Supplementary Material

|	TF vs. Extension strength		TF vs. Flexion strength	
	r	p	r	p
PDFF$_{ES}$	-0.49	0.011	-0.42	0.031
PDFF$_{PS}$	-0.04	0.839	-0.23	0.258
Variance(global)$_{ES}$	0.40	0.044	0.62	**0.001**
Skewness(global)$_{ES}$	0.47	0.015	0.54	0.004
Kurtosis(global)$_{ES}$	0.59	**0.001**	0.49	0.011
Energy$_{ES}$	0.19	0.346	0.28	0.160
Contrast$_{ES}$	-0.23	0.260	-0.37	0.064
Entropy$_{ES}$	-0.33	0.102	-0.35	0.075
Homogeneity$_{ES}$	0.33	0.098	0.37	0.063
Correlation$_{ES}$	-0.50	0.010	-0.17	0.405
SumAverage$_{ES}$	-0.43	0.028	-0.25	0.213
Variance$_{ES}$	-0.38	0.052	-0.40	0.040
Dissimilarity$_{ES}$	-0.31	0.120	-0.39	0.048
Variance(global)$_{PS}$	0.33	0.099	0.63	**0.001**
Skewness(global)$_{PS}$	-0.08	0.700	-0.18	0.381
Kurtosis(global)$_{PS}$	0.29	0.152	0.24	0.238
Energy$_{PS}$	0.36	0.068	0.36	0.071
Contrast$_{PS}$	-0.30	0.135	-0.55	0.004
Entropy$_{PS}$	-0.38	0.058	-0.48	0.014
Homogeneity$_{PS}$	0.41	0.036	0.52	0.006
Correlation$_{PS}$	0.04	0.865	0.06	0.771
SumAverage$_{PS}$	-0.08	0.689	0.06	0.775
Variance$_{PS}$	-0.28	0.172	-0.56	0.003
Dissimilarity$_{PS}$	-0.36	0.072	-0.58	**0.002**

Supplementary Table S1: Pearson correlation coefficient r and corresponding p-values p for mean PDFF and texture features vs. extension strength (center column), and r and p for mean PDFF and texture features vs. flexion strength (right column), respectively. Bold p-values indicate significant

correlation after Bonferroni correction for multiple comparisons (Bonferroni-corrected level of significance $\alpha_{corr} = \alpha/n_{tf} = 0.05/24 = 0.0021$). TF, texture feature; n_{tf}, number of analyzed texture features; PDFF$_{ES}$, mean PDFF of erector spinae muscle; PDFF$_{PS}$, mean PDFF of psoas muscle; r, Pearson correlation coefficient; p, corresponding p-value.
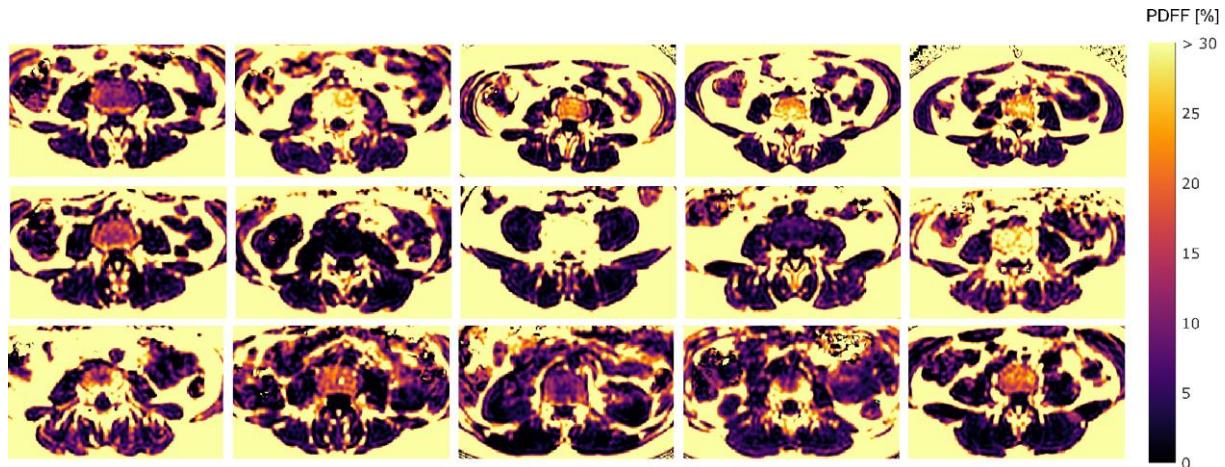
Supplementary Figure S1

Color-coded PDFF maps (sample axial slices) all 15 female subjects. The upper limit of the color window was set to 30 % to better depict the PDFF values of the paraspinal muscles (PDFF, proton density fat fraction).
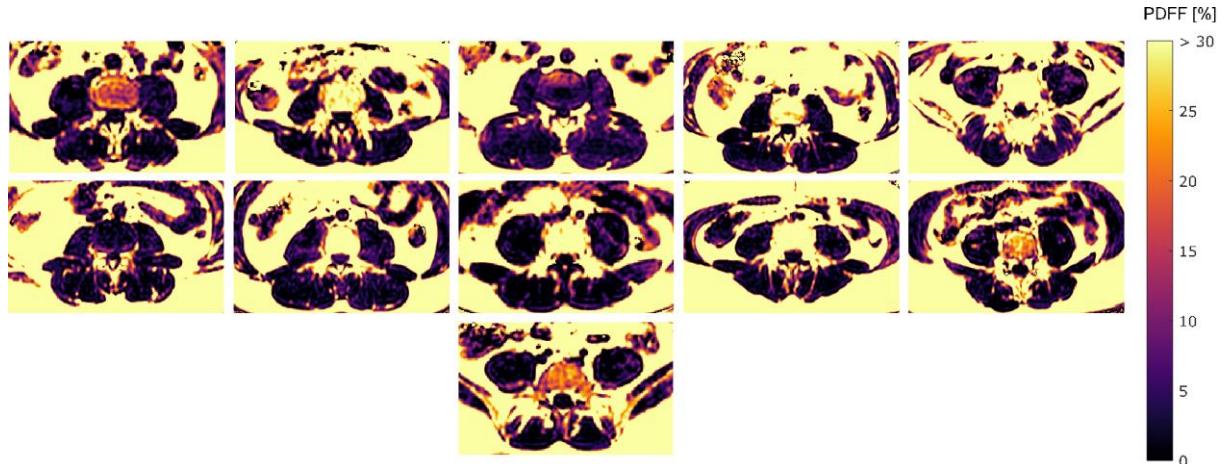
Supplementary Figure S2

Color-coded PDFF maps (sample axial slices) all eleven male subjects. The upper limit of the color window was set to 30 % to better depict the PDFF values of the paraspinal muscles (PDFF, proton density fat fraction).