

Index

- ACA (anterior cerebral artery) 3
- ACE inhibitors 26, 124
- acetaminophen 20
- activated factor VII 183, 186
- acute kidney injury (AKI) 39
- AF (atrial fibrillation) 105, 132–135, 195
- age
 - and EVT 82
 - and tPA 60, 67
- air embolism 161
- airway management in angioedema 77–78
- airway-breathing-circulation (ABCs) 7–8
- alcohol consumption 128
- alteplase *see* tPA (tissue plasminogen activator)
- amantadine 233
- amphetamines 165
- amyloid (CAA) 41, 61–62, 177, 194
- anatomy 256–261
- andexanet alpha 185
- aneurysms, intracranial
 - epidemiology 199, 211
 - imaging 200, 211
 - management 201–209, 212–213
 - and tPA therapy 62
 - unruptured 211–213
 - see also* subarachnoid hemorrhage
- angioedema 75–76, 77–78
- angiography 15
 - aneurysms 200, 211
 - arterial dissection 145
 - hemorrhagic stroke 180
 - ischemic stroke 35–37, 41, 55, 83, 121
 - stenosis 50–51, 103, 123
 - vasospasm 208
- angiotensin II receptor blockers (ARBs) 26
- anterior cerebral artery (ACA) 3
- antibiotics
 - aspiration pneumonia 249–250
 - urinary tract infections 250–251
- anticoagulants
 - in CVST 171, 172
 - in ICH
 - resuming 195–195
 - reversal 183–186, 186–187
 - in ischemic stroke
 - acutely 19–20, 26
 - in AF 105, 134, 135
 - arterial dissection 145–146
 - long-term 29, 131–132
 - and tPA 63, 67
- anticonvulsants 115, 192–192, 206–207
- antidepressants 227
- antifibrinolytics 186, 202
- antihypertensives
 - in ICH 188–188
 - in ischemic stroke 16–17, 26–27, 70
 - secondary prevention 124–125

- antiplatelets
 - in ICH
 - resuming 195–195
 - reversal 186–186
 - in ischemic stroke 18–19, 25–25, 105, 128–130, 140–141, 145–146
 - and stents 92–93
- antipsychotics 116, 232
- aortic arch atheroma 161
- aortic dissection 63, 160–161
- aphasia 229–230, 277–277, 281
- apixaban *see* factor Xa inhibitors
- apnea tests 264
- apparent diffusion coefficient (ADC)
 - imaging 47
- argatroban 252
- arousal levels 232–233, 273
- arterial dissection
 - extracranial 63, 143–146, 160–161
 - intracranial 67, 201
- arterial puncture 65
- arterial stenosis
 - carotid 91–92, 122, 136–139
 - imaging 21–22, 50–51, 103, 122
 - intracranial 140–141
- arteriovenous malformations (AVMs)
 - 62, 194, 201
- Asian ethnicity 72
- ASPECTS score 33, 84
- aspiration pneumonia 248–250
- aspirin
 - acute stroke 18–19, 25–25
 - plus clopidogrel 105, 129–130
 - secondary prevention 105, 128, 129–130
- ataxia tests 275
- atorvastatin 125–126
- atrial fibrillation (AF) 105, 132–135, 195
- autoantibody tests 166
- basilar artery 3, 97–98
- bed rest 230–231
- Bell's palsy 5–6
- Benedikt syndrome 255
- benign paroxysmal positional vertigo
 - 6
- beta-blockers 16, 27, 125, 188–188
- bleeding diathesis 63
 - reversal of coagulopathies after ICH 183–184
- blood pressure
 - anesthesia 88–89
 - ICH 177, 183, 187–188, 194–194
 - ischemic stroke 8, 16–17, 26–27, 104
 - and EVT 92, 96
 - and tPA 62, 70
 - SAH 202, 207, 208
 - stroke prevention 124–125
- brain death 262–265
- brain tumors 5, 180
 - tPA therapy 62
- brainstem syndromes 253–255
- bromocriptine 233
- CAA (cerebral amyloid angiopathy)
 - 41, 61–62, 177, 194
- CADASIL 164
- calcium channel blockers 16, 27, 125, 188–188, 207
- CARASIL 164
- cardioembolic stroke
 - anticoagulation 26
 - diagnosis 41, 121–122, 156
 - septic 64
- cardiovascular system
 - aortic dissection 63, 160–161
 - evaluation 23, 179
 - myocardial infarction 66
- care models 215–222
 - outpatient care 29, 234, 237–239
 - rehabilitation 226–235
- carotid artery
 - difficult access 96
 - dissection 143–146, 160–161
 - occlusion 139–140
 - stenosis 91–92, 122, 136–139
 - ultrasound 122
- cerebellar hemorrhage 190
- cerebellar strokes 109–110

