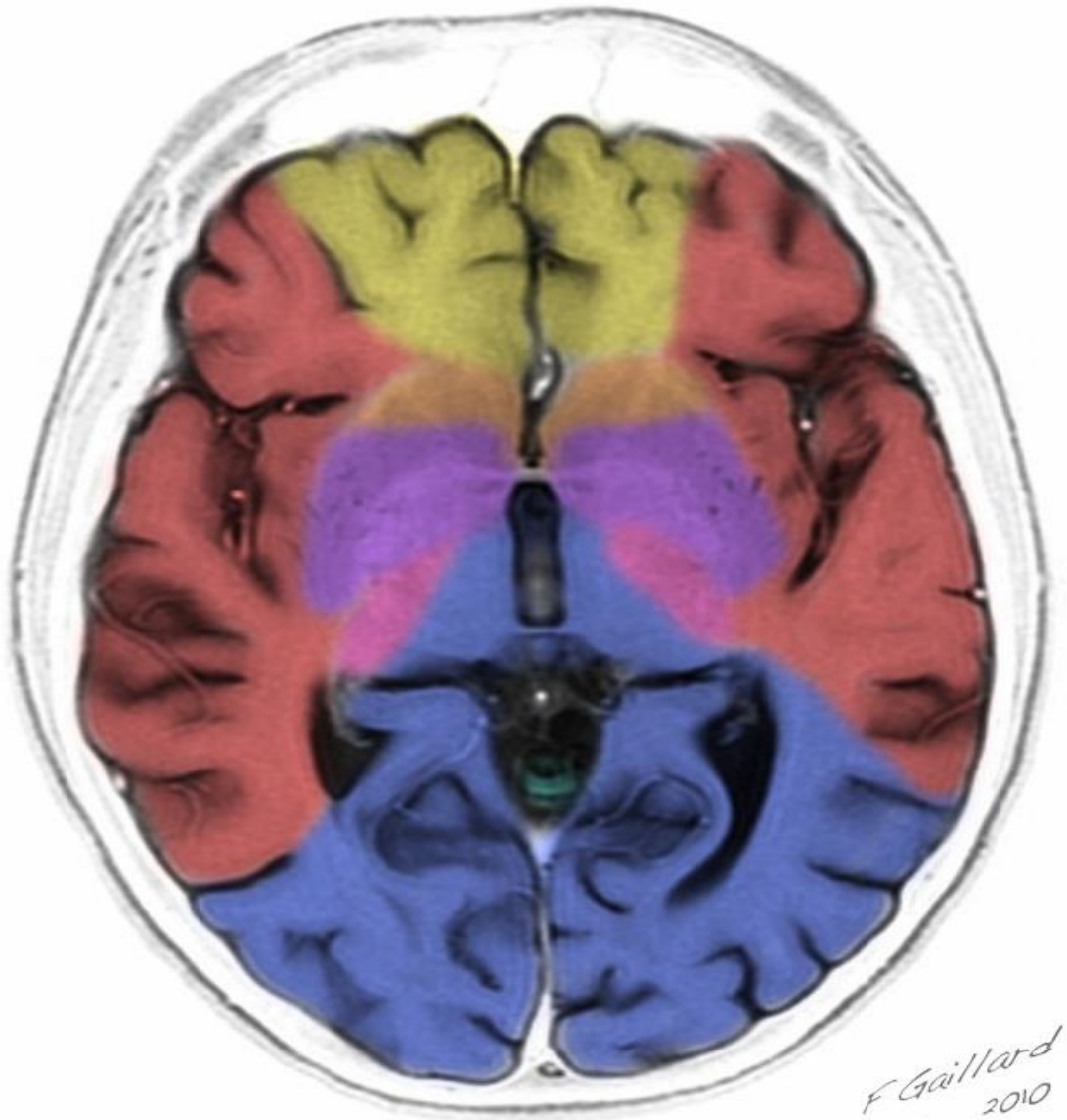
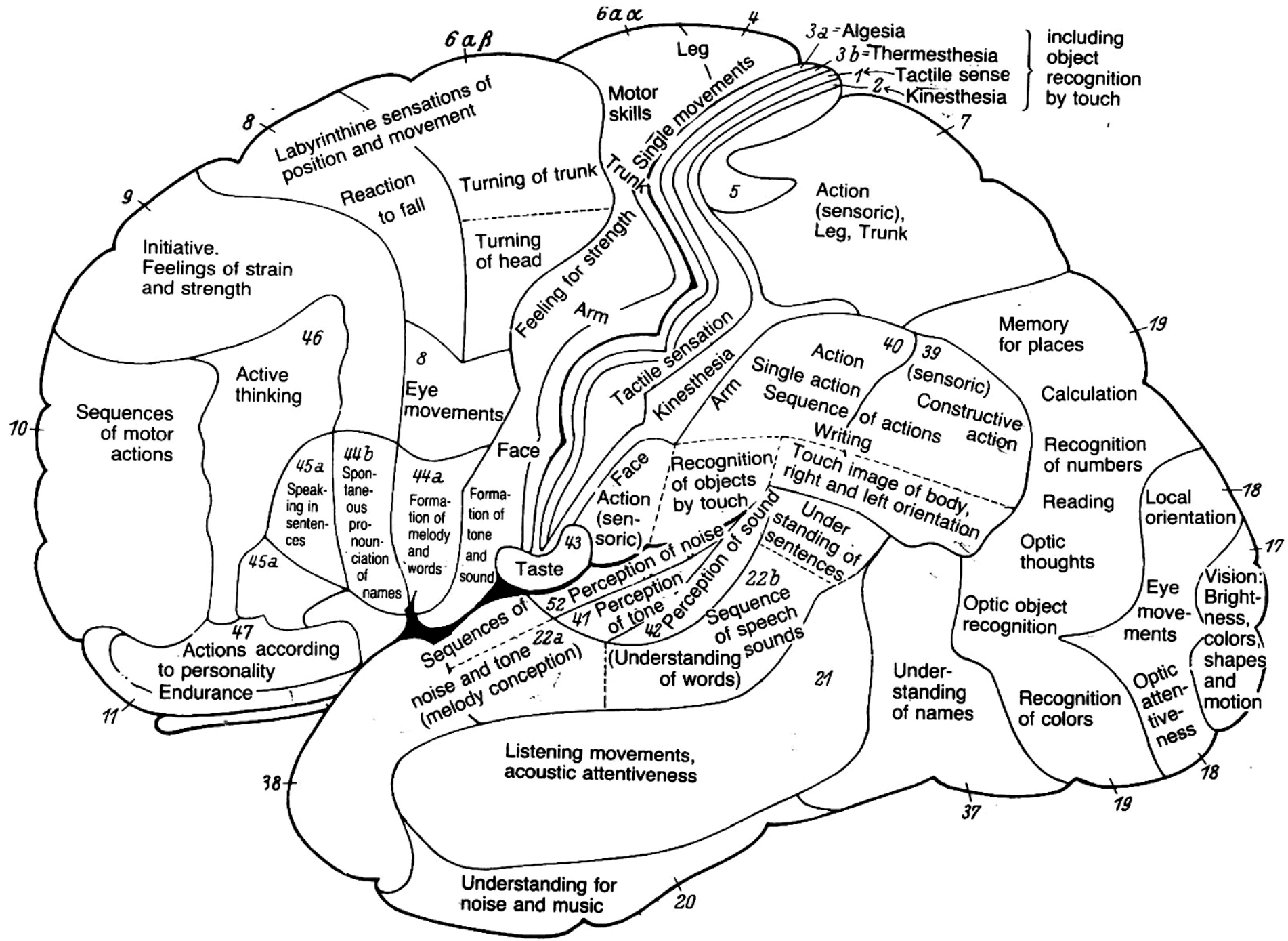
Stroke Resources

