



PHILIPS

4D FreeBreathing

MR Clinical application

Improved imaging confidence for challenging patients in MRI liver studies

Multi-phase contrast-enhanced MRI studies are used to diagnose liver lesions, but many patients are simply not capable of performing multiple breathholds. With 4D FreeBreathing, you can now offer free-breathing MRI liver to a broader population, while improving imaging confidence and the patient experience. This allows you to address patients who have difficulty holding their breath or find it difficult to follow breathing instructions, like the rising elderly segment that has hearing loss, cognitive impairment or respiratory difficulties, as well as children and sedated patients.

4D FreeBreathing allows you to obtain excellent image quality from multi-phase liver studies performed without breathholds. This application is motion robust through its built-in respiratory soft gating and compatibility with high precision external sensors, like VitalEye. As a result, 4D FreeBreathing delivers reliable results that can improve imaging confidence¹. You can easily define variable timings for multiple phases to

seamlessly fit 4D FreeBreathing into your current workflow. Real-time reconstruction allows you to view the progress of images as they are acquired to monitor the quality of the results. To provide easy workflow, you can specify the number of temporal phases to be reconstructed. 4D FreeBreathing provides dynamic information with a temporal resolution² down to 3 seconds per phase.

¹ Compared to eTHRIVE in subjects unable to hold their breath.

² Dynamics are reconstructed at prescribed temporal resolution and will contain data shared from earlier and later time points.

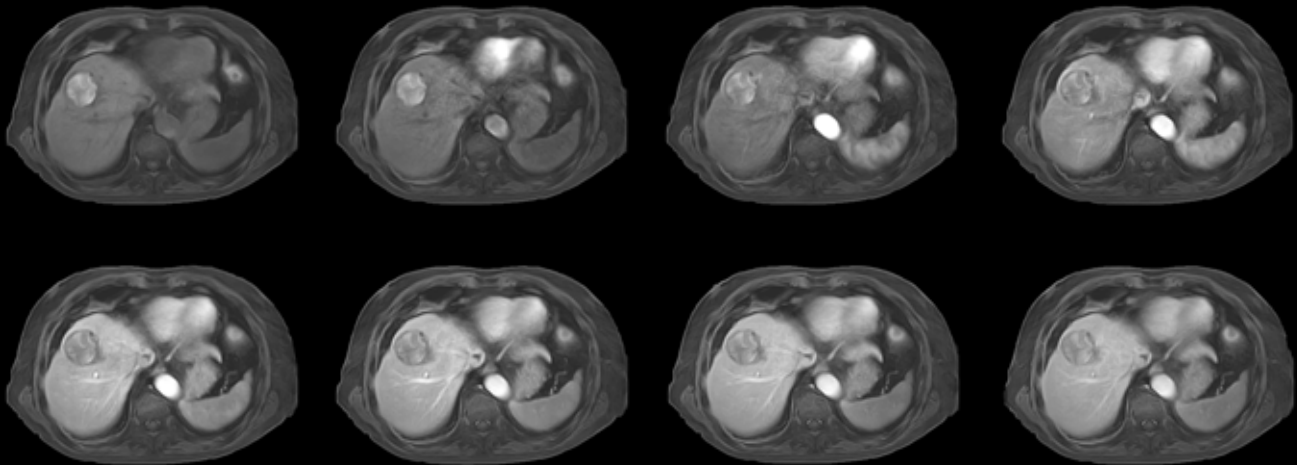
4D FreeBreathing

Field strength	1.5T and 3.0T MR systems
Main applications	Liver
Sequence	Dynamic 3D T1w TFE
Fat suppression	Can be combined with SPAIR
Speed	Continuous non-uniform golden angle radial stack-of-stars sampling. Leverages the efficient dS SENSE parallel imaging technology to provide superior speed performance. ³ Provides dynamic information with a temporal resolution. ⁴ down to 3 seconds per phase.
Image quality	Optimal signal-to-noise due to dStream's digitization at the patient. Obtain reliable results with a motion robust ⁵ technique.

³ Compared to first generation SENSE.

⁴ Dynamics are reconstructed at prescribed temporal resolution and will contain data shared from earlier and later time point.

⁵ Compared to eTHRIVE in subjects unable to hold their breath.



4D FreeBreathing - Dynamic 3D T1w TFE

Resolution: 1.6 x 1.6 x 5.0 mm

Scan time: 3:16 min, 15 and 30 sec /dynamic

Ingenia Elition 3.0T

Courtesy: Kumamoto Chuo Hospital, Kumamoto, Japan

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