- cerebral amyloid angiopathy (CAA)
 - 41, 61–62, 177, 194
- cerebral blood flow (CBF) 38, 49–50
- cerebral blood volume (CBV) 37, 49
- cerebral edema 107–110, 168, 171, 175
- cerebral hemorrhage *see*
 - intracerebral hemorrhage
- cerebral perfusion maintenance
 - 16–18, 26–27, 104
- cerebral vasospasm 207–209
- cerebral venous sinus thrombosis (CVST) 168–173, 178
 - imaging 51–52, 170–171, 181
- cerebrospinal fluid drainage *see*
 - hydrocephalus
- cervical arterial dissection 143–146
- CHA₂DS₂-VASc score 267
- chain of survival 216
- children 60, 82
- cilostazol 129
- Claude syndrome 255
- clinical presentation *see* presentation
- clipping and coiling aneurysms
 - 202–204, 212–213
- clopidogrel
 - acute stroke 18, 25–25
 - plus aspirin 105, 129–130
 - secondary prevention 105, 128
- coagulopathy
 - reversal after ICH 183–187
 - tPA therapy 63
 - see also* hypercoagulability
- cocaine 165, 201
- cognitive impairment 239
- coiling and clipping aneurysms
 - 202–204, 212–213
- communication with the family
 - 181
- complications 226, 247–252
 - of CVST 172
 - of EVT 96–97
 - hemorrhagic transformation
 - 19–20, 35, 112–114
 - long-term 238–239
 - of SAH 204–209
 - of tPA 75–78
 - see also* neurological deterioration
- compression neuropathy 5
- confused state 116, 232
- conscious sedation 88–89
- consent 88
- contrast-induced AKI 39
- conversion disorder 6
- corticosteroids 77
 - contraindicated 107
- cryoprecipitate 76–77
- CT (computed tomography) scans
 - 32–40
 - on admission 9, 15, 32–35
 - cerebral vasospasm 208
 - contrast-induced injury 39
 - CVST 171
 - ICH 35, 179, 182–183
 - repeat 89, 121
 - SAH 35, 199–200
 - before thrombectomy 35–37, 83, 84–85, 89
 - TIA 156
- CTA (CT angiography) 15, 35–37, 83, 121, 200
- CTP (CT perfusion) 15, 37–38, 84–85
- CVST *see* cerebral venous sinus thrombosis
- dabigatran 131
 - reversal 185
- dalteparin (LMWH) 171, 191
 - reversal 187–187
- death *see* mortality
- deep venous thrombosis (DVT) 26, 191, 247–248
- definitions 1–2, 12, 153, 176–177, 198
- delayed cerebral ischemia (DCI)
 - 207–209
- delirium 232
- depression 238–239
- desmopressin (DDAVP) 186
- diabetes mellitus 67–68, 123, 126–127