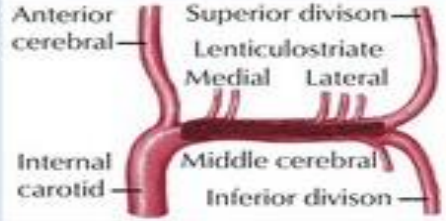
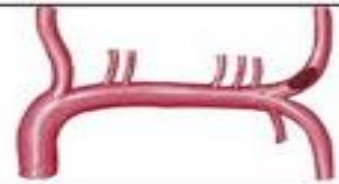
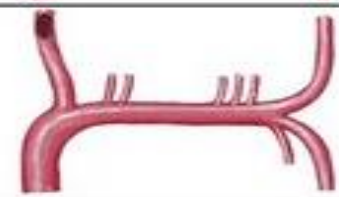
Diagnostic Test	Good for	Not great for	Benefits or limitations
CT: plain	**acute blood**, trauma, edema, **acute stroke evaluation** worsening of neurology	parenchyma definition, limited ability in *early* ischemia	B: available, rapid, cheap, tolerated, can be used to determine treatment options, high reliability L: poor visualization of Bst and post fossa
CTA/MRA	vascular imaging MRA better for large vessels (carotids)		Can be used to guide treatment
MRI	**parenchyma**, previous infarction **micro-hemorrhage** (GRE) worsening of neurology (ICP)	acute blood (can be confusing)	B: can determine age of hemorrhage L: less tolerated, less available, may exclude some patients (pacemaker)
Diffusion-weight image (DWI)	ischemic changes **visual within minutes** of stroke onset (can separate out acute and chronic stroke)	can be falsely positive	>90% reliability L: may be positive in non-stroke (migraine, seizures, acute MS, TIA)
Cerebral angiography	vascular requiring **finite** image can be used singularly or in conjunction with other treatments (clot retrieval, embolization)		L: small risk of stroke, side effects, invasive, inconvenient for patient

