Index

Note: Page numbers in italics refer to figures, those in bold to tables

Abdominal pain, laparoscopic diagnosis for, 93, 117 body wall trauma with secondary injury to internal organs, 104, 105-106 colic, 94, 101–102, 102–103, 109, 117 complications with, 117, 117 diaphragmatic hernia, 103-104, 104-105 after exploratory celiotomy, 109-112, 110-112 indications, 93-94, 94-95 infiltrative bowel disease, 114–115, 114–115 instruments, 93 insufflation, 93, 117, 117 intra-abdominal abscess, 112-113, 112-113 intra-abdominal masses/neoplasia, 116, 116 intra-abdominal postfoaling injuries, 104-107, 107 kidney disease, 115, 115-116 left dorsal colon displacement, 108 liver disease, 115, 115–116 omental herniation into scrotum after castration, 100, 101-102 postcastration bleeding, 94-96, 95-96 postcastration evisceration, 96, 96–97 postoperative adhesions, 109–112, 110–111 postoperative ileus with signs of proximal jejunitis, 113, 113–114 postoperative peritonitis, 112, 112 rectal prolapse with secondary small colon prolapse, 106–107, 107 repeat displacement and colon torsions, 109, 109–110 Richter hernia, 107-108, 107-108

right dorsal colon displacement and retroflexion of pelvic flexure without impaction, 108–109, 109 scrotal hernia, 96-100, 98-101 small colon injuries, 102-103, 104, 106, 107 small intestine injuries, 101-102, 102-103 spleen disease, 115, 115-116 uterine trauma, 104-106 and weight loss, 94, 112-113, 113, 114-116, 114-117, 117 Abscess, intra-abdominal, 112–113, 112–113 Accidental anesthesia of femoral nerve, 155-156 Acepromazine, 71, 74 Acute abdominal pain, laparoscopic diagnosis for, 93, body wall trauma with secondary injury to internal organs, 104, 105–106 colic, 101-102, 102-103, 117 complications with, 117, 117 diaphragmatic hernia, 103-104, 104-105 indications, 93-94, 94-95 instruments, 93 insufflation, 93, 117, 117 intra-abdominal postfoaling injuries, 104–107, omental herniation into scrotum after castration, 100, postcastration bleeding, 94-96, 95-96 postcastration evisceration, 96, 96-97 rectal prolapse with secondary small colon prolapse, 106-107, 107

Abdominal pain, laparoscopic diagnosis for (continued) Richter hernia, 107–108, 107–108	Atraumatic grasping forceps, 45–46, 45, 59, 60 Augmented reality trainers, 18, 18
scrotal hernia, 96–100, 98–101	Automatic exposure control, 53
small colon injuries, 102–103, 104, 106, 107	
small intestine injuries, 101–102, 102–103	Babcock forceps, 59, 60, 131, 131
uterine trauma, 104–106	Barbed suture technology, 64, 64
Adhesiolysis, 129–130, 130, 132, 133–134	Basket biopsy forceps, 85, 85
complications, 133	Behavioral issues
contraindications, 130	and cryptorchidectomy, 139
indications, 130	and ovariectomy, 177–178, 186, 199
instrumentation, 131–132, 131–132	BERCI Fascial Closure Instrument, 259, 260
insufflation, 133	Bilateral ovariectomy. See Ovariectomy, in standing
ports, 132–133	horse
positioning, 130, 132, 133	Biopsy forceps, 48, 85, 85
postoperative management, 133	Biopsy, in recumbent horse, 83–84, 90–91
surgical procedure, 132–133	analgesia/anesthesia, 89
Adhesions, 109–112, 110–111, 129–130, 130, 133–134.	anatomy, identification of, 90
See also Adhesiolysis	complications, 90
Alpha-2 agonists, 71–72, 72–73 , 73, 74, 75 , 75, 76, 77,	contraindications, 84
78, 242, 242 , 245, 246, 247 , 248, 249	indications, 84
Analgesia, in recumbent horse, 245. See also analgesia/	insufflation, 90
anesthesia under specific operative technique	ports, 89–90
alpha-2 agonists, 245, 246, 247, 248	positioning, 89
combinations, 247, 248	postoperative management, 90
constant rate infusions, 246, 247, 248	preoperative preparation, 88–89
local anesthetics, 248	surgical procedure, 89–90
opioids, 242–243, 242 , 245, 246, 24 7	Biopsy, in standing horse, 83–84, 90–91
Analgesia, in standing horse, 71. See also analgesia/	analgesia/anesthesia, 84, 86
anesthesia under specific operative technique	anatomy, identification of, 88, 88, 88–89
alpha-2 agonists, 71–72, 72–73 , 73, 74, 75 , 75, 76, 77,	complications, 90
78	contraindications, 84
epidurals, 76, 77, 78	indications, 84
local anesthetics, 71, 73-74, 74, 76, 78	instrumentation, 85–87, 85 , 85–87
monitoring, 78	insufflation, 88
multimodal, 78	ports, 87, 87, 88
opioids, 71, 72, 72–73, 74, 75, 75, 77, 78	postoperative management, 90
physiological changes, 78	preoperative preparation, 84–85
postoperative pain, 79	surgical procedure, 85–87, 87–89
prolonging, 74–76, 75	thoracoscopy-assisted, 232, 233-234, 233-234
support, 78, 79	Bipolar electrosurgery, 36, 47, 50, 65–66, 65, 131
Analog video signals, 53, 53	Bipolar forceps, 46, 47
Anesthesia, in recumbent horse, 241. See also	Bladder, ruptured, repair of. See Ruptured bladder,
analgesia/anesthesia under specific operative	repair of
technique	Body wall trauma, with secondary injury to internal
alpha-2 agonists, 242, 242	organs, 104, 105–106
induction, 243, 243	Bowel biopsies, 86
and insufflation, 244, 249	Bupivacaine, 73, 74 , 76, 248
maintenance, 243–245	Burns, and use of thermal surgical devices, 38–39
premedication, 242–243, 242	Butorphanol, 72 , 72–73, 74, 75 , 75, 242, 242 , 246, 24 7
preparation for, 241–242	
recovery from, 248–249	Calcium gluconate, 245, 246
risks from, 241–242	Cameras, 42, 42, 52–55, 52–54
support, 243–245, 245, 246	adaptor, 52
Angled telescopes, 42, 43	control unit, 52, 52, 53
Anubiscope, 56	head, 52, 52
*	

Cannulas, 43–44, 45, 48–49, 58, 58–59, 87, 185, 185. See	contraindications, 268
also Trocars	indications, 268
Cardiovascular system, support during anesthesia,	instrumentation, 268, 269, 269, 270
244–245, 245, 246	ports, 269–270, 270, 271, 272, 272
CCU (camera control unit), 52, 52, 53	positioning, 268
Celiotomy, exploratory, 109–112, 110–112	postoperative management, 273–274
Central sensitization, 248	preoperative preparation, 268–269
Cherry dissectors, 131, 131	surgical procedure, 269–273, 270–274
Chest trauma, thoracoscopy in, 234–235	three-portal technique, 271–273, 272–274
Chronic abdominal pain, laparoscopic diagnosis for,	two-portal technique, 270–271, 272
108–116, 117	Cryptorchidectomy, in standing horse, 139–140, 147, 268
colic, 94, 109, 117	analgesia/anesthesia, 140
complications with, 117, 117	anatomy, identification of, 141, 142
after exploratory celiotomy, 109–112, 110–112	complications, 145–147, 146
indications, 93–94, 94–95	with electrosurgical instrumentation, 143–145, 144
infiltrative bowel disease, 114–115, 114–115	extracorporeal emasculation, 141, 143
instruments, 93	instrumentation, 147
insufflation, 93, 117, 117	insufflation, 140–141
intra-abdominal abscess, 112–113, 112–113	with LigaSure instrumentation, 145, 146
intra-abdominal masses/neoplasia, 116, 116	ports, 141
kidney disease, 115, 115–116	positioning, 140
left dorsal colon displacement, 108	postoperative management, 145
liver disease, 115, 115–116	preoperative preparation, 140
postoperative adhesions, 109–112, 110–111	surgical procedure, 140–145, 142–144
postoperative ileus with signs of proximal jejunitis,	suture loop technique, 142–143, 143
113, 113–114	Cryptorchidism, 139, 267–268. See also
postoperative peritonitis, 112, 112	* *
	Cryptorchidectomy, in recumbent horse;
repeat displacement and colon torsions, 109, 109–110	Cryptorchidectomy, in standing horse
right dorsal colon displacement and retroflexion of	Curved Kelly forceps, 46, 46
pelvic flexure without impaction, 108–109, 109	Cyanoacrylate, use in inguinal hernioplasty, 161, 164–
spleen disease, 115, 115–116	166, 164–165
and weight loss, 94, 112–113, 113, 114–116, 114–117, 117	analgesia/anesthesia, 162
Cleaning/disinfection of equipment, 49, 49	complications, 164
Clips/clip appliers, 46, 48, 60, 61, 137	contraindications, 162
C-loop technique, for intracorporeal knots, 32	indications, 161
Closure, of nephrosplenic space. See Nephrosplenic	instrumentation, 162
space, closure of	ports, 162, 163
Colic, 94, 101–102, 102–103, 109, 117. See also Colopexy	positioning,162
Colopexy, 109, 109, 125–126, 253, 256	postoperative management, 163–164
complications, 255–256	preoperative preparation, 162
patient selection, 253	surgical procedure, 162–165, 163–165
ports, 254	toxicity, 165
positioning, 253, 254, 254	Cystic calculi, removal of, 311–312, 321
postoperative management, 255	complications, 320–321
preoperative preparation, 253, 254	laparoscopic cystotomy, 315–316, 320, 321
surgical procedure, 253–255, 254–255	laparoscopic-assisted cystotomy, 313–314, 315–320,
Complications, with laparoscopy, xi, xii. See also under	321
specific operative technique	postoperative management, 320
Composite video format, 53	preoperative preparation, 312
Computer-enhanced video box trainers, 18, 18	surgical procedures, 312–316, 312–320, 320
Cryptorchidectomy, in recumbent horse, 267–268,	transurethral endoscopic-assisted electrohydraulic
274–275	shockwave lithotripsy, 312–313, 312–315, 321
analgesia/anesthesia, 268	Cystotomy. See Cystic calculi, removal of
anatomy, identification of, 269-270, 270-271	Cetomidine, 71–72, 72–73 , 74, 75 , 75, 76, 78, 242, 242 ,
complications, 274–275	246

Dexmedetomidine, 72, 246, 247 Excitement, caused by opioids, 73 Diagnosis, use of laparoscopy Exploratory celiotomy, 109-112, 110-112 for abdominal pain. See Abdominal pain, Exploratory thoracoscopy, 232-233, 233 laparoscopic diagnosis for Extracorporeal bowel biopsies, 86 for biopsy. See Biopsy, in recumbent horse; Biopsy, in Extracorporeal emasculation, in cryptorchidectomy, standing horse for weight loss. See Weight loss, laparoscopic Extracorporeal knots, 27-28, 29-30, 30 diagnosis for Diaphragmatic hernia, 103-104, 104-105 Fan retractors, 131, 132 Diazepam, 243, 243 DICOM (Digital Imaging and Communication in excess, and ovariectomy, 179-180, 179-180, 182 Medicine) medical imaging standard, 55 retroperitoneal, dissection of, 260, 261 Digital Imaging and Communication in Medicine Ferric hyaluronate gel, use in adhesiolysis, 130, 131, medical imaging standard, 55 132, 134 Fiber optic light cables, 51, 52 Digital video signals, 54, 54 Digital zoom in cameras, 52, 53 Fire precautions, and use of thermal surgical devices, Disinfection of instruments, 49, 49 Disposable equipment, 57-61, 58-66, 63-66 FireWire digital output, 54, 54 Disposable loading units, in endostapling devices, 61, Fixation, equipment for, 60–61, 61–63, 63 63, 63 FLS (Fundamentals of Laparoscopic Surgery) certificate Dissection, to reduce size of ovary, 193–195, 195–198 program, 14, 15, 15, 19 Dissectors, 46, 46, 131, 131 Fluid aspiration, to reduce size of ovary, 193, 193-194 DLUs (disposable loading units) in endostapling devices, 61, 63, 63 Forceps, 45–46, 45–49, 59, 60, 85, 85, 131, 131, 183, 183 Dobutamine, 245, 246 Fundamentals of Laparoscopic Surgery certificate Documentation devices, 55, 55 program, 14, 15, 15, 19 dopamine, 245, 246 Duet TRSTM endoscopic disposable loading unit, 63 Gastrointestinal tract, adverse effects caused by Duvall forceps, 59, 60 opioids, 73 DV (FireWire) digital output, 54, 54 GCTs (granulosa cell tumors), 189, 196–198, 199 DVI digital output, 54, 54 General anesthesia, in recumbent horse. See Anesthesia in recumbent horse Edema, and Trendelenburg positioning, 249 GIT (gastrointestinal tract) adverse effects, caused by Electrical shock, as risk with thermal surgical devices, opioids, 73 38 Global Operative Assessment of Laparoscopic Skills, Electrocautery technology, 35, 36 15–16, **16** Electromechanical technology, 35–39, 47, 49–50, 49–51 GOALS. See Global Operative Assessment of Electrosurgical technology, 35, 36, 47, 50, 50, 59, 60, 131 Laparoscopic Skills use in adhesiolysis, 131 Gonadectomy, intersex. See Intersex gonadectomy use in cryptorchidectomy, 143–145, 144 Granulosa cell tumors, 189, 196–198, 199 Endo Stitch[®], 25, 27, 32, 33, 64, 87, 206–208, 207–208 Grasping forceps, 45–46, 45–46, 49, 59, 60 Endoloop ligature, 28, 30 Guaifenesin, 243, 243 Endoscopic imaging chain, 41, 42, 43 Endoscopic staplers, 61, 62–63, 63, 85, 86 HAL. See Hand-assisted laparoscopy EndoTIP® trocar, 45, 45 Halogen light sources, 51 Energy-based devices, 35-39, 47, 50, 50, 59, 60, 65-66, Hand instruments, 45–46, 45–48 Hand-assisted laparoscopy, 329-330, 330-333, 332-333 Enlarged ovaries, removal of. See Ovariectomy, for Harmonic scalpels, 37 removal of large pathologic ovaries Hasson technique, for trocar placement, 45, 50, 58 Ephedrine, 245, 246 HD (high definition) cameras, 53, 54, 54–55 Epidural analgesia, 76, 77, 78 Helical tacking devices, 61, 62 Equine laparoscopy, evolution of, 9–11, **10**, 10 Hernias. See also Reherniation Equipment. See Instrumentation diaphragmatic, 103-104, 104-105 Eye protection, with use of laser devices, 38 equipment for repair of, 61, 61–62, 136, 259, 261–262, Excess fat, and ovariectomy, 179-180, 179-180, 182 262

