

- Yamaguchi, S., 204
 Yamamoto, S., 548
 Yamanaka, A., 92
 Yamashita, K., 688
 Yanarates, O., 560
 Yang, H.-S., 67
 Yao, R., 636
 Yavuz, S., 941
 Yazbeck, P., 418
 Yazigi, A., 77, 418
- Ye, L., 168
 Yii, M., 455
 Yildirim, V., 383
 Yildiz, O., 560
 Yilmaz, M., 337
 Yoganathan, T., 192
 Yokoyama, T., 688
 Yuki, K., 592, 748
- Zabala, L.M., 945
 Zaccaria, F., 108
- Zangrillo, A., 27, 543, 646
 Zeeni, C., 418
 Zhang, L., 377
 Zhu, L., 565
 Zhu, T., 168
 Zick, G., 267
 Ziegler, A., 435
 Zimmermann, A., 388
 Zollinger, A., 236, 675
 Zuk, J., 406

SUBJECT INDEX

- Abscess, aortic root, 446–448
 Acetaminophen, for chronic pain, after thoracic surgery, 898
 N-Acetyl-beta-D-glucosaminidase, in kidney dysfunction assessment, 122–132
 Activated coagulation time, in anticoagulation management, 47–52
 Acute coronary syndrome
 in aortic aneurysm repair, 864–867
 aortic root syndrome presenting as, 446–448
 respiratory failure in, 111–114
 Acute normovolemic hemodilution, in cardiac surgery, in HIV infection, 474–481
 Acute Physiology and Chronic Health Evaluation
 database of, for performance evaluation, 347–353
 in vascular surgery, 713–718
 Acute respiratory distress syndrome, after cardiac surgery, prone positioning in, 414–417
 Adhesion molecules, in cardiac surgery, 455–467
 Aggregometry, in cardiac surgery, 40–46
 Air embolism, in cavopulmonary connection, 576–580
 Airway compression, by transesophageal echocardiography probe, in pediatric patients, 887–889
 Albumin, for cardiac surgery, vs. hetastarch, 482–491
 Aminocaproic acid, in cardiac surgery, survey on, 662–669
 Anaphylactoid reactions, hetastarch-associated, 487
 Anaphylaxis, drug-induced, 740–743
 Anesthesia, general, angiotensin inhibitor therapy and, 180–186
 Aneurysm
 aortic, repair of
 APACHE in, 713–718
 atrial natriuretic peptide for, 204–209
 coronary vasospasm in, 864–867
 heparin-induced thrombocytopenia in, 732–734
 myocardial performance index in, 706–712
 atrial, 321–323, 636–638
 Angiotensin receptor blockers, intraoperative hypotension due to, 180–186
 Angiotensin-converting enzyme inhibitors
 intraoperative hypotension due to, 180–186
 postoperative, 187–191
 Animal studies
 anesthetic preconditioning, 217–224
 carotid blood-flow velocity, 823–831
 helium preconditioning, 554–559
 Ankylosing spondylitis, endotracheal tube difficulty in, 273–276
 Anticoagulants, for cardiac surgery. *See also* Heparin
 in antiphospholipid syndrome, 735–739
 management of, 47–52
 survey on, 662–669
 Anti-inflammatory agents, in cardiac surgery, 16–22
- Antioxidants, in cardiac surgery, 455–467, 832–839
 Antiphospholipid syndrome, in cardiac surgery, 735–739
 Antiplatelet drugs, preoperative cessation of, with drug-eluting stents, 806–810
- Aorta
 aneurysm of, repair of
 APACHE in, 713–718
 atrial natriuretic peptide for, 204–209
 coronary vasospasm in, 864–867
 heparin-induced thrombocytopenia in, 732–734
 myocardial performance index in, 706–712
 atherosclerosis of, 766–773
 congenital defects of, 98–101
 dissection of
 thrombosis in, 788–789
 transesophageal echocardiography in, 766–773
 surgery on
 in kidney dysfunction, 522–529
 kidney failure after, fenoldopam for, 23–26
 undiagnosed carcinoid tumor in, 573–575
 Aortic arch, interrupted, adult presentation of, 263–266
 Aortic clamp, release of
 pulmonary artery pressure management after, 204–209
 seizures after, 119–121
 Aortic insufficiency, adult presentation of, 157–159
 Aortic root
 abscess of, 446–448
 dilation of, adult presentation of, 157–159
 echocardiographic artifacts involving, 495–496
 replacement of, polyethylene glycol sealant migration in, 160–161
 Aortic valve
 radiation damage of, 932–934
 replacement of
 pulmonary artery catheter obstruction in, 751–752
 pulmonary embolism after, 255–258
 stenosis of, cervical spine stenosis with, neurophysiologic monitoring in, 115–118
 surgery on, levosimendan in, 693–698
 three-dimensional echocardiography of, 911
 Aortobifemoral bypass, undiagnosed carcinoid tumor in, 573–575
 APACHE (Acute Physiology and Chronic Health Evaluation)
 database of, for performance evaluation, 347–353
 in vascular surgery, 713–718
 Apoptosis, in cardiac surgery, aprotinin effects on, 16–22
 Aprotinin, in cardiac surgery
 anaphylactic reaction to, 740–743
 in kidney dysfunction, 6–15
 outcomes of, 16–22
 pulmonary embolism and, 255–258