- diagnosis
 - aneurysms 200, 211
 - arterial dissection 145
 - brain death 262–265
 - cerebral vasospasm 208
 - CVST 170–171
 - differentials 4–6, 40, 46, 154–155
 - ICH 179–181
 - ischemic stroke
 - on admission 3–4, 10–11, 12–13
 - work-up 14–16, 119–123, 133, 145
 - SAH 199–200
 - TIA 154–156
 - uncommon causes of stroke 166–167
- diet 127
- diffusion tensor imaging (DTI) 55
- diffusion-weighted imaging (DWI) 45–46
- digital subtraction angiography (DSA) 55, 123, 145, 200, 211
- diphenhydramine 77
- dipyridamole 128
- direct thrombin inhibitors 19, 63
 - for HIT 252
 - reversal 185
 - for secondary prevention 131–132, 135
- disability outcomes 28, 74, 94
 - modified Rankin scale 272
- discharge of patients 28–29, 119, 234–235
- distal pulse check 94
- diuretics 26, 124–125
- Doppler ultrasound 15, 123, 208, 244–246
- drip-and-ship care model 218
- drugs of abuse 128, 165, 201
- DSA (digital subtraction angiography) 55, 123, 145, 200, 211
- DTI *see* diffusion tensor imaging; direct thrombin inhibitors
- DVT (deep venous thrombosis) 26, 191, 247–248
- dysarthria 277, 279
- dysphagia 228–229
- early ischemic changes (EIC) 32–33
- echocardiography 23, 121–122
- edoxaban *see* factor Xa inhibitors
- elderly patients 67
- electrocardiography 23, 156
- embolism
 - air 161
 - septic 64
 - triggered by EVT 97
 - see also* cardioembolic stroke
- emergency department management 7–11, 179–181
- encephalopathy/encephalitis 5
- endovascular thrombectomy (EVT) 80–98
 - benefits 94–96
 - in CVST 171–172
 - posterior circulation 97–98
 - pre-procedure 10, 81–89
 - anesthesia choice 88–89
 - eligibility 82–87
 - imaging 35–37, 83, 89, 97–98
 - tPA yes or no? 82, 93
 - procedure 91–92
 - post-procedure 92–94
 - risks (complications) 96–97
 - and stroke enlargement 103
 - time window 81, 84–86, 89, 97
- enoxaparin 19
- epidemiology
 - aneurysms 199, 211
 - CVST 168
 - SAH 198–199
- epinephrine 77
- estrogen therapy 127
- etiology
 - ICH 41, 177–178
 - ischemic stroke 12
 - AF 134–135
 - arterial dissection 144, 160–161
 - carotid occlusion 139

- carotid stenosis 136–139
- diagnostic work-up 14–16, 21–24, 119–123, 133, 145
- embolism 41
- intracranial stenosis 140–141
- lacunar strokes 142
- PFO 146–147, 161
- less common causes 160–167
- SAH 200–201
- TIA 154
- EVT *see* endovascular thrombectomy
- exercise 127
- extracranial–intracranial bypass surgery 140
- eye disorders 66
- Fabry disease 165
- facial palsy tests 274
- factor VII 183, 186
- factor Xa inhibitors 19, 26, 63
 - reversal 185
 - for secondary prevention 131–132, 135
- famotidine 77
- fasting lipids 123
- fatigue 239
- fibromuscular dysplasia 161
- fluid balance
 - ischemic stroke 18–18, 24
 - SAH 207
- fluoxetine 227
- four components of stroke care 13
- Foville syndrome 254
- fresh frozen plasma (FFP) 183–185
- gastrointestinal hemorrhage 65
- gaze tests 274–274
- general anesthesia 88–89
- genetic causes of stroke 164–165, 167, 173
- Glasgow Coma Scale (GCS) 266–269
- glucose levels
 - high 20, 66, 126–127
 - low 5, 66, 156
- grief reaction 237
- HAS-BLED 268
- headache
 - CVST 170
 - migraine 4
 - SAH 2–3, 199
- hematological causes of stroke 163–165
- hemispherectomy 108–110, 172, 190
- hemiparesis 142
- hemoglobin A1c 123
- hemorrhage as contraindication for tPA 61–62, 65
- hemorrhagic stroke *see* intracerebral hemorrhage; subarachnoid hemorrhage
- hemorrhagic transformation 19–20, 35, 112–114
- heparin 19–20, 171, 191
 - reversal 186–187
- heparin-induced thrombocytopenia (HIT) 251–252
- herpes simplex encephalitis 5
- hetastarch 18
- history 2–3, 155
- HMG CoA reductase inhibitors (statins) 26, 125–126, 208
- home care 28–29, 119, 234
- hospitals
 - acute care 218–222, 234
 - rehabilitation 234–235
- Hunt and Hess scale 271
- hydrocephalus 172, 191–191, 206
- hypercoagulability 163, 166, 173
- hyperglycemia 20, 66, 126–127
- hypertension
 - ICH 177, 183, 187–188, 194–194
 - ischemic stroke 16–17, 26–27, 104
 - EVT 92, 96
 - tPA 62, 70
 - prevention 124–125
- hyperthermia 20
- hypoglycemia 5, 66, 156
- hypotension 8, 88–89

