

Deep erosions of the palmar aspect of the navicular bone diagnosed by standing magnetic resonance imaging

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TABLE 2: Table demonstrating the grading system used for each anatomical structure imaged

Structure	Grade	Description
P3	0	Smooth cortical margins with clear cortico-medullary definition; uniform signal intensity in medulla.
	1	Mild irregularity of cortex without increase in signal intensity.
	2	Defects in cortex and/mild alterations in signal intensity of cortex and/or medulla.
	3	Marked cortical defects, fracture line, altered signal intensity of cortex and/or medulla.
NB: distal aspect	0	Smooth indentations into cortical aspect, uniform cortical thickness, smooth endosteal aspect.
	1	Slightly irregular indentations into cortical aspect, mild variability in cortical thickness and/or slightly irregular endosteal aspect.
	2	Irregular defects into the cortex with moderate variability in cortical thickness, endosteal irregularity and proximal linear extensions of mineralisation into the medulla.
NB: proximal aspect	3	Severe, large defects in the cortex, surrounded by irregular mineralisation, distal border fragments, severe irregularity to the endosteal aspect with marked extensions of mineralisation into medulla.
	0	Smooth indentation into cortical aspect immediately dorsal to insertion of CSL, uniform cortical thickness, smooth endosteal aspect.
	1	Slightly irregularity of cortical aspect, mild variability in cortical thickness and/or slightly irregular endosteal aspect.
NB: articular aspect	2	Moderate irregularity cortical aspect, enthesiophyte formation with moderate variability in cortical thickness, endosteal irregularity.
	3	Severe, marked cortical irregularity and enthesiophyte formation, severe irregularity to the endosteal aspect with marked extensions of mineralisation into medulla.
	0	Clear articular cartilage layer over entire aspect, smooth chondro-osseous margins, uniform subchondral bone thickness and smooth subchondral/cancellous junction.
NB: palmar aspect	1	Mild irregularities in the articular cartilage thickness and signal intensity and/or slightly irregular chondro-osseous margin and/or slightly irregular subchondral/cancellous junction.
	2	Moderate loss of signal definition in articular cartilage with osteophyte formation and/or defects in the subchondral bone.
	3	Severe articular cartilage loss, osteophytes, large defects in the subchondral bone, severe irregularities in the subchondral/cancellous junction with extensions into medulla.
NB: medulla	0	Clear fibrocartilage layer over entire aspect, smooth chondro-osseous margins, uniform cortical thickness and smooth endosteal aspect.
	1	Mild irregularities in the fibrocartilage thickness and signal intensity and/or slightly irregular chondro-osseous margin and/or slightly irregular endosteal aspect.
	2	Moderate loss of signal definition at site of fibrocartilage with defects in the palmar aspect of the cortex and/or moderate irregularity and loss of definition to the endosteal aspect of the cortex.
NB: medulla	3	Severe fibrocartilage loss, large defects in the palmar aspect of cortex, severe irregularities in the endosteal aspect with extensions into medulla.
	0	Uniform high signal intensity on GRE T1 and T2* weighting, with low signal intensity on fat suppressed images. Clear definition from cortex.
	1	Less uniform high signal intensity on GRE T1 and T2* weighting with some signal heterogeneity. No alteration or mild focal, or very mild generalised increase in signal intensity on fat suppressed images.
Navicular bursa	2	Mild-to-moderate signal heterogeneity on GRE T1 and T2* weighting and/or moderate localised or generalised increase in signal intensity on fat suppressed images.
	3	Marked alterations in signal intensity on GRE T1 and T2* weighting and/or generalised or focal marked alteration in signal intensity on fat suppressed images.
	0	Homogeneous fluid signal without marked distension.
CL of the DIP joint	1	Distension with no or mild tissue proliferation.
	2	Soft tissue clearly evident with pockets of fluid signal.
	3	Bursa full of soft tissue/adhesions, with only fluid present as distension abaxially.
CSL	0	Uniform signal intensity. Smooth margins. Elliptical shape. Lateromedial symmetry in size and shape.
	1	Mild signal heterogeneity, asymmetry and/or slight margin irregularity.
	2	Increased signal intensity and/or distortion of shape.
DSIL	3	Marked increase in signal intensity, enlargement, shape distortion and/or complete loss of definition.
	0	Homogeneous signal intensity, symmetrical shape and size, clearly defined margins. Smooth cortical aspect at insertion on NB.
	1	Mild alterations in signal homogeneity, mild asymmetry or alteration in shape/size and/or slight irregularity of margins. Some evidence of adherence of axial part of CSL to DDFT in proximal region of the navicular bursa.
DDFT	2	Moderate signal heterogeneity, marked enlargement, obvious asymmetry or alteration in shape/size and irregularity of margins. Adherence of abaxial areas of CSL to DDFT.
	3	Marked alterations in signal intensity, loss of structural definition of ligament with difficulty separating from adjacent structures. Extensive adhesion formation.
	0	Symmetrical, uniform distribution of low signal on GRE T1 and T2* weighting, interspersed with uniformly distributed areas of higher signal on GRE T2* weighting (consistent with synovial in-pouching between fibre bundles). Smooth margins. Smooth cortical aspect at site of insertion on P3 and origin on NB. Close apposition between distal palmar border of DSIL and dorsal aspect of the DDFT on distal axial midline.
DDFT	1	Mild asymmetry in signal homogeneity and/or slight irregularity to palmar margins and/or origin/insertion.
	2	Obvious asymmetry in signal homogeneity and/or irregularity of palmar margins and/or irregularity at origin/insertion. Indication of mild adhesion formation in abaxial, middle and proximal regions of the DSIL.
	3	Marked asymmetry in fibre pattern, defects in margins with marked evidence of adhesion formation and poor separation from DDFT, enthesiophytes at origin and/or insertion.
DDFT	0	Uniform low signal intensity patterns with clear margins.
	1	Small areas of mildly increased signal intensity and/or very mild irregularity of the tendon surface.
	2	Areas of moderately increased signal intensity on T1 and T2* incorporating less than one-third of the tendon area in transverse sections and/or moderate irregularity of the tendon margins.
DDFT	3	Areas of increased signal intensity on T1 and T2* involving more than one-third of the tendon area in transverse sections and/or marked disruption of the tendon margins.

P3 = distal phalanx; NB = navicular bone; CL = collateral ligament; DIP = distal interphalangeal joint; CSL = collateral sesamoidean ligament; DSIL = distal sesamoidean impar ligament; DDFT = deep digital flexor tendon.