PROSTATE-DIAGNOSIS

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Summary

Prostate cancer T1- and T2-weighted magnetic resonance images (MRIs) were acquired on a 1.5 T Philips Achieva by combined surface and endorectal coil, including dynamic contrast-enhanced images obtained prior to, during and after I.V. administration of 0.1 mmol/kg body weight of Gadolinium-DTPA (pentetic acid). Corresponding clinical metadata (XLS format) and 3D segmentation files (NRRD format) are offered as a supplement to this image collection. The XLS file contains pathology biopsy and excised gland tissue reports and the MRI radiology report for most subjects.

The Multi-component NRRD Segmentations allow visualization and downstream analysis in 3D Slicer of the following prostate components: prostate gland boundary; internal capsule; central gland, peripheral zone; seminal vesicles; urethra; cancer – dominant nodule; neurovascular bundle; penile bulb; ejaculatory duct; veru-montanum; and rectum. See our tutorial on Using 3D Slicer with the Prostate-Diagnosis data if you are not familiar with using this kind of data.

The Seminal vesicles (SV) and neurovascular bundle (NVB) Segmentations delineate the neurovascular bundle and seminal vessicles as MHA files. These were provided as part of a planned challenge competition that did not materialize.

The Third Party Analysis dataset mentioned beneath the Data Access table was added later as part of the NCI-ISBI 2013 Challenge - Automated Segmentation of Prostate Structures. It includes segmentations for 30 Prostate-Diagnosis subjects in NRRD format which mark the boundaries of the central gland and peripheral zone were also provided

Data Access

Data Access

Data Type	Download all or Query/Filter	License
Images (DICOM, 5.6GB)	*Download* *Search* (Download requires the NBIA Data Retriever)	CC BY 3.0
Clinical Metadata (XLS, 59 kB)	*Download*	CC BY 3.0
Multi-component NRRD Segmentations (NRRD, zip, 73 kB)	*Download*	CC BY 3.0
NCI ISBI Challenge - Segmentations of central gland and the peripheral zone (NRRD, zip, 161 kB)	*Download*	CC BY 3.0
Seminal vesicles (SV) and neurovascular bundle (NVB) Segmentations (MHA, zip, 87 kB)	*Download*	CC BY 3.0

Click the Versions tab for more info about data releases.

Additional Resources for this Dataset

The NCI Cancer Research Data Commons (CRDC) provides access to additional data and a cloud-based data science infrastructure that connects data sets with analytics tools to allow users to share, integrate, analyze, and visualize cancer research data.

- Imaging Data Commons (IDC) (Imaging Data)

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Third Party Analyses of this Dataset

TCIA encourages the community to publish your analyses of our datasets. Below is a list of such third party analyses published using this Collection:

- NCI-ISBI 2013 Challenge: Automated Segmentation of Prostate Structures (ISBI-MR-Prostate-2013)

Detailed Description

Detailed Description

	Radiology Image Statistics
Modalities	MR (T1, T2, and DCE sequences)
Number of Participants	92
Number of Studies	92
Number of Series	368
Number of Images	32,537
Image Size (GB)	5.6

Metadata

Corresponding clinical metadata (XLS format) and 3D segmentation files (NRRD format) are offered as a supplement to this image collection.

- Prostate-Diagnosis metadata (updated 2012-05-07) - The XLS file contains pathology biopsy and excised gland tissue reports and the MRI radiology report for most subjects.
- NRRD 3D segmentations (2 separate sets of segmentations available)
    - NRRD segmentations (updated 2012-05-07)- The software used to generate the NRRD files on the MR T2W_TSE_AX image sequences was 3DSlicer. The 3DSlicer NRRD files allow visualization and downstream analysis of the following prostate components: prostate gland boundary; internal capsule; central gland, peripheral zone; seminal vesicles; urethra; cancer – dominant nodule; neurovascular bundle; penile bulb; ejaculatory duct; veru-montanum; and rectum. Presently, there are available mark-ups of 5 cases (case extension #'s 0006, 0014, 0019, 0021, 0048). These markups are made public courtesy (and copyrighted by) Dr. Nicolas Bloch as portions of his forthcoming online prostate cancer image atlas.
    - NCI_ISBI_Challenge-ProstateDx_Training_Segmentations.zip- This file contains segmentations for 30 Prostate-Diagnosis subjects in NRRD format which mark the boundaries of the central gland and peripheral zone. This data was provided as part of the NCI-ISBI 2013 Challenge - Automated Segmentation of Prostate Structures.
    - ProstateDx_1.5T_Training_Segmentations.zip - Segmentations of the neurovascular bundle and seminal vessicles are available as MHA files. These were provided as part of a planned follow up competition that did not materialize.
    - **Note:** see our tutorial on Using 3D Slicer with the Prostate-Diagnosis data if you are not familiar with using this kind of data.

Citations & Data Usage Policy

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Users must abide by the TCIA Data Usage Policy and Restrictions. Attribution should include references to the following citations:

Data Citation

Bloch, B. N., Jain, A., & Jaffe, C. C.. (2015). **Data From PROSTATE-DIAGNOSIS [Dataset].** The Cancer Imaging Archive. https://doi.org/10.7937/K9/TCIA.2015.FOQEUJVT

TCIA Citation

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Other Publications Using This Data

TCIA maintains a list of publications which leverage our data. If you have a publication you'd like to add please contact TCIA's Helpdesk.

Versions

Version 2 (Current): Updated 2021/08/09:

A database mismatch in 4 series of PatientID **ProstateDx-01-0035** was updated so that PatientName, PatientID, and the image are now correct. No changes were made to UID, zips or Excel files.

Version 1: Updated 2013/01/30

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NCI ISBI Challenge - Segmentations of central gland and the peripheral zone (zip)	*Download*	CC BY 3.0
Seminal vesicles (SV) and neurovascular bundle (NVB) Segmentations (zip)	*Download*	CC BY 3.0

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