Online supplement to: OMERACT Definitions for Ultrasonographic Pathologies and Elementary Lesions of Rheumatic Disorders 15 Years On. *The Journal of Rheumatology.* doi:10.3899/jrheum.181095

ONLINE SUPPLEMENTARY DATA

Supplementary Table 1. EULAR-OMERACT* combined scoring system for synovitis

Synovitis	SH (greyscale)	Doppler	Combined score (greyscale SH +PD)
Grade 0 (normal) †	No SH irrespective of effusion	No signals	No SH and no PD
Grade 1(minimal)	Minimal hypoechoic SH up to the imaginary horizontal line connecting the 2 joint edges	Up to three single signals or one confluent and two single or two confluent	Grade 1 SH and/or ≤ grade 1 PD
Grade 2 (moderate)	Moderate hypoechoic SH protruding over the joint line along with concave surface	>Grade 1 but <50% of SH area covered by signals	Grade 2 SH and /or ≤ grade 2 PD ; or grade 1 SH and grade 2 PD
Grade 3 (severe)	Severe hypoechoic SH protruding beyond the joint line with convex surface	>50% of SH area covered by signals	Grade 3 SH and/or ≤ grade 3 PD; or grade 1 or grade 2 SH and grade 3 PD

† Independently of the presence of effusion. *EULAR-OMERACT, European League Against Rheumatism–Outcomes Measures in Rheumatology Clinical Trials; PD, power Doppler; SH, synovial hypertrophy

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Supplementary Table 2. OMERACT combined scoring system for enthesitis with semiquantitative Doppler grading

Doppler	0-3
Hypoechogenicity	0/1
Thickened enthesis	0/1
Calcifications/enthesophytes	0/1
Bone erosions	0/1

Grade 0	0 Doppler signal
Grade 1	< 2 punctiform Doppler signals with no confluent Doppler signal
Grade 2	2-4 punctiform Doppler signal or 1 confluent Doppler signal
Grade 3	> 4 punctiform Doppler signals or > 1 confluent Doppler signal

Supplementary Table 3. OMERACT combined scoring system for tenosynovitis in B-mode and Doppler

B-mode	Doppler mode (*)
Grade 0, normal; no tenosynovial widening either due to hypertrophy or effusion	No Doppler signal
Grade 1; i.e. , minimal amount of anechoic or hypoechoic material within the tenosynovial sheath, either localised or displaceable, and seen in two perpendicular planes	Peritendinous focal signal within the widened synovial sheath (ie, signals in only one area of the widened sheath), seen in two perpendicular planes, excluding normal feeding vessels
Grade 2; i.e., moderate amount of anechoic or hypoechoic material within the tenosynovial sheath	Peritendinous multifocal signal within the widened synovial sheath (ie, signals in more than one area of the widened sheath), seen in two perpendicular planes, excluding normal feeding vessels
Grade 3; i.e., severe amount of anechoic or hypoechoic material within the tenosynovial sheath	Peritendinous diffuse signal within the widened synovial sheath (ie, signals filling most of the widened sheath), seen in two perpendicular planes, excluding normal feeding vessels.

* If in addition to an abnormal peritendinous (ie, intra-sheath) signal an abnormal intratendinous signal is present in two perpendicular planes (ie, excluding intratendinous small isolated signals that can correspond to normal feeding vessels detectable by US), then grades 1 and 2 would be increased by one point

Supplementary Table 4. **OMERACT grading of cartilage damage in osteoarthritis***

Cartilage Grading	
0	Normal cartilage
1 (minimal)	Loss of anechoic structure and/or focal thinning of cartilage layer OR irregularities and/or loss of sharpness of at least one cartilage margin
2 (moderate)	Loss of anechoic structure and/or focal thinning of cartilage layer AND irregularities and/or loss of sharpness of at least one cartilage margin
3 (severe)	Focal absence or complete loss of cartilage layer

*For the grading of osteophytes, see Hammer HB, Iagnocco A, Mathiessen A, Filippucci E, Gandjbakhch F, Kortekaas MC, et al. Global ultrasound assessment of structural lesions in osteoarthritis: a reliability study by the OMERACT ultrasonography group on scoring cartilage and osteophytes in finger joints. Ann Rheum Dis 2016;75:402-7.

