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Title: Quantitative MR in dystrophic muscle : It's more than fat

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Stellingen
behorende bij het proefschrift

Quantitative MR in Dystrophic muscle: It's more than fat

Melissa Hooijmans

- 1) Sufficiently high signal-to-noise ratio is a prerequisite for reliable MR Imaging and Spectroscopy. (*This thesis*)
- 2) The non-uniform distribution of muscle fat fraction necessitates accurate spatial localization in longitudinal MRI studies. (*This thesis*)
- 3) Water T₂ relaxation times and phosphodiester-levels detected by spatially localized ³¹P MR Spectroscopy reflect pathology prior to fat infiltration in Duchenne Muscular Dystrophy. (*This thesis*)
- 4) Muscle fat replacement highest towards the tendon suggests that mechanical stress is a key factor in the pathophysiology of Duchenne Muscular Dystrophy. (*This thesis*)
- 5) Spin Echo Diffusion Tensor Imaging in skeletal muscle is confounded by fat fraction, signal-to-noise ratio, perfusion and water T₂ changes. (*Adapted from Damon BM et al. NMR in Biomed 2017; Mar 30(3)*)
- 6) Acceleration of MR techniques is required to enable the use of multi-parametric MR in clinical practice.
- 7) Variations between and within individual muscles may provide insight in the pathophysiology of neuromuscular diseases.
- 8) The true value of MR as outcome measure in neuromuscular disease will become apparent with successful therapy.
- 9) True enjoyment comes from activity of the mind and exercise of the body; the two are ever united. (*Adapted from: Wilhelm von Humboldt, 1767-1835; A dictionary of thought*)
- 10) The way of progress is neither swift nor easy; preservation is the key. (*Adapted from: Madame Curie: A biography 1937, part 2, p116*)
- 11) Eerst zien, dan geloven.