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Cover: Title page: Copyright page: Contributors: Preface: Acknowledgements; Basic CT Unit Anatomy; X-Ray Tube; Collimators and Filtration: Detector Systems: Gantry Anatomy: Scanning Modes: Table Design; Proprietary CT Terminology; CHAPTER ONE: CT Physics and Instrumentation - Mechanical Design; Image Parameter Selection; Patient Set-Up; Patient Restraint; CHAPTER TWO: CT Acquisition Principles: Basic CT Descriptive Terminology: Image Labels: Tomographic Reconstruction: CT Numbers or Hounsfield Units; Digital Image Display: Windowing Techniques CHAPTER THREE: Principles of CT Image InterpretationIntroduction; Geometrical Errors; Algorithm Distortions; Attenuation Measurement-Induced Artifacts; Energy Spectrum Effects; Conclusions; CHAPTER FOUR: Artifacts in CT: Intravenous Contrast Medium Administration: Equine Intra-Arterial Contrast Administration; Contrast Administration Method: Manual Versus Power Injector; Other Contrast Media Applications; CHAPTER FIVE: CT Contrast Media and Applications; Densitometry; Automated Bolus Tracking; CT Perfusion Imaging; Multiplanar Reconstruction; Curvilinear Reconstruction Paddle Wheel Reconstruction3D Reconstruction: CHAPTER SIX: Special Software Applications; Picture Archive and Communication Systems; DICOM; RIS/HIS; Transfer Speed; Non-Proprietary Workstations; CHAPTER SEVEN: Digital Environment; Introduction; Principles of External Beam Radiotherapy; Principles of Radiotherapy Treatment Planning; Reducing Set-Up Errors; Summary; CHAPTER EIGHT: CT Planning for Radiotherapy; Introduction; CT for Biopsy Procedures; CT Monitoring of Stents and Other Devices: CT Assisted Embolization Techniques; CT-Monitored Cryoablation of Tumors; Interventional CT in Equines CHAPTER NINE: Interventional CTBusiness Plan: Income versus Expenses, i.e. Profit or Loss; Service Contract: All, Some or Nothing at All; Caseload Considerations: Fixed and Variable Costs of Doing Business: CHAPTER TEN: Purchase Considerations; Imaging Protocol; CT: Anatomy and Normal Variants; Disease Features; CHAPTER ELEVEN: Nasal Cavities and Frontal Sinuses; Imaging Protocol; CT: Anatomy and Normal Variants: Non-Dental Diseases; Dental Diseases; CHAPTER TWELVE: Oral Cavity, Mandible, Maxilla and Dental Apparatus; Imaging Protocol; CT: Anatomy and Normal Variants; Disease Features CHAPTER THIRTEEN: Temporomandibular Joint and Masticatory ApparatusImaging Protocol; The Orbita; The Salivary Glands; Lacrimal System; CHAPTER FOURTEEN: Orbita, Salivary Glands and Lacrimal System: Imaging Protocol: CT: Anatomy and Normal Variants: CT

Disease Features; CHAPTER FIFTEEN: External, Middle and Inner Ear; Imaging Protocol; CT: Anatomy and Normal Variants; CT Disease Features; CHAPTER SIXTEEN: Calvarium and Zygomatic Arch; Imaging Protocol; CT: Anatomy and Normal Variants; Disease Features;

CHAPTER SEVENTEEN: Lymph Nodes of Head and Neck; Imaging Protocol

CT: Anatomy and Normal Variants

Sommario/riassunto

This practical and highly illustrated guide is an essential resource for veterinarians seeking to improve their understanding and use of computed tomography (CT) in practice. It provides a thorough grounding in CT technology, describing the underlying physical principles as well as the different types of scanners. The book also includes principles of CT examination such as guidance on positioning and how to achieve a good image quality. Written by specialists from

twelve countries, this book offers a broad range of expertise in veterinary computed tomography, and is the first book to des