- Aprotinin, in cardiac surgery (*Continued*)
 survey on, 662–669
 usage statistics for, 139–146
- Arachidonic acid metabolites, in cardiac surgery, 455–467
- Arrhythmias. *See* Cardiac arrhythmias
- Arterial pressure waveform analysis, for cardiac output monitoring,
 394–399, 468–473
 in liver transplantation, 681–687
- Aspirin, preoperative cessation of, with drug-eluting stents, 806–810
- Atherosclerosis
 aortic, transesophageal echocardiography in, 766–773
 coronary artery, dyspnea in, 932–934
- Atrial fibrillation, cardiac surgery in, tricuspid annular velocities and,
 565–569
- Atrial natriuretic peptide, for aortic aneurysm repair, 204–209
- Atrial septal defect, repair of
 airway compression resolution in, 887–889
 in congenital hypofibrinogenemia, 725–726
 lung collapse during, 616–624
 pericardial tamponade after, 90–91
- Atrial septum
 aneurysm of, 321–323
 lipomatous hypertrophy of, pulmonary artery catheter obstruction in,
 751–752
- Atrium
 left, aneurysm of, 321–323, 636–638
 right, perforation of
 in pacemaker implantation, 423–425
 in radiofrequency ablation, 426–427
- Autoimmune hemolytic anemia, off-pump CABG in, 449–452
- Barnard, Christiaan, 133–138
- Bartter syndrome, cardiopulmonary bypass in, vasodilatory shock dur-
 ing, 746–747
- Basilar myocardial strain, in ventricular function evaluation, 400–405
- Beta blockers, for cardioprotection, in vascular surgery, gender differ-
 ences in, 354–360
- Biomarkers, of kidney dysfunction, 122–132
- Bispectral index, pitfalls of, 119–121
- Blalock-Taussig shunt procedure
 for absent aortocoronary connection, 98–101
 cerebral oximetry for, 95–97
- Bleeding and blood loss
 in acquired von Willebrand syndrome, 719–724
 in cardiac surgery
 clopidogrel-induced, 60–66
 conservation measures for, 662–669
 factor VIIa for, 779–785
 prediction of, 655–661
 tranexamic acid for, 230–235
 in cardiopulmonary bypass, in pediatric patients, 53–59
 factor VIIa for, 675–680
 in liver transplantation, central venous pressure and, 311–317
- Blood pressure, abnormal. *See* Hypertension; Hypotension
- Bradycardia, in paraganglioma, 570–572
- Brain natriuretic peptide, postoperative, 187–191
- Bronchial blockers, for lung isolation
 after tracheostomy, 883–886
 vs. double-lumen tubes, 920–929
- Bronchial compression, due to patent ductus arteriosus, 102–104
- Bronchial rupture, delayed presentation of, 875–878
- CABG surgery. *See* Coronary artery bypass graft (CABG) surgery
- Cancer, of thymus, postoperative superior vena cava syndrome in,
 584–586
- Carbon monoxide, for fluid-responsiveness assessment, 243–248
- Carcinoid tumor, undiagnosed, in aortic surgery, 573–575
- Cardiac arrest
 in accidental extubation, 105–107
 extracorporeal lung assist in, 111–114
 in positive-pressure ventilation, due to pneumopericardium, 879–
 882
 resuscitation after, heparin administration during, 861–863
- Cardiac arrhythmias
 after CABG, in diabetes mellitus, 383–387
 pacing for, in pediatric patients, 92–94
 prevention of, preconditioning for, 217–224
- Cardiac catheterization, catheter entrapment during, 428–430
- Cardiac index, low, after cardiac surgery, oxygen saturation measure-
 ment in, 77–83
- Cardiac output monitoring
 arterial-pressure based, 468–473
 continuous
 vs. intermittent, 394–399
 Vigileo/FloTrac system for, 388–393
 in liver transplantation, 681–687
 vasodilation effects on, 688–692
- Cardiac surgery. *See also specific procedures*
 for absent aortocoronary connection, 98–101
 acute respiratory distress syndrome after, prone positioning in, 414–
 417
 albumin for, 482–491
 angiotensin inhibitor therapy and, 180–186
 angiotensin-converting enzyme inhibitors after, 187–191
 antiphospholipid syndrome in, 735–739
 aortic clamp release in, seizures after, 119–121
 aprotinin in. *See* Aprotinin
 in atrial fibrillation, tricuspid annular velocities and, 565–569
 bleeding in, prediction of, 655–661
 blood conservation in, 662–669
 cardiac output monitoring during
 continuous vs. intermittent, 394–399
 vasodilation effects on, 688–692
 Vigileo/FloTrac system for, 388–393
 cerebral oximetry for, 95–97
 cerebral oxygenation saturation in, vs. left ventricular function, 840–
 846
 clopidogrel use before, bleeding due to, 60–66
 coagulopathy in, in hypofibrinogenemia, 725–726
 coenzyme Q10 in, 832–839
 in cold agglutinin disease, 449–452
 complications of, vs. cardiopulmonary bypass duration, 814–822
 dexmedetomidine for, in pediatric patients, 147–154
 in diabetes mellitus
 glucose control in, 377–382
 postoperative insulin therapy for, 383–387
 endocarditis after, 261–262
 enoxaparin in, 670–674
 extrapleural ropivacaine after, 249–254
 factor VIIa in, 779–785
 fast-tracking
 in elderly persons, 530–535
 spinal analgesia for, 536–542
 femoral artery pressure monitoring in, 418–422
 femoral venous cannula placement for, cardiovascular collapse in,
 590–591
 heparin management system for, 47–52
 hetastarch for, 482–491

- Cardiac surgery. *See also specific procedures (Continued)*
 in human immunodeficiency virus infection, acute normovolemic hemodilution in, 474–481
 inflammatory mediators in, 455–467
 in Jehovah's Witness patients
 with chronic renal failure, 453–454
 pediatric, 108–110
 in kidney dysfunction, 6–15, 522–529
 kidney failure after
 fenoldopam for, 23–26, 27–33
 kidney-specific proteins in, 122–132
 levosimendan in, 693–698, 699–705
 low cardiac index after, oxygen saturation in, 77–83
 lung collapse during, 616–624
 monocyte activation in, off-pump vs. on-pump, 361–368
 mortality in, cardiopulmonary bypass duration and, 814–822
 myocardial protection in. *See* Cardioprotection; Preconditioning
 neurologic outcomes of, 515–521
 nicardipine for, 192–198
 nicoranol for, 548–553
 opioid tolerance after, remifentanyl and, 225–229
 outcomes of, 16–22
 oxygen saturation monitoring in
 central venous vs. mixed venous, 853–857
 vs. left ventricular function, 840–846
 in pediatric patients, 847–852
 for paraganglioma, 570–572
 pericardial tamponade after, 90–91
 platelet function analysis in, 40–46
 polyethylene glycol sealant migration in, 160–161
 preload assessment in, 236–242
 for pulmonary atresia with patent ductus arteriosus, 102–104
 pulmonary embolism after, 255–258
 in pulmonary hypertension, 406–413
 pulmonary vasoconstriction in, 727–731
 quadriplegia after, 587–589
 quality of life after, 515–521
 reactive oxygen species in, 455–467
 right ventricular function evaluation in, 400–405
 right ventricular rupture after, 270–272
 tranexamic acid after, 230–235
 vasoplegic syndrome in, 560–564
- Cardiomyopathy
 dilated, anesthesia management with, in pediatric patients, 744–746
 hypertrabeculation in, intraoperative diagnosis of, 858–860
 takotsubo
 in liver transplantation, 442–446
 noncardiac surgery with, 438–441
- Cardioprotection
 anesthetic preconditioning for, 217–224
 for CABG, nicoranol in, 548–553
 for off-pump CABG, 369–376
 for stenting procedures, 543–547
 for vascular surgery, outcomes of, 354–360
- Cardiopulmonary bypass, 594–610
 in Bartter syndrome, vasodilatory shock during, 746–747
 blood stagnation in left ventricle after, 786–787
 in cervical spine stenosis, neurophysiologic monitoring in, 115–118
 duration of, mortality and morbidity in, 814–822
 femoral artery pressure monitoring in, 418–422
 gas embolism in, 576–580
 heparin management system for, 47–52
 inflammatory mediators in, 455–467
 in Jehovah's Witness patients, 108–110
- Cardiopulmonary bypass, 594–610 (*Continued*)
 in kidney dysfunction, 6–15
 kidney failure after, kidney-specific proteins in, 122–132
 levosimendan in, 699–705
 monocyte activation in, 361–368
 neurologic outcomes of, 515–521
 nicoranol for, 548–553
 off-pump, vs. CABG, 594–610
 paradigm changes in, 605–606
 for pediatric patients, hemostatic response in, 53–59
 physiologic effects of, 597–600
 platelet function analysis in, 40–46
 in pulmonary hypertension, 406–413
 quality of life after, 515–521
 reactive oxygen species in, 455–467
 risk factors in, 602–604
 safety promotion in, 600–602
 sodium bicarbonate in, vascular effects of, 199–203
 tranexamic acid after, 230–235
 weaning from, in lung collapse, 616–624
- CardioSEAL closure device, pericardial tamponade due to, 90–91
- Carotid arteries, blood flow in, vs. left ventricular area, 823–831
- Carotid endarterectomy
 hemodynamic stability after, management of, 84–89
 recent developments in, 277–289
- Catheterization, cardiac, catheter entrapment during, 428–430
- Cavopulmonary connection
 cerebral arterial gas embolism in, 576–580
 total, in Jehovah's Witness child, 108–110
- CD11b integrin, in CABG, off-pump vs. on-pump, 361–368
- Cell savers, in cardiac surgery, 662–669
- Central venous oxygen saturation, after cardiac surgery, low cardiac index and, 77–83
- Central venous pressure, in liver transplantation, controversy over, 311–317
- Cerebral arterial gas embolism, in cavopulmonary connection, 576–580
- Cervical plexus block, for hemodynamic instability, after carotid endarterectomy, 84–89
- Cervical spine stenosis
 neurophysiologic monitoring with, 115–118
 postoperative quadriplegia with, 587–589
- Chamberlain's procedure, sedation for, 581–583
- Clonidine
 for hemodynamic instability, after carotid endarterectomy, 84–89
 for postoperative pain, 536–542
- Clopidogrel, preoperative
 bleeding due to, 60–66
 cessation of, with drug-eluting stents, 806–810
- Closed-loop systems, in consciousness control, for lung transplantation, 611–615
- Coagulopathy
 in acquired von Willebrand syndrome, 719–724
 in antiphospholipid syndrome, 735–739
 in cardiopulmonary bypass, in pediatric patients, 53–59
 dilutional, factor VIIa for, 675–680
 due to oxygen carrier solutions, 34–39
 enoxaparin and, 670–674
 epidural hematoma in, 774–778
 hetastarch-associated, 485–486
 in hypofibrinogenemia, 725–726
 platelet function analysis in, 40–46, 655–661
- Coenzyme Q10, in CABG surgery, 832–839
- Cognitive function, after CABG, 515–521
- Cold agglutinin disease, off-pump CABG in, 449–452

