

Index

- abdominal circumference,
 fetal, 37
 abortion. *See* miscarriage;
 termination of pregnancy
 Abortion Act 1967, 14
 absorption, drug, 44
 accidental awareness under
 general anaesthesia
 (AAGA), 115, 186–9, 517
 acetylcholinesterase inhibitors,
 380, 381
 aciclovir, 400, 409
 acidosis, fetal, 47, 57, 64
 acquired immunodeficiency
 syndrome (AIDS), 411
 activated partial
 thromboplastin time ratio
 (APTTT), 318, 320
 activated protein
 C resistance, 315
 acupuncture, 68
 acute abdomen, 18
 acute fatty liver of pregnancy,
 249–51
 pre-eclampsia spectrum,
 249, 252, 255
 Swansea criteria, 250
 acute kidney injury (AKI),
 pregnancy-related, 432–3
 acute lung injury (ALI), 396–7
 acute post-infective peripheral
 neuropathy, 357–8
 acute respiratory distress
 syndrome (ARDS), 396–7
 Adamkiewicz, artery of, 27
 Addison's disease
 (hypoadrenalism), 304,
 434, 435
 adrenal disease, 304–5
 adrenaline
 allergic reactions, 272
 epidural anaesthesia, 112
 epidural analgesia, 80
 epidural test dose, 83, 84
 local anaesthetic toxicity
 and, 54
 neonatal resuscitation, 467
 adrenocortical insufficiency,
 304, 434, 435
 advance directives, 439
 advanced maternal age, 214–15
 AIDS, 411
 air embolism, 190–2
 airway
 assessment, rheumatoid
 arthritis, 339
 difficult. *See* difficult airway
 airway management. *See also*
 intubation, tracheal
 cardiopulmonary
 resuscitation, 243, 244
 extensive regional block,
 151, 153
 pre-eclampsia, 258–9
 albumin, plasma, 34
 alcohol abuse, 425, 427
 alfentanil
 epilepsy, 372
 hypertensive response to
 intubation, 259
 patient-controlled
 analgesia, 75
 allergic reactions, 271–3
 American College of
 Obstetricians and
 Gynecologists
 (ACOG), 500
 American Society of
 Anesthesiologists
 (ASA), 500
 amniotic fluid (liquor)
 colour, 61
 volume, 37
 amniotic fluid embolism,
 245–6
 amniotic fluid index, 37
 amphetamine abuse, 426
 anaemia, 310–11
 connective tissue
 disorders, 336
 thalassaemia, 333
 anaesthesia
 breastfeeding and, 471–2
 early pregnancy, 7–8
 follow-up, 474–5
 general. *See* general
 anaesthesia
 history of obstetric, 515–17
 maternal deaths, 267, 269
 maternal satisfaction, 476–7
 midwifery training, 487
 monitoring depth, 188
 organisations for obstetric,
 511–12
 regional. *See* regional
 anaesthesia
 anaesthetic agents. *See also*
 intravenous anaesthetic
 agents; local anaesthetics;
 volatile anaesthetic agents
 breastfeeding and, 471–2
 neonatal effects, 460–1
 pharmacodynamics, 45
 placental transfer, 47–9
 anaesthetic machine, 187,
 193–4
 anaesthetists
 antenatal education, 480, 491
 labour ward role, 484, 485
 maternal satisfaction, 476–7
 midwifery training, 487–8
 obtaining consent, 489–91
 occupational stress, 505–6
 patient follow-up, 474–5
 analgesia
 acute postpartum pain, 136
 chronic post-caesarean
 pain, 165
 follow-up, 474–5
 history of obstetric, 515–17
 labour. *See* labour analgesia
 maternal satisfaction, 476–7
 operative vaginal
 delivery, 100
 postoperative. *See*
 postoperative analgesia
 analgesics
 allergic reactions, 271
 breastfeeding and, 472
 labour pain, 72–4
 low back pain, 347
 midwives'
 responsibilities, 51
 neonatal effects, 460
 postoperative analgesia,
 135–6
 anaphylaxis, 271, 272–3

- angiotensin-converting enzyme inhibitors, 257
 ankylosing spondylitis, 335
 antacid prophylaxis, 42, 116, 183
 antenatal care, 36–8
 anaesthetic referral, 37
 cardiovascular disease, 276
 fetal assessment, 36–8
 Jehovah's Witnesses, 438–9
 maternal assessment, 36
 migrant/disadvantaged women, 418, 419
 psychiatric disease, 422
 pulmonary hypertension, 298–9
 antenatal education, 65, 67, 479–80, 491
 antepartum haemorrhage, 233
 abnormal placentation, 216–18
 placental abruption, 220
 anterior longitudinal ligament, 24, 26
 anterior spinal artery, 27
 anterior spinal artery syndrome, 27, 169
 antiarrhythmics, 279
 antibiotics
 allergic reactions, 271
 aspiration of gastric contents, 184
 caesarean section, 105–6, 403–4
 endocarditis prophylaxis, 276–7, 292
 pneumonia, 399
 preterm rupture of membranes, 203–4
 sepsis, 404
 anticardiolipin antibodies, 316, 336
 anticholinesterase inhibitors, 380, 381
 anticoagulation
 atrial fibrillation, 278
 breastfeeding mothers, 472
 caesarean section, 313
 congenital heart disease, 294
 pregnancy, 313, 314, 318–19
 prosthetic heart valves, 290, 291, 292, 293
 pulmonary hypertension, 298–9
 regional blockade risks, 318–19, 320
 thrombophilias, 316–17
 venous thromboembolism, 313
 anticonvulsants
 breastfeeding, 472
 peripartum convulsions, 374
 pregnancy, 371–2, 421
 antidepressants, 423, 472
 antiemetics
 breastfeeding and, 472
 hyperemesis gravidarum, 264–5
 opioid-treated women in labour, 73, 74
 antiepileptics. *See* anticonvulsants
 antihistamines, 93, 178
 antihypertensive therapy, 256–7, 427, 473
 antimalarial agents, 414, 415
 antiphospholipid syndrome, 316
 antiplatelet drugs, 318–19, 320
 antipsychotic drugs, 421
 anti-Ro antibodies, 336
 antithrombin III deficiency, 316
 antiviral agents, 400, 412–13
 anxiety, 1, 159
 aortic coarctation, 286–7
 aortic dissection, 286, 287, 288–9
 aortic rupture, 286, 287
 aortic valve disease, 290
 aortocaval compression, 32, 39–40
 cardiopulmonary resuscitation, 243
 multiple pregnancy, 210
 obesity, 428
 Apgar score, 459, 460, 515
 apnoea, neonatal, 466
 arachnoid mater, 27
 arachnoiditis, 174–5
 aromatherapy, 68
 arrhythmias, 32, 278–80
 artificial rupture of membranes (ARM), 196, 222
 aseptic meningitis, 355
 aseptic technique, 107, 172, 175, 354
 aspiration of gastric contents, 182–5
 history, 517
 increased risk, 34, 41–2, 182
 prevention, 42, 116, 183–4
 treatment, 184–5
 aspiration pneumonia, 183
 aspirin
 high dose, 339
 low dose, 291, 318–19, 320
 assisted fertility, 1–3
 Association of Anaesthetists of Great Britain and Ireland, 499, 515
 asthma, 388–9
 atenolol, 473
 atosiban, 200
 atrial fibrillation, 278
 atropine, 381
 audit, 482–3, 503
 augmentation of labour, 195, 196–7
 autonomic hyperreflexia, 359, 360
 autonomic neuropathy, diabetic, 308
 awake intubation, 129–30
 awareness under general anaesthesia, accidental (AAGA), 115, 186–9, 517
 azathioprine, 444
 back pain/backache, 162–3
 in pregnancy, 163, 346–8
 postpartum, 162–3, 495
 pregnancy-related, 346, 348
 bacterial infections
 meningitis, 355
 pneumonia, 398–9
 sepsis, 402–3
 balloon catheters, 218
 barbiturate abuse, 427
 battery, 489
 Bell's palsy, 166
 benzodiazepines, breastfeeding and, 472
 best interests, 423, 490
 beta-agonists
 asthma, 389
 pulmonary oedema, 281
 tocolysis, 200
 beta-blockers
 breastfeeding and, 473
 heart disease, 279, 284
 hypertension, 257
 betamethasone, 434
 bicarbonate, 112, 467
 bipolar disorder, 421
 birth trauma, 227
 birthing pool, 68
 Bishop score, 195–6

