

SIEMENS



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MR Musculoskeletal Imaging

Answers for life.

How can I achieve
high patient
throughput and
best image quality
at the same time?

How can I ensure
lesions are always
assessed from the best
possible plane?

How can I accurately
detect a developing
disease before actual
damage occurs?

MR MSK Imaging

Musculoskeletal imaging is one of the fastest growing fields in MRI. Musculoskeletal disorders and diseases are the leading cause of disability, and account for more than one-half of all chronic conditions in people over 50 years of age in developed countries. Within this context, MR imaging can have a sound impact on diagnoses and can help to substantially reduce the cost of complex surgeries or long palliative treatment.

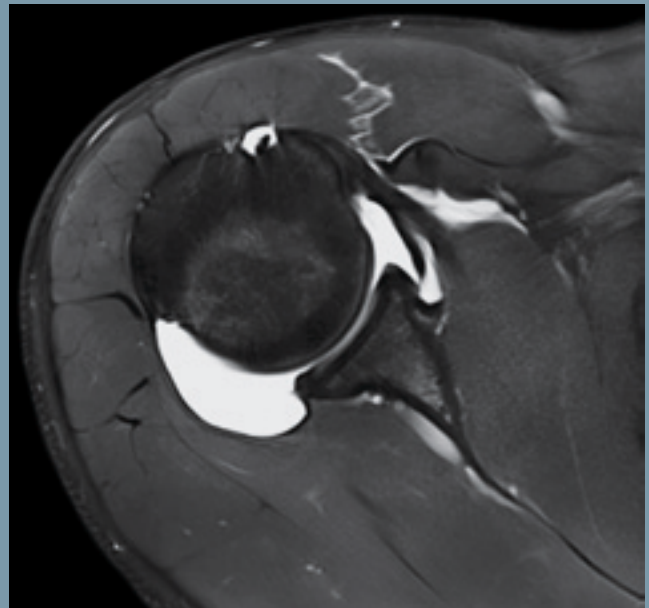
The Siemens product and applications portfolio supports the complete spectrum of orthopedic and musculoskeletal imaging. One image is more than a thousand words – so please take a look ...

Hand / Wrist 16



PD TSE SPAIR, GRAPPA 3, 640 matrix, SL 2.5 mm,
TR 4000, TE 46, TA 1:56 min

Shoulder Large 16

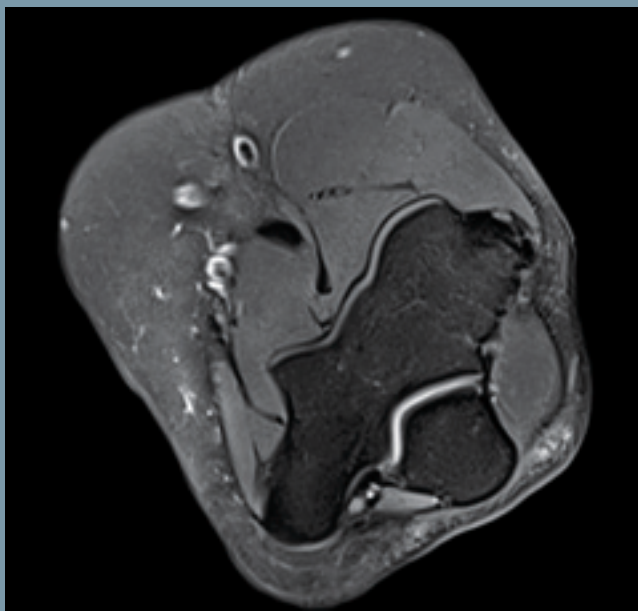


PD TSE FatSat, arthrography, with BLADE, 320 matrix, SL 3 mm,
TR 3510, TE 53, TA 4:23 min

