Index

Locators for headings which also have subheadings refer to general aspects of the topic.
Locators in **bold** refer to major content.
Locators in *italic* refer to figures and tables.

AA (artery of Adamkiewicz) infarction 133
AAN. see American Academy of Neurology
abbreviations 114
abdominal wall retractors 169
abscess
brain 100–101, 120–121
epidural 121, 133–134, 136
academic neurohospitalist model 214
acute disseminated encephalomyelitis (ADEM) 100–102
acute ischemic stroke. see stroke
acute liver failure (ALF) 146–147
acute symptomatic seizures 30–31
ADEM (acute disseminated encephalomyelitis) 100–102
admitting physicians 218
advance directives 208
AEDs (antiepileptic drugs) 29–30, 36–37. see also seizures
and cardiac disease 34
enzyme inducing 111
glioblastoma surgery 105
medication complications 112
neuro-oncology 111
patients having surgery 38–39
pregnancy 38, 175–176, 177
status epilepticus 46–47
transplant patients 37
AHNs (anterior horn cells) 52–54, 128
alcohol and coma 68
and seizures 29, 30–31
ALF (acute liver failure) 146–147
ALS (amyotrophic lateral sclerosis) 52–53
Alzheimer’s disease, assessment of decision-making capacity 206
American Academy of Neurology (AAN)
brain death 193, 195–197
neurohospitalist models/structures 213
seizure control in early pregnancy 175–176
American Spinal Injury Association (ASIA) scale 129–130
ammonia 147
amnesia 81
amyotrophic lateral sclerosis (ALS) 52–53
amyotropy 52
aneurysm. see intracerebral hemorrhage
angioplasty with stenting (CAS) 12–13
anoxic brain injury. see hypoxic-ischemic brain injury
anterior cord syndrome 128
anterior horn cells (AHNs) 52–54, 128
anterior spinal cord infarction 133
antibiotics, for bacterial meningitis 118
anticoagulation therapy 12, 161–162
antimetetics 112–114
antitiepileptic drugs. see AEDs
antifibrinolytic agents 22
anti-hypertensive treatment of acute cerebral hemorrhage (ATACH) study 19
attention, in delirium states 80
Australian cooling study 188, 189
autonomic neuropathy 56
autonomy, patient 203–204
autoregulation, cerebral 24
AVMs (arteriovenous malformations) 133
awakeness. see also consciousness
Babinski sign 52
bacterial meningitis 117–118
Bell’s palsy 180
beneficence 204
benzodiazepines coma 68
delirium 83
status epilepticus 46
best interests, patient 209
beta-blockers 22
bevacizumab 106, 114
bilateral cortical system 68–69
biopsy site selection 104–105
birth 178. see also pregnancy
birth defects, and AEDs 38, 175–176, 177
blindness, cortical 171. see also visual loss, post-operative
block scheduling 217
blood pressure management
intracerebral hemorrhage 16, 18–19
pain control 22
stroke 11–12
arterial stenosis 160–161
arteriovenous malformations (AVMs) 133
artery of Adamkiewicz (AA) infarction 133
ascending arousal activating system (ARAS) 68–69
aseptic meningitis 118–119
aspirin 12, 161–162
ATACH (anti-hypertensive treatment of acute cerebral hemorrhage) study 19
Australia cooling study 188, 189
autonomic neuropathy 56
autonomy, patient 203–204
autoregulation, cerebral 24
AVMs (arteriovenous malformations) 133
awakeness. see also consciousness
Babinski sign 52
bacterial meningitis 117–118
Bell’s palsy 180
beneficence 204
benzodiazepines coma 68
delirium 83
status epilepticus 46
best interests, patient 209
beta-blockers 22
bevacizumab 106, 114
bilateral cortical system 68–69
biopsy site selection 104–105
birth 178. see also pregnancy
birth defects, and AEDs 38, 175–176, 177
blindness, cortical 171. see also visual loss, post-operative
block scheduling 217
blood pressure management
intracerebral hemorrhage 16, 18–19
pain control 22
stroke 11–12
arterial stenosis 160–161
arteriovenous malformations (AVMs) 133
artery of Adamkiewicz (AA) infarction 133
ascending arousal activating system (ARAS) 68–69
aseptic meningitis 118–119
aspirin 12, 161–162
ATACH (anti-hypertensive treatment of acute cerebral hemorrhage) study 19
Australia cooling study 188, 189
autonomic neuropathy 56
autonomy, patient 203–204
autoregulation, cerebral 24
AVMs (arteriovenous malformations) 133
awakeness. see also consciousness
Babinski sign 52
bacterial meningitis 117–118
Bell’s palsy 180
beneficence 204
benzodiazepines coma 68
delirium 83
status epilepticus 46
best interests, patient 209
beta-blockers 22
bevacizumab 106, 114
bilateral cortical system 68–69
biopsy site selection 104–105
birth 178. see also pregnancy
birth defects, and AEDs 38, 175–176, 177
blindness, cortical 171. see also visual loss, post-operative
