Index

abdominal trauma
anatomic considerations, 227
evaluation, 22, 228–30, 269
intraoperative management, 230–36
key points, 237–38
mechanisms of injury, 227–28
non-operative management
anesthetic considerations, 236–37
preoperative management, 228–30
acetaminophen, 146
acid–base disturbances, 127, 149–50, 282
acute respiratory distress syndrome (ARDS), 147, 211
advanced trauma life support (ATLS) protocol, 18
Aintree intubation catheter, 36, 37–38, 81
air embolism, 141, 216–17
airway management, See also awake intubation, fiberoptic endoscopy/fiberoptic bronchoscope (FOB), rapid sequence induction (RSI), surgical airway
abdominal trauma, 230
airway exchange, 36, 37–38, 39, 217
ASA difficult airway algorithm modified for trauma, 33–34
burn injuries, 89, 255–56, 257, 259, 293
causes of obstruction, 20
cervical spine immobilization, 33, 84, 176, 189
cricoid pressure (CP), 32–33, 82
equipment, 30, 34–40, 79, See also specific equipment
geriatric patients, 280–81, 286
initial evaluation and management, 17, 18, 19, 20, 28–30
key points, 41–42
maxillofacial trauma, 203–8
medications, 30–32, 81–84, See also specific drugs/drug types
ocular trauma, 200, 201
oxygenation, 32
pediatrics, 263–66
penetrating neck injury, 40–41
pregnant patients, 293, 294
prehospital care, 11
spinal cord injury (SCI), 189–90
tracheal intubation indications and procedure summary, 29–30
traumatic brain injury (TBI), 175–76
alkalosis, 150
Allen test, modified, 63
aminocaproic acid, 192
amputation, traumatic, 247
anticoagulant drugs, 174, 281, 282, 285
anticonvulsant drugs, 175
antifibrinolytic agents, 192
antiplatelet agents, 174, 281
anxiolytic agents, burn injuries, 258
aortic injury/dissection, 89, 136–37, 224–25
apirotoxin, 192
arterial catheterization, 62–64, 120–21, 177
arthritis, 280
aspiration prophylaxis, 32–33, 81–84, 200
asystole, temporary, 221
atelectasis, 147, 148, 281
atrial septal defect (ASD), 141
t戶ologous blood salvage devices (cell saver), 192, 233
hypovolemia, 84–87
key points for general anesthesia, 93–94
monitoring in general anesthesia (overview), 78, See also monitoring musculoskeletal trauma, 240
normothermia maintenance, 80, 90–93
ocular trauma, 200–1
pediatric patients, 271–73
pregnant patients, 296–97
preoperative preparation in general anesthesia, 76–78 regional, See regional anesthesia
shock, 52
summary of agents’ physiologic effects, 81
angiography, 24
angiographic embolization, 236–37, 245–46
antecubital vein, cannulation, 57
anterol cord syndrome, 186
antibiotic therapy, 152–53, 165, 246, 258
anticoagulant drugs, 174, 281, 282, 285
antivenom drugs, 175
antifibrinolytic agents, 192
antiplatelet agents, 174, 281
anxiolytic agents, burn injuries, 258
aortic injury/dissection, 89, 136–37, 224–25
apine, 192
arterial catheterization, 62–64, 120–21, 177
arthritis, 280
aspiration prophylaxis, 32–33, 81–84, 200
asystole, temporary, 221
atelectasis, 147, 148, 281
atrial septal defect (ASD), 141
autologous blood salvage devices (cell saver), 192, 233
© in this web service Cambridge University Press
www.cambridge.org
<table>
<thead>