incisional, 257, 261. See also Mesh incisional	patient outcome, 281, 282–283
hernioplasty	ports, 279, 280, 280
inguinal, 149, 161, 277, 281, 283, 287. See also	positioning, 279
Inguinal hernioplasty; Inguinal herniorrhaphy;	postoperative management, 280–281
Peritoneal flap hernioplasty	preoperative preparation, 278
intestinal, 96–100, 96–101, 103, 105	surgical procedure, 279–281, 279–281, 283
Richter, 107–108, 107–108	Inguinal herniorrhaphy, 277, 281, 284, 287–288,
scrotal, 96–100, 98–101, 287–288, 288, 291, 291, 293,	293–294. See also Inguinal hernioplasty; Inguinal
293	herniorrhaphy; Peritoneal flap hernioplasty
Hernioplasty. See Inguinal hernioplasty; Inguinal	anatomy, identification of, 290, 290
herniorrhaphy; Inguinal herniorrhaphy; Mesh	complications, 293–294, 293, 294
incisional hernioplasty; Peritoneal flap	contraindications, 288
hernioplasty	indications, 288
Hetastarch, 246	instrumentation, 288, 289, 289
High definition cameras, 53, 54, 54–55	ports, 288–290, 289
History of laparoscopy, xi–xii, 5–11, 6–9, 9, 10, 10	postoperative management, 293
Human laparoscopy, xi, 6–9, 9	preoperative preparation, 288
Hypersensitization, 248	surgical procedure, 290–293, 291–292
Hypertonic saline, 245, 246	transabdominal preperitoneal mesh repair, 283
Hypotension, and sedation, 245	Inhalant anesthetics, use for maintenance of anesthesia,
, F,,	243
Ileus, postoperative, with signs of proximal jejunitis,	Initial sedation, 74
113, 113–114	Injectable anesthetics, use for maintenance of
Image processing module, 53	anesthesia, 243
Imaging systems, 50–51, 52	Injection needles, 46, 48
cameras, 42, 42, 52–55, 52–54	Instrumentation. See also under specific operative
documentation devices, 55, 55	technique
high definition cameras, 53, 54, 54–55	cannulas, 43–44, 45, 48–49, 58, 58–59, 87, 185, 185. See
light sources/cables, 42, 42–43, 51, 51–52	also Trocars
monitors, 42, 42, 52, 52, 53–54, 53–54	cleaning/disinfection of, 49, 49
Imbrication, of mesometrium, 203, 204, 209–210, 209	clips/clip appliers, 46, 48, 60, 61, 137
analgesia/anesthesia, 204, 205	disposable, 57–61, 58–66, 63–66
complications, 209	dissectors, 46, 46, 131, 131
instrumentation, 204–205, 204, 206–208, 207–208	early versions of, 5–6, 6–7, 7–8, 9
ports, 204, 205, 205	electrocautery technology, 35, 36
positioning, 203	electromechanical technology, 35–39, 47, 49–50,
postoperative management, 209	49–51
preoperative management, 209 preoperative preparation, 203–204, 206	electrosurgical technology, 35, 36, 47, 50, 50, 59, 60,
surgical procedure, 205–208, 205–208	131
Incisional hernias, 257, 261. See also Mesh incisional	Endo Stitch [®] , 25, 27, 32, 33, 64, 87, 206–208,
hernioplasty	207–208
Infiltrative bowel disease, 114–115, 114–115	energy-based devices, 35–39, 47, 50, 50, 59, 60, 65–66,
Inguinal herniation, 149, 161, 277, 281, 283, 287. See also	65
Inguinal hernioplasty; Inguinal herniorrhaphy;	fan retractors, 131, 132
Mesh prosthesis technique, for inguinal	for fixation, 60–61, 61–63, 63
herniation; Peritoneal flap hernioplasty	forceps, 45–46, 45–49, 59, 60, 85, 85, 131, 131, 183, 183
Inguinal hernioplasty, 161, 277, 281, 283–285, 284. See	hand instruments, 45–46, 45–48
also Peritoneal flap hernioplasty	harmonic scalpels, 37
analgesia/anesthesia, 278	imaging systems, 50–55, 51–55
complications, 281, 283–284	
contraindications, 278	for insufflation, 49–50, 49–50, 57–58, 58 knot pushers, 23, 23, 28, 46, 48, 269
cyanoacrylate, use of, 161–166, 163–165	laparoscopes, 41–42, 43–44. See also Telescopes
indications, 277–278	laser technology, 35, 37–38, 131 LigaSure™, <i>65, 131,</i> 145, 146, 192
instrumentation, 278, 278 insufflation, 279	ligation tools, 46, 47–48
HISHIHAHOH, 4/7	11501011 10015, TO, T/ TO