- bleeding. *See* haemorrhage
 blood gas analysis
 asthma, 388
 fetus, 64
 peripartum convulsions, 374
 umbilical cord, 459–60
 blood loss. *See also*
 haemorrhage
 caesarean section, 115
 major obstetric
 haemorrhage, 233
 peripartum, 310
 placental abruption, 220
 blood pressure, 32. *See also*
 hypertension;
 hypotension
 intra-arterial monitoring,
 259, 287, 296, 455–6
 measurement, 255
 stroke and, 369, 370
 blood transfusion
 haemoglobinopathies, 333–4
 Jehovah's Witnesses, 438–40
 major obstetric
 haemorrhage, 234–5
 blood volume, 32, 34–5, 58
 bloody tap, 141–2
 body mass index, 428, 429
 Bolam principle, 489
 Bolitho principle, 489–90
 brachial plexus injury, 227
 bradyarrhythmias, 278
 brain tumours, 363–4
 breastfeeding
 after caesarean section, 118
 critical illness, 450
 drugs and, 471–3
 breathlessness, 33
 breech presentation, 205–6
 external cephalic version,
 206, 208
 vaginal delivery, 206–7
 British National
 Formulary, 471
 Bromage score, 81, 82
 bronchospasm, 184, 388
 brow presentation, 206
 bullous skin diseases, 336
 bupivacaine, 53
 combined spinal–epidural
 analgesia, 89, 90
 differential block, 54
 epidural anaesthesia, 112
 epidural analgesia, 80
 epidural test dose, 84
 hyperbaric, 108–9
 pharmacology, 53–4
 spinal analgesia, 87
 toxicity, 54
 buprenorphine, 178
 butorphanol, 178
 caesarean section, 102–6
 abnormal placentation,
 217, 218
 accidental awareness, 115,
 186–9
 air embolism, 190–2
 allergic reactions, 272
 anaesthetic options, 106
 antibiotic prophylaxis,
 105–6, 403–4
 aspiration prophylaxis, 116,
 183–4
 awake intubation, 129–30
 breastfeeding after, 471
 breech presentation, 206
 cardiac disease, 276, 302
 chronic pain after, 164–5
 classification, 102–3
 coarctation of aorta, 287
 combined spinal–epidural
 anaesthesia, 90
 congenital heart disease,
 294, 296
 consent, 491
 cord prolapse, 222–3
 cricoid pressure, 117,
 120–1, 123
 critical illness, 450
 cystic fibrosis, 391
 diabetes mellitus, 308
 enhanced recovery, 138–9
 epidural anaesthesia, 111–14
 failed and difficult
 intubation, 122–8
 fetal distress, 225
 general anaesthesia,
 115–19, 160
 herpes simplex infection,
 409–10
 history of anaesthesia, 517
 indications, 103–4
 latex allergy, 272
 multiple pregnancy, 210, 211
 myasthenia gravis, 381
 obesity, 430
 pain during, 105, 110, 111,
 159–61, 494
 perimortem, 244,
 246, 450
 placental abruption, 221
 postoperative analgesia,
 113–14, 118, 134–7, 164–5
 postoperative
 management, 118
 pre-eclampsia, 258–9
 premature delivery, 203, 204
 preoperative
 assessment, 97–8
 problems, 105–6
 procedure, 104–5
 pulmonary
 hypertension, 299
 rates, 102
 regional anaesthesia,
 106, 136
 rheumatoid arthritis, 339
 spina bifida, 384
 spinal anaesthesia, 107–10
 stroke, 369, 370
 thromboprophylaxis,
 106, 313
 times to delivery, 103
 vaginal birth after, 212–13
 caffeine, 147
 calcium channel antagonists,
 200–1
 calcium gluconate, 262
 cancer, 441–2
 cannabis, 426
 capacity, mental, 423, 489, 490
 carbamazepine, 421
 carbetocin, 105, 199
 carbon dioxide tension
 fetal blood, 64
 maternal arterial (PaCO₂),
 33, 34, 388
 carbon dioxide, effects on
 fertilisation, 2
 carboprost
 asthma, 389
 heart disease, 303
 postpartum haemorrhage,
 199, 240
 cardiac arrest, 243–4
 cardiac disease, 274–7
 arrhythmias, 278–80
 congenital. *See* congenital
 heart disease
 connective tissue
 disorders, 335
 cyanotic, 294, 311
 ischaemic, 274, 301–3
 maternal risks, 275
 valvular, 290–3
 cardiac failure
 coarctation of aorta, 286

- congenital heart disease, 294
 peripartum cardiomyopathy, 283, 284
 pulmonary oedema, 281–2
 cardiac massage, neonatal, 466
 cardiac output
 labour and delivery, 33
 monitoring, 456–7
 pregnancy, 32
 pulmonary
 hypertension, 298
 cardiomyopathy, 283–5
 cardiopulmonary resuscitation (CPR), 39, 153
 cardiotocography (CTG).
 See also fetal heart rate
 antenatal, 38
 incidental surgery, 20
 interpretation, 62–3
 intrapartum, 57, 62
 terminology, 62, 225
 cardiovascular disease, 274–7
 cardiovascular system
 labour and delivery, 33
 major obstetric
 haemorrhage, 233
 neonate, 462–3, 465
 pregnancy, 32–3
 cardioversion, 279
 CARPREG risk score, 276
 cauda equina syndrome, 86–7, 176
 differential diagnosis, 174
 caudal analgesia, 24, 25, 78
 CD4⁺ cell counts, 411
 cell salvage, intraoperative, 235, 246, 439
 central venous pressure
 labour and delivery, 33
 monitoring, 252, 259, 296, 456
 pregnancy, 33
 cerebral aneurysms, 286, 287
 rupture, 286
 cerebral venous thrombosis, 368, 369
 cerebrospinal fluid (CSF), 27
 dural puncture, 143–4
 HIV infection, 412
 meningitis, 355
 shunts, 21, 361, 364, 383
 cervical dilatation, 57
 cervical shock, 132
 cervical spine disorders, 338, 341–2
 cervical suture (cerclage), 16–17, 203
 cervical vertebrae, 24
Changing Childbirth (Cumberledge Report), 515
 chemotherapy, 441
 induced pulmonary
 fibrosis, 392
 lymphoma and
 leukaemia, 330
 chest drainage, 436
 chest pain, 159, 190
 chest x-ray
 aspiration of gastric
 contents, 184–5
 cardiac disease, 274
 pneumonia, 398
 chickenpox, 399, 400
 childbirth without fear
 movement, 65, 67
 chlorhexidine, 175
 chloroprocaine, 53, 112–13
 chloroquine, 415
 chlorphenamine
 (chlorpheniramine),
 93, 272
 cholestasis of pregnancy,
 247–8, 320
 cholinergic crisis, 380, 381
 chorioamnionitis, 203, 403, 417
 choriocarcinoma, 442
 chronic hepatitis, 407
 chronic kidney disease, 432–3
 chronic pain
 low back pain, 348
 parturient with, 349–50
 post-caesarean, 164–5
 circulatory system, neonatal,
 462–3
 clindamycin, 415
 Clinical Negligence Scheme
 for Trusts (CNST),
 493, 504
 clonidine, epidural, 80
 coagulation tests, 318, 329
 coagulopathy, 318–19
 acute fatty liver of
 pregnancy, 250
 cholestasis of pregnancy,
 247–8
 intrauterine death, 229, 230
 placental abruption, 220
 coarctation of aorta, 286–7
 cocaine abuse, 301, 426, 427
 codeine, 472
 Collaborative Eclampsia Trial,
 261, 262
 collapse, maternal
 amniotic fluid embolism,
 245–6
 cardiopulmonary
 resuscitation, 243–4
 causes, 242, 243
 convulsions, 373
 ectopic pregnancy, 9
 on labour ward, 241–2
 combined spinal–epidural
 (CSE) analgesia/
 anaesthesia, 88–91
 caesarean section, 90
 complications, 90–1
 failed epidural block, 157
 history, 517
 labour analgesia, 89
 postoperative analgesia, 136
 pre-eclampsia, 258
 communication
 interdisciplinary, 450,
 485, 506
 migrants, 419
 patients and relatives, 475,
 495, 506
 competence (to give
 consent), 489
 computerised tomography
 (CT), 353, 437
 concealed pregnancy, 214
 conduction disorders, 278
 Confidential Enquiries into
 Maternal Deaths
 (CEMD), 267, 268, 482.
 See also maternal deaths
 anaesthesia, 267, 269
 cardiovascular disease,
 274–5
 critical illness, 448, 449,
 452, 454
 ectopic pregnancy, 9
 history, 515
 invasive monitoring, 455
 Confidential Enquiry into
 Stillbirths and Deaths in
 Infancy (CESDI), 469–71
 congenital heart disease, 274,
 294–7
 coarctation of aorta, 286
 cyanotic, 294
 risk to offspring, 294, 295
 valvular heart disease,
 290, 292
 WHO classification, 295