- Congenital heart disease
 absent aortocoronary connections, 98–101
 adult presentation of, 157–159, 263–266
 bronchial compression due to, 102–104
 cavopulmonary connection in, cerebral arterial gas embolism in, 576–580
 in Jehovah's Witness child, 108–110
 pheochromocytoma resection with, 748–750
 surgery for
 airway compression resolution in, 887–889
 cardiopulmonary bypass hemostatic parameters in, 53–59
 cerebral oximetry for, 95–97
 lung collapse during, 616–624
 three-dimensional echocardiography of, 911
 transesophageal echocardiography in, 155–156
- Contractility, in myocardial ischemia, carotid blood-flow velocity and, 823–831
- Cor triatriatum, iatrogenic, in transplantation, 913–919
- Coronary artery(ies)
 atherosclerosis of, dyspnea in, 932–934
 congenital defects of, 98–101
 stents for
 cardioprotection in, 543–547
 drug-eluting, 806–810
 vasospasm of, in aortic surgery, 864–867
- Coronary artery bypass graft (CABG) surgery
 cardiac output monitoring during, 388–393, 394–399, 688–692
 clopidogrel use before, bleeding due to, 60–66
 coenzyme Q10 in, 832–839
 complications of, vs. cardiopulmonary bypass duration, 814–822
 in diabetes mellitus, postoperative insulin therapy for, 383–387
 endocarditis after, 261–262
 enoxaparin before, 670–674
 fast-tracking, in elderly persons, 530–535
 hearing aid artifact after, 930–931
 in human immunodeficiency virus infection, acute normovolemic hemodilution in, 474–481
 in Jehovah's Witness patients, with chronic renal failure, 453–454
 in kidney dysfunction, 6–15, 522–529
 kidney failure after, fenoldopam for, 23–26
 monocyte activation in, off-pump vs. on-pump, 361–368
 neurologic outcomes of, 515–521
 nicoranol for, 548–553
 off-pump
 cardiac output monitoring during, 394–399, 688–692
 in cold agglutinin disease, 449–452
 fluid-responsiveness parameters in, 243–248
 hypothermia prevention in, 67–70
 monocyte activation in, 361–368
 neurologic outcomes of, 515–521
 nicardipine for, 192–198
 outcomes of, 16–22
 preconditioning for, 369–376
 preload assessment in, 236–242
 quality of life after, 515–521
 transesophageal echocardiography during, 625–632
 opioid tolerance after, remifentanyl and, 225–229
 oxygen saturation monitoring in, central venous vs. mixed venous, 853–857
 platelet function analysis in, 40–46
 quadriparesis after, 587–589
 quality of life after, 515–521
 right ventricular rupture after, 270–272
 sodium bicarbonate for, vascular effects of, 199–203
- Coronary artery bypass graft (CABG) surgery (*Continued*)
 Sonoclot analysis in, 670–674
 vasoplegic syndrome in, 560–564
- Creatinine clearance, in kidney dysfunction, 6–15, 122–132
- Cytokines, in cardiac surgery, 361–368, 455–467
- Dexmedetomidine
 for cardiac surgery, in pediatric patients, 147–154
 for mediastinal biopsy, 581–583
- Diabetes mellitus, cardiac surgery in
 glucose control in, 377–382
 postoperative insulin therapy for, 383–387
- Dissection, aortic
 thrombosis in, 788–789
 transesophageal echocardiography in, 766–773
- Diuretics, intraoperative hypotension due to, 180–186
- Doppler studies, of right ventricular function, 400–405
- Drew Anderson technique, for cardiopulmonary bypass, 602
- Dyspnea
 in adult congenital heart disease, 157–159
 in coronary artery atherosclerosis, 932–934
- Echocardiography
 three-dimensional, 290–291
 in endomyocardial fibrosis, 299–301
 in mitral prosthetic regurgitation, 435–437
 in mitral valve assessment, 292–298
 in mitral valve regurgitation, 431–434
 transesophageal. *See* Transesophageal echocardiography
 transthoracic, in right ventricular function evaluation, vs. transesophageal echocardiography, 400–405
- Editorials
 Angiotensin Blockade and General Anesthesia: So Little Known, So Far to Go, 177–179
 Cognitive Outcomes Analyses: Two Steps Forward, One Step Back?, 513–514
 Coronary Stents and Noncardiac Surgery: Treat the Patient, Not the Stent!, 803–805
 Forty Years Ago: Lessons for Today, 3–5
 If Nothing Goes Wrong, Is Everything All Right?, 653–654
 A New Era of Collaboration, 2
 Preoperative Evaluation: The Very Last Chance To Identify a Problem with a Pacemaker or Implanted Cardio-Defibrillator, 341–346
 Three Dimensional Echocardiography, 290–291
 The Way Forward, 1
- Elastase, in cardiac surgery, aprotinin effects on, 16–22
- Electroencephalography, in cardiac surgery, 119–121
- Embolism
 gas, in cavopulmonary connection, 576–580
 pulmonary
 after aortic valve replacement, 255–258
 thrombectomy in, ventricular blood stagnation in, 786–787
- Embol-X device, for cardiopulmonary bypass, 601–602
- Endarterectomy, carotid. *See* Carotid endarterectomy
- End-diastolic area and volume, assessment of, in cardiac surgery, 236–242
- Endobronchial blockers, for lung isolation, after tracheostomy, 883–886
- Endocarditis
 aortic root abscess in, 446–448
 pacemaker-associated, 492–494
 pulmonary valve, 261–262
 tricuspid valve, 495–496
- Endomyocardial fibrosis, echocardiography in, 299–301