mesh, 61, 62, 127, 128–259, 259 morcellets, 50, 51, 183–184, 148, 148, 149, 195, 197 needle drivers, 63–64 needle holders, 23, 23, 24, 25, 46, 47 needles, 23, 24, 24–25, 46, 48, 50, 50, 57–58, 58 organ retractors, 48 organ retractors, 49 needle holders, 52, 122, 22, 25, 58, 58–59 probes, 59, 60 profiles, 59, 60 orticulating instruments, 59, 59, 61, 63, 63 scissors, 46, 46, 59, 60 specimen/ fissure retrieval bags, 66, 66, 146, 193–195, 173–178, 200 specimen/ fissure retrieval bags, 66, 66, 146, 193–195, 173–178, 200 specimen/ fissure retrieval bags, 66, 66, 146, 193–195, 173–178, 200 specimen/ fissure retrieval bags, 66, 66, 146, 193–195, 173–178, 200 specimen/ fissure retrieval bags, 66, 66, 146, 193–195, 173–178, 200 specimen/ fissure retrieval bags, 66, 66, 146, 193–195, 173–178, 200 specimen/ fissure retrieval bags, 66, 66, 146, 193–195, 173–178, 200 specimen/ fissure retrieval bags, 66, 66, 146, 193–195, 173–178, 200 specimen/ fissure retrieval bags, 66, 66, 146, 193–195, 173–178, 200 specimen/ fissure retrieval bags, 66, 66, 146, 193–195, 173–178, 200 specimen/ fissure retrieval bags, 66, 66, 146, 193–195, 173–189, 200 specimen/ fissure retrieval bags, 66, 66, 146, 193–195, 173–178, 200 specimen/ fissure retrieval bags, 66, 66, 146, 193–195, 173–178, 200 specimen/ fissure retrieval bags, 66, 66, 146, 193–195, 173–178, 200 specimen/ fissure retrieval bags, 66, 66, 146, 193–195, 173–178, 200 specimen/ fissure retrieval bags, 66, 66, 146, 193–195, 173–178, 200 specimen/ fissure retrieval bags, 66, 66, 146, 193–195, 173–178, 200 specimen/ fissure retrieval bags, 66, 66, 146, 193–195, 173–178, 200 specimen/ fissure retrieval bags, 66, 66, 146, 193–195, 173–178, 200 specimen/ fissure retrieval bags, 66, 66, 146, 193–195, 173–178, 200 specimen/ fissure retrieval bags, 66, 66, 146, 193–195, 173–178, 200 specimen/ fissure retrieval bags, 66, 66, 146, 193–195, 173–178, 200 specimen/ fissure retrieval bags, 66, 66, 146, 193–195, 173–1	Instrumentation (continued)	Ketamine, 75, 75–76, 243, 243, 246, 247, 248
needle drivers, 63-64 needle holders, 23, 23, 24, 25, 46, 47 needles, 23, 24, 24-25, 46, 48, 50, 50, 57-58, 58 organ retractors, 48 organ retractors, 48 probrals/ ports, 21-22, 22, 25, 85-8-59 probes, 59, 60 roticulating instruments, 59, 59, 61, 63, 63 scissors, 46, 46, 59, 60 speciment/ tissue retrieval bags, 66, 66, 146, 193-195, 195-198, 200 staplers, 61, 61-63, 63, 85, 86, 136-137, 137, 289, 291-292, 292, 293 suturing/Knot-tying, 21-23, 22-23, 25, 27, 32, 33, 63-64, 64, 86, 87, 206-208, 207-208, 259, 260 tacking devices, 61, 61-62 telescopes, 42, 43, 5ee also Laparoscopes trocars, 43-45, 44, 45, 49, 50, 38, 58, 59. See also Cannulas ultrasonic technology, 35, 36-37, 131 vessel scaling/ dividing devices, 65 video towers, 41, 43 Insufflation, 9-30, 49-50, 57-58, 58. See also under specific operative technique Interlace scanning, in high definition cameras, 54 Intermittent positive-pressure ventilation, 244 Intersex gonadectomy, 167-169, 168, 174, 175 analgesia/ anaesthesia, 169 anatomy, identification of, 168, 171, 172-173, 173 complications, 174 insufflation, 170, 171 ports, 169-171, 170-171 positioning, 169, 170 postoperative management, 173-174 preoperative preparation, 169 surgical procedure, 169-471, 170-171 positioning 169, 170 postoperative management, 173-174 preoperative preparation, 169 surgical procedure, 169-171, 170-171 postioning 169, 170 postoperative management, 173-174 preoperative preparation, 169 surgical procedure, 169-171, 170-171 postioning 169, 170 postoperative management, 173-174 preoperative preparation, 169 surgical procedure, 169-171, 170-171 postioning 169, 170 postoperative management, 173-174 preoperative preparation, 169 surgical procedure, 169-171, 170-171 postioning 169, 170 postoperative management, 173-174 preoperative preparation, 169 surgical procedure, 169-171, 170-171 postioning 169, 170 postoperative management, 173-174 preoperative preparation, 169 surgical procedure, 169-171, 170-171 postioning 169, 170 postoperative management, 173-174 preoperative preparation, 169	mesh, 61, 62, 127, 258–259, 259	Kidney biopsies, 86
needle holders, 23, 23, 24, 25, 46, 47 needles, 22, 24, 24–25, 46, 48, 50, 50, 57–58, 58 organ retractors, 48 portals/ports, 21–22, 22, 58, 58–59 probes, 59, 60 radiofrequency devices, 131, 131 reducers, 44, 44, 58 reusable, 41–46, 42–56, 49–56, 57, 58, 59, 60 roticulating instruments, 59, 59, 61, 63, 63 scissors, 46, 46, 59, 60 specimen/ tissue retrieval bags, 66, 66, 146, 193–195, 193–198, 200 staplers, 61, 61–63, 63, 85, 86, 136–137, 137, 289, 291–292, 292, 293 suturing/knot-tying, 21–23, 22–23, 25, 27, 32, 33, 63–64, 64, 86, 87, 206–208, 207–208, 259, 260 tacking devices, 61, 61–62 telescopes, 42, 43, 5ee also Laparoscopes trocars, 43–34, 44, 54, 95, 05, 85, 58, 95, 8ee also Cannulas ultrasonic technology, 35, 36–37, 131 vessel sealing/dividing devices, 65 video towers, 41, 43, 44, 549, 50, 58, 58, 59, See also Cannulas ultrasonic technology, 35, 36–37, 131 vessel sealing/dividing devices, 65 video towers, 41, 45, 45, 49, 50, 85, 85, 89, See also Laparoscopes untertace scanning, in high definition cameras, 54 Interalucental context of the context of t	morcellators, 50, 51, 183-184, 184, 195, 197	Kidney disease, 115, 115–116
needles, 23, 24, 24–25, 46, 48, 50, 50, 57–58, 58 organ retractors, 48 portals/ports, 21–22, 22, 58, 58–59 probes, 59, 60 probes, 59, 60 ordiculating instruments, 59, 59, 61, 63, 63 cscsors, 44, 64, 59, 60 specimen/tissue retrieval bags, 66, 66, 146, 193–195, 195–198, 200 psechmen/tissue retrieval bags, 66, 66, 146, 193–195, 195–198, 200 psechmen/tissue retrieval bags, 66, 66, 146, 193–195, 195–198, 200 psechmen/tissue retrieval bags, 66, 66, 146, 193–195, 195–198, 200 psechmen/tissue retrieval bags, 66, 66, 146, 193–195, 195–198, 200 psechmen/tissue retrieval bags, 66, 66, 146, 193–195, 195–198, 200 psechmen/tissue retrieval bags, 66, 66, 146, 193–195, 195–198, 200 pushed half-hitches, 27, 28 Rodete, 27–28, 29 Knot-tying, 21, 22, 23, 24, 25, 27–28, 28–33, 30, 32. See also Suturing stuturing Knot-tying, 21–23, 22–23, 25, 27, 32, 33, 63–64, 64, 86, 87, 206–208, 207–208, 259, 260 tacking devices, 61, 61–62 telescopes, 42, 43, 44, 45, 49, 50, 58, 58, 59. See also Cannulas ultrasonic technology, 35, 36–37, 131 vessel scaling/dividing devices, 65 video towers, 41, 43 Insufflation, 49–50, 49–50, 57–58, 58. See also under specific operative technique literace scanning, in high definition cameras, 54 Intermittent positive-pressure ventilation, 244 Intersex gonadectomy, 167–169, 168, 174, 174–175 analgesia/ anesthesia, 169 indications,	needle drivers, 63–64	Knot pushers, 23, 23, 28, 46, 48, 269
organ retractors, 48 portals/ prots, 21–22, 22, 28, 8, 8–59 probes, 59, 60 radiofrequency devices, 131, 131 reducers, 44, 44, 58 reusable, 41–46, 42–56, 49–56, 57, 58, 59, 60 roticulating instruments, 59, 59, 61, 63, 63 scissors, 46, 46, 59, 60 specimen/ tissue retrieval bags, 66, 66, 146, 193–195, 195–198, 200 staplers, 61, 61–63, 63, 85, 86, 136–137, 137, 289, 291–292, 292, 293 suturing/ knot-tying, 21–23, 22–23, 25, 27, 32, 33, 63–64, 64, 68, 87, 206–208, 207–208, 259, 260 tacking devices, 61, 61–62 telescopes, 42, 43. See also Laparoscopes trocars, 43–45, 44, 45, 49, 50, 58, 58, 59. See also Cannulas ultrasonic technology, 35, 36–37, 131 vessel sealing/dividing devices, 65 video towers, 41, 43 lnsufflation, 49–50, 49–50, 57–58, 58. See also under specific operative technique Interlace scanning, in high definition cameras, 54 Intermittent positive-pressure ventilation, 244 Intersex gonadectomy, 167–169, 168, 174–175 analgesia/anesthesia, 169 anatomy, identification of, 168, 171, 172–173, 173 complications, 169 indications, 160 indications, 160 indications, 160 indications, 160 indications, 160 indications, 174 indications, 160 indications, 1	needle holders, 23, 23, 24, 25, 46, 47	Knotless suture technology, 64, 64
portals/ ports, 21–22, 22, 58, 58–59 probes, 59, 60 radiofrequency devices, 131, 131 reducers, 44, 44, 58 reusable, 41–46, 42–56, 49–56, 57, 58, 59, 60 roticulating instruments, 59, 59, 61, 63, 63 scissors, 46, 46, 59, 60 speciment/ tissue retrieval bags, 66, 66, 146, 193–195, 193–198, 200 staplers, 61, 61–63, 63, 85, 86, 136–137, 137, 289, 291–292, 292, 293 suturing/ Knot-tying, 21–23, 22–23, 25, 27, 32, 33, 63–64, 64, 86, 87, 206–208, 207–208, 259, 260 tacking devices, 61, 61–62 telescopes, 42, 43. See also Laparoscopes trocars, 43–45, 44, 45, 49, 50, 58, 58, 59. See also Cannulas ultrasonic technology, 35, 36–37, 131 vessel sealing/ dividing devices, 65 video towers, 41, 43 Insufflation, 49–50, 49–50, 57–58, 58. See also under specific operative technique Interlace scanning, in high definition cameras, 54 Intermittent positive-pressure ventilation, 244 Intersex gonadectomy, 167–169, 168, 174–175 analgesia/ anesthesia, 169 instrumentation, 173, 174 insufflation, 170, 171 ports, 169–171, 170–173 positioning, 169, 170 postoperative management, 173–174 preoperative preparation, 169 instraindications, 169 instraindications, 169 instraintiment, 179, 303 Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal postfocaling injuries, 104–107, 107 Intracorporeal bowel biopsies, 86–87 Intercorporeal and success and extracorporeal sover be deviced and phrecional special control of Laparoscopic Skills (MISTELS), 14, 15, 19 Medetomidine, 72, 72, 75, 246, 247 Mepivacaine, 73, 74, 76, 248 LigaSure M, 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 LigaSure M, 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 Ligasture, 28, 30 extracorporeal, 37–33, 32 Leroy's technique, 31–32, 32 Laparoscopic cystotomy, 313–316, 320, 321 Laparoscopic cystotomy, 313–316, 320, 321 Laparoscopic cystotomy, 313–316, 320, 321 Laparoscopic	needles, 23, 24, 24–25, 46, 48, 50, 50, 57–58, 58	Knots
probes, 59, 60 radiofrequency devices, 131, 131 reducers, 44, 44, 58 reusable, 41–46, 42–56, 49–56, 57, 58, 59, 60 roticulating instruments, 59, 59, 51, 63, 63 scissors, 46, 46, 59, 60 specimen/tissue retrieval bags, 66, 66, 146, 193–195, 195–198, 200 staplers, 61, 61–63, 63, 85, 86, 136–137, 137, 289, 291–292, 292, 293 suturing/knot-tying, 21–23, 22–23, 25, 27, 32, 33, 63–64, 64, 86, 87, 206–208, 207–208, 259, 260 tacking devices, 61, 61–62 telescopes, 42, 43, 5ee also Laparoscopes trocars, 43–45, 44, 45, 49, 50, 58, 58, 59. See also Cannulas ultrasonic technology, 35, 36–37, 131 vessel sealing/dividing devices, 65 video towers, 41, 43 Insufflation, 49–50, 49–50, 57–58, 58. See also under specific operative technique Interdiace scanning, in high definition cameras, 54 Intermittent positive-pressure ventilation, 244 Intersex gonadectomy, 167–169, 168, 174–175 analgesia/anesthesia, 169 anatomy, identification of, 168, 171, 172–173, 173 complications, 174 contraindications, 169 indications, 168–169 instrumentation, 173, 174 insufflation, 170, 171 ports, 169–171, 170–171 ports, 169–171, 170–173 positoning, 169, 170 postoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intersexuality, 167–168. See also Intersex gonadectomy, 169 surgical procedure, 169–171, 170–173, 173 Intersexuality, 167–168. See also Intersex gonadectomy Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal postfoaling injuries, 104–107, 107 Intracorporeal 31–33, 32 IPM (image processing module), 53 IPV (intermittent positive-pressure ventilation), 244 IPV (intermittent positive-pressure ventilation), 244 Intersex devices, 65 video towers, 41, 43 IED light sources, 51, 51 Left dorsal colon displacement, 108, 119, 120, 126. See also Nephrosplenic space, closure of Left-sided nephrectomy, 212, 213, 213–216, 214–217, 218–219 Liejmyoma, 301, 302 Leroy's technique, 27–28, 28–33, 30, 32 See also Interactory in the propertion of Legaroscopic cystotomy, 315–316, 320, 321 LED light sources, 51, 51, 51 Left dorsal colon displacement,	organ retractors, 48	C-loop technique, 32
probes, 59, 60 radiofrequency devices, 131, 131 reducers, 44, 44, 58 reusable, 41–46, 42–56, 49–56, 57, 58, 59, 60 roticulating instruments, 59, 59, 51, 63, 63 scissors, 46, 46, 59, 60 specimen/tissue retrieval bags, 66, 66, 146, 193–195, 195–198, 200 staplers, 61, 61–63, 63, 85, 86, 136–137, 137, 289, 291–292, 292, 293 suturing/knot-tying, 21–23, 22–23, 25, 27, 32, 33, 63–64, 64, 86, 87, 206–208, 207–208, 259, 260 tacking devices, 61, 61–62 telescopes, 42, 43, 5ee also Laparoscopes trocars, 43–45, 44, 45, 49, 50, 58, 58, 59. See also Cannulas ultrasonic technology, 35, 36–37, 131 vessel sealing/dividing devices, 65 video towers, 41, 43 Insufflation, 49–50, 49–50, 57–58, 58. See also under specific operative technique Interdiace scanning, in high definition cameras, 54 Intermittent positive-pressure ventilation, 244 Intersex gonadectomy, 167–169, 168, 174–175 analgesia/anesthesia, 169 anatomy, identification of, 168, 171, 172–173, 173 complications, 174 contraindications, 169 indications, 168–169 instrumentation, 173, 174 insufflation, 170, 171 ports, 169–171, 170–171 ports, 169–171, 170–173 positoning, 169, 170 postoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intersexuality, 167–168. See also Intersex gonadectomy, 169 surgical procedure, 169–171, 170–173, 173 Intersexuality, 167–168. See also Intersex gonadectomy Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal postfoaling injuries, 104–107, 107 Intracorporeal 31–33, 32 IPM (image processing module), 53 IPV (intermittent positive-pressure ventilation), 244 IPV (intermittent positive-pressure ventilation), 244 Intersex devices, 65 video towers, 41, 43 IED light sources, 51, 51 Left dorsal colon displacement, 108, 119, 120, 126. See also Nephrosplenic space, closure of Left-sided nephrectomy, 212, 213, 213–216, 214–217, 218–219 Liejmyoma, 301, 302 Leroy's technique, 27–28, 28–33, 30, 32 See also Interactory in the propertion of Legaroscopic cystotomy, 315–316, 320, 321 LED light sources, 51, 51, 51 Left dorsal colon displacement,	portals/ports, 21–22, 22, 58, 58–59	endoloop ligature, 28, 30
indicifrequency devices, 131, 131 reducers, 44, 44, 58 reusable, 41-46, 42-56, 49-56, 57, 58, 59, 60 roticulating instruments, 59, 59, 61, 63, 63 scissors, 44, 64, 69, 60 specimen/tissue retrieval bags, 66, 66, 146, 193–195, 195–198, 200 staplers, 61, 61-63, 63, 85, 86, 136–137, 137, 289, 291–292, 292, 293 suturing/knot-tying, 21-23, 22-23, 25, 27, 32, 33, 63-64, 64, 86, 87, 206–208, 207–208, 295, 260 tacking devices, 61, 61–62 telescopes, 42, 43. See also Laparoscopes trocars, 43-45, 44, 45, 49, 50, 58, 59. See also Cannulas ultrasonic technology, 35, 36–37, 131 vessel sealing/dividing devices, 65 video towers, 41, 43 Insufflation, 49–50, 49–50, 57–58, 58. See also under specific operative technique Internitent positive-pressure ventilation of, 168, 171, 172–173, 173 complications, 174 contraindications, 169 indications, 168–169 instrumentation, 170, 171 ports, 169–171, 170–171 posttoning, 169, 170 postoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Inter-abdominal abscess, 112–113, 112–113 Intra-abdominal abscess, 112–113, 1112–113 Intra-abdominal postfoaling injuries, 104–107, 107 Intracorporeal bowel biopsies, 86–87 Intra-abdominal postfoaling injuries, 104–107, 107 Intracorporeal knots, 31–33, 32 IPM (image processing module), 53 IPV (intermittent positive-pressure ventilation), 244 Interroperative preparation, 169 condified Roeder, 28, 30 pushed half-hitches, 27, 28 Roeder, 27–28, 29 Roeder, 27–8, 29 Roeder, 28, 30 Roeder, 28, 30 Roeder, 28, 30 Roeder, 28, 30 Ro		
reducers, 44, 44, 58 reusable, 41–46, 42–56, 49–56, 57, 58, 59, 60 roticulating instruments, 59, 99, 61, 63, 63 scissors, 46, 46, 59, 60 specimen/ tissue retrieval bags, 66, 66, 146, 193–195, 195–198, 200 staplers, 61, 61–63, 63, 85, 86, 136–137, 137, 289, 291–292, 292, 293 suturing/ knot-tying, 21–23, 22–23, 25, 27, 32, 33, 63–64, 64, 86, 87, 206–208, 207–208, 259, 260 tacking devices, 61, 61–62 telescopes, 42, 43. See also Laparoscopes trocars, 43–45, 44, 45, 49, 50, 58, 58, 59. See also Cannulas ultrasonic technology, 35, 36–37, 131 vessel sealing/ dividing devices, 65 video towers, 41, 43 Insufflation, 49–50, 49–50, 57–58, 58. See also under specific operative technique Interlace scanning, in high definition cameras, 54 Intermittent positive-pressure ventilation, 244 Intersex gonadectomy, 167–169, 168, 174–175 analgesia/ anesthesia, 169 anatomy, identification of, 168, 171, 172–173, 173 complications, 174 contraindications, 169 indications, 168–169 instrumentation, 173, 174 insufflation, 170, 171 ports, 169–171, 170–171 positioning, 169, 170 postoperative management, 173–174 prosperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intersexuality, 167–168. See also Intersex gonadectomy, Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal postfooling injuries, 104–107, 107 Intracorporeal bowel biopsies, 86–87 Intracorporeal knots, 31–33, 32 IPM (image processing module), 53 IEV (intermittent positive-pressure ventilation), 244 Hand (in a procedure, 169–171, 170–173, 173 Intersexuality, 167–168, See also Intersex gonadectomy, Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal postfooling injuries, 104–107, 107 Intracorporeal knots, 31–33, 32 IPM (image processing module), 53 IPM (intermittent positive-pressure ventilation), 244 Intersex gonadectomy, 167–169, 168, 174–175 analgesia/ anesthesia, 136 Intra-abdominal postfooling injuries, 104–107, 107 Intr	-	
reusable, 41–46, 42–56, 49–56, 57, 58, 59, 60 roticulating instruments, 59, 59, 61, 63, 63 scissors, 46, 46, 59, 60 specimen/tissue retrieval bags, 66, 66, 146, 193–195, 195–198, 200 staplers, 61, 61–63, 63, 85, 86, 136–137, 137, 289, 291–292, 292, 293 suturing, Knot-tying, 21–23, 22–23, 25, 27, 32, 33, 63–64, 64, 86, 87, 206–208, 207–208, 259, 260 tacking devices, 61, 61–62 telescopes, 42, 43. See also Laparoscopes trocars, 43–45, 44, 45, 49, 50, 58, 58, 59. See also Cannulas ultrasonic technology, 35, 36–37, 131 vessel sealing / dividing devices, 65 video towers, 41, 43 Insufflation, 49–50, 49–50, 57–58, 58. See also under specific operative technique Intersex gonadectomy, 167–169, 168, 174–175 analgesia/anesthesia, 169 anatomy, identification of, 168, 171, 172–173, 173 complications, 174 contraindications, 169 indications, 168–169 indications, 168–169 indications, 170, 171 ports, 169–171, 170–171 positioning, 169, 170 postoperative management, 173–174 properative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intersex gonadectomy Intersumentation, 173, 174 insufflation, 170, 171 ports, 169–171, 170–173, 173 Intersevaulity, 167–168. See also Intersex gonadectomy Intestinal transit time, 179, 303 Intra-abdominal absecs, 112–113, 112–113 Intra-abdominal absecs, 112–113, 112–113 Intra-abdominal postfoaling injuries, 104–107, 107 Intracorporeal bowel biopsies, 86–87 Intracorporeal bow		Leroy's technique, 31–32, 32
roticulating instruments, 59, 59, 61, 63, 63 scissors, 46, 46, 59, 60 specimen/tissue retrieval bags, 66, 66, 146, 193–195, 195–198, 200 staplers, 61, 61–63, 63, 85, 86, 136–137, 137, 289, 291–292, 292, 293 suturing/knot-tying, 21–22, 22–23, 25, 27, 32, 33, 63–64, 64, 86, 87, 206–208, 207–208, 259, 260 tacking devices, 61, 61–62 telescopes, 42, 43. See also Laparoscopes trocars, 43–45, 44, 45, 49, 50, 58, 58, 59. See also Cannulas ultrasonic technology, 35, 36–37, 131 vessel sealing/dividing devices, 65 video towers, 41, 43 Insuffaltion, 49–50, 49–50, 75–58, 58. See also under specific operative technique Interlace scanning, in high definition cameras, 54 Intermittent positive-pressure ventilation, 244 Intersex gonadectomy, 167–169, 168, 174–175 analgesia/anesthesia, 169 anatomy, identification of, 168, 171, 172–173, 173 complications, 174 contraindications, 169 indications, 169—169, 170 postoperative management, 173–174 prostitioning, 169, 170 postoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 clarescuality, 167–168, See also Intersex gonadectomy Interactive preparation, 169 surgical procedure, 169–171, 170–173, 173 litersexuality, 167–168, See also Intersex gonadectomy Interactive preparation, 169 and 170, 170 postoperative management, 173–174, 77, 77–76, 74, 74, 76, 78, 248 Lightson tools, 46, 47–48 Lig		modified Roeder, 28, 30
Reeder, 27–28, 29 Roeder, 21, 22, 24, 24, 25, 27–28, 28–33, 30, 32. See also Suturing Laparoscopic cystotomy, 315–316, 320, 321 Laparoscopic cystotomy, 31–314, 15–320, 321 Laparoscopic cystoto	roticulating instruments, 59, 59, 61, 63, 63	pushed half-hitches, 27, 28
specimen/tissue retrieval bags, 66, 66, 146, 193–195, 195–198, 200 staplers, 61, 61–63, 63, 85, 86, 136–137, 137, 289, 291–292, 292, 293 suturing/knot-tying, 21–23, 22–23, 25, 27, 32, 33, 63–64, 64, 86, 87, 206–208, 207–208, 259, 260 tacking devices, 61, 61–62 telescopes, 42, 43, 5ee also Laparoscopes trocars, 43–45, 44, 54, 95, 90, 58, 58, 59. 5ee also Cannulas ultrasonic technology, 35, 36–37, 131 vessel sealing/dividing devices, 65 video towers, 41, 43 Insufflation, 49–50, 49–50, 57–58, 58. See also under specific operative technique Intermittent positive-pressure ventilation, 244 Intersex gonadectomy, 167–169, 168, 174–175 analgesia/anesthesia, 169 anatomy, identification of, 168, 171, 172–173, 173 complications, 174 contraindications, 168–169 indications, 168–169 indications, 168–169 instrumentation, 170, 171 ports, 169–171, 170–171 positioning, 169, 170 postoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–171 positoning, 169, 170 postoperative management, 173–174 preoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–173 positioning, 169, 170 Intra-abdominal anssees/ neoplasia, 116, 116 Intra-abdominal postroaling injuries, 104–107, 107 Intracorporeal knots, 31–33, 32 IPM (image processing module), 53 IPM (image processing module), 53 IPPV (intermittent positive-pressure ventilation), 244 Harterse (in the discovery of th	<u> </u>	•
staplers, 61, 61–63, 63, 85, 86, 136–137, 137, 289, 291–292, 292, 293 suturing/knot-tying, 21–23, 22–23, 25, 27, 32, 33, 63–64, 64, 86, 87, 206–208, 207–208, 259, 260 tacking devices, 61, 61–62 telescopes, 42, 43, 5ee also Laparoscopes trocars, 43–45, 44, 45, 49, 50, 58, 58, 59. See also Cannulas ultrasonic technology, 35, 36–37, 131 vessel sealing/dividing devices, 65 video towers, 41, 43 Insufflation, 49–50, 49–50, 57–58, 58. See also under specific operative technique Interlace scanning, in high definition cameras, 54 Intermittent positive-pressure ventilation, 244 Intersex gonadectomy, 167–169, 168, 174–175 analgesia/ anesthesia, 169 anatomy, identification of, 168, 171, 172–173, 173 complications, 169 indications, 168–169 indications, 168–169 indications, 168–169 indications, 168–169 indications, 169–171, 170–171 positioning, 169, 170 postoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–171 positioning, 169, 170 postoperative management, 173–174 preoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–173 positioning, 169, 170 postoperative because the see also Telescopes Laparoscopic-systotomy, 315–316, 320, 321 Laparoscopic-guided ultrasound, 84, 90 Laser technology, 35, 37–38, 131 LED light sources, 51, 51 Left dorsal colon displacement, 108, 119, 120, 126. See also Nephrosplenic space, closure of Left-siede nephrectomy, 212, 213, 213–216, 214–217, 218–219 Leiomyos technique, for intracorporeal knots, 31–32, 32 Ligastion tools, 46, 47–48 Ligasture™, 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 Ligasture™, 65, 131, 145, 146, 192 Ligation tools, 44, 47–48 Ligasture™, 65, 131, 145, 146, 192 Ligation tools, 44, 47–48 Ligation tools, 46, 47–		
staplers, 61, 61–63, 63, 85, 86, 136–137, 137, 289, 291–292, 292, 293 suturing/knot-tying, 21–23, 22–23, 25, 27, 32, 33, 63–64, 64, 86, 87, 206–208, 207–208, 259, 260 tacking devices, 61, 61–62 telescopes, 42, 43. See also Laparoscopes trocars, 43–45, 44, 45, 49, 50, 58, 58, 59. See also Cannulas ultrasonic technology, 35, 36–37, 131 vessel sealing/dividing devices, 65 video towers, 41, 43 Insufflation, 49–50, 49–50, 57–58, 58. See also under specific operative technique Interlace scanning, in high definition cameras, 54 Intermittent positive-pressure ventilation, 244 Intersex gonadectomy, 167–169, 168, 174–175 analgesia/anesthesia, 169 anatomy, identification of, 168, 171, 172–173, 173 complications, 174 contraindications, 169 indications, 168–169 instrumentation, 173, 174 insufflation, 170, 171 ports, 169–171, 170–171 post tioning, 169, 170 postoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intersexuality, 167–168. See also Intersex gonadectomy Intestinal transit time, 179, 303 Intra-abdominal abscess, 112–113, 1121-113 Intra-abdominal postfoaling injuries, 104–107, 107 Intra-arbadominal postfoaling injuries, 104–107, 107 Intra-arbadominal postfoaling injuries, 104–107, 107 Intra-corporeal knots, 31–33, 32 IPM (image processing module), 53 IPPV (intermittent positive-pressure ventilation), 244 Intermittent positive-pressure ventilation), 244 Intermittent positive-pressure ventilation, 244 Intermittent positive-pressure ventilation), 244 Intermittent positive-pressure ventilation, 244 Intermittent positive-pressure ventila		
Laparoscopes, 41–42, 43–44. See also Telescopes suturing/knot-tying, 21–23, 22–23, 25, 27, 32, 33, 63–64, 64, 86, 87, 206–208, 207–208, 259, 260 tacking devices, 61, 61–62 telescopes, 42, 43. See also Laparoscopes trocars, 43–45, 44, 45, 49, 50, 58, 58, 58. See also Cannulas ultrasonic technology, 35, 36–37, 131 vessel sealing/dividing devices, 65 video towers, 41, 43 Insufflation, 49–50, 49–50, 57–58, 58. See also under specific operative technique Interlace scanning, in high definition cameras, 54 Intermittent positive-pressure ventilation, 244 Intersex gonadectomy, 167–169, 168, 174–175 analgesia/anesthesia, 169 anatomy, identification of, 168, 171, 172–173, 173 complications, 174 contraindications, 169 indications, 168–169 instrumentation, 173, 174 insufflation, 170, 171 ports, 169–171, 170–173 postioning, 169, 170 postoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intersexuality, 167–168. See also Intersex gonadectomy Interstinal transit time, 179, 303 Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal postfoaling injuries, 104–107, 107 Intra-arbdominal postfoaling injuries, 104–107, 107 Intra-orporeal knots, 31–33, 32 IPM (image processing module), 53 IPPV (intermittent positive-pressure ventilation), 244 Intermittent positive-pressure ventilation), 244 Internative procedure, 169–171, 170–173, 173 Intersex gonadectomy, 175–276, 246, 247, 248 Light sources/cables, 42, 42–43, 51, 51–52 Linear staplers, 136–137, 137 Lice tidorsal colon displacement, 108, 119, 120, 126. See also Nephrospienic space, closure of Left-sided nephrectomy, 313–314, 315–320, 321 Laparoscopic-essited cystotomy, 313–314, 315–320, 321 Laparoscopic-suided ultrasound, 84, 90 Laser technology, 35, 37–38, 131 LED light sources, 51, 51 Left dorsal colon displacement, 108, 119, 102, 126. See also Nephrospienic sease, closure of		O
suturing/knot-tying, 21-23, 25, 27, 32, 33, 63-64, 64, 86, 87, 206-208, 207-208, 259, 260 tacking devices, 61, 61-62 telescopes, 42, 43. See also Laparoscopes trocars, 43-45, 44, 45, 49, 50, 58, 58, 59. See also Cannulas ultrasonic technology, 35, 36-37, 131 vessel sealing/dividing devices, 65 video towers, 41, 43 lnsufflation, 49-50, 49-50, 57-58, 58. See also under specific operative technique specific operative technique Intersex gonadectomy, 167-169, 168, 174-175 analgesia/anesthesia, 169 anatomy, identification of, 168, 171, 172-173, 173 complications, 168-169 indications, 168-169 instrumentation, 173, 174 insufflation, 170, 171 ports, 169-171, 170-173 positioning, 169, 170 postoperative management, 173-174 preoperative preparation, 169 surgical procedure, 169-171, 170-173, 173 Intersexuality, 167-168. See also Intersex gonadectomy Intra-abdominal masses/neoplasia, 116, 116 Intra-abdominal postfoaling injuries, 104-107, 107 Intracorporeal knots, 31-33, 32 IPM (image processing module), 53 IPPV (intermittent positive-pressure ventilation), 244 Intersex gonadectomy Intestinal transit time, 179, 303 Intra-abdominal postfoaling injuries, 104-107, 107 Intracorporeal knots, 31-33, 32 IPM (image processing module), 53 IPPV (intermittent positive-pressure ventilation), 244		Laparoscopes, 41–42, 43–44. See also Telescopes
63-64, 64, 86, 87, 206-208, 207-208, 259, 260 tacking devices, 61, 61-62 telescopes, 42, 43. See also Laparoscopes trocars, 43-45, 44, 45, 49, 50, 58, 58, 59. See also Cannulas ultrasonic technology, 35, 36-37, 131 vessel sealing/dividing devices, 65 video towers, 41, 43 Insufflation, 49-50, 49-50, 57-58, 58. See also under specific operative technique Internitent positive-pressure ventilation, 244 Intersex gonadectomy, 167-169, 168, 174-175 analgesia/anesthesia, 169 anatomy, identification of, 168, 171, 172-173, 173 complications, 174 contraindications, 169 instrumentation, 173, 174 insufflation, 170, 171 ports, 169-171, 170-173 postoperative praparation, 169 surgical procedure, 169-171, 170-173 postoperative management, 173-174 preoperative preparation, 169 surgical procedure, 169-171, 170-173, 173 Intra-abdominal abscess, 112-113, 112-113 Intra-abdominal postfoaling injuries, 104-107, 107 Intracorporeal knots, 31-33, 32 IPM (image processing module), 53 IPPV (intermittent positive-pressure ventilation), 244 Laparoscopic-assisted cystotomy, 313-314, 315-320, 321 Laparoscopic-assisted cystotomy, 33, 3-314, 315-320, 321 Laparoscopic-suided ultrasound, 84, 90 Laser technology, 35, 37-38, 131 LED light sources, 51, 51 Left dorsal colon displacement, 108, 119, 120, 126. See also Nephrosplenic space, closure of Left-sided nephrectomy, 212, 213, 213-216, 214-217, 218-219 Lieomyoma, 301, 302 Leroy's technique, for intracorporeal knots, 31-32, 23 Lidocaine, 73, 74, 74, 75, 75-76, 246, 247, 248 Ligation tools, 46, 47-48 Ligation too		