<tr>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVPU assessment, 11</td>
</tr>
<tr>
<td>awake intubation, 33, 34, 39, 40–41, 83</td>
</tr>
<tr>
<td>maxillofacial trauma, 205</td>
</tr>
<tr>
<td>awareness monitoring, 119–20</td>
</tr>
<tr>
<td>axillary artery, cannulation, 64</td>
</tr>
<tr>
<td>axillary block, 104–5</td>
</tr>
<tr>
<td>bag-valve-mask (BVM) ventilation, 32</td>
</tr>
<tr>
<td>base deficit, 127, 282</td>
</tr>
<tr>
<td>benzodiazepines, reversal of, 145</td>
</tr>
<tr>
<td>beta-blockers, 174, 281</td>
</tr>
<tr>
<td>bicycle trauma, mechanism of injury, 9</td>
</tr>
<tr>
<td>bispectral index (BIS) monitor, 120</td>
</tr>
<tr>
<td>blast trauma, mechanism of injury, 10</td>
</tr>
<tr>
<td>bleeding, See hemorrhage/bleeding</td>
</tr>
<tr>
<td>blood pressure (BP), See also hypertension, hypotension</td>
</tr>
<tr>
<td>estimation from pulse, 127–28</td>
</tr>
<tr>
<td>monitoring, 117, 120–21, 270</td>
</tr>
<tr>
<td>pregnancy, 289</td>
</tr>
<tr>
<td>shock, 44, 72–73</td>
</tr>
<tr>
<td>traumatic brain injury (TBI), 178</td>
</tr>
<tr>
<td>blood transfusion</td>
</tr>
<tr>
<td>abdominal trauma, 230</td>
</tr>
<tr>
<td>burn injuries, 260</td>
</tr>
<tr>
<td>general anesthesia OR setup, 79</td>
</tr>
<tr>
<td>pediatric patients, 273</td>
</tr>
<tr>
<td>pregnant patients, 294</td>
</tr>
<tr>
<td>shock management, 69–75</td>
</tr>
<tr>
<td>spinal cord injury (SCI), 192, 193</td>
</tr>
<tr>
<td>traumatic brain injury (TBI), 179</td>
</tr>
<tr>
<td>types of blood products, 70–71</td>
</tr>
<tr>
<td>warming of blood products, 90</td>
</tr>
<tr>
<td>blunt trauma, 202, 210, 227–28, 291, See also specific trauma types</td>
</tr>
<tr>
<td>body cavity lavage, re-warming, 92</td>
</tr>
<tr>
<td>body temperature, See also hypothermia</td>
</tr>
<tr>
<td>burn injuries, 260</td>
</tr>
<tr>
<td>geriatric patients, 278, 283</td>
</tr>
<tr>
<td>monitoring, 118–19, 271</td>
</tr>
<tr>
<td>normothermia maintenance in general anesthesia, 80, 90–93</td>
</tr>
<tr>
<td>brachial artery, cannulation, 64</td>
</tr>
<tr>
<td>brachial pulse, 101–2</td>
</tr>
<tr>
<td>bradycardia, in spinal cord injury (SCI), 191</td>
</tr>
<tr>
<td>breathing, See also airway management</td>
</tr>
<tr>
<td>geriatric patients, 281</td>
</tr>
<tr>
<td>initial evaluation and management, 19, 21</td>
</tr>
<tr>
<td>pediatric patients, 263–66</td>
</tr>
<tr>
<td>pregnant patients, 293, 294</td>
</tr>
<tr>
<td>prehospital care, 11</td>
</tr>
<tr>
<td>bronchial blockers, 218</td>
</tr>
<tr>
<td>Broselow Pediatric Emergency Tape, 263</td>
</tr>
<tr>
<td>Brown-Sequard syndrome, 186</td>
</tr>
<tr>
<td>burns</td>
</tr>
<tr>
<td>anesthetic agents and, 89–90</td>
</tr>
<tr>
<td>chemical, 159–60, 257</td>
</tr>
<tr>
<td>electrical, 256–57</td>
</tr>
<tr>
<td>key points, 262</td>
</tr>
<tr>
<td>maxillofacial trauma, 202</td>
</tr>
<tr>
<td>mortality risk factors, 253</td>
</tr>
<tr>
<td>pathophysiology, 253–57</td>
</tr>
<tr>
<td>pharmacology, 257–59</td>
</tr>
<tr>
<td>pregnant patients, 293</td>
</tr>
<tr>
<td>specific management considerations, 259–62</td>
</tr>
<tr>
