



## Liver T1 relaxation times without and with iron correction: reply to Mózes and Tunnicliffe

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Dear Editors,

Thank you for the opportunity to respond to the letter by Mózes and Tunnicliffe [1].

We agree that standardizing quantitative MRI methods is imperative because they are increasingly used for research and clinical care. Iron (T2\*)-corrected T1, or cT1, as implemented by Perspectum Ltd. (Oxford, UK) has been used in an attempt to standardize quantification of T1 relaxation so that measurements at 1.5 tesla (T) and 3 T and on different MRI scanner platforms are comparable.

Iron-corrected T1, as implemented by Perspectum, adjusts liver T1 relaxation measurements for multiple factors, inclusive of field strength. As our manuscript states in the Discussion section: “Banerjee et al. [6] have developed empirical methods (formulas) to correct T1 relaxation time for the presence of iron (iron-corrected T1, or cT1) as well as *MRI scanner and field strength*” (emphasis added) [2, 3].

Regarding the title of our publication, “Comparison of liver T1 relaxation times without and with iron correction in pediatric autoimmune liver disease,” a field strength is neither mentioned nor implied.

Our conclusion remains that T1 iron correction is probably not needed in pediatric patients with autoimmune liver diseases.

### Compliance with ethical standards

**Conflicts of interest** Drs. Dillman and Trout receive research support/grant funding from Perspectum Ltd.

### References

1. Mózes FE, Tunnicliffe EM (2020) Differences between T1 and corrected T1 cannot be attributed to iron correction only. *Pediatr Radiol*. <https://doi.org/10.1007/s00247-020-04956-y>
2. Dillman JR, Serai SD, Miethke AG et al (2020) Comparison of liver T1 relaxation times without and with iron correction in pediatric autoimmune liver disease. *Pediatr Radiol* 5:935–942
3. Banerjee R, Pavlides M, Tunnicliffe EM et al (2014) Multiparametric magnetic resonance for the non-invasive diagnosis of liver disease. *J Hepatol* 60:69–77

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