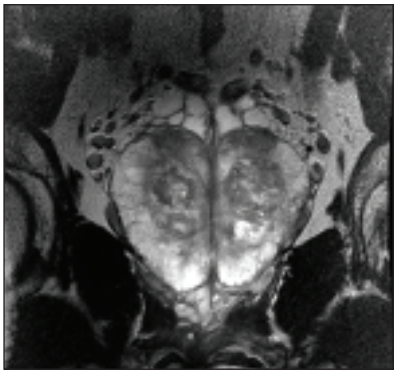
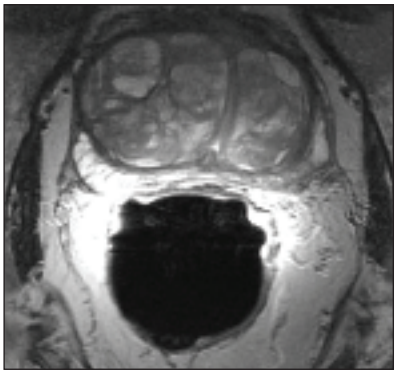
Endorectal Coils for High Resolution Imaging of Prostate, Rectum, Cervix, and Surrounding Anatomy

MEDRAD MR

For 3.0T and 1.5T
MR Scanner Systems





"The gain in SNR and image quality is so great that imaging the prostate without the endorectal coil is unthinkable."

Professor Jelle Barentsz
University Medical Center, Nijmegen

MEDRAD®
Performance. For life.™

"The MEDRAD 3.0T eCoil™ can aid in the earlier diagnosis of prostate cancer and optimize the treatment options for patients."

Neil Rofsky, M.D.
Beth Israel Deaconess
Harvard Medical School

Performance. For life. Since 1964, MEDRAD has been developing products that clinicians worldwide rely on to provide outstanding performance every time they're used. Performance that helps physicians diagnose patients more accurately and, ultimately, deliver quality patient care. You will find that same level of performance – along with the high level of customer support you've come to expect from MEDRAD - with the MEDRAD eCoil™ MR Endorectal Coil.

CT CV MR

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
- Improves diagnosis, 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

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

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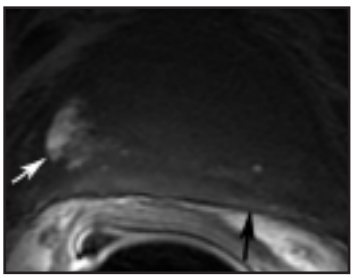
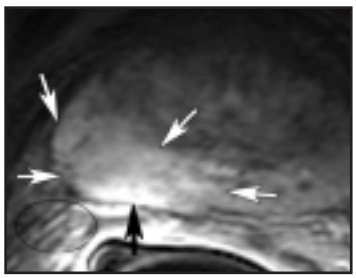
"Endorectal Prostate MRI and the addition of high spatial DCE-MRI facilitate appropriate treatment planning."

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

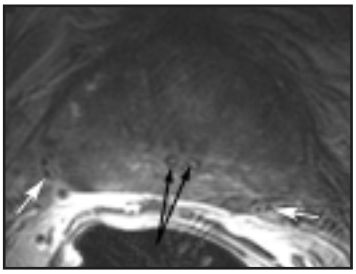
MEDRAD eCoil™ Case Studies



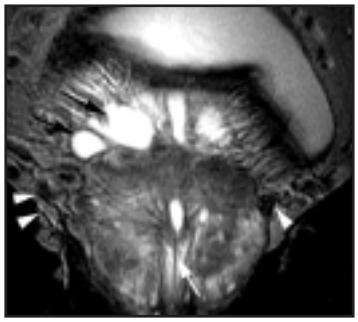
Pre-contrast Image. The clear depiction of prostate capsule (black arrow) and the hyperintense hemorrhagic changes (white arrow).



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 Neurovascular 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

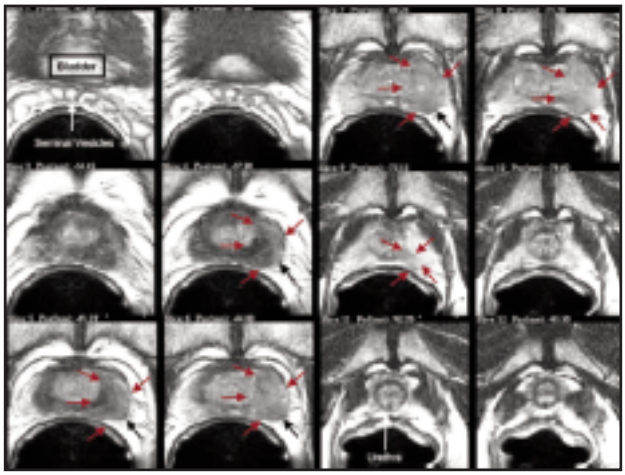
"Using the eCoil for prostate MRI/MRSI exams on 3.0T scanners enables exquisite images and very high spatial resolution for detection of small, low-grade tumors and post-therapy disease."

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

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 UCSF



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.

"Prostate imaging with an endorectal coil at 3.0T shows great potential to advance prostate cancer management with state-of-the-art high-resolution images, perfusion, and spectrosopy."

Dr. Larry Tanenbaum, Edison Imaging Associates

Coil Dimension

4-ch 1.5T GE Interface Device
5.20in x 5.63in x 3.74in (2.1lbs)

8-ch 1.5T GE Interface Device
17.5in x 17.5in x 8.5in (9lbs)
(includes packaging)

8-ch 3.0T GE Interface Device
17.5in x 17.5in x 8.5in (9lbs)
(includes packaging)

eCoil Sensitive Volume

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

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.

Coil Configurations

Interface Device

GE® *	Siemens® **	Philips® ***
4-ch 1.5T Interface Device (M64ERA)	1.5T Interface Device for Magnetom Symphony™	3.0T Interface Device for Achieva™
8-ch 1.5T Interface Device (M64ERA8-HD)	1.5T Interface Device for Magnetom Avanto™	1.5T Interface Device for Achieva™
8-ch 3.0T Interface Device (M128ERA8-HD)	1.5T Interface Device for Magnetom Espree™	1.5T Interface Device for Intera™
	1.5T Interface Device for Essenza™	
	3.0T Interface Device for TRIO TIM™	
	3.0T Interface Device for Verio™	

eCoil Probes

GE	Siemens	Philips
1.5T Prostate Coil	1.5T Prostate Coil	1.5T Prostate Coil
1.5T Colorectal Coil	1.5T Colorectal Coil	
1.5T Cervix Coil	1.5T Cervix Coil	
3.0T Prostate Coil	3.0T 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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Malcolm Baldrige National Quality Award 2003 Award Recipient MEDRAD, INC.

The Malcolm Baldrige National Quality Award is our nation's premier award for performance excellence and quality achievement. Established in 1987 and named after the former Secretary of Commerce, the Baldrige Award recognizes exemplary achievements in seven areas: leadership, strategic planning, customer and market focus, measurement, analysis and knowledge management, human resource focus, process management and business results. The U.S. Commerce Department's National Institute of Standards and Technology (NIST) manages the Baldrige National Quality Program in close cooperation with the private sector. The award is traditionally presented by the President of the United States in a special Washington, D.C. ceremony.

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