<td>calcium channel blockers, 281</td>
</tr>
<tr>
<td>capnography, 117–18, 127–28</td>
</tr>
<tr>
<td>carbon dioxide tension, arterial (P_{CO_2}), 117–18, 290</td>
</tr>
<tr>
<td>carbon monoxide (CO) intoxication, 89, 160, 256, 293</td>
</tr>
<tr>
<td>cardiac arrhythmias, 118, 149, 221</td>
</tr>
<tr>
<td>cardiac injuries, 88–89, 217–21, 223</td>
</tr>
<tr>
<td>cardiac output (CO), 122–25, 140, 289</td>
</tr>
<tr>
<td>cardiac tamponade, 89, 134–36, 221–24</td>
</tr>
<tr>
<td>cardiopulmonary bypass (CPB), 92, 221</td>
</tr>
<tr>
<td>cardiopulmonary resuscitation (CPR), 13, 297</td>
</tr>
<tr>
<td>cardiovascular function, factors affecting, 91, 276–77, 289</td>
</tr>
<tr>
<td>cauda equina syndrome, 186</td>
</tr>
<tr>
<td>central cord syndrome, 186</td>
</tr>
<tr>
<td>central venous access, 58–62, 76–77</td>
</tr>
<tr>
<td>burn injuries, 260</td>
</tr>
<tr>
<td>geriatric patients, 282</td>
</tr>
<tr>
<td>infection rates, 153</td>
</tr>
<tr>
<td>pediatric patients, 271</td>
</tr>
<tr>
<td>traumatic brain injury (TBI) management, 177</td>
</tr>
<tr>
<td>central venous pressure (CVP), 80, 121, 138</td>
</tr>
<tr>
<td>cerebral blood flow (CBF), 176–77</td>
</tr>
<tr>
<td>cerebral metabolic rate for oxygen (CMRO_2), 87, 88, 176, 177</td>
</tr>
<tr>
<td>cerebral perfusion pressure (CPP), 125, 178</td>
</tr>
<tr>
<td>cerebrospinal fluid pressure (CSFp), 191, 225</td>
</tr>
<tr>
<td>cervical spine immobilization, 33, 84, 176, 189</td>
</tr>
<tr>
<td>pediatric patients, 269, 271</td>
</tr>
<tr>
<td>cetrhin, 196</td>
</tr>
<tr>
<td>chemical exposure, 156–60, 168–69, 257</td>
</tr>
<tr>
<td>chest trauma</td>
</tr>
<tr>
<td>anesthetic considerations of specific types, 211–25</td>
</tr>
<tr>
<td>geriatric patients, 285</td>
</tr>
<tr>
<td>initial examination, 22, 269</td>
</tr>
<tr>
<td>key points, 225–26</td>
</tr>
<tr>
<td>mechanism of injury, 209–10 overview, 209</td>
</tr>
<tr>
<td>pathophysiology, 210–11</td>
</tr>
<tr>
<td>chest tube, 20, 216</td>
</tr>
<tr>
<td>chest X-ray (CXR), 211, 215, 216, 229</td>
</tr>
<tr>
<td>circulation, See also hemorrhage/bleeding, hypovolemia, volume status</td>
</tr>
<tr>
<td>geriatric patients, 281–82</td>
</tr>
<tr>
<td>initial evaluation and management, 19, 21, 266–68</td>
</tr>
<tr>
<td>pediatric patients, 266–68</td>
</tr>
<tr>
<td>pregnant patients, 294</td>
</tr>
<tr>
<td>prehospital care, 11–13</td>
</tr>
<tr>
<td>Clostridium difficile, 153</td>
</tr>
<tr>
<td>clotting factors, 70, 71, 192, 289</td>
</tr>
<tr>
<td>coagulopathy, hypothermia complications, 91</td>
</tr>
<tr>
<td>postoperative care, 152</td>
</tr>
<tr>
<td>Index</td>
</tr>
<tr>
<td>-------</td>
</tr>
</tbody>
</table>

- regional anesthesia, 96
- shock, 66–75
- traumatic brain injury (TBI), 179–80
- cognitive dysfunction, 278
- colloid, hemostatic resuscitation, 70
- Combitube, the, 38–39
- compartment syndrome, 97, 235, 248
- computed tomography (CT) scans
- abdominal trauma, 230
- aortic dissection, 137
- initial evaluation and management, 23–24
- traumatic brain injury (TBI), 172, 174
- computed tomography angiography (CTA), 24