- Endoscopic procedures, tracheal tumor cauterization and stenting, 872–874
- Endothelins, in cardiac surgery, 455–467
- Endotracheal tube
difficult insertion of, in ankylosing spondylitis, 273–276
double-lumen, for lung isolation, vs. bronchial blockers, 920–929
- Enflurane, for preconditioning, for off-pump CABG, 369–376
- Enoxaparin, in cardiac surgery, 670–674
- Epidural anesthesia
for chronic pain, after thoracic surgery, 894
thoracic, for tracheal tumor treatment, 872–874
- Epidural hematoma, in lung surgery, heparin administration timing and, 774–778
- Epsilon aminocaproic acid, in cardiac surgery, in kidney dysfunction, 6–15
- Errata, Volume 19, pages 746–750, 339
- Esmolol, for cardioprotection, in vascular surgery, gender differences in, 354–360
- Esophagectomy, tension pneumopericardium after, 267–269
- Extracorporeal lung assist, for respiratory failure, 111–114
- Extracorporeal membrane oxygenation, thrombosis in, 259–260
- Extubation, accidental, 105–107
- Factor VII, thrombosis due to, 259–260
- Factor VIIa
for cardiac surgery, 779–785
for dilutional coagulopathy, 675–680
- Fast-tracking cardiac surgery
in elderly persons, 530–535
spinal analgesia for, 536–542
- Femoral artery pressure monitoring, in cardiac surgery, 418–422
- Femoral venous cannula, cardiovascular collapse with, 590–591
- Fenoldopam, for kidney failure, after cardiac surgery, 23–26, 27–33
- Fibrinogen
congenital defects of, coagulopathy in, 725–726
for dilutional coagulopathy, 675–680
- Fibrinolysis, in cardiopulmonary bypass, in pediatric patients, 53–59
- Filling pressures, low, after cardiac surgery, oxygen saturation measurement in, 77–83
- Finometer, for cardiac output monitoring, 470–471
- FloTrac transducer, for cardiac output monitoring, 388–393, 470
- Fluid therapy, for cardiac surgery
albumin vs. hetastarch, 482–491
assessment of, 243–248
warming system for, 67–70
- Fontan physiology, pheochromocytoma resection with, 748–750
- Fractional sodium excretion, in kidney dysfunction assessment, 122–132
- Free radicals, in cardiac surgery, 455–467
- Gabapentin, for chronic pain, after thoracic surgery, 899
- Gas embolism, in cavopulmonary connection, 576–580
- Gender differences, in vascular surgery outcomes, beta-blocker therapy and, 354–360
- General anesthesia, angiotensin inhibitor therapy and, 180–186
- Glomerular filtration rate, in kidney dysfunction assessment, 122–132
- Glucose control, in cardiac surgery, in diabetes mellitus, 377–382
- Glutathione transferases, in kidney dysfunction assessment, 122–132
- Halothane, for first heart transplantation, 133–138
- Hearing aid artifact, in chest radiograph, 930–931
- Heart. *See also* Cardiac surgery; *specific procedures (Continued)*
history of, 133–138
pulmonary hypertension and vasoplegic syndrome after, 868–871
right ventricular failure after, 913–919
- Heart failure, in mitral valve insufficiency, 633–635
- Heart murmurs, in adult congenital heart disease, 157–159
- Heat shock proteins, in cardiac surgery, 455–467
- Helium preconditioning, 554–559
- Hematoma, epidural, in lung surgery, heparin administration timing and, 774–778
- Hemodialysis, cardiac surgery in, 6–15
- Hemodilution, in cardiac surgery
acute normovolemic, in HIV infection, 474–481
survey on, 662–669
- Hemodynamics
after carotid endarterectomy, 84–89
monitoring of, LiDCO method for, 468–469
in undiagnosed carcinoid tumor, 573–575
- Hemoglobin-based oxygen carriers, coagulopathy due to, 34–39
- Hemolytic anemia, autoimmune, off-pump CABG in, 449–452
- Hemorrhage. *See* Bleeding
- Hemostasis, in cardiopulmonary bypass, in pediatric patients, 53–59
- Heparin
in cardiac surgery, 47–52, 662–669
for cardiopulmonary resuscitation, 861–863
epidural hematoma due to, 774–778
thrombocytopenia due to, delayed appearance of, 732–734
- Hetastarch
vs. albumin, 482–491
coagulopathy due to, 34–39
- Hodgkin's lymphoma, radiotherapy for, coronary artery atherosclerosis due to, 932–934
- Hotline fluid warming system, for CABG surgery, 67–70
- Human immunodeficiency virus infection, cardiac surgery in, acute normovolemic hemodilution in, 474–481
- Human leukocyte antigens, inflammatory mediators and, 455–467
- Hydrogen peroxide, in cardiopulmonary bypass, 455–467
- Hydroxy radicals, in cardiopulmonary bypass, 455–467
- Hyperamylasemia, hetastarch-associated, 487
- Hyperbaric oxygen therapy, for cerebral arterial gas embolism, 576–580
- Hyperglycemia, cardiac surgery in, glucose control in, 377–382
- Hypertension
pulmonary
cardiac surgery in, reduction of, 406–413
with vasoplegic syndrome, after heart transplantation, 868–871
systemic, after carotid endarterectomy, 84–89
- Hypertrabeculation, left ventricular, 858–860
- Hypofibrinogenemia, congenital, coagulopathy in, 725–726
- Hypotension
in angiotensin inhibitor therapy, 180–186
in cardiopulmonary bypass, in Bartter syndrome, 746–747
- Hypothermia, in CABG surgery, 67–70
- Ibuprofen, for chronic pain, after thoracic surgery, 897
- Iloprost, for pulmonary hypertension, 406–413
- Immunosuppressive therapy, for heart transplantation, 133–138
- Infants. *See also* Newborns
absent aortocoronary connections in, 98–101
accidental extubation in, 105–107
cardiac surgery in, dexmedetomidine for, 147–154
cardiopulmonary bypass for, hemostatic response in, 53–59
cardiopulmonary bypass hemostatic parameters in, 53–59

