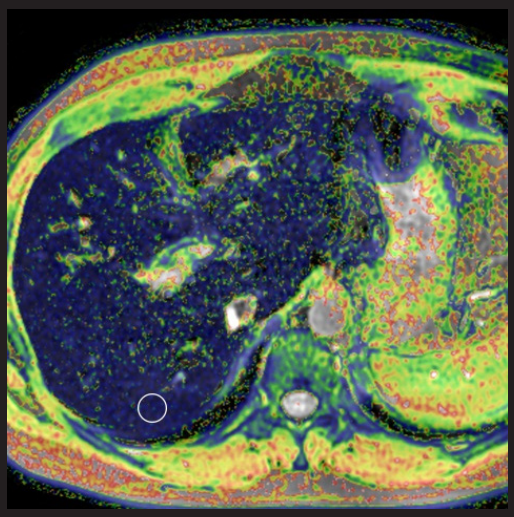
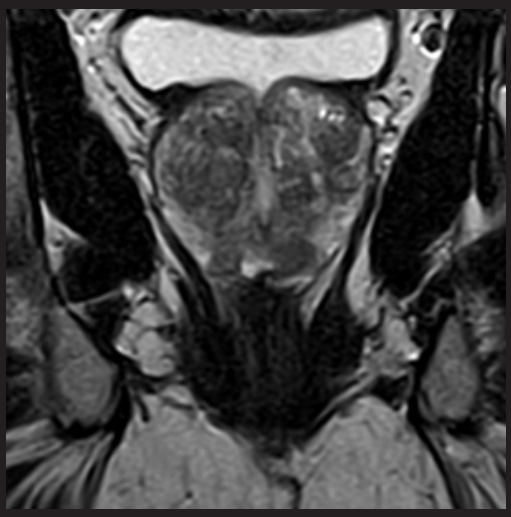
HITACHI
Inspire the Next

OVAL™ ECHELON BODY IMAGING





Speed, Comfort and Quality with BodyDrive

Echelon Oval provides a versatile suite of imaging capabilities for body imaging to meet the growing demands of abdominal, pelvic, and breast exams.

The inherent patient comfort and compliance of the widest widebore and the SynergyDrive workflow tools combine for efficiency and productivity.

CAPABILITIES

BODY IMAGING

A versatile suite of imaging acquisitions and tools for the diverse anatomical areas which make up body MR imaging.

BREATH HOLD

Single Shot Fast Spin Echo (ssFSE) and steady state gradient echo sequences (BASG, TIGRE) keep scan times fast enough for comfortable breath holds, yet provide high resolution in a large field of view.

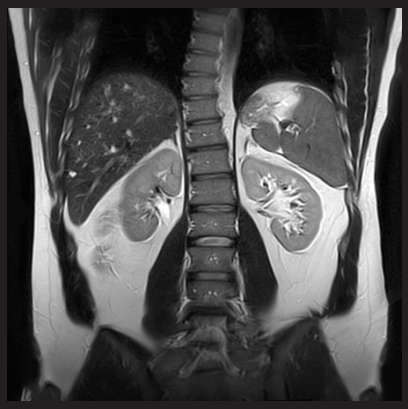
ssFSE

BASG FatSat

RADAR

The unmatched flexibility of Hitachi's RADAR offers a variety of sequence and contrast options – with or without fat saturation – for patients incapable of breath hold sequences such as elderly, infirm, or pediatric.

RADAR T2 Fat Sat



RADAR T2

IN/OUT PHASE

Multiple echo gradient echo sequence acquires images with water and fat signal both in and out of phase with perfect registration. Ideal for kidney and other body organ imaging.

In-Phase

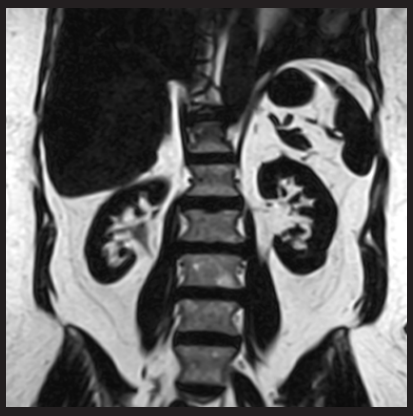
Out-of-Phase

In-Phase

Out-of-Phase

FATSEP

2-point (RSSG) and 3-point (FSE) FatSep/Dixon method acquires the four image contrasts (shown to the left) in a short single breath-hold. The In-Phase provides good depiction of general anatomy while the out-of-phase creates a dark border between fatty and non-fatty tissues in the abdomen.

