

Manufacturer's Recommendations for Alternate Dental CBCT QA Program

PreXion 3D Excelsior

Table 6

Medical Physicist's Computed Tomography QC Survey

Item	Required Test or Procedure	Frequency	Substitute Test or Procedure	Standard
1	Scan Increment Accuracy	Initial & Annually	None – Not Applicable	None – Not Applicable
2	Scan Localization Light Accuracy	Initial & Annually	PreXion 3D Excelsior Operation Manual 3.2.6 Checking Scan Area (X-ray Scout Shot) Pages: 3-15 to 3-17 (Appendix A)	If the result after checking the display shows that the position is incorrect, adjust the patient's position again and repeat the operations from Step 6.
3	Patient Dose (Multiple Scan Average Dose) MSAD or Computed Tomography Dose Index-CTDI	Initial & Annually	PreXion 3D Excelsior Operation Manual 7.9.1 Scan condition of each operating mode Pages: 7-16 & 7-17 (Appendix A)	See reference dose tables. Tolerance less than 50%.
4	Pre-Patient Collimation Accuracy	Initial & Annually	PreXion 3D Excelsior Operation Manual 3.2.6 Checking Scan Area (X-ray Scout Shot) Pages: 3-15 to 3-17 (Appendix A)	If the result after checking the display shows that the position is incorrect, adjust the patient's position again and repeat the operations from Step 6.
5	Contrast Scale	Initial & Annually	PreXion 3D Excelsior Operation Manual 8.2 Image quality assurance Procedure 8.2.1 Outline of Image QA for PreXion 3D Excelsior Low contrast resolution & High contrast resolution Pages: 8-3, 8-8 to 8-10 (Appendix A)	High Contrast Resolution: Upper Limit 0.8 mm Contrast-to-Noise Ratio (CNR): Lower Limit 20
6	CT Number for Water	Initial & Annually	PreXion 3D Excelsior Operation Manual 8.2 Image quality assurance Procedure 8.2.1 Outline of Image QA for PreXion 3D Excelsior CT number of water Pages: 8-3, 8-5 & 8-6 (Appendix A)	Upper Limit 100 Lower Limit -100
7	Slice Thickness	Initial & Annually	None – Not Applicable	None – Not Applicable

8	Field Uniformity	Initial & Annually	PreXion 3D Excelsior Operation Manual 8.2 Image quality assurance Procedure 8.2.1 Outline of Image QA for PreXion 3D Excelsior Uniformity of the Image Pages: 8-3, 8-7 (Appendix A)	Standard deviation (SDev): Upper Limit 70
9	Low Contrast Resolution	Initial & Annually	PreXion 3D Excelsior Operation Manual 8.2 Image quality assurance Procedure 8.2.1 Outline of Image QA for PreXion 3D Excelsior Low contrast resolution Pages: 8-3, 8-8 & 8-9 (Appendix A)	Contrast to Noise Ratio (CNR): Lower Limit 20
10	High Contrast Resolution	Initial & Annually	PreXion 3D Excelsior Operation Manual 8.2 Image quality assurance Procedure 8.2.1 Outline of Image QA for PreXion 3D Excelsior High contrast resolution Pages: 8-3, 8-10 (Appendix A)	Upper Limit 0.8 mm
11	Noise	Initial & Annually	PreXion 3D Excelsior Operation Manual 8.2 Image quality assurance Procedure 8.2.1 Outline of Image QA for PreXion 3D Excelsior Uniformity of the Image Pages: 8-3, 8-7 (Appendix A)	Standard deviation (SDev): Upper Limit 70
12	Scan Protocol Review	Initial & Annually	See N.J.A.C. 7:28-22.10(a)	N.J.A.C. 7:28-22.10(a)
13	Review of Facility and Technologist's QC Tests	Initial & Annually	See N.J.A.C. 7:28-22.10(a)	N.J.A.C. 7:28-22.10(a)
14	Physicist Report and Recommendations	Initial & Annually	See N.J.A.C. 7:28-22.10(a)	N.J.A.C. 7:28-22.10(a))