- congenital malformations, 307
 connective tissue disorders, 335–7
 conscientious objection, 14
 consent, 489–91, 494
 capacity to give, 423, 489, 490
 documentation, 491, 495
 epidural analgesia, 78, 490, 491
 implied, 489
 psychiatric patients, 423
 research participation, 508–9
 conus of spinal cord lesions, 169
 convulsions
 differential diagnosis, 373, 374
 eclampsia, 256, 257
 epilepsy, 371, 372
 labour ward, 373–5
 cord prolapse, 206, 207, 222–4
 cortical vein thrombosis, 368
 corticosteroids. *See* steroid therapy
 Couvelaire uterus, 221
 cranial nerve palsies, 166–7
 creatinine, blood, 432
 cricoarytenoid arthritis, 338, 339
 cricoid pressure, 120–1
 caesarean section, 117
 cardiopulmonary resuscitation, 244
 difficult intubation, 123
 history, 517
 prevention of regurgitation, 184
 critical care, 448–50
 critical incident reporting, 485, 504
 cryoprecipitate, 234, 326
 CSE. *See* combined spinal–epidural
 CSF. *See* cerebrospinal fluid
 cultural aspects
 labour pain, 65
 obstetric intervention, 419
 Cumberledge Report, 515
 Cushing's syndrome, 304
 cutaneous innervation, lower body, 28
 cyanotic heart disease, 294, 311
 cyclizine, 264
 cyclosporin, 444
 cystic fibrosis, 390–1
 dalteparin, 314, 430
 dantrolene, 193, 194
 day-case anaesthesia
 evacuation of retained products, 13
 oocyte retrieval, 2
 termination of pregnancy, 14–15
 DC cardioversion, 279
 deep-vein thrombosis, 312–14
 delivery
 cardiovascular changes, 33
 gastric function, 34
 preterm, 202–4
 respiratory changes, 33–4
 dental care, 292
 depression
 postnatal, 421, 422, 423, 472
 pre-existing, 421, 423
 depth of anaesthesia, monitoring, 188
 dermatomes, 28
 desflurane, 188
 desmopressin (DDAVP), 322, 323
 dexamethasone, 434
 diabetes mellitus, 306–8
 gestational, 306, 308
 type 1, 306, 307
 type 2, 306
 diabetic ketoacidosis, 308
 dialysis, 432, 433
 diamorphine
 breastfeeding, 472
 epidural anaesthesia, 113
 labour analgesia, 72
 patient-controlled analgesia, 75
 postoperative analgesia, 135, 136
 side effects, 73
 spinal anaesthesia, 109
 spinal and epidural, 92, 93
 diathermy, 279–80, 350
 diazepam, 257, 265, 374
 breastfeeding and, 472
 Dick-Read, Grantly, 515
 differential block, 54
 difficult airway
 awake intubation, 129–30
 caesarean section, 115, 117
 connective tissue disorders, 336, 337
 rheumatoid arthritis, 338, 339
 difficult intubation, 122–8
 anaesthetic technique, 123–4
 causes, 122
 cervical spine disorders, 341–2
 diabetes mellitus, 308
 obesity, 430
 prediction, 123
 pre-eclampsia, 258–9
 dilatation and evacuation (D&E), 14
 dilated cardiomyopathy, 284–5
 dinoprostone, 196, 199
 disadvantaged women, 418–19
 disc prolapse, acute, 347
 discectomy, 348
 disseminated intravascular coagulation (DIC), 325–6
 domperidone, 264–5
 Doppler flow studies, 37
 doulas, 69
 drug abuse, 349, 422, 423, 425, 426–7
 drugs
 absorption, 44
 allergic reactions, 271
 breastfeeding and, 471–3
 causing
 thrombocytopenia, 328
 distribution, 44
 elimination, 45
 fetal blood concentration, 48
 fetal effects, 7, 45
 licensing in pregnancy, 45–6
 lipid solubility, 47
 maternal blood concentration, 47–8
 metabolism, 44–5
 midwives' responsibilities, 51
 molecular weight, 47
 neonatal pharmacology, 463
 neonatal resuscitation, 466, 467
 pharmacodynamics, 45
 pharmacokinetics, 44–5
 placental transfer, 47–9
 pregnancy, 44–6
 prescription and administration by midwives, 50–2
 protein binding, 34, 44, 53
 dura mater, 27
 dural puncture, 143–5
 accidental, 83, 86, 143, 144–5, 152
 adverse effects, 144, 146

- cranial nerve palsies,
 166, 167
 diagnosis, 143–4
 headache after. *See* postdural
 puncture headache
 intentional, 108, 143
 spina bifida, 383, 384
 dysautonomia, familial, 343
- early neonatal
 neurobehavioural scale
 (ENNS), 460
 early pregnancy advisory unit
 (EPAU), 12
 echocardiography, 191, 283,
 336, 457
 eclampsia, 255, 256
 differential diagnosis, 373–4
 management, 257, 261, 374
 recommendations, 256
 ecstasy (MDMA), 427
 ectopic pregnancy, 9–10
 edrophonium, 381
 Ehlers–Danlos syndrome,
 335, 336
 Eisenmenger's syndrome,
 298–300
 electrocardiogram (ECG)
 fetal, waveform analysis, 63
 pregnancy, 32
 embolisation, therapeutic, 218
 embryonic phase, effects of
 drugs, 7
 emergencies, obstetric, 485
 encephalitis, 107
 end-diastolic flow, 38
 endocarditis, prophylaxis,
 276–7, 292
 endocrine disease, 304–5
 enhanced recovery (ER), 138–9
 ENNS (early neonatal
 neurobehavioural
 scale), 460
 enoxaparin, 314, 430
 Entonox, 70–1
 ephedrine, 109
 cocaine abuse, 427
 heart transplant
 recipients, 446
 epidural analgesia
 anatomy, 23–8
 breakthrough pain, 159–61
 caesarean section, 111–14
 cervical suture, 16–17
 cord prolapse, 223
 cranial nerve palsies, 166–7
 extensive (high) block, 152–3
 Horner's syndrome, 166–7
 retained placenta and
 perineal repair, 132
 shivering, 180–1
 technique, 112–13
 testing the block, 113
 epidural analgesia, 78–82
 backache and, 162–3, 495
 breakthrough pain, 156
 breastfeeding and, 471
 cardiac disease, 276, 302
 coarctation of aorta, 287
 complications, 80–2
 consent, 78, 490, 491
 contraindications, 78
 converting to spinal
 analgesia, 144
 cranial nerve palsies, 166–7
 cystic fibrosis, 391
 drugs, 80
 equipment, 78–9
 extension for
 caesarean, 111–12,
 113, 152
 extensive block, 152–3
 fetal monitoring, 62
 for instrumental delivery,
 100, 101, 152
 grading motor blockade,
 81, 82
 history, 78, 516–17
 Horner's syndrome, 166–7
 idiopathic intracranial
 hypertension, 361
 inadequate, 155–8
 induction of labour, 196
 instrumental delivery
 risk, 101
 intracranial tumour, 364
 intrauterine death, 230
 kyphoscoliosis, 344
 low back pain, 348
 malpresentations and
 malpositions, 206–7
 missed segments, 155, 157
 multiple pregnancy, 211
 obesity, 429–30
 opioids. *See* opioids, epidural
 patient-controlled (PCEA),
 79, 80, 136
 postoperative analgesia, 136
 pre-eclampsia, 257–8
 pyrexia
 contraindicating, 417
 pyrexia induced by, 416
 research ethics, 509
 respiratory effects, 34
 sickle cell disease, 334
 side effects, 80–2
 spinal cord injuries, 360
 technique, 79–80
 thrombophilia, 316–17
 unilateral block, 155, 157
 urge to push and, 57
 vaginal birth after caesarean
 section, 212
 epidural blood patch (EBP),
 147–8, 149–50
 Jehovah's Witnesses, 439
 epidural catheters, 78, 156
 bloody tap, 141–2
 checks on position, 156, 157
 inserting excessive length,
 155, 157
 meningitis risks, 354–5
 migration, 83, 111, 143
 re-siting, 144, 152, 156, 157
 epidural haematoma, 162, 171,
 172, 173
 epidural packs, 78
 epidural space, 25–7
 dorsal midline septum, 155
 identification, 79–80
 epidural test dose, 83–5, 152
 epidural top-ups, 80, 83
 after dural puncture, 144
 by midwives, 51
 for caesarean section, 111–13
 for instrumental delivery,
 100, 101, 152
 inadequate blocks, 156–7
 midwifery training, 488
 epidural veins, 26
 inadvertent catheterisation,
 83, 84, 141–2
 epidural volume extension
 (EVE), 90
 epilepsy, 371–2
 Erb's palsy, 227
 ergometrine, 199
 evacuation of retained
 products, 13
 heart disease, 294, 302
 uterine atony, 240
 erythropoietin, 311
 ethics, research, 508–9
 European obstetric anaesthesia
 societies, 512