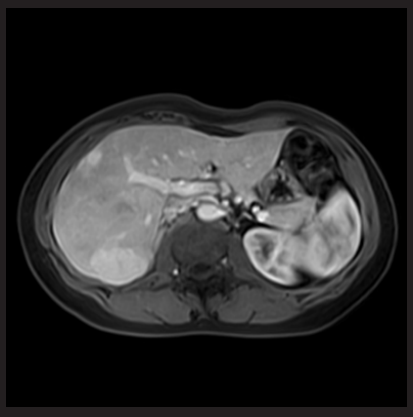


Fat

Water

FatSep is used as an alternative to RF fat saturation providing consistent uniform fat suppression over a large FOV without the variance of field uniformity and tissue susceptibility.

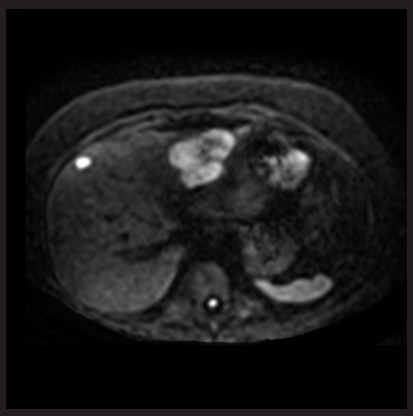
Pre-Contrast



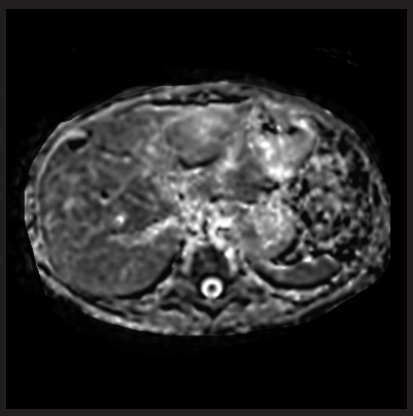
Arterial Phase

TIGRE DYNAMIC

Fast T1 weighted 3D Gradient Echo (TIGRE) sequence with fat suppression delivers high spatial and temporal resolution for outstanding dynamic imaging. Fluoro triggering and elliptical centric k-space filling are available for consistent capture of the arterial phase.



DWI B500



ADC Map

DIFFUSION

Body diffusion can be a useful adjunct to other sequences in a multi-parametric approach to body imaging. Echelon Oval can acquire multiple b-values in a single acquisition.

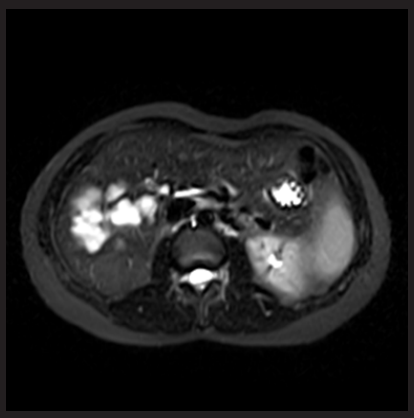
ANATOMIC

BODY IMAGING

LIVER

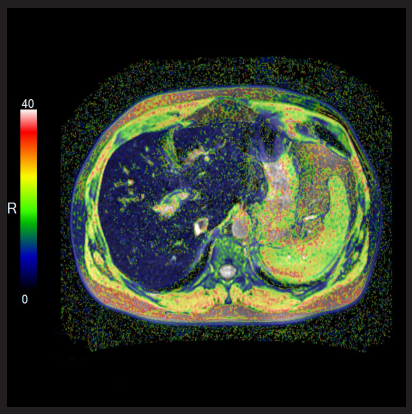
Echelon Oval capabilities support a complete examination of the liver from both a morphological as well as functional standpoint.