block scheduling 217
blood pressure management
intracerebral hemorrhage 16, 18–19
pain control 22
stroke 11–12
<table>
<thead>
<tr>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>brain metastases 97–99, 106–108</td>
</tr>
<tr>
<td>brain tumor 103–104, see also neuro-ontology in-patient management</td>
</tr>
<tr>
<td>brainstem death 194</td>
</tr>
<tr>
<td>branch retinal artery occlusion (BRAO) 171</td>
</tr>
<tr>
<td>bridging therapy 10–11</td>
</tr>
<tr>
<td>Brown-Sequard syndrome 128</td>
</tr>
<tr>
<td>burnout, physician 220</td>
</tr>
<tr>
<td>CAGB (coronary artery bypass graft) 161</td>
</tr>
<tr>
<td>calcium 93–94</td>
</tr>
<tr>
<td>calcium channel blockers 24, 25</td>
</tr>
<tr>
<td>call-based scheduling 217</td>
</tr>
<tr>
<td>CAM (Confusional Assessment Method) 81, 83</td>
</tr>
<tr>
<td>cancer, paraneoplastic motor neuron disease 53, see also neuro-ontology in-patient management</td>
</tr>
<tr>
<td>carbamazepine 11</td>
</tr>
<tr>
<td>carbon monoxide poisoning 181–183</td>
</tr>
<tr>
<td>cardiac arrest 73–74, 181, see also hypoxic-ischemic brain injury</td>
</tr>
<tr>
<td>cardiac arrhythmia 92–93</td>
</tr>
<tr>
<td>cardiac disease, and seizures 34</td>
</tr>
<tr>
<td>cardiac symptoms 5, 22–23</td>
</tr>
<tr>
<td>cardiac syncope 76</td>
</tr>
<tr>
<td>cardiomyopathy 60</td>
</tr>
<tr>
<td>carotid artery stenting (CAS) 160–161</td>
</tr>
<tr>
<td>carotid endarterectomy (CEA) 160–161</td>
</tr>
<tr>
<td>carotid revascularization 12–13</td>
</tr>
<tr>
<td>carotid synus syncope 78</td>
</tr>
<tr>
<td>carpal tunnel syndrome 180</td>
</tr>
<tr>
<td>CAS (carotid artery stenting) 160–161</td>
</tr>
<tr>
<td>CAS (angioplasty with stenting) 12–13</td>
</tr>
<tr>
<td>case studies seizures 38–39</td>
</tr>
<tr>
<td>status epilepticus 47</td>
</tr>
<tr>
<td>cataplexy 77</td>
</tr>
<tr>
<td>catheter-based endovascular treatment 9–11</td>
</tr>
<tr>
<td>cauda equina syndrome 128, 136–138</td>
</tr>
<tr>
<td>CEA (carotid endarterectomy) 160–161</td>
</tr>
<tr>
<td>central gray matter, spinal cord 128</td>
</tr>
<tr>
<td>central pontine myelinolysis (CPM) 165–166</td>
</tr>
<tr>
<td>central retinal artery occlusion (CRAO) 171</td>
</tr>
<tr>
<td>central venous thrombosis (CVT) 178</td>
</tr>
<tr>
<td>central/cervical cord syndrome 128</td>
</tr>
<tr>
<td>cerebral amyloid angiopathy 16</td>
</tr>
<tr>
<td>cerebral angiography 21</td>
</tr>
<tr>
<td>cerebral edema 17</td>
</tr>
<tr>
<td>cerebral microbleeds 16</td>
</tr>
<tr>
<td>cerebral perfusion pressure (CPP) 154</td>
</tr>
<tr>
<td>cerebral salt-wasting (CSW) 24, 89</td>
</tr>
<tr>
<td>cerebral vasospasm 23–24, 24–25</td>
</tr>
<tr>
<td>cerebrospinal fluid (CSF) drainage 155</td>
</tr>
<tr>
<td>cerebrovascular disease, see stroke</td>
</tr>
<tr>
<td>cervicomedullary syndrome 128</td>
</tr>
<tr>
<td>chameleons, stroke 3–5, 9</td>
</tr>
<tr>
<td>chemotherapy</td>
</tr>
<tr>
<td>glioblastoma 105–106</td>
</tr>
<tr>
<td>medication complications 112–114</td>
</tr>
<tr>
<td>chest pain 5</td>
</tr>
<tr>
<td>choice, assessing patients 206</td>
</tr>
<tr>
<td>chronic inflammatory demyelinating polyradiculoneuropathy (CIDP) 54–55</td>
</tr>
<tr>
<td>CIM/CIP (critical illness polyneuropathy/myopathy) 166</td>
</tr>
<tr>
<td>cirrhosis, hepatic 147</td>
</tr>
<tr>
<td>CMAP (compound muscle action potential) 166</td>
</tr>
<tr>
<td>cognitive impairment, hypoxic-ischemic brain injury 185–182</td>
</tr>
<tr>
<td>coma 68, 69, 74</td>
</tr>
<tr>
<td>etiology/classification 68–70, 72</td>
</tr>
<tr>
<td>evaluation/assessment 70–73</td>
</tr>
<tr>
<td>prognosis 73–74</td>
</tr>
<tr>
<td>work-up 73</td>
</tr>
<tr>
<td>common peroneal neuropathy 168</td>
</tr>
<tr>
<td>communication with patients 219</td>
</tr>
<tr>
<td>compensation, physicians 218, 220</td>
</tr>
<tr>
<td>compound muscle action potential (CMAP) 166</td>
</tr>
<tr>
<td>computerized tomography, see CT scanning</td>
</tr>
<tr>
<td>confidentiality 205</td>
</tr>
<tr>
<td>Confusional Assessment Method (CAM) 81, 83</td>
</tr>
<tr>
<td>confusional states 5</td>
</tr>
<tr>
<td>consciousness, disorders of 68, see also coma; delirium; syncope; transient global amnesia</td>
</tr>
<tr>
<td>hypoxic-ischemic brain injury 183</td>
</tr>
<tr>
<td>vegetative/minimally conscious states 74–75</td>
</tr>
<tr>
<td>consulting physicians 218, see also post/pre-operative neurohospitalist consultation</td>
</tr>
<tr>
<td>conus-medullaris syndrome 128</td>
</tr>
<tr>
<td>coronary artery bypass graft (CABG) 161</td>