- consent, regional anesthesia, 95
- continuous arteriovenous re-warming, 92
- costs, of trauma, 6
- craniectomy, decompressive, 172, 181
- craniotomy, 172–81
- cricothyroidotomy, 40, 82
- See also surgical airway crisis resource management (CRM), 26
- crush injuries, 248–50
- cryoprecipitate, 71
- crystalloids, hemostatic resuscitation, 70
- C-section, emergent, 297
- cuff-leak test, 257
- cytokine therapy, 167
- damage control concept of, 25–26, 93
- general anesthesia for, 90–93
- laparotomy, 233–34
- shock resuscitation, 53, 67–74
- decontamination, 158
- deep venous thrombosis (DVT), 152
- delirium, 146, 278, 283
- dermatomes, 101, 107
- desflurane, 86, 87
- diaphragm injuries, 235
- diarrhea, 153
- disability (neurologic), 13, 19, 21–22, See also neurological function
- disseminated intravascular coagulation (DIC), 179–80
- diuretic therapy, 174
- dobutamine, 191, 274
- domestic violence, 291
- dopamine, 274
- dorsalis pedis artery, cannulation, 64
- double lumen tube (DLT), 217
- echocardiography advances in, 130
- chest trauma, 221–22
- conclusions on trauma utilization, 143
- contraindications for transesophageal (TEE), 132
- diagnostic applications, 132–38
- indications for, 80, 130–32
- key points, 143
- monitoring applications, 138–42
- speckle-tracking (STE), 140
- transesophageal echocardiography (TEE) overview, 119
- edema, 147, 159, 254, 255–56
- elbow block, 105–6
- electrical burns, 256–57
- electrocardiography (ECG), 118, 270, 289
- electrolyte disturbances, 150, 258
- electrophysiological monitoring, 193–95
- EMS system, 10–11
- endocrine function, pregnancy-related changes, 291
- endothelial function, shock pathophysiology, 66–67
- end-tidal carbon dioxide (EtCO₂), 117–18, 127–28, 271
- epidemiology, trauma, 1–7
- epidural block, 112–13, 213–14, 243, See also neuraxial blocks
- epidural bolt, 126
- ephedrine, 274
- etomidate, 30–31
- burns, 260
- hypovolemia, 87
- ocular trauma, 200
- pediatric patients, 271
- physiologic effects, 85
- traumatic brain injury (TBI), 88, 176
- evoked potentials, 80, 193–95
- explosion trauma, mechanism of injury, 10
- exposure, 13, 19, 21
- external jugular vein, cannulation, 58
- extremities, initial examination, 23
- falls, 7–8, 275–80, 291
- fentanyl, 200
- fasciotomy, 248
- FAST examination, 23, 132–33, 229
- fat embolism, 141, 147, 248
- femoral artery, cannulation, 64
- femoral nerve block, 108
- femoral vein, cannulation, 61, 76
- femur fracture management, 243
- fetal evaluation, 294–95
- fiberoptic endoscopy/fiberoptic bronchoscope (FOB), 33, 37–38, 39–41
- maxillofacial trauma, 205, 207
- fibrinogen, 71
- flail chest, 212, 213–14
- fluid accumulation, FAST exam, 23
- fluid creep, 49
- fluid management burn injuries, 254–55
- chest trauma, 213
- fluid bolus responsiveness monitoring, 123–25
- general anesthesia OR setup, 79
- geriatric patients, 282, 284
- musculoskeletal trauma, 242
- pediatric patients, 267–68, 273–74
- postoperative care, 149–50
- pregnant patients, 294
- prehospital phase, 13
- shock, 48–51, 52, 69–70
- spinal cord injury (SCI), 191
fluid management (cont.)