- Infants. *See also* Newborns (*Continued*)
 transesophageal echocardiography in, supraventricular tachycardia in, 592–593
- Inflammation
 after cardiac surgery, aprotinin effects on, 16–22
 hetastarch-associated, 487
- Inflammatory mediators, in cardiac surgery, 455–467
- Insulin, for diabetes mellitus
 during cardiac surgery, 377–382
 postoperative, 383–387
- Integrins, monocyte, in CABG, off-pump vs. on-pump, 361–368
- Intensive care unit, performance measures in, vs. dedicated thoracic surgical progressive care unit, 347–353
- Interleukin(s), in cardiac surgery, 16–22, 455–467
- Intubation. *See* Endotracheal tube
- Ischemia, myocardial. *See* Myocardial ischemia
- Isoflurane, for preconditioning, for arrhythmia protection, 217–224
- Jehovah's Witness patients, total cavopulmonary connection in, 108–110
- Jugular bulb venous oxygen saturation, during one-lung ventilation, 71–76
- Ketamine, for chronic pain, after thoracic surgery, 898–899
- Kidney dysfunction or failure
 after cardiac surgery, 600
 fenoldopam for, 23–26, 27–33
 predictors of, 522–529
 after vascular surgery, statin therapy and, 210–216
 cardiac surgery in, 6–15, 453–454
 hetastarch-associated, 486
 kidney-specific proteins in, 122–132
- Kidney injury molecule-1, in kidney dysfunction assessment, 122–132
- Labetalol, for cardioprotection, in vascular surgery, gender differences in, 354–360
- Laryngeal mask airway, for lung isolation, after tracheostomy, 883–886
- Left atrial pressure, in mitral insufficiency, 318–320
- Letters to the Editor
 Airtraq Laryngoscope for the Insertion of a Transesophageal Echocardiography Probe, 331–332
 An Intracardiac UFO, 332–333
 An Unusual Case of Looping of the Central Venous Catheter: Who Is the Culprit?, 336–337
 Anesthetic Experience with Octogenarians Undergoing Cardiac Surgery, 647–648
 Aortic Papillary Fibroelastoma Detected by Transesophageal Echocardiography, 504–505
 Aortic Valve Repair in a Patient With Factor XII Deficiency, 509–510
 Cardiac Arrest After the Removal of a Central Venous Catheter, 174–175
 A Case of a Missing J-Tip of the Guidewire During Internal Jugular Vein Cannulation: A Fractured and Embolized J-Tip or a Manufacturing Defect?, 507–508
 Cerebral Oximetry During Deep Hypothermic Circulatory Arrest, 173–174
 Clot Formation in a Blood-Collection Bag Used for Acute Normovolemic Hemodilution, 801–802
 Combination of a Psoas Compartment, Sciatic Nerve, and T12-L1 Paravertebral Block for Femoropopliteal Bypass Surgery in a High-Risk Patient, 337–339
- Letters to the Editor (*Continued*)
 Correlation of the Inferior Vena Cava Diameter with the Central Venous Pressure, 942–943
 Could We Have Performed Percutaneous Radial Artery Cannulation on This Patient?, 168–170
 The Feasibility of Myocardial Velocity, Strain, and Strain-Rate Measurements During Aortic Valve Replacement Surgery, 648–649
 The First Twenty-Five Heart Transplantations, 644–646
 GildeScope-Assisted Double-Lumen Endobronchial Tube Placement in a Patient With an Unanticipated Difficult Airway, 170–172
 Interactive TEE Review, 796
 Intraoperative Echocardiographic Detection of an Anomalous Left Main Coronary Artery, 796–797
 Intraoperative Thrombosis From a Heparin-Containing Irrigation Solution in a Patient With Heparin-Induced Thrombocytopenia, 797–799
 Intraoperative Transesophageal Echocardiography Is Useful for Evaluating a Thrombus Entrapped in the Patient Foramen Ovale, 649–651
 It Is Nice to “Wake Up” Patients for Combined Carotid Endarterectomy and Coronary Artery Bypass Graft Surgery, 943–945
 Jugular Bulb Oxygen Saturation in Hypothermic Circulatory Arrest Procedures: A Possible Role of Continuous Monitoring, 172–173
 Left Internal Jugular Central Venous Cannulation in Partial Anomalous Venous Connections, 945–947
 Life-Threatening Esophageal Injury After Transesophageal Echocardiography, 505–507
 Lung Transplantation and Pulmonary Vein Thrombosis: A Possible Role of Epicardial Echocardiography, 167–168
 Massive Thrombus in Transit Detected by Echocardiography, 333–336
 Mild Nonpara-/Nontransvalvular Leakage of a Stented Porcine Valve Implanted in the Mitral Position Decreased After the Administration of Protamine and Disappeared After Surgery, 799–800
 Origin of the Right Subclavian Artery Distal to a Coarctation of the Aorta: Anesthetic Implications, 945–947
 Problems of Central Venous Access in the Internal Jugular Vein in a Sinus Venosus Atrial Septal Defect, 509
 Regarding Epidural Catheters and Drug-Eluting Stents, 800–801
 Review: Thoracic-Anesthesia.com, 644
 Safety of Cardiac Surgery in Octogenarians and Nonagenarians, 646–647
 Severe Aortic Regurgitation Caused by a Prolapsed Circumferential Intimal Flap in Acute Type A Aortic Dissection: Role of Intraoperative Transesophageal Echocardiography?, 941
- Levosimendan, for cardiac surgery, 693–698, 699–705
- LiDCO method
 for cardiac output assessment, 468–469
 for fluid-responsiveness assessment, 243–248
- Lipomatous hypertrophy, of atrial septum, pulmonary artery catheter obstruction in, 751–752
- Liver transplantation
 cardiac output measurement in, 681–687
 central venous pressure during, controversy over, 311–317
 takosubo cardiomyopathy in, 442–446
 transesophageal echocardiography in, 811–813
- Lobectomy, epidural hematoma after, 774–778

Lung

- collapse of, in cardiopulmonary bypass, 616–624
 - isolation of
 - after tracheostomy, 883–886
 - bronchial blockers vs. double-lumen tubes for, 920–929
 - resection of
 - epidural hematoma after, 774–778
 - one-lung ventilation for, oxygen saturation during, 71–76
 - transplantation of, closed-loop consciousness control in, 611–615
- Lymphoma, Hodgkin's, radiotherapy for, coronary artery atherosclerosis due to, 932–934

Magnesium sulfate, for chronic pain, after thoracic surgery, 899

Mammary artery, internal, vasoplegic syndrome of, 560–564

MECC system, for cardiopulmonary bypass, 601

Mechanical ventilation, pneumopericardium due to, cardiac arrest in, 879–882

Mediastinum, biopsy of, dexmedetomidine for, 581–583

Methylene blue, for vasoplegic syndrome, 560–564

Metoprolol, for cardioprotection, in vascular surgery, gender differences in, 354–360