- evacuation of retained products of conception (ERPC), 12–13, 15
 evidence-based practice, 508
 ex utero intrapartum treatment (EXIT), 21
 extensive regional block, 151–4
 external cephalic version (ECV), 205–6, 208–9
 extracorporeal membrane oxygenation (ECMO), 397, 400
 extubation, tracheal, 118, 130
- face presentation, 206
 facial nerve palsy (Bell's palsy), 166
 factor V Leiden, 315
 factor VII, recombinant activated (rFVIIa), 235
 factor VIII, 35, 322, 323
 factor VIIIc, 322, 323
 factor IX, 322, 323
 failed intubation, 122–8
 awake intubation after, 129–30
 caesarean section, 117
 causes, 122
 cricoid pressure, 121
 guidelines, 124–7
 incidence, 115, 122
 fast-track surgery (enhanced recovery), 138–9
 feeding, intrapartum, 41–2
 female genital mutilation, 418
 femoral nerve lesions, 169
 fentanyl, 73
 combined spinal–epidural analgesia, 89
 epidural anaesthesia, 113
 epidural analgesia, 80
 epidural test dose, 84
 herpes simplex infection, 409
 hypertensive response to intubation, 259
 patient-controlled analgesia, 75
 placental transfer, 94
 postoperative analgesia, 136
 spinal anaesthesia, 109
 spinal analgesia, 87
 spinal and epidural, 92, 93
 Ferguson's reflex, 57
 fertility
 assisted, 1–3
 cancer patients, 330, 441
 transplant recipients, 446
 fetal abnormality
 intrauterine surgery, 21–2
 termination of pregnancy, 14, 15
 fetal blood sampling, 64
 fetal death, 229–30
 neuraxial blockade risk, 320
 one twin, 230
 placental abruption, 221
 termination of pregnancy, 14, 15
 thalassaemia, 333
 fetal distress, 225–6
 fetal growth, assessment, 36–7
 fetal heart rate
 accelerations, 62
 baseline, 62
 decelerations, 62
 ECG waveform analysis, 63
 variability, 62
 fetal heart rate monitoring.
 See also cardiotocography
 antenatal, 38
 continuous, 62
 intermittent auscultation, 62
 interpretation, 62–3
 intrapartum, 57, 61–3
 fetal monitoring
 incidental surgery, 20
 intrapartum, 57, 61–4
 preterm labour, 203
 fetal surgery, intrauterine, 21–2
 fetal wellbeing, antenatal assessment, 36–8
 fetomaternal haemorrhage, 436, 437
 fetus
 circulatory system, 462–3
 consent and, 490
 drug concentration, 48
 effects of drugs, 7, 45, 73
 incidental surgery and, 18, 20
 trauma, 437
 fever. *See* pyrexia
 fibrin degradation products, 326
 fibrinogen concentrate, 234, 326
 first stage of labour, 57
 fluid intake, intrapartum, 42
 fluid therapy. *See also* intravenous fluids
 acute lung injury, 396
 diabetes mellitus, 308
 pre-eclampsia, 259
 sepsis, 404
 folate deficiency, 310
 follow-up, anaesthetic care, 474–5
 forceps delivery, 99–101
 trial of, 100
 fresh frozen plasma, 326
 functional residual capacity, 33
 fungal pneumonia, 399–400
- gabapentin, 135, 147
 gamete intrafallopian transfer (GIFT), 1
 gastric emptying
 labour, 34
 opioid-induced delay, 41, 81, 94
 pregnancy, 34, 41
 gastric function, in labour, 34, 41–2
 gastrointestinal changes, 34
 gemeprost, 199
 general anaesthesia
 accidental awareness, 115, 186–9, 517
 asthma, 388
 breastfeeding and, 471–2
 caesarean section, 106, 115–19, 160, 517
 cervical spine disorders, 341
 cervical suture, 17
 coagulopathies, 320
 cord prolapse, 223
 cricoid pressure. *See* cricoid pressure
 diabetes mellitus, 308
 evacuation of retained products, 13
 follow-up, 475
 guidelines for obstetric, 124
 Guillain–Barré syndrome, 357
 HELLP syndrome, 253
 incidental surgery, 19
 intracranial tumour, 364
 intubation. *See* intubation, tracheal
 ischaemic heart disease, 302
 major obstetric haemorrhage, 235
 malignant hyperthermia susceptibility, 193–4
 multiple pregnancy, 210
 myasthenia gravis, 381
 neonatal effects, 460

- obesity, 430
 oocyte retrieval, 2
 postoperative analgesia, 135–6
 pre-eclampsia, 258–9
 pulmonary hypertension, 299–300
 retained placenta and perineal repair, 132
 rheumatoid arthritis, 339
 training, 123
 genital tract trauma, 239. *See also* perineal tears
 gestational diabetes, 306, 308
 gestational hypertension, 254, 256
 gestational thrombocytopenia, 327, 329
 gestational trophoblastic neoplasia, 442
 glycaemic control, 306, 307–8
 glyceryl trinitrate, 201
 acute hypertension, 257
 caesarean section, 104
 uterine hyperstimulation, 196
 glycopyrronium, 113, 129–30
 guidelines, 499–501
 local, 485, 500–1
 medicolegal status, 501
 national, 485, 499–500
 pros and cons, 500
 Guidelines for Obstetric Anaesthesia Services, 499
 Guidelines for the Provision of Anaesthetic Services, 499
 Guillain–Barré syndrome, 357–8
 Gustav’s sign, 166
 H₂-antagonists, 112, 116
 haematological changes, 34–5
 haematological malignancies, 330–1
 haemodynamic changes
 aortic dissection, 288
 labour and delivery, 33
 pre-eclampsia, 255–6
 pregnancy, 32–3
 haemoglobin
 concentration, 35, 310
 fetal, 463
 sickle cell (S), 332
 haemoglobin H (HbH)
 disease, 333
 haemoglobinopathies, 332–4
 haemolytic uraemic syndrome, 328
 haemophilia, 322–3
 haemorrhage
 antepartum. *See* antepartum haemorrhage
 caesarean section, 105
 classification, 233, 234
 concealed, 233
 major obstetric. *See* major obstetric haemorrhage
 postpartum. *See* postpartum haemorrhage
 haemorrhagic shock, 234
 Harrington rods, 344
 head circumference, fetal, 37
 head injury
 acute, 437
 past history, 359–60
 headache
 idiopathic intracranial hypertension, 361
 migraine, 376
 postdural puncture. *See* postdural puncture headache
 postpartum, 147
 raised intracranial pressure, 364
 heart disease. *See* cardiac disease
 heart–lung transplant, 445, 446
 heart rate
 epidural test dose, 84
 fetal. *See* fetal heart rate
 heart transplant, 445, 446
 HELLP syndrome, 252–3
 management, 252–3
 pre-eclampsia spectrum, 249, 252, 255
 heparin
 low molecular weight. *See* low molecular weight heparin
 prosthetic heart valves, 291, 293
 regional blockade risks, 319, 320
 thromboprophylaxis, 313, 314
 venous thromboembolism, 313
 hepatitis, 406–8
 hepatitis A, 406
 hepatitis B, 406
 hepatitis C, 406–7
 hepatitis E, 407
 herpes simplex infection, 409–10
 herpes simplex labialis, 93
 high-dependency care, 448, 455
 high-risk labour, 61, 62, 183
 high-risk pregnancy, 37, 61
 intrapartum fetal monitoring, 62
 pre-operative assessment, 98
 prevention of aspiration, 183
 highly active antiretroviral therapy (HAART), 412–13
 history, obstetric analgesia and anaesthesia, 515–17
 HIV infection, 411–13
 home birth, 56
 homograft heart valves, 292
 hormonal changes, pregnancy, 31
 Horner’s syndrome, 166–7
 5-HT₃ receptor antagonists, 178
 human chorionic gonadotrophin (hCG), 4, 31
 human chorionic somatomammotrophin (hCS), 31
 human immunodeficiency virus (HIV), 411–13
 human T cell leukaemia/lymphoma virus (HTLV), 411
 hydatidiform mole, 442
 hydralazine, 257
 hydrocephalus, 21
 hydrocortisone, 147, 265, 272, 434, 435
 hydromorphone, 92
 hydrops fetalis, 333
 hydrostatic pressure, uterine inversion, 231
 hypercoagulable state, 35
 hyperemesis gravidarum, 264–6
 hyperparathyroidism, primary, 304
 hyperreflexia, 255
 hypertension
 chronic, 254, 256
 coarctation of aorta, 286, 287
 connective tissue disorders, 335
 during labour, 59

- hypertension (cont.)
 gestational, 254, 256
 intubation-induced, 258–9
 kidney transplant recipients, 445
 management, 256–7
 pheochromocytoma, 304–5
 stroke risk, 369, 370
 hypertensive disorders of pregnancy, 254–9
 hyperthyroidism, acute, 304
 hypertrophic cardiomyopathy (HCM), 283–4
 hyperventilation, 33
 hypnosis, 67
 hypoadrenalism (Addison's disease), 304, 434, 435
 hypoglycaemia, 307
 hypotension
 allergic reactions, 271–2
 aortocaval compression, 39
 epidural anaesthesia, 111, 113
 extensive regional block, 151
 spinal anaesthesia, 107, 109
 steroid-treated mothers, 434
 hypothermia, induced, 244, 466
 hypovolaemia, 115
 hypoxaemia
 acute lung injury, 396–7
 convulsions, 373, 374
 neonatal, 466
 pulmonary oedema, 281
 hypoxia, fetal, 61, 64, 227
 hysterectomy, peripartum, 239–40
 ilioinguinal blocks, 135
 immigrants, 418–19
 immune thrombocytopenia (ITP), 327, 329
 immunosuppressive therapy
 connective tissue disorders, 335, 336
 rheumatoid arthritis, 339
 transplant recipients, 444–5
 implantable cardioverter defibrillators (ICDs), 279–80
 implanted pain management devices, 349–50
 in-vitro fertilisation (IVF), 1, 4
 incidents, reporting critical, 485, 504
 induction of anaesthesia
 caesarean section, 116–18
 cricoid pressure, 117, 120–1
 preventing awareness, 187
 rapid-sequence, 116–17
 induction of labour, 195–7
 indications, 195
 intrauterine death, 229
 termination of pregnancy, 15
 infant mortality rate, 469
 infections. *See also* bacterial infections; sepsis; viral infections
 after caesarean section, 105–6
 Guillain-Barré syndrome, 357
 intrapartum pyrexia, 416, 417
 risks to fetus, 403
 transplant recipients, 444, 446
 infertility. *See* fertility
 influenza, 399
 H1N1 (swine flu), 398, 399, 400
 vaccination, 400
 information
 antenatal provision, 479–80
 provision for consent, 489–90, 494
 recall, 479
 inhalational analgesia, 70–1, 516
 instrumental delivery, 99–101
 epidural top-ups, 100, 101, 152
 insulin, 306, 307–8
 insulin-like growth factor binding protein-1, 202
 intensive care unit (ICU), 448–50, 455
 international normalised ratio (INR), 318, 320
 interpreters, 67, 97, 419, 491
 interspinous ligament, 25, 26
 interventional radiology, 218, 235
 intervertebral discs, 24
 acute prolapse, 347
 intoxication, acute, 425
 intra-arterial pressure monitoring, 259, 287, 455–6
 intracerebral haemorrhage, 368
 intracranial hypertension, idiopathic, 361–2
 intracranial tumours, 363–4
 intracytoplasmic sperm injection (ICSI), 1
 intrapartum fetal monitoring, 57, 61–4
 intrathecal catheters, 86
 intrathecal drug delivery device, implanted, 349–50
 intrauterine death. *See* fetal death
 intrauterine surgery, 21–2
 intravenous access
 maternal resuscitation, 234, 244, 436
 neonatal resuscitation, 466
 intravenous anaesthetic agents
 breastfeeding, 471–2
 induction of anaesthesia, 116–17, 187
 intravenous fluids
 administration by midwives, 51
 allergic reactions, 272
 diabetes mellitus, 308
 hyperemesis gravidarum, 265
 in labour, 42
 neonatal resuscitation, 466, 467
 retained placenta and perineal repair, 132
 spinal anaesthesia, 109
 intravenous sedation, oocyte retrieval, 2
 intraventricular shunts, 21, 383
 intubation, tracheal
 anaesthetic technique, 123–4
 awake, 129–30
 difficult. *See* difficult intubation
 extensive regional block, 153
 failed. *See* failed intubation
 HELLP syndrome, 253
 invasive monitoring, 455–7
 ion trapping, fetal, 47
 ionisation, drug, 47, 53
 iron, 310, 311
 ischaemic heart disease, 274, 301–3
 ischaemic stroke, 368, 369
 isoflurane, 188
 Isoxane, 70
 itching. *See* pruritus
 jaundice, maternal, 247, 249, 250