- systemic inflammatory response syndrome (SIRS), 153
- traumatic brain injury (TBI), 178–79
- warming of IV fluids, 90, 92
- flumazenil, 145
- fractures, See musculoskeletal trauma, specific fractures
- gastric tube, general anesthesia, 82
- gastrointestinal function/injuries, 235, 236, 290
- general anesthesia, See anesthetic agents, management
- geriatric patients
  - age-related physiology changes, 275
  - anesthesia for common injuries, 283–86
  - etiology of trauma, 275–80
  - intraoperative management, 280–83
  - key points, 286–87
  - outcomes, 286
  - preoperative evaluation, 270
- Glasgow Coma Scale (GCS), 21–22, 125, 172, 268
- Glidescope, 217, 218
- gunshot wounds (GSW)
  - abdominal trauma, 228
  - cause of death statistics, 3
  - chest trauma, 209–10, 222–23
  - mechanism of injury, 9–10
- pregnant patients, 293
- head injury, See traumatic brain injury (TBI)
- head, initial examination, 22
- heart rate, monitoring, 117, 127–28
- heavy metal toxicity, 160
- helmet laws, 6–7
- hematocrit, 288
- hemodialysis/hemofiltration, rewarming, 92
- hemorrhage/bleeding, See also coagulopathy
  - abdominal trauma, 230–31, 233
  - anticoagulation drugs, 282, 285
- hemorrhagic shock, See shock
  - initial evaluation and management, 21
  - intracranial bleeding in geriatric patients, 288
  - maxillofacial injuries, 206
  - pelvic fracture, 243, 245–46
  - prevention in spinal cord injury (SCI), 191–93
  - sites of life-threatening, 44
  - hemostatic agents, topical, 68
  - hemostatic resuscitation, See damage control hemotherax, 133–34, 216
  - hepatic function, hypothermia effects, 91
  - herbal remedies, platelet function effect, 174
  - hip injuries, 246, 284
  - hydrogen cyanide (HCN) toxicity, 160
  - hydrogen fluoride, 159
  - hydrogen sulfide (H2S) toxicity, 160
  - hypodermorphone, 146
  - hyperglycemia, traumatic brain injury (TBI), 174, 180
  - hyperkalemia, 150
  - hypoglycemia, traumatic brain injury (TBI), 174, 180
  - hypocalcemia, 150
  - hypokalemia, 150
  - hypotension
    - damage control surgery goals, 234
    - postoperative care, 148
    - regional anesthesia, 95–96
    - shock, 72–73
    - spinal cord injury (SCI), 190–91
  - supine hypotension syndrome, 289
  - hypothermia
    - consequences and complications of, 90, 119
    - geriatric patients, 278, 283
    - management in general anesthesia, 81, 90–93, 119
    - pediatric patients, 268
  - postoperative care, 154
  - therapeutic, 175, 180–81, 196
  - hypovolemia
    - anesthetic agents and, 84–87
    - burn injuries, 254–55
    - echocardiography, 137–38
    - geriatric patients, 282
    - pediatric patients, 266–68
    - regional anesthesia, 95–96
  - induction agents, See anesthetic agents, management, specific drugs
  - infection
    - hypothermia effect on resistance, 91
    - irradiated patient risk, 165
    - open fractures, 246–47
    - postoperative, 152–54
    - regional anesthesia risk, 97
  - inferior vena cava (IVC), CVP estimation from diameter assessment, 138
  - inhalational injuries, 255–56
- initial evaluation and management
  - before patient arrival, 17–18
  - key points, 27
  - overview of anesthesiologist’s role, 16
  - surgical management prioritization, 24–26
  - teamwork and crisis resource management, 26