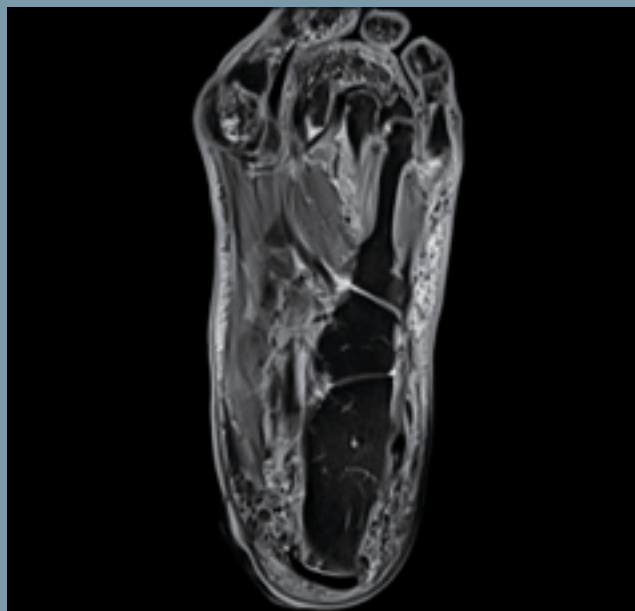
Flex Large 4



Foot/Ankle 16



PD TSE FatSat, matrix 320, SL 3 mm,
TR 3000, TE 34, TA 3:45 min

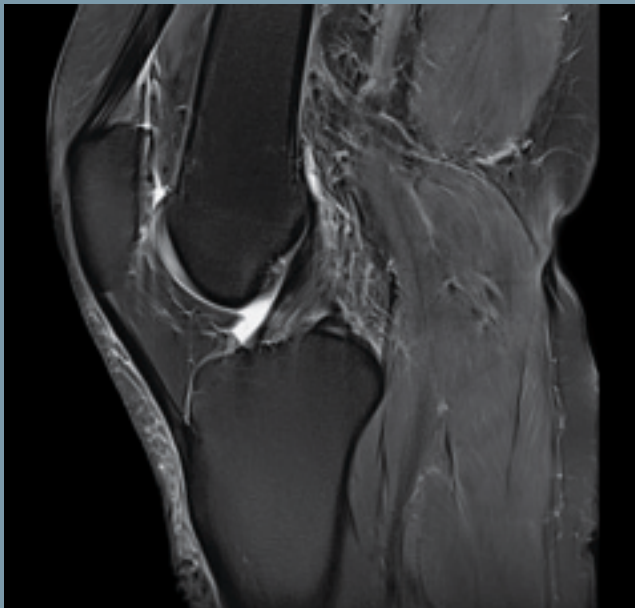


PD TSE FatSat, GRAPPA 2, matrix 320, SL 3 mm,
TR 5000, TE 27, TA 3:10 min

Tx/Rx 15-ch Knee Coil



Head / Neck 20 + Spine 32



T2 TSE FatSat, with BLADE, 384 matrix, SL 3 mm,
TR 3800, TE 58, TA 5:34 min



T2 TSE, GRAPPA 2, 384 matrix, SL 3 mm,
TE 729, TE 9.5, TA 2:30 min

Siemens has developed a comprehensive set of ultra-fast 2D protocols which are complemented by a set of 3D sequences providing isotropic data sets. Isotropic 3D imaging allows reconstruction in any plane while reducing exam times. The new Knee Dot Engine takes Orthopedic examinations to a higher level of throughput and diagnostic standardization.

2D Imaging



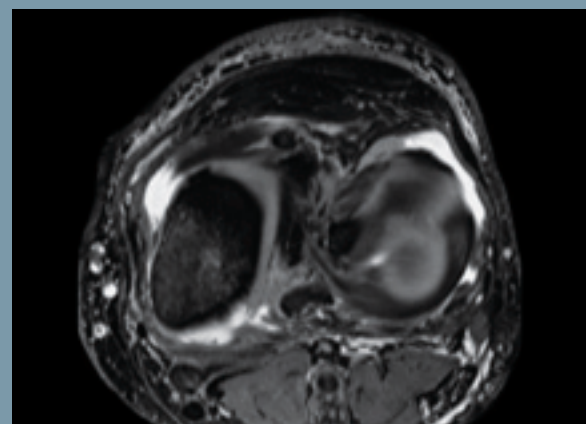
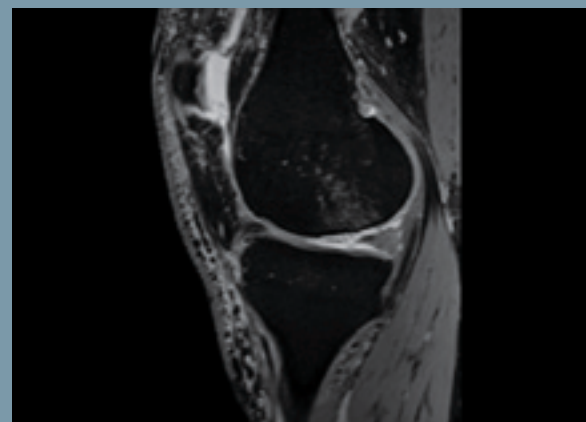
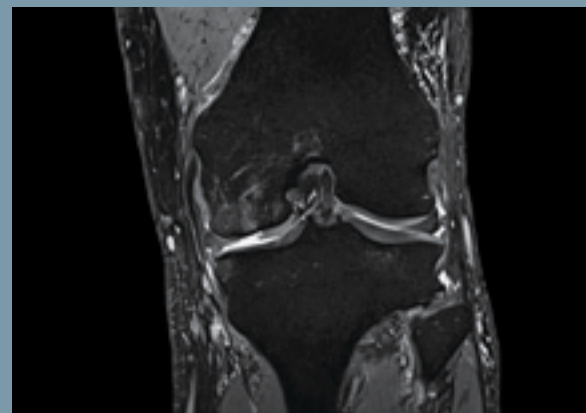
PD TSE FatSat, GRAPPA 2, 320 matrix, SL 3 mm, TR 3300, TE 24, TA 1:09 min

