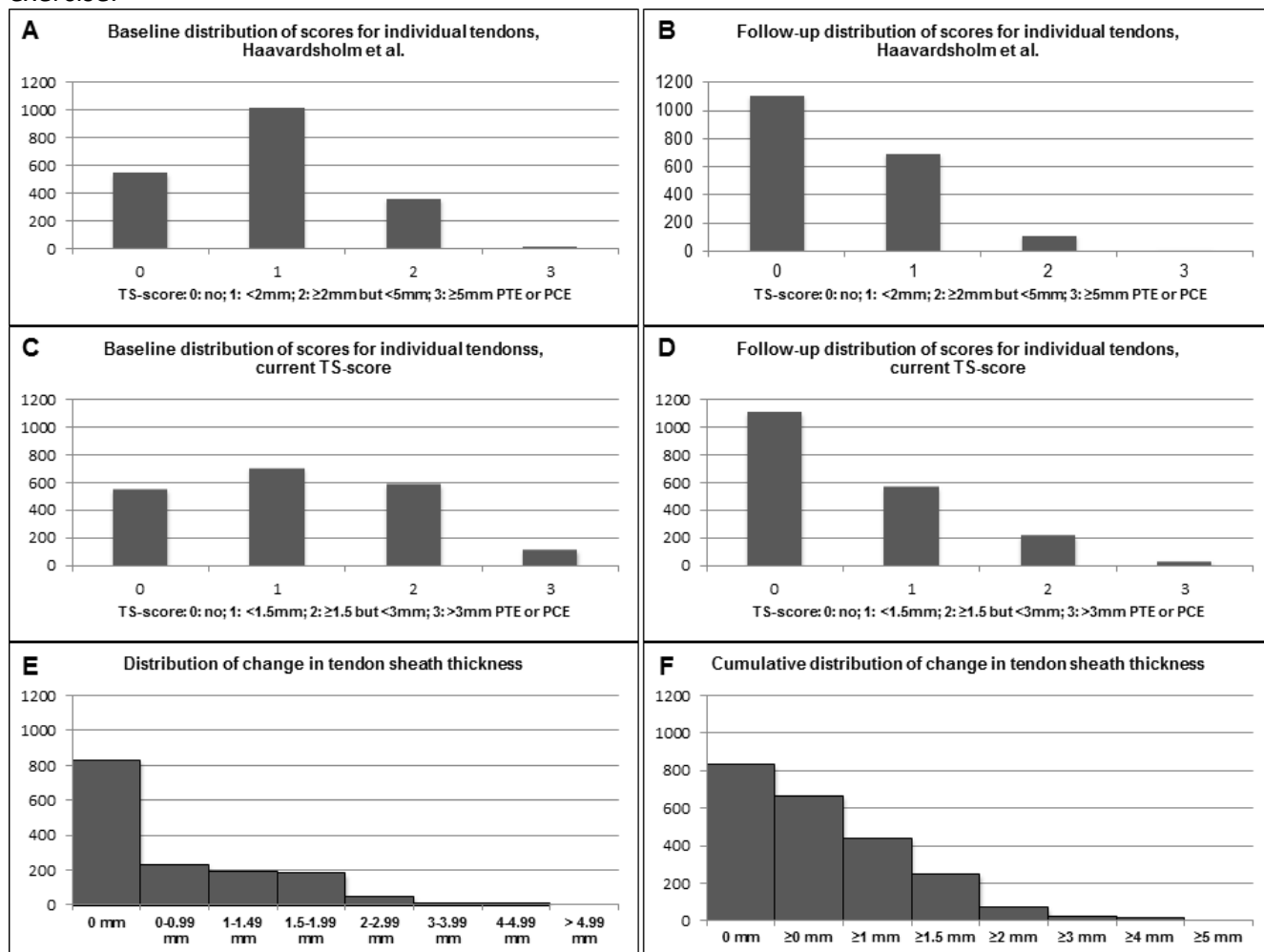
