AAPM 55th Annual Meeting

MRI QA Technologist's Tests

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Background	
 Dr. Moriel S. NessAiver's experience 174 yearly performance tests (98 magnets over 3.5) 18 (10.3%) without deficiencies 19 (21.3%) with minor deficiencies, not affecting ima 137 (78.7%) with deficiencies, directly affecting ima 144 phased array coils (19.2%) with significant prob 22 systems (12.6%) with homogeneity problems 10-20% scanners: excessive RF noise, excessive gl poor hard copy (film), and soft copy performance 1 vendor's TSE with slice thickness 18-23% thicker 1 vendor's TSE with slice thickness 20-25% thinne 	<section-header>5 years) hage quality age quality bers hosting, poor gradient calibration, r than specified r than specified r than specified</section-header>





	QC Testin	g Freq	uency	
Technologist's QC t • Weekly: minimum • Daily: strongly rec • More frequently: if	esting recommended freq ommended by ACR problems detected	uency often, equi	oment unstal	ble, repair, upgrade
	Table 1. Minimum Frequencies QC Tests	of Performing Tech	nologist's	
	Procedure	Minimum Frequency	Approx. Tim e (min)	
	Center Frequency	Weekly	1	
	Table Positioning	Weekly	3	
	Set up & Scanning	Weekly	7*	
	Geometric Accuracy	Weekly	2*	
	High Contrast Resolution	Weekly	1	
	Low Contrast Resolution	Weekly	2	
	Artifact Analysis	Weekly	1	
	Film Quality Control	Weekly	10	
	Visual Checklist	Weekly	5	
	*Some measurement can be p	erformed simultar	eously	

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A. DATA FO MR Facility	Name	WEEKLY N	IRI EQUIP	MENT QUA	LITY CONT	ROL											1	THE		预	Sec.		-	1000	-				
Date of	2 Table OK?	3 Console OK?	4 CF	5 TX GainiAtte	Phanto Sag Loc Length	om Distanc Axial Dian	es (mm) Silice #5 veters	Slice 1 Hol	HR es ₽	Slice # Number of LCD Spokes	Artilacts ?	Test By]					1		長い	á ŝ	-		141					
rest rear			(12)	(dB)	6 H/F (148)	7 A/P (190)	8 R/L (190	9	10	11	12	13				朝	Ħ												
	Action	Limits		-		AT (150)	ice (150)						-			4 11												1	
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Record Notebook Examples						
QC visual checklist Template from ACR MRI QC Manual Examples 						
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Reviewed by:Qualified Medical Physics(AMS Scientifie)Date of Service	A series of the					
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LCD Spokes	
 An example 1. Always 10 spokes? 2. Because the technologist used slice #11 3. Should use the specified slice 	
<text></text>	

Q	uestion 1: Allowed wee drift from ACR Manua	kly CF al?
20%	1. 0.1 ppm	
20%	2. 1.0 ppm	
20%	3. 1.5 ppm	
20%	4. 2.0 ppm	
20%	5. 2.5 ppm	
		10

Question 2: Transaxial geometric accuracy measurements should be on slice#?

20%	1.	1	
20%	2.	3	
20%	3.	5	
20%	4.	11	
20%	5.	Any slice	
			10

	Question 3: Table OK is f	or
20%	1. Express table system	
20%	2. Table positioning and laser	
20%	3. Patient monitors	
20%	4. Horizontal bed movement	
20%	5. Vertical bed movement	
		10