- ICA (internal carotid artery) *see*
carotid artery
- ICH *see* intracerebral hemorrhage
- ICH score 193, 270
- idarucizumab 185
- imaging 32–55
on admission 9, 32–35, 179, 199–200
aneurysms 200, 211
CADASIL 164
CARASIL 164
cerebral vasospasm 208
CVST 51–52, 170–171, 181
ICH 35, 48, 53, 179–181, 182–183
ischemic stroke 14–16, 21–22,
52–53, 119–123
arterial dissection 145
before EVT 35–37, 83, 89, 97–98
enlargement risk 103
uncommon causes 167–167
- SAH 48, 199–200
TIA 155–156, 157
- inattention tests 278–278
- initial management 7–11
ICH 179–181
imaging 9, 32–35, 179, 199–200
NIH stroke scale 272–276
- insulin resistance 127
- intensive care units 88, 92
- internal carotid artery *see* carotid
artery
- international normalized ratio (INR)
63, 67
- intracerebral hemorrhage (ICH)
175–195
definition 176–177
diagnosis 179–181
etiology 41, 177–178
imaging 35, 48, 53, 179–181, 182–183
management 7–11, 76–77, 181–192
antithrombotics 195–195
outcome 181, 192–194
scales 270
presentation 2, 178
recurrence 194–194
and tPA
ICH as contraindication 61–62
- ICH following 75, 76–77
see also subarachnoid hemorrhage
- intracranial hypertension 107–110,
178, 191–191
- intubation 7–8, 78, 115
- ischemic stroke 12–30
CVST 51–52, 168–173
definition 12
diagnosis
on admission 3–4, 10–11, 12–13
work-up 14–16, 119–123, 133, 145
discharge 28–29, 119, 234
enlargement 102–104
etiology *see* etiology, ischemic
stroke
hemorrhagic transformation
19–20, 35, 112–114
imaging 9, 14–16, 21–22, 32–55,
119–123
arterial dissection 145
before EVT 35–37, 83, 89, 97–98
enlargement risk 103
uncommon causes 167–167
management 7–11, 13–20, 24–27,
171–172
see also endovascular
thrombectomy; tPA
neurological deterioration
101–116, 142–143
outcomes 27–28, 73–75, 94–96
presentation 2–3, 142, 144, 170,
253–255
recurrence 23, 105–106, 173
rehabilitation 27, 226–235
secondary prevention 124–147
see also transient ischemic attack
- kidney injury 39
- labetalol 16, 125, 188–188
- lacunar strokes 3, 141–143
- language function 229–230, 277–278,
279–281
- large-vessel occlusion (LVO) 219
treatment *see* endovascular
thrombectomy

- lateral medullary syndrome 253–254
- level of consciousness 273
- lifestyle modification 127–128
- lipids 26, 123, 125–126
- long-term care 234–235
- losartan 26
- low-molecular-weight heparin (LMWH) 171, 187–187
- lumbar puncture 65, 167, 200

- magnesium sulfate 208
- magnetic resonance imaging *see* MRI
- mannitol 107, 171
- Marie-Foix syndrome 254
- mass effect 62, 107–110, 175
- MCA (middle cerebral artery) 3, 33, 108–109
- mean transit time 38
- medical complications *see* complications
- MELAS 165–165
- metabolic disturbances 114
- metabolic encephalopathy 5
- methylphenidate 233
- methylprednisolone 77
- microbleeds 61–62
- middle cerebral artery (MCA) 3, 33, 108–109
- migraine 4
- Millard-Gubler syndrome 254
- mitochondrial disorders 165–165
- mobile stroke units 217
- mobilization 227, 230–231
- modafinil 233
- modified Rankin scale 272
- mortality
 - diagnosis of brain death 262–265
 - ICH 193
 - ischemic stroke 28
 - SAH 209
- motherhood care model 218
- motor tests 275–275
- moyamoya disease/syndrome 162
- MRA (magnetic resonance angiography) 15, 41, 50–51

- MRI (magnetic resonance imaging) 9, 40–55
 - ADC imaging 47
 - DTI 55
 - DWI 45–46
 - FLAIR 44
 - hemorrhagic stroke 41, 48, 53, 180
 - ischemic stroke 41, 45–47, 49–50, 52–53, 120–121
 - MPGR/SWI 48
 - PWI 49–50
 - T1-weighted sequences 42, 145
 - T2-weighted sequences 43
 - TIA 156
- MRV (magnetic resonance venography) 51–52, 181
- mTICI (modified thrombolysis in cerebral infarction scale) 90
- multidisciplinary teams
 - in hospitals 86–88, 221
 - rehabilitation 228–232
- multidrug-resistant infections 249–250
- myocardial infarction 66