</tr>
<tr>
<td>coronary stenosis, large artery 161</td>
</tr>
<tr>
<td>cortical blindness 171</td>
</tr>
<tr>
<td>corticospinal tract (CST) 127–128</td>
</tr>
<tr>
<td>corticosteroids, see steroids</td>
</tr>
<tr>
<td>CPM (central pontine myelinolysis) 195–196</td>
</tr>
<tr>
<td>CPP (cerebral perfusion pressure) 154</td>
</tr>
<tr>
<td>craniocervical stenosis, large artery 161</td>
</tr>
<tr>
<td>CRAO (central retinal artery occlusion) 171</td>
</tr>
<tr>
<td>critical illness polyneuropathy/myopathy (CIM/CIP) 166</td>
</tr>
<tr>
<td>Cryptococcal meningitis 123–124</td>
</tr>
<tr>
<td>CSF (cerebrospinal fluid) drainage 155</td>
</tr>
<tr>
<td>CST (corticospinal tract) 127–128</td>
</tr>
<tr>
<td>CSW (cerebral salt-wasting) 24, 89</td>
</tr>
<tr>
<td>CT scanning</td>
</tr>
<tr>
<td>brain death 200</td>
</tr>
<tr>
<td>coma patients 73</td>
</tr>
<tr>
<td>intracerebral hemorrhage 17–18</td>
</tr>
<tr>
<td>seizures 35</td>
</tr>
<tr>
<td>stroke 5–6</td>
</tr>
<tr>
<td>subarachnoid hemorrhage 21</td>
</tr>
<tr>
<td>CVT (central venous thrombosis) 178</td>
</tr>
<tr>
<td>cyanide poisoning 181–183</td>
</tr>
<tr>
<td>cyclosporin 37</td>
</tr>
<tr>
<td>dAVFs (dural arteriovenous fistulas) 132–133</td>
</tr>
<tr>
<td>decision-making capacity, assessing patients 206</td>
</tr>
<tr>
<td>decompressive craniectomy (DC) 156</td>
</tr>
<tr>
<td>deep vein thrombosis (DVT) 105, 111</td>
</tr>
<tr>
<td>delayed post-anoxic encephalopathy (DAE) 185</td>
</tr>
<tr>
<td>delirium 80, 83</td>
</tr>
<tr>
<td>clinical features/diagnosis 80–81</td>
</tr>
<tr>
<td>etiology/risk factors 81, 82</td>
</tr>
<tr>
<td>evaluation/assessment 81–82</td>
</tr>
<tr>
<td>treatment/prevention 82–83</td>
</tr>
<tr>
<td>delivery 178, see also pregnancy</td>
</tr>
<tr>
<td>demand, for neurohospitalists 216</td>
</tr>
<tr>
<td>dementia</td>
</tr>
<tr>
<td>delirium states 81</td>
</tr>
<tr>
<td>HIV infection 124–125</td>
</tr>
</tbody>
</table>
Index

dementia (cont.)
pre-operative neurohospitalist consultation 163
demyelination. see myelin
dermatomyositis 59
dexamethasone. see also steroids
bacterial meningitis 118
cerebral edema management 110–111
glioblastoma 105–106
medication complications 112
diabetes insipidus, and brain death 193
diabetic neuropathy 56
diffusion-weighted imaging (DWI)
brain abscess 100–101
stroke 6–7
transient global anemia 79
directorship, medical 220
distal symmetric polyneuropathy 56
dobutamine 24
do-not-resuscitate (DNR) orders 207
Doppler ultrasound, transcranial (TCD) 25, 200
dorsal columns 128
dorsal horn 128
double effect principle 204
drop-attacks 77
drug intoxication, and brain death 194
drug withdrawal, and seizures 30–31
durable powers of attorney 208
dural arteriovenous fistulas (dAVFs) 132–133
dural metastasis 108–109
DVT (deep vein thrombosis (DVT)) 105, 111
DWI. see diffusion-weighted imaging
dysimmune neuropathies 54–55
ECASS III (European Cooperative Acute Stroke Study) 8, 9
ECG (electrocardiography) 77
echocardiography 78
ecstasy 85
edema, cerebral 17–18
edema, pulmonary 23
EDH (epidural hematoma) 155
EEGs. see electroencephalograms
EFNS (European Federation of Neurological Societies) 57
Ehler–Danlos 20
Ehlicchiosis 118
EIAEDs (enzyme inducing antiepileptic drugs) 111
electrocardiography (ECG) 77
electroencephalograms (EEGs)
brain death 199
coma patients 73
hypoxic-ischemic brain injury 186–187
ictal patterns 43–44
interictal patterns 41–43, 45
neurologic manifestations of hyponatremia 86
operating surgery monitoring 163–164
seizures 35–36
status epilepticus 41–44
sycope 78
transient global anemia 80
electrolyte balance 95, 85
calcium 93–94
magnesium 94–95
phosphate 95
potassium 91–93
sodium 85, see also hypernatremia, hyponatremia
electromyography (EMG)
myotrophic lateral sclerosis 53
chronic inflammatory demyelinating polyradiculoneuropathy 54–55
critical illness polyneuropathy/myopathy 166
multifocal motor neuropathy 55
neuromuscular disorders 54
porphyria 56–57
electrophysiological monitoring, peri-operative neurological disorders 163–164
Emergency Medical Treatment and Active Labor Act (EMTALA) 219
employment opportunities/specialisms, neurohospitalist 220–221
encephalitis 119–120
encephalopathy 5
endarterectomy 12–13
end-of-life care 114
endovascular treatment 9–11
enzyme inducing antiepileptic drugs (EIAEDs) 111
epidemiology, subarachnoid hemorrhage 20
epidural abscess, 133–134, 136
epidural hematoma (EDH) 155
epidural spinal cord compression (ESCC) 109–110
epilepsy 30, 31–33, 163.