α_1 -Microglobulin, in kidney dysfunction assessment, 122–132

Milrinone, for cardiac surgery, vs. levosimendan, 699–705

Mitochondrial permeability transition pore, in reperfusion, 753–765

Mitral valve

- insufficiency of, 633–635
 - left atrial pressure and, 318–320
 - three-dimensional echocardiography in, 431–434
- prosthesis for, regurgitation of, 435–437
- radiation damage of, 932–934
- repair of
 - anaphylaxis in, 740–743
 - femoral venous cannula placement for, cardiovascular collapse in, 587–589
- replacement of
 - oxygen saturation monitoring in, central venous vs. mixed venous, 853–857
 - with unexpected interrupted aortic arch, 263–266
- stenosis of, with partial anomalous pulmonary venous return, 302–310
- three-dimensional echocardiography of, 292–298, 909–910

Mixed venous oxygen saturation, after cardiac surgery, low cardiac index and, 77–83

ModelFlow technology, for cardiac output monitoring, 468–473

Monocyte activation, in CABG, off-pump vs. on-pump, 361–368

Morphine, for postoperative pain, 536–542

Mortality

- in cardiac surgery
 - in acute respiratory distress syndrome, 414–417
 - cardiopulmonary bypass duration and, 814–822
 - clopidogrel-induced, 60–66
 - factor VII in, 259–260
 - in kidney dysfunction/failure, 27–33, 522–529
 - with sternal infection, 270–272
- in dedicated thoracic surgical progressive care unit, 347–353
- in heparin-induced thrombocytopenia, 732–734

Moss, Cecil, at first human heart transplantation, 133–138

Murmurs, heart, in adult congenital heart disease, 157–159

Myocardial dysfunction, cardiac surgery in, levosimendan for, 699–705

Myocardial ischemia

- carotid blood-flow velocity vs. left ventricular area, 823–831
- prevention of. *See* Cardioprotection; Preconditioning
- reperfusion in, prosurvival signaling in, volatile anesthetics and, 753–765

Myocardial performance index, in aortic aneurysm repair, 706–712

Myocarditis, acquired von Willebrand syndrome in, 719–724

Myocardium

- protection of, aprotinin in, 16–22
- reperfusion of, prosurvival signaling in, volatile anesthetics and, 753–765

Nasogastric tube, withdrawal of, accidental endotracheal extubation from, 105–107

Neonates. *See* Newborns

Neuraxial blockade, for chronic pain, after thoracic surgery, 894

Neurologic disorders, after cardiac surgery, 515–521, 587–589

Neutral endopeptidase, in kidney dysfunction assessment, 122–132

Neutrophil(s), aprotinin effects on, 16–22

Neutrophil gelatinase-associated lipocalin, in kidney dysfunction assessment, 122–132

Newborns

- absent aortocoronary connections in, 98–101
 - cardiac surgery in, cerebral oximetry for, 95–97
 - patent ductus arteriosus in, bronchial compression due to, 102–104
- Nicardipine, for off-pump CABG, 192–198
- Nicorandil, for cardioprotection, in CABG, 548–553

Nitrous oxide

- for first heart transplantation, 133–138
- for pulmonary hypertension, 406–413

Noncompaction, left ventricular, 858–860

Nonsteroidal anti-inflammatory drugs, for chronic pain, after thoracic surgery, 896–898

Off-pump CABG. *See* Coronary artery bypass graft (CABG) surgery, off-pump

One-lung ventilation, for lung resection, oxygen saturation during, 71–76

Opioids

- for chronic pain, after thoracic surgery, 896
- tolerance of, remifentanyl and, 225–229

Outcomes

- of aortic aneurysm repair, myocardial performance index and, 706–712
- of cardiac surgery, in kidney dysfunction, 522–529
- of cardiopulmonary bypass, vs. duration, 814–822
- of coronary artery bypass graft surgery, 361–368, 515–521
- of thoracic surgery, in progressive care unit vs. intensive care, 347–353
- of vascular surgery
 - APACHE III evaluation in, 713–718
 - beta-blocker therapy and, gender differences in, 354–360

Oxidative stress, in cardiac surgery, coenzyme Q10 for, 832–839

Oxidoreductase pathways, in cardiopulmonary bypass, 455–467

Oximetry, cerebral, for cardiac surgery, 95–97

Oxygen carriers, coagulopathy due to, 34–39

Oxygen saturation

- after cardiac surgery, low cardiac index and, 77–83
- in cardiac surgery, in pediatric patients, 847–852
- cerebral, vs. left ventricular function, 840–846
- during one-lung ventilation, for lung resection, 71–76

Oxygenation, with ventricular-assist device, 111–114

OxyVita, coagulopathy due to, 34–39

Ozinsky, Joseph, at first human heart transplantation, 133–138

Pacemaker

- endocarditis due to, 492–494
 - implantation of, right ventricular perforation in, 423–425
- Pacing, ventricular, for pediatric patients, 92–94