MR examinations of the knee are commonly performed in a variety of settings. The Knee Dot Engine is designed to provide an efficient and flexible imaging workflow allowing one click strategy-based examinations.

T2 3D TrueFISP water excitation
with MPR sagittal and transversal,
GRAPPA 2, 320 matrix, effect. SL 0.5 mm,
TR 7.5, TE 3.3, TA 6:28 min

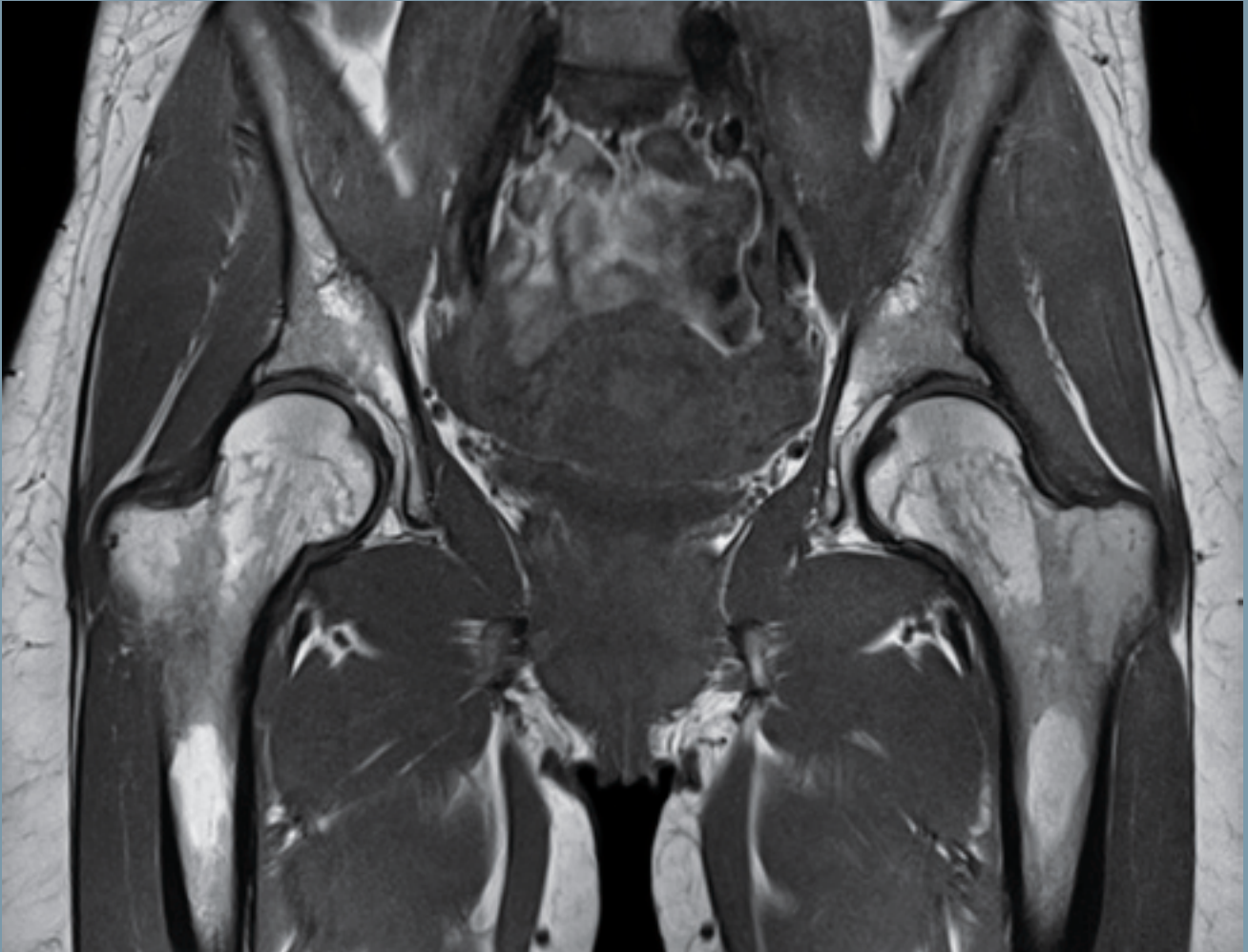
3D Imaging

The 3D Knee Dot Engine supports
3D imaging in musculoskeletal
examinations allowing single
measurement scans and automatic
multiplanar reconstruction of
3D data sets.



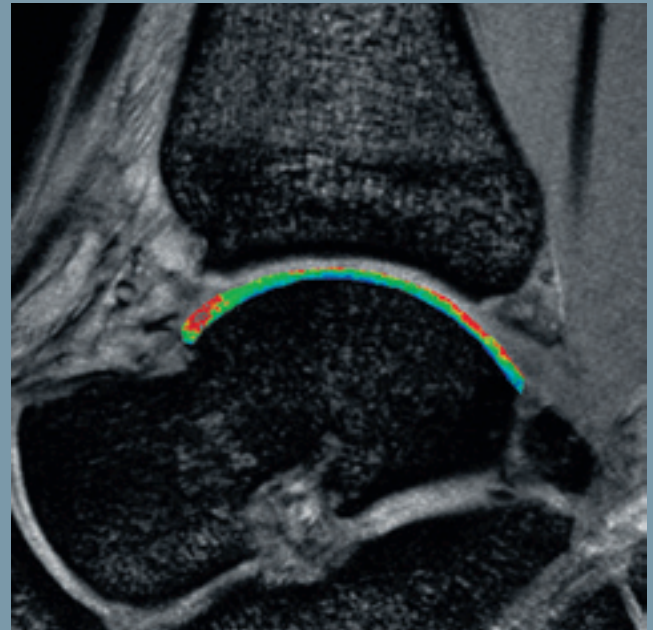
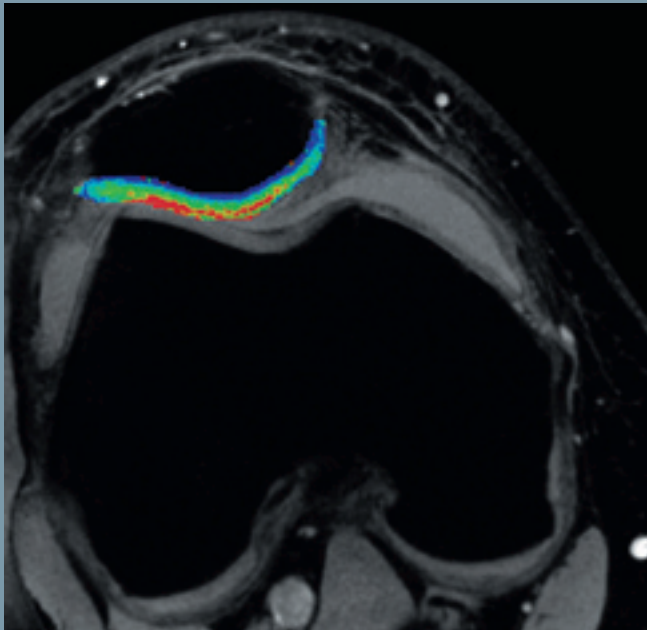
Cartilage imaging