tacking devices, 61, 61–62 telescopes, 42, 43. See also Laparoscopes trocars, 43–45, 44, 45, 49, 50, 58, 58, 59. See also Cannulas ultrasonic technology, 35, 36–37, 131 vessel sealing/dividing devices, 65 video towers, 41, 43 Insufflation, 49–50, 49–50, 57–58, 58. See also under specific operative technique Interlace scanning, in high definition cameras, 54 Intermittent positive-pressure ventilation, 244 Intersex gonadectomy, 167–169, 168, 174, 172–173, 173 complications, 174 contraindications, 169 indications, 168–169 indications, 169-171, 170–171 ports, 169–171, 170–171 postitoning, 169, 170 postoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intersexuality, 167–168. See also Intersex gonadectomy Interaabdominal masses/neoplasia, 116, 116 Intra-abdominal postfoaling injuries, 104–107, 107 Intracorporeal knots, 31–33, 32 IPM (image processing module), 53 IPM (intermittent positive-pressure ventilation), 244 Laparoscopic-guided ultrasound, 84, 90 Laser technology, 35, 37–38, 131 LED light sources, 51, 51 Left dorsal colon displacement, 108, 119, 120, 126. See also Nephrosplenic space, closure of Left-siede nephrectomy, 212, 213, 213–216, 214–217, 218–219 Leiomyona, 301, 302 Leroy's technique, 73, 47, 47, 75, 75–76, 246, 247, 248 LigaSure™, 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 Ligasure™, 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 Ligasure™, 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 Ligasure™, 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 Ligasure™, 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 Ligasure™, 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 Ligasure™, 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 Ligasure™, 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 Ligasure™, 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 Ligasure™, 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 Ligasure™, 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 Ligasure™, 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 Ligasure™, 65, 131, 1		
telescopes, 42, 43. See also Laparoscopes trocars, 43–45, 44, 45, 49, 50, 58, 58, 59. See also Cannulas ultrasonic technology, 35, 36–37, 131 vessel sealing/ dividing devices, 65 video towers, 41, 43 Insufflation, 49–50, 49–50, 57–58, 58. See also under specific operative technique Internitent positive-pressure ventilation, 244 Intersex gonadectomy, 167–169, 168, 174–175 analgesia/anesthesia, 169 anatomy, identification of, 168, 171, 172–173, 173 complications, 174 contraindications, 169 indications, 168–169 instrumentation, 170, 171 ports, 169–171, 170–177 postoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intersexuality, 167–168. See also Intersex gonadectomy Intestinal transit time, 179, 303 Intersexuality, 167–168. See also Intersex gonadectomy Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal postfoaling injuries, 104–107, 107 Intracorporeal knots, 31–33, 32 IPM (image processing module), 53 IPPV (intermittent positive-pressure ventilation), 244 Intersection of the processing module), 53 IPPV (intermittent positive-pressure ventilation), 244 Intersection of the processing module), 53 IPPV (intermittent positive-pressure ventilation), 244 Intersection of the processing module), 53 IPPV (intermittent positive-pressure ventilation), 244 Intersection of the processing module), 53 IPPV (intermittent positive-pressure ventilation), 244 Intersection of the processing module), 53 IPPV (intermittent positive-pressure ventilation), 244 Intersection of the processing module), 53 IPPV (intermittent positive-pressure ventilation), 244 Intersection of the processing module), 53 Intersection of the processing module), 54 Intersection of the processing module), 55 Intersection of the processing module), 56 Intersection of the processing module), 57 Intersection of the processing module), 58 Intersection of the processing module), 59 Intersection of the processing module), 50 Intersection of the processing module), 51 Intersection of the processing module), 52		
trocars, 43–45, 44, 45, 49, 50, 58, 58, 59. See also Cannulas ultrasonic technology, 35, 36–37, 131 vessel sealing/dividing devices, 65 video towers, 41, 43 Insufflation, 49–50, 49–50, 57–58, 58. See also under specific operative technique Interlace scanning, in high definition cameras, 54 Intermittent positive-pressure ventilation, 244 Intersex gonadectomy, 167–169, 168, 174–175 analgesia/anesthesia, 169 anatomy, identification of, 168, 171, 172–173, 173 complications, 174 contraindications, 169 indications, 168–169 instrumentation, 173, 174 insufflation, 170, 171 ports, 169–171, 170–171 positioning, 169, 170 postoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intersexuality, 167–168. See also Intersex gonadectomy Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal postfoaling injuries, 104–107, 107 Intracorporeal knots, 31–33, 32 IPM (image processing module), 53 IPM (image processing module), 53 IPM (intermittent positive-pressure ventilation), 244 LED light sources, 51, 51 Left dorsal colon displacement, 108, 119, 120, 126. See also Nephrosplenic space, closure of Left-sided nephrectomy, 212, 213, 213–216, 214–217, 218–219 Leiomyoma, 301, 302 Leroy's technique, for intracorporeal knots, 31–32, 32 Lidocaine, 73, 74, 74, 75, 75–76, 246, 247, 248 Ligatsources/, 51, 51 Left dorsal colon displacement, 108, 119, 120, 126. See also Nephrosplenic space, closure of Left-sided nephrectomy, 212, 213, 213–216, 214–217, 218–219 Leiomyoma, 301, 302 Leroy's technique, for intracorporeal knots, 31–32, 32 Lidocaine, 73, 74, 74, 75, 75–76, 246, 247, 248 Ligatsources/cables, 42, 42–43, 51, 51–52 Linear staplers, 136–137, 137 Liver biopsies, 85–86 Light sources, 51, 51 Left dorsal colon displacement, 108, 119, 120, 126. See also Nephrosplenic space, closure of Left-sided nephrectomy, 212, 213, 213–216, 214–217, 218–219 Leiomyoma, 301, 302 Lidocaine, 73, 74, 74, 75, 75–76, 246, 247, 248 Ligatsources/ cables, 42, 42–43, 51, 51–52 Linear staplers, 136–137, 137 Liver biopsies, 85–86 Light doraine, 73, 7	e e e e e e e e e e e e e e e e e e e	
Cannulas ultrasonic technology, 35, 36–37, 131 vessel sealing/dividing devices, 65 video towers, 41, 43 Insufflation, 49–50, 49–50, 57–58, 58. See also under specific operative technique Interlace scanning, in high definition cameras, 54 Intermittent positive-pressure ventilation, 244 Intersex gonadectomy, 167–169, 168, 174–175 analgesia/anesthesia, 169 anatomy, identification of, 168, 171, 172–173, 173 complications, 174 contraindications, 169 indications, 168–169 indications, 168–169 instrumentation, 173, 174 insufflation, 170, 171 ports, 169–171, 170–171 postoperative management, 173–174 properative management, 173–174 proporeative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal postfolaling injuries, 104–107, 107 Intracorporeal knots, 31–33, 32 IPM (image processing module), 53 IPPV (intermittent positive-pressure ventilation), 244 Left dorsal colon displacement, 108, 119, 120, 126. See also Nephrosplenic space, closure of Left-sided nephrectomy, 212, 213, 213–216, 214–217, 218–219 Leiomyoma, 301, 302 Leroy's technique, for intracorporeal knots, 31–32, 32 Lidocaine, 73, 74, 74, 75, 75–76, 246, 247, 248 LigaSure™, 65, 131, 145, 146, 192 Li		
ultrasonic technology, 35, 36–37, 131 vessel sealing/dividing devices, 65 video towers, 41, 43 Insufflation, 49–50, 49–50, 57–58, 58. See also under specific operative technique Internitent positive-pressure ventilation, 244 Intersex gonadectomy, 167–169, 168, 174–175 analgesia/anesthesia, 169 anatomy, identification of, 168, 171, 172–173, 173 complications, 174 contraindications, 169 instrumentation, 173, 174 insufflation, 170, 171 ports, 169–171, 170–171 ports, 169–171, 170–171 positioning, 169, 170 postoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intersexuality, 167–168. See also Intersex gonadectomy Intestinal transit time, 179, 303 Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal postfoaling injuries, 104–107, 107 Intracorporeal knots, 31–33, 32 IPM (image processing module), 53 IPM (image processing module), 53 IPSPV (intermittent positive-pressure ventilation), 244 Intersex gonadectomy, 167–168. See also under specified nephrectomy, 212, 213, 213–216, 214–217, 218–219 Leiomyoma, 301, 302 Leroy's technique, for intracorporeal knots, 31–32, 32 Lidocaine, 73, 74, 74, 75, 75–76, 246, 247, 248 LigaSure™, 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 LigaSure™, 65, 131, 145, 146, 192 Licionyoma, 301, 302 Leroy's technique, for intracorporeal knots, 31–32, 32 Lidocaine, 73, 74, 74, 75, 75–76, 246, 247, 248 LigaSure™, 65, 131, 145, 146, 192 Licionyoma, 301, 302 Leroy's technique, for intracorporeal knots, 31–32, 32 Lidocaine, 73, 74, 74, 75, 75–76, 246, 247, 248 LigaSure™, 65, 131, 145, 146, 192 Licionyoma, 301, 302 Leroy's technique, for intracorporeal knots, 31–32, 32 Lidocaine, 73, 74, 74, 75, 75–76, 246, 247, 248 LigaSure™, 65, 131, 145, 146, 192 Licionyoma, 301, 302 Leroy's technique, for intracorporeal knots, 31–32, 32 Lidocaine, 73, 74, 74, 75, 75–76, 246, 247, 248 LigaSure™, 65, 131, 145, 146, 192 Licionyoma, 301, 302 Leroy's technique, for intracorporeal knots, 31–32, 32 Lidocaine, 73, 74, 74, 74, 75, 75–76, 246, 247, 74, 74, 76, 78,		
vessel sealing/dividing devices, 65 video towers, 41, 43		-
Insufflation, 49–50, 49–50, 57–58, 58. See also under specific operative technique Internated scanning, in high definition cameras, 54 Intermittent positive-pressure ventilation, 244 Intersex gonadectomy, 167–169, 168, 174–175 analgesia/anesthesia, 169 anatomy, identification of, 168, 171, 172–173, 173 complications, 174 contraindications, 169 indications, 168–169 instrumentation, 173, 174 insufflation, 170, 171 ports, 169–171, 170–171 ports, 169–171, 170–171 postoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal postfoaling injuries, 104–107, 107 Intra-corporeal knots, 31–33, 32 IPPV (intermittent positive-pressure ventilation), 244 Intersex gonadectomy, 167–169, 168, 174–175 analgesia/anesthesia, 169 Licomyoma, 301, 302 Leroy's technique, for intracorporeal knots, 31–32, 32 Lidocaine, 73, 74, 74, 75, 75–76, 246, 247, 248 LigaSure™, 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 Light sources/cables, 42, 42–43, 51, 51–52 Linear staplers, 136–137, 137 Liver biopsies, 85–86 Liver disease, 115, 115–116 Local anesthetics, 71, 73–74, 74, 76, 78, 248 Light sources/cables, 42–43, 51, 51–52 Linear staplers, 136–137, 137 Liver biopsies, 85–86 Liver disease, 115, 115–116 Local anesthetics, 71, 72–74, 76,		
Insufflation, 49–50, 49–50, 57–58, 58. See also under specific operative technique Interlace scanning, in high definition cameras, 54 Intermittent positive-pressure ventilation, 244 Intersex gonadectomy, 167–169, 168, 174–175 analgesia/ anesthesia, 169 anatomy, identification of, 168, 171, 172–173, 173 complications, 174 contraindications, 169 indications, 168–169 indication, 170, 171 ports, 169–171, 170–171 postioning, 169, 170 postoperative management, 173–174 preoperative management, 173–174 preoperative management, 179–303 Intersexuality, 167–168. See also Intersex gonadectomy Intestinal transit time, 179, 303 Intra-abdominal masses/neoplasia, 116, 116 Intra-abdominal postfoaling injuries, 104–107, 107 Intra-abdominal postfoaling injuries, 104–107, 107 Intracorporeal knots, 31–33, 32 IPPV (intermittent positive-pressure ventilation), 244 Leony's technique, for intracorporeal knots, 31–32, 32 Lidocaine, 73, 74, 74, 75, 75–76, 246, 247, 248 LigaSure TM , 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 Liga Sure TM , 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 Liga Sure TM , 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 Liga Sure TM , 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 Liga Sure TM , 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 Liga Sure TM , 65, 131, 145, 146, 192 Ligacure TM , 65, 131, 145,		- ·
Interlace scanning, in high definition cameras, 54 Intermittent positive-pressure ventilation, 244 Intersex gonadectomy, 167–169, 168, 174–175 analgesia/anesthesia, 169 anatomy, identification of, 168, 171, 172–173, 173 complications, 174 contraindications, 169 indications, 168–169 instrumentation, 173, 174 insufflation, 170, 171 ports, 169–171, 170–177 positioning, 169, 170 postoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intersexuality, 167–168. See also Intersex gonadectomy Intestinal transit time, 179, 303 Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal masses/neoplasia, 116, 116 Intra-abdominal postfoaling injuries, 104–107, 107 Intra-corporeal knots, 31–33, 32 IPPV (intermittent positive-pressure ventilation), 244 LigaSure™, 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 LigaSure™, 65, 131, 145, 146, 192 Ligation tool		
Interlace scanning, in high definition cameras, 54 Intermittent positive-pressure ventilation, 244 Intersex gonadectomy, 167–169, 168, 174–175 analgesia/anesthesia, 169 anatomy, identification of, 168, 171, 172–173, 173 complications, 174 contraindications, 169 indications, 168–169 instrumentation, 173, 174 insufflation, 170, 171 ports, 169–171, 170–171 postoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intra-abdominal masses/neoplasia, 116, 116 Intra-abdominal postfoaling injuries, 104–107, 107 Intra-abdominal postfoaling injuries, 104–107, 107 Intra-corporeal knots, 31–33, 32 IPPV (intermittent positive-pressure ventilation), 244 LigaSure M, 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 Ligation tools,		
Intermittent positive-pressure ventilation, 244 Intersex gonadectomy, 167–169, 168, 174–175 analgesia/anesthesia, 169 anatomy, identification of, 168, 171, 172–173, 173 complications, 174 contraindications, 169 indications, 168–169 indications, 168–169 indication, 170, 171 ports, 169–171, 170–171 ports, 169–171, 170–171 positioning, 169, 170 postoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal postfoaling injuries, 104–107, 107 Intra-abdominal postfoaling injuries, 104–107, 107 Intra-corporeal knots, 31–33, 32 IPPV (intermittent positive-pressure ventilation), 244 LigaSure™, 65, 131, 145, 146, 192 Ligation tools, 46, 47–48 Light sources/cables, 42, 42–43, 51, 51–52 Ligation tools, 46, 47–48 Light sources/cables, 42, 42–43, 51, 51–52 Ligation tools, 46, 47–48 Light sources/cables, 42, 42–43, 51, 51–52 Linear staplers, 136–137, 137 Liver biopsies, 85–86 Liver disease, 115, 115–116 Local anesthetics, 71, 73–74, 74, 76, 78, 248 Loop ligatures, 46, 47 Masses/tumors granulosa cell tumors, 189, 196–198, 199 hand-assisted technique for removal of, 332 intra-abdominal, 116, 116 McGill Inanimate System for Training and Evaluation of Laparoscopic Skills (MISTELS), 14, 15, 15, 19 Medetomidine, 72, 72, 75, 246, 247 Mepivacaine, 73, 74, 76, 248 Mesenteric rent repair, 135, 138 analgesia/anesthesia, 136 anatomy, identification, 42, 42–43, 51, 51–52 Ligation tools, 46, 47–48 Light sources/cables, 42, 42–43, 51, 51–52 Ligation tools, 46, 47–48 Light sources/cables, 42, 42–43, 51, 51–52 Ligation tools, 46, 47 Light sources/cables, 42, 42–43, 51, 51–52 Ligation tools, 46, 47 Light sources/cables, 42, 42–43, 51, 51–52 Light sources/cables, 42, 42–43, 51, 51–52 Lipation tools, 46, 47 Masses/tumors granulosa cell tumors, 189, 196–198, 199 hand-assisted technique for removal of, 332 intra-abdominal, 116, 116 McGill Inanimate System for Training and Evaluation of Laparoscopic Skills (MISTELS), 14, 15, 15, 15, 19 Medetom		
Intersex gonadectomy, 167–169, 168, 174–175 analgesia/anesthesia, 169 anatomy, identification of, 168, 171, 172–173, 173 complications, 174 contraindications, 169 indications, 168–169 instrumentation, 173, 174 insufflation, 170, 171 ports, 169–171, 170–171 positioning, 169, 170 postoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal masses/neoplasia, 116, 116 Intra-abdominal postfoaling injuries, 104–107, 107 Intra-corporeal bowel biopsies, 86–87 Intracorporeal knots, 31–33, 32 IPPV (intermittent positive-pressure ventilation), 244 Ligation tools, 46, 47–48 Light sources/cables, 42, 42–43, 51, 51–52 Linear staplers, 136–137, 137 Liver biopsies, 46, 47 Liver biopsies, 85–86 Liver disease, 115, 115–116 Local anesthetics, 71, 73–74, 74, 76, 78, 248 Loop ligatures, 46, 47 Masses/tumors granulosa cell tumors, 189, 196–198, 199 hand-assisted technique for removal of, 332 intra-abdominal, 116, 116 McGill Inanimate System for Training and Evaluation of Laparoscopic Skills (MISTELS), 14, 15, 15, 19 Medetomidine, 72, 72, 75, 246, 247 Mepivacaine, 73, 74, 76, 248 Mesenteric rent repair, 135, 138 analgesia/anesthesia, 136 anatomy, identification of, 136 complications, 136 hand-assisted technique, 332		
analgesia/anesthesia, 169 anatomy, identification of, 168, 171, 172–173, 173 complications, 174 contraindications, 169 indications, 168–169 instrumentation, 173, 174 insufflation, 170, 171 ports, 169–171, 170–171 positioning, 169, 170 postoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal masses/neoplasia, 116, 116 Intra-abdominal postfoaling injuries, 104–107, 107 Intracorporeal knots, 31–33, 32 IPPM (image processing module), 53 IPPV (intermittent positive-pressure ventilation), 244 Light sources/cables, 42, 42–43, 51, 51–52 Linear staplers, 136–137, 137 Liver biopsies, 85–86 Liver disease, 115, 115–116 Local anesthetics, 71, 73–74, 74, 76, 78, 248 Loop ligatures, 46, 47 Masses/tumors granulosa cell tumors, 189, 196–198, 199 hand-assisted technique for removal of, 332 intra-abdominal, 116, 116 McGill Inanimate System for Training and Evaluation of Laparoscopic Skills (MISTELS), 14, 15, 15, 19 Medetomidine, 72, 72, 75, 246, 247 Mepivacaine, 73, 74, 76, 248 Mesenteric rent repair, 135, 138 analgesia/anesthesia, 136 anatomy, identification of, 136 complications, 137–138 contraindications, 136 hand-assisted technique, 332		
anatomy, identification of, 168, 171, 172–173, 173 complications, 174 contraindications, 169 indications, 168–169 instrumentation, 173, 174 insufflation, 170, 171 ports, 169–171, 170–171 postitioning, 169, 170 postoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intersexuality, 167–168. See also Intersex gonadectomy Intestinal transit time, 179, 303 Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal masses/neoplasia, 116, 116 Intra-abdominal postfoaling injuries, 104–107, 107 Intra-abdominal postfoaling injuries, 104–107, 107 Intra-corporeal knots, 31–33, 32 IPPV (intermittent positive-pressure ventilation), 244 Linear staplers, 136–137, 137 Liver biopsies, 85–86 Liver disease, 115, 115–116 Local anesthetics, 71, 73–74, 74, 76, 78, 248 Loop ligatures, 46, 47 Masses/tumors granulosa cell tumors, 189, 196–198, 199 hand-assisted technique for removal of, 332 intra-abdominal, 116, 116 McGill Inanimate System for Training and Evaluation of Laparoscopic Skills (MISTELS), 14, 15, 15, 19 Medetomidine, 72, 72, 75, 246, 247 Mesenteric rent repair, 135, 138 analgesia/anesthesia, 136 anatomy, identification of, 136 complications, 136 hand-assisted technique, 332		•
complications, 174 contraindications, 169 indications, 168–169 instrumentation, 173, 174 insufflation, 170, 171 ports, 169–171, 170–171 postioning, 169, 170 postoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intersexuality, 167–168. See also Intersex gonadectomy Intestinal transit time, 179, 303 Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal postfoaling injuries, 104–107, 107 Intra-abdominal postfoaling injuries, 104–107, 107 Intracorporeal knots, 31–33, 32 IPM (image processing module), 53 IPPV (intermittent positive-pressure ventilation), 244 Liver disease, 115, 115–116 Local anesthetics, 71, 73–74, 74, 76, 78, 248 Loop ligatures, 46, 47 Masses/tumors granulosa cell tumors, 189, 196–198, 199 hand-assisted technique for removal of, 332 intra-abdominal, 116, 116 McGill Inanimate System for Training and Evaluation of Laparoscopic Skills (MISTELS), 14, 15, 15, 19 Medetomidine, 72, 72, 75, 246, 247 Mepivacaine, 73, 74, 76, 248 Mesenteric rent repair, 135, 138 analgesia/anesthesia, 136 anatomy, identification of, 136 complications, 137–138 contraindications, 136 hand-assisted technique, 332	~	· · · · · · · · · · · · · · · · · · ·
contraindications, 169 indications, 168–169 indications, 168–169 instrumentation, 173, 174 insufflation, 170, 171 ports, 169–171, 170–171 positioning, 169, 170 postoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intersexuality, 167–168. See also Intersex gonadectomy Intersinal transit time, 179, 303 Intra-abdominal masses/neoplasia, 116, 116 Intra-abdominal postfoaling injuries, 104–107, 107 Intra-abdominal postfoaling injuries, 104–107, 107 Intracorporeal knots, 31–33, 32 IPM (image processing module), 53 IPPV (intermittent positive-pressure ventilation), 244 Liver disease, 115, 115–116 Local anesthetics, 71, 73–74, 74, 76, 78, 248 Loop ligatures, 46, 47 Masses/tumors granulosa cell tumors, 189, 196–198, 199 hand-assisted technique for removal of, 332 intra-abdominal, 116, 116 McGill Inanimate System for Training and Evaluation of Laparoscopic Skills (MISTELS), 14, 15, 15, 19 Medetomidine, 72, 72, 75, 246, 247 Mesenteric rent repair, 135, 138 analgesia/anesthesia, 136 anatomy, identification of, 136 complications, 137–138 contraindications, 136 hand-assisted technique, 332		
indications, 168–169 instrumentation, 173, 174 insufflation, 170, 171 ports, 169–171, 170–171 positioning, 169, 170 postoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intersexuality, 167–168. See also Intersex gonadectomy Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal masses/neoplasia, 116, 116 Intra-abdominal postfoaling injuries, 104–107, 107 Intracorporeal knots, 31–33, 32 IPM (image processing module), 53 IPPV (intermittent positive-pressure ventilation), 244 Loop ligatures, 46, 47 Masses/tumors granulosa cell tumors, 189, 196–198, 199 hand-assisted technique for removal of, 332 intra-abdominal, 116, 116 McGill Inanimate System for Training and Evaluation of Laparoscopic Skills (MISTELS), 14, 15, 15, 19 Medetomidine, 72, 72, 75, 246, 247 Mepivacaine, 73, 74, 76, 248 Mesenteric rent repair, 135, 138 analgesia/anesthesia, 136 anatomy, identification of, 136 complications, 137–138 contraindications, 136 hand-assisted technique, 332		
instrumentation, 173, 174 insufflation, 170, 171 ports, 169–171, 170–171 positioning, 169, 170 postoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intersexuality, 167–168. See also Intersex gonadectomy Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal masses/neoplasia, 116, 116 Intra-abdominal postfoaling injuries, 104–107, 107 Intracorporeal bowel biopsies, 86–87 Intracorporeal knots, 31–33, 32 IPPV (intermittent positive-pressure ventilation), 244 Loop ligatures, 46, 47 Masses/tumors granulosa cell tumors, 189, 196–198, 199 hand-assisted technique for removal of, 332 intra-abdominal, 116, 116 McGill Inanimate System for Training and Evaluation of Laparoscopic Skills (MISTELS), 14, 15, 15, 19 Medetomidine, 72, 72, 75, 246, 247 Mepivacaine, 73, 74, 76, 248 Mesenteric rent repair, 135, 138 analgesia/anesthesia, 136 anatomy, identification of, 136 complications, 136 hand-assisted technique, 332		
insufflation, 170, 171 ports, 169–171, 170–171 positioning, 169, 170 postoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal masses/neoplasia, 116, 116 Intra-abdominal postfoaling injuries, 104–107, 107 Intracorporeal knots, 31–33, 32 IPM (image processing module), 53 IPPV (intermittent positive-pressure ventilation), 244 Masses/tumors granulosa cell tumors, 189, 196–198, 199 hand-assisted technique for removal of, 332 intra-abdominal, 116, 116 McGill Inanimate System for Training and Evaluation of Laparoscopic Skills (MISTELS), 14, 15, 15, 19 Medetomidine, 72, 72, 75, 246, 247 Mepivacaine, 73, 74, 76, 248 Mesenteric rent repair, 135, 138 analgesia/anesthesia, 136 anatomy, identification of, 136 complications, 137–138 contraindications, 136 hand-assisted technique, 332		
ports, 169–171, 170–171 positioning, 169, 170 postoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal masses/neoplasia, 116, 116 Intra-abdominal postfoaling injuries, 104–107, 107 Intracorporeal knots, 31–33, 32 IPM (image processing module), 53 IPPV (intermittent positive-pressure ventilation), 244 Masses/tumors granulosa cell tumors, 189, 196–198, 199 hand-assisted technique for removal of, 332 intra-abdominal, 116, 116 McGill Inanimate System for Training and Evaluation of Laparoscopic Skills (MISTELS), 14, 15, 15, 19 Medetomidine, 72, 72, 75, 246, 247 Mepivacaine, 73, 74, 76, 248 Mesenteric rent repair, 135, 138 analgesia/anesthesia, 136 anatomy, identification of, 136 complications, 137–138 contraindications, 136 hand-assisted technique, 332		Boop inguitates, 10, 17
positioning, 169, 170 postoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intersexuality, 167–168. See also Intersex gonadectomy Intera-abdominal abscess, 112–113, 112–113 Intra-abdominal masses/neoplasia, 116, 116 Intra-abdominal postfoaling injuries, 104–107, 107 Intracorporeal bowel biopsies, 86–87 Intracorporeal knots, 31–33, 32 IPM (image processing module), 53 IPPV (intermittent positive-pressure ventilation), 244 granulosa cell tumors, 189, 196–198, 199 hand-assisted technique for removal of, 332 intra-abdominal, 116, 116 McGill Inanimate System for Training and Evaluation of Laparoscopic Skills (MISTELS), 14, 15, 19 Medetomidine, 72, 72, 75, 246, 247 Mepivacaine, 73, 74, 76, 248 Mesenteric rent repair, 135, 138 analgesia/anesthesia, 136 anatomy, identification of, 136 complications, 137–138 contraindications, 136 hand-assisted technique, 332		Masses/tumors
postoperative management, 173–174 preoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intersexuality, 167–168. See also Intersex gonadectomy Intersinal transit time, 179, 303 Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal masses/neoplasia, 116, 116 Intra-abdominal postfoaling injuries, 104–107, 107 Intracorporeal bowel biopsies, 86–87 Intracorporeal knots, 31–33, 32 IPM (image processing module), 53 IPV (intermittent positive-pressure ventilation), 244 hand-assisted technique for removal of, 332 intra-abdominal, 116, 116 McGill Inanimate System for Training and Evaluation of Laparoscopic Skills (MISTELS), 14, 15, 15, 19 Medetomidine, 72, 72, 75, 246, 247 Mepivacaine, 73, 74, 76, 248 Mesenteric rent repair, 135, 138 analgesia/anesthesia, 136 anatomy, identification of, 136 complications, 137–138 contraindications, 136 hand-assisted technique for removal of, 332 intra-abdominal, 116, 116 McGill Inanimate System for Training and Evaluation of Laparoscopic Skills (MISTELS), 14, 15, 15, 19 Medetomidine, 72, 72, 75, 246, 247 Mepivacaine, 73, 74, 76, 248 Mesenteric rent repair, 135, 138 anatomy, identification of, 136 complications, 137–138 contraindications, 136 hand-assisted technique, 332		
preoperative preparation, 169 surgical procedure, 169–171, 170–173, 173 Intersexuality, 167–168. See also Intersex gonadectomy Intersinal transit time, 179, 303 Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal masses/neoplasia, 116, 116 Intra-abdominal postfoaling injuries, 104–107, 107 Intracorporeal bowel biopsies, 86–87 Intracorporeal knots, 31–33, 32 IPM (image processing module), 53 IPV (intermittent positive-pressure ventilation), 244 intra-abdominal, 116, 116 McGill Inanimate System for Training and Evaluation of Laparoscopic Skills (MISTELS), 14, 15, 15, 19 Medetomidine, 72, 72, 75, 246, 247 Mepivacaine, 73, 74, 76, 248 Mesenteric rent repair, 135, 138 analgesia/anesthesia, 136 anatomy, identification of, 136 complications, 137–138 contraindications, 136 hand-assisted technique, 332		
surgical procedure, 169–171, 170–173, 173 Intersexuality, 167–168. See also Intersex gonadectomy Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal masses/neoplasia, 116, 116 Intra-abdominal postfoaling injuries, 104–107, 107 Intra-corporeal bowel biopsies, 86–87 Intracorporeal knots, 31–33, 32 IPM (image processing module), 53 IPV (intermittent positive-pressure ventilation), 244 MeGill Inanimate System for Training and Evaluation of Laparoscopic Skills (MISTELS), 14, 15, 15, 19 Medetomidine, 72, 72, 75, 246, 247 Mepivacaine, 73, 74, 76, 248 Mesenteric rent repair, 135, 138 analgesia/anesthesia, 136 anatomy, identification of, 136 complications, 137–138 contraindications, 136 hand-assisted technique, 332		
Intersexuality, 167–168. See also Intersex gonadectomy Intestinal transit time, 179, 303 Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal masses/neoplasia, 116, 116 Intra-abdominal postfoaling injuries, 104–107, 107 Intra-corporeal bowel biopsies, 86–87 Intracorporeal knots, 31–33, 32 IPM (image processing module), 53 IPV (intermittent positive-pressure ventilation), 244 Evaluation of Laparoscopic Skills (MISTELS), 14, 15, 15, 19 Medetomidine, 72, 72, 75, 246, 247 Mepivacaine, 73, 74, 76, 248 Mesenteric rent repair, 135, 138 analgesia/anesthesia, 136 anatomy, identification of, 136 complications, 137–138 contraindications, 136 hand-assisted technique, 332		
Intestinal transit time, 179, 303 Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal masses/neoplasia, 116, 116 Intra-abdominal postfoaling injuries, 104–107, 107 Mepivacaine, 72, 72, 75, 246, 247 Mepivacaine, 73, 74, 76, 248 Mesenteric rent repair, 135, 138 analgesia/anesthesia, 136 anatomy, identification of, 136 complications, 137–138 contraindications, 136 hand-assisted technique, 332	0 1	
Intra-abdominal abscess, 112–113, 112–113 Intra-abdominal masses/neoplasia, 116, 116 Intra-abdominal postfoaling injuries, 104–107, 107 Intra-abdominal postfoaling injuries, 104–107, 107 Intra-abdominal postfoaling injuries, 104–107, 107 Intra-orporeal bowel biopsies, 86–87 Intracorporeal knots, 31–33, 32 IPM (image processing module), 53 IPPV (intermittent positive-pressure ventilation), 244 Meeteomidine, 72, 72, 75, 246, 247 Mepivacaine, 73, 74, 76, 248 Mesenteric rent repair, 135, 138 analgesia/anesthesia, 136 anatomy, identification of, 136 complications, 137–138 contraindications, 136 hand-assisted technique, 332	•	
Intra-abdominal masses/neoplasia, 116, 116 Intra-abdominal postfoaling injuries, 104–107, 107 Intra-abdominal postfoaling injuries, 104–107, 107 Intracorporeal bowel biopsies, 86–87 Intracorporeal knots, 31–33, 32 IPM (image processing module), 53 IPV (intermittent positive-pressure ventilation), 244 Mesenteric rent repair, 135, 138 analgesia/anesthesia, 136 anatomy, identification of, 136 complications, 137–138 contraindications, 136 hand-assisted technique, 332		
Intra-abdominal postfoaling injuries, 104–107, 107 Intracorporeal bowel biopsies, 86–87 Intracorporeal knots, 31–33, 32 IPM (image processing module), 53 IPV (intermittent positive-pressure ventilation), 244 Mesenteric rent repair, 135, 138 analgesia/anesthesia, 136 anatomy, identification of, 136 complications, 137–138 contraindications, 136 hand-assisted technique, 332		
Intracorporeal bowel biopsies, 86–87 analgesia/anesthesia, 136 Intracorporeal knots, 31–33, 32 anatomy, identification of, 136 IPM (image processing module), 53 complications, 137–138 IPPV (intermittent positive-pressure ventilation), contraindications, 136 244 hand-assisted technique, 332		
Intracorporeal knots, 31–33, 32 anatomy, identification of, 136 IPM (image processing module), 53 complications, 137–138 IPPV (intermittent positive-pressure ventilation), contraindications, 136 244 hand-assisted technique, 332		•
IPM (image processing module), 53 complications, 137–138 IPPV (intermittent positive-pressure ventilation), contraindications, 136 244 hand-assisted technique, 332		
IPPV (intermittent positive-pressure ventilation), contraindications, 136 244 hand-assisted technique, 332		
hand-assisted technique, 332		*
1 ,		
	Isoflurane, 243, 247 , 248	indications, 135–136, 136