- Paraganglioma, cardiac, 570–572
- Partial anomalous pulmonary venous return
 mitral stenosis with, 302–310
 repair of, airway compression resolution in, 887–889
- Patent ductus arteriosus, bronchial compression due to, 102–104
- Patent foramen ovale, repair of, femoral venous cannula placement for,
 cardiovascular collapse in, 587–589
- Pediasat central venous catheter, in cardiac surgery, 847–852
- Pediatric patients
 absent aortocoronary connections in, 98–101
 airway compression in, by transesophageal echocardiography probe,
 887–889
 cardiac surgery in
 cardiopulmonary bypass hemostatic parameters in, 53–59
 central venous oxygen saturation monitoring in, 847–852
 cerebral oximetry for, 95–97
 dexmedetomidine for, 147–154
 cardiomyopathy in, anesthesia management with, 744–746
 cardiopulmonary bypass in
 hemostatic response in, 53–59
 lung collapse in, 616–624
 cavopulmonary connection in, cerebral arterial gas embolism in,
 576–580
 patent ductus arteriosus in, bronchial compression due to, 102–104
 tetralogy of Fallot in, 155–156
 transesophageal echocardiography in, supraventricular tachycardia
 in, 592–593
 ventricular pacing for, 92–94
- Performance measures, for dedicated thoracic surgical progressive care
 unit, 347–353
- Pericardial tamponade
 after atrial septal defect surgery, 90–91
 in paraganglioma, 570–572
- Peripheral regional blockade, for chronic pain, after thoracic surgery,
 894–895
- Peroxynitrites, in cardiopulmonary bypass, 455–467
- Pheochromocytoma, resection of, with Fontan physiology, 748–750
- Phosphatidylinositol-3-kinase cascade, in reperfusion, 753–765
- PiCCO systems, for cardiac output monitoring, 469–470, 688–692
- Platelet(s), functional evaluation of, in cardiac surgery, 40–46
- Platelet-activating factors, in cardiac surgery, 455–467
- Pneumopericardium
 after esophagectomy, 267–269
 in positive-pressure ventilation, cardiac arrest due to, 879–882
- Polyethylene glycol sealant migration, in cardiac surgery, 160–161
- Poly-2-methoxyethylacrylate coating, for cardiopulmonary bypass
 equipment, 600–601
- Polymorphonuclear cells, aprotinin effects on, 16–22
- Positioning, prone, after cardiac surgery, in acute respiratory distress
 syndrome, 414–417
- Postconditioning, volatile anesthetics for, 753–765
- Postoperative pain
 extrapleural ropivacane for, 249–254
 in fast-tracking cardiac surgery, 536–542
 remifentanyl for, 225–229, 536–542
- Potassium channels, mitochondrial adenosine triphosphate-regulated,
 helium effects on, 554–559
- Preconditioning
 for arrhythmia protection, 217–224
 helium in, 554–559
 for off-pump CABG, 369–376
 for stenting procedures, 543–547
- Pre-emptive analgesia, for chronic pain, after thoracic surgery, 890–
 903
- Pregabalin, for chronic pain, after thoracic surgery, 899
- Preload assessment, in cardiac surgery, 236–242
- Pressure-recording analytical method, for cardiac output monitoring,
 471–472
- Prevention, of chronic pain, after thoracic surgery, 890–903
- Prognosis, of thoracic surgery, in progressive care unit vs. intensive
 care, 347–353
- Progressive care unit, for thoracic surgery, vs. intensive care unit,
 347–353
- Propofol
 for lung resection, oxygen saturation and, 71–76
 for lung transplantation, 611–615
- Prostaglandin E1, for vasodilation, cardiac output monitoring and,
 688–692
- Protamine, in cardiac surgery, pulmonary vasoconstriction due to,
 727–731
- Protection, myocardial. *See* Cardioprotection; Preconditioning
- Protein kinase B (phosphatidylinositol-3-kinase) cascade, in reperfu-
 sion, 753–765
- Pulmonary artery(ies), protamine-induced constriction of, 727–731
- Pulmonary artery catheter
 in cardiac function assessment, vs. cerebral oxygen saturation, 840–
 846
 obstruction of, in lipomatous hypertrophy of atrial septum, 751–752
- Pulmonary artery pressure
 for cardiac output monitoring, in liver transplantation, 681–687
 for fluid-responsiveness assessment, 243–248
 management of, in aortic aneurysm repair, 204–209
- Pulmonary atresia
 absent aortocoronary connection with, 98–101
 surgery for, with patent ductus arteriosus, 102–104
- Pulmonary embolism
 after aortic valve replacement, 255–258
 thrombectomy in, ventricular blood stagnation in, 786–787
- Pulmonary hypertension
 cardiac surgery in, treatment of, 406–413
 with vasoplegic syndrome, after heart transplantation, 868–871
- Pulmonary stenosis, adult presentation of, 157–159
- Pulmonary valve, endocarditis of, 261–262
- Pulse-contour analysis, for cardiac output monitoring, 394–399, 688–
 692
- Pulse-induced continuous cardiac monitoring systems, 469–470
- Quadriplegia, after cardiac surgery, 587–589
- Quality of life, after CABG, 515–521
- Radial artery, cardiac catheterization through, catheter entrapment dur-
 ing, 428–430
- Radial artery pressure monitoring, vs. femoral artery pressure monitor-
 ing, 418–422
- Radiation therapy, for lymphoma, coronary artery atherosclerosis due
 to, 932–934
- Radiofrequency ablation, right atrium perforation during, 426–427
- Ramipril, postoperative, 187–191
- Reactive oxygen species
 in cardiac surgery, 455–467
 helium effects on, 554–559
- Regional blockade, peripheral, for chronic pain, after thoracic surgery,
 894–895
- Remifentanyl
 for fast-tracking cardiac surgery, 536–542
 opioid tolerance and, 225–229
 safety of, in dilated cardiomyopathy, 744–746

- Reperfusion, myocardial, prosurvival signaling in, volatile anesthetics and, 753–765
- Respiratory failure
 after cardiac surgery, prone positioning in, 414–417
 extracorporeal lung assist for, 111–114
- Resuscitation, heparin administration during, 861–863
- Retinol-binding protein, in kidney dysfunction assessment, 122–132
- Retrograde autologous prime, in cardiac surgery, survey on, 662–669
- Rheumatic heart disease, partial anomalous pulmonary venous return with, 302–310
- Robotic surgery, femoral venous cannula placement for, cardiovascular collapse in, 590–591
- Rocuronium, in cardiac surgery, anaphylactic reaction to, 740–743
- Ropivacane, for postoperative pain, in thoracotomy, 249–254
- ROTEM thromboelastometry
 in bleeding prediction, 655–661
 in dilutional coagulopathy, 675–680
- Saline solution, coagulopathy due to, 34–39
- Seizures, after aortic clamp release, 119–121
- Sevoflurane
 for cardioprotection, in stenting procedures, 543–547
 for lung resection, oxygen saturation and, 71–76
 safety of, in dilated cardiomyopathy, 744–746
- Shock, in cardiopulmonary bypass, in Bartter syndrome, 746–747
- Simpson formula, in preload assessment, in cardiac surgery, 236–242
- Sodium bicarbonate, in cardiopulmonary bypass, vascular effects of, 199–203
- Sodium excretion, in kidney dysfunction assessment, 122–132
- Sonoclot analysis, 670–674, 675–680
- Spinal analgesia, for fast-tracking cardiac surgery, 536–542
- Statins, for kidney protection, 210–216
- Stents
 carotid artery, 282–283
 coronary artery
 cardioprotection in, 543–547
 drug-eluting, 806–810
- Sternal infection, right ventricular rupture in, 270–272
- Stress, cardiomyopathy in
 in liver transplantation, 442–446
 noncardiac surgery with, 438–441
- Stroke, hetastarch-associated, 487
- Succinylcholine, for first heart transplantation, 133–138
- Superior vena cava syndrome
 Chamberlain's procedure for, sedation for, 581–583
 postoperative, 584–586
- Superoxide radicals, in cardiopulmonary bypass, 455–467
- Supraventricular tachycardia
 after CABG, in diabetes mellitus, 383–387
 in transesophageal echocardiography, 592–593
- Systemic inflammatory response
 in CABG, off-pump vs. on-pump, 361–368
 in cardiopulmonary bypass, 597–600
- Systemic vascular resistance, in cardiopulmonary bypass, sodium bicarbonate effects on, 199–203
- Systolic velocity, in ventricular function evaluation, 400–405
- Takotsubo cardiomyopathy
 in liver transplantation, 442–446
 noncardiac surgery with, 438–441
- Tamm-Horsfall glycoprotein, in kidney dysfunction assessment, 122–132
- Tension pneumopericardium
 after esophagectomy, 267–269
- Tension pneumopericardium (*Continued*)
 in positive-pressure ventilation, cardiac arrest due to, 879–882
- Tetralogy of Fallot, transesophageal echocardiography in, 155–156
- Thermodilution
 for cardiac output monitoring, 394–399
 in liver transplantation, 681–687
 vasodilation effects on, 688–692
 in preload assessment, in cardiac surgery, 236–242
- Thiopental, for first heart transplantation, 133–138
- Thoracic epidural anesthesia, for tracheal tumor treatment, 872–874
- Thoracic surgery
 chronic pain after, prevention of, 890–903
 outcomes of, in progressive care unit vs. intensive care, 347–353
- Thoracotomy, postoperative pain management in, 249–254
- Three-dimensional echocardiography. *See* Echocardiography, three-dimensional
- Thrombocytopenia, heparin-induced, delayed appearance of, 732–734
- Thromboelastography/thromboelastometry
 in bleeding prediction, 655–661
 in cardiac surgery, 40–46
 in coagulation studies, of oxygen carrier solutions, 34–39
 in dilutional coagulopathy, 675–680
- Thrombosis and thrombi
 in aortic dissection, 788–789
 of coronary artery stents, 806–810
 due to factor VII, 259–260
 of venous graft, superior vena cava syndrome in, 584–586
- Thymus, cancer of, postoperative superior vena cava syndrome in, 584–586
- Toll-like receptors, in cardiac surgery, 455–467
- Tracheal tumor, procedure on, thoracic epidural anesthesia for, 872–874
- Tracheostomy, lung isolation technique after, 883–886
- Tranexamic acid, for cardiac surgery
 dosing schedule for, 230–235
 survey on, 662–669
- Transesophageal echocardiography
 airway compression due to, in pediatric patients, 887–889
 in ankylosing spondylitis, 273–276
 in aortic aneurysm repair, for outcome prediction, 706–712
 in atrial aneurysm, 321–323, 636–638
 in cardiac function assessment, vs. cerebral oxygen saturation, 840–846
 in distal ascending aorta visualization, 766–773
 in fluid-responsiveness assessment, 243–248
 left atrial pressure and, 318–320
 in left ventricular hypertrabeculation, 858–860
 in liver transplantation, 811–813
 of mitral valve, 292–298
 in mitral valve insufficiency, 633–635
 in off-pump CABG, 625–632
 in pacemaker-associated endocarditis, 492–494
 in preload assessment, 236–242
 in pulmonary vasoconstriction, 727–731
 in right ventricular function evaluation, 400–405
 supraventricular tachycardia during, 592–593
 in tetralogy of Fallot, 155–156
 three-dimensional
 in mitral prosthetic regurgitation, 435–437
 technology of, 904–912
 in tricuspid valve mass, 495–496
- Transesophageal ventricular pacing, for pediatric patients, 92–94
- Transfusions
 in cardiac surgery