see also seizures; status epilepticus
ethical issues 203, 211
assessment of decision-making capacity 206
autonomy 203–204
basic principles 203–205
benifence 204
brain death 210–211
confidentiality 205
consent for thrombolysis, acute ischemic stroke 210
decision-making, patients with capacity 206–208
decision-making, patients without capacity 208–209
futility 209
justice 205
nonmalifucence 204–205
vegetative/minimally conscious states 211
etomidate 22
European Cooperative Acute Stroke Study (ECASS III) 8, 9
European Federation of Neurological Societies (EFNS) 57
external ventricular drainage (EVD) 22
extracranial carotid stenosis 160–161
eye movements, coma patients 71–72. see also pupillary responses
fasciculations 52
fatigue, medication induced 112, 112
febrile seizures 30, 31, 35
femoral neuropathy 169
fever, and intracerebral hemorrhage 19
financial compensation, physicians 218, 220
Fisher Scale 23
follow-up arrangements 218
Food and Drug Administration (FDA) 177
foot drop 168. see also lower limb
neuropathy
forced vital capacity (FVC) 53
fosphenytoin 46
free radical formation 181
frozen sections 105
fungal infection 120–121
futility 209
FVC (forced vital capacity) 53
gag reflex 198
gamma-aminobutyric acid (GABA) 40–41
gaze assessment, coma patients 71–72.
see also pupillary responses
GBS (Guillain–Barré syndrome) 54
generalized convulsive status epilepticus (GCSE) 39–40
Glasgow Coma Scale 9, 21, 68, 69
glioblastoma (GBM) 105
differential diagnosis 98
imaging features 99–100
radiation/chemotherapy 105–106
surgery 105
glioma, malignant 99–100
glucose management, stroke 11
goals, neurohospitalist models/structures 216
gradient-recalled echo (GRE) imaging 6
gray matter, spinal cord 128
guidelines, incentive compensation 220
Guillain-Barré syndrome (GBS) 54
HAART (highly active anti-retroviral therapy) 124–125
HACA (Hypothermia After Cardiac Arrest Study Group) 188, 189
Haemophilus influenza type B (HIB) vaccine 117
hallucinations 81
haloperidol 82–83
HE (hepatic encephalopathy) 68, 146–147
head trauma. see traumatic brain injury
headache 21, 22, 176–179
Health Insurance Portability and Accountability Act (HIPPA) 205
hematoma 16–18
blood pressure management 18–19
imaging features 100–102
medical management 20
recombinant factor VII 18
heme oxygenase-1 18
hemiparesis 52
hemoglobin levels, subarachnoid hemorrhage 24
hemorrhage. see also intracerebral hemorrhage; subarachnoid hemorrhage
infratentorial 19
intracranial 3
intraparenchymal 73
hemorrhagic cerebrovascular disease. see cerebrovascular disease, hemorrhagic
hemorrhagic contusions, surgical management 155
heparin 12, 111
hepatic encephalopathy (HE) 68, 146–147
hepatic encephalopathy scoring algorithm (HESA) 146
Herpes simplex virus encephalitis (HSVE) 119
HIB (Haemophilus influenza type B) vaccine 117
HI-BI. see hypoxic-ischemic brain injury
highly active anti-retroviral therapy (HAART) 124–125
HIPPA (Health Insurance Portability and Accountability Act) 205
HIV infection, neurologic complications 121–125
Horner’s syndrome 71
hospital employed neurohospitalist model 214–215
HSVE (Herpes simplex virus encephalitis) 119
Hunt and Hess scale 21, 22
hydration, withholding 208
hydrocephalus 22, 23
hyperactive delirium 80
hypercalcemia 94
hyperglycemia 19
hypokalemia 91
hypoglycemia 68
hypoactive delirium 80
hypervolemic hyponatremia 85
hypertension. see blood pressure management
hypothermia, TBI management 55
hyperthermia, TBI management 55
hyperosmolar hyponatremia 85
hyperventilation, induced 55
hypertonic saline management
hyperthermia, TBI management 55
hyperhydration, withholding 208
incontinence 2
incentive compensation guidelines
informed consent 203, 210
infratentorial hemorrhage 19
injury
hypothermia, induced 55
injury
hyperthermia, TBI management 55
hypoxic-ischemic brain injury (HI-BI) 181, 190
ancillary tests 186–188
arousal levels 183
cognitive impairment 185–182
electroencephalograms 186–187
movement disorders 185
neuroimaging studies 187–188
neurological manifestations 183–185
other therapeutic measures 190
pathophysiology 181–183
prognosis 185–186
seizures/myoclonus 183–184
serum neuron-specific enolase 186–187
somatosensory evoked potentials
therapeutic hypothermia 187–190
IBM (inclusion body myositis) 59
ICP (intracranial pressure) monitoring 154
ictal patterns, EEG 43–44
ICU (intensive care unit) management
IED (interictal epileptiform discharge) 29, 30
ILAE (International League Against Epilepsy) seizure classification 31–32
immunosuppressive therapy 57–58, 61, 148–150
immunotherapy, neuromuscular disorders 54, 60–61
implanted consent 207, 210
inattention 80
incentive compensation guidelines 220
inclusion body myositis (IBM) 59
incontinence 2
induced hypothermia 155, 156
infection, CNS 116–117
aseptic meningitis 118–119
bacterial meningitis 117–118
brain abscess 120–121
differential diagnosis 116, 122–123
encephalitis 119–120
epidural abscess 121
HIV 121–125
organ transplantation 148–149
infectious neuropathies 55–56
inflammatory myopathies 59
information for patients 219
informed consent 203, 206–207, 210
infratentorial hemorrhage 19
injury. see spinal injury; traumatic brain injury
instruction directives 208