T1 TSE, GRAPPA 2, 512 matrix, SL 3 mm, TR 600, TE 20, TA 3:30 min



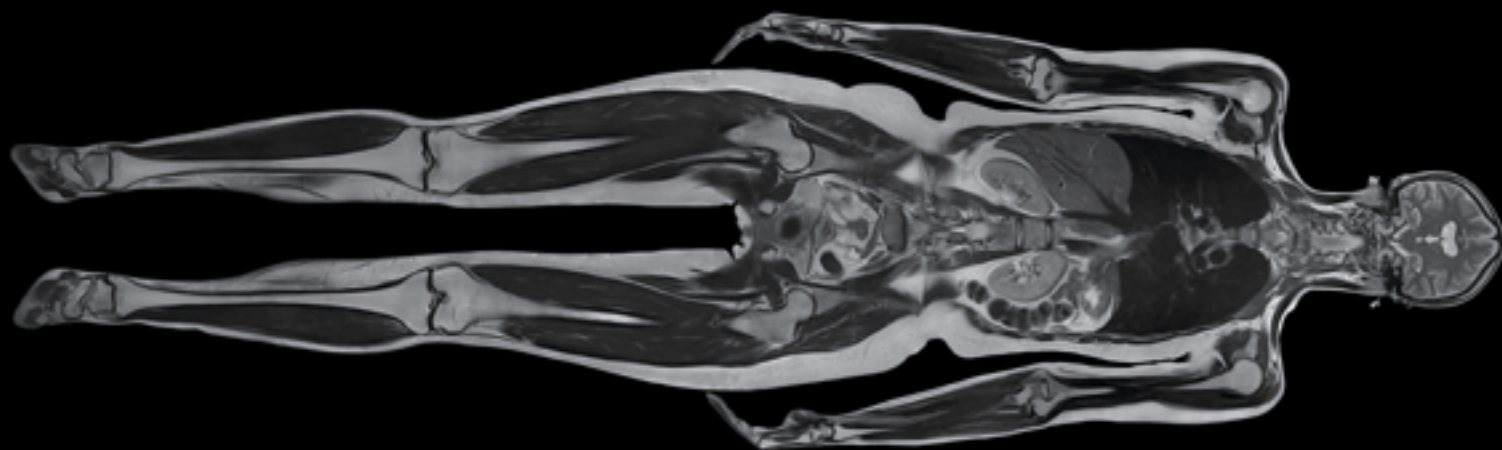
Highest resolution and excellent image quality are a prerequisite to accurately evaluate the cartilage tissue health of a joint. Fast and reliable scans with an optimum of diagnostic information are exactly what our portfolio of MRI systems offers to make sure you have the best starting point for a sensible cartilage evaluation. In addition, our portfolio of systems is complemented by Tim (Total imaging matrix), a revolutionary technology that unlocks imaging power like never before.

Our unique application *syngo* MapIt enables the assessment of ongoing cartilage disease before the actual damage occurs, supports the early detection of osteoarthritis, and it provides critical information in regards to many more clinically relevant questions.



