

Endorectal Coils for High Resolution Imaging of Prostate, Rectum, Cervix, and Surrounding Anatomy

For 3.0T and 1.5T
MR Scanner Systems

MRI Solutions You Trust

The MEDRAD eCoil provides high resolution imaging of the pelvis. It offers significantly higher SNR compared to surface coil and provides the sensitivity needed for spectroscopy, especially at 3.0T. The small FOV, high spatial resolution, sensitivity, and specificity of endorectal coils enable clear pictures that can improve diagnosis and treatment planning for diseases of the prostate, colon, cervix, and surrounding anatomy.

MEDRAD eCoil™ MR Endorectal Coil

Exceptional SNR and Homogeneity for Superior Image Quality

Patented technology

- Enables close placement for more detail in small FOV
- Supports spectroscopy
- May improve diagnosis, cancer staging, and treatment planning

Prostate Coil 1.5T and 3.0T

- Provides visualization of prostate's internal architecture and periprostatic structures like prostate capsule and neurovascular bundles
- Enables precise, accurate images for more diagnosis and treatment options
- Conforms to prostate size and shape for immobilization
- May assist in prostate cancer diagnosis and staging

Key eCoil Prostate MR Applications

- Diagnose patients with high PSA and repeat negative biopsy
- Distinguish between intracapsular / extracapsular disease
- Localize and characterize tumors to aid in staging
- Assess local recurrence
- Plan radiation therapy treatment

Colorectal Coil 1.5T only

- Provides visualization of the colon including bowel wall layers, surrounding tissue, and rectal wall

Cervix Coil 1.5T only

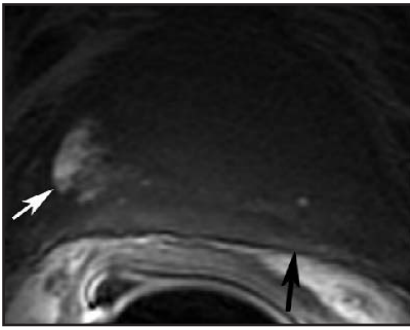
- Provides visualization of the cervix including lymph nodes and soft tissue, thin rim of cervical stroma, and other cervical structures



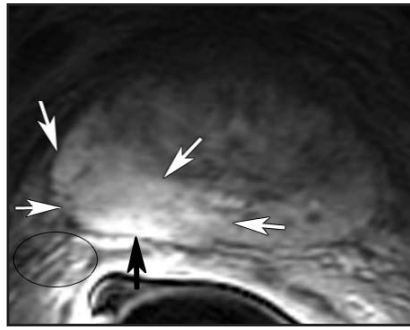
“Endorectal Prostate MRI and the addition of high spatial DCE-MRI facilitate appropriate treatment planning.”

– Dr. Nichlos Bloch, Beth Israel Deaconess, Harvard Medical School

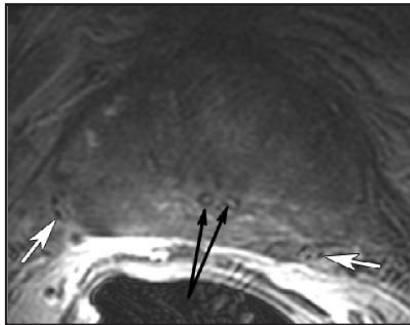
MEDRAD eCoil™ Case Studies



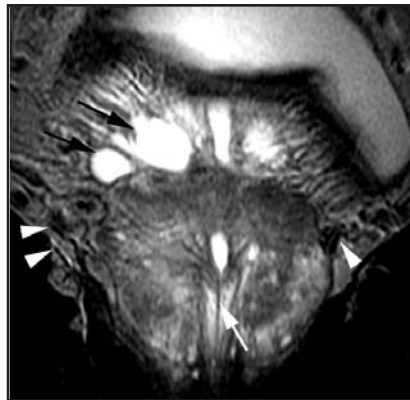
Pre-contrast Image. The clear depiction of prostate capsule (black arrow) and the hyperintense hemorrhagic changes (white arrow).



Early Post-contrast Image. Note the tumor showing early wash-in (white arrows). Note that the tumor is adjacent to the capsule, however, the capsule is well-defined (black arrow). The neurovascular bundle is in close proximity to the tumor (black circle).



Axial T2-weighted image. Note that the entire prostate gland shows low signal (due to tumor and diffuse chronic prostatitis) and, therefore, the tumor cannot be readily delineated. Note the clearly visualized ejaculatory ducts (black arrows) and the nerves (white arrows) in the neurovascular bundles.



Coronal T2-weighted image. Note the Neuro-vascular bundles (white arrow heads). Also note the clearly visualized urethra (white arrow). Seminal Vesicles are marked with black arrows.

Case Study 3.0T

A 58-year old patient with PSA of 14.8, biopsy proven cancer with Gleason score of 7 (3+4). Clinical evaluation predicted extracapsular extension on the right side. Bilateral tumor was found mostly on right side on MRI. Proximity to neurovascular bundles and probable extracapsular infiltration was noted. **Radical retropubic prostatectomy, as opposed to nerve sparing surgery, was elected, based on MRI results, to reduce the risk of local recurrence.** Pathology confirmed MRI diagnosis: Stage T2c, bilateral (R>L) cancer confined to the gland.

