Table 3: Minimum and suggested technical requirements for plaque imaging

	Imaging method	Minimum Technical requirement	Optimal technical requirement
Identification of plaque components	MRI	1.5 Tesla scanner • Resolution: In-plane 0.6 mm, through-plane 2 mm • Effective blood suppression for a plaque burden visualization sequence.	3 Tesla scanner with dedicated carotid coils • Resolution: In-plane 0.6 mm, through-plane 2 mm • Effective blood suppression for a plaque burden visualization sequence.
	CT	16 Multi-detector-row CT scanner	64 Multi-detector Row CT scanner
	US	Higher-frequency linear transducers (>7 MHz)	Higher-frequency linear transducers (>7 MHz)
Quantitative measurements: Lumen, vessel wall and plaque components	MRI	1.5 Tesla scanner • Resolution: In-plane 0.6 mm, through-plane 2 mm • Effective blood suppression for a plaque burden visualization sequence. • TSE: Turbo Spin Echo • FSE: Fast Spin Echo	3 Tesla scanner with dedicated carotid coils • Resolution: In-plane 0.6 mm, through-plane 2 mm • Effective blood suppression for a plaque burden visualization sequence. • MSDE: motion-sensitized driven equilibrium; • FSD: flow-sensitized dephasing.
	CT	16 Multi-detector-row CT scanner	64 Multi-detector Row CT scanner
	US	Higher-frequency linear transducers (>7 MHz)	Higher-frequency linear transducers (>7 MHz)
IPH	MRI	1.5 Tesla scanner • IR-FSPGR: Inversion Recovery Fast Spoiled Gradient Recalled Acquisition in the Steady State • IR-TFE: Inversion Recovery Turbo field Echo [IR-TFE] or Inversion Recovery Fast Spoiled	3 Tesla scanner with dedicated carotid coils • IR-FSPGR: Inversion Recovery Fast Spoiled Gradient Recalled Acquisition in the Steady State • IR-TFE: Inversion Recovery Turbo field Echo [IR-TFE] or Inversion Recovery Fast Spoiled
	CT	16 Multi-detector-row CT scanner	64 Multi-detector Row CT scanner
	US	Higher-frequency linear transducers (>7 MHz)	Higher-frequency linear transducers (>7 MHz)
Fibrous cap And Ulcer	MRI	1.5 Tesla scanner • FFE:fast-field echo; • SPGR: echo-spoiled gradient-echo;	3 Tesla scanner with dedicated carotid coils • FFE:fast-field echo; • SPGR: echo-spoiled gradient-echo;
	CT	16 Multi-detector-row CT scanner	64 Multi-detector Row CT scanner
	US	Higher-frequency linear transducers (>7 MHz)	Higher-frequency linear transducers (>7 MHz)
Plaque Inflammation and Neovascularization	MRI	1.5 Tesla scanner • TSE: Turbo Spin Echo • FSE: Fast Spin Echo	3 Tesla scanner with dedicated carotid coils • TSE: Turbo Spin Echo • FSE: Fast Spin Echo • DCE: Dynamic contrast enhancement
	CT	16 Multi-detector-row CT scanner	64 Multi-detector Row CT scanner

	US	Higher-frequency linear transducers (>7 MHz) and microbubble injection	Higher-frequency linear transducers (>7 MHz) and microbubble injection
Calcium	MRI	1.5 Tesla scanner • FFE:fast-field echo; • SPGR: echo-spoiled gradient-echo;	3 Tesla scanner with dedicated carotid coils • FFE:fast-field echo; • SPGR: echo-spoiled gradient-echo;
	CT	16 Multi-detector-row CT scanner	Multi-energy CT spectral imaging (tissue decomposition for the identification of the different types of calcium)
	US	Higher-frequency linear transducers (>7 MHz)	Higher-frequency linear transducers (>7 MHz)