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Supplementary Table 5. OMERACT combined scoring system for synovitis in children

	B-mode	**Doppler**
Grade		
0	No signs of synovial effusion or synovial hypertrophy (ie. no joint recess enlargement/capsular distension).	Absence of color/power Doppler signal within synovial hypertrophy with or without detection of normal physiological Doppler signals.
1 (mild)	Synovial effusion and/or synovial hypertrophy that leads to a mild change of the joint recess appearance (ie. mild joint recess enlargement/capsular distension).	Detection of up to 3 single Doppler signals within the area of synovial hypertrophy with or without normal physiological Doppler signals.
2 (moderate)	Synovial effusion and/or synovial hypertrophy that leads to a moderate change of the joint recess appearance (ie. moderate joint recess enlargement/capsular distension).	Detection of more than 3 single Doppler signals but less than 30% of the area of synovial hypertrophy with or without normal physiological Doppler signals.
3 (severe)	Synovial effusion and/or synovial hypertrophy that leads to a severe change of the joint recess appearance (ie. severe joint recess enlargement/capsular distension).	Detection of Doppler signals at more than 30% of the area of synovial hypertrophy with or without normal physiological Doppler signals

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Supplementary Table 6. OMERACT ultrasound definitions of calcium pyrophosphate deposits disease elementary lesions

Structure	Shape	Echogenicity	Localization	Behavior at Dynamic scanning
Fibrocartilage	deposits of variable shape	hyperechoic (similar to the bone cortex echogenicity)	localized within the fibrocartilage structure	Remain fixed and move together with the fibrocartilage during dynamic assessment (i.e. joint movement and probe compression).
Hyaline cartilage	deposits varying in size and shape	hyperechoic (similar to the bone cortex echogenicity) that do not create posterior shadowing	Localized within the hyaline cartilage	The deposits remain fixed and move together with the hyaline cartilage (i.e. joint movement and probe compression)
Tendon	multiple, linear (parallel to the tendon fibrillar structure and not in continuity with the bone profile) deposits	Hyperechoic (in relation to the tendon echogenicity), that generally not create posterior shadowing. The deposits maintain their high degree of echogenicity even at very low levels of gain and are not affected by anisotropy as the surrounding tendon.	Localized within the tendon	Remain fixed and move together with the tendon during movement and probe compression.
Synovial fluid	deposits of variable size (from punctuate to large)	hyperechoic (similar to the bone cortex echogenicity), that generally do not create posterior shadowing.	Localized within the synovial fluid	Are mobile

Supplementary Table 7. OMERACT US definitions of normal and pathologic large arteries (temporal and axillary) and of elementary components

	Temporal arteries	**Axillary arteries**
Definition of US appearance of normal arteries	Pulsating, compressible artery with anechoic lumen surrounded by mid-echoic to hyperechoic tissue. Using US equipment with high resolution, the intima-media complex presenting as a homogenous, hypoechoic- or anechoic echostructure delineated by two parallel hyperechoic margins ("double line pattern") may be visible.	Pulsating, hardly compressible artery with anechoic lumen; the intima-media complex presents as a homogenous, hypoechoic or anechoic echostructure delineated by two parallel hyperechoic margins ("double line pattern"), which is surrounded by midechoic to hyperechoic tissue
Definition of US appearance of vasculitis – "halo sign"	Homogenous, hypoechoic wall thickening, well delineated towards the luminal side, visible both, in longitudinal and transverse planes, most commonly concentric in transverse scans.	Same as for temporal arteries
Definition of US appearance of vasculitis - compression sign	The thickened arterial wall remains visible upon compression; i.e. the echogenicity contrasts hypoechogenic due to vasculitic vessel wall thickening in comparison to the mid- to hyperechoic surrounding tissue.vasculitic vessel wall thickening contrasts with the mid-echogenic to hyperechogenic surrounding tissue.	The definition is not used for the axillary arteries