- Jehovah's Witnesses, 310, 311, 438–40
- ketamine, 135
- kidney disease, 432–3
- kidney transplant, 445–6
- Klikovitch, Stanislav, 516
- Klippel–Feil syndrome, 341
- kyphoscoliosis, 336, 343–5, 383
- labetalol
 cocaine abuse, 427
 hypertensive disorders, 257, 259
- labour
 abnormal, 59–60
 augmentation, 195, 196–7
 cardiovascular changes, 33
 feeding in, 41–2
 first stage, 57
 gastric function, 34, 41–2
 high risk, 61, 62, 183
 induction. *See* induction of labour
 low risk, 61, 62
 normal, 56–60
 pain, 65–6
 preterm, 202–4
 records, 56–7
 respiratory changes, 33–4
 second stage, 57
 third stage, 58, 198
- labour analgesia
 acute fatty liver of pregnancy, 250
 breakthrough pain, 156
 coarctation of aorta, 287
 combined
 spinal–epidural, 89
 congenital heart disease, 296
 epidural. *See* epidural analgesia
 epidural and spinal
 opioids, 93
 follow-up, 474
 history, 516–17
 implanted cardiac devices, 280
 inhalational agents, 70–1
 intrauterine death, 230
 intravenous patient-controlled, 73, 75–7
 ischaemic heart disease, 302
 maternal satisfaction, 476–7
 non-pharmacological methods, 67–9
 pre-eclampsia, 257–8
 sickle cell disease, 334
 spinal, 86–7
 systemic opioids, 72–4
- labour ward
 organisation, 484–5
 research, 508–10
- lactate, fetal blood, 64
- Lamaze, Ferdinand, 515
- laminae, vertebral, 24
- laminectomy, 348
- language barriers, 418, 419, 479, 491
- laparoscopy
 ectopic pregnancy, 10
 oocyte retrieval, 2–3
- laryngeal mask airway, 466
- laryngeal oedema, 258
- lateral cutaneous nerve of thigh lesions, 169
- latex allergy, 271, 272, 273, 383
- Leboyer, Frederick, 515
- lecithin–sphingomyelin (LS) ratio, 202
- left-to-right shunt, chronic, 298
- legibility, records, 497
- leukaemia, 330–1
- levobupivacaine, 53–4
 epidural analgesia, 80
 toxicity, 54
- LiDCOplus, 457
- lidocaine, 53
- epidural anaesthesia, 112
 epidural test dose, 84
 maximum dose, 54
 neonatal effects, 460
 neurotoxicity in high dose, 176
 pharmacology, 53–4
 post-epidural shivering, 180
- lie, fetal, 205
- ligamentum flavum, 25, 26
- lipid solubility
 drug, 47, 53
 opioids, 92
- liquor. *See* amniotic fluid
- lithium, 421
- litigation, medicolegal, 484, 489, 493–5, 497–8, 501
- liver rupture, 252, 255
- liver transplant, 445, 446
- local anaesthetics, 53–5
 allergic reactions, 271
 combined spinal–epidural analgesia, 89, 90
- differential block, 54
- epidural anaesthesia, 112–13
- epidural analgesia, 80
- epidural test dose, 84
- low back pain, 347
 pharmacology, 53–4
 placental transfer, 47, 48–9
 synergy with opioids, 93
 toxicity, 54, 55
- long QT syndrome, 279
- long-chain 3-hydroxyacyl-CoA dehydrogenase (LCHAD) deficiency, 249
- lorazepam, 472
- loss of resistance (LOR)
 technique, 78, 79, 143
- low back pain, 346–8. *See also* back pain/backache
- low molecular weight heparin (LMWH)
 breastfeeding, 472
 neuraxial blockade risks, 320
 obesity, 429, 430
 pregnancy, 313, 314
- low-risk labour, 61, 62
- low-risk pregnancy, 56, 61, 484
 intrapartum fetal monitoring, 62
- lumbar plexus, 28, 29
- lumbar puncture, 330, 354, 355
- lumboperitoneal shunts, 361, 364
- lumbosacral trunk lesions, 169
- lupus anticoagulant, 316
- lymphoma, 330–1
- magnesium sulphate, 261–3
 adverse effects, 261, 262
 dose, 262
 myasthenia gravis, 380
 pre-eclampsia/eclampsia, 257, 259, 261
 preterm labour, 203, 261
 tocolysis, 201, 261
- magnetic resonance imaging (MRI), 353, 384, 437
- MAGPIE trial, 261, 262
- major obstetric haemorrhage (MOH), 233–6
 acute lung injury, 396
 guidelines, 235
 Jehovah's Witnesses, 439–40
 postpartum haemorrhage, 238–9
- malabsorption, 247
- malaria, 414–15

- malignant disease, 441–2
 malignant hyperthermia (MH), 193–4
 malposition, fetal, 205–7
 malpresentation, fetal, 205–7, 211
 marijuana, 426
 maternal age, young and advanced, 214–15
 maternal collapse. *See* collapse, maternal
 maternal deaths
 anaesthesia, 267, 269
 cardiac disease, 274, 301
 classification, 268
 definition, 267
 ectopic pregnancy, 9
 epilepsy, 371
 major causes, 267, 268
 pneumonia, 398
 suicide, 421, 472
 maternal mortality, 267–9
 acute fatty liver of pregnancy, 249
 acute lung injury, 396
 amniotic fluid
 embolism, 246
 major obstetric haemorrhage, 233
 primary pulmonary hypertension, 298
 thromboembolism, 312
 maternal mortality rate, 267
 maternal mortality ratio (MMR), 267
 maternal satisfaction, 476–7
 MBRRACE-UK (Mothers and Babies - Reducing Risk through Audits and Confidential Enquiries across the UK), 267
 McDonald cerclage, 16–17
 McRoberts manoeuvre, 227–8
 MDMA
 (methylenedioxymethylamphetamine), 427
 mechanical heart valves, 291
 meconium
 aspiration, 466
 staining, 61
 medicolegal issues, 484, 493–5, 501
 membranes (fetal)
 artificial rupture (ARM), 196, 222
 prelabour rupture (PROM), 202–4
 preterm prelabour rupture (PPROM), 202
 sweeping, 195
 Mendelson's syndrome, 182–3, 517
 meninges, spinal, 27
 meningitis, 354–5
 diagnosis, 354, 355
 prior history, 354, 355
 regional block-related, 90, 107, 354–5
 meningocele, 383
 Mental Health Act (1983), 423
 mental illness, 421–3
 MEOWS. *See* Modified Early Obstetric Warning Score
 meralgia paraesthetica, 169
 methadone, 472
 methotrexate, 10
 methoxyflurane, 70
 methyl dopa, 257
 methylenedioxymethylamphetamine (MDMA), 427
 metoclopramide, 183–4, 264–5
 midazolam, 472
 midwife-led care, 56, 484
 midwives
 drug prescription and administration, 50–2
 labour pain management, 69, 70, 72
 training, 487–8
 mifepristone, 196
 migraine, 376
 migrants, 418–19
 minimal alveolar concentration (MAC), 188
 minimum local analgesic concentration/dose (MLAC/D), 53–4
 minors, pregnancy in, 214–15
 minute ventilation, 33
 miscarriage
 evacuation of retained products, 12–13
 recurrent, 316
 surgery/anaesthesia in pregnancy and, 7, 19
 misoprostol, 180, 199
 induction of labour, 196
 uterine atony, 240
 mitral stenosis, 290
 mitral valve replacement, 290
 Modified Early Obstetric Warning Score (MEOWS), 452–4
 parameters recorded, 452, 454
 postpartum haemorrhage, 239
 sepsis, 404
 molar pregnancy, 442
 monoamine oxidase inhibitors (MAOIs), 421, 423
 morbidity meetings, 485
 morphine
 breastfeeding, 472
 epidural anaesthesia, 113
 herpes simplex infection, 409
 labour pain, 72
 patient-controlled analgesia, 75
 postoperative analgesia, 135, 136
 pruritus, 178
 spinal anaesthesia, 109
 spinal and epidural, 92, 93
 motor innervation, lower body, 28, 30
 multiple pregnancy, 210–11
 multiple sclerosis, 378–9
 musculoskeletal changes, 35
 myasthenia gravis, 380–2
 myasthenic crisis, 380, 381
 myelomeningocele, 383
 myeloschisis, 383
 myocardial infarction (MI), 278, 301–3
 myotomes, 28, 30

