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## **SUPPLEMENTARY MATERIAL.**

### **Methods**

#### **Ultrasound assessments**

In IDEA ultrasound (US) scans were performed using a Philips (ATL HDI 5000) machine with 5–12 and 8–15 MHz transducers. Power Doppler frequency (PDF) was 6 MHz; PD was assessed using a pulse repetition frequency (PRF) set between 700–1000 MHz, medium wall filter and gain adjusted until the background noise was suppressed. In IACON, a General Electric E9 machine was used with 15–6 and 18–8 MHz linear array transducers. The scanning parameters were: B mode frequency (12–18 MHz), B mode gain 44–54 db, PDF 7.5–10 MHz, PRF 800 Hz (0.8 kHz) and wall filter low–medium.

In PEAC US scans were performed using a General Electric Logiq 9 machine. For grey scale (GS) frequency was set at 14 MHz, gain 50. For power Doppler frequency was 7.5 MHz, gain 41, wall filter 127 Hz.

In IACON the majority of US assessments were performed by one of two full-time sonographers who performed n=342 and n=250 assessments respectively. Of the remainder, n=68 and n=48 assessments were performed by two rheumatologists with extensive musculoskeletal ultrasonography experience. The identity of the person performing the assessment was not recorded for n=129 assessments. The remaining 52 assessments were performed by one of eight rheumatologists trained in musculoskeletal ultrasound.

In IDEA US assessments were performed by one of four rheumatologists trained in musculoskeletal ultrasound; the majority of assessments (80%) were carried by one individual with extensive musculoskeletal ultrasonography experience.

In PEAC US scoring was performed by two readers for whom single-measure inter-reader intraclass correlation coefficients (ICCs) for synovial thickness (GS) and PD were 0.768 (0.367, 0.931) and 0.965 (0.936, 0.980) respectively (using SPSS v21.0 for Mac).

## **Consortia members**

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