intensive care unit management 154
INDEX

INTERACT (intensive blood pressure reduction in acute cerebral hemorrhage) trial 19
interictal epileptiform discharge (IED) 29, 30
interictal patterns, EEG 41–43, 45
intermedullary arteriovenous malformations 133
International Cooperative Aneurysm Trial 22
International League Against Epilepsy (ILAE) seizure classification 31–32
International Medical Society of Paraplegia (IMSOP) scale 129–130
intracerebral hemorrhage 16, 20
blood pressure management 18–19
medical management 19–20
pathology/hematoma expansion 16–18
pathophysiology 17–18
recombinant factor VIIa 154–155
intracranial hemorrhage 3, 7, 9
intracranial pressure (ICP) 129
intracranial stenosis, large artery 160–161
intraparenchymal hemorrhage 73
intravenous immunoglobulin (IVIG) 54, 61
chronic inflammatory demyelinating polyradiculoneuropathy 54–55
inflammatory myopathies 59
side effects 61
intravenous thrombolysis (0–3 hours), stroke 7–9
intravenous thrombolysis (3–4.5 hours), stroke 9
intubation
ischemic cerebrovascular disease. see stroke
ischemic optic neuropathy (ION) 170–171
isoosmolar hyponatremia 85. see also hyponatremia
IVIG. see intravenous immunoglobulin
kidney disease, and seizures 31
labelol 19
labor 178. see also pregnancy
lamotrigin 119
Lance-Adams syndrome 185
lateral horn 128
laws/position statements, brain death 193–194
LCMV (lymphocyte choriomeningitis) 118
leadership, neurohospitalist opportunities/specialisms 222
leptomeningeal metastasis 108–109
leptospirosis 118
levetiracetam 37
lidocaine 22
Listeria monocytogenes 117
living wills 208
locked-in syndrome 70
lower limb neuropathy 168
common peroneal neuropathy 168
femoral neuropathy 169
lumbosacral plexopathy 169
obturator neuropathy 170
sciatic neuropathy 169
lower limb weakness 168
lower motor neurons (LMNs) 52–54, 128
lumbar puncture (LP) 135
lumbosacral plexopathy 169
lupus (systemic lupus erythematosus) 143–145
Lyne disease 55–56, 118
lymphocyte choriomeningitis (LCMV) 118
magnesium balance 94–95
magnetic resonance angiography (MRA) 200
magnetic resonance imaging (MRI) seizures 35
stroke 6–7
transient global amnesia 79
malignant glioma 99
MCS. see minimally conscious states
MDMA (ecstasy) 85
medical directorship 220
medication
antiepileptic 175–176, 177
complications, neuro-oncology 112–114
melanoma 99
memory loss 81
meningitis, aseptic 118–119
meningitis, bacterial 117–118
MERCI clot retrieval device 10
metabolic disorders, coma 73
metabolic neuropathies 56–57
metastases
brain 97–99, 106–108
leptomeningeal/dural 108–109
spinal cord 138–139
microbelda, cerebral 16
mimics
brain death 199
stroke 3–5, 9
syncope 76–77
Mini Mental Status Examination (MMSE) 185–186
minimally conscious states (MCS) 74
diagnosis 74
ethical issues 211
prognosis 75
MIP (maximal inspiratory pressure) 53
MISTIE trial 19
MMN (multifocal motor neuropathy) 55
MMSE (Mini Mental Status Examination) 185–186
MOF (multiorgan failure) 166
mononeuropathies 56
moral. see ethical issues
motor neuron diseases 52–53
movement disorders 185
MRA (magnetic resonance angiography) 200
MRI. see magnetic resonance imaging
multifocal motor neuropathy (MMN) 55
multiorgan failure (MOF) 166
multiple sclerosis
imaging features 100–102
pre-operative neurohospitalist consultation 163
Multi-Society Task Force 75
muscles 59–60
respiratory 62, 64
myasthenia gravis (MG) 57–58, 162–163
myelin
central pontine myelinolysis 165–166
chronic inflammatory demyelinating polyradiculoneuropathy 54–55
Guillain–Barré syndrome 54
multifocal motor neuropathy 55
osmotic demyelinization syndrome 90
post-encephalitis 120
tumefactive demyelinating lesions 100–102
myoclonus 72, 183–184
myxedema coma 142–143
N20 response 186
National Clearinghouse Guidelines for seizure treatment 36
Index

National Institutes of Health Stroke Scale (NIHSS) 2, 3–4, 9
National Institutes of Neurological disorders and Stroke (NINDS) rtPA stroke study) 7–8
necrosis, radiation 104
Neisseria meningitides 117
neoplastic disorders, spinal cord disease 138–139
nerve conduction studies 166
nerve injury see neuropathy
neurocritical care 221
neuroendocrine systemic disorders 142–143
neurogenic shock 129
neurohospitalist models/structures 213, 222
academic neurohospitalist model 214
admitting/consulting physicians 218
benchmark data/survey statistics 219
on call pay 219–220
communication with patients 219
CPT codes/Medicare reimbursement 218
financial compensation 218, 220
follow-up arrangements 218
hospital employed model 214–215
incentive compensation guidelines 220
medical directorship 220
neurocritical care 221
neurohospitalist opportunities/specialisms 220–221
non-hospital work 218
organizational components 213, 216
private practice model 215–216
procedures 218
program goals/demands/resources 216
quality/outcomes 221–222
responsibilities, hospital; 217
scheduling 216–217
telemedicine 221
neuromonitoring see also specific types brain death 200
hypoxic-ischemic brain injury 187–188
neuro-ontology 97–104, 109
neurologic effects 94
hypercalcemia 94
hyper magnesiumemia 95
hypertension 90–91
hypocalcemia 93
hypokalemia 91
hyponatremia 86
hypophosphatemia 95
neuromuscular disorders 52.
