

# Alternative technique can improve brain imaging for restless children

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Children often find it difficult to remain still for MRI examinations, but an alternative method to conventional MRI for pediatric patients has shown promise in reducing motion-related artifacts in brain imaging, according to an article published online ahead of print from the April 2018 issue of the *American Journal of Roentgenology (AJR)*.

The authors, led by Ji Eun Park of the Seoul National University Children's Hospital and Kyung Hee University Hospital in Seoul, South Korea, said radially sampled 3D fat-suppressed T1-weighted gradient-echo sequences (radial volumetric interpolated breathhold examination, or radial VIBE) for contrast-enhanced brain MRI of children was shown to be a viable alternative to conventional cartesian acquisition for contrast-enhanced brain imaging of restless children.

MRI is increasingly used in the evaluation of the brains of children because, unlike CT, it entails no radiation exposure and provides superior soft-tissue contrast. Titled "Three-Dimensional Radial VIBE Sequence for Contrast-Enhanced Brain Imaging: An Alternative for Reducing Motion Artifacts in Restless Children," the study compared contrast-enhanced [brain](#) MRI examinations performed with a magnetization-prepared rapid-acquisition gradient-echo (MP-RAGE) sequence with those performed with a radial VIBE sequence.

Researchers reported that images obtained with the radial VIBE sequence had fewer motion and pulsation artifacts than those obtained with the MP-RAGE sequence. Among 25 images with serious motion

artifacts, radial VIBE images had significantly higher scores for all qualitative parameters, including overall image quality, than did MP-RAGE [images](#).

For children who could remain still, MP-RAGE yielded better image quality, the authors said, while the radial VIBE sequence yielded improved overall image quality and lesion conspicuity in imaging of restless [children](#).

**More information:** Ji Eun Park et al. Three-Dimensional Radial VIBE Sequence for Contrast-Enhanced Brain Imaging: An Alternative for Reducing Motion Artifacts in Restless Children, *American Journal of Roentgenology* (2018). [DOI: 10.2214/AJR.17.18490](https://doi.org/10.2214/AJR.17.18490)

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