

**Appendix 1** – Systematic assessment of the growth plates of the wrist in young gymnasts: development and validation of the Amsterdam MRI assessment of the Physis (AMPHYS) protocol

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**Appendix 1A.** MRI parameters

Sequence	PD TSE	PD TSE SPAIR	T2 Dixon	3D WATSc
Plane	Coronal	Coronal	Coronal	Coronal
TR (ms)	2000	2000	2500	20
TE (ms)	20	30	(1) 70 (2) 71	5
Flip angle (degrees)	90	90	90	15
Slice thickness (mm)	2.5	2.5	2	0.75
Field of view (mm)	100 × 88	100 × 88	100×100	120×120×45
Matrix	332 × 276	332 × 279	312×235	240×240
Spatial resolution (mm)	0.30 × 0.32 × 2.5	0.30 × 0.3 1× 2.5	0.32×0.43×2	0.5×0.5×1.5
Scan time (minutes)	04:36	04:12	04:10	02:22

TR, repetition time; TE, echo time; PD, proton-density; TSE, turbo spin-echo; SPAIR, SPectral Attenuated Inversion Recovery

**Appendix 1B.** Field of view including the distal radius and ulna as well as the proximal physis of the first metacarpal bone