see also respiration
neuromuscular disorders anatomic localization 52
botulism 58
cardiomyopathy 60
diabetic neuropathy 56
dysimmune neuropathies 54–55
immunotherapy 54, 60–61
infectious neuropathies 55–56
inflammatory myopathies 59
junction disorders 57–59
metabolic neuropathies 56–57
motor neuron diseases 52–53
muscle disorders 59–60
myasthenia gravis 57–58
organophosphate poisoning 58–59
paraneoplastic motor neuron disease 53
polymyositis/postpolio syndrome 53
porphyria 56–57
pre-operative neurohospitalist consultation 162–163
rhabdomyolysis 60
toxic neuropathies 56
ventilation management 64–65
weakness following surgery 165
neuro-oncology in-patient management 97, 114
abbreviations 114
biopsy site selection 104–105
brain metastasis 97–99, 106–108
cerebral edema management 110–111
clinical features/diagnosis 97, 98
deep vein thrombosis/pulmonary embolism 111
end-of-life care 114
enhancing masses following treatment 103–104
epidural spinal cord compression 109–110
glioblastoma 99–100, 105–106
imaging features 97–104, 109
leptomeningeal/dural metastasis 108–109
medication complications 112–114
paraneoplastic neurological syndromes 110
pseudoprotein 104
seizures 111
stroke management 111–112
neuropathy, see also lower limb neuropathy; upper limb neuropathy
critical illness polyneuropathy 166
obstetric 178, 179–180
optic 170–171
toxic 56, 58–59
vasculitis 55
neuropsychiatric lupus (NPSLE) 143–145
nicardipine 19
NIHSS (National Institutes of Health Stroke Scale) 2, 3–4, 9
nimodipine 23
NINDS (National Institutes of Neurological disorders and Stroke study) 7–8
nitroprusside 12
N-methyl-D-Aspartate (NMDA) 40–41
nonbacterial thrombotic endocarditis (NBTE) 111–112
non-convulsive status epilepticus (NCSE) 39–40, 164
nonmalicence 204–205
non-peptide arginine-vasopressin receptor antagonists 89
non-steroidal immunosuppressants 61
normovolemic hyponatremia 85, 88, see also hyponatremia
NPSLE (neuropsychiatric lupus) 143–145
nutrition, withholding 208
obstetric mononeuropathy 178, 179–180
obturator neuropathy 170
oculovestibular reflex 198
ODS (osmotic demyelination syndrome) 90, 148
on call pay, physicians 219–220
operating surgery monitoring 163–164
opiates 68
opportunistic infection, CNS 148–149
optic neuropathy 170–171
organ transplantation 147–150
organizational components, neurohospitalist models/structures 216
organophosphate poisoning 58–59
osmotic demyelination syndrome (ODS) 90, 148
osmotic therapy, TBI management 155
© in this web service Cambridge University Press
www.cambridge.org
Index

pain control, subarachnoid hemorrhage 22
pain responses, coma patients 70, 72
papaverine 24
paraneoplastic motor neuron disease 53
paraneoplastic neurological syndromes 110
paresis, arm 5. see also upper limb neuropathy
Parkinson’s disease 163
patients, communication with 219
pay structures, physicians 218, 220
PCNSL (primary CNS lymphoma) 110, 122–123
Penumbra system 10
percutaneous gastrostomy (PEG) 53
Penumbra system 10

phenytoin 37, 46, 111, 123
phenobarbitol 111
peri-operative neurological disorders
percutaneous gastrostomy (PEG) 53
Penumbra system 10

patients, communication with 219
pay structures, physicians 218, 220
PCNSL (primary CNS lymphoma) 110, 122–123
Penumbra system 10

peripartum mononeuropathy 179–180
PFT (pulmonary function test) 62
phenobarbital 111
phenytoin 37, 46, 111, 112
phosphate balance 95
physicians admitting/consulting 218
employment opportunities/ specialisms 220–221
PION (posterior ischemic optic neuropathy) 171
plasma exchange (PLEX) 54–55, 61
PNEAs (psychogenic non-epileptic attacks) 33, 38–39
pneumococcus (Streptococcus pneumoniae) 117, 118
poisoning
botulism 58
organophosphate 58–59
poliomyelitis/postpolio syndrome 53
polymyositis 59
porphyria 56–57
posterior cord syndrome 128
posterior ischemic optic neuropathy (PION) 171
posterior reversible encephalopathy syndrome (PRES) 148–150, 171, 178
post-operative neurohospitalist consultation 164

acute post-operative stroke 170
central pontine myelinolysis 165–166
critical illness polyneuropathy/myopathy 166
lower limb neuropathy 168–170
lower limb weakness 168
slow to wake following surgery 164–165
upper limb neuropathy 167–168
upper limb weakness 166–167
visual loss 170–171
weakness following surgery 165, 166
post-resuscitation encephalopathy, see hypoxic-ischemic brain injury
post-transplant lymphoproliferative disorder (PTLD) 150
potassium balance 91–93
preeclampsia 177–178
pregnancy 175, 180
central venous thrombosis 178
headache 176–179
obstetric mononeuropathy 178, 179–180
preeclampsia 177–178
seizures 38, 175–176, 177
pre-operative neurohospitalist consultation 159–163
PRES (posterior reversible encephalopathy syndrome) 148–150, 171, 178
primary CNS lymphoma (PCNSL) 110, 122–123
primary tumors, spinal cord disease 139
private practice model
neurohospitalist models/structures 215–216
non-hospital work 218
Prolyse in Acute Cerebral Thromboembolism (PROACT II) trial 10
propofol 22, 47
proximal motor neuropathy 56
proxy directives 208
pseudohyponatremia 85.