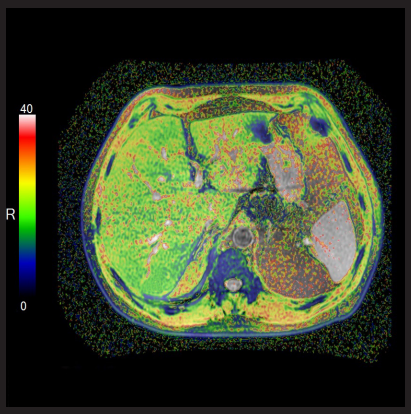
2D BASG, Breath Hold



STIR

For non-invasive, quantitative and visual assessment of iron overload. Displays T2* value for each pixel as a color-coded map overlaying the anatomical image.

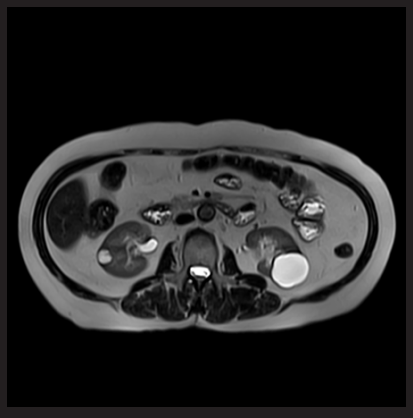




T2* Relax Map

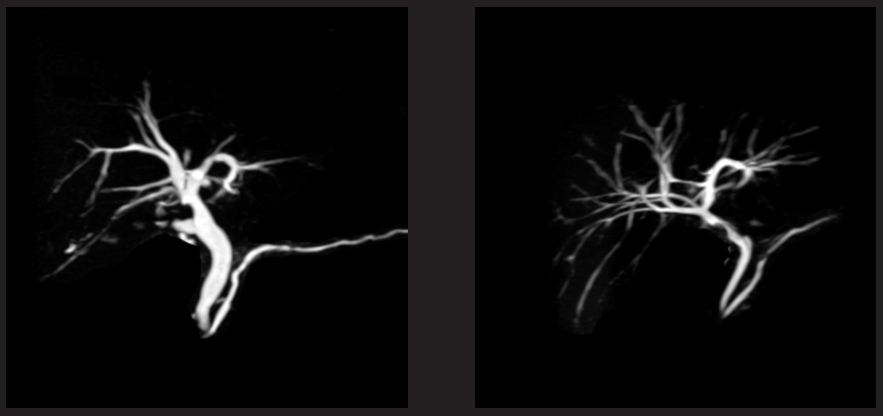
KIDNEY / ADRENAL

Auto Element Select optimizes the WIT coil sensitivity for high SNR, high resolution organ and gland imaging.



Single Shot (ssFSE) with RAPID

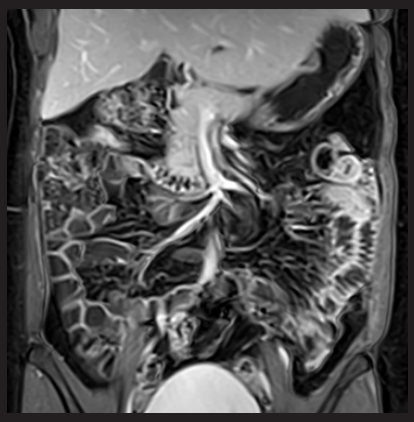
TIGRE



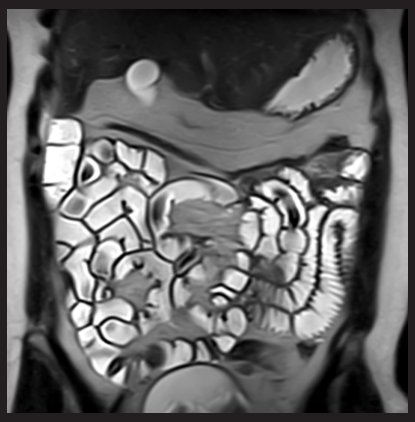
3D Respiratory Gated MRCP

MRCP

3D primeFSE acquisition heavily T2 weighted with MIP or Volume Rendering for interactive visualization of the bile or pancreatic ducts. 2D Radial slice stack positioning for fast and repeatable slice planning.