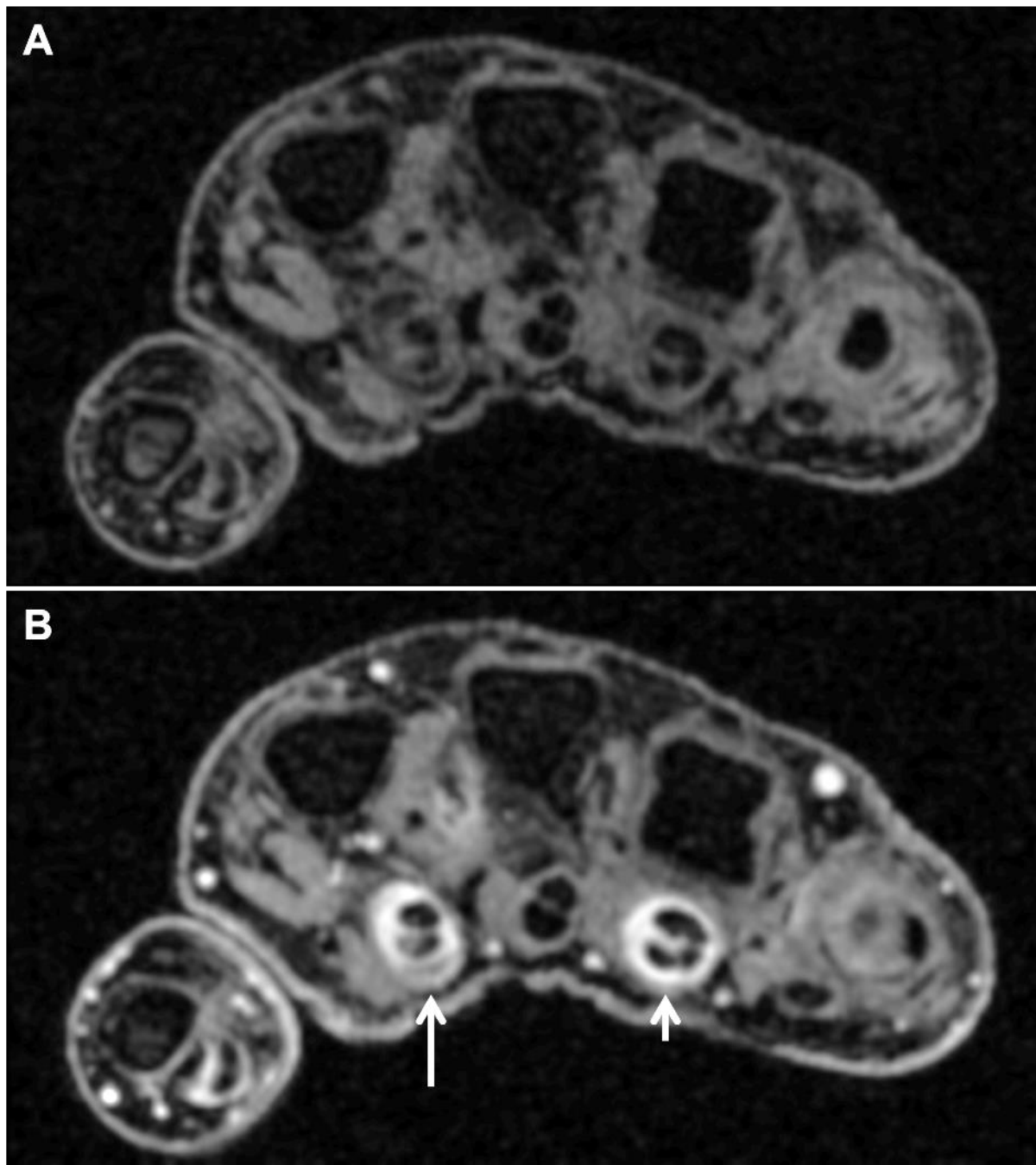