see also hyponatremia
pseudoperipheral palsy 166–167
pseudoprogression, neuro-oncology 104
psychogenic non-epileptic attacks (PNEAs)33, 38–39
PTLD (post-transplant lymphoproliferative disorder) 150
pulmonary edema 23
pulmonary embolism 111
pulmonary function test (PFT) 62
pupillary responses, coma patients 71, 72
pure global cerebral hypoxia 181–184
pure global cerebral ischemia 181–184
radial neuropathy 167–168
radiation necrosis 104
radiosurgery 108
radiotherapy 53, 105–106
reasoning ability, assessing patients 206
recombinant factor VII 18
recombinant tissue-type plasminogen activator (rtPA) 7–9
reflexes 52, 198
renal disease, and seizures 31
research roles, neurohospitalist opportunities/specialisms 222
resources, neurohospitalist models/structures 216
respiration, neuromuscular disorders 52, 53, 54
conditions affecting respiration 62–64
neuroanatomy/physiology 61–62, 63
respiratory failure 62–65
respiratory muscles 62, 64
ventilation management 64–65
respiratory patterns, and coma 71
resuscitation 192
reversible posterior leuкоencephalopathy (RPLE) 148–150, 178
rhadomyolysis 60
rights, patient. see ethical issues
riluzole 53
Rocky Mountain Spotted Fever 118
rodent carriers, viral meningitis 118
RPLE (reversible posterior leuкоencephalopathy) 148–150, 178
rtPA (recombinant tissue-type plasminogen activator) 7–9
SAH. see subarachnoid hemorrhage
salary, physicians 218, 220
saline hypertonic 156
salt-wasting, cerebral 24, 89
scheduling, neurohospitalist models/structures 216–217
Schiavo, Terri 208
SCI. see spinal cord injury
sciatic neuropathy 169
SDH (subdural hematoma) 155
SE. see status epilepticus
sedation, TBI management 156
seizures 29, 47–48. see also status epilepticus

© in this web service Cambridge University Press
www.cambridge.org
acute symptomatic 30–31
causes in post-operative period 164–165
classification 31–32, 33
and coma 70, 72
diagnosis/evaluation 34–36
differential diagnosis 33–34
epilepsy 30, 31–33, 163
etiology 34
hospital management-special care units 37
hypoxic-ischemic brain injury 183–184
neuroimaging 35
neuro-oncology in-patient management 111
new onset 29–30
patients having surgery 38–39
physiological non-epileptic seizures 34
preeclampsia 177–178
pregnancy 38, 175–176, 177
prophylaxis, TBI management 154
psychogenic non-epileptic attacks 33, 38–39
seizure syndromes 33
stroke 8
and syncope 34, 38–39, 76
transient epileptic amnesia 79
transplant patients 37
treatment 36–37
self-fulfilling prophecies 209
sensory nerve action potential (SNAP) 166
serum neuron-specific enolase (S-NSE) 186–187
shift-based scheduling 217
shivering 189
SIADH (syndrome of inappropriate antidiuretic hormone hypersecretion) 24, 89
single photon emission computed tomography (SPECT) 200
SIRS (systemic inflammatory response syndrome) 166
SLE (systemic lupus erythematosus) 143–145
sleep deprivation 83
SNAP (sensory nerve action potential) 166
S-NSE (serum neuron-specific enolase) 186–187
sodium balance 85.
see also hyponatremia
somatosensory evoked potentials (SSEP) 186
spasticity 52
special care units, seizure treatment 37
specialists, physician 220–221
SPECT (single photon emission computed tomography) 200
spinal cord compression 109–110, 138–139
spinal cord disease 127, 139
anterior spinal cord infarction 133
artery of Adamkiewicz infarction 133
cauda equina syndrome 136–138
diagnosis 134, 135, 136, 137, 138
dural arteriovenous fistulas 132–133
epidural abscess 133–134, 136
intermedullary arteriovenous malformations 133
metastases 138–139
neoplastic disorders 138–139
neuroanatomy/examination findings 127–129, 130
primary tumors 139
transverse myelitis 134–136
treatment/prognosis 134–136, 138, 139
vascular myelopathies 132–133
spinal cord injury (SCI) 129–131
treatment/prognosis 131
spinal cord tumors 138–139
spinal shock 129, 130
spinocerebellar tract 128
spinothalamic tract (STT) 128
SREAT (steroid responsive encephalopathy associated with autoimmune thyroiditis) 143
SSEP (somatosensory evoked potentials) 186
Staphylococcus aureus 117, 121
see also seizures
case study 47
diagnosis 40
EEG ictal patterns 43–44
EEG interictal patterns 41–43, 45
electroencephalograms 41–44
myoclonic 184
pathophysiology 40–41
preclampsia 178
treatment 46–47
stenosis, large artery 160–161
steroid responsive encephalopathy associated with autoimmune thyroiditis (SREAT) 143
steroids 54. see also dexamethasone
encephalitis 120
myasthenia gravis 57–58
neuromuscular disorders 60
spinal cord injury 131
STICH (surgical trial in intracerebral hemorrhage) 19
Streptococcus pneumoniae 117, 118
stretch reflexes 52
stroke 1, 13
acute post-operative 170
alternative diagnoses/stroke mimics 3–5, 9
ancillary tests 5
anti-thrombotic therapy 12
bedside assessment 1–2, 3–4
blood pressure management 11–12
carotid revascularization 12–13
and coma 69
diagnosis 1–7, 3–4
endovascular treatment 9–11
ethical issues 210
glucose management 11
hemorrhagic 16
imaging features 102
intravenous thrombolysis 7–9
neurohospitalist opportunities/specialisms 220–221