- neglect 278–278
- neurological deterioration 101–116
 - cerebral edema 107–110
 - drop in perfusion 104
 - evaluation 102
 - hemorrhagic transformation 112–114
 - in ICH 192
 - in lacunar strokes 142–143
 - metabolic disturbances 114
 - seizures 115, 172, 192–192, 206–207
 - stroke enlargement 102–104
 - stroke recurrence 105–106, 194–194
 - uncooperative patients 116, 232
 - unknown cause 115–116
- neurological scales 266–281

- neurosurgery
 - clipping aneurysms 202–204, 212–213
 - CVST 172
 - ICH 189–191
 - ischemic stroke 108–110
 - SAH 206
- nicardipine 16, 125, 188–188
- NIHSS (National Institutes of Health Stroke Scale) 9, 272–276
- nimodipine 207
- nursing facilities/homes 235
- occupational therapy 231–232
- ocular disorders 66
- onset 2, 8–9, 32–33
- organization of care *see* care models
- oropharyngeal angioedema 75–76, 77–78
- osmotherapy 107, 171
- outcomes
 - ICH 181, 192–194, 270
 - ischemic stroke 27–28
 - after EVT 94–96
 - after tPA 73–75
 - modified Rankin scale 272
 - SAH 209, 271
 - TIA 157
- outpatient care 29, 234, 237–239
 - see also* rehabilitation
- oxygen desaturation 114
- oxygen therapy 7
- paramedics 217
- parenchymal hemorrhage 2
- Parinaud syndrome 255
- patent foramen ovale (PFO) 122, 123, 146–147, 161
- patient education 119, 127–128, 157, 216
- patient positioning 8
 - after EVT 93
 - after ischemic stroke 18, 104
- patient transfer 88
- PCA (posterior cerebral artery) 3, 97–98
- penetrating artery disease 3, 141–143
- percutaneous endoscopic
 - gastrostomy (PEG) 229
- perfusion scans 15, 37–38
 - before thrombectomy 84–85
- perfusion-weighted imaging (PWI) 49–50
- perimesencephalic SAH 200
- peripheral neuropathy 5
- PFO (patent foramen ovale) 122, 123, 146–147, 161
- physical therapy 230–231
- platelets
 - HIT 251–252
 - tPA therapy 62–63
 - transfusions 186–186
- pneumonia 248–250
- posterior cerebral artery (PCA) 3, 97–98
- prasugrel 128–129
- pregnancy 66–67
- prehospital care 216–220
- presentation 2–3
 - arterial dissection 144
 - brainstem syndromes 253–255
 - cerebral vasospasm 208
 - CVST 170
 - ICH 2, 178
 - lacunar strokes 142
 - NIH stroke scale 9, 272–276
 - SAH 2–3, 199
 - TIA 154
- prevention, secondary
 - AF 105, 132–135
 - arterial dissection 145–146
 - blood-pressure control 124–125
 - carotid occlusion 139–140
 - carotid stenosis 136–139
 - CVST 172
 - diagnostic work-up 14–16, 21–24, 119–123, 133, 145
 - insulin resistance 127
 - intracranial stenosis 140–141
 - lacunar strokes 143
 - lifestyle modification 127–128
 - lipid control 125–126