Supplementary Figure 1. Distribution of TS scores and change in tendon sheath thickness in pre-exercise.



In a pre-exercise, the thickness of the tendon sheaths were registered, which enabled subsequent fitting of tendon sheath thickness into models with different limits for scores. The model by Haavardsholm, et al (A and B) was compared with different models of scores and we found that a model with limits of 1.5mm gave more evenly distributed scores on the scale (C and D). Furthermore, the thickness of the tendon sheaths was more likely to change up to 1.5 mm than up to 2 mm (E and F), and a scoring system with increments of 1.5 mm would therefore increase the chance of detecting change over time. Therefore, we proceeded to perform the current exercise with the TS-score, based on score increments of 1.5 mm (C and D). TS: tenosynovitis, PTE: peritendinous effusion, PCE: post-contrast enhancement.

Supplementary Figure 2



Axial T1-weighted fat-suppressed magnetic resonance images before (A) and after (B) intravenous contrast injection. The tendon sheath at the level of the 2nd metacarpophalangeal (MCP) joint (long arrow) shows peritendinous effusion and post-contrast enhancement indicating tenosynovitis corresponding to a grade 3 (tendon sheath thickness ≥ 3 mm at thickest point). The tendon sheath at the level of the 4th MCP joint (short arrow) shows postcontrast enhancement indicating tenosynovitis corresponding to a grade 2 (tendon sheath thickness ≥ 1.5 mm but < 3 mm at thickest point).

Supplementary Table 1. Patient baseline characteristics and TS followup data.

Parameter	Baseline	Followup	Change
Female, n (%)	36 (84%)		
Age, years, median (range)	55 (30;84)		
IgM RF positivity, n (%)	36 (84%)		
ACPA positivity, n (%)	36 (84%)		
DAS28, CRP, median, (range)	5.1 (2.9;6.9)		
CRP, mg/L, median (range)	13.7 (1.0;103.0)		
Received 3 doses of rituximab, n (%)	10 (23%)		
TS wrist, median (range)	5.3 (4.0;8.50)	4.3 (3.0;6.0)	-0.8 (0.0;-1.5)*
TS MCP, median (range)	2.0 (1.5;3.0)	0.8 (0.5;1.5)	-0.5 (0.0;-0.5)*
TS Total, median (range)	8.8 (6.0;12.0)	5.8 (4.5;8.0)	-1.0 (-1.0;-2.5)*

Change in score over time was expressed as the median (range) of the four readers' median scores (averaged over the two readings). IgM: immunoglobulin M, RF: rheumatoid factor, ACPA: anticitrullinated protein antibodies, DAS: disease activity score, CRP: C-reactive protein, TS: tenosynovitis. * $p < 0.01$.

Supplementary Table 2. Percentage of exact and close agreement.

	Intrareader Baseline		Intrareader Change		Interreader Baseline		Interreader Change	
	Mean PEA	Mean PCA	Mean PEA	Mean PCA	PEA	PCA	PEA	PCA
Wrist ext I	79.6	99.4	73.7	99.4	46.5	73.3	54.7	79.1
Wrist ext II	79.7	99.4	77.9	98.3	58.1	89.5	54.7	86.0
Wrist ext III	84.3	99.4	82.3	97.6	58.1	90.7	61.6	94.2
Wrist ext IV	87.2	99.4	78.7	96.3	47.7	83.7	52.3	83.7
Wrist ext V	78.6	99.3	80.5	97.7	48.8	88.4	66.3	91.9
Wrist ext VI	66.9	97.1	64.5	94.8	17.4	67.4	27.9	75.6
Wrist flx 2	72.1	98.3	73.8	95.9	29.1	80.2	44.2	76.7
Wrist flx 3	74.4	97.7	78.5	98.3	47.7	83.7	58.1	86.0
Wrist flx 4	67.4	94.8	68.6	98.3	29.1	73.3	32.6	82.6
MCP 2	63.4	100	60.5	97.1	30.2	84.9	30.2	79.1
MCP 3	80.2	99.4	74.4	98.3	53.5	89.5	50.0	90.7
MCP 4	77.3	98.8	76.2	97.7	44.2	84.9	51.2	89.5
MCP 5	72.7	99.4	70.3	98.8	36.0	88.4	38.4	89.5
Wrist tendons (mean)	76.7	98.3	75.4	97.4	42.5	81.1	50.3	84.0
MCP tendons (mean)	73.4	99.4	70.3	98.0	41.0	86.9	42.4	87.2
All tendons (mean)	75.7	98.6	73.8	97.6	42.0	82.9	47.9	85.0

The percentage of exact agreement (PEA) is defined as the percentage of individual tendons having an exact agreement between the 2 reads for intrareader agreement and between the 4 readers for interreader agreement. The percentage of close agreement (PCA) is defined as the percentage of tendons with agreement differing ≤ 1 . PEA and PCA are expressed for individual tendons and as average percentages for the wrist extensor (ext) and flexor (flx) compartments, for tendons at the level of the metacarpophalangeal (MCP) joints and for total scores.