

Dual Energy Ct In Clinical Practice

[DOWNLOAD HERE](#)

1;Dual Energy CT in Clinical Practice;3 1.1;Copyright Page;4 1.2;Foreword;5 1.3;Preface;6
1.4;Contents;7 1.5;Part I Physical Implementation;9 1.5.1;Physical Background;10 1.5.1.1;1 History;10
1.5.1.2;2 X-ray Spectra;11 1.5.1.3;3 Detector Technology;11 1.5.1.4;4 Tissue Properties;12 1.5.1.5;5
Dual-Source CT;12 1.5.1.6;6 Rapid Voltage Switching;13 1.5.1.7;7 Layer Detector;14 1.5.1.8;8
Sequential Acquisition;14 1.5.1.9;9 Radiation Exposure;15 1.5.1.10;10 Clinical Applications;15
1.5.1.11;11 Summary;15 1.5.1.12;References;15 1.5.2;Dual Source CT;17 1.5.2.1;1 Dual Source Dual
Energy Scanning;18 1.5.2.1.1;1.1 Introduction;18 1.5.2.1.2;1.2 Scanner Design;18 1.5.2.1.2.1;1.2.1
SOMATOM Definition;18 1.5.2.1.2.2;1.2.2 SOMATOM Definition Flash;19 1.5.2.1.3;1.3 Data
Acquisition;20 1.5.2.2;2 Image-Based DECT Analysis;22 1.5.2.2.1;2.1 Introduction;22 1.5.2.2.2;2.2 The
Thin Absorber Case;22 1.5.2.2.3;2.3 Mixed Image, Monoenergetic Image, Dual Energy Index;23
1.5.2.2.4;2.4 Material Decomposition Analysis;24 1.5.2.2.5;2.5 Material Labeling and Highlighting;24
1.5.2.3;3 Outlook;25 1.5.2.4;References;25 1.5.3;Dual Layer CT;27 1.5.3.1;1 Introduction;28 1.5.3.2;2
Physical Background;28 1.5.3.3;3 System Design;30 1.5.3.4;4 Image Reconstruction;30 1.5.3.4.1;4.1
Image Reconstruction and Energy Map;30 1.5.3.4.2;4.2 Material Separation and Noise;31 1.5.3.4.3;4.3
Polychromatic Correction;33 1.5.3.5;5 Post-processing;35 1.5.3.5.1;5.1 The Vectorial Separation;35
1.5.3.5.2;5.2 The Probability Separation;36 1.5.3.5.3;5.3 3D Rendering;36 1.5.3.6;References;40
1.5.4;Gemstone Detector: Dual Energy Imaging via Fast kVp Switching;41 1.5.4.1;1 Physical
Background;41 1.5.4.2;2 System Design;42 1.5.4.3;3 Image Reconstruction;43 1.5.4.4;4
Projection-Based Material Decomposition;43 1.5.4.5;5 Post Processing;44 1.5.4.5.1;5.1 Noise
Suppression;44 1.5.4.5.2;5.2 GSI Viewer;44 1.5.4.6;6 Future Research/Applications;45
1.5.4.7;References;47 1.5.5;Dual-Energy Algorithms and Postprocessing Techniques;48 1.5.5.1;1
Introduction;48 1.5.5.2;2 How to Process;49 1.5.5.2.1;2.1 Projection Space Approach;49 1.5.5.2.2;2.2
Image Space Approach;50 1.5.5.3;3 Type of DE Image;51 1.5.5.3.1;3.1 Blended Image;51 1.5.5.3.2;3.2
Material-Selective Image;52 1.5.5.3.3;3.3 Energy-Selective Image;54 1.5.5.4;4 Determinants of
IQ/Dose;54 1.5.5.5;References;56 1.6;Part II Vascular System;57 1.6.1;Head and Neck;58 1.6.1.1;1

Clinical Background;58 1.6.1.2;2 Scan Protocol;59 1.6.1.3;3 Contrast Material Injection;61 1.6.1.4;4 Postprocessing;61 1.6.1.5;5 Diagnostic Evaluation;61 1.6.1.5.1;5.1 Stroke CT and Stenosis Evaluation;61 1.6.1.5.2;5.2 Virtual Unenhanced Images and Brain Hemorrhage;61 1.6.1.5.3;5.3 Intracranial Aneurysm, Angiomas, and Fistulas;62 1.6.1.6;6 Scientific Evidence;63 1.6.1.7;References;63 1.6.2;Aorta;64 1.6.2.1;1 Clinical Background;64 1.6.2.2;2 Physical Background;65 1.6.2.3;3 Scan Protocol;66 1.6.2.4;4 Contrast Material Injection;66 1.6.2.5;5 Postprocessing;67 1.6.2.6;6 Diagnostic Evaluation;67 1.6.2.7;7 Scientific Evidence;68 1.6.2.8;References;68 1.6.3;Peripheral Arteries;70 1.6.3.1;1 Clinical Background;70 1.6.3.2;2 Physical Background;71 1.6.3.3;3 Scan Protocol;71 1.6.3.4;4 Contrast Material Injection;72 1.6.3.5;5 Postprocessing;72 1.6.3.6;6 Diagnostic Evaluation;72 1.6.3.7;7 Scientific Evidence;72 1.6.3.8;References;74 1.6.4;Plaque Differentiation;76 1.6.4.1;1 Introduction;76 1.6.4.2;2 Rationale of Dual-Energy CT;77 1.6.4.2.1;2.1 Original Intensity Space;78 1.6.4.2.2;2.2 Dual-Energy CT Imaging of Plaques;78 1.6.4.3;3 Potential Future Directions for Dual-Energy CT Plaque Imaging;79 1.6.4.4;4 Conclusion;81 1.6.4.5;References;81 1.7;Part III Thoracic Imaging;83 1.7.1;Lung Perfusion;84 1.7.1.1;1 Clinical Background;85 1.7.1.2;2 Physical Background;85 1.7.1.3;3 Scan Protocol;86 1.7.1.4;4 Contrast Material Injection;87 1.7.1.5;5 Postprocessing;87 1.7.1.6;6 Diagnostic Evaluation

EAN/ISBN : 9783642017407 Publisher(s): Springer, Berlin Discussed keywords: Computertomographie Format: ePub/PDF Author(s): Johnson, Thorsten - Fink, Christian - Schnberg, Stefan O.

[DOWNLOAD HERE](#)

Similar manuals:

[Dual Energy CT In Clinical Practice](#)