  - trauma care prioritization, 18–24
- injury
  - mechanisms of, 7–10,
  - See also specific trauma types
  - phases of, 1
  - intercostobrachial nerve block, 102
  - internal jugular vein, cannulation, 59–61, 77
  - interscalene block, 102–3
  - intracardiac shunting, 140–41
  - intracranial pressure (ICP)
    - anesthetic agents’ effects, 87–88, 176–77
    - manifestations of increased, 172
    - monitoring, 80, 125–26, 175, 177, 271
  - traumatic brain injury (TBI)
    - fluid management, 178–79
intraocular pressure (IOP), 199, 200–1
intraosseous (IO) access, 62, 267
intraperitoneal injuries, 235–36
intrapulmonary shunt, 140–41, 147
intrathoracic pressure monitoring, 191
intubation, See airway management
ischemia, 66–67, 139–40, 249
isoflurane, 86, 87
jasmine, 113
ketamine, 30–31
burns, 260
cardiac injury, 89
hypovolemia, 87
ocular trauma, 200
pediatric patients, 271
physiologic effects, 85
postoperative pain management, 146
traumatic brain injury (TBI), 88, 176
ketorolac, 146
kidney injury, 150–51, 236
lactate levels/lactic acidosis, 126–27, 150
laparotomy, 232–35
laryngeal mask airway (LMA), 36–38, 205
laryngeal tube airway (LTA), 39
lateral femoral cutaneous nerve block, 108–9
Le Fort fracture classification, 202
left atrial pressure, 122
left ureteral displacement, 294
lewisite (2-chlorovinyl dichloroarsine), 160
lidocaine, 111
lighted stylet/light wand, 205
lipid emulsion therapy, 112
liver trauma, 235
local anesthetic agents, 111–12, 113
lumbar plexus, 106–8
lung injury, 147, 148
lymphopenia, radiation-induced, 168
mannitol, 178–79
manometry, venous, 58
manual in-line immobilization (MILL), 33, 34–35, 189
maxillofacial trauma, 201–8
mean arterial pressure (MAP), 120–21, 125
mechanisms of injury, 7–10, See also specific trauma types
mental status, See neurological function
mepivacaine, 111
metabolic alkalosis, 150
metabolic poisons, 160
metoclopramide, 200
metabolic agents, 147, 148
methylprednisolone, 195
metoclopramide, 200
midazolam, 85, 87–88
musculoskeletal trauma
motorcycle trauma, 6
motor evoked potentials (MEP), 194–95
motor vehicle trauma, 1–3, 7, 8–9, 291
motorcycle trauma, 6–7, 9
musculoskeletal trauma
muscle relaxants, 116
methylprednisolone, 195
myocardial ischemia, 138, 217–21
myocardial infarction, 118, 139, 149
myocardial ischemia, echocardiography, 139–40
myoclonus, prevention, 88
naloxone, 145
nasotracheal intubation, 205, 207
neck trauma, 22, 40–41, 204, See also cervical spine immobilization; spinal cord injury (SCI)
necrotizing fasciitis, 217
needle decompression, tension pneumothorax, 11, 20, 216
nerve agent exposure, 160
nerve injury, 96, 241
nerve stimulator, 120
neuraxial blocks, 96, 112–13, 232, See also regional anesthesia
neurological function
age-related CNS changes, 278
ICP monitoring indications, 125
initial evaluation and management, 19, 21–22, 172
pediatric patients, 268
postoperative care, 145–46
prehospital care, 11, 13
neuromuscular blocking drugs (NMHs)
abdominal trauma, 231
airway management, 31–32
burns, 90, 258
monitoring, 120
ocular trauma, 201
pediatric patients, 272
postoperative problems, 145
spinal cord injury (SCI), 190
traumatic brain injury (TBI), 177
neuropathic pain, 242
perioperative preparation, 240–43
timing of surgical treatment, 24–25, 239
