Table 1 Minimal technical requirements for multiparametric prostate MRI according to the PI-RADS v. 2.1 guidelines

	Axial T2-weighted imaging (T2-WI)	Diffusion-weighted imaging (DWI)	Dynamic contrast-enhanced (DCE)
Imaging planes	The same used for DWI and DCE	The same used for T2-WI and DCE	The same used for T2-WI and DWI
Slice thickness	3 mm, no gap	$\leq$ 4 mm, no gap	3 mm, no gap
Field of view	12–20 cm (to encompass the entire prostate gland and seminal vesicles)	16–22 cm	12–20 cm (to encompass the entire prostate gland and seminal vesicles)
In-plane resolution	$\leq$ 0.7 mm (phase) $\times$ $\leq$ 0.4 mm (frequency)	$\leq$ 2.5 mm (phase and frequency)	$\leq$ 2 mm (phase and frequency)
Specific recommendations			
T2-WI acquisition	Axial plane: either straight axial to the patient or in an oblique axial plane matching the long axis of the prostate. At least one additional orthogonal plane (sagittal and/or coronal). Three-dimensional axial as an adjunct to two-dimensional acquisitions	–	–
Low b value	–	50–100 s/mm^2	–
Intermediate b value	–	800–1,000 s/mm^2	–
High b value	–	Dedicated ($\geq$ 1,400 s/mm^2) Synthesised (from other b values)	–
Temporal resolution	–	–	$\leq$ 15 s
Total observation time	–	–	> 2 min
Dose of Gd-based contrast agent	–	–	0.1 mmol/kg
Injection rate	–	–	2–3 cc/s
Fat suppression and/or subtraction	–	–	Recommended

Table 1 Patient preparation (no general consensus) and technical requirements for mpMRI of the prostate according to the PI-RADS v2.1[3] and a subsequent review by Engels et al.[33].

Patient preparation	
Rectal emptying	• Self-administered microenema on the day of the test
	• Emptying of rectal gas by catheter or syringe (optional) and bland diet for 2 days
Bladder emptying	• Before starting (usually incomplete due to patient type)
Spasmolytic	• Scopolamine butylbromide, 20 mg IV, in a slow infusion in two fractions, before the test and 2 min before diffusion sequences[a]
	• Contraindications: acute urinary retention, intraocular hypertension
Other	• Consider ejaculatory abstinence for 3 days (optional)
	• Patient instructions: immobility, free shallow breathing, duration
General	
Field intensity	• 3 T preferable. 1.5 T acceptable with modern technology (gradients, coils)
Endorectal coil	• Optional. Not necessary in modern systems with $\geq$16-channel external coils
CAD technology[b]	• Optional (workflow, measurement, integration of targeted biopsy)
T2-weighted images	
Planes	• Axial (strict or oblique: consider plane perpendicular to rectoprostatic angle)
	• At least one additional orthogonal plane, either coronal or sagittal
Sequences	• 2D rapid imaging with refocused echoes (RARE) (FSE, TSE) preferable to isometric 3D. Echo time (ET) 90-120 ms
	• Slice thickness 3 mm (gap 0), FOV 12-20 cm (prostate and SVs)
T1-weighted images	
Sequences	• 2D RARE (FSE, TSE) or GRE. With or without suppression. Strict axial plane
	• Thickness <5 mm, FOV pelvis, coverage: aortic bifurcation-perineum
DWI: echo-planar imaging (EPI) sequence with high b	
b	• $\geq$1400 s/mm^2, acquired or calculated
Sequence	• Spin-echo (SE) EPI fat sat. ET $\leq$ 90 ms Repetition time (RT) $\geq$3,000 ms. Plane same as axial T2
	• Thickness $\leq$4 mm (gap 0). FOV 16-22 cm. REs on plane $\leq$2.5 mm $\times$ 2.5 mm
DWI: ADC map	
b values	• Low 50-100 s/mm^2 and intermediate 800-1000 s/mm^2 (thus preventing kurtosis effect of a super-high b) for map calculation
Dynamic study with contrast	
Sequences	• 3D T1W GRE preferable. RT/ET: <100 ms/<5 ms. Plane same as axial T2. Dose: 0.1 mmol/kg. Flow rate: 2-3 ml/s
	• Slice thickness 3 mm (gap 0). FOV: 12-20 cm (prostate and SVs). REs on plane $\leq$ 2 mm $\times$ 2 mm. Temporal res. $\leq$15 s. Observation time $\geq$ 2 minutes

[a] Dose of spasmolytic used at our centre.
[b] Computer-assisted diagnosis.