

Manufacturer's Recommendations for Alternate Dental CBCT QA Program

Yoshida Model: PreXion3D Eclipse

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	PreXion3D Eclipse Operation Manual 2.1.9 Checking Scan Area (X-ray Scout Shot) Pages: 2-32 to 2-43 (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 7.
3	Patient Dose (Multiple Scan Average Dose) MSAD or Computed Tomography Dose Index-CTDI	Initial & Annually	PreXion3D Eclipse Operation Manual 10. Quality Assurance (QA) Procedure 10.2 QA Procedure Pages: 8 & 9 (Appendix B)	CTDI Limits Light: Lower Limit Value: 2.1 mGy Upper Limit Value: 3.9 mGy Hi-Def: Lower Limit Value: 3.22 mGy Upper Limit Value: 5.98 mGy Ultra Hi-Def Lower Limit Value: 6.51 mGy Upper Limit Value: 12.09 mGy Wide: Lower Limit Value: 4.69 mGy Upper Limit Value: 8.71 mGy
4	Pre-Patient Collimation Accuracy	Initial & Annually	PreXion3D Eclipse Operation Manual 2.1.9 Checking Scan Area (X-ray Scout Shot) Pages: 2-32 to 2-43 (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 7.
5	Contrast Scale	Initial & Annually	PreXion3D Eclipse Operation Manual 10. Quality Assurance (QA) Procedure 10.2 QA Procedure	High Contrast Resolution: Upper Limit 0.7 mm Low Contrast Resolution: Lower Limit 4.6 mm

			10.2.3 High-contrast (spatial) Resolution 10.2.4 Low-contrast Resolution Pages: 4, 5 and 9 (Appendix B)	Upper Limit 5.3 mm
6	CT Number for Water	Initial & Annually	PreXion3D Eclipse Operation Manual 10. Quality Assurance (QA) Procedure 10.2 QA Procedure 10.2.6 Grey Scale Number equivalent Pages: 7 & 9 (Appendix B)	Upper Limit -800 Lower Limit -1024
7	Slice Thickness	Initial & Annually	None – Not Applicable	None – Not Applicable
8	Field Uniformity	Initial & Annually	PreXion3D Eclipse Operation Manual 10. Quality Assurance (QA) Procedure 10.2 QA Procedure 10.2.5 Image Uniformity/Noise Standard Deviation/Artifact Evaluation Pages: 6 & 9 (Appendix B)	Standard Deviation (SDev): Upper Limit less than 50
9	Low Contrast Resolution	Initial & Annually	PreXion3D Eclipse Operation Manual 10. Quality Assurance (QA) Procedure 10.2 QA Procedure 10.2.4 Low-contrast Resolution Pages: 5 & 9 (Appendix B)	Lower Limit 4.6 mm Upper Limit 5.3 mm
10	High Contrast Resolution	Initial & Annually	PreXion3D Eclipse Operation Manual 10. Quality Assurance (QA) Procedure 10.2 QA Procedure 10.2.3 High-contrast (spatial) Resolution Pages: 4 & 9 (Appendix B)	Upper Limit 0.7 mm
11	Noise	Initial & Annually	PreXion3D Eclipse Operation Manual 10. Quality Assurance (QA) Procedure 10.2 QA Procedure 10.2.5 Image Uniformity/Noise Standard Deviation/Artifact Evaluation	Standard Deviation (SDev): Upper Limit less than 50

			Pages: 6 & 9 (Appendix B)	
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)