mustard (bis-(2-chloroethyl) sulfide), 160
myocardial contusion, 138, 217–21
myocardial infarction, 118, 139, 149
myocardial ischemia, echocardiography, 139–40
myoclonus, prevention, 88
naloxone, 145
nasotracheal intubation, 205, 207
neck trauma, 22, 40–41, 204, See also cervical spine immobilization; spinal cord injury (SCI)
necrotizing fasciitis, 217
needle decompression, tension pneumothorax, 11, 20, 216
nerve agent exposure, 160
nerve injury, 96, 241
nerve stimulator, 120
neuraxial blocks, 96, 112–13, 232, See also regional anesthesia
neurological function
age-related CNS changes, 278
ICP monitoring indications, 125
initial evaluation and management, 19, 21–22, 172
pediatric patients, 268
postoperative care, 145–46
prehospital care, 11, 13
neuromuscular blocking drugs (NMHs)
abdominal trauma, 231
airway management, 31–32
burns, 90, 258
monitoring, 120
ocular trauma, 201
pediatric patients, 272
postoperative problems, 145
spinal cord injury (SCI), 190
traumatic brain injury (TBI), 177
neuropathic pain, 242
nitrous oxide (N₂O)
abdominal trauma, 232
hypovolemia, 87
ocular trauma, 201
physiologic effects, 86
traumatic brain injury (TBI), 88, 177
non-fatal injuries, incidence and causes, 3
non-steroidal anti-inflammatory drugs (NSAIDs), 146, 261
nutritional support, 152, 167
obstetric conditions, 295–96
ocular trauma, 198–201, 208
oculocardiac reflex (OCR), 199
ondansetron, 200
one-lung ventilation (OLV), 217
open fractures, 246–47, 283
operating room (OR), setup, 77–78, 270–71
opioids, 113, 177, 261
osteoporosis, 281
oxygen debt, 44, 126–27
oxygen toxicity, 148
oxygenation, 32, 175, 176, 294, See also preoxygenation; specific monitoring techniques
oxyhemoglobin saturation, monitoring, 117, 123
pain management
burn injuries, 258, 261–62
chest trauma, 213–14
musculoskeletal trauma, 242–43
postoperative care, 146–47
pancreatic injuries, 236
paravertebral block, 113–14
patent foramen ovale (PFO), 141
patient-controlled analgesia (PCA), 146
pedestrian trauma, mechanism of injury, 9
pediatrics
anesthetic management, 270–73
common causes of injury, 263
initial assessment and resuscitation, 263–70
intraoperative fluid management, 273–74
key points, 274
postoperative care, 274
pelvic examination, 22
pelvic fractures, 229, 237, 243–46, 291
penetrating trauma, 9–10, 209–10, 228, 293,
See also specific trauma types
pericardial effusion, 134–36
peripheral nerve blocks concerns in trauma patient, 95–97
local anesthetic and catheter placement selection, 111
local anesthetic toxicity, 111–12
lower extremity, 106–11
musculoskeletal trauma, 243
ultrasound guidance, 97–100
upper extremity, 100–6
utilization in trauma, 95
peripheral venous access, 56–58
peritoneal lavage, diagnostic, 229, 296
personal protective equipment (PPE), 158
pesticide exposure, 160
phenylephrine, 191, 273
plasma/fresh frozen plasma (FFP), 69–71, 72–74
platelets, 69–70, 71, 73
pneumonia, ventilator-associated (VAP), 153
pneumomediastinum, 11, 20, 104,
133, 215–16
posterior cord syndrome, 186
postoperative care
cardiovascular considerations, 148–49
fluid and electrolyte considerations, 149–50
general approach, 145
hematologic concerns, 152
hypothermia, 154
infection and sepsis, 152–54
key points, 154–55
neurologic considerations, 145–46
