

3T ADNI GE 12.0M4 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 "adni" 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	1. 3 plane loc.	scan plane mode	<i>IMAGING PARAMETERS</i>		<i>ACQUISITION TIMING</i>	
	coil		3-plane	matrix/nex	256 / 128 / 1	
	etl		(Whole Body gradient)	fov (cm)	26	
	scan time		SAT	slice/space	5 / 5	
			autoshim	On		
comments	Use 8-channel brain coil.					

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

SERIES	3.MPRAGE-repeat	scan plane mode	<i>IMAGING PARAMETERS</i>		<i>ACQUISITION TIMING</i>	
	coil		Sag	matrix/nex	256 / 256 / 1	
			3D (ZOOM gradient)	phase fov	0.94	
			pulse seq	locs/pause		
		image opts.	EDR, IrPrep, Fast	freq. direct.	S/I	
	#echos	1	psd name	adni	fc direct	
	te	min full			phase corr	
	Prep time	900			autoshim	Off
	flip angle	8	User CVs	<i>ADDITIONAL PARAMETERS</i>		
	etl			Image acq. delay = 0		
bw1/bw2	31.25	turbo mode = 1		fov	26	
scan time	9:17	inversion pulse type=1		slice/space	1.2mm 170 locs/slab	
		swap fat chem shift = 1				
		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
				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.