## Contents

*Preface*  ix  
*Acknowledgments*  xi  
*About the Companion Website*  xiii  

1. **Introduction to Cone Beam Computed Tomography**  3  
   Shawneen M. Gonzalez  
   Introduction  3  
   Conventional Computed Tomography (CT)  3  
   Cone Beam Computed Tomography (CBCT)  4  
   Conventional CT Versus Cone Beam CT  4  
   Viewing CBCT Data  6  
   Artifacts  9  
   Common Uses  12  

2. **Legal Issues Concerning Cone Beam Computed Tomography**  25  
   Shawneen M. Gonzalez  
   Introduction  25  
   Standard of Care  25  
   Recommendations  26  
   Summary  29  

3. **Paranasal Sinuses and Mastoid Air Cells**  31  
   Gayle Reardon  
   Introduction  31  
   Anatomy  31  
   Inflammatory Disease of the Paranasal Sinuses  45  
   Intrinsic Diseases of the Paranasal Sinuses  49  
   Postsurgical Changes of Paranasal Sinuses  56  

4. **The Sinonasal Cavity and Airway**  59  
   Gayle Reardon  
   Introduction  59  
   Anatomy  59  
   Surgical Variations  75  
   Inflammatory Diseases  77  
   The Pharynx  80  
   The Nasopharynx  80  

© 2013 by Lippincott Williams & Wilkins  All rights reserved
The Oropharynx 82
The Hypopharynx (Also Called Laryngopharynx) 83
The Parapharyngeal Space 83

5. Cranial Skull Base 85
Shawneen M. Gonzalez
Introduction 85
Anatomy 85
Incidental Findings 93

6. Soft Tissue of the Brain and Orbits 103
Shawneen M. Gonzalez
Introduction 103
Anatomy—Soft Tissue of the Brain and Orbits 103
Incidental Findings—Soft Tissue of the Brain 108
Incidental Findings—Orbits 118

7. Cervical Spine and Soft Tissues of the Neck 123
Shawneen M. Gonzalez
Introduction 123
Anatomy—Cervical Spine and Soft Tissues of the Neck 123
Incidental Findings 129

8. Temporomandibular Joints 143
Gayle Reardon
The Temporomandibular Joints 143
Normal Anatomy and Function 143
Developmental Abnormalities 147
Soft Tissue Abnormalities 152
Remodeling and Arthritis 153
Trauma 163
Tumors 165

9. Implants 167
Shawneen M. Gonzalez
Introduction 167
Imaging for Implant Purposes 167
Linear Measurement Accuracy 169
Grey Values and Hounsfield Units 170
Mandibular Canal 171
Virtual Implant Placement Software 172

Appendix 1: Sample Reports 177
Shawneen M. Gonzalez

Appendix 2: Resources 189

Index 191