Courtesy of Beth Israel Deaconess

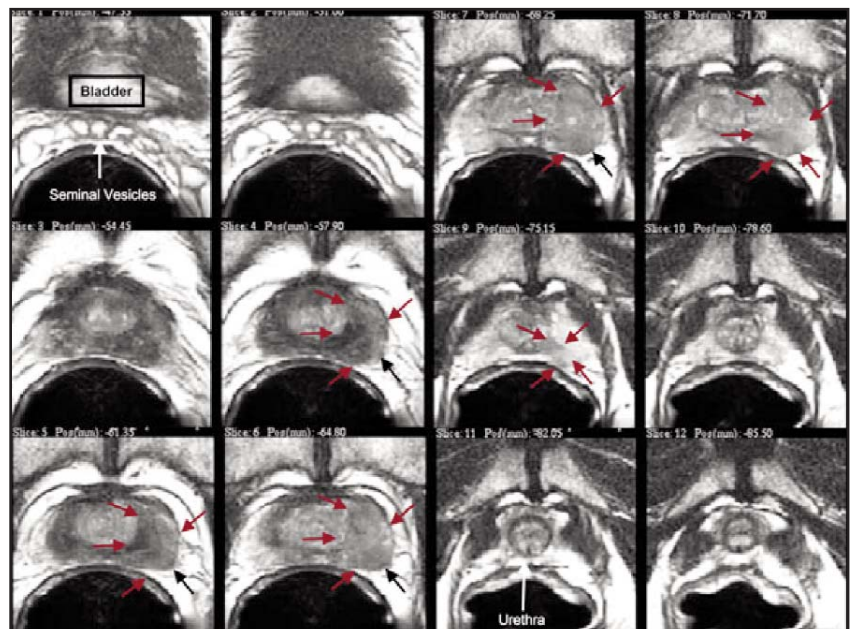
“Using the eCoil for prostate MRI/MRSI exams on 3.0T scanners enables exquisite images and very high spatial resolution for detection of small, low-grade tumors and post-therapy disease.”

*John Kurhanewicz, Ph.D.
University of California,
San Francisco, UCSF*

Case Study 1.5T

A 52-year old patient interested in “active surveillance” presented with a PSA of 7.9 ng/nL and biopsy proven prostate cancer (10% of Gleason 3+3 cancer in 1 out of 12 cores) in the left midgland. Endorectal MRI/MRSI used to evaluate extent of cancer and determine the best treatment path. MRI/MRSI showed cancer in the peripheral zone of the left base and midgland along with suspicion for extracapsular extension. **Based on MRI/MRSI findings, patient underwent high dose rate brachytherapy combined with 22 sessions of external beam radiation therapy and neoadjuvant androgen deprivation therapy.**

Courtesy of University of California, San Francisco



Consecutive, 3 mm axial, reception-profile corrected, T2-weighted FSE images from the seminal vesicles through the apex of the prostate. We observe a large volume of hypointensity in the left lobe extending from the base to the apex of the prostate (red arrows). The black arrows indicate suspected extracapsular extension.

Coil Dimension

4-ch 1.5T GE Interface Device
5.20 in x 5.63 in x 3.74 in (2.1 lbs)
13.2 cm x 14.3 cm x 9.5 cm (.95 kg)

8-ch 1.5T GE Interface Device
17.5 in x 17.5 in x 8.5 in (9 lbs)
44.4 cm x 44.4 cm x 21.5 cm (4.0 kg)
(includes packaging)

8-ch 3.0T GE Interface Device
17.5 in x 17.5 in x 8.5 in (9 lbs)
44.4 cm x 44.4 cm x 21.5 cm (4.0 kg)
(includes packaging)

eCoil Sensitive Volume

Sagittal: 10-20 cm
Axial: 10-20 cm
Coronal: 10-20 cm

Warranty

Product is warranted to be free from defects in materials and workmanship for a period of twenty-four months from date of shipment. Please see the published warranty for details.

Backed by MEDRAD reliability, support and service

- Legendary product reliability
- Unmatched after-sales support
- Knowledgeable and reliable technical service
- Ask about MEDRAD's Predictive Maintenance Programs and Extended Warranties

Coil Configurations

Interface Device

GE® *

4-ch 1.5T Interface Device (M64ERA)

8-ch 1.5T Interface Device (M64ERA8-HD)

8-ch 3.0T Interface Device (M128ERA8-HD)

Siemens® **

1.5T Interface Device for Magnetom Symphony™

1.5T Interface Device for Magnetom Avanto™

1.5T Interface Device for Magnetom Espree™

3.0T Interface Device for TRIO TIM™

Philips® ***

1.5T Interface Device for Intera™

1.5T Interface Device for Achieva™

3.0T Interface Device for Achieva™

eCoil Probes

GE

1.5T Prostate Coil

1.5T Colorectal Coil

1.5T Cervix Coil

3.0T Prostate Coil

Siemens

1.5T Prostate Coil

1.5T Colorectal Coil

1.5T Cervix Coil

3.0T Prostate Coil

Philips

1.5T Prostate Coil

3.0T Prostate Coil

* Device available from MEDRAD and GE.

** Device available through Siemens only. Please contact your Siemens sales representative.

*** Device available through Philips only. Please contact your Philips sales representative.

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