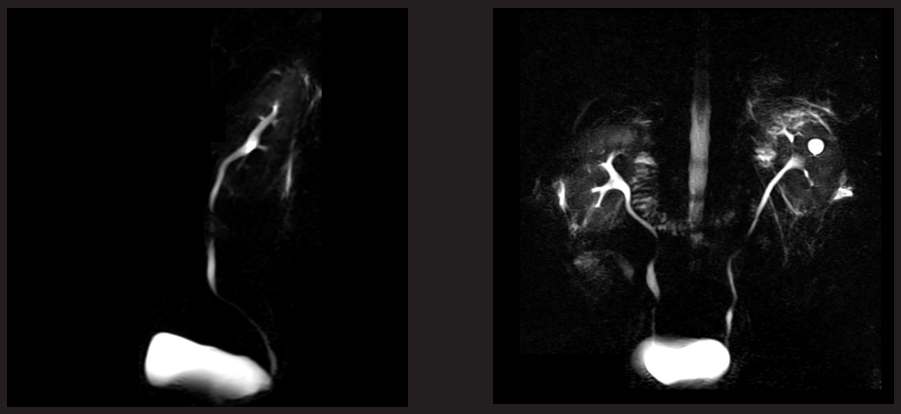
2-point Dixon RSSG FatSep



T2 single shot primeFSE

ENTEROGRAPHY

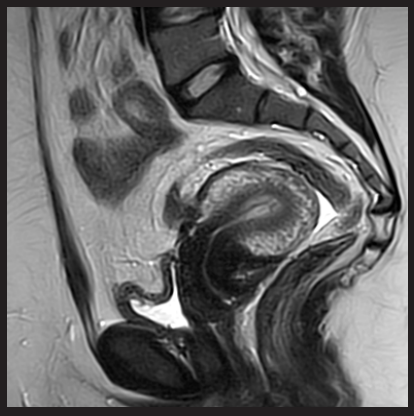
Small bowel studies benefit from high resolution FatSep or single-shot primeFSE for breath hold acquisitions. Free-breathing motility studies with CINE playback are also available.



2D T2 FSE Breath Hold

UROGRAM

Benefitting from a large field of view and uniform fat saturation with HOAST, the versatile Echelon Oval can image the entire urinary tract in a single breath hold.



T2 opFSE RADAR

TIGRE

FEMALE PELVIS

Congenital and uterine anomalies are depicted leveraging Hitachi's opFSE sequence with VIVID processing and TIGRE fast gradient echo. RADAR minimizes motion artifacts.

BREAST

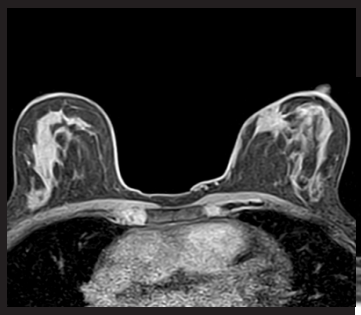
BODY IMAGING

An adjunct to x-ray mammography with high sensitivity for high risk patients: dense breasts, BRCA1/BRCA2 gene presence, implants.

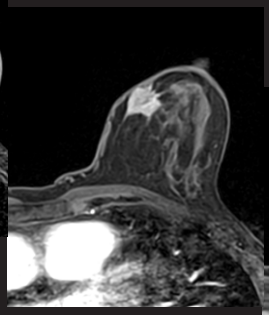
TIGRE DYNAMIC

Rapidly enhancing lesions can be identified by Dynamic Contrast Enhanced (DCE) imaging.

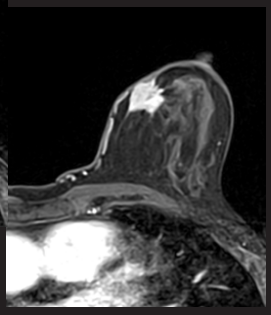
Echelon Oval's TIGRE sequence provides kinetic and morphologic information in either the axial or sagittal plane, all in compliance with ACR recommendations. Automatic subtraction of pre and post contrast image scans is also available to improve conspicuity.



