TABLE OF CONTENTS

Contributing Authors
Preface
Chapter 1. Preanesthetic Considerations HuiChu Lin
Positioning
Ruminal tympany
Regurgitation
Salivation
Malignant hyperthermia
Differences in sensitivity to anesthetics
Preanesthetic preparation
References
Chapter 2. Commonly Used Preanesthetics HuiChu Lin
Acepromazine (phenothiazine derivatives)
Droperidol and azaperone (butyrophenone derivatives)
Detomidine, dexmedetomidine, medetomidine, romifidine, and xylazine ($\alpha 2$ agonists)
Atipamezole, tolazoline, yohimbine, and vatinoxan (α2 antagonists)
Diazepam and midazolam (benzodiazepine derivatives)
Chloral hydrate
References
Chapter 3. Standing Sedation and Chemical Restraint HuiChu Lin
Cattle
Small ruminants and camelids
Swine
References

Chapter 4. Injectable Anesthetics and Field Anesthesia HuiChu Lin Injectable anesthetics Ketamine Telazol Alfaxalone Guaifenesin Field anesthesia Cattle Small ruminants and camelids Swine References **Chapter 5. Neuromuscular Blocking Agents** Stuart Clark-Price Physiology of the neuromuscular junction Mechanism of action of NMBA Depolarizing neuromuscular blocking agents Non-depolarizing neuromuscular blocking agents Clinically useful NMBA Atracurium Cis-atracurium Vecuronium

Chapter 6. Inhalation Anesthesia and Use of Ventilator *HuiChu Lin*

Rocuronium

References

Reversal of NMBA

Monitoring of NMBA action

Cattle
Small ruminants and camelids
Swine
Use of Ventilators
References
Chapter 7. Perioperative Monitoring and Management of Complications HuiChu Lin
Perioperative monitoring
Supportive fluid therapy
Positioning
Recovery
Perioperative complications
Regurgitation and aspiration pneumonia
Airway obstruction
Ruminal tympany/bloat
Salivation
Hypoventilation
Cardiac arrhythmias
Hypotension
Hypothermia
Malignant hyperthermia
Postanesthetic neuromyopathy
Cardiovascular collapse
References
Chapter 8. Local and Regional Anesthetic Techniques Jessica Rush and Jenna Stockler
Local anesthetic agents
Anesthesia for dehorning

Anesthesia for the eye and eyelids Nasal anesthesia Anesthesia for reproductive procedures and for cessation of straining Caudal epidural anesthesia Continuous caudal epidural anesthesia Internal pudendal nerve block Dorsal penile nerve block Sacral paravertebral nerve block Lumbosacral epidural anesthesia Anesthesia for laparotomy Line block Inverted L block Proximal paravertebral block Distal paravertebral block Anesthesia for udder and teats Anesthesia of the limbs Castration References **Chapter 9. Anesthetic Management of Specific Procedures** Benjamin Newcomer Urogenital surgery in the male Castration Penile papilloma Persistent frenulum Penile translocation Epididymectomy Vasectomy Urogenital surgery in the female

Cesarean section
Ovariectomy
Vaginal prolapse
Perineal laceration
Surgical disorders of the abdomen
Laparotomy
Disorders of the forestomachs
Displacements and volvulus of the abomasum
Small intestine disorders (intussusception, intestinal volvulus, intestinal obstruction)
Urolithiasis and bladder rupture
Umbilical hernias
Musculoskeletal indications
Dehorning
Claw amputation and facilitated ankylosis
Excision of interdigital fibromas
Teeth Floating
Tail docking
Rectal prolapse
Wounds, lumps, bumps, and abscesses
Wound management
Ocular squamous cell carcinoma
Enucleation
Entropion
Abscess removal for caseous lymphadenitis
References
Chapter 10. Pain Management for Farm Animals HuiChu Lin

Local anesthetics

Systemic pain management

Opioid analgesics

Nonsteroidal anti-inflammatory drugs

Alpha-2 agonists

Ketamine

Gabapentin

Drug combinations for pain management

Constant rate infusion

Local or regional analgesia

Caudal epidural analgesia

Lumbosacral epidural anesthesia

Intra-articular analgesia

References

Chapter 11. Fluid Therapy

Manuel F. Chamorro and Paul H. Walz

General considerations

Physiology of body fluids

Patient assessment

Fluid and electrolyte therapy in the perioperative period

Quantity and rate of fluid administration

Fluid type selection

Fluid therapy in cases of calf diarrhea

Fluid therapy in cases of acute ruminal acidosis (grain overload)

Fluid therapy in cases of Hepatic lipidosis/Ketosis/Pregnancy toxemia

Fluid therapy in cases of abomasal and small intestinal disorders

Fluid therapy for cases of sepsis (septic peritonitis, septic omphalitis, etc.)

Fluid therapy in cases of urinary tract obstruction/rupture

Whole blood transfusions

Method of administration
Monitoring fluid administration
References
Chapter 12. Regulatory and Legal Considerations of Anesthetics and Analgesics Used in Food Producing Animals Thomas Passler
Alpha-2 agonists and antagonists
Barbiturates
Benzodiazepines
Dissociative anesthetics
Local anesthetics
Opioids
Non-steroidal anti-inflammatory drugs (NSAIDs)
Phenothiazine Derivatives
Propofol
References
13. Euthanasia of Farm Animals Thomas Passler
Considerations prior to Euthanasia
The Process of Euthanasia
Methods of euthanasia
Injectable euthanasia agents
Physical methods
Adjunctive and other methods of euthanasia

Considerations Subsequent to Euthanasia

References