instrumentation, 136–137, 137	Nephrosplenic space, closure of, 119–127, 120, 125,
insufflation, 137	127
ports, 137	analgesia/anesthesia, 120
positioning, 136	complications, 123
postoperative management, 137	hand-assisted technique, 331, 332
surgical procedure, 137	ports, 120–121, 121
Mesh	positioning, 120
used in hernia repair, 61, 62	postoperative management, 123
used in mesh incisional hernioplasty, 258-259, 259	preoperative preparation, 120
used in nephrosplenic space closure, 127	surgical procedure, 120–123, 120–126
Mesh incisional hernioplasty, 257–258, 264	Nonsteroidal anti-inflammatory drugs, used for
anatomy, identification of, 260, 261	postoperative pain, 79
complications, 263–264, 264	NOTES (Natural Orifice Translumenal Endoscopic
contraindications, 258	Surgery), 55, 56
indications, 258	NSAIDs, used for postoperative pain, 79
instrumentation, 258-259, 259, 259, 264	
mesh prosthesis, 258–259, 259	Objective Structured Assessment of Technical Skills
ports, 259–260, 261	(OSATS), 15–16
postoperative management, 262–263	Omental herniation into scrotum after castration, 100,
preoperative preparation, 258	101–102
surgical procedure, 259–262, 261–263	Opioids, 71, 72, 72–73, 74, 75, 75, 77, 78, 242–243, 242,
Mesh prosthesis technique, for inguinal herniation,	245, 246, 247
156–157, 158	Optical zoom, in cameras, 52, 53
Mesometrium, imbrication of. See Imbrication, of	Organ retractors, 48
mesometrium	OSATS (Objective Structured Assessment of Technical
MISTELS (McGill Inanimate System for Training and	Skills), 15–16
Evaluation of Laparoscopic Skills), 14, 15, 15, 19	Ovariectomy, for removal of large pathologic ovaries,
Modified Roeder knot, 28, 30	189–190, 199–200
Monitors, 42, 42, 52, 52, 53–54, 53–54	analgesia/anesthesia, 191, 192
Monopolar electrosurgical units, 36, 50, 59, 60, 131	complications, 197, 199, 199
Morcellation, 182–184, 183–184, 195, 197	contraindications, 190
Morcellators, 50, 51, 183–184, 184, 195, 197	dissection to reduce size of ovary, 193-195, 195-198
Morphine, 72, 72, 73, 74, 75, 75, 76, 78, 242–243, 242,	fluid aspiration to reduce size of ovary, 193, 193–194
246 , 247	hand-assisted technique, 199, 332
Multifunctional valves in trocars, 44, 44	indications, 190
Multimodal analgesia, 78	instrumentation, 190, 191, 192, 193-195, 195-198
	morcellation, 195, 197
Natural Orifice Translumenal Endoscopic Surgery, 55, 56	ports, 191–192, 191
Needle drivers, 63–64	positioning, 191
Needle holders, 23, 24, 25, 46, 47	postoperative management, 197
Needles, 23, 24, 24–25, 46, 48, 50, 50, 57–58, 58	preoperative preparation, 190–191
Neoplasia/intra-abdominal masses, 116, 116	surgical procedure, 191–195, 191, 193–199, 197
Nephrectomy, 211, 217–219	Ovariectomy, in recumbent horse, 295–296, 298–299
analgesia/anesthesia, 212, 218	complications, 298
complications, 217	contraindications, 295–296
hand-assisted technique, 212, 212, 218, 332, 332	indications, 295
indications, 211, 217, 332	instrumentation, 296
instrumentation, 218	ports, 297
left-sided, 212, 213	positioning, 296, 297
ports, 212, 212, 213	postoperative management, 298
positioning, 212	preoperative preparation, 296
postoperative management, 216–217	surgical procedure, 296–298, 297–298
preoperative preparation, 211–212	Ovariectomy, in standing horse, 177–179, 186
right-sided, 212, 214	analgesia/anesthesia, 180–181, 182
surgical procedure, 212–216, 212–217, 218–219	complications, 185–186