- Transfusions (*Continued*)
 clopidogrel effects on, 60–66
 reduction of, tranexamic acid for, 230–235
 rejection by Jehovah's Witness family, 108–110, 453–454
 survey on, 662–669
 in liver transplantation, central venous pressure and, 311–317
- Transient left ventricular apical ballooning syndrome
 in liver transplantation, 442–446
 noncardiac surgery with, 438–441
- Transplantation
 heart
 history of, 133–138
 pulmonary hypertension and vasoplegic syndrome after, 868–871
 right ventricular failure after, 913–919
 liver
 cardiac output measurement in, 681–687
 central venous pressure during, controversy over, 311–317
 takosubo cardiomyopathy in, 442–446
 transesophageal echocardiography in, 811–813
 lung, closed-loop consciousness control in, 611–615
- Transradial artery approach, to cardiac catheterization, catheter entrapment during, 428–430
- Trauma
 bronchial rupture in, delayed presentation of, 875–878
 pneumopericardium in, 879–882
- Tricuspid annular isovolumic acceleration, in ventricular function evaluation, 400–405
- Tricuspid annular velocities, in cardiac surgery, 565–569
- Tricuspid valve
 echocardiographic artifacts involving, 495–496
 regurgitation of, in pacemaker-associated endocarditis, 492–494
 three-dimensional echocardiography of, 911
- Tropinin, in cardiac surgery, aprotinin effects on, 16–22
- Tumor(s), tracheal, procedure on, thoracic epidural anesthesia for, 872–874
- Tumor necrosis factor α
 in cardiac surgery, aprotinin effects on, 16–22
 in cardiopulmonary bypass, 455–467
- Ultrafiltration, for cardiopulmonary bypass, 602
- Urine output, in kidney dysfunction assessment, 122–132
- Valvular heart disease, surgery for
 anaphylaxis in, 740–743
 in antiphospholipid syndrome, 735–739
 aortic clamp release in, 119–121
 in cervical spine stenosis, 115–118
 femoral venous cannula placement for, cardiovascular collapse in, 587–589
 in kidney dysfunction, outcomes of, 522–529
 kidney failure after, fenoldopam for, 23–26
 left atrial pressure and, 318–320
 levosimendan in, 693–698
- Urine output, in kidney dysfunction assessment, 122–132 (*Continued*)
 oxygen saturation monitoring in, central venous vs. mixed venous, 853–857
 prosthetic regurgitation after, 435–437
 pulmonary artery catheter obstruction in, 751–752
 pulmonary embolism after, 255–258
 with rheumatic disease and partial anomalous pulmonary venous return, 302–310
 three-dimensional echocardiography in, 431–434
 with unexpected interrupted aortic arch, 263–266
- Vascular surgery. *See also procedures on aorta*; Carotid endarterectomy
 kidney failure after
 fenoldopam for, 27–33
 statin therapy and, 210–216
 outcomes of
 APACHE III evaluation in, 713–718
 beta-blocker therapy and, gender differences in, 354–360
 superior vena cava syndrome after, 584–586
- Vasodilation, cardiac output monitoring in, 688–692
- Vasoplegic syndrome
 after CABG surgery, 560–564
 with pulmonary hypertension, after heart transplantation, 868–871
- Vasospasm
 coronary, in aortic surgery, 864–867
 transradial catheter entrapment during, 428–430
- Vegetations, pulmonary valve, 261–262
- Venodilation, due to sodium bicarbonate, 199–203
- Ventricle(s)
 function of, nicardipine effects on, 192–198
 left
 area of, vs. carotid blood-flow velocity, 823–831
 blood stagnation in, 786–787
 function of, vs. cerebral oxygen saturation, 840–846
 hypertrabeculation of, 858–860
 reduced systolic function of, postoperative angiotensin-converting enzyme inhibitors for, 187–191
 stress-related dysfunction of, 438–441, 442–446
 right
 double-outlet, adult presentation of, 157–159
 echocardiographic assessment of, 400–405
 failure of, after heart transplantation, 913–919
 perforation of, in pacemaker implantation, 423–425
 rupture of, after CABG surgery, 270–272
 tricuspid annular velocities and, 565–569
- Ventricular pacing, for pediatric patients, 92–94
- Ventricular septal defect, adult presentation of, 157–159
- Ventricular-assist devices, extracorporeal lung assist with, 111–114
- Vigileo/FloTrac system, for cardiac output monitoring, 388–393, 470
- von Willebrand syndrome, acquired, in cardiac disease, 719–724
- Walker, David, at first human heart transplantation, 133–138
- Warfarin, preoperative cessation of, with drug-eluting stents, 806–810
- Warming system, for CABG surgery, 67–70
- Washkansky, Louis, heart transplantation for, 133–138
- Wound infiltration, for chronic pain, after thoracic surgery, 895–896