Superb MSK imaging across the entire body

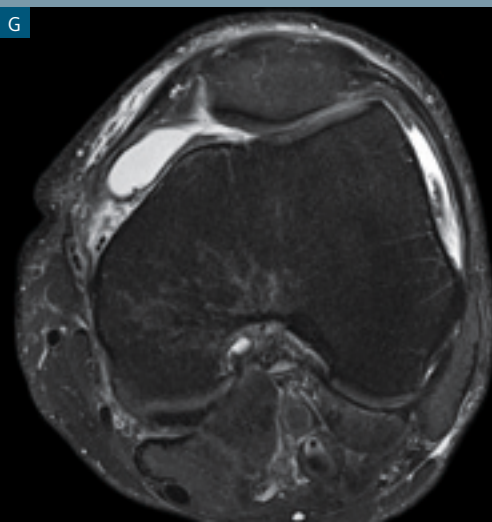
C



F

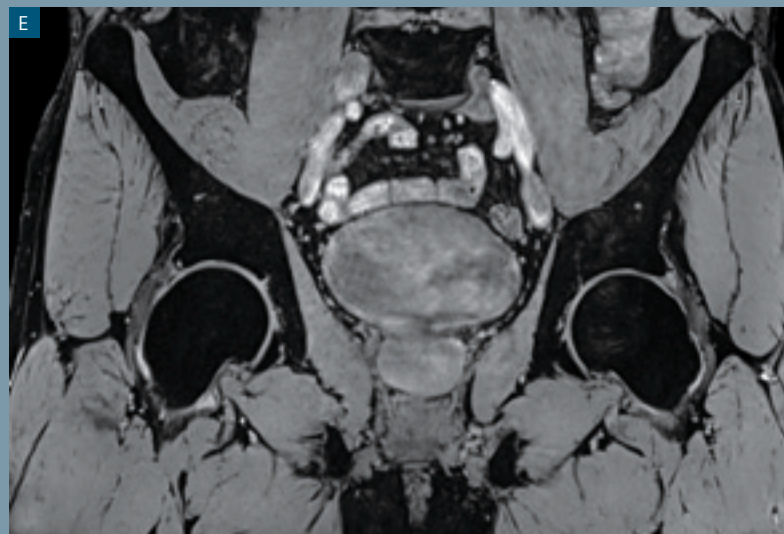
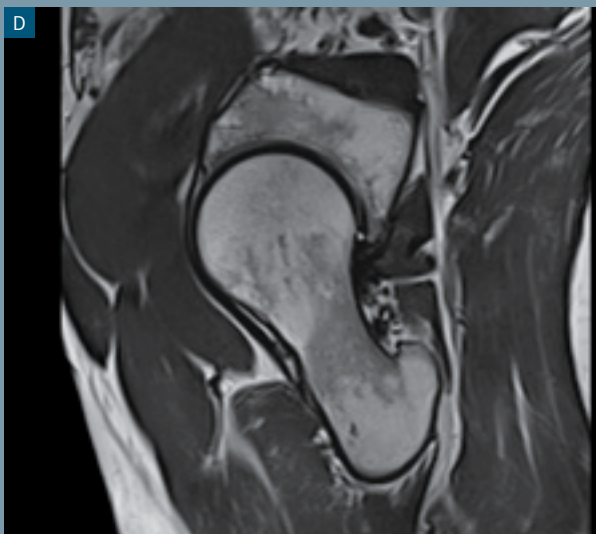
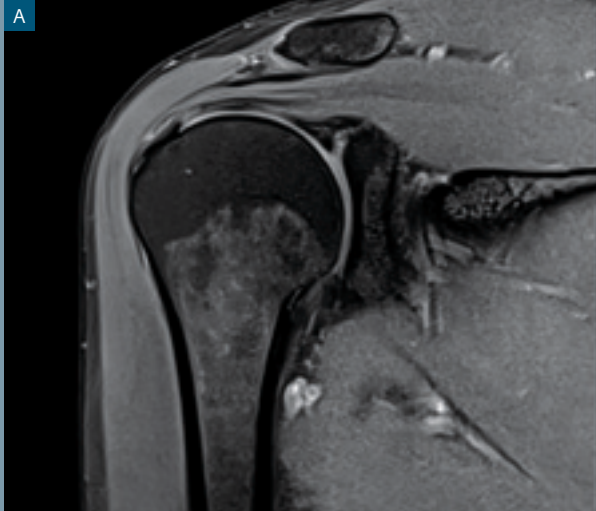


G



H





A: T1 TSE FatSat, GRAPPA 2, 320 matrix, SL 3 mm, TR 664, TE 21, TA 2:48 min

B: T2 TSE, 384 matrix, SL 3 mm, TR 4000, TE 82, TA 2:32 min

C: T2 TSE, 7 steps, GRAPPA 2, 512 matrix, SL 5 mm, TR 2210, TE 106, TA 14:10 min

D: T2 TSE, 320 matrix, SL 3 mm, TR 4500, TE 85, TA 2:56 min

E: T2 3D MEDIC water excitation, isotropic, GRAPPA 2, 576 matrix, effect. SL 0.7 mm, TR 23, TE 13, TA 6:26 min

F: PD TSE, 384 matrix, SL 3 mm, TR 3100, TE 39, TA 3:16 min

G: T2 TSE FatSat, GRAPPA 2, 384 matrix, SL 3 mm, TR 4614.3, TE 61, TA 2:13 min

H: T2 TSE, DIXON water image, 384 matrix, SL 3 mm, TR 4000, TE 102, TA 2:32 min

I: T1 TSE, GRAPPA 2, 448 matrix, SL 3 mm, TR 700, TE 21, TA 2:09 min

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