Ovariectomy, in standing horse (Continued)	Radiofrequency devices, 131, 131
contraindications, 179	Rectal prolapse, with secondary small colon prolapse,
and excess fat, 179-180, 179-180, 182	106–107, 107
indications, 178, 186	Recumbent procedures. See Biopsy, in recumbent
instrumentation, 180, 182, 182-183, 183, 185, 185	horse; Colopexy; Cryptorchidectomy, in
insufflation, 182	recumbent horse; Cystic calculi, removal of;
morcellation, 183–184, 183–184	Inguinal hernioplasty; Inguinal herniorrhaphy;
ports, 180–182, 181–182, 183, 185	Laparoscopic cystotomy; Laparoscopic-assisted
positioning, 179, 180	cystotomy; Mesh incisional hernioplasty;
postoperative management, 184–185	Ovariectomy, in recumbent horse;
preoperative preparation, 179–180, 179–180	Ovariohysterectomy; Splenectomy
surgical procedure, 180–184, 181–184	Reducers, 44, 44, 58
Ovariohysterectomy, 301–302, 308	Reherniation, 149–150, 154, 156–157, 156–158. See also
complications, 308	Hernias
indications, 301, 302	Renal biopsies, 86
instrumentation, 302, 303, 305, 305	Repeat displacement, and colon torsions, 109, 109–110
ports, 304, 304–305, 305	Reposable ports, 58, 59
positioning, 303–304, 304, 305, 306	Respiratory system, support during sedation, 244, 245
postoperative management, 308	Retroperitoneal fat, dissection of, 260, 261
preoperative preparation, 302–303, 308	Reusable equipment, 41–46, 42–56, 49–56, 57, 58, 59, 60
surgical procedure, 303–307, 304–307	RGB video format, 53
surgical procedure, 505-507, 504-507	Richter hernia, 107–108, 107–108
Peritoneal flap hernioplasty, 149–150, 157–159. See also	Right dorsal colon displacement, and retroflexion of
Inguinal hernioplasty	pelvic flexure without impaction, 108–109, 109
analgesia/anesthesia, 151, 152, 155–156, 157	Right-angle dissectors, 46, 46
complications, 155–157, 156–158	Right-sided nephrectomy, 212, 213–216, 214–217, 218–219
contraindications, 150	Roeder knot, 27–28, 29
indications, 150	Romifidine, 71–72, 72–73 , 242, 242 , 246, 247 , 248
instrumentation, 150, 151, 152	Roticulating instruments, 59, 59, 61, 63, 63
ports, 151, 152	Ruptured bladder, repair of, 221–224, 222, 228
positioning, 151, 157	analgesia/anesthesia, 226, 226
postoperative management, 155, 157	anatomy, identification of, 227, 227
preoperative preparation, 150–151	complications, 227–228
surgical procedure, 151–153, 152–155, 155–158, 156–157	contraindications, 225
Peritonitis, postoperative, 112, 112	indications, 224–225
Physiological changes, during sedation/analgesia, 78	instrumentation, 225
Pleuritis/pneumonia, thoracoscopy in, 234, 234, 236	ports, 226, 226
Pneumothorax, and thoracoscopy, 230–231, 232,	postoperative management, 227
235–236, 236	preoperative preparation, 225–226
Polypropylene band plastic retrieval bag (polyprop	surgical procedure, 226–227, 226–227
bag), 195, 195–196	Ruptured scrotal hernia, 287
Portals/ports, 21–22, 22, 58, 58–59. See also under	
specific operative technique	Safety precautions, with use of thermal surgical
Postcastration bleeding, 94–96, 95–96	devices, 38–39
Postcastration evisceration, 96, 96–97	Scissors, 46, 46, 59, 60
Postfoaling injuries, intra-abdominal, 104–107, 107	Scrotal hernia, 96–100, 98–101, 287–288, 288, 291, 291,
Postoperative adhesions, 109–112, 110–111	293, 293
Postoperative ileus, with signs of proximal jejunitis,	SDI (serial digital interface) digital output, 54, 54
113, 113–114	Sedation, in recumbent horse. See Anesthesia, in
Postoperative pain, treatment of, 79	recumbent horse
Postoperative peritonitis, 112, 112	Sedation, in standing horse, 71. See also analgesia/
Probes, 59, 60	anesthesia under specific operative technique
Progressive scanning, in high definition cameras, 54	acepromazine, 71, 74
Pushed half-hitches, 27, 28	alpha-2 agonists, 71–72, 72–73 , 73, 74, 75 , 75
Pyometra, 301, 302	initial sedation, 74