neuroimaging 5–7
neuro-oncology in-patient management 111–112
pre-operative neurohospitalist consultation 160–162
and seizures 31
spinal cord 132–133
systemic lupus erythematosus 144
time of onset 1
and coma 69
treatment 7–11
STT (spinothalamic tract) 128
subacute infarcts 102
subarachnoid hemorrhage (SAH) 1, 20
and coma 70, 73
diagnosis 21
epidemiology 20
initial assessment/management 21–23
natural history 20–21
post-procedural management 23–24
procedural management 23
vasospasm 23–24, 24–25
subdural hematoma (SDH) 155
substituted judgments 209
sun-downing 80
surgery
epileptic patients 38–39
glioblastoma 105
intracerebral hemorrhage 19
traumatic brain injury 155
surgical trial in intracerebral hemorrhage (STICH) 19
surrogate decision-making 208–209
susceptibility-weighted CT scanning 6

© in this web service Cambridge University Press
www.cambridge.org
### Index

<table>
<thead>
<tr>
<th>Transient epileptic amnesia 79</th>
<th>Transient global amnesia (TGA) 78–79, 80</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syntropin hypersecretion (SIADH) 24, 89</td>
<td></td>
</tr>
<tr>
<td>Systemic lupus erythematosus (SLE) 143–145</td>
<td></td>
</tr>
<tr>
<td>Takotsubo 22–23</td>
<td></td>
</tr>
<tr>
<td>TB (tuberculous) meningitis 124</td>
<td></td>
</tr>
<tr>
<td>TBI, see traumatic brain injury</td>
<td></td>
</tr>
<tr>
<td>TCD (transcranial Doppler ultrasound) 25, 200</td>
<td></td>
</tr>
<tr>
<td>Telemedicine 221</td>
<td></td>
</tr>
<tr>
<td>Telemetry 78</td>
<td></td>
</tr>
<tr>
<td>Temperature modulation, TBI management 155. see also therapeutic hypothermia</td>
<td></td>
</tr>
<tr>
<td>Teratogenesis 175–176, 177</td>
<td></td>
</tr>
<tr>
<td>TGA, see transient global amnesia</td>
<td></td>
</tr>
<tr>
<td>Thiamine deficiency 68</td>
<td></td>
</tr>
<tr>
<td>Thrombectomy, mechanical 10</td>
<td></td>
</tr>
<tr>
<td>Thrombolysis ethical issues 210</td>
<td></td>
</tr>
<tr>
<td>– 3 hours post-stroke onset 7–9</td>
<td></td>
</tr>
<tr>
<td>– 3–5 hours post-stroke onset 9</td>
<td></td>
</tr>
<tr>
<td>Thrombotic thrombocytopenia purpura (TTP) 145</td>
<td></td>
</tr>
<tr>
<td>Thunderclap headache 1</td>
<td></td>
</tr>
<tr>
<td>Thyroid disorders 142–143</td>
<td></td>
</tr>
<tr>
<td>Tick carriers, viral meningitis 118</td>
<td></td>
</tr>
<tr>
<td>Tilt table testing 78</td>
<td></td>
</tr>
<tr>
<td>TM (transverse myelitis) 134–136</td>
<td></td>
</tr>
<tr>
<td>TMZ (oral alkylating agent) 106</td>
<td></td>
</tr>
<tr>
<td>Toxic neuropathies 56, 58–59</td>
<td></td>
</tr>
<tr>
<td>Toxoplasmosis 122–123</td>
<td></td>
</tr>
<tr>
<td>Transcranial Doppler ultrasound (TCD) 25, 200</td>
<td></td>
</tr>
<tr>
<td>Upper limb weakness 166–167</td>
<td></td>
</tr>
<tr>
<td>Upper motor neurons (UMNs) 127–128</td>
<td></td>
</tr>
<tr>
<td>Uremia 68</td>
<td></td>
</tr>
<tr>
<td>Vaccine, HIB 117</td>
<td></td>
</tr>
<tr>
<td>Valproate 37</td>
<td></td>
</tr>
<tr>
<td>Pregnancy 38</td>
<td></td>
</tr>
<tr>
<td>Teratogenesis 176, 177</td>
<td></td>
</tr>
<tr>
<td>Vaptans (non-peptide arginine-vasopressin receptor antagonists) 89</td>
<td></td>
</tr>
<tr>
<td>Vascular myelopathies, spinal cord disease 132–133</td>
<td></td>
</tr>
<tr>
<td>Vascular neurology, neurohospitalist opportunities/specialisms 220–221</td>
<td></td>
</tr>
<tr>
<td>Vasculitic neuropathies 55</td>
<td></td>
</tr>
<tr>
<td>Vasospasm, cerebral 23–24, 24–25</td>
<td></td>
</tr>
<tr>
<td>Vegetative states 74, 75</td>
<td></td>
</tr>
<tr>
<td>Diagnosis 74</td>
<td></td>
</tr>
<tr>
<td>Ethical issues 211</td>
<td></td>
</tr>
<tr>
<td>Prognosis 75</td>
<td></td>
</tr>
<tr>
<td>Ventilators/ventilation 64–65, 192, 207–208</td>
<td></td>
</tr>
<tr>
<td>Ventral horn 128</td>
<td></td>
</tr>
<tr>
<td>Verapamil 24</td>
<td></td>
</tr>
<tr>
<td>Viral meningitis 118–119</td>
<td></td>
</tr>
<tr>
<td>Visual loss, post-operative 170</td>
<td></td>
</tr>
<tr>
<td>Branch retinal artery occlusion 171</td>
<td></td>
</tr>
<tr>
<td>Central retinal artery occlusion 171</td>
<td></td>
</tr>
<tr>
<td>Cortical blindness 171</td>
<td></td>
</tr>
<tr>
<td>Ischemic optic neuropathy 170–171</td>
<td></td>
</tr>
<tr>
<td>Visual neglect 5</td>
<td></td>
</tr>
<tr>
<td>Vitamin D deficiency 93</td>
<td></td>
</tr>
<tr>
<td>Vitamin K antagonists 12</td>
<td></td>
</tr>
<tr>
<td>Waiving informed consent 207</td>
<td></td>
</tr>
<tr>
<td>Warfarin 18</td>
<td></td>
</tr>
<tr>
<td>Weakness 52</td>
<td></td>
</tr>
<tr>
<td>Lower limb 168</td>
<td></td>
</tr>
<tr>
<td>Post-surgical 165, 166</td>
<td></td>
</tr>
<tr>
<td>Upper limbs 166–167</td>
<td></td>
</tr>
<tr>
<td>West Nile Virus 53</td>
<td></td>
</tr>
<tr>
<td>Whole brain radiation therapy 108</td>
<td></td>
</tr>
<tr>
<td>Withdrawing/withholding treatment distinction 208</td>
<td></td>
</tr>
<tr>
<td>World Federation of Neurological Surgeons (WFNS) scale 22</td>
<td></td>
</tr>
<tr>
<td>Wrist drop 168, see also upper limb neuropathy</td>
<td></td>
</tr>
<tr>
<td>Yale delirium prevention trial 83</td>
<td></td>
</tr>
</tbody>
</table>