nutrition, 152
pain management, 146–47
pediatric patients, 274
pulmonary considerations, 147
renal considerations, 150–51
ventilatory support, 147–48
powered air-purifying respirators (PAPR), 158
pregnant patients
assessment and management, 293–97
key points, 298
mechanisms of injury, 288, 291–93
physiology and anatomy, 288–91
prehospital care, 10–15, 17
premedication, pediatrics, 270
preoperative preparation, general, 76–78
preoxygenation, 32, 82, 205, 277, 281
prevention strategies, 3, 6–7
primary survey, 19–22, 263–68
prioritization, initial trauma care, 18–24
propofol, 30–31
burns, 260
hypovolemia, 84–87
ocular trauma, 200
physiologic effects, 85
traumatic brain injury (TBI), 87–88, 176
prothrombin complex concentrates (PCCs), 71
Prussian blue, 164
pulmonary artery (PA)
catheter, 80, 121–22
pulmonary artery occlusion (wedge) pressure (PAOP), 122
pulmonary contusion, 211–13, 220, 281
pulmonary edema, 147, 159
pulmonary embolism (PE), 141, 147
pulse oximetry, 117, 271
pulse pressure variation (PPV), 124, 125
pulse, monitoring, 127–28
radial artery, cannulation, 63–64
radiologic exposure, 156, 158, 160–69, 296
rapid sequence induction (RSI), See also airway management; anesthetic agents/management
index
tissue perfusion, serum markers, 126–27
total intravenous anesthesia (TIVA), 194, 201, 207
traceal tube introducers, 29, 36, 190
tracheobronchial injury, 214–15
tracheostomy, 40, See also surgical airway
tranexamic acid, 71–72, 192
transesophageal/transthoracic echocardiography, See echocardiography
transtracheal jet ventilation, 206
trauma area setup, 17–18
traumatic brain injury (TBI) capnography, 118
electrolyte disturbances, 150 emergence from anesthesia, 181–82
epidemiology, 171 geriatric patients, 285–86
ICP monitoring indications, 125
intraoperative management, 87–88, 174–81, 182
pathophysiology, 171–72
preoperative considerations, 172–74, 182
triage, 13–14

twitch monitor, 120
ultrasound guidance regional anesthesia, 97–100, See also specific blocks/procedures
vascular cannulation, 55–56, 59, 60–61
Univent, 218
urinary tract infection, catheter-associated, 153
urine output, monitoring, 255, 257, 260, 271
vaccination, 165, 246–47
vaginal examination, 229
valvular regurgitation/insufficiency, 137–38, 140
vascular cannulation abdominal trauma, 230–31
arterial access, 62–64
associated bloodstream infections, 153
burn injuries, 260
factors influencing flow rate, 55, 57
general anesthesia preparation, 76–77
geriatric patients, 282
initial management, 17
key points, 64
pediatric patients, 267, 271
ultrasound guidance, 55–56, 59, 60–61
venous access, 56–62, 64
vascular injury, 241, 247
vasopressors, 52, 191
venous access, 56–62, 64
venous saturation, monitoring, 123
ventilation (mechanical) capnography, 117–18
chest trauma, 212, 214, 215, 217
complications, 148, 153
equipment setup, 17, 79
one-lung ventilation (OLV), 217
postoperative care, 147–48
prehospital care, 11
traumatic brain injury (TBI), 176
ventricular catheters, 126
ventricular function, echocardiography, 139
videolaryngoscopy, 34–36, 38, 190
volume status, 121, 138–39, See also circulation; hypovolemia
wake-up test, 193
whole blood, hemostatic resuscitation, 69–70
wound care/healing, 68, 91, 167–68
Wuscope, 217, 218