local anesthetics, 71, 73–74, 74, 76 monitoring, 78	Staplers, 61, 61–63, 63, 85, 86, 136–137, 137, 289, 291–292, 292, 293
opioids, 71, 72 , 72–73, 74, 75 , 75, 77, 78	Subcutaneous crepitus, 185
physiological changes, 78	Suction cannulas, 46, 48
prolonging, 74–76, 75	Suction units, in thoracoscopy, 230
support, 78, 79	Support, during sedation/analgesia, 78, 79
Sepracoat, use in adhesiolysis, 132, 134	Suture loop technique, in cryptorchidectomy, 142–143,
Serial digital interface digital output, 54, 54	143
SILS (single incision laparoscopic surgery) stitch	Suturing
articulating suturing device, 206–208, 207–208	instruments, 21–23, 22–23, 25, 27, 32, 33, 63–64, 64, 86, 87, 206–208, 207–208, 259, 260
Simulators, for training in laparoscopic skills, 16–19, 17–18	techniques, 17, 21–25, 22–27, 27. See also Knot-tying S-video format, 53
Single incision laparoscopic surgery stitch articulating	
suturing device, 206–208, 207–208	TA (thoracoabdominal) staple cartridges, 61, 63
Single lung ventilation, and thoracoscopy, 231	Tacking devices, 61, 61–62
Single-chip cameras, 52–53	TAPP (transabdominal preperitoneal) mesh repair, 283
Single-port access approach, 55–56, 56	Telescopes, 42, 43. See also Laparoscopes
Skills, xii, 13–19, 14–20, 14–16	Tenaculum forceps, 183, 183
knot-tying, 21, 22, 23, 24, 25, 27–28, 28–33, 30, 32	Tension pneumothorax, 235
suturing, 17, 21–25, 22–27, 27	Testicular descent, 267. See also Cryptorchidism;
training, 13–19, 15–20, 15–16	Cryptorchidectomy, in recumbent horse;
Small colon injuries, 102–103, 104, 106, 107	Cryptorchidectomy, in standing horse
Small intestine injuries, 101–102, 102–103	Thermal effects, in tissue, 35–36
Smoke evacuation, with use of lasers, 38	Thermal surgical devices, risks with, 38–39
SPA (single-port access) approach, 55–56, 56	Thoracoabdominal staple cartridges, 61, 63
Spark Generator Riwolith 2280, 312, 313	Thoracoscopy, 229, 236–237
Specimen retrieval bags, 66, 66, 146, 193–195, 195–198,	analgesia/anesthesia, 231–232
200	anatomy, identification of, 232–233, 233
Spleen, 324. See also Splenectomy	and biopsy, 232, 233–234, 233–234
biopsies, 85–86	in chest trauma, 234–235
disease, 115, 115–116	complications, 235–236, 236
rupture of, 104, 105	exploratory, 232–233, 233
Splenectomy, 323, 326	instrumentation, 229–230, 230, 233
complications, 326	insufflation, 230, 232
contraindications, 324	pathophysiology, 230–231
hand-assisted technique, 333, 333	in pleuritis/pneumonia, 234, 234, 236
indications, 323–324	and pneumothorax, 230–231, 232, 235–236, 236
instrumentation, 324	ports, 230, 232, 233
ports, 324–325	positioning, 231
positioning, 324, 326	preoperative preparation, 232
postoperative management, 325–326	surgical procedure, 232–235, 233–234
preoperative preparation, 324	Three-chip cameras, 52–53
surgical procedure, 324–325, 325–326	Three-portal technique for cryptorchidectomy in
Standing procedures. See Adhesiolysis; Biopsy, in	recumbent horse, 271–273, 272–274
standing horse; Cryptorchidectomy, in standing	Tiletamine, 243, 243
horse; Cyanoacrylate, use in inguinal hernioplasty;	Tissue
Imbrication, of mesometrium; Intersex	manipulation, equipment for, 58–59, 59, 60
gonadectomy; Mesenteric rent repair;	retrieval bags, 66, 66, 146, 193–195, 195–198, 200
Nephrectomy; Nephrosplenic space, closure of;	scissors, 46, 46
Ovariectomy, for removal of large pathologic	thermal effects in, 35–36
ovaries; Ovariectomy, in standing horse;	TIVA (total injectable venous anesthesia), 243
Peritoneal flap hernioplasty; Ruptured bladder,	Total injectable venous anesthesia, 243
repair of; Thoracoscopy; Transurethral endoscopic-	Training in laparoscopic skills, 13–19, 15–20, 15–16
assisted electrohydraulic shockwaye lithotripsy	Transabdominal preperitoneal mesh repair, 283