 NACS (neurological and adaptive capacity score), 460
 naloxone
 neonatal resuscitation, 73, 467
 opioid-induced pruritus, 178
 spinal and epidural opioids, 93, 94
 National Audit Projects
 3rd (NAP3), 90–1, 482
 5th (NAP5), 115, 117, 186, 482, 517
 6th (NAP6), 271, 272
 National Early Warning Score (NEWS), 452

- National Institute for Health and Care Excellence (NICE), 500
- nausea and vomiting
 caesarean section, 113
 causes, 265
 early pregnancy, 264
- NBAS (neurobehavioural assessment score), 460
- near-misses, reporting, 485
- neck flexibility, reduced, 336, 341
- needlestick injuries, 413
- negligence claims, 484, 489, 493–5, 501
- neonatal intensive care unit (NICU), 225
- neonates
 assessment, 459–61
 cardiovascular system, 462–3, 465
 diabetes, 307
 effects of anaesthetics and analgesics, 460
 HIV transmission, 411, 412–13
 malaria, 415
 neurological system, 463
 opioid users, 349, 426
 pharmacology, 463
 physiology, 462–4
 respiratory system, 463, 465–6
 resuscitation, 465–7
 thermoregulation, 463
- neostigmine, 381, 445
- nerve injuries. *See* peripheral nerve lesions
- nerve root damage, 168, 169
- neural tube defects, 383
- neuraxial blocks. *See* regional blocks
- neurobehavioural assessment score (NBAS), 460
- neuroendocrine disease, 305
- neurofibromatosis, 366–7
- neuroimaging, 353
- neurological and adaptive capacity score (NACS), 460
- neurological complications
 arachnoiditis, 174–5
 cauda equina syndrome, 176
 combined spinal–epidural analgesia, 90–1
 peripheral nerve lesions, 168–70
 pre-eclampsia, 256
 spinal cord lesions, 171–3
 neurological disease, 352–3
 neurological system, neonate, 463
 neurological trauma, prior history, 359–60
 neuromuscular blocking drugs. *See also* suxamethonium
 breastfeeding and, 471–2
 caesarean section, 117, 118
 hepatitis, 407
 myasthenia gravis, 380, 381
 obesity, 430
 obstetric general anaesthesia, 123–4
 placental transfer, 47
 New York Heart Association (NYHA) classification, 275–6
 NHS Resolution, 493, 504
 nifedipine, 200–1, 257
 nitroprusside, 257
 nitrous oxide
 awareness under anaesthesia, 186, 187
 caesarean section, 118
 early pregnancy, 8
 fertilisation effects, 2
 history, 516
 nitrous oxide/oxygen (Entonox), 70–1
 non-steroidal anti-inflammatory drugs (NSAIDs)
 allergic reactions, 271
 breastfeeding and, 472
 connective tissue disorders, 335, 337
 low back pain, 347
 neuraxial blockade risk, 320
 postoperative analgesia, 118, 135
 rheumatoid arthritis, 339
 norpethidine, 72
 Nursing and Midwifery Council (NMC), 50, 51–2, 487, 488
 obesity, 428–30
 aspiration risk, 41
 classification, 429
 Obstetric Anaesthetists' Association (OAA), 499, 511, 515
 obstructive cardiomyopathy, 283–4
 obturator nerve lesions, 169
 occipito-posterior position, 205
 ondansetron, 93, 264–5
 oocyte retrieval, 1, 2–3
 operative vaginal delivery, 99–101
 opioids. *See also* diamorphine; fentanyl; morphine; pethidine; sufentanil
 abuse, 426, 427
 awareness under anaesthesia, 187
 breastfeeding and, 472
 caesarean section, 117
 chronic use, 349, 350
 combined spinal–epidural, 89
 epidural anaesthesia, 113
 epidural analgesia, 80, 81
 fetal effects, 73
 gastric emptying effects, 41, 81, 94
 hypertensive response to intubation, 259
 intrauterine death, 230
 labour pain, 72–4
 patient-controlled analgesia, 73, 75–7
 placental transfer, 47, 48, 49, 94
 postdural puncture headache, 144
 postoperative analgesia, 118, 134–5, 136
 prescription and administration by midwives, 51
 pruritus, 93, 178–9
 respiratory depression. *See* respiratory depression, opioid-induced
 shivering, 180
 side effects, 73, 76, 81, 93–4, 134–5
 spinal anaesthesia, 109
 spinal analgesia, 87
 spinal and epidural, 92–4
 synergy with local anaesthetics, 93
 withdrawal, 349, 426
 oral glucose tolerance test (OGTT), 306

- organisations, obstetric
 anaesthetic, 511–12
 oseltamivir, 400
 ovarian hyperstimulation
 syndrome (OHSS), 4–5
 oxygen administration
 caesarean section, 186–7
 neonatal resuscitation, 466
 pulmonary
 hypertension, 299
 oxygen consumption, 33, 34
 oxygenation
 failed intubation, 125
 incidental surgery, 19–20
 labour and delivery, 34
 oxytocic drugs, 198–200, 201,
 See also ergometrine;
 Syntocinon
 cardiac disease, 277, 294,
 302–3
 evacuation of retained
 products, 13
 induction of labour, 196
 second stage of labour, 57
 termination of pregnancy, 15
 third stage of labour, 58
 uterine atony, 239, 240
 oxytocin, 198–9
 antagonists, 200
 synthetic analogues. *See*
 carbetocin; Syntocinon
 pacemakers, permanent,
 279–80
 pain
 chronic. *See* chronic pain
 during caesarean section,
 105, 110, 111, 159–61, 494
 labour, 65–6
 midwifery training, 487
 pathways, 65
 poor regional analgesia in
 labour, 155–8
 relief. *See* analgesia
 paracervical block, 17
 paracetamol, 135, 271, 472
 paradoxical embolism,
 190, 296
 paraesthesia, 168, 169
 parathyroid disease, 304
 parenteral nutrition, 265
 partners, birth, 490
 partogram, 56–7
 patient-controlled analgesia
 (PCA), intravenous,
 73, 75–7
 acute fatty liver of
 pregnancy, 250
 intrauterine death, 230
 pre-eclampsia, 258
 patient-controlled epidural
 analgesia (PCEA), 79,
 80, 136
 pelvic girdle pain, 346–7
 pelvis, peripheral nerve
 relations, 29
 pemphigus, 336
 penicillin allergy, 271
 perinatal mortality, 469–70
 perineal tears, 131–3, 227
 classification, 131
 postoperative analgesia,
 132, 136
 suturing, 131–3
 peripartum cardiomyopathy
 (PPCM), 283, 284–5
 peripheral nerve lesions
 differential diagnosis, 171–2
 non-anaesthetic obstetric
 causes, 168–9
 regional anaesthesia, 168–70
 peripheral nerves, 28, 29
 pelvic relations, 29
 pernicious anaemia, 310
 peroneal nerve lesions, 169
 pethidine
 asthma, 388
 epilepsy, 372
 labour pain, 72
 neonatal effects, 460
 patient-controlled
 analgesia, 75
 placental transfer, 48
 shivering, 180
 side effects, 73
 spinal and epidural, 92
 pH, fetal blood, 64
 phaeochromocytoma, 304–5
 pharmacodynamics,
 pregnancy, 45
 pharmacokinetics,
 pregnancy, 44–5
 pharmacology
 neonatal, 463
 pregnancy, 44–6
 phenylephrine, 109, 284
 phenytoin, 374
 physiology
 neonatal, 462–4
 pregnancy, 31–5
 pia mater, 27
 PiCCOplus, 457
 pituitary apoplexy, 305
 pKa, 47, 53
 placenta
 retained, 131–3, 239
 transfer of drugs, 47–9, 94
 placenta accreta, 216, 218
 placenta increta, 216
 placenta percreta, 216
 placenta praevia, 216–19
 placental abruption, 220–1
 trauma, 436, 437
 placental alpha-
 microglobulin-1, 202
 placental site trophoblastic
 tumour, 442
 placentation, abnormal,
 216–19
 plasma protein binding, 34,
 44, 53
 plasma volume, 34–5, 310
 Plasmodium falciparum,
 414, 415
 platelet count
 disseminated intravascular
 coagulation, 326
 pregnancy, 35
 safe neuraxial blockade, 253,
 257–8, 320, 328–9
 thrombocytopenia, 327
 platelet function tests, 329
 platelet transfusion, 252, 327
 pleural effusions, 335
 pneumonia, 398–401
 polycythaemia, 310–11
 position, fetal, 205
 positioning, maternal
 air embolism, 191
 aortocaval compression,
 39, 40
 aspiration of gastric
 contents, 184
 caesarean section, 191
 cardiopulmonary
 resuscitation, 243
 cord prolapse, 223
 musculoskeletal aspects, 35
 spinal anaesthesia, 108, 109,
 110, 153
 post-crisis management, 505–6
 postdural puncture headache
 (PDPH), 144, 146–8
 differential diagnosis, 147,
 354, 355, 376
 epidural blood patch, 147–8,
 149–50
 management, 146–8

