

Reply to Dr. Miquel regarding velopharyngeal closure with real-time MRI

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Sir,

We would like to thank Dr. Miquel and his group [1] for their comments. There has been marked progress on faster techniques for imaging a single slice repeatedly since we began this project several years ago. We appreciate Dr. Miquel's summary of the work of other groups who have also linked audio to real-time MR imaging in speech disorders. The published reports listed include evaluation of healthy adult volunteers. Few authors have specifically applied this technique to children with known velopharyngeal insufficiency and compared MRI to more standard methods of assessment of this area, as we did.

Our mission was to assess the clinical utility of this technique in a busy hospital setting, and to expose a wider audience of pediatric clinicians and radiologists to the applications of MRI in the evaluation of speech disorders. Our aim was not to develop new sequences but rather to obtain reliable, undistorted, high-resolution, standard T1-weighted images, and the acquisition protocol that we chose was a compromise, given

those constraints. By using a spoiled gradient echo (FLASH [fast low angle shot]) sequence with Cartesian encoding, we wanted to display T1 contrast at the highest resolution possible within a frame rate of 2 frames per second, without artifacts. We could have lowered the in-plane resolution and increased frame rate, but we would have sacrificed anatomical detail. We agree with Miquel et al. [1] that there are faster imaging techniques available and we urge interested readers to review the recent references he has provided.

Conflicts of interest None

References

1. Miquel ME, Freitas A, Wylezinska M (2014) Evaluating velopharyngeal closure with real-time MRI. *Pediatr Radiol*. doi:10.1007/s00247-014-3230-7

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