Cerebral Vascular Territories

- Anterior cerebral artery (ACA)
- Medial lenticulostriate arteries
- Anterior choroidal artery
- Middle cerebral artery (MCA)
- Lateral lenticulostriate arteries
- Posterior cerebral artery (PCA)
- Superior cerebellar artery (SCA)




6aα
6aβ
4
Leg
3a = Algesia
3b = Thermesthesia
1 ← Tactile sense
2 ← Kinesthesia
including object recognition by touch
Motor skills
Single movements
Trunk
Arm
Feeling for strength
8
Labyrinthine sensations of position and movement
Reaction to fall
Turning of trunk
Turning of head
9
Initiative. Feelings of strain and strength
46
Active thinking
10
Sequences of motor actions
8
Eye movements
45a Speaking in sentences
44b Spontaneous pronunciation of names
44a Formation of melody and words
Formation of tone and sound
Face
Tactile sensation
Kinesthesia
Arm
5
Action (sensoric), Leg, Trunk
7
Face
Action (sensoric)
43
Taste
Recognition of objects by touch
Touch image of body, right and left orientation
Under standing of sentences
Perception of noise
Perception of tone
Perception of sound
52
41
42
22b
Sequence of speech sounds (Understanding of words)
22a
Sequences of noise and tone (melody conception)
47
Actions according to personality
Endurance
11
38
Listening movements, acoustic attentiveness
Understanding for noise and music
20
21
Understanding of names
37
40
39 (sensoric)
Action
Single action
Sequence of actions
Writing
Constructive action
Memory for places
19
Calculation
Recognition of numbers
Reading
Optic thoughts
Optic object recognition
Recognition of colors
Local orientation
18
17
Eye movements
Optic attentiveness
Vision: Brightness, colors, shapes and motion
18
19

Lesion		Artery occluded	Infarct, surface	Infarct, coronal section	Clinical manifestations
Middle cerebral artery	Entire territory				Contralateral gaze palsy, hemiplegia, hemisensory loss, spatial neglect, hemianopsia Global aphasia (if on left side) May lead to coma secondary to edema
	Deep				Contralateral hemiplegia, hemisensory loss Transcortical motor and/or sensory aphasia (if on left side)
	Parasylvian				Contralateral weakness and sensory loss of face and han Conduction aphasia, apraxia, and Gerstmann syndrome (if on left side) Constructional dyspraxia (if on right side)
	Superior division				Contralateral hemiplegia, hemisensory loss, gaze palsy, spatial neglect Broca aphasia (if on left side)
	Inferior division				Contralateral hemianopsia or upper quadrant anopsia Wernicke aphasia (if on left side) Constructional dyspraxia (if on right side)
Anterior cerebral artery	Entire territory				Incontinence Contralateral hemiplegia Abulia Transcortical motor aphasia or motor and sensory aphasia Left limb dyspraxia
	Distal				Contralateral weakness of leg, hip, foot, and shoulder Sensory loss in foot Transcortical motor aphasia or motor and sensory aphasia Left limb dyspraxia

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