Transurethral endoscopic-assisted electrohydraulic shockwave lithotripsy, 312–313, 312–315, 321

Trauma to body wall with secondary injury to internal organs, 104, 105–106

Traumatic grasping forceps, 46, 46

Trendelenburg positioning in adhesiolysis, 130
and aposthesis, 245, 249

in adhesiolysis, 130 and anesthesia, 245, 249 and edema, 249 and inguinal hernioplasty, 284 and ovariectomy, 296 Tripolar forceps, 46, 47

Trocars, 43–45, 44, 45, 49, 50, 58, 58, 59. See also Cannulas

Tumors. *See* Masses/tumors
Two-portal technique, for cryptorchidectomy in recumbent horse, 270–271, 272

Ultrasonic technology, 35, 36–37, 131 Ultrasound-guided biopsies, 83–84, 90 Uroliths, 311. *See also* Cystic calculi, removal of Uroperitoneum, 221, 222–224, **222–223**, 223–224. *See also* Ruptured bladder, repair of Uterine trauma, 104–106 Uterus, restoring horizontal orientation of. *See* Imbrication, of mesometrium Ventilation/perfusion mismatch, 244
Veress needles, 50, 50, 57–58, 58
Vessel sealing/dividing devices, 65
Veterinary laparoscopy, xi–xii, 9, 9–11, 10, 10
Video formats, 53–54, 53–54
Video systems. See Imaging systems
Video towers, 41, 43
Virtual reality trainers, 17–18, 17–18
VLOCTM barbed suture device, 64
V/Q (ventilation/perfusion) mismatch, 244
VR (virtual reality) trainers, 17–18, 17–18

Weight loss, laparoscopic diagnosis for, 94, 112–113, 113, 114–116, 114–117, 117
White balancing process, 53
"Wind-up," 248
X-Cone, 56
Xenon light sources, 51, 51
Xylazine, 71–72, 72–73, 242, 242

Y/C video format, 53

Zolazepam, 243, 243