- medicolegal aspects, 494–5
 needle types used and, 107, 146
 prevention, 144–5
 sequelae, 144, 146
 posterior longitudinal ligament, 25, 26
 posterior reversible encephalopathy syndrome (PRES), 256
 posterior spinal arteries, 27
 postnatal blues, 421
 postnatal depression, 421, 422, 423, 472
 postoperative analgesia
 breastfeeding and, 472
 caesarean section, 113–14, 118, 134–7, 164–5
 epidural and spinal opioids, 93
 evacuation of retained products of conception, 13
 instrumental delivery, 101
 obesity, 430
 perineal repair, 132, 136
 postpartum care. *See also* breastfeeding
 anaesthetic follow-up, 474–5
 heart disease, 277, 303
 pulmonary hypertension, 300
 postpartum haemorrhage (PPH), 233, 238–40
 abnormal placental, 217
 causes, 238, 239
 perineal tears, 131, 132
 placental abruption, 221
 phylaxis, 198, 199, 239, 240
 retained placenta, 131–2
 uterine atony, 199, 239, 240
 prayer sign, 308
 pre-conception counselling
 cardiac disease, 275, 292
 epilepsy, 371
 neurological disease, 353
 prednisolone, 265, 388, 434, 435
 pre-eclampsia, 254–9
 central venous pressure monitoring, 259, 456
 definition, 254
 haemorrhagic stroke, 368, 369
 magnesium sulfate, 257, 259, 261
 pulmonary oedema, 282
 regional blockade, 258, 320
 severe, 255, 256
 spectrum of disease, 249, 252, 255
 thrombocytopenia, 328
 transplant recipients, 444
 pre-embryonic phase, effects of drugs, 7
 pregnancy
 advanced maternal age, 214–15
 anticoagulant therapy, 313, 314, 318–19
 cardiovascular changes, 32–3
 concealed, 214
 drugs in, 44–6
 early, 7–8
 gastrointestinal changes, 34
 haematological changes, 34–5
 haemodynamic changes, 32–3
 hormonal changes, 31
 incidental surgery, 18–20
 mechanical changes, 32
 musculoskeletal changes, 35
 physiology, 31–5
 respiratory changes, 33
 under-age, 214–15
 pregnancy test, 9
 prelabour rupture of membranes (PROM), 202–4
 premature delivery, 202–4
 premature infants, 202, 203, 204
 preoperative assessment, 97–8
 preoxygenation, 116, 123
 presentation, fetal, 205
 preterm labour, 202–4, 261
 preterm prelabour rupture of membranes (PPROM), 202
 prilocaine, heavy, 53
 prochlorperazine, 264
 progesterone, 31
 prolapsed cord, 206, 207, 222–4
 promazine, 73, 264
 promethazine, 73
 propofol
 breastfeeding and, 471
 caesarean section, 116–17, 187
 oocyte retrieval, 2
 opioid-induced itching, 93
 prostaglandin F_{2α} (PGF_{2α}), 388, 389
 prostaglandins, 199–200
 prosthetic heart valves, 290–2, 293
 protein
 creatinine ratio (PCR), urinary, 254
 protein C deficiency, 316
 protein S deficiency, 316
 proteinuria, 59, 254
 protocols, 499, 500
 local, 485, 500–1
 medicolegal status, 501
 pruritus
 obstetric cholestasis, 247
 opioid-induced, 93, 178–9
 psychiatric disease, 421–3
 psychological factors
 labour pain, 65–6
 postoperative analgesia, 134
 psychological sequelae
 awareness under anaesthesia, 188
 critical illness, 449
 intrauterine death, 229, 230
 lymphoma and leukaemia, 330–1
 pain during caesarean section, 160
 psychotropic drugs
 breastfeeding, 472
 labour and delivery, 423
 pregnancy, 421–2
 pubic symphysis pain/separation, 346–7
 pudendal block, 101
 pulmonary artery catheters, 296, 299, 302, 456
 pulmonary artery pressure, 33, 298
 pulmonary embolism, 312–14
 pulmonary fibrosis, 392–3
 pulmonary function tests, 386
 pulmonary hypertension, 298–300, 390
 pulmonary oedema, 259, 281–2, 396
 pulmonary vasculitis, 335
 pulse oximetry, 64, 466
 push, urge to, 57
 pyrexia
 after epidural block, 149, 162
 intrapartum, 59, 416–17
 pyridostigmine, 380, 381

- quality improvement, 483, 503
 quinine, 415
- radicular arteries, 27
 radiotherapy, 441–2
 randomised controlled trials (RCTs), 508, 509–10
 ranitidine, 116, 183–4
 rapid-sequence induction, 116–17
 record keeping, 495, 497–8
 recovery, anaesthetic
 caesarean section, 118
 enhanced, 138–9
 rectus sheath blocks, 135
 red cell mass, 34, 310
 reflexology, 68
 regional anaesthesia. *See also*
 epidural anaesthesia;
 spinal anaesthesia
 breakthrough pain, 159–61, 494
 breastfeeding and, 471
 caesarean section, 106, 136
 cervical suture, 16–17
 connective tissue disorders, 337
 cord prolapse, 223
 external cephalic version, 208, 209
 follow-up, 474
 multiple pregnancy, 210
 neonatal effects, 460
 obesity, 430
 oocyte retrieval, 2
 placenta praevia, 218
 pre-eclampsia, 258, 320
 preterm delivery, 204
 pulmonary hypertension, 299
 spinal cord lesions after, 171–3
 regional analgesia. *See also*
 epidural analgesia; spinal analgesia
 ethnic differences in uptake, 419
 heart disease, 284, 296
 history, 516–17
 inadequate, 155–8
 instrumental delivery risk, 101
 malpresentations and malpositions, 206–7
 maternal request, 60
 obesity, 429–30
 preterm delivery, 204
 pulmonary hypertension, 299
 regional blocks (neuraxial blocks)
 anticoagulated patients, 318–19, 320
 arachnoiditis after, 174–5
 cardiac disease, 276, 284, 296, 302
 cauda equina syndrome after, 176
 chronic pain disorders, 349–50
 consent, 491, 494
 extensive (high), 151–4
 Guillain–Barré syndrome, 358
 herpes simplex infection, 409, 410
 HIV infection, 412
 idiopathic intracranial hypertension, 361
 implanted cardiac devices, 280
 kyphoscoliosis, 344
 meningitis complicating, 90, 107, 354–5
 multiple sclerosis, 378–9
 neurofibromatosis, 366–7
 peripheral nerve lesions after, 168–70
 respiratory disease, 386
 sepsis, 403
 shivering after, 180–1
 spina bifida, 383, 384
 thrombocytopenia, 252–3, 328–9
 thrombophilia, 316–17
 regurgitation, 121, 184
 prevention. *See* cricoid pressure
 relaxation techniques, 67
 relaxin, 346
 religion, 419
 remifentanyl
 patient-controlled analgesia, 73, 75–7
 side effects, 76
 renal blood flow, 32
 renal disease, 432–3
 renal replacement therapy, 432, 433
 renal transplant, 432, 444, 445, 446
 research, labour ward, 508–10
 respiratory alkalosis, 33, 34
 respiratory depression, opioid-induced
 maternal, 76, 93–4, 134–5
 neonatal, 73
 respiratory disease, 386–7
 connective tissue disorders, 335
 kyphoscoliosis, 343–4
 spinal cord injury, 359
 respiratory failure, 396, 400, 450
 respiratory infections, 398–401
 respiratory system
 neonates, 463, 465–6
 pregnancy, 33–4
 resuscitation
 antepartum haemorrhage, 217–18
 cardiopulmonary, 39, 153
 extensive regional block, 153
 intrauterine, 226
 major obstetric haemorrhage, 234–5
 maternal collapse, 241
 neonatal, 465–7
 sepsis, 404
 trauma in pregnancy, 436
 retained placenta, 131–3, 239
 retained products of conception, evacuation (ERPC), 12–13, 15
 rheumatic heart disease, 274
 rheumatoid arthritis, 335, 338–40
 risk management, 485, 495, 503–4
 ritodrine, 200
 rocuronium, 117, 123–4
 ropivacaine, 53
 differential block, 54
 epidural, 80, 112
 pharmacology, 53–4
 toxicity, 54
 Royal College of Anaesthetists (RCoA), 499, 515
 Royal College of Midwives, 499
 Royal College of Obstetricians and Gynaecologists (RCOG), 499, 515
- sacral canal, 24
 sacral plexus, 28, 29
 sacroiliac pain, 346–7
 sacrum, 25
 salbutamol, 200