- outpatient clinics 238
- PFO closure 147
 - see also* anticoagulants; antiplatelets
- prognosis *see* outcomes
- progression *see* neurological deterioration
- protamine 186–187
- prothrombin complex concentrates (PCC) 183–185
- psychosocial care 237–238
- public awareness campaigns 216
- RAPID software 38
- Raymond-Cestan syndrome 254
- rebleeding of ruptured aneurysms 201–202, 209
- recurrence
 - CVST 173
 - ICH 194–194
 - ischemic stroke 23, 105–106
- rehabilitation 27, 226–235
 - see also* outpatient care
- renal injury 39
- reperfusion injury 96
- retroperitoneal hemorrhage 94
- reversible cerebral vasoconstriction syndrome 163–163
- risk factors
 - for CVST 168–170
 - for recurrent stroke 23, 105–106
 - for stroke after TIA 157
- rivaroxiban *see* factor Xa inhibitors
- rt-PA *see* tPA (tissue plasminogen activator)
- SAH *see* subarachnoid hemorrhage
- saline (IV) 18–18
- sedation
 - in confusion/delirium 114, 116, 232
 - for EVT 88–89
- seizures
 - after strokes 115, 172, 192–192, 206–207
 - mimic strokes 4
- tPA therapy 65–66
- sensory tests 276
- sickle cell disease 163
- skilled nursing facilities 235
- small-vessel disease (lacunar strokes) 3, 141–143
- smoking cessation 127
- speech therapy 228–230, 277–278, 279–281
- statins 26, 125–126, 208
- stenosis *see* arterial stenosis
- stent retrievers (stentrievors) 80, 91
- stents 92–93
- steroids
 - corticosteroids 77, 107
 - estrogen 127
- stimulants 232–233
- stroke centers 218–221
- stroke units 222
- subarachnoid hemorrhage (SAH) 198–210
 - definition 198
 - diagnosis 199–200
 - epidemiology 198–199
 - etiology 200–201
 - imaging 48, 199–200, 208
 - management 201–210
 - outcome 209
 - scales 271
 - presentation 2–3, 199
 - see also* intracerebral hemorrhage
- subdural hematoma 5
- surgery
 - clipping aneurysms 202–204, 212–213
 - CVST 172
 - ICH 189–191
 - ischemic stroke 108–110
 - preceding stroke 65, 66
 - SAH 206
- swallowing difficulties 228–229
- symptoms *see* presentation
- syncope 5

- telemedicine 221
- tenecteplase 72–73
- thrombectomy *see* endovascular thrombectomy
- thrombocytopenia 62–63
 - heparin-induced 251–252
- thrombolysis in cerebral infarction (TICI) scale 90
- thrombolytic therapy
 - drugs unsuitable for stroke 73
 - tenecteplase 72–73
 - tissue plasminogen activator *see* tPA
- thrombophilia 163, 166, 173
- thrombotic thrombocytopenic purpura (TTP) 164
- TIA (transient ischemic attack) 153–157
- ticagrelor 25, 129
- time of onset 2, 8–9, 32–33
- timeline for stroke care 30, 215–216
 - for EVT 81, 84–86, 89, 97
 - for tPA 10, 59, 60–61, 67–70, 155
- tPA (tissue plasminogen activator) 14, 58–78
 - benefits 73–75
 - and blood pressure 62, 70
 - clot removal in ICH 190, 191
 - compared with tenecteplase 72–73
 - contraindications 59, 61–67
 - dose 72, 241–243
 - indications 59, 60–61
 - preparation 10
 - procedure 71–72
 - risks (complications) 75–78
 - and stroke enlargement 103
 - before thrombectomy 82, 93
 - after a TIA 155
 - timing of administration 10, 59, 60–61, 67–70, 155
 - wake up strokes 40, 68–69
- tranexamic acid 186, 202
- transcranial Doppler (TCD) 15, 123, 208, 244–246
- transesophageal echocardiogram (TEE) 23, 122
- transient ischemic attack (TIA) 153–157
- transthoracic echocardiogram (TTE) 23, 121–122
- trauma (preceding stroke) 65, 161, 201
- triflusal 129
- tumors 5, 62, 180
- ultrasound
 - carotid 122
 - transcranial Doppler 15, 123, 208, 244–246
- uncooperative patients 53, 116, 232
- urinary tract hemorrhage 65
- urinary tract infections 250–251
- vasculitis 162, 201
- vasospasm, cerebral 207–209
- venous sinus thrombosis 168–173, 178
 - imaging 51–52, 170–171, 181
- venous thrombosis (DVT) 26, 191, 247–248
- ventriculostomy 191–191, 206
- vertebral artery 3
 - dissection 143–146, 160–161, 201
 - occlusion 97–98
- visual field tests 274
- vitamin K antagonists *see* warfarin
- vomiting 178
- wake-up strokes 40, 68–69
- Wallenberg syndrome 253–254
- warfarin 29, 67, 131, 172, 195
 - reversal 183–185
- Watchman device 135, 195
- watershed infarcts 41
- Weber syndrome 255
- WFNS scale 271
- young patients 60, 82