Pre-contrast

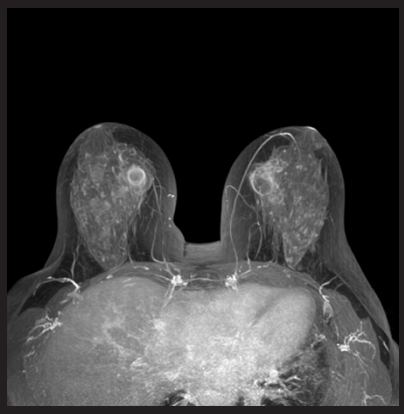


1st Post Contrast



2nd Post Contrast

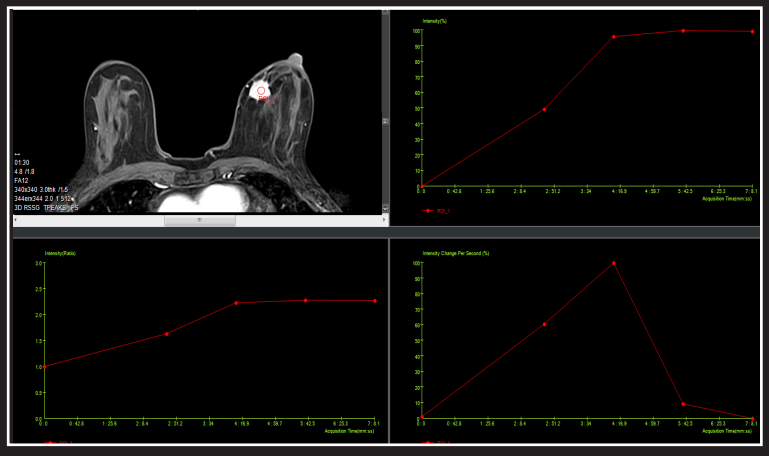
Sagittal TIGRE



MIP

TISSUE INTENSITY

Plots of tissue intensity versus time can be created for arbitrary ROI (Regions of Interest) at the Echelon Oval console for rapid determination of "wash-in/wash-out" characteristics. Data sets can also be exported to CAD systems for further analysis or biopsy planning.

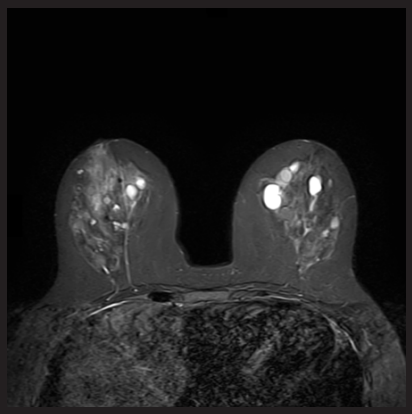


T1 opFSE Silicone Implants

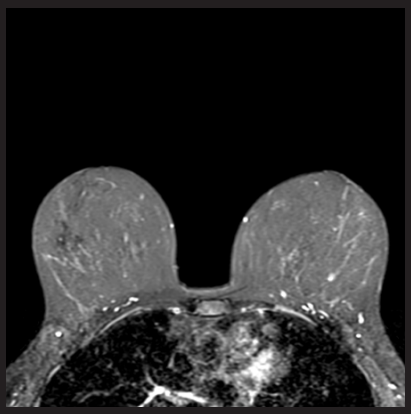
T2 opFSE

opFSE

Optimized Fast Spin Echo (opFSE) with VIVID image processing provides high resolution, sharpness and clarity needed for assessment of anatomical structures including implants and fluid filled abnormalities.



