This protocol provides suggested imaging parameters for research studies that want to approximate the imaging methods used in the ADNI study using 14.0 M4 HDx software, but do not have access to an MP-RAGE pulse sequence. For more details see the document: "Use of ADNI MRI Methods for Non-ADNI Studies"

Accept the "First Operating Mode" pop-up in Series 1. Consult the scanner's user's manual to understand this choice and its implications.

***The head portion of the 16-channel head-neck-spine (HNS) can be used instead of the 8-channel brain coil for the entire study, if desired.**

SERIES	1. 3 plane loc.	scan plane	3-plane	matrix/nex	256 / 128 / 1
coil	8hrbrain*	modes	(Whole Body gradient)	fov (cm)	26
etl			Calib.	slice/space	5 / 5
scan time	:13	pulse seq	Gradient Echo	autoshim	On
		imaging opts	Fast, Calib		
comments	Use 8-channel brain coil. Center at A25.				

SERIES	2. Calibration Scan.	scan plane	axial	matrix/nex	default
coil	8hrbrain*	mode	(Whole Body gradient)	fov (cm)	30
etl		SAT		slice/space	6/0 43 slices
scan time	:13			autoshim	off
comments	Used for PURE B1-correction. Be sure to cover brain completely				

			IMAGING PARAMETERS		*ACQUISITION TIMING*
SERIES	3. Sag IR-FSPGR	scan plane	Sag	matrix/nex	192 / 192 / 1
coil	8hrbrain*	mode	3D (ZOOM gradient)	phase fov	
	SCAN TIMING	pulse seq	SPGR	locs/pause	
#echos	1	image opts.	EDR, IrPrep, Fast	freq. direct.	S/I
te	min full	psd name	efgre3d_cs	fc direct	
Prep time	600		*ADDITIONAL PARAMETERS*	phase corr	
flip angle	8		Image acq. delay = 0	autoshim	On
etl		User CVs	turbo mode = 1		*SCANNING RANGE*
bw1/bw2	15.63		slice resolution = 100%	fov	24
scan time	8:33			slice/space	1.2mm 170 locs/slab
		PURE	Enable PURE		
comments	Cover skin to skin. Remind the patient to hold still for this scan.				

(Continued on next page)

1.5T ADNI-Related GE 14.0 M4 Software, TwinSpeed Gradient and 8-channel Brain Coil

SERIES	4. IR-FSPGR-repeat	scan plane	Sag	matrix/nex	192 / 192 / 1
coil	8hrbrain*	mode	3D (ZOOM gradient)	phase fov	
	SCAN TIMING	pulse seq	SPGR	locs/pause	
#echos	1	image opts.	EDR, IrPrep, Fast	freq. direct.	S/I
te	min full	psd name	efgre3d_cs	fc direct	
Prep time	600		*ADDITIONAL PARAMETERS*	phase corr	
flip angle	8		Image acq. delay = 0	autoshim	Auto
etl		User CVs	turbo mode = 1		*SCANNING RANGE*
bw1/bw2	15.63		slice resolution = 100%	fov	24
scan time	8:33			slice/space	1.2mm 170 locs/slab
		PURE	Enable PURE		

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 3, the number of slices might be reduced.

SERIES			*IMAGING PARAMETERS*		*ACQUISITION TIMING*
coil	5. Ax PD/T2 FSE	scan plane	Ax	matrix/nex	256 / 256 / 1
	8hrbrain*	mode	2D (ZOOM gradient)	phase fov	0.9
	SCAN TIMING	pulse seq	FSE-XL	acqs/pause	0
#echoes	**2**	image opts.	EDR, Fast	freq. direct.	A/P
te	min full / TE2=100	psd name		fc direct	
TR	3000		*ADDITIONAL PARAMETERS*	Autoshim	Off
flip angle				phase corr	
etl	16	User CVs	blurring cancellation=0		*SCANNING RANGE*
bw1/bw2	20.83		Enh. fine line suppr.=0	fov	24
scan time	6:25			slice/space	48 loc, 3mm interleaved
		PURE	Enable PURE		

comments
Prescribe 48 slices to cover head.