

3T ADNI GE 14.0M4 Software, TwinSpeed Gradient and 8-channel Brain Coil

Set up the patient according to the ADNI instruction manual. Use the 8-channel brain coil. Use the electronic ADNI protocol that has been loaded on your scanner.

NOTE: The "adni14m4" pulse sequence used for series 2 and 3 is a works in progress pulse sequence that ADNI sites obtain from GE Healthcare.

To avoid prolonging the scan time for Series 6, you will need to accept the "First Operating Mode" pop-up in series 1. Consult the scanner's user's manual to understand this choice, and its implications.

SERIES coil etl scan time	1. 3 plane loc.	scan plane mode SAT	<i>IMAGING PARAMETERS</i>		<i>ACQUISITION TIMING</i>	
	8hrbrain		3-plane	matrix/nex	256 / 128 / 1	
			(Whole Body gradient)	fov (cm)	26	
	:13			slice/space	5 / 5	
			autoshim	On		
comments	Use 8-channel brain coil.					

SERIES coil #echos te Prep time flip angle etl bw1/bw2 scan time	2. Sag MPRAGE	scan plane mode pulse seq image opts. psd name	<i>IMAGING PARAMETERS</i>		<i>ACQUISITION TIMING</i>	
	8hrbrain		Sag	matrix/nex	256 / 256 / 1	
			3D (ZOOM gradient)	phase fov	0.94	
	<i>SCAN TIMING</i>		SPGR	locs/pause		
	1	User CVs	EDR, IrPrep, Fast	freq. direct.	S/I	
	min full		adni14m4	fc direct		
	900		<i>ADDITIONAL PARAMETERS</i>		phase corr	
	8		Image acq. delay = 0	autoshim	On	
			turbo mode = 1	<i>SCANNING RANGE</i>		
	31.25		inversion pulse type=1	fov	26	
9:17	swap fat chem shift = 1		slice/space	1.2mm 170 locs/slab		
	slice resolution = 100%					
	mprage mode = 1					
	TD or mprage TR=2300					
comments	Cover skin to skin. Remind the patient to hold still for this scan.					

SERIES coil #echos te Prep time flip angle etl bw1/bw2 scan time	3.MPRAGE-repeat	scan plane mode pulse seq image opts. psd name	<i>IMAGING PARAMETERS</i>		<i>ACQUISITION TIMING</i>	
	8hrbrain		Sag	matrix/nex	256 / 256 / 1	
			3D (ZOOM gradient)	phase fov	0.94	
	<i>SCAN TIMING</i>		SPGR	locs/pause		
	1	User CVs	EDR, IrPrep, Fast	freq. direct.	S/I	
	min full		adni14m4	fc direct		
	900		<i>ADDITIONAL PARAMETERS</i>		phase corr	
	8		Image acq. delay = 0	autoshim	Off	
			turbo mode = 1	<i>SCANNING RANGE</i>		
	31.25		inversion pulse type=1	fov	26	
9:17	swap fat chem shift = 1		slice/space	1.2mm 170 locs/slab		
	slice resolution = 100%					
	mprage mode = 1					
	TD or mprage TR=2300					
comments	Prescribe same image locations as series 2, unless adjustment is needed (e.g. to correct for wrap). Remind the patient to hold still for this scan.					

NOTE: Be sure to select the "Copy FOV, Thickness, Spacing" button for the graphic prescription. Otherwise, if you copy the slice locations from series 2, the number of slices might be reduced.

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SERIES	4. Sag B1 Cal PA	scan plane		matrix/hex	128 / 128 / 1
coil	8hrbrain	mode		phase fov	
	<i>SCAN TIMING</i>	pulse seq	Sag	locs/pause	
#echos	1	image opts.	3D (ZOOM gradient)	freq. direct.	S/I
te	min full	psd name	GRE	fc direct	
tr			EDR, Fast	Auto Shim	On
flip angle	2				<i>SCANNING RANGE</i>
etl		User CVs	<i>ADDITIONAL PARAMETERS</i>	fov	30
bw1/bw2	62.5		Image acq. Delay=0	slice/space	2.5mm locs/slab=96
scan time	:36		Turbo Mode =1		
			Slice resolution = 100%		
comments	Cover skin to skin.				

SERIES	5. Sag B1 Cal PA	scan plane		matrix/hex	128 / 128 / 1
coil	BODY	mode		phase fov	
	<i>SCAN TIMING</i>	pulse seq	Sag	locs/pause	
#echos	1	image opts.	3D (ZOOM gradient)	freq. direct.	S/I
te	min full	psd name	GRE	fc direct	
tr			EDR, Fast	Auto Shim	Off
flip angle	2				<i>SCANNING RANGE</i>
etl		User CVs	<i>ADDITIONAL PARAMETERS</i>	fov	30
bw1/bw2	62.5		Image acq. Delay=0	slice/space	2.5mm locs/slab=96
scan time	:36		Turbo Mode =1		
			Slice resolution = 100%		
comments	Turn Body Coil on for this scan. Leave 8hrbrain coil plugged in, but accept change to Body Coil (In other words, select " Apply "). Same image locations as series 4.				

SERIES	6. Ax PD/T2 FSE	scan plane		<i>ACQUISITION TIMING</i>	256 / 256 / 1
coil	8hrbrain	mode		matrix/hex	0.9
	<i>SCAN TIMING</i>	pulse seq	Ax	phase fov	0
#echoes	2	image opts.	2D (ZOOM gradient)	acqs/pause	A/P
te	min full / TE2=97.2	psd name	FSE-XL	freq. direct.	
TR	3000		EDR, Fast	fc direct	Off
flip angle				Autoshim	
etl	16	User CVs	<i>ADDITIONAL PARAMETERS</i>	phase corr	
bw1/bw2	20.83				<i>SCANNING RANGE</i>
scan time	4:49		blurring cancellation=0	fov	24
			Enh. fine line suppr.=0	slice/space	48 loc, 3mm interleaved
comments	Accept change back to 8-channel Brain Coil. (In other words, select " Apply "). Prescribe 48 slices to cover head.				

Series 6 is the final patient series.

Follow the ADNI instructions to complete the phantom scans.