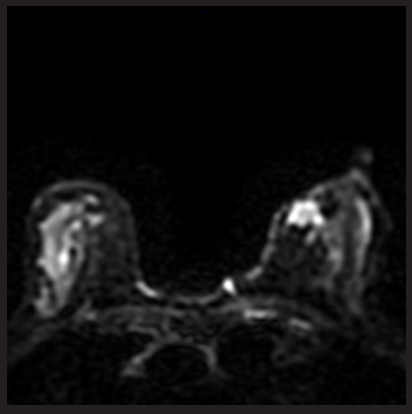
STIR



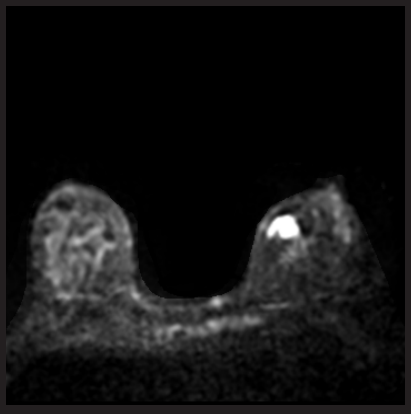
Fat Sat

FAT SUPPRESSION

Echelon Oval offers methods for fat suppression that are uniform over a large field of view due to HOAST, Higher Order Active Shim Technology.



DWI B0



DWI B1000

DIFFUSION

Diffusion Weighted Imaging (DWI) can be used in breast imaging to improve specificity as well as to evaluate early response to neoadjuvant chemotherapy.

PROSTATE

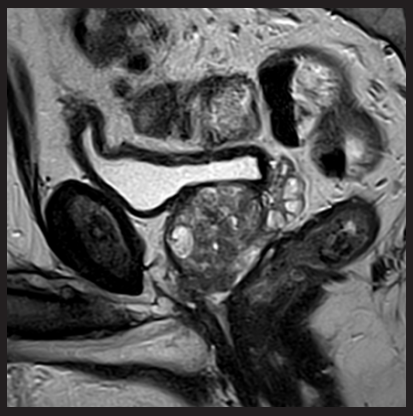
BODY IMAGING

Multi-parametric MR is the new standard in prostate imaging. Echelon Oval's PI-RADS compliant capabilities help meet the challenge.

opFSE

Optimized FSE (opFSE) with VIVID image processing provides the sharpness and clarity required for high resolution, small field of view prostate imaging. Particularly important in assessment of the prostate Transition Zone.

T1 opFSE

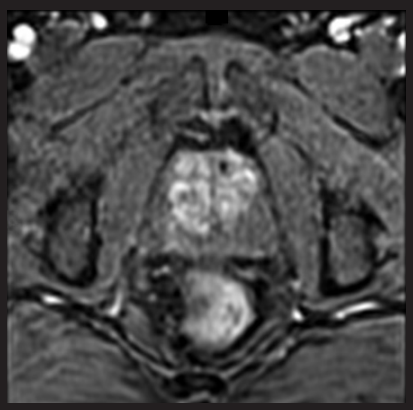


T2 opFSE

TIGRE DYNAMIC

Dynamic Contrast Enhancement (DCE) is useful for assessment of Peripheral Zone pathology. Echelon Oval's TIGRE sequence offers high temporal resolution fast dynamic scanning.

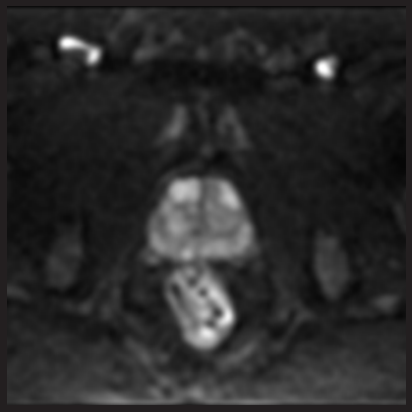
Pre-Contrast



1st Post Contrast

DIFFUSION

DWI is the primary determining sequence for Peripheral Zone assessment. Echelon Oval acquires multiple b-values in a single acquisition with automatic ADC map generation.



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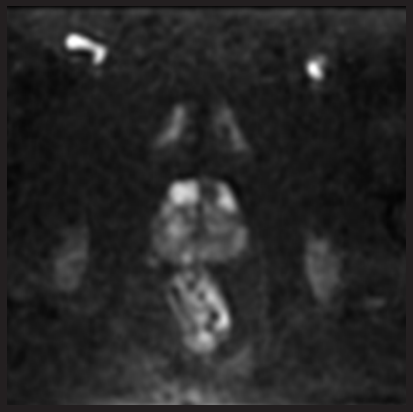

DWI B1500

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