# TABLE OF CONTENTS

- Cover image
- Title page
- Table of Contents
- Copyright
- Dedication
- Contributors
- Preface
- Acknowledgments
- List of Tables
- List of Illustrations

#### 1. Fundamentals of diagnostic ultrasound

- Basic acoustic principles
- Instrumentation
- Image quality
- Summary for image quality
- Special new imaging modes
- Image orientation and labeling
- Image interpretation and terminology
- Imaging pitfalls and artifacts
- Propagation artifacts
- Attenuation
- Doppler ultrasonography
- Principles of Doppler
- Pulsed-wave Doppler ultrasonography
- Continuous wave Doppler ultrasonography
- Interpretation of the Doppler spectral display
- Color Doppler
- Power Doppler
- Instrumentation
- Doppler controls
- Important Doppler Artifacts
- Safety of diagnostic ultrasound
- References

#### 2. Ultrasound-guided aspiration and biopsy procedures

- Equipment
- Preparation of the patient
- General techniques
- Principles of needle selection and biopsy
- Fine-needle aspiration and biopsy of specific organs and locations
- References

#### 3. Point-of-care ultrasound

- AFAST and the fluid scoring system
- Additional clinical information obtained during an AFAST examination
- TFAST—thoracic focused assessment with sonography for trauma

- The tfast views
- Evaluation of the lung periphery
- Using vet BLUE and a regionally based approach to differential diagnosis
- Other ultrasound applications in the critical care setting
- Other point-of-care ultrasound applications
- Future of veterinary pocus
- References

# 4. Abdominal ultrasound scanning techniques

- Positioning of sonographer, patient, and equipment
- Preparation of the patient
- Getting started
- Transducer motions
- Liver
- Falciform fat
- Spleen
- Stomach and duodenum
- Pancreas
- Kidneys
- Adrenal glands
- Small intestines and colon
- Urinary bladder
- Prostate
- Uterus and ovaries
- Abdominal lymph nodes
- Abdominal vessels
- References

# • 5. Eye

- Normal anatomy
- Examination technique
- Real-time B-mode examination
- A-mode examination
- Normal ultrasound anatomy
- Ocular ultrasonography in clinical practice
- Intraocular masses
- Lesions localized by ocular structure
- Foreign bodies
- Retrobulbar pathology
- Orbital and ocular vasculature and ocular perfusion
- References

#### • 6. Neck

- General considerations
- Carotid artery and jugular vein
- Nerves
- Thyroid gland
- Parathyroid glands
- Lymph nodes
- Salivary glands

- Larynx and trachea
- Tongue and esophagus
- Cervical musculature
- Miscellaneous neck masses
- References

#### • 7. Thorax

- Scanning techniques
- Normal anatomy
- Pleural disease
- Mediastinal disease
- Pulmonary disease
- Thoracic wall lesions
- Diaphragmatic hernias and ruptures
- Interventional procedures of the thorax
- References

# 8. Echocardiography

- Overview of echocardiography
- Instrumentation for cardiac studies
- Examination technique
- Two-dimensional echocardiography
- M-mode echocardiographic imaging
- Advanced 2D and 3D echocardiographic imaging methods
- Cardiac doppler studies: Overview
- Pulsed-wave doppler echocardiography
- Continuous-wave doppler echocardiography
- Color doppler imaging
- Limitations and pitfalls of CDI
- Advanced image analyses
- Assessment of cardiac chamber size
- Ventricular function
- Diastolic ventricular function
- Valvular regurgitation
- Valvular stenosis
- Pulmonary hypertension
- Cardiomyopathies
- Pericardial diseases and cardiac masses
- Congenital shunts
- References

#### 9. Liver

- Technique
- Anatomy
- Doppler evaluation of the normal liver
- Focal or multifocal hepatic parenchymal disease
- Diffuse disease
- Gallbladder and biliary tract
- Vascular abnormalities
- References

# 10. Spleen

- Examination technique
- Normal anatomy and appearance
- Focal or multifocal disease
- Diffuse disease
- Doppler evaluation, harmonics, and contrast ultrasound
- References

# • 11. Pancreas

- Indications for pancreatic ultrasonography
- Examination technique
- Normal anatomy and ultrasound appearance
- Pathology
- References

#### • 12. Gastrointestinal tract

- Examination technique
- Normal ultrasound appearance
- Abnormalities of the stomach
- Abnormalities of the small intestine
- Abnormalities of the cecum and colon
- References

# • 13. Peritoneal fluid, lymph nodes, masses, peritoneal cavity, and great vessel thrombosis

- Scanning technique
- Peritoneal fluid
- Intraperitoneal lymphadenomegaly
- Masses
- Mesentery
- Free peritoneal air
- Thrombosis of the abdominal aorta and caudal vena cava
- References

#### 14. Musculoskeletal system

- Examination technique
- Components of the musculoskeletal system
- Ultrasound in the evaluation of lameness
- Evaluation of swelling and wound involvement
- Ultrasound-guided procedures
- References

#### 15. Adrenal glands

- Examination technique
- Normal anatomy and ultrasound appearance
- Adrenal gland enlargement and masses in dogs
- Reduced adrenal gland size
- Adrenal gland pathology in the cat
- Other adrenal lesions
- References

- 16. Urinary tract
- Kidneys and proximal ureters
- Distal ureters, urinary bladder, and urethra
- References

# 17. Prostate and testes

- Examination technique
- Normal prostate gland
- Pathology of the prostate
- Normal testes
- Testicular pathology
- Scrotum
- Indications for specifically imaging the penis
- References

# • 18. Ovaries and uterus

- Examination technique
- Normal ovary
- Ovarian disease
- Normal uterus
- Uterine disease
- Pregnancy diagnosis and fetal development
- Fetal measurements and estimation of fetal age
- Postpartum uterus
- Abnormal pregnancy
- Mammary gland
- References
- Index.