- sarcoidosis, 394–5
 satisfaction, maternal, 476–7
 schizophrenia, 421
 sciatic pain, 346, 347
 scleroderma, 335, 336
 scoliosis, 155
 second stage of labour, 57
 prolonged, 99
 seizures. *See* convulsions
 self-hypnosis, 67
 Sellick's manoeuvre. *See* cricoid pressure
 sepsis, 402–5. *See also*
 infections
 acute lung injury, 396
 evacuation of retained products, 12
 maternal red flags, 403
 pneumonia, 398
 pyrexia, 416
 severe acute respiratory syndrome (SARS), 398
 sevoflurane, 188
 Sheehan's syndrome, 305
 Shirodkar suture, 16–17
 shivering, 180–1
 shoulder dystocia, 227–8
 sickle cell disease, 332, 333–4
 Simpson, James Young, 516
 sinus tachycardia, 278
 skin disease, 336
 smoking, tobacco, 425–6
 Snow, John, 516
 Society for Obstetric Anesthesia and Perinatology (SOAP), 511
 sodium citrate, 112, 116, 183–4
 solvent abuse, 427
 spina bifida, 383–5
 spinal anaesthesia
 anatomy, 23–8
 breakthrough pain, 159–61
 caesarean section, 107–10
 cervical suture, 16–17
 cord prolapse, 223
 evacuation of retained products, 13
 extensive (high), 153–4
 instrumental delivery, 101
 kyphoscoliosis, 344
 pre-eclampsia, 258
 retained placenta and perineal repair, 132
 technique, 108–9
 testing the block, 109–10
 spinal analgesia
 continuous, 86–7
 converting epidural analgesia to, 144
 kyphoscoliosis, 344
 labour pain, 86–7
 opioids, 87, 92–4
 postoperative analgesia, 136
 single shot, 86
 spinal cord
 anatomy, 27–8
 sites of opioid action, 92–3
 tethering, 384
 tumours, 347
 spinal cord injury
 in pregnancy, 437
 past history, 359–60
 postpartum, 171–3
 spinal cord stimulator (SCS), 349–50
 spinal haematoma, 149, 172
 spinal surgery, prior, 343–4, 348
 spine, anatomy, 23–8
 spinous process, 23, 24
 squames, fetal, 245–6
 standards
 medicolegal aspects, 501
 minimum, 499–501
 national, 499–500
 starvation, intrapartum, 41–2
 statistical significance, 510
 statistics, maternity, 513–14
 steroid therapy, 434–5
 asthma, 388
 connective tissue diseases, 335
 HELLP syndrome, 253
 hyperemesis gravidarum, 265
 perioperative supplementation, 434–5
 premature delivery, 203, 434
 rheumatoid arthritis, 339
 side effects, 434
 transplant recipients, 444–5, 446
 stress
 asthma exacerbation, 388
 occupational, 505–6
 steroid-treated patients, 435
 stroke, 368–70
 haemorrhagic, 368, 369, 370
 ischaemic, 368, 369
 subarachnoid block
 accidental, 152–3
 intentional. *See* spinal anaesthesia; spinal analgesia
 subarachnoid haemorrhage (SAH), 368–9, 370
 subarachnoid space, 27
 epidural catheter placement, 83, 84
 subdural block, accidental, 84, 152
 substance abuse, 422, 425–7.
 See also drug abuse
 sufentanil
 combined spinal–epidural analgesia, 89
 epidural analgesia, 80
 postoperative analgesia, 136
 spinal and epidural, 92
 sugammadex, 117, 123–4
 suicide, 421, 472
 supine hypotension syndrome.
 See aortocaval compression
 supraspinous ligament, 25, 26
 supraventricular ectopic beats, 278
 supraventricular tachycardia, paroxysmal, 278
 surfactant, 202, 463
 surgery
 breastfeeding and, 471
 incidental, in pregnancy, 18–20
 intrauterine fetal, 21–2
 steroid-treated patients, 435
 Surviving Sepsis Campaign, 404
 suxamethonium
 caesarean section, 117
 implanted cardiac devices, 280
 malignant hyperthermia, 193–4
 neurological disorders, 357, 360, 369, 379
 obstetric anaesthesia, 123–4
 symphysiotomy, 228
 symphysis pubis pain/separation, 346–7
 symphysis-fundal height, 36
 Syntocinon (synthetic oxytocin), 198–9
 caesarean section, 105, 118
 evacuation of retained products, 13
 heart disease, 294, 302–3

- Syntocinon (cont.)
 second stage of labour, 57
 side-effects, 198–9
 termination of pregnancy, 15
 twin delivery, 211
 uterine atony, 240
- Syntometrine, 199
- systematic reviews, 508
- system-based errors, 503
- systemic lupus erythematosus (SLE), 335, 336
- systemic vascular resistance, 32
- systolic
 diastolic flow velocity (SD)
 ratio, 37
- tachycardia, maternal, 59
- teenage pregnancy, 214–15
- temazepam, 472
- temporomandibular joint
 disease, 336, 338
- teratogenicity, anaesthetic
 agents, 7
- terbutaline, 196, 200
- termination of pregnancy,
 14–15
 fetal abnormality or
 death, 15
 maternal indications, 14–15
- thalassaemia, 332–3, 334
- theophylline, 147
- thermoregulation,
 neonatal, 463
- thiopental, 116–17, 187, 471
- third stage of labour, 58
 active management, 198
- thoracoplasty, 344
- thrombocytopenia, 327–9. *See*
also platelet count
 connective tissue
 disorders, 336
 drugs causing, 328
 gestational, 327, 329
 HELLP syndrome, 252–3
 immune, 327
 neuraxial blockade, 320,
 328–9
- thromboelastography/
 thromboelastometry,
 235–5, 318, 325
- thromboembolism, 312
- thrombolytic therapy, 313, 369
- thrombophilia, 315–17
- thromboprophylaxis
 caesarean section, 106, 313
 obesity, 429, 430
- pregnancy, 313
- thrombotic thrombocytopenic
 purpura (TTP), 327–8
- thyroid disease, 304
- time to sustained respiration
 (TSR), 459
- tinzaparin, 314, 430
- tissue fragility, increased, 336
- tobacco use, 425–6
- tocolytic drugs, 200–1
 critical illness, 450
 fetal distress, 226
 incidental surgery, 19
 preterm labour, 203
 side-effects, 200, 203
 uterine
 hyperstimulation, 196
 uterine inversion, 231
- total spinal block, 151
- Towards Safer Childbirth*, 499
- tracheal intubation. *See*
 intubation, tracheal
- training
 cardiopulmonary
 resuscitation, 244
 midwives, 487–8
 obstetric general
 anaesthesia, 123
- tranexamic acid, 235, 240
- transcutaneous electrical nerve
 stimulation (TENS),
 68, 347
- translators, 67, 97
- transplantation, 444–7
- transverse lie, 206
- transverse process, 23, 24
- transversus abdominis plane
 (TAP) blocks, 135
- trauma
 birth, 227
 in pregnancy, 436–7
- trial of scar, 212–13
- trichloroethylene, 70
- trophoblastic neoplasia,
 gestational, 442
- tryptase, mast cell, 272
- Tuffier's line, 24
- Tunstall, Michael, 516, 517
- Tuohy needle, 78, 88–9, 143–4
- turtle sign, 227
- twin pregnancy, 210–11
- twin, intrauterine death of
 one, 230
- ultrasound
 antenatal, 37
- guided epidural puncture,
 79–80
- ultrasound-directed oocyte
 retrieval (UDOR), 1, 2
- umbilical artery Doppler
 studies, 37
- umbilical cord
 blood gas analysis, 459–60
 prolapse, 206, 207, 222–4
- under-age pregnancy, 214–15
- universal precautions, 413
- urea, blood, 432
- ursodeoxycholic acid, 247
- uterine artery Doppler
 studies, 37
- uterine atony, 199, 239, 240
- uterine contractions
 hyperstimulated, 196
 monitoring, 57
 second stage of labour, 57
- uterine inversion, 131–2, 231–2
- uterine rupture, 212
- uteroplacental blood flow, 48
- uterus
 exteriorisation, 105, 113
 manual displacement, 39,
 40, 243
 pregnancy-related
 changes, 32
- vaccinations, 400
- vacuum aspiration, 14
- vaginal birth after caesarean
 section, 212–13
- valvular heart disease, 290–3
- varicella pneumonia, 399, 400
- vasa praevia, 216, 217
- vasopressors/vasoconstrictors
 caesarean section, 109, 118
 heart transplant
 recipients, 446
 pre-eclampsia, 258
- vena caval filters, 313
- venous thromboembolism,
 312–14, 412
- ventilation, artificial
 acute lung injury, 397
 neonatal resuscitation, 466
 pneumonia, 400
- ventouse delivery, 99–101
- ventricular ectopic beats, 278
- ventricular fibrillation, 278
- ventricular tachycardia, 278
- vertebrae, 23–4
- vertebral ligaments, 24–5, 26
- videolaryngoscopes, 129

Vigileo monitor, 457	malignant hyperthermia, 193–4	pregnancy, 291, 313
viral infections	preventing awareness, 186, 188	water births, 68
hepatitis, 406–7	termination of pregnancy, 15	water blocks, 68–9
herpes simplex, 409–10	vomiting. <i>See</i> nausea and vomiting	white cell count, 35, 403, 417
HIV, 411–13	von Willebrand factor (vWF), 322, 323	Wolff–Parkinson–White syndrome, 279
meningitis, 355	von Willebrand’s disease, 322–3	written information, 479, 480
pneumonia, 398, 399	vulnerable groups, 418–19	
visceral pain, 159	warfarin	xenograft heart valves, 291–2
visual disturbances, 361, 376	breastfeeding, 472	zanamivir, 400
vital statistics, 513–14	neuraxial blockade risk, 320	Zavanelli manoeuvre, 228
vitamin B ₁₂ , 310, 311		zidovudine, 412, 413
vitamin K deficiency, 247, 421		zygote intrafallopian tube transfer (ZIFT), 1
volatile anaesthetic agents		
analgesia in labour, 70		